



An Employee-Owned Company

June 17, 2026

Mr. Joe DeHoyos
Project Manager
Z Global
750 West Main Street
El Centro, CA 92243

Reference: Noise Analysis for the Rio Vista Apartments Project (RECON Number 10631)

Dear Mr. DeHoyos:

The purpose of this report is to assess potential noise impacts from construction and operation of the Rio Vista Apartments Project (project). Impacts are assessed in accordance with standards established in the City of Brawley General Plan and Municipal Code.

1.0 Introduction

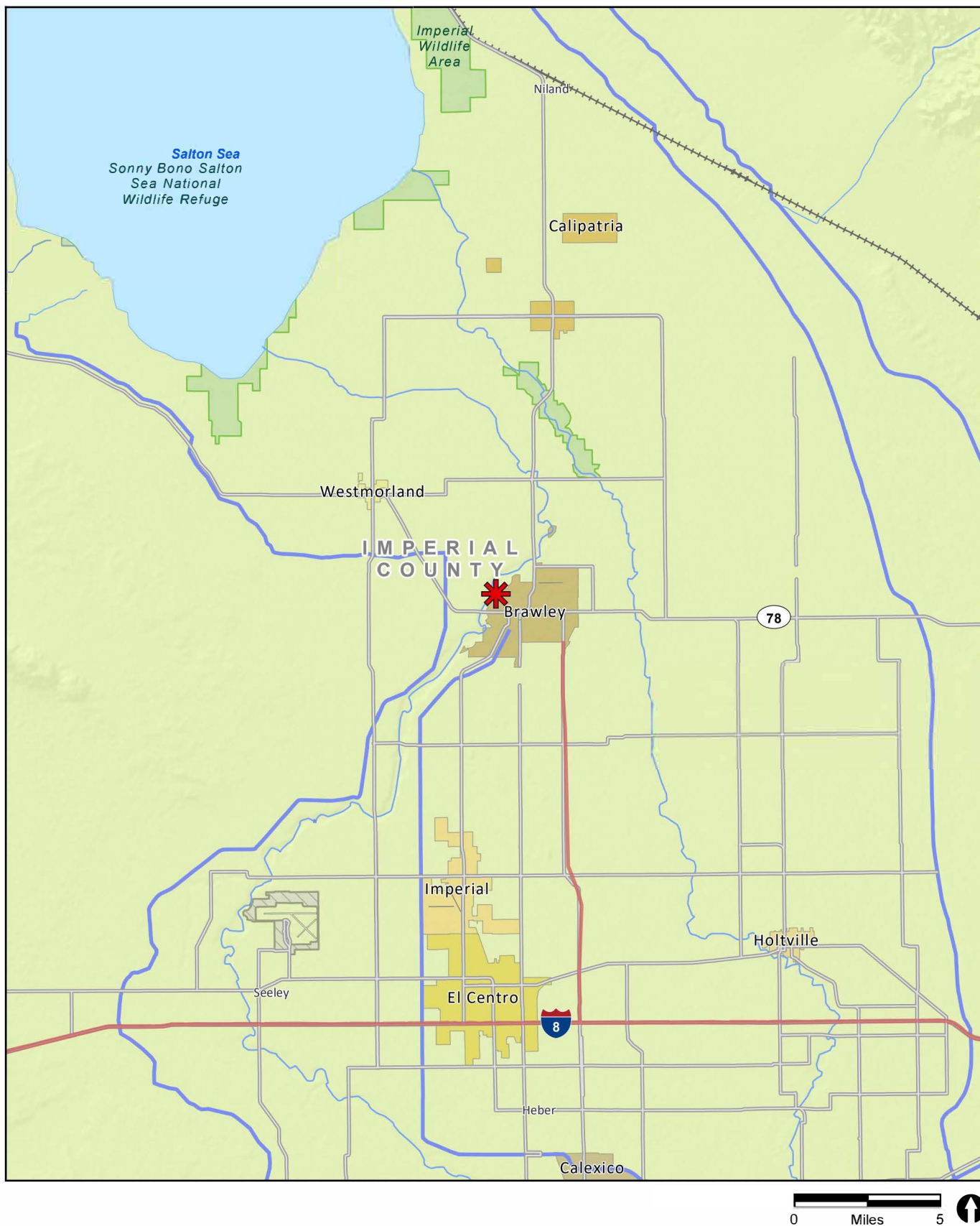
1.1 Project Description

The project is located in the northwestern portion of the City of Brawley (City) sphere of influence in Imperial County, California. The 7.87-acre project area consists of five parcels (Assessor's Parcel Numbers 046-050-016, 046-050-030, 046-050-028, 046-050-039, and 046-050-038) bounded by West River Road* to the south, North Rio Vista Avenue and a single-family residential property to the east, Pat Williams Park to the west, and vacant open space to the north. The project area is currently developed with two single-family residences, ancillary structures, small-animal husbandry pens, and equestrian training related facilities; all would be demolished as part of the project. Figure 1 shows the regional location. Figure 2 shows an aerial photograph of the project site and vicinity.

The project would construct a 133-unit apartment complex consisting of five separate buildings. The project would also construct a 4,400-square-foot clubhouse with a swimming pool, three green spaces, and a sewer lift station. The project would also provide a total of 278 surface parking spaces. Access to the project site would be provided via a driveway connection to West River Road. The project would dedicate 0.36 acres of right-of-way (ROW) to West River Road and dedicate 0.17 acres of ROW to North Rio Vista Avenue. Off-site improvements would consist of extending an existing road through Pat Williams Park that would provide fire access from West River Road to the northwest corner of the project site. This roadway extension would total 0.24 acres. Figure 3 shows the proposed site plan.

A portion of the project site is currently designated as an Urban Area in the Imperial County's (County) General Plan and is zoned A-2-U (General Agricultural). The portion of the project site that is located within the City is designated as Rural Residential in the City's General Plan and is zoned R-E (Residential Estate). The project site would be annexed into the City and would require a General Plan Amendment to designate the entire site as Residential Medium Density and a Zoning Amendment to zone the site as R-3 (Residential Medium Density).

* Note that West River Road becomes West River Drive east of the intersection with North Rio Vista Avenue.



 Project Location

FIGURE 1
Regional Location



-  Project Boundary
-  Off-site Fire Access Road Improvement



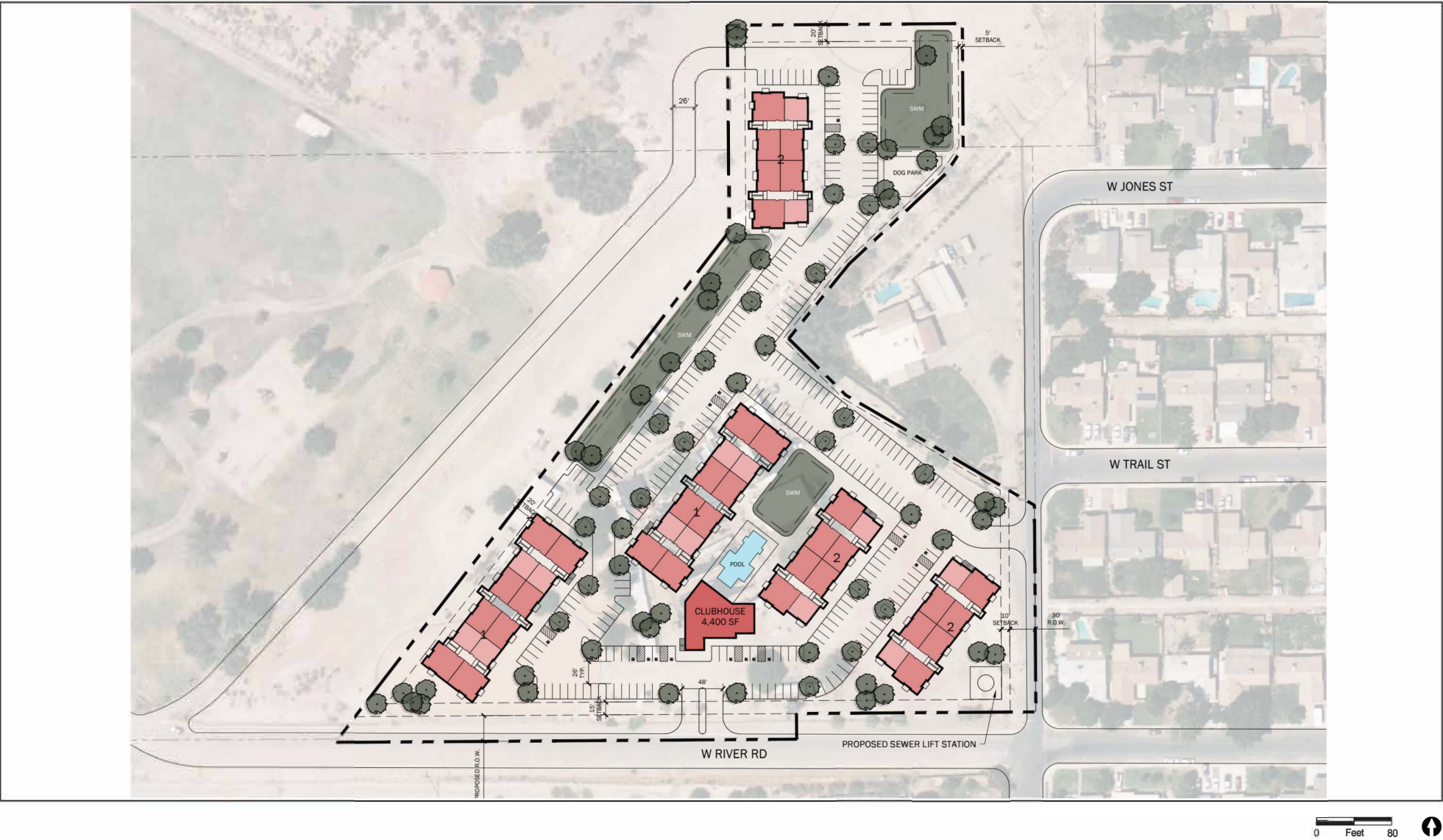


FIGURE 3
Site Plan

1.2 Fundamentals of Noise

Sound levels are described in units called the decibel (dB), which are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; and a halving of the energy would result in a 3 dB decrease.

Additionally, in technical terms, sound levels are described as either a “sound power level” or a “sound pressure level,” which while commonly confused are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power, expressed as L_{pw} , is the energy converted into sound by the source. The L_{pw} is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an eardrum or microphone and is the sound pressure level. Noise measurement instruments only measure sound pressure, and noise level limits used in standards are generally sound pressure levels.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the “A-weighted” noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A). The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this study are the one-hour equivalent noise level (L_{eq}), the community noise equivalent level (CNEL), and the day-night equivalent level (L_{dn}). The CNEL is a 24-hour equivalent sound level. The CNEL calculation applies an additional 5 dB(A) penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and an additional 10 dB(A) penalty is added to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. These increases for certain times are intended to account for the added sensitivity of humans to noise during the evening and night. Similar to the CNEL, the L_{dn} is a 24-hour equivalent level that applies an additional 10 dB(A) penalty to noise occurring during the night.

Sound from a small, localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

Traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop-off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would attenuate at 7.5 dB(A) per doubling of distance.

Human perception of noise has no simple correlation with acoustical energy. A change in noise levels is generally perceived as follows: 3 dB(A) barely perceptible, 5 dB(A) readily perceptible, and 10 dB(A) perceived as a doubling or halving of noise (California Department of Transportation [Caltrans] 2013).

1.3 Fundamentals of Vibration

Vibration consists of energy waves transmitted through solid material (Federal Transit Administration [FTA] 2018). Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz (FTA 2018).

Groundborne vibration is measured by its peak particle velocity (PPV), which is normally described in inches per second (in/sec). PPV is appropriate for determining potential structure damage but does not evaluate human response to vibration. The ground motion caused by vibration may also be described in decibel notation (vibration decibels [VdB]), which serves to compress the range of numbers required to describe vibration relative to human response.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Groundborne vibration can be a concern for nearby residents along a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. Groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operating heavy earth-moving equipment.

2.0 Applicable Standards

2.1 General Plan

The Public Safety and noise Element of the General Plan establishes noise and land use compatibility standards and outlines goals and policies to achieve these standards. The primary purpose of the noise compatibility matrix is to identify potential conflicts between proposed land uses and the noise environment. The matrix is usually used at the General Plan or zoning level of approvals. As shown in Table 1, multi-family land uses are "normally acceptable" with noise levels up to 65 CNEL, "conditionally acceptable" with noise levels from 60 to 70 CNEL, "normally unacceptable" with noise levels from 70 to 75 CNEL, and "clearly unacceptable" with noise levels above 75 CNEL. These noise level standards are applied at multi-family recreation areas and are not normally applied to balconies or patios.

Table 1 Noise/Land Use Compatibility Matrix							
	Community Noise Exposure (CNEL)						
	55	60	65	70	75	80	
Residential – Low Density Single-Family, Duplex, Mobile Homes							
Residential – Multi-Family							
Transient Lodging – Motels, Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arenas, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial, Professional							
Industrial, Manufacturing, Utilities, Agriculture							

Table 1 Noise/Land Use Compatibility Matrix	
	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 requirement is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will usually 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.

SOURCE: City of Brawley 2008.

Table 2 provides the interior and exterior noise standards for various development types. The noise standards act as City policy for new land uses and acceptable noise levels for development of new land uses.

Table 2 Interior and Exterior Noise Standards		
Land Use	Noise Standards	
	Interior ^{1,2}	Exterior
Residential – Single-family, multi-family, duplex, mobile home	45 CNEL	65 CNEL ³
Residential – Transient lodging, hotels, motels, nursing homes, hospitals	45 CNEL	65 CNEL ³
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	45 dB(A) L _{eq} (12)	--
Schools	45 dB(A) L _{eq} (12)	67 dB(A) L _{eq} (12) ⁴
General offices, reception, clerical, etc.	50 dB(A) L _{eq} (12)	--
Bank lobby, retail store, restaurant, typing pool, etc.	55 dB(A) L _{eq} (12)	--
Manufacturing, kitchen, warehousing, etc.	65 dB(A) L _{eq} (12)	--
Parks, playgrounds, etc.	--	65 CNEL ⁴
Golf courses, outdoor spectator sports, amusement parks, etc.	--	70 CNEL ⁴
CNEL = community noise equivalent level L _{eq} (12) = A-weighted sound level averaged over a 12-hour period (usually the hours of operation) ¹ Noise standard with windows closed; Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment. ² Indoor environment excluding bathrooms, toilets, closets, and corridors ³ Outdoor environment limited to rear yard of single-family homes, multi-family patios and balconies (with a depth of six feet or more), and common recreation areas ⁴ Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use SOURCE: City of Brawley 2008.		

2.2 Municipal Code

2.2.1 Operation

Chapter 18 of the Municipal Code addresses noise generated within the City and establishes property line noise level limits for on-site generated noise. These noise level limits are summarized in Table 3. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

Table 3 Municipal Code Noise Level Limits		
Zone	Time	Applicable One-Hour Average Noise Level Limit [dB(A) L_{eq}]
Single Family Residential Zones (includes R-A, R-E, and R-1)	7:00 a.m. – 10:00 p.m.	45
	10:00 p.m. – 7:00 a.m.	40
Residential Medium Density Zones (includes R-2, R-3, MHP, and C-1)	7:00 a.m. – 10:00 p.m.	50
	10:00 p.m. – 7:00 a.m.	40
dB(A) = A-weighted decibel; L_{eq} = average noise level SOURCE: Municipal Code Section 18.4.		

Section 18.10.2 is also applicable to the project. It states:

The following acts, among others, are declared to be disturbing, excessive and offensive noises in violation of this section, but said enumeration shall not be deemed to be exclusive, namely:

- c) Air-conditioning, refrigeration, heating, pumping, filtering equipment
 1. Uses restricted. The use, operation, or permitting to be operated any air-conditioning, refrigeration, or heating equipment for any residence or other structure or the use, operation, or permitting to be operated any pumping, filtering or heating equipment for any pool or reservoir in such a manner as to disturb the peace, quiet, and comfort of neighboring residents or persons of normal sensitivity residing in the area.
 2. Prima facie violations. The operation of any air conditioning, refrigeration, heating, pumping, or filtering equipment in such a manner as to create any noise that would cause the noise level on the premises of any other occupied property to exceed the ambient noise level by more than five decibels, shall be prima facie evidence of a violation of this section.
 3. Exemptions. This section shall not be applicable to emergency work, as determined by section 18.2. of this chapter, or to periodic maintenance or testing of such equipment in good working order.

2.2.2 Construction

The limits summarized in Table 3 do not apply to construction noise. Section 18.7 of the Municipal Code establishes construction noise limits based on the following:

Except for emergency work, it shall be unlawful for any person to operate construction equipment at any construction site, except as outlined in subsections (a) and (b) below:

- a) It shall be unlawful for any person to operate construction equipment at any construction site on Sundays, and days appointed by the president, governor, or the city council for a public holiday. Notwithstanding the above, a person may operate construction equipment on the above specified days between the hours of 10:00 A.M. and 5:00 P.M. in compliance with the requirements of subsection (b) of this section at his residence or for the purpose of constructing a residence for himself, provided such operation of construction equipment is not carried on for profit or livelihood. In addition, it shall be unlawful for any person to operate construction equipment at any construction site on Mondays through Saturdays except between the hours of 6:00 A.M. and 7:00 P.M.
- b) No such equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five decibels for more than eight hours during any twenty-four-hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes.

2.3 Vibration

The City has not established numerical limits on groundborne vibration. Based on several federal studies, the threshold of perception is 0.035 in/sec PPV, with 0.24 in/sec PPV being distinctly perceptible (Caltrans 2013). Based on best available data, impacts for hydraulic breakers, or hammers, and other non-transient sources such as those associated with project construction shall be considered significant if the PPV exceeds 0.2 in/sec.

3.0 Existing Conditions

Existing noise levels on the project site and surrounding vicinity were measured on July 3, 2025, using one Larson-Davis Model LxT, Type 1 Integrating Sound Level Meter, serial number 3896. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Interval Period:	1 minute
Time History Period:	5 seconds

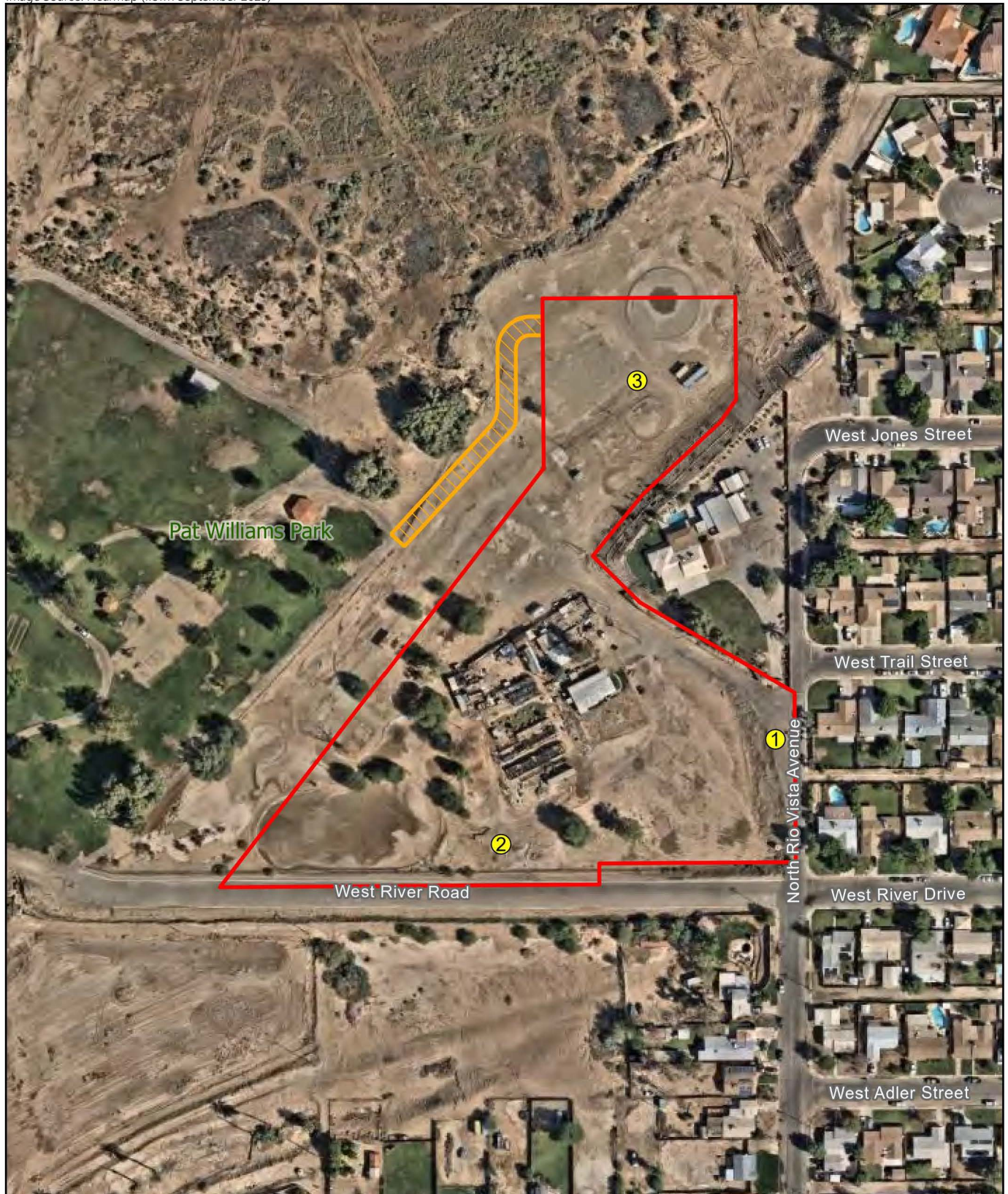
The meter was calibrated before measurements. The meter was set five feet above the ground level for each measurement. The weather was hot and sunny with a slight breeze during the measurement period.

Measurement 1 was located at the eastern project boundary, approximately 33 feet from the edge of N Rio Vista Avenue. The main source of noise was vehicle traffic on N Rio Vista Avenue. Traffic counts were conducted during the 15-minute measurement period. The average measured noise level was 48.5 dB(A) L_{eq} .

Measurement 2 was located at the southern project boundary, approximately 50 feet from the edge of West River Road. The main source of noise was vehicle traffic on West River Road. Traffic counts were conducted during the 15-minute measurement period. The average measured noise level was 47.4 dB(A) L_{eq} .

Measurement 3 was located near the northern project boundary. The main sources of noise included distant agricultural equipment and an aircraft. The average measured noise level was 39.5 dB(A) L_{eq} .

Noise measurement results are presented in Table 4 and traffic counts are presented in Table 5. The measurement locations are shown on Figure 4, and noise measurement data is provided in Attachment 1.



- Project Boundary
- Off-site Fire Access Road Improvement
- Noise Measurement Location

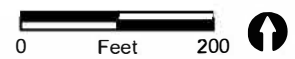


Table 4 Noise Measurement Summary				
Measurement	Location	Time	Measured Noise Level [dB(A) L_{eq}]	Main Noise Source
1	Eastern project boundary, 33 feet from N Rio Vista Avenue	11:32 a.m.–11:47 a.m.	48.5	Vehicle traffic on N Rio Vista Avenue
2	Southern project boundary, 50 feet from W River Road	11:53 a.m.–12:08 p.m.	47.4	Vehicle traffic on W River Road/W River Drive
3	Northern portion of project site	12:15 p.m.–12:30 p.m.	39.5	Distance agricultural equipment and aircraft
dB(A) L_{eq} = A-weighted decibels one-hour equivalent noise level				

Table 5 15-minute Traffic Counts							
Measurement	Roadway	Direction	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
1	N Rio Vista Avenue	Northbound	5	0	0	0	0
		Southbound	4	0	0	0	0
2	W River Road	Eastbound	0	0	0	0	0
		Westbound	1	0	0	0	0

4.0 Methodology

Noise level predictions and contour mapping were developed using noise modeling software, SoundPlan Essential, version 4.1 (Navcon Engineering 2018). SoundPLAN calculates noise propagation based on the International Organization for Standardization method (ISO 9613-2 – Acoustics, Attenuation of Sound during Propagation Outdoors). The model calculates noise levels at selected receiver locations using input parameter estimates such as total noise generated by each noise source; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. The model outputs can be developed as noise level contour maps or noise levels at specific receivers. In all cases, receivers were modeled at 5 feet above ground elevation, which represents the average height of the human ear.

4.1 Construction Noise Analysis

Project construction noise would be generated by diesel engine-driven construction equipment used for demolition, site preparation and grading, building construction, loading, unloading, and placing materials and paving. Diesel engine-driven trucks also would bring materials to the site and remove the soils from excavation.

Construction equipment with a diesel engine typically generates maximum noise levels from 70 to 95 dB(A) L_{eq} at a distance of 50 feet (Federal Highway Administration [FHWA] 2006 and 2008; Federal Transit Authority 2018). During construction, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for nonequipment tasks such as measurement. Table 6 summarizes typical construction equipment noise levels and duty cycles.

During excavation, grading, and paving operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for nonequipment tasks such as measurement. Although maximum noise levels may be 70 to 95 dB(A) at a distance of 50 feet during most construction activities,

hourly average noise levels from the grading phase of construction would be 85 dB(A) L_{eq} at 50 feet from the center of construction activity when assessing the loudest pieces of equipment—excavator, dozer, and loader—working simultaneously. Together, this equipment generates a sound power level of 116.3 dB(A) L_{pw} . Noise levels were modeled as an area source over the footprint of the project.

Table 6 Typical Construction Equipment Noise Levels		
Equipment	Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chainsaw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 kilovolt amps or less)	70	50%
Generator (more than 25 kilovolt amps)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
In-Situ Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%
dB(A) L_{eq} = A-weighted decibels average noise level SOURCE: Federal Highway Administration 2006 and 2008; Federal Transit Authority 2018.		

4.2 Traffic Noise Analysis

4.2.1 On-Site Noise Compatibility

The SoundPLAN program uses the FHWA Traffic Noise Model algorithms and reference levels to calculate traffic noise levels at selected receiver locations. The model uses various input parameters, such as projected hourly average traffic rates; vehicle mix, distribution, and speed; roadway lengths and gradients; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. Receivers, roadways, and barriers were input into the model using three-dimensional coordinates.

The project site is located in a rural area that is not exposed to significant traffic noise. Noise levels were modeled for the roadways located closest to the project site: West River Drive, North Rio Vista Avenue, West Trails Street, and West Jones Street. For the purpose of the future traffic noise compatibility analysis, the noisiest condition is represented as the maximum level of service (LOS) C traffic volume. This condition represents a condition where the maximum number of vehicles are using the roadway at the maximum speed. LOS A and B categories allow full travel speed but do not have as many vehicles, while LOS E and F have a greater number of vehicles, but due to the traffic volume travel at reduced speeds, thereby generating less noise. In the vicinity of the project site, North Rio Vista Avenue and West River Drive (east of North Rio Vista Avenue) are classified as local collectors in the City's General Plan Circulation Element. All other roadways adjacent to the project site are residential streets. The posted speed on all modeled roadways is 25 mph. A standard vehicle classification mix was modeled. Table 7 summarizes the modeled vehicle traffic parameters for the on-site compatibility analysis.

Roadway	Classification	Max LOS C ADT	Vehicle Classification (percent)					Speed (mph)
			Auto- mobiles	Medium Trucks	Heavy Trucks	Buses	Motorcycles	
W River Road (west of N Rio Vista Avenue)	Residential Street	1,500	93	3	2	1	1	25
W River Drive (east of N Rio Vista Avenue)	Local Collector	10,900	93	3	2	1	1	25
N Rio Vista Avenue	Local Collector	10,900	93	3	2	1	1	25
W Trail Street	Residential Street	1,500	93	3	2	1	1	25
W Jones Street	Residential Street	1,500	93	3	2	1	1	25
ADT = average daily traffic; mph = miles per hour SOURCE: City of Brawley 2008.								

4.2.2 Off-Site Traffic Noise Increase

The project would increase traffic volumes on local roadways. Noise level increases would be greatest nearest the project site, which would represent the greatest concentration of project-related traffic. Traffic noise is primarily a function of volume, vehicle mix, speed, and proximity. For purposes of this evaluation, the vehicle mix, speed, and proximity are assumed to remain constant in the future. Thus, the primary factor affecting noise levels would be increased traffic volumes. Traffic noise levels were calculated using the FHWA RD-77-108 spreadsheet model, which uses FHWA Traffic Noise Model algorithms and reference levels to calculate traffic noise levels at specified distances from roadways. The model uses various input parameters, such as projected hourly or daily average traffic rates, vehicle mix, distribution, and speed. The model does not take into account reductions due to intervening terrain, barriers, or structures.

The Local Mobility Analysis (LMA) prepared for the project includes an analysis of existing and opening year AM and PM peak hour traffic volumes without and with the project (Linscott, Law, and Greenspan 2026). These volumes were

used to calculate the project-related increase in traffic noise levels on the affected roadway network. The peak hour intersection turning volumes modeled in the LMA were used to calculate peak hour roadway segment volumes in the vicinity of the project. Modeled traffic volumes and speeds are summarized in Table 8. A standard vehicle classification mix of 95 percent automobiles, 3 percent medium trucks, and 2 percent heavy trucks was modeled.

Table 8 Modeled Vehicle Traffic Parameters – Off-Site Noise Increase								
Roadway	Segment	Peak Hour Volume						Speed (mph)
		Existing		Opening Year		Opening Year + Project		
		AM	PM	AM	PM	AM	PM	
W River Road	West of Project Driveway	28	10	29	10	29	10	25
W River Road	East of Project Driveway	28	10	29	10	79	71	25
W River Road	West of N Rio Vista Avenue	3	4	3	4	53	64	25
W River Drive	East of N Rio Vista Avenue	70	21	72	21	75	24	25
W River Drive	West of Western Avenue	205	33	210	33	183	36	25
W River Drive	East of Western Avenue	130	20	132	20	102	20	25
W A Street	West of N Rio Vista Avenue	30	28	30	28	30	28	25
W A Street	East of N Rio Vista Avenue	200	136	204	138	229	169	25
W A Street	West of Western Avenue	452	218	460	223	485	254	25
W A Street	East of Western Avenue	311	187	316	191	325	203	25
W Main Street	West of N Rio Vista Avenue	544	658	555	671	562	679	35
W Main Street	East of N Rio Vista Avenue	671	820	685	836	710	867	35
W Main Street	West of Western Avenue	684	1,039	699	1,060	724	1,091	35
W Main Street	East of Western Avenue	650	801	663	815	701	862	35
N Rio Vista Avenue	North of W River Drive	87	61	89	62	102	77	25
N Rio Vista Avenue	South of W River Drive	154	86	158	87	218	159	25
N Rio Vista Avenue	North of W A Street	210	112	214	114	274	187	25
N Rio Vista Avenue	South of W A Street	376	246	384	250	419	292	25
N Rio Vista Avenue	North of W Main Street	347	355	354	363	389	405	25
N Rio Vista Avenue	South of W Main Street	180	163	182	166	185	169	25
Western Avenue	North of W River Drive	481	368	491	375	494	378	25
Western Avenue	South of W River Drive	370	373	377	380	377	380	25
Western Avenue	North of W A Street	363	380	369	388	369	388	25
Western Avenue	South of W A Street	406	395	413	404	429	423	25
Western Avenue	North of W Main Street	470	453	480	462	496	481	25
Western Avenue	South of W Main Street	476	601	486	613	489	616	25
mph = miles per hour								
NOTE: The LMA is based on a total of 144 units. The project currently proposes 133 units; therefore, the volumes modeled in this analysis are conservative.								
SOURCE: Linscott, Law, and Greenspan 2026.								

4.3 On-Site Noise Analysis

Operational noise sources on the project site are anticipated to be typical of any residential neighborhood, such as vehicles arriving and leaving, children at play, and landscape maintenance machinery. None of these noise sources associated with residential uses are anticipated to violate the Municipal Code or result in a substantial permanent increase in existing noise levels. The project would include heating, ventilation, and air conditioning (HVAC) units. Noise levels due to HVAC units were modeled to determine if they have the potential to produce noise in excess of City limits.

The HVAC equipment would be located on the roof of each building. It is not known at this time which manufacturer, brand, or model of unit or units would be selected for use in the project. For the purposes of this analysis, to determine what general noise levels the HVAC units would generate, it was assumed that the HVAC units would be similar to a Trane unit with a sound power level of 72 dB(A) which is equivalent to a sound pressure level of approximately 40 dB(A) L_{eq} at 50 feet. Noise specifications are presented in Attachment 2. All units were modeled at full capacity during the daytime hours and 50 percent capacity during the nighttime hours.

The project would also include the construction of a sewer lift station at the southeast corner of the project site near the intersection of West River Drive and North Rio Vista Avenue. The exact design of the sewer lift station is not known at this time. Noise generated at the sewer lift station site is based on experience with similar projects. The noise sources associated with the sewer lift station would include a blower fan and emergency generator. Because the pumps would be submerged and within a pump well, they are not anticipated to generate audible noise levels at the adjacent properties. Noise levels were modeled without and with a six-foot concrete masonry unit wall on the southern and eastern sides. Noise levels associated with the lift station were modeled using SoundPLAN.

Sewer lift stations are often equipped with an odor control system with a blower fan. Based on manufacturer specifications for a representative system (The General 55P air pollution control barrier), the blower fan generates a noise level of 84 dB(A) at five feet. Based on communications with a manufacturer representative, the fan operates on a programmable timer that cycles on for 15 minutes and off for 10 minutes to optimize air exchanges. With incorporation of these operational characteristics, the fan would generate an average hourly sound power level of 89.8 dB(A) L_{pw} . The fan can also be equipped with an enclosure mounted to the concrete pad. Noise levels due to the fan were modeled during the daytime and nighttime hours with installation of an enclosure. It was assumed that the enclosure would achieve at least a 5 dB reduction in noise. Fan specifications are included in Attachment 2.

Sewer lift stations may also include an emergency generator. Based on manufacturer specifications for a representative generator (Generac natural gas emergency generator), it produces a noise level of 64 dB(A) at 23 feet. The generator would only be used in emergencies when power is cut from the sewer lift station. However, generator maintenance would include periodic testing. It was assumed that the generator would run for 30 minutes during daytime hours only for testing purposes. A testing average hourly sound power level of 85.9 dB(A) L_{pw} was modeled. Generator specifications are provided in Attachment 2.

4.4 Vibration

Potential sources of groundborne vibration include construction activities. Table 9 presents approximate vibration levels for construction equipment at a distance of 25 feet.

Table 9 Vibration Levels for Construction Equipment	
Equipment	Approximate PPV Vibration Level at 25 feet (inch/second)
Pile Driver, Impact (Upper Rang	1.518
Pile Drive, Impact (Typical)	0.644
Pile Driver, Sonic (Upper Range)	0.734
Pile Drive, Sonic (Typical)	0.170
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003
SOURCE: FTA 2018 PPV = peak particle velocity	

Vibration propagation is calculated based on the following equation (Caltrans 2020, FTA 2018):

$$PPV_{equip} = PPV_{ref} \times 25/D^n$$

where,

PPV_{equip} = Equipment vibration level adjusted for distance

PPV_{ref} = Reference vibration level at 25 feet

D = Distance from equipment to receiver

n = Attenuation coefficient based on soil type

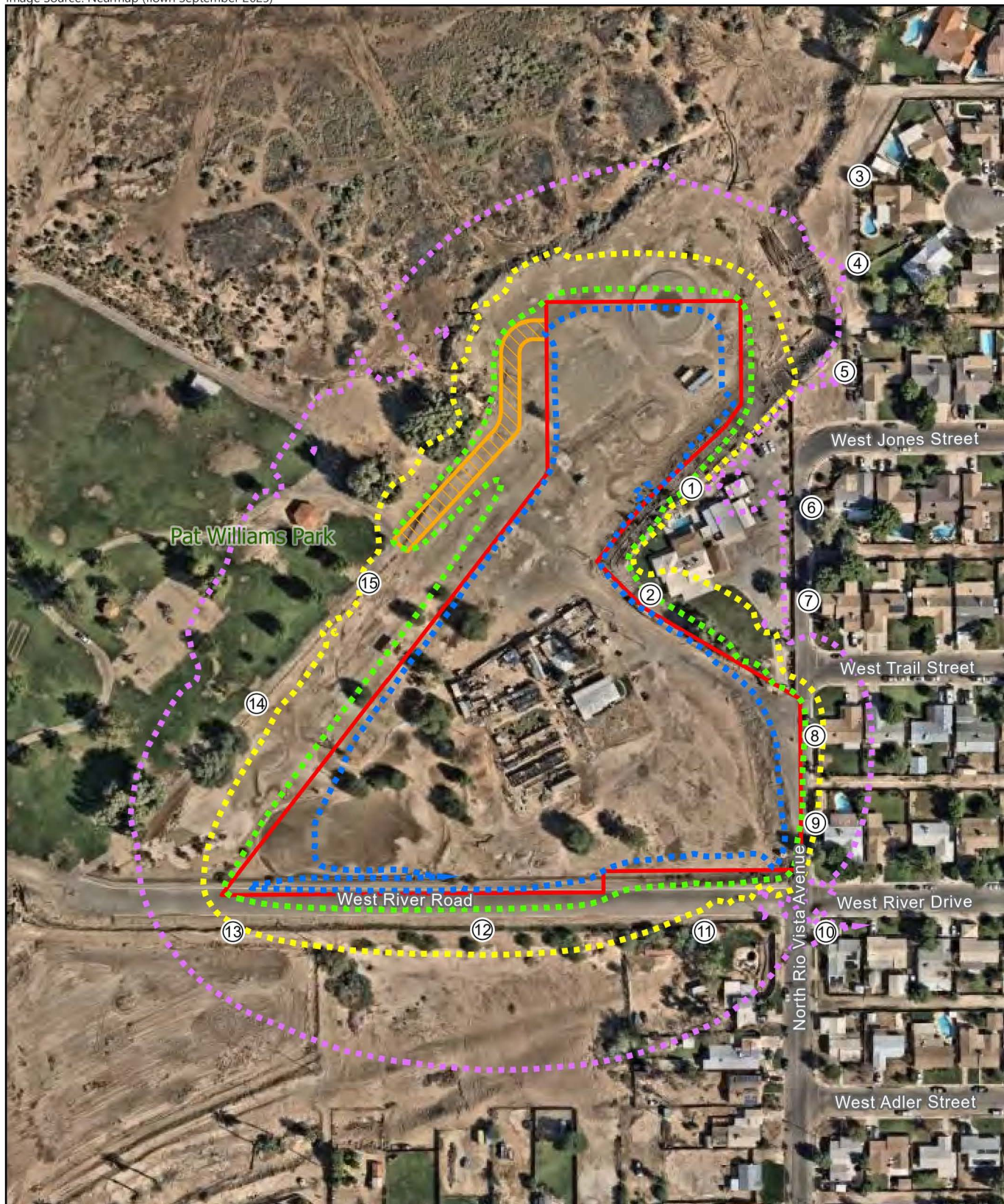
Vibration impacts due to construction equipment were evaluated using these source vibration levels. The project does not include land uses that would involve operational sources of vibration nor is it located near existing sources of groundborne vibration.

5.0 Noise Impacts

5.1 Construction Noise Analysis

Noise level limits for construction activities are established in Section 18.7 of the Municipal Code. It states that no construction equipment shall exceed an eight-hour average sound level limit of 75 dB(A) L_{eq} . In addition, construction activities are only permitted between 6:00 a.m. and 7:00 p.m. Monday through Saturday, and 10:00 a.m. and 5:00 p.m. on Sundays and holidays.

The project site is bounded by single-family residential uses to the east and south, Pat Williams Park to the west, and vacant open space to the north. Noise associated with the construction of the project was modeled at a series of 15 receivers located at the adjacent properties. The results are summarized in Table 10. Construction noise contours are shown in Figure 5. SoundPLAN data is contained in Attachment 3.



Project Boundary

Off-site Fire Access Road Improvement

Receivers

Construction Noise

60 CNEL

65 CNEL

70 CNEL

75 CNEL



FIGURE 5
Construction Noise Contours

Table 10 Construction Noise Levels at Adjacent Receivers [dB(A) L _{eq}]		
Receiver	Land Use	Construction Noise Level
1	Single-Family Residential	70
2	Single-Family Residential	69
3	Single-Family Residential	54
4	Single-Family Residential	59
5	Single-Family Residential	55
6	Single-Family Residential	59
7	Single-Family Residential	59
8	Single-Family Residential	67
9	Single-Family Residential	65
10	Single-Family Residential	60
11	Single-Family Residential	64
12	Undeveloped	67
13	Undeveloped	64
14	Park	64
15	Park	66
dB(A) L _{eq} = A-weighted decibels equivalent noise level. SOURCE: Attachment 3.		

As shown in Table 10, construction noise levels are anticipated to range from 54 to 70 dB(A) L_{eq} at the adjacent properties. Although the existing adjacent uses would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary. In accordance with Section 18.7 of the Municipal Code, construction activities would not occur before 6:00 a.m. or after 7:00 p.m. on Mondays through Saturdays, or before 10:00 a.m. or after 5:00 p.m. on Sundays and holidays. Therefore, project construction would not generate noise that would exceed the limits established in the City's Municipal Code, and impacts would be less than significant.

5.2 Traffic Noise Analysis

5.2.1 On-site Noise Compatibility

Noise and land use compatibility is regulated by the Noise Element of the General Plan. Multi-family land uses are "normally acceptable" with noise levels up to 65 CNEL, "conditionally acceptable" with noise levels from 60 to 70 CNEL, "normally unacceptable" with noise levels from 70 to 75 CNEL, and "clearly unacceptable" with noise levels above 75 CNEL. These noise level standards are applied at multi-family recreation areas and are not normally applied to balconies or patios.

Vehicle traffic noise level contours across the project site were calculated using SoundPLAN. These contours take into account the project area topography, proposed grading, and the proposed buildings. Noise levels were also modeled at a series of first- through third-floor receivers located at the proposed recreation areas and around the proposed buildings. Vehicle traffic noise contours and receiver locations are shown in Figure 6. The results are summarized in Table 11. SoundPLAN data are provided in Attachment 4.



- Project Boundary
- Receivers
- Site Plan
- Buildings

Vehicle Traffic Noise

- 40 CNEL
- 45 CNEL
- 50 CNEL
- 55 CNEL
- 60 CNEL
- 65 CNEL



FIGURE 6
Vehicle Traffic Noise Contours

Table 11 Vehicle Traffic Noise Levels (CNEL)				
Receiver	Location	1 st Floor	2 nd Floor	3 rd Floor
1	Dog Park	50	--	--
2	Pool Area	42	--	--
3	Residential Building Façade	57	61	61
4	Residential Building Façade	56	60	61
5	Residential Building Façade	52	54	54
6	Residential Building Façade	51	53	54
7	Residential Building Façade	47	48	49
8	Residential Building Façade	47	48	50
9	Recreation Building Façade	44	46	49
10	Residential Building Façade	44	45	47
11	Residential Building Façade	29	31	32
12	Residential Building Façade	48	50	51
13	Residential Building Façade	52	54	54
14	Residential Building Façade	47	48	50
15	Residential Building Façade	37	38	39
16	Residential Building Façade	34	36	39
17	Residential Building Façade	47	49	50
18	Residential Building Façade	48	49	50
19	Residential Building Façade	28	29	32
20	Residential Building Façade	34	35	36
CNEL = community noise equivalent level SOURCE: Attachment 4.				

As shown in Table 11, exterior noise levels at the dog park and pool area are projected to be 50 CNEL and 42 CNEL, respectively. Noise levels would not exceed 65 CNEL and the project would be compatible with the City's exterior noise level standards. Therefore, the project would not expose residents to exterior noise levels that would exceed the City's compatibility standards, and impacts would be less than significant.

Interior noise levels can be reduced through standard construction techniques. When windows are closed, standard construction techniques provide various exterior-to-interior noise level reductions depending on the type of structure and window. According to the FHWA's Highway Traffic Noise Analysis and Abatement Guidance, buildings with masonry façades and double-glazed windows can be estimated to provide a noise level reduction of 35 dB, while light-frame structures with double-glazed windows may provide noise level reductions of 20 to 25 dB (FHWA 2011).

The interior noise level standard for residential uses is 45 CNEL. As shown in Table 11, exterior noise levels at the building façades would range from 28 to 61 CNEL. Standard light-frame construction would reduce exterior to interior noise levels by at least 20 dB. This analysis conservatively assumes that standard construction techniques would achieve 20 dB exterior to interior noise reduction. Using this assumption, interior noise levels would be reduced to less than 45 CNEL in all proposed buildings. Therefore, the project would not expose residents to interior noise levels that would exceed the City's compatibility standards, and impacts would be less than significant.

5.2.2 Off-Site Vehicle Traffic Noise

As discussed in Section 4.2.2, the project would increase traffic on nearby roadways including West River Road, West A Street, West Main Street, North Rio Vista Avenue, and Western Avenue. The increase in off-site noise levels was calculated using the parameters summarized in Section 4.2.2. There are no local regulations that are applicable to

noise generated by surface transportation routes. For purposes of this analysis, a noise impact due to transportation noise would be considered significant if project-generated traffic causes the existing levels to increase by more than 3 dB (a barely perceptible change in audibility) in areas where the traffic noise levels exceeds the General Plan compatibility levels. Table 12 presents the increase in off-site noise levels adjacent to nearby roadways. Calculations are provided in Attachment 5.

Table 12 Off-Site Vehicle Traffic Noise Levels (CNEL)									
Roadway	Segment	Noise Level Change Based on AM Peak Hour Volumes				Noise Level Change Based on PM Peak Hour Volumes			
		Existing	Opening Year	Opening Year + Project	Increase Over Existing	Existing	Opening Year	Opening Year + Project	Increase Over Existing
W River Road	West of Project Driveway	49.7	49.9	49.9	0.0	45.2	45.2	45.2	0.0
W River Road	East of Project Driveway	49.7	49.9	54.2	4.3	45.2	45.2	53.8	8.6
W River Road	West of N Rio Vista Avenue	40.0	40.0	52.5	12.5	41.3	41.3	53.3	12.0
W River Drive	East of N Rio Vista Avenue	53.7	53.8	54.0	0.2	48.5	48.5	49.1	0.6
W River Drive	West of Western Avenue	58.4	58.5	57.9	-0.6	50.4	50.4	50.8	0.4
W River Drive	East of Western Avenue	56.4	56.5	55.3	-1.2	48.3	48.3	48.3	0.0
W A Street	West of N Rio Vista Avenue	58.3	58.3	58.8	0.5	56.6	56.6	57.5	0.9
W A Street	East of N Rio Vista Avenue	61.8	61.9	62.1	0.2	58.6	58.7	59.3	0.6
W A Street	West of Western Avenue	60.2	60.2	60.4	0.2	58.0	58.1	58.3	0.2
W A Street	East of Western Avenue	64.6	64.7	64.7	0.0	65.4	65.5	65.6	0.1
W Main Street	West of N Rio Vista Avenue	65.5	65.6	65.8	0.2	66.4	66.5	66.6	0.1
W Main Street	East of N Rio Vista Avenue	65.6	65.7	65.8	0.1	67.4	67.5	67.6	0.1
W Main Street	West of Western Avenue	65.4	65.5	65.7	0.2	66.3	66.4	66.6	0.2
W Main Street	East of Western Avenue	54.6	54.7	55.3	0.6	53.1	53.2	54.1	0.9
N Rio Vista Avenue	North of W River Drive	57.1	57.2	58.6	1.4	54.6	54.6	57.3	2.7
N Rio Vista Avenue	South of W River Drive	58.5	58.6	59.6	1.0	55.7	55.8	58.0	2.2
N Rio Vista Avenue	North of W A Street	61.0	61.1	61.5	0.4	59.2	59.2	59.9	0.7
N Rio Vista Avenue	South of W A Street	60.7	60.7	61.1	0.4	60.8	60.8	61.3	0.5
N Rio Vista Avenue	North of W Main Street	57.8	57.8	57.9	0.1	57.4	57.4	57.5	0.1
N Rio Vista Avenue	South of W Main Street	62.1	62.2	62.2	0.0	60.9	61.0	61.0	0.0
Western Avenue	North of W River Drive	60.9	61.0	61.0	0.0	61.0	61.0	61.0	0.0
Western Avenue	South of W River Drive	60.8	60.9	60.9	0.0	61.0	61.1	61.1	0.0
Western Avenue	North of W A Street	61.3	61.4	61.6	0.2	61.2	61.3	61.5	0.2
Western Avenue	South of W A Street	62.0	62.1	62.2	0.1	61.8	61.9	62.1	0.2
Western Avenue	North of W Main Street	62.0	62.1	62.1	0.0	63.0	63.1	63.1	0.0
Western Avenue	South of W Main Street	49.7	49.9	49.9	0.0	45.2	45.2	45.2	0.0

SOURCE: Attachment 5.

As shown in Table 12, a noise level increase of more than 3 dB would occur adjacent to the segment of West River Road from the project driveway to North Rio Vista Avenue. However, the overall noise level would be 54 CNEL or less, which is well less than the City's "normally acceptable" compatibility level of 60 CNEL. Noise level increases adjacent to all other roadways would be less than 3 dB. Therefore, operational roadway noise would not generate a substantial permanent increase in ambient noise levels for off-site, noise-sensitive land uses, and impacts would be less than significant.

5.3 On-Site Noise Analysis

The primary noise sources on-site would be HVAC equipment and a sewer lift station (blower fan and emergency generator). Using the on-site noise source parameters discussed in Section 4.3, noise levels were modeled at a series of 15 receivers located at the adjacent uses. Modeled receivers and daytime and nighttime operational noise contours are shown in Figures 7a and 7b, respectively. Modeled data is included in Attachment 6. Table 13 presents the operational noise levels at adjacent receivers. Note that modeled noise levels take into account a six-foot barrier along the southern and eastern sewer lift station boundaries and a blower fan enclosure.

Table 13 Operational Noise Levels at Adjacent Receivers [dB(A) L_{eq}]				
Receiver	Land Use (Zoning)	Noise Limit Daytime/Nighttime	Operational Noise Level	
			Daytime	Nighttime
1	Single-Family Residential (RE)	47.5/40	41	38
2	Single-Family Residential (RE)	47.5/40	43	40
3	Single-Family Residential (R-1)	47.5/40	34	31
4	Single-Family Residential (R-1)	47.5/40	35	32
5	Single-Family Residential (R-1)	47.5/40	37	34
6	Single-Family Residential (R-1)	47.5/40	39	36
7	Single-Family Residential (R-1)	47.5/40	41	37
8	Single-Family Residential (R-1)	47.5/40	43	39
9	Single-Family Residential (R-1)	47.5/40	44	40
10	Single-Family Residential (R-1)	47.5/40	40	36
11	Single-Family Residential (R-1)	47.5/40	42	39
12	Undeveloped (R-1)	47.5/40	42	39
13	Undeveloped (R-1)	47.5/40	38	35
14	Park (R)	--	41	38
15	Park (R)	--	41	38
dB(A) L_{eq} = A-weighted decibels equivalent noise level SOURCE: Attachment 6.				

As discussed in Section 2.2.1 above, the sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. The project site would be zoned R-3 and the adjacent residential properties are zoned R-E and R-1. Therefore, the applicable daytime and nighttime noise level limits are 47.5 and 40 dB(A) L_{eq} . As shown in Table 13, daytime noise levels would range from 34 to 44 dB(A) L_{eq} at the adjacent property lines and nighttime noise levels would range from 31 to 40 dB(A) L_{eq} . Noise levels would not exceed the City's daytime and nighttime noise level limits. Therefore, operational noise would not generate a substantial permanent increase in ambient noise levels in excess of limits established in the Municipal Code, and impacts would be less than significant.

The exact design and equipment requirements for the sewer lift station is not known at this time. Based on this analysis, with proper site design and barriers, noise levels are not anticipated to exceed the applicable limits. To ensure that the actual design is consistent with these conclusions, the following mitigation measure would be required:

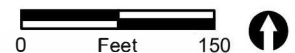
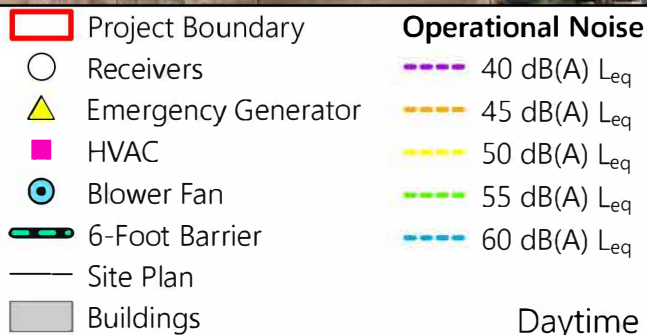
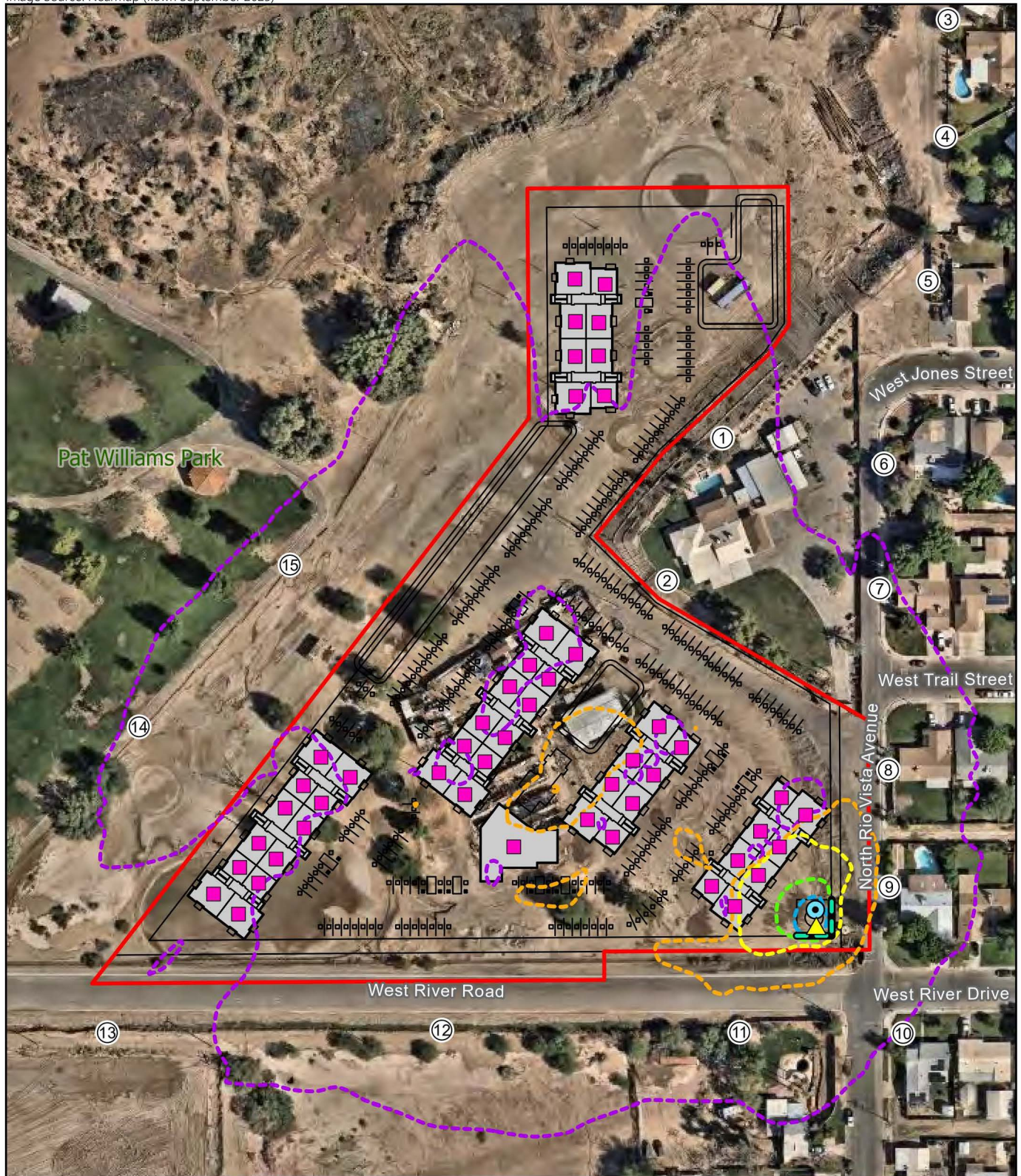
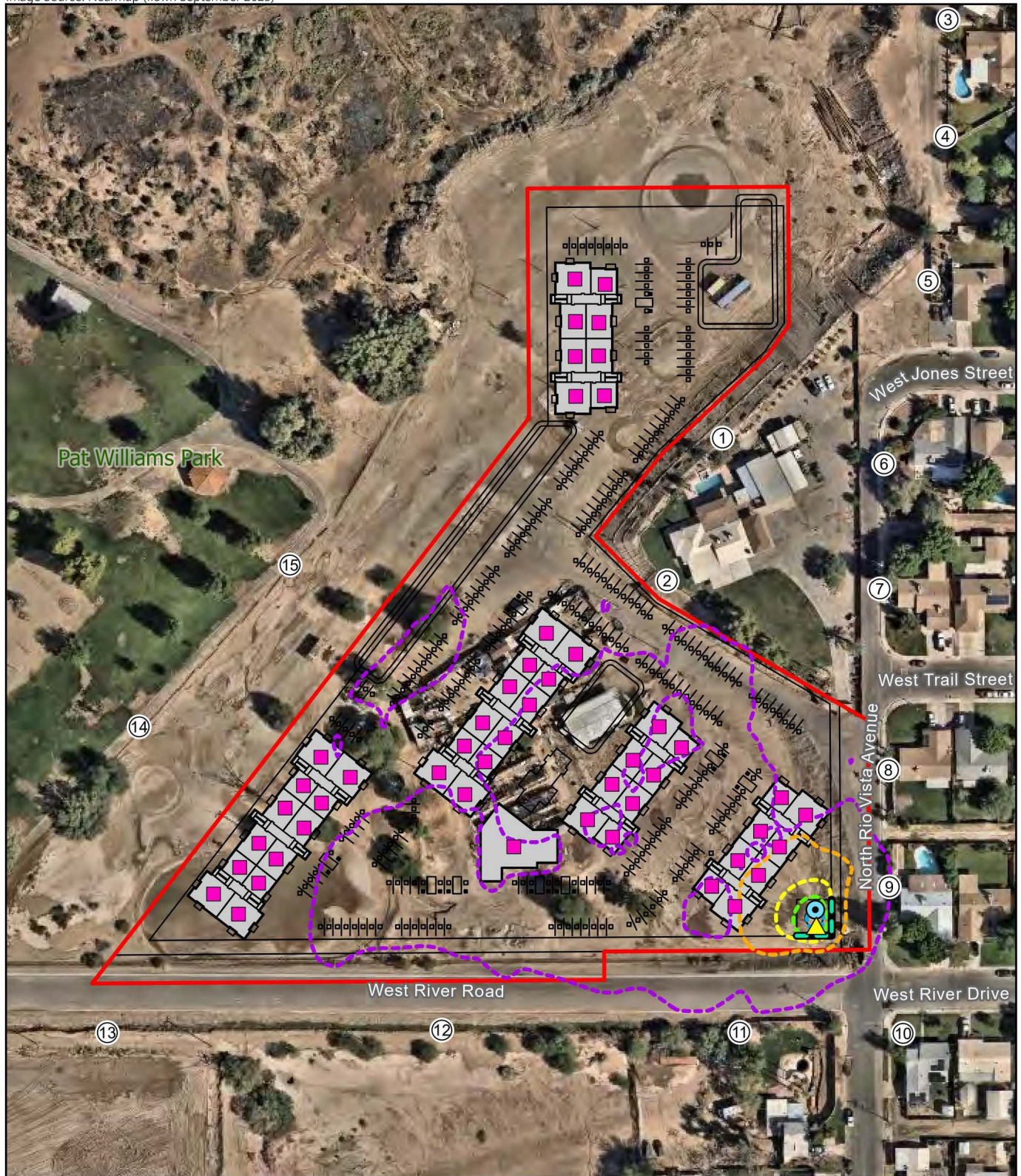


FIGURE 7a
Daytime Operational Noise Contours



- | | |
|--|---|
| Project Boundary | Operational Noise |
| ○ Receivers | --- 40 dB(A) L_{eq} |
| ▲ Emergency Generator | --- 45 dB(A) L_{eq} |
| ■ HVAC | --- 50 dB(A) L_{eq} |
| ⊙ Blower Fan | --- 55 dB(A) L_{eq} |
| --- 6-Foot Barrier | --- 60 dB(A) L_{eq} |
| — Site Plan | |
| ■ Buildings | |

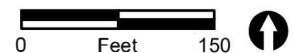


FIGURE 7b
Nighttime Operational Noise Contours

MM-N-1: Prior to the issuance of building permits for the sewer lift station, if any above-ground noise-generating equipment such as an emergency generator or blower fans is required, a noise analysis shall be prepared demonstrating the operational noise levels would not exceed the applicable noise limits specified in Section 18.4 of the Municipal Code. The analysis shall identify noise barriers and equipment enclosures if necessary to achieve the applicable noise level limits.

5.4 Groundborne Vibration

Human reaction to vibration is dependent on the environment the receiver is in, as well as individual sensitivity. For example, outdoor vibration is rarely noticeable and generally not considered annoying. Typically, humans must be inside a structure for vibrations to become noticeable and/or annoying (FTA 2018). As discussed in Section 2.3, project construction shall be considered significant if the PPV exceeds 0.2 in/sec. Vibration perception would occur at structures, as people do not perceive vibrations without vibrating structures.

Construction activities produce varying degrees of ground vibration, depending on the equipment and methods employed. While ground vibrations from typical construction activities rarely reach levels high enough to cause damage to structures, special consideration must be made when sensitive or historic land uses are near the construction site. The construction activities that typically generate the highest levels of vibration are blasting and impact pile driving. However, project construction would not require blasting or impact pile driving.

The equipment with the greatest potential to generate vibration would be a large bulldozer. According to the FTA, large bulldozers generate vibration levels of 0.089 in/sec PPV at 25 feet. Vibration levels were assessed over the entire project site. The nearest structure is located as close as 40 feet from the project boundary. A vibration level of 0.089 in/sec PPV at 25 feet would attenuate to 0.053 in/sec PPV at 40 feet. While it may be barely perceptible, it would be less than 0.2 in/sec PPV. Furthermore, large construction equipment would work immediately adjacent to the property lines only for short periods of time and would be operating at greater distances from the adjacent structures as construction occurs throughout the entire project site. Therefore, project construction would not generate excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

Operation of the project would not generate groundborne noise or vibration. No impact would occur.

6.0 Conclusions

Noise impacts due to construction and operation of the project were assessed in accordance with standards established in the General Plan and the Municipal Code. As discussed in this analysis, construction noise levels are anticipated to range from 54 to 70 dB(A) L_{eq} at the adjacent properties. Although the existing adjacent uses would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary. In accordance with Section 18.7 of the Municipal Code, construction activities would not occur before 6:00 a.m. or after 7:00 p.m. on Mondays through Saturdays, or before 10:00 a.m. or after 5:00 p.m. on Sundays and holidays. Therefore, project construction would not generate noise that would exceed the limits established in the City's Municipal Code, and impacts would be less than significant.

Multi-family land uses are "normally acceptable" with noise levels up to 65 CNEL, "conditionally acceptable" with noise levels from 60 to 70 CNEL, "normally unacceptable" with noise levels from 70 to 75 CNEL, and "clearly unacceptable" with noise levels above 75 CNEL. These noise level standards are applied at multi-family recreation areas and are not normally applied to balconies or patios. As shown in Table 11, exterior noise levels at the dog park and pool area are projected to be 50 CNEL and 42 CNEL, respectively. Noise levels would not exceed 65 CNEL and the project would be compatible with the City's exterior noise level standards. Therefore, the project would not expose residents to exterior noise levels that would exceed the City's compatibility standards, and impacts would be

less than significant. The interior noise level standard for residential uses is 45 CNEL. As shown in Table 11, exterior noise levels at the building façades would range from 28 to 61 CNEL. Assuming a 20 dB exterior-to-interior noise level reduction associated with standard light frame construction, interior noise levels would be reduced to less than 45 CNEL in all proposed buildings. Therefore, the project would not expose residents to interior noise levels that would exceed the City's compatibility standards, and impacts would be less than significant.

The project would contribute traffic to the local roadways. As shown in Table 12, a noise level increase of more than 3 dB would occur adjacent to the segment of West River Road from the project driveway to North Rio Vista Avenue. However, the overall noise level would be 54 CNEL or less, which is well less than the City's "normally acceptable" compatibility level of 60 CNEL. Noise level increases adjacent to all other roadways would be less than 3 dB. Therefore, operational roadway noise would not generate a substantial permanent increase in ambient noise levels for off-site, noise-sensitive land uses, and impacts would be less than significant.

The primary noise sources on-site would be HVAC equipment and sewer lift station (blower fan and emergency generator). As shown in Table 13, daytime noise levels would range from 34 to 44 dB(A) L_{eq} at the adjacent property lines and nighttime noise levels would range from 31 to 40 dB(A) L_{eq} . Noise levels would not exceed the City's daytime and nighttime noise level limits. Therefore, operational noise would not generate a substantial permanent increase in ambient noise levels in excess of limits established in the Municipal Code, and impacts would be less than significant. The exact design and equipment requirements for the sewer lift station is not known at this time. Based on this analysis, with proper site design and barriers, noise levels are not anticipated to exceed the applicable limits. To ensure that the actual design is consistent with these conclusions, the following mitigation measure would be required:

MM-N-1: Prior to the issuance of building permits for the sewer lift station, if any above-ground noise-generating equipment such as an emergency generator or blower fans is required, a noise analysis shall be prepared demonstrating the operational noise levels would not exceed the applicable noise limits specified in Section 18.4 of the Municipal Code. The analysis shall identify noise barriers and equipment enclosures if necessary to achieve the applicable noise level limits.

Groundborne vibration generated during project construction would be 0.053 in/sec PPV or less at the nearest adjacent structures. While it may be barely perceptible, it would be less than 0.2 in/sec PPV. Furthermore, large construction equipment would work immediately adjacent to the property lines only for short periods of time and would be operating at greater distances from the adjacent structures as construction occurs throughout the entire project site. Therefore, project construction would not generate excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

Operation of the project would not generate groundborne noise or vibration. No impact would occur.

If you have any questions about the results of this analysis, please contact me at jfleming@reconenvironmental.com or (619) 308-9333 ext. 177.

Sincerely,



Jessica Fleming
Senior Noise Analyst

JLF:dcs:sjg

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Navcon Engineering, Inc.

2018 SoundPLAN Essential version 4.1.

ATTACHMENTS

ATTACHMENT 1

Noise Measurement Data

10631 Rio Vista Apartments
Noise Measurement Data

Summary			
File Name on Meter	LxT_Data.026.s		
File Name on PC	LxT_0003896-20250703 113217-LxT_Data.026.ldbin		
Serial Number	0003896		
Model	SoundTrack LxT®		
Firmware Version	2.404		
User			
Location	Measurement 1		
Job Description	10631 Rio Vista Apartments		
Note			

Measurement			
Description			
Start	2025-07-03	11:32:17	
Stop	2025-07-03	11:47:47	
Duration		00:15:29.3	
Run Time		00:15:00.9	
Pause		00:00:28.4	
Pre-Calibration	2025-07-03	11:21:29	
Post-Calibration		None	
Calibration Deviation			

Overall Settings			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Linear		
Overload	144.2 dB		
	A	C	Z
Under Range Peak	100.2	97.2	102.2 dB
Under Range Limit	37.4	37.0	44.1 dB
Noise Floor	28.2	27.9	34.9 dB

Results			
LAeq	48.5		
LAE	78.0		
EA	7.018 µPa²h		
EA8	224.349 µPa²h		
EA40	1.122 mPa²h		
LAp _{peak} (max)	2025-07-03	11:32:53	89.2 dB
LAS _{max}	2025-07-03	11:32:46	62.0 dB
LAS _{min}	2025-07-03	11:39:02	41.6 dB
SEA	198.8 dB		
LAS > 60.0 dB (Exceedance Counts / Duration)	3 / 7.7 s		
LAS > 70.0 dB (Exceedance Counts / Duration)	0 / 0.0 s		
LAp _{peak} > 135.0 dB (Exceedance Counts / Duration)	0 / 0.0 s		
LAp _{peak} > 137.0 dB (Exceedance Counts / Duration)	0 / 0.0 s		
LAp _{peak} > 140.0 dB (Exceedance Counts / Duration)	0 / 0.0 s		

LCeq	63.7 dB		
LAeq	48.5 dB		
LCeq - LAeq	15.2 dB		
LAl _{eq}	52.9 dB		
LAeq	48.5 dB		
LAl _{eq} - LAeq	4.5 dB		

A		C		Z	
dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
48.5		63.7			
62.0	2025/07/03 11:32:46				
41.6	2025/07/03 11:39:02				
89.2	2025/07/03 11:32:53				

Overload Count	0
Overload Duration	0.0 s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5 dB	
Threshold	90	80 dB	
Criterion Level	90	90 dB	
Criterion Duration	8	8 h	

Results			
Dose	99.94	99.94	%
Projected Dose	99.94	99.94	%
TWA (Projected)	99.94	99.94	dB
TWA (t)	99.94	99.94	dB
Lep (t)	33.4	33.4	dB

Statistics	
LA5.00	54.0 dB
LA10.00	50.8 dB
LA33.30	46.5 dB
LA50.00	45.6 dB
LA66.60	44.9 dB
LA90.00	43.7 dB

10631 Rio Vista Apartments
Noise Measurement Data

Summary

File Name on Meter LxT_Data.027.s
File Name on PC LxT_0003896-20250703 115317-LxT_Data.027.lbin
Serial Number 0003896
Model SoundTrack LxT®
Firmware Version 2.404
User
Location Measurement 2
Job Description 10631 Rio Vista Apartments
Note

Measurement

Description
Start 2025-07-03 11:53:17
Stop 2025-07-03 12:08:39
Duration 00:15:21.9
Run Time 00:15:02.1
Pause 00:00:19.8

Pre-Calibration 2025-07-03 11:21:05
Post-Calibration None
Calibration Deviation

Overall Settings

RMS Weight A Weighting
Peak Weight A Weighting
Detector Slow
Preamplifier PRMLxT1
Microphone Correction Off
Integration Method Linear
Overload 144.2 dB

Under Range Peak A C Z
100.2 97.2 102.2 dB
Under Range Limit 37.4 37.0 44.1 dB
Noise Floor 28.2 27.9 34.9 dB

Results

LAeq 47.4
LAE 77.0
EA 5.530 µPa²h
EA8 176.541 µPa²h
EA40 882.707 µPa²h
LApeak(max) 2025-07-03 11:57:24 82.5 dB
LASmax 2025-07-03 11:57:26 65.6 dB
LASmin 2025-07-03 11:59:04 39.5 dB
SEA 198.8 dB

LAS > 60.0 dB (Exceedance Counts / Duration) 1 5.9 s
LAS > 70.0 dB (Exceedance Counts / Duration) 0 0.0 s
LApeak > 135.0 dB (Exceedance Counts / Duration) 0 0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration) 0 0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration) 0 0.0 s

LCeq 63.0 dB
LAeq 47.4 dB
LCeq - LAeq 15.6 dB
LAleq 49.9 dB
LAeq 47.4 dB
LAleq - LAeq 2.5 dB

Leq

LS(max)

LS(min)

LPeak(max)

A		C		Z	
dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
47.4		63.0			
65.6	2025/07/03 11:57:26				
39.5	2025/07/03 11:59:04				
82.5	2025/07/03 11:57:24				

Overload Count 0
Overload Duration 0.0 s

Dose Settings

Dose Name OSHA-1 OSHA-2
Exchange Rate 5 5 dB
Threshold 90 80 dB
Criterion Level 90 90 dB
Criterion Duration 8 8 h

Results

Dose 99.94 99.94 %
Projected Dose 99.94 99.94 %
TWA (Projected) 99.94 99.94 dB
TWA (t) 99.94 99.94 dB
Lep (t) 32.4 32.4 dB

Statistics

LA5.00 50.4 dB
LA10.00 48.9 dB
LA33.30 46.1 dB
LA50.00 44.9 dB
LA66.60 43.7 dB
LA90.00 41.4 dB

10631 Rio Vista Apartments
Noise Measurement Data

Summary

File Name on Meter LxT_Data.028.s
File Name on PC LxT_0003896-20250703 121425-LxT_Data.028.ldbin
Serial Number 0003896
Model SoundTrack LxT®
Firmware Version 2.404
User
Location Measurement 3
Job Description 10631 Rio Vista Apartments
Note

Measurement

Description
Start 2025-07-03 12:14:25
Stop 2025-07-03 12:30:03
Duration 00:15:38.0
Run Time 00:15:16.4
Pause 00:00:21.6

Pre-Calibration 2025-07-03 11:21:05
Post-Calibration None
Calibration Deviation

Overall Settings

RMS Weight A Weighting
Peak Weight A Weighting
Detector Slow
Preamplifier PRMLxT1
Microphone Correction Off
Integration Method Linear
Overload 144.2 dB

A C Z
Under Range Peak 100.2 97.2 102.2 dB
Under Range Limit 37.4 37.0 44.1 dB
Noise Floor 28.2 27.9 34.9 dB

Results

LAeq 39.5
LAE 69.1
EA 0.912 µPa²h
EA8 28.658 µPa²h
EA40 143.292 µPa²h
LApeak(max) 2025-07-03 12:15:40 83.4 dB
LASmax 2025-07-03 12:24:39 52.2 dB
LASmin 2025-07-03 12:27:51 34.0 dB
SEA 198.1 dB

LAS > 60.0 dB (Exceedance Counts / Duration) 0 0.0 s
LAS > 70.0 dB (Exceedance Counts / Duration) 0 0.0 s
LApeak > 135.0 dB (Exceedance Counts / Duration) 0 0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration) 0 0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration) 0 0.0 s

LCeq 63.5 dB
LAeq 39.5 dB
LCeq - LAeq 24.0 dB
LAleq 43.9 dB
LAeq 39.5 dB
LAleq - LAeq 4.3 dB

Leq

LS(max)

LS(min)

LPeak(max)

A		C		Z	
dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
39.5		63.5			
52.2	2025/07/03 12:24:39				
34.0	2025/07/03 12:27:51				
83.4	2025/07/03 12:15:40				

Overload Count 0
Overload Duration 0.0 s

Dose Settings

Dose Name OSHA-1 OSHA-2
Exchange Rate 5 5 dB
Threshold 90 80 dB
Criterion Level 90 90 dB
Criterion Duration 8 8 h

Results

Dose 99.94 99.94 %
Projected Dose 99.94 99.94 %
TWA (Projected) 99.94 99.94 dB
TWA (t) 99.94 99.94 dB
Lep (t) 24.5 24.5 dB

Statistics

LA5.00 44.1 dB
LA10.00 42.5 dB
LA33.30 38.7 dB
LA50.00 37.7 dB
LA66.60 36.6 dB
LA90.00 35.1 dB

ATTACHMENT 2
Equipment Specifications



Fan Performance

Table 6. Standard motor & low static drive accessory sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
5	WSC060ED	AK44x3/4"	N/A	720	791	861	931	1002	1072
6	WSC072ED	AK56x1"	N/A	558	612	665	718	772	825
7½	WSC090ED	AK57x1"	N/A	688	737	787	837	887	N/A
10	WSC120ED	AK105X1"	N/A	724	776	828	880	932	984

Note: Factory set at 3 turns open.

Table 7. Standard motor & high static drive accessory sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
6	WSC072ED	AK56x1"	N/A	968	1018	1068	1118	1169	1219
7½	WSC090ED	AK57x1"	1053	1091	1129	1166	1204	1242	N/A
10	WSC120ED	AK105X1"	1110	1159	1209	1258	1308	1357	N/A

Note: Factory set at 3 turns open.

Table 8. Oversized motor & high static drive accessory sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
7½	WSC090ED	AK85x1"	1186	1249	1311	1373	1436	N/A	N/A

Note: Factory set at 3 turns open.

Table 9. Outdoor sound power level—dB (ref. 10—2 W)

Tons	Unit Model Number	Octave Center Frequency								Overall dBA
		63	125	250	500	1000	2000	4000	8000	
5	T/YS060ED	84	91	79	77	74	71	68	63	80
6	T/YS072ED	83	90	86	82	79	75	70	63	85
7½	T/YS090ED	83	90	86	83	80	75	71	64	85
8.5	T/YS102ED	83	89	84	81	77	72	69	62	83
10	T/YS120ED	83	86	80	77	73	69	66	60	79

Note: Tests follow ARI270-95.

Table 10. Outdoor sound power level—dB (ref. 10—12 W)

Tons	Unit Model Number	Octave Center Frequency								Overall dBA
		63	125	250	500	1000	2000	4000	8000	
5	WSC060ED	84	91	79	77	74	71	68	63	80
6	WSC072ED	83	90	86	82	79	75	70	63	85
7½	WSC090ED	83	90	86	83	80	75	71	64	85
10	WSC120ED	83	86	80	77	73	69	66	60	79

Note: Tests follow ARI270-95.

ELECTRICAL DATA

38HDR UNIT SIZE	V–PH–Hz	VOLTAGE RANGE*		COMPRESSOR		OUTDOOR FAN MOTOR			MIN CKT AMPS	FUSE/CKT BKR AMPS
		Min	Max	RLA	LRA	FLA	NEC Hp	kW Out		
018–31	208/230–1–60	187	253	9.0	48.0	0.8	0.125	0.09	12.1	20
024–32	208/230–1–60	187	253	13.5	58.3	0.8	0.125	0.09	17.7	25
030–31	208/230–1–60	187	253	14.1	73.0	1.5	0.250	0.19	19.1	30
036–31	208/230–1–60	187	253	14.1	77.0	1.5	0.250	0.19	19.1	30
	208/230–3–60	187	253	9.2	71.0	1.5	0.250	0.19	13.0	20
	460–3–60	414	506	5.6	38.0	0.8	0.250	0.19	7.9	10
048–32	208/230–1–60	187	253	19.9	109.0	1.5	0.250	0.19	26.4	40
	208/230–3–60	187	253	13.1	83.1	1.5	0.250	0.19	17.9	25
	460–3–60	414	506	6.1	41.0	0.8	0.250	0.19	8.4	15
060–32	208/230–1–60	187	253	26.4	134.0	1.5	0.250	0.19	34.5	60
	208/230–3–60	187	253	16.0	110.0	1.5	0.250	0.19	21.5	30
	460–3–60	414	506	7.8	52.0	0.8	0.250	0.19	10.6	15

* Permissible limits of the voltage range at which the unit will operate satisfactorily

FLA – Full Load Amps

HACR – Heating, Air Conditioning, Refrigeration

LRA – Locked Rotor Amps

NEC – National Electrical Code

RLA – Rated Load Amps (compressor)

NOTE: Control circuit is 24–V on all units and requires external power source. Copper wire must be used from service disconnect to unit.

All motors/compressors contain internal overload protection.

Complies with 2007 requirements of ASHRAE Standards 90.1

38HDR

A-WEIGHTED SOUND POWER (dBA)

Unit Size	Standard Rating (dBA)	Typical Octave Band Spectrum (dBA) (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018–31	68	52.0	57.5	60.5	63.5	60.5	57.5	46.5
024–32	69	57.5	61.5	63.0	61.0	60.0	56.0	45.0
030–31	72	56.5	63.0	65.0	66.0	64.0	62.5	57.0
036–31	72	65.0	61.5	63.5	65.0	64.5	61.0	54.5
048–32	72	58.5	61.0	64.0	67.5	66.0	64.0	57.0
060–32	72	63.0	61.5	64.0	66.5	66.0	64.5	55.5

NOTE: Tested in accordance with AHRI Standard 270–08 (not listed in AHRI).

CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE–VOLTAGE, SERIES	REQUIRED SUBCOOLING °F (°C)
018–31	12 (6.7)
024–32	12 (6.7)
030–31	12 (6.7)
036–31	12 (6.7)
048–32	12 (6.7)
060–32	12 (6.7)

AF Cast Aluminum Pressure Blowers

For industrial, process, marine and HVAC applications



Wheel Types



Radial Wheel (Code R)

Cast aluminum radial open design for air and light material applications.

Also available in welded steel construction.



Backward Curve Wheel (Code B)

Cast aluminum backward curve blade tip design for clean air applications where lower noise level is a consideration.



Forward Curve Wheel (Code F)

Fabricated aluminum forward curve with cast iron hub design for clean air applications.

Has highest performance at a given speed making it ideal for 50 Hz applications where space is a problem.

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Fan Codes

AF-12-R13446-7

Fan
Size

Wheel
Type

Wheel Size
Code

Inlet
Diameter

R = Radial B = Backward Curve F = Forward Curve

Testing

All fan/wheel/inlet combinations shown in this catalog have each been thoroughly air and sound performance tested at the American Fan Company Test Laboratory.

Air testing was performed per AMCA 210-85 figure 7, installation type B (free inlet, ducted outlet). Sound testing was performed per AMCA 300-85, installation type B. Fans in this catalog are not licensed to bear the AMCA certified ratings seal.

Motor Speeds

USED FOR DIRECT DRIVE SELECTIONS

BHP Range	60 Hz RPM	50 Hz RPM
up to 2.00	3450	2875
2.01-5.00	3500	2875
5.01 & higher	3515	2900

Features

Model AF features a rugged, lightweight and rustproof cast aluminum housing making it ideal for demanding industrial applications. Model AF is available in direct or belt drive with a variety of accessories to meet your requirements.

Capacity selections are available up to 4000 CFM and pressure selections up to 20" SP w.g.

Split housing for maintenance ease

Even O.D. pipe sizes on inlet and outlet

Non-sparking cast aluminum housing

Assortment of wheel sizes to pin-point your performance requirement

Reliability

Wheel both statically and dynamically balanced

Rustproof

Low initial cost

Available in arrangements 1,2,4,8 and 9

This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data within this catalog depicts typical performance of standard product under controlled laboratory conditions. Actual performance will vary depending on the operating environment and application. Howden reserves the right to revise its products without notification. Howden is not responsible for products driven beyond factory specified speed, voltage, temperature, pressure, flow or without proper electrical grounding.

For product designed to meet specific applications, contact Howden Industrial Fans Sales department.

Applications

Rubber processing

Food processing

Chemical processing

Fume control

Dust control

Combustion air for incinerators, ovens, furnaces, kilns and dryers

Cooling electronic equipment, motors, generators and transformers

Paper and printing machinery

Textile machinery

Light materials conveying

Woodworking machinery

Forced drying

Options

Inlet flange

Outlet flange

Housing drain

Cast Iron housing

Fabricated steel wheel

Shaft seal

Sound attenuator

Inlet filter

Corrosive resistant coatings

Inlet and/or outlet guard

Fabricated stainless wheel and housing

Full or half cut-off

Heat slinger

Drive guard system



Inlet Venturi

Spun steel venturi provides efficient smooth airflow into fan inlet on non inlet-ducted applications.



Inlet Guard

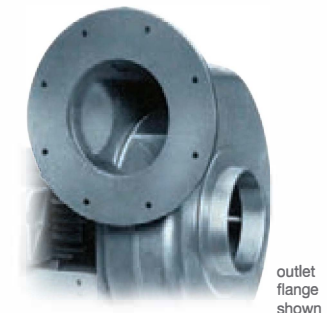
1" square wire cloth is welded to large end of inlet venturi providing OSHA type guarding with minimal airflow restriction.



Inlet Filter

Oil wetted, crimped steel wire mesh media provides 94% filtration efficiency of particulate of 10 micron or larger.

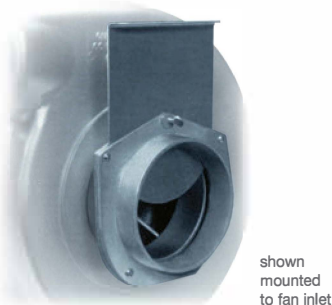
Filters are cleanable and reusable.



Flanges

Cast aluminum flange matches ANSI flange bolt patterns.

Available with either ANSI mounting hole diameters or $\frac{1}{16}$ " diameter (standard).



Full Cut-off Damper

Cast aluminum housing with steel gate allows manual adjustment of CFM.

Thumbscrew locks gate in place.

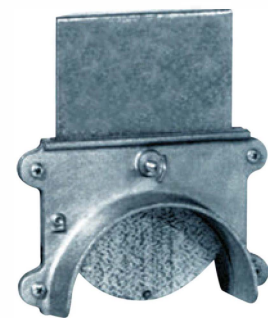
Can be mounted on inlet or outlet.



Vibration Isolators

Neoprene isolators with molded-in steel mounting plate and threaded top mounting hole.

Provides $\frac{1}{4}$ " static deflection.



Half Cut-Off Dampers

Similar to full cut-offs except half cut-offs are saddle mounted to ductwork on inlet or outlet.

Arrangements



AF-12
shown
CW-TH

Arrangement 1

The fan wheel is overhung with both bearings mounted on a common pedestal.

ARRT. 1 is suitable for high temperature (250°F max.) and/or corrosive environment.

Fan can be belt driven or directly coupled to drive motor mounted on a separate base.



AF-12
shown
CCW-BH

Arrangement 2

The fan wheel is overhung with both bearings mounted in a cast iron housing supported by the fan housing and a cast aluminum base.

Unit can be either belt driven or direct coupled to an independently supported motor.



AF-9 shown
CW-TH with
cast aluminum
base

Arrangement 4

Direct drive fan with wheel mounted directly on motor shaft.

Unit is designed for standard temperature applications only.

With no belt losses, the direct drive fan operates at a higher efficiency.



AF-15 shown
CW-TH with
steel base

Arrangement 4

Direct drive fan with wheel mounted directly on motor shaft.

Unit is designed to be supported by the outlet flange.



Flange Mount
AF-9 shown
CW-FM

Arrangement 4



AF-12 CCW-UB
with optional cast
iron housing, heat
slinger, and TEXP
motor shown

Arrangement 8

Direct drive fan thru shaft and bearings. Efficiency of ARRT. 4 is maintained.

However AART. 8 may be used for high temperature (250°F max.) and/or corrosive applications which require the motor shaft to be outside of airstream.



AF-12 shown
CW-TH with
OSHA type belt
and shaft guards

Arrangement 9

The fan wheel is overhung with both bearings mounted on a common pedestal.

Fan is driven with drive motor mounted on bearing pedestal for a more compact unit suitable for high temperature (250°F max.) and/or corrosive environment.



Radial Wheels 3600 RPM 60 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
1.0" SP							
209	.196	8-R07025-3	83	1	28	3	4
248	.246	8-R08113-3	84	3	24	3	4
251	.265	8-R08125-3	83	5	21	3	4
271	.220	8-R07025-4	83	2	31	4	4
320	.292	8-R08113-4	83	4	25	4	4
369	.338	8-R08125-4	84	6	23	4	4
1.5" SP							
186	.192	8-R07025-3	83	1	43	3	4
229	.238	8-R08113-3	84	3	35	3	4
234	.261	8-R08125-3	83	5	32	3	4
241	.206	8-R07025-4	83	2	46	4	4
294	.280	8-R08113-4	83	4	37	4	4
342	.330	8-R08125-4	84	6	35	4	4
424	.506	9-R09026-4	85	7	27	4	4
465	.517	9-R09026-5	88	8	28	5	4
477	.706	9-R10413-4	86	11	22	4	4
488	.691	9-R09626-4	88	9	23	4	4
529	.760	9-R10413-5	88	12	23	5	4
541	.758	9-R09626-5	90	10	24	5	4
570	.876	9-R10527-4	91	13	20	4	4
626	.952	9-R10527-5	92	14	20	5	4
795	1.337	10-R10527-6	92	15	20	6	5
2.0" SP							
161	.185	8-R07025-3	83	1	57	3	4
206	.190	8-R07025-4	83	2	61	4	4
218	.255	8-R08125-3	83	5	43	3	4
265	.264	8-R08113-4	83	4	50	4	4
309	.319	8-R08125-4	84	6	46	4	4
402	.482	9-R09026-4	85	7	36	4	4
433	.663	9-R10413-4	86	11	29	4	4
439	.492	9-R09026-5	86	8	37	5	4
467	.669	9-R09626-4	88	9	30	4	4
507	.741	9-R10413-5	88	12	30	5	4
517	.728	9-R09626-5	89	10	32	5	4
549	.848	9-R10527-4	91	13	26	4	4
606	.926	9-R10527-5	90	14	26	5	4
761	1.300	10-R10527-6	89	15	27	6	5
793	1.464	10-R11027-6	90	16	25	6	5
797	1.801	10-R12213-6	91	18	21	6	5
877	1.781	10-R11527-6	90	17	22	6	5
1219	2.536	12-R11527-7	92	20	21	7	6
2.5" SP							
125	.169	8-R07025-3	83	1	71	3	4
158	.169	8-R07025-4	83	2	76	4	4
174	.209	8-R08113-3	82	3	59	3	4
201	.249	8-R08125-3	83	5	53	3	4
231	.246	8-R08113-4	82	4	62	4	4
275	.302	8-R08125-4	84	6	58	4	4
378	.454	9-R09026-4	85	7	45	4	4
412	.468	9-R09026-5	86	8	46	5	4
443	.644	9-R09626-4	86	9	38	4	4
482	.715	9-R10413-5	86	12	38	5	4
492	.699	9-R09626-5	89	10	40	5	4
527	.820	9-R10527-4	89	13	33	4	4
583	.897	9-R10527-5	89	14	32	5	4
723	1.267	10-R10527-6	89	15	33	6	5
764	1.404	10-R11027-6	90	16	31	6	5
771	1.759	10-R12213-6	90	18	26	6	5
849	1.735	10-R11527-6	90	17	27	6	5
946	2.264	10-R12227-6	94	19	23	6	5
1173	2.456	12-R11527-7	91	20	26	7	6
1309	3.101	12-R12327-7	91	21	23	7	6
1444	3.715	12-R13032-7	96	22	21	7	6
3.0" SP							
78	.145	8-R07025-3	82	1	85	3	4
90	.143	8-R07025-4	83	2	92	4	4

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
3.0" SP (continued)							
138	.189	8-R08113-3	82	3	71	3	4
179	.241	8-R08125-3	83	5	64	3	4
183	.215	8-R08113-4	84	4	74	4	4
238	.279	8-R08125-4	84	6	69	4	4
354	.427	9-R09026-4	85	7	54	4	4
385	.446	9-R09026-5	87	8	55	5	4
421	.620	9-R09626-4	86	9	45	4	4
454	.685	9-R10413-5	86	12	46	5	4
465	.668	9-R09626-5	87	10	47	5	4
508	.793	9-R10527-4	89	13	39	4	4
558	.864	9-R10527-5	89	14	39	5	4
685	1.223	10-R10527-6	89	15	40	6	5
735	1.342	10-R11027-6	89	16	37	6	5
823	1.677	10-R11527-6	90	17	32	6	5
922	2.225	10-R12227-6	94	19	28	6	5
1128	2.372	12-R11527-7	91	20	31	7	6
1270	3.010	12-R12327-7	93	21	28	7	6
1405	3.618	12-R13032-7	95	22	25	7	6
1465	3.833	12-R14016-7	93	24	23	7	6
1578	4.137	12-R13722-7	95	23	23	7	6
1638	4.754	12-R14032-7	102	25	21	7	6
3.5" SP							
92	.164	8-R08113-3	82	3	82	3	4
114	.176	8-R08113-4	84	4	87	4	4
147	.226	8-R08125-3	83	5	75	3	4
195	.250	8-R08125-4	84	6	81	4	4
330	.400	9-R09026-4	85	7	63	4	4
359	.424	9-R09026-5	87	8	65	5	4
401	.599	9-R09626-4	86	9	53	4	4
423	.654	9-R10413-4	86	12	53	4	4
435	.637	9-R09626-5	87	10	55	5	4
487	.766	9-R10527-4	89	13	46	4	4
533	.830	9-R10527-5	89	14	45	5	4
647	1.169	10-R10527-6	89	15	47	6	5
705	1.283	10-R11027-6	89	16	43	6	5
797	1.610	10-R11527-6	90	17	38	6	5
900	2.175	10-R12227-6	93	19	32	6	5
1082	2.288	12-R11527-7	90	20	37	7	6
1232	2.920	12-R12327-7	92	21	33	7	6
1367	3.518	12-R13032-7	94	22	30	7	6
1437	3.756	12-R14016-7	93	24	27	7	6
1542	4.045	12-R13722-7	94	23	27	7	6
1600	4.659	12-R14032-7	102	25	25	7	6
4.0" SP							
89	.192	8-R08125-3	84	5	85	3	4
133	.207	8-R08125-4	83	6	92	4	4
302	.371	9-R09026-4	83	7	72	4	4
327	.399	9-R09026-5	87	8	74	5	4
348	.593	9-R10413-4	86	11	58	4	4
381	.578	9-R09626-4	86	9	61	4	4
405	.604	9-R09626-5	87	10	63	5	4
463	.736	9-R10527-4	88	13	52	4	4
508	.797	9-R10527-5	88	14	52	5	4
609	1.104	10-R10527-6	88	15	53	6	5
675	1.228	10-R11027-6	88	16	50	6	5
771	1.548	10-R11527-6	89	17	43	6	5
879	2.122	10-R12227-6	93	19	37	6	5
1032	2.206	12-R11527-7	90	20	42	7	6
1192	2.830	12-R12327-7	91	21	37	7	6
1327	3.417	12-R13032-7	93	22	34	7	6
1407	3.677	12-R14016-7	93	24	31	7	6
1504	3.949	12-R13722-7	94	23	31	7	6
1566	4.575	12-R14032-7	101	25	28	7	6
4.5" SP							
34	.155	8-R08125-3	83	5	96	3	4
268	.339	9-R09026-4	83	7	81	4	4
283	.359	9-R09026-5	87	8	83	5	4

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
4.5" SP (continued)							
317	.563	9-R10413-4	85	11	65	4	4
344	.592	9-R10413-5	86	12	69	5	4
358	.553	9-R09626-4	86	9	68	4	4
377	.574	9-R09626-5	87	10	71	5	4
436	.704	9-R10527-4	87	13	59	4	4
483	.763	9-R10527-5	88	14	58	5	4
570	1.011	10-R10527-6	88	15	60	6	5
643	1.176	10-R11027-6	88	16	56	6	5
743	1.489	10-R11527-6	89	17	49	6	5
857	2.069	10-R12227-6	92	19	41	6	5
982	2.125	12-R11527-7	89	20	47	7	6
1149	2.739	12-R12327-7	91	21	42	7	6
1288	3.315	12-R13032-7	93	22	38	7	6
1376	3.597	12-R14016-7	92	24	35	7	6
1465	3.833	12-R13722-7	93	23	35	7	6
1537	4.502	12-R14032-7	101	25	32	7	6
5.0" SP							
204	.293	9-R09026-4	83	7	91	4	4
222	.307	9-R09026-5	86	8	92	5	4
277	.529	9-R10413-4	85	11	72	4	4
292	.552	9-R10413-5	86	12	76	5	4
325	.515	9-R09626-4	86	9	76	4	4
344	.539	9-R09626-5	87	10	79	5	4
410	.673	9-R10527-4	87	13	65	4	4
457	.728	9-R10527-5	86	14	65	5	4
534	.940	10-R10527-6	88	15	67	6	5
611	1.128	10-R11027-6	88	16	62	6	5
715	1.435	10-R11527-6	88	17	54	6	5
834	2.014	10-R12227-6	92	19	46	6	5
934	2.043	12-R11527-7	89	20	52	7	6
1100	2.648	12-R12327-7	90	21	47	7	6
1247	3.211	12-R13032-7	92	22	42	7	6
1341	3.509	12-R14016-7	92	24	39	7	6
1425	3.712	12-R13722-7	93	23	39	7	6
1506	4.426	12-R14032-7	100	25	35	7	6
5.5" SP							
217	.489	9-R10413-4	85	11	79	4	4
280	.468	9-R09626-4	86	9	83	4	4
294	.488	9-R09626-5	87	10	87	5	4
387	.646	9-R10527-4	87	13	72	4	4
430	.694	9-R10527-5	86	14	71	5	4
507	.926	10-R10527-6	88	15	73	6	5
579	1.090	10-R11027-6	87	16	68	6	5
686	1.386	10-R11527-6	88	17	60	6	5
809	1.959	10-R12227-6	92	19	50	6	5
891	1.966	12-R11527-7	88	20	58	7	6
1052	2.555	12-R12327-7	89	21	51	7	6
1205	3.106	12-R13032-7	92	22	47	7	6
1303	3.416	12-R14016-7	92	24	43	7	6
1383	3.592	12-R13722-7	91	23	43	7	6
1475	4.346	12-R14032-7	100	25	39	7	6
6.0" SP							
147	.435	9-R10413-4	85	11	87	4	4
154	.440	9-R10413-5	86	12	91	5	4
201	.391	9-R09626-4	86	9	91	4	4
221	.412	9-R09626-5	86	10	95	5	4
360	.616	9-R10527-4	87	13	78	4	4
399	.656	9-R10527-5	86	14	78	5	4
476	.897	10-R10527-6	88	15	80	6	5
545	1.054	10-R11027-6	87	16	74	6	5
563	1.355	10-R12213-6	88	18	63	6	5
655	1.342	10-R11527-6	88	17	65	6	5
784	1.902	10-R12227-6	91	19	55	6	5
846	1.886	12-R11527-7	88	20	63	7	6
1005	2.461	12-R12327-7	89	21	56	7	6
1163	3.001	12-R13032-7	90	22	51	7	6
1264	3.321	12-R14016-7	91	24	47	7	6



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CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
6.0" SP (continued)							
1339	3.474	12-R13722-7	92	23	46	7	6
1442	4.262	12-R14032-7	99	25	42	7	6
6.5" SP							
147	.435	9-R10413-4	85	11	94	4	4
323	.575	9-R10527-4	86	13	85	4	4
357	.608	9-R10527-5	86	14	84	5	4
430	.810	10-R10527-6	88	15	87	6	5
510	.998	10-R11027-6	87	16	81	6	5
511	1.219	10-R12213-6	88	18	68	6	5
624	1.318	10-R11527-6	88	17	70	6	5
756	1.844	10-R12227-6	91	19	60	6	5
798	1.803	12-R11527-7	88	20	68	7	6
964	2.365	12-R12327-7	88	21	60	7	6
1119	2.894	12-R13032-7	90	22	55	7	6
1222	3.224	12-R14016-7	91	24	51	7	6
1293	3.357	12-R13722-7	92	23	50	7	6
1408	4.174	12-R14032-7	98	25	46	7	6
1782	5.014	15-R13446-7	91	26	48	7	8
1863	5.339	15-R13446-8	91	27	50	8	8
1999	5.572	15-R13446-10	91	28	50	10	8
7.0" SP							
263	.511	9-R10527-4	86	13	91	4	4
297	.545	9-R10527-5	86	14	91	5	4
356	.657	10-R10527-6	88	15	93	6	5
469	.924	10-R11027-6	87	16	87	6	5
591	1.286	10-R11527-6	87	17	76	6	5
727	1.784	10-R12227-6	91	19	64	6	5
748	1.718	12-R11527-7	88	20	73	7	6
922	2.268	12-R12327-7	88	21	65	7	6
1073	2.784	12-R13032-7	90	22	59	7	6
1177	3.123	12-R14016-7	91	24	55	7	6
1244	3.243	12-R13722-7	91	23	54	7	6
1373	4.080	12-R14032-7	98	25	49	7	6
1711	4.833	15-R13446-7	90	26	51	7	8
1798	5.147	15-R13446-8	91	27	53	8	8
1812	5.224	15-R14133-7	91	29	50	7	8
1923	5.356	15-R13446-10	90	28	54	10	8
1963	5.723	15-R14133-8	91	30	51	8	8
2034	5.960	15-R14133-10	91	31	53	10	8
7.5" SP							
182	.430	9-R10527-4	86	13	98	4	4
217	.465	9-R10527-5	86	14	97	5	4
404	.820	10-R11027-6	87	16	93	6	5
554	1.234	10-R11527-6	87	17	81	6	5
694	1.721	10-R12227-6	90	19	69	6	5
695	1.631	12-R11527-7	88	20	79	7	6
878	2.170	12-R12327-7	88	21	70	7	6
1024	2.672	12-R13032-7	90	22	64	7	6
1129	3.019	12-R14016-7	90	24	59	7	6
1193	3.131	12-R13722-7	91	23	58	7	6
1335	3.981	12-R14032-7	98	25	53	7	6
1639	4.642	15-R13446-7	90	26	55	7	8
1736	4.946	15-R13446-8	90	27	57	8	8
1755	5.036	15-R14133-7	91	29	53	7	8
1848	5.140	15-R13446-10	90	28	58	10	8
1893	5.497	15-R14133-8	91	30	55	8	8
1946	5.646	15-R14133-10	91	31	57	10	8
8.0" SP							
273	.865	10-R12213-6	88	18	84	6	5
512	1.160	10-R11527-6	87	17	87	6	5
634	1.533	12-R11527-7	88	20	84	7	6
658	1.655	10-R12227-6	89	19	73	6	5
830	2.070	12-R12327-7	88	21	74	7	6
978	2.562	12-R13032-7	89	22	68	7	6
1076	2.911	12-R14016-7	90	24	63	7	6
1138	3.030	12-R13722-7	90	23	62	7	6

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
8.0" SP (continued)							
1295	3.874	12-R14032-7	98	25	57	7	6
1575	4.432	15-R13446-7	90	26	59	7	8
1675	4.737	15-R13446-8	90	27	61	8	8
1696	4.845	15-R14133-7	91	29	57	7	8
1769	4.914	15-R13446-10	90	28	62	10	8
1820	5.266	15-R14133-8	91	30	59	8	8
1858	5.340	15-R14133-10	91	31	61	10	8
1921	6.959	15-R15234-7	93	32	47	7	8
2166	7.969	15-R15234-8	94	33	48	8	8
2285	8.181	15-R15234-10	94	34	51	10	8
8.5" SP							
207	.753	10-R12213-6	88	18	89	6	5
450	1.032	10-R11527-6	87	17	92	6	5
563	1.419	12-R11527-7	87	20	78	7	6
622	1.593	10-R12227-6	89	19	78	6	5
778	1.982	12-R12327-7	88	21	79	7	6
940	2.456	12-R13032-7	89	22	72	7	6
1071	2.801	12-R14016-7	90	24	66	7	6
1078	2.932	12-R13722-7	90	23	66	7	6
1253	3.760	12-R14032-7	97	25	60	7	6
1508	4.216	15-R13446-7	91	26	62	7	8
1610	4.522	15-R13446-8	90	27	65	8	8
1635	4.650	15-R14133-7	92	29	60	7	8
1686	4.677	15-R13446-10	90	28	66	10	8
1743	5.030	15-R14133-8	91	30	62	8	8
1768	5.042	15-R14133-10	91	31	65	10	8
1858	6.694	15-R15234-7	93	32	49	7	8
2013	7.771	15-R16422-7	93	38	49	7	8
2092	7.675	15-R15234-8	94	33	51	8	8
2164	8.423	15-R16422-8	94	39	51	8	8
2209	7.865	15-R15234-10	93	34	54	10	8
2274	8.594	15-R16422-10	94	40	51	10	8
9.0" SP							
151	.679	10-R12213-6	88	18	95	6	5
351	.826	10-R11527-6	86	17	97	6	5
470	1.269	12-R11527-7	87	20	94	7	6
589	1.544	10-R12227-6	88	19	83	6	5
721	1.887	12-R12327-7	88	21	84	7	6
906	2.354	12-R13032-7	88	22	76	7	6
952	2.676	12-R14016-7	89	24	70	7	6
1078	2.932	12-R13722-7	90	23	70	7	6
1203	3.623	12-R14032-7	96	25	64	7	6
1437	3.995	15-R13446-7	92	26	66	7	8
1540	4.299	15-R13446-8	91	27	69	8	8
1570	4.450	15-R14133-7	92	29	64	7	8
1598	4.427	15-R13446-10	90	28	70	10	8
1663	4.787	15-R14133-8	91	30	66	8	8
1677	4.753	15-R14133-10	91	31	68	10	8
1796	6.421	15-R15234-7	93	32	52	7	8
1960	7.565	15-R16422-7	93	38	52	7	8
2021	7.335	15-R15234-8	93	33	54	8	8
2084	7.922	15-R15550-7	93	35	50	7	8
2122	8.204	15-R16422-8	94	39	54	8	8
2137	7.548	15-R15234-10	93	34	57	10	8
2227	8.386	15-R16422-10	94	40	54	10	8
2324	8.893	15-R15550-8	96	36	52	8	8
2516	8.911	15-R15550-10	96	37	52	10	8
9.5" SP							
549	1.476	10-R12227-6	88	19	87	6	5
655	1.777	12-R12327-7	88	21	88	7	6
868	2.248	12-R13032-7	88	22	81	7	6
878	2.516	12-R14016-7	89	24	74	7	6
955	2.648	12-R13722-7	89	23	74	7	6
1149	3.471	12-R14032-7	95	25	67	7	6
1359	3.769	15-R13446-7	93	26	70	7	8
1462	4.065	15-R13446-8	91	27	73	8	8
1500	4.245	15-R14133-7	93	29	68	7	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
9.5" SP (continued)							
1502	4.137	15-R13446-10	90	28	74	10	8
1577	4.535	15-R14133-8	91	30	70	8	8
1594	4.490	15-R14133-10	91	31	73	10	8
1733	6.148	15-R15234-7	93	32	55	7	8
1905	7.352	15-R16422-7	92	38	55	7	8
1950	6.982	15-R15234-8	93	33	57	8	8
2037	7.704	15-R15550-7	93	35	52	7	8
2062	7.226	15-R15234-10	94	34	61	10	8
2078	7.980	15-R16422-8	93	39	56	8	8
2176	8.167	15-R16422-10	94	40	57	10	8
2271	8.622	15-R15550-8	96	36	55	8	8
2447	8.702	15-R15550-10	96	37	55	10	8
10.0" SP							
488	1.316	10-R12227-6	88	19	92	6	5
575	1.640	12-R12327-7	87	21	93	7	6
795	2.335	12-R14016-7	89	24	78	7	6
824	2.138	12-R13032-7	88	22	85	7	6
887	2.483	12-R13722-7	88	23	77	7	6
1098	3.329	12-R14032-7	94	25	71	7	6
1265	3.540	15-R13446-7	94	26	73	7	8
1357	3.806	15-R13446-8	91	27	76	8	8
1397	3.831	15-R13446-10	90	28	78	10	8
1424	4.046	15-R14133-7	93	29	71	7	8
1485	4.274	15-R14133-8	91	30	73	8	8
1508	4.231	15-R14133-10	91	31	76	10	8
1667	5.874	15-R15234-7	93	32	58	7	8
1849	7.130	15-R16422-7	92	38	57	7	8
1875	6.630	15-R15234-8	93	33	60	8	8
1983	6.899	15-R15234-10	94	34	64	10	8
1989	7.484	15-R15550-7	93	35	55	7	8
2030	7.448	15-R16422-8	93	39	59	8	8
2119	7.932	15-R16422-10	93	40	60	10	8
2216	8.347	15-R15550-8	95	36	58	8	8
2276	9.279	15-R16550-7	95	41	50	7	8
2377	8.484	15-R15550-10	95	37	58	10	8
2572	10.454	15-R16550-8	96	42	50	8	8
2800	10.845	15-R16550-10	98	43	50	10	8
11.0" SP							
679	1.885	12-R13032-7	87	22	93	7	6
718	2.143	12-R13722-7	88	23	85	7	6
1015	3.089	12-R14032-7	92	25	78	7	6
1041	3.036	15-R13446-7	96	26	81	7	8
1110	3.206	15-R13446-8	92	27	84	8	8
1148	3.189	15-R13446-10	90	28	85	10	8
1248	3.608	15-R14133-7	95	29	78	7	8
1282	3.719	15-R14133-8	91	30	80	8	8
1315	3.713	15-R14133-10	91	31	84	10	8
1533	5.343	15-R15234-7	93	32	64	7	8
1714	5.930	15-R15234-8	93	33	66	8	8
1736	6.663	15-R16422-7	92	38	64	7	8
1809	6.222	15-R15234-10	94	34	70	10	8
1886	7.043	15-R15550-7	92	35	61	7	8
1905	7.243	15-R16422-8	94	39	65	8	8
1918	7.218	15-R16422-10	93	40	66	10	8
2096	7.781	15-R15550-8	95	36	63	8	8
2203	8.988	15-R16550-7	94	41	55	7	8
2226	8.016	15-R15550-10	94	37	63	10	8
2483	9.918	15-R16550-8	96	42	56	8	8
2656	10.312	15-R16550-10	98	43	55	10	8
12.0" SP							
371	1.495	12-R14016-7	88	24	94	7	6
531	1.731	12-R13722-7	88	23	93	7	6
785	2.434	15-R13446-7	93	26	88	7	8
787	2.474	15-R13446-10	88	28	93	10	8
821	2.459	15-R13446-8	89	27	92	8	8
919	2.832	12-R14032-7	90	25	85	7	6
1025	3.052	15-R14133-7	96	29	85	7	8



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CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
12.0" SP (continued)							
1051	3.133	15-R14133-8	90	30	88	8	8
1084	3.246	15-R14133-10	92	31	91	10	8
1398	4.844	15-R15234-7	94	32	70	7	8
1531	5.280	15-R15234-8	93	33	72	8	8
1584	5.440	15-R15234-10	95	34	77	10	8
1605	6.145	15-R16422-7	92	38	70	7	8
1704	6.467	15-R16422-10	93	40	72	10	8
1759	6.680	15-R16422-8	95	39	71	8	8
1771	6.603	15-R15550-7	92	35	66	7	8
1945	7.164	15-R15550-8	95	36	69	8	8
2057	7.471	15-R15550-10	95	37	69	10	8
2123	8.735	15-R16550-7	94	41	60	7	8
2321	9.413	15-R16550-8	95	42	61	8	8
2506	9.861	15-R16550-10	97	43	60	10	8
13.0" SP							
615	2.042	15-R14133-7	91	29	92	7	8
688	2.268	15-R14133-8	89	30	95	8	8
779	2.520	12-R14032-7	90	25	92	7	6
1236	4.293	15-R15234-7	94	32	76	7	8
1318	4.586	15-R15234-8	93	33	78	8	8
1339	4.677	15-R15234-10	95	34	83	10	8
1426	5.464	15-R16422-7	92	38	76	7	8
1487	5.698	15-R16422-10	93	40	78	10	8
1545	5.917	15-R16422-8	96	39	77	8	8
1771	6.603	15-R15550-7	92	35	72	7	8
1779	6.524	15-R15550-8	95	36	75	8	8
1873	6.883	15-R15550-10	96	37	75	10	8
2035	8.445	15-R16550-7	94	41	65	7	8
2173	8.927	15-R16550-8	94	42	66	8	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
13.0" SP (continued)							
2360	9.419	15-R16550-10	96	43	66	10	8
14.0" SP							
541	1.905	12-R14032-7	92	25	99	7	6
984	3.556	15-R15234-7	93	32	82	7	8
1040	3.777	15-R15234-8	92	33	84	8	8
1089	4.003	15-R15234-10	93	34	89	10	8
1178	4.602	15-R16422-7	92	38	81	7	8
1225	4.842	15-R16422-10	94	40	84	10	8
1233	4.909	15-R16422-8	97	39	83	8	8
1473	5.608	15-R15550-7	91	35	77	7	8
1586	5.859	15-R15550-8	95	36	81	8	8
1678	6.255	15-R15550-10	96	37	81	10	8
1934	8.093	15-R16550-7	93	41	70	7	8
2060	8.503	15-R16550-8	93	42	71	8	8
2223	9.009	15-R16550-10	94	43	71	10	8
15.0" SP							
676	2.814	15-R15234-8	90	33	90	8	8
687	2.750	15-R15234-7	91	32	87	7	8
731	3.169	15-R15234-10	90	34	96	10	8
817	3.583	15-R16422-7	91	38	87	7	8
836	3.773	15-R16422-8	94	39	89	8	8
855	3.770	15-R16422-10	91	40	90	10	8
1257	5.608	15-R15550-7	91	35	83	7	8
1364	5.136	15-R15550-8	96	36	87	8	8
1457	5.547	15-R15550-10	97	37	86	10	8
1808	7.605	15-R16550-7	93	41	75	7	8
1936	8.050	15-R16550-8	92	42	76	8	8
2074	8.547	15-R16550-10	93	43	76	10	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
16.0" SP							
319	2.035	15-R15234-8	88	33	96	8	8
421	2.106	15-R15234-7	88	32	93	7	8
462	2.500	15-R16422-7	89	38	93	7	8
523	2.791	15-R16422-8	90	39	95	8	8
526	3.114	15-R16422-10	89	40	96	10	8
1029	4.273	15-R15550-7	90	35	88	7	8
1122	4.352	15-R15550-8	94	36	92	8	8
1187	4.667	15-R15550-10	97	37	92	10	8
1666	7.077	15-R16550-7	93	41	80	7	8
1796	7.549	15-R16550-8	92	42	81	8	8
1909	8.005	15-R16550-10	93	43	81	10	8
17.0" SP							
148	1.658	15-R15234-7	87	32	99	7	8
154	1.737	15-R16422-7	88	38	99	7	8
807	3.613	15-R15550-10	95	37	98	10	8
1504	6.526	15-R16550-7	91	41	85	7	8
1612	6.957	15-R16550-8	92	42	86	8	8
1719	7.338	15-R16550-10	92	43	86	10	8
18.0" SP							
1307	5.868	15-R16550-7	96	41	90	7	8
1396	6.232	15-R16550-8	96	42	91	8	8
1497	6.566	15-R16550-10	92	43	91	10	8
19.0" SP							
1029	4.869	15-R16550-7	100	41	95	7	8
1132	5.266	15-R16550-8	100	42	96	8	8
1219	5.601	15-R16550-10	92	43	96	10	8



Backward Curve 3600 RPM 60 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
1.0" SP							
184	.174	8-B07025-3	85	72	30	3	4
219	.226	8-B08125-3	86	74	22	3	4
225	.170	8-B07025-4	84	73	33	4	4
289	.285	8-B08125-4	84	75	24	4	4
1.5" SP							
161	.167	8-B07025-3	85	72	45	3	4
198	.163	8-B07025-4	84	73	49	4	4
202	.221	8-B08125-3	86	74	33	3	4
264	.273	8-B08125-4	84	75	36	4	4
368	.311	9-B08725-4	85	76	28	4	4
383	.319	9-B08725-5	85	77	29	5	4
449	.487	9-B10127-4	86	78	22	4	4
494	.517	9-B10127-5	86	79	23	5	4
571	.836	10-B10127-6	87	80	24	6	5
687	1.151	10-B10727-6	89	81	20	6	5
2.0" SP							
130	.158	8-B07025-3	84	72	60	3	4
161	.150	8-B07025-4	84	73	65	4	4

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
2.0" SP (continued)							
187	.216	8-B08125-3	86	74	44	3	4
238	.258	8-B08125-4	84	75	48	4	4
344	.299	9-B08725-4	85	76	37	4	4
358	.305	9-B08725-5	85	77	39	5	4
425	.468	9-B10127-4	86	78	29	4	4
469	.500	9-B10127-5	86	79	31	5	4
542	.809	10-B10127-6	86	80	32	6	5
659	1.116	10-B10727-6	88	81	27	6	5
2.5" SP							
97	.145	8-B07025-3	85	72	75	3	4
112	.134	8-B07025-4	84	73	81	4	4
163	.207	8-B08125-3	86	74	55	3	4
209	.242	8-B08125-4	84	75	61	4	4
319	.285	9-B08725-4	85	76	46	4	4
333	.290	9-B08725-5	85	77	49	5	4
400	.447	9-B10127-4	86	78	36	4	4
444	.484	9-B10127-5	86	79	39	5	4
514	.799	10-B10127-6	86	80	41	6	5
632	1.092	10-B10727-6	88	81	34	6	5

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
2.5" SP (continued)							
1085	2.190	12-B13031-7	91	82	24	7	6
3.0" SP							
36	.114	8-B07025-4	84	73	98	4	4
46	.120	8-B07025-3	85	72	90	3	4
133	.194	8-B08125-3	85	74	66	3	4
171	.220	8-B08125-4	84	75	73	4	4
293	.269	9-B08725-4	85	76	56	4	4
306	.273	9-B08725-5	85	77	59	5	4
373	.425	9-B10127-4	86	78	44	4	4
417	.466	9-B10127-5	86	79	46	5	4
484	.782	10-B10127-6	86	80	49	6	5
605	1.067	10-B10727-6	88	81	41	6	5
1050	2.136	12-B13031-7	91	82	28	7	6
1262	2.962	12-B14132-7	94	83	23	7	6
3.5" SP							
99	.180	8-B08125-3	85	74	77	3	4
120	.193	8-B08125-4	84	75	85	4	4
266	.251	9-B08725-4	85	76	65	4	4



Backward Curve 3600 RPM 60 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
3.5" SP (continued)							
277	.256	9-B08725-5	85	77	68	5	4
345	.401	9-B10127-4	86	78	51	4	4
382	.440	9-B10127-5	86	79	54	5	4
449	.754	10-B10127-6	86	80	57	6	5
576	1.038	10-B10727-6	87	81	47	6	5
1014	2.081	12-B13031-7	90	82	33	7	6
1231	2.901	12-B14132-7	94	83	27	7	6
4.0" SP							
42	.160	8-B08125-4	83	75	97	4	4
52	.158	8-B08125-3	85	74	88	3	4
232	.229	9-B08725-4	85	76	74	4	4
238	.233	9-B08725-5	85	77	78	5	4
318	.379	9-B10127-4	86	78	58	4	4
351	.411	9-B10127-5	86	79	62	5	4
402	.698	10-B10127-6	86	80	65	6	5
545	1.004	10-B10727-6	87	81	54	6	5
979	2.027	12-B13031-7	90	82	38	7	6
1201	2.851	12-B14132-7	93	83	31	7	6
4.5" SP							
164	.189	9-B08725-4	85	76	84	4	4
174	.193	9-B08725-5	85	77	88	5	4
292	.356	9-B10127-4	86	78	65	4	4
326	.380	9-B10127-5	86	79	70	5	4
362	.643	10-B10127-6	83	80	73	6	5
511	.964	10-B10727-6	86	81	61	6	5
945	1.974	12-B13031-7	90	82	42	7	6
1171	2.805	12-B14132-7	93	83	35	7	6
5.0" SP							
85	.147	9-B08725-5	86	77	98	5	4
89	.150	9-B08725-4	85	76	93	4	4
254	.322	9-B10127-4	86	78	73	4	4
294	.348	9-B10127-5	86	79	77	5	4
326	.596	10-B10127-6	84	80	81	6	5
471	.912	10-B10727-6	84	81	68	6	5
912	1.921	12-B13031-7	89	82	47	7	6
1140	2.756	12-B14132-7	92	83	39	7	6
5.5" SP							
203	.279	9-B10127-4	86	78	80	4	4
226	.314	9-B10127-5	86	79	85	5	4
271	.530	10-B10127-6	83	80	89	6	5
437	.872	10-B10727-6	84	81	74	6	5
879	1.869	12-B13031-7	89	82	52	7	6
1110	2.706	12-B14132-7	92	83	43	7	6
6.0" SP							
155	.247	9-B10127-4	86	78	87	4	4
168	.274	9-B10127-5	86	79	93	4	4
172	.435	10-B10127-6	83	80	97	6	5
403	.836	10-B10727-6	84	81	81	6	5
847	1.817	12-B13031-7	88	82	57	7	6
1079	2.653	12-B14132-7	91	83	47	7	6
6.5" SP							
63	.204	9-B10127-4	86	78	95	4	4
352	.747	10-B10727-6	84	81	88	6	5
817	1.769	12-B13031-7	88	82	61	7	6
1047	2.597	12-B14132-7	91	83	50	7	6
1394	3.023	15-B14132-10	86	86	53	10	8
7.0" SP							
270	.633	10-B10727-6	84	81	95	6	5
789	1.722	12-B13031-7	88	82	66	7	6

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
7.0" SP (continued)							
1015	2.539	12-B14132-7	90	83	54	7	6
1308	2.850	15-B14132-7	87	84	51	7	8
1320	2.915	15-B14132-10	86	86	57	10	8
1338	2.900	15-B14132-8	86	85	53	8	8
7.5" SP							
757	1.670	12-B13031-7	88	82	71	7	6
983	2.479	12-B14132-7	90	83	58	7	6
1247	2.812	15-B14132-10	85	86	61	10	8
1253	2.763	15-B14132-7	87	84	54	7	8
1272	2.790	15-B14132-8	85	85	57	8	8
1831	4.992	15-B15247-10	91	89	52	10	8
8.0" SP							
720	1.612	12-B13031-7	88	82	76	7	6
950	2.416	12-B14132-7	90	83	62	7	6
1186	2.726	15-B14132-10	87	86	65	10	8
1195	2.671	15-B14132-7	87	84	58	7	8
1204	2.683	15-B14132-8	85	85	61	8	8
1598	4.480	15-B15247-7	90	87	50	7	8
1674	4.795	15-B15247-8	91	88	52	8	8
1761	4.844	15-B15247-10	91	89	55	10	8
8.5" SP							
673	1.542	12-B13031-7	88	82	80	7	6
919	2.356	12-B14132-7	90	83	66	7	6
1128	2.644	15-B14132-10	87	86	69	10	8
1134	2.574	15-B14132-7	87	84	62	7	8
1138	2.610	15-B14132-8	85	85	64	8	8
1550	4.347	15-B15247-7	89	87	54	7	8
1620	4.632	15-B15247-8	90	88	56	8	8
1699	4.705	15-B15247-10	90	89	58	10	8
9.0" SP							
617	1.457	12-B13031-7	88	82	85	7	6
886	2.290	12-B14132-7	89	83	70	7	6
1064	2.558	15-B14132-10	87	86	73	10	8
1067	2.466	15-B14132-7	84	84	65	7	8
1069	2.526	15-B14132-8	85	85	68	8	8
1499	4.202	15-B15247-7	89	87	57	7	8
1569	4.453	15-B15247-8	90	88	59	8	8
1634	4.557	15-B15247-10	90	89	62	10	8
9.5" SP							
536	1.330	12-B13031-7	88	82	90	7	6
850	2.213	12-B14132-7	89	83	73	7	6
994	2.467	15-B14132-10	87	86	77	10	8
995	2.351	15-B14132-7	84	84	69	7	8
995	2.428	15-B14132-8	84	85	72	8	8
1439	4.013	15-B15247-7	89	87	60	7	8
1515	4.269	15-B15247-8	89	88	62	8	8
1566	4.397	15-B15247-10	89	89	65	10	8
2244	7.781	15-B16550-10	94	95	51	10	8
10.0" SP							
437	1.189	12-B13031-7	88	82	94	7	6
810	2.109	12-B14132-7	89	83	78	7	6
913	2.367	15-B14132-10	87	86	81	10	8
916	2.315	15-B14132-8	84	85	76	8	8
917	2.226	15-B14132-7	84	84	72	7	8
1374	3.810	15-B15247-7	88	87	63	7	8
1457	4.081	15-B15247-8	89	88	65	8	8
1493	4.224	15-B15247-10	89	89	69	10	8
1896	6.861	15-B16550-7	95	93	51	7	8
2094	7.476	15-B16550-8	94	94	52	8	8
2193	7.620	15-B16550-10	93	95	54	10	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
11.0" SP							
674	2.106	15-B14132-10	86	86	90	10	8
713	1.871	12-B14132-7	89	83	85	7	6
726	1.925	15-B14132-7	84	84	80	7	8
741	2.011	15-B14132-8	84	85	83	8	8
1229	3.398	15-B15247-7	88	87	69	7	8
1320	3.678	15-B15247-8	88	88	72	8	8
1324	3.769	15-B15247-10	88	89	76	10	8
1821	6.603	15-B16550-7	96	93	56	7	8
1992	7.169	15-B16550-8	93	94	57	8	8
2086	7.303	15-B16550-10	93	95	59	10	8
12.0" SP							
293	1.649	15-B14132-10	86	86	98	10	8
483	1.503	15-B14132-7	84	84	87	7	8
484	1.554	15-B14132-8	84	85	91	8	8
561	1.609	12-B14132-7	89	83	93	7	6
1045	2.969	15-B15247-7	87	87	76	7	8
1112	3.185	15-B15247-8	87	88	79	8	8
1119	3.248	15-B15247-10	87	89	83	10	8
1738	6.303	15-B16550-7	97	93	61	7	8
1890	6.819	15-B16550-8	93	94	62	8	8
1973	6.992	15-B16550-10	92	95	64	10	8
13.0" SP							
165	1.100	15-B14132-8	84	85	98	8	8
251	1.139	15-B14132-7	84	84	94	7	8
828	2.504	15-B15247-7	87	87	82	7	8
829	2.610	15-B15247-8	87	89	89	10	8
863	2.647	15-B15247-10	87	88	85	8	8
1641	5.934	15-B16550-7	97	93	66	7	8
1779	6.439	15-B16550-8	92	94	68	8	8
1850	6.647	15-B16550-10	91	95	70	10	8
14.0" SP							
509	2.157	15-B15247-10	87	89	96	10	8
568	1.975	15-B15247-7	87	87	88	7	8
570	2.036	15-B15247-8	87	88	92	8	8
1532	5.543	15-B16550-7	98	93	71	7	8
1655	6.025	15-B16550-8	92	94	73	8	8
1710	6.251	15-B16550-10	91	95	75	10	8
15.0" SP							
225	1.353	15-B15247-8	87	88	98	8	8
306	1.440	15-B15247-7	87	87	94	7	8
1396	5.114	15-B16550-7	98	93	76	7	8
1490	5.503	15-B16550-8	90	94	78	8	8



Forward Curve 3600 RPM 60 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
1.0" SP							
376	.417	8-F07620-3	83	47	20	3	4
592	.884	8-F07620-4	83	48	20	4	4
1.5" SP							
359	.408	8-F07620-3	83	47	30	3	4
565	.846	8-F07620-4	83	48	30	4	4
2.0" SP							
339	.397	8-F07620-3	82	47	40	3	4
537	.803	8-F07620-4	82	48	40	4	4
762	1.873	9-F10020-4	88	49	23	4	4
894	2.293	9-F10020-5	86	50	23	5	4
2.5" SP							
315	.382	8-F07620-3	82	47	50	3	4
503	.746	8-F07620-4	82	48	50	4	4
743	1.809	9-F10020-4	87	49	29	4	4
872	2.231	9-F10020-5	85	50	29	5	4
1253	4.281	10-F10020-6	90	51	27	6	5
1299	4.659	10-F10520-6	90	52	24	6	5
3.0" SP							
288	.363	8-F07620-3	84	47	60	3	4
468	.686	8-F07620-4	82	48	60	4	4
722	1.747	9-F10020-4	87	49	35	4	4
849	2.165	9-F10020-5	85	50	35	5	4
1225	4.145	10-F10020-6	90	51	32	6	5
1273	4.555	10-F10520-6	90	52	29	6	5
3.5" SP							
255	.336	8-F07620-3	83	47	70	3	4
428	.623	8-F07620-4	82	48	70	4	4
699	1.687	9-F10020-4	87	49	41	4	4
826	2.091	9-F10020-5	85	50	41	5	4
1197	4.006	10-F10020-6	90	51	37	6	5
1247	4.446	10-F10520-6	90	52	34	6	5
2240	10.199	12-F12220-7	93	53	25	7	6
2372	10.814	12-F12224-7	95	54	23	7	6
4.0" SP							
216	.297	8-F07620-3	83	47	80	3	4
384	.554	8-F07620-4	82	48	80	4	4
674	1.628	9-F10020-4	86	49	47	4	4
802	2.015	9-F10020-5	85	50	46	5	4
1167	3.863	10-F10020-6	89	51	43	6	5
1220	4.332	10-F10520-6	90	52	38	6	5
2205	10.043	12-F12220-7	93	53	28	7	6
2342	10.653	12-F12224-7	95	54	26	7	6
2413	12.256	12-F13420-7	96	55	24	7	6
4.5" SP							
343	.486	8-F07620-4	83	48	90	4	4
648	1.570	9-F10020-4	86	49	53	4	4
776	1.937	9-F10020-5	85	50	52	5	4
1139	3.711	10-F10020-6	89	51	48	6	5
1195	4.210	10-F10520-6	90	52	43	6	5
2169	9.880	12-F12220-7	93	53	32	7	6
2312	10.489	12-F12224-7	94	54	30	7	6
2385	12.116	12-F13420-7	95	55	27	7	6
2505	12.802	12-F13430-7	97	56	26	7	6
5.0" SP							
619	1.521	9-F10020-4	86	49	61	4	4
749	1.857	9-F10020-5	86	50	58	5	4
1113	3.547	10-F10020-6	89	51	53	6	5
1174	4.078	10-F10520-6	89	52	48	6	5
2132	9.712	12-F12220-7	92	53	35	7	6
2280	10.321	12-F12224-7	94	54	33	7	6
2357	11.975	12-F13420-7	95	55	30	7	6
2468	12.588	12-F13430-7	96	56	28	7	6

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
5.5" SP							
589	1.465	9-F10020-4	85	49	64	4	4
719	1.774	9-F10020-5	85	50	64	5	4
1087	3.381	10-F10020-6	89	51	59	6	5
1152	3.944	10-F10520-6	89	52	53	6	5
2095	9.538	12-F12220-7	93	53	39	7	6
2248	10.149	12-F12224-7	94	54	36	7	6
2328	11.832	12-F13420-7	95	55	33	7	6
2432	12.376	12-F13430-7	96	56	31	7	6
6.0" SP							
557	1.394	9-F10020-4	85	49	70	4	4
687	1.687	9-F10020-5	85	50	70	5	4
1058	3.214	10-F10020-6	88	51	64	6	5
1129	3.806	10-F10520-6	89	52	58	6	5
2058	9.352	12-F12220-7	92	53	42	7	6
2215	9.973	12-F12224-7	94	54	40	7	6
2299	11.687	12-F13420-7	95	55	36	7	6
2398	12.177	12-F13430-7	96	56	34	7	6
6.5" SP							
528	1.291	9-F10020-4	85	49	76	4	4
655	1.595	9-F10020-5	84	50	75	5	4
1027	3.045	10-F10020-6	88	51	70	6	5
1105	3.665	10-F10520-6	89	52	63	6	5
2021	9.155	12-F12220-7	92	53	46	7	6
2181	9.792	12-F12224-7	93	54	43	7	6
2270	11.540	12-F13420-7	95	55	39	7	6
2370	12.016	12-F13430-7	96	56	37	7	6
7.0" SP							
494	1.178	9-F10020-4	84	49	82	4	4
622	1.503	9-F10020-5	84	50	81	5	4
993	2.874	10-F10020-6	88	51	75	6	5
1078	3.520	10-F10520-6	88	52	67	6	5
1983	8.954	12-F12220-7	92	53	49	7	6
2146	9.599	12-F12224-7	93	54	46	7	6
2241	11.391	12-F13420-7	95	55	42	7	6
2341	11.852	12-F13430-7	95	56	40	7	6
7.5" SP							
452	1.054	9-F10020-4	84	49	88	4	4
585	1.397	9-F10020-5	84	50	87	5	4
956	2.700	10-F10020-6	87	51	80	6	5
1049	3.370	10-F10520-6	88	52	72	6	5
1944	8.747	12-F12220-7	92	53	53	7	6
2110	9.397	12-F12224-7	93	54	50	7	6
2211	11.242	12-F13420-7	95	55	45	7	6
2312	11.683	12-F13430-7	95	56	43	7	6
8.0" SP							
374	.891	9-F10020-4	84	49	93	4	4
537	1.269	9-F10020-5	86	50	93	5	4
914	2.521	10-F10020-6	87	51	86	6	5
1018	3.213	10-F10520-6	88	52	77	6	5
1904	8.534	12-F12220-7	91	53	56	7	6
2072	9.190	12-F12224-7	93	54	53	7	6
2187	11.133	12-F13420-7	95	55	47	7	6
2282	11.510	12-F13430-7	95	56	45	7	6
8.5" SP							
460	1.076	9-F10020-5	86	50	99	5	4
864	2.351	10-F10020-6	87	51	91	6	5
982	3.046	10-F10520-6	88	52	82	6	5
1863	8.316	12-F12220-7	91	53	60	7	6
2033	8.977	12-F12224-7	93	54	56	7	6
2162	11.018	12-F13420-7	95	55	50	7	6
2252	11.333	12-F13430-7	95	56	48	7	6
9.0" SP							
796	2.144	10-F10020-6	86	51	96	6	5

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
9.0" SP (continued)							
940	2.865	10-F10520-6	87	52	87	6	5
1821	8.092	12-F12220-7	91	53	63	7	6
1993	8.759	12-F12224-7	92	54	59	7	6
2136	10.899	12-F13420-7	95	55	53	7	6
2220	11.151	12-F13430-7	94	56	51	7	6
3517	19.938	15-F15020-10	95	59	50	10	8
3592	23.717	15-F15020-7	98	57	49	7	8
3996	25.498	15-F15020-8	98	58	48	8	8
9.5" SP							
883	2.640	10-F10520-6	86	52	91	6	5
1778	7.860	12-F12220-7	91	53	67	7	6
1951	8.534	12-F12224-7	92	54	63	7	6
2110	10.773	12-F13420-7	94	55	56	7	6
2188	10.963	12-F13430-7	94	56	54	7	6
3471	19.745	15-F15020-10	95	59	53	10	8
3549	23.389	15-F15020-7	98	57	51	7	8
3948	25.168	15-F15020-8	98	58	51	8	8
10.0" SP							
804	2.398	10-F10520-6	86	52	96	6	5
1734	7.621	12-F12220-7	91	53	70	7	6
1907	8.301	12-F12224-7	92	54	66	7	6
2082	10.641	12-F13420-7	94	55	59	7	6
2155	10.770	12-F13430-7	94	56	57	7	6
3424	19.544	15-F15020-10	95	59	56	10	8
3504	23.064	15-F15020-7	98	57	54	7	8
3892	24.813	15-F15020-8	98	58	54	8	8
11.0" SP							
1642	7.118	12-F12220-7	90	53	77	7	6
1814	7.809	12-F12224-7	91	54	73	7	6
2023	10.353	12-F13420-7	94	55	65	7	6
2085	10.364	12-F13430-7	94	56	62	7	6
3321	19.113	15-F15020-10	95	59	61	10	8
3411	22.404	15-F15020-7	98	57	60	7	8
3557	26.860	15-F16420-7	100	66	54	7	8
3762	23.272	15-F15030-7	99	60	53	7	8
3777	24.083	15-F15020-8	97	58	59	8	8
3934	27.232	15-F16420-10	97	68	52	10	8
4153	26.809	15-F15030-10	97	62	52	10	8
4386	29.113	15-F15030-8	99	61	51	8	8
12.0" SP							
1550	6.593	12-F12220-7	87	53	84	7	6
1709	7.271	12-F12224-7	90	54	79	7	6
2010	9.926	12-F13430-7	93	56	68	7	6
3188	18.612	15-F15020-10	95	59	67	10	8
3311	21.704	15-F15020-7	97	57	65	7	8
3467	26.239	15-F16420-7	100	66	59	7	8
3654	23.321	15-F15020-8	97	58	64	8	8
3654	22.457	15-F15030-7	98	60	58	7	8
3844	26.768	15-F16420-10	97	68	56	10	8
4028	29.673	15-F16420-8	99	67	57	8	8
4071	26.097	15-F15030-10	96	62	56	10	8
4264	28.246	15-F15030-8	99	61	55	8	8
13.0" SP							
1438	5.989	12-F12220-7	87	53	91	7	6
1588	6.670	12-F12224-7	89	54	86	7	6
1886	9.646	12-F13420-7	93	55	77	7	6
1928	9.449	12-F13430-7	93	56	74	7	6
3042	18.023	15-F15020-10	95	59	72	10	8
3204	20.953	15-F15020-7	97	57	70	7	8
3372	25.587	15-F16420-7	99	66	64	7	8
3524	22.532	15-F15020-8	97	58	70	8	8
3538	21.612	15-F15030-7	98	60	63	7	8
3738	26.257	15-F16420-10	97	68	61	10	8
3932	29.004	15-F16420-8	98	67	62	8	8



Forward Curve 3600 RPM 60 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
13.0" SP (continued)							
3980	25.373	15-F15030-10	96	62	61	10	8
4135	27.309	15-F15030-8	99	61	60	8	8
14.0" SP							
1220	5.022	12-F12220-7	87	53	98	7	6
1437	5.909	12-F12224-7	89	54	93	7	6
1801	9.186	12-F13420-7	93	55	83	7	6
1838	8.902	12-F13430-7	92	56	79	7	6
2882	17.322	15-F15020-10	95	59	78	10	8
3088	20.130	15-F15020-7	97	57	76	7	8
3271	24.897	15-F16420-7	99	66	68	7	8
3384	21.719	15-F15020-8	96	58	75	8	8
3409	20.719	15-F15030-7	97	60	68	7	8
3601	25.657	15-F16420-10	97	68	66	10	8
3814	28.277	15-F16420-8	98	67	67	8	8
3846	24.721	15-F15030-10	96	62	66	10	8
4000	26.272	15-F15030-8	98	61	64	8	8
15.0" SP							
1735	8.290	12-F13430-7	92	56	85	7	6
2711	16.475	15-F15020-10	94	59	84	10	8
2960	19.226	15-F15020-7	96	57	81	7	8
3163	24.163	15-F16420-7	99	66	73	7	8
3231	20.809	15-F15020-8	96	58	80	8	8
3271	19.794	15-F15030-7	97	60	73	7	8
3456	24.984	15-F16420-10	97	68	70	10	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
15.0" SP (continued)							
3688	27.506	15-F16420-8	98	67	71	8	8
3698	23.979	15-F15030-10	95	62	70	10	8
3855	25.183	15-F15030-8	98	61	69	8	8
16.0" SP							
1525	7.560	12-F13420-7	88	55	95	7	6
1612	7.660	12-F13430-7	88	56	91	7	6
2507	15.418	15-F15020-10	90	59	89	10	8
2813	18.216	15-F15020-7	89	57	87	7	8
3045	23.370	15-F16420-7	99	66	78	7	8
3060	19.764	15-F15020-8	90	58	86	8	8
3122	18.828	15-F15030-7	96	60	78	7	8
3302	24.223	15-F16420-10	97	68	75	10	8
3545	23.103	15-F15030-10	95	62	75	10	8
3551	26.697	15-F16420-8	98	67	76	8	8
3697	24.028	15-F15030-8	97	61	74	8	8
17.0" SP							
1448	6.909	12-F13430-7	89	56	96	7	6
2240	13.987	15-F15020-10	90	59	95	10	8
2638	17.077	15-F15020-7	89	57	92	7	8
2862	18.511	15-F15020-8	90	58	91	8	8
2960	17.885	15-F15030-7	95	60	83	7	8
3394	22.053	15-F15030-10	94	62	80	10	8
3518	22.805	15-F15030-8	97	61	78	8	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
18.0" SP							
2405	15.557	15-F15020-7	90	57	98	7	8
2619	16.959	15-F15020-8	91	58	97	8	8
2776	16.825	15-F15030-7	95	60	87	7	8
2967	22.395	15-F16420-10	97	68	85	10	8
3232	24.825	15-F16420-8	97	67	86	8	8
3248	20.840	15-F15030-10	94	62	84	10	8
3315	21.452	15-F15030-8	96	61	83	8	8
19.0" SP							
2551	15.529	15-F15030-7	89	60	92	7	8
2594	20.544	15-F16420-7	97	66	93	7	8
2763	21.197	15-F16420-10	97	68	89	10	8
3078	19.480	15-F15030-10	91	62	89	10	8
3086	19.887	15-F15030-8	90	61	87	8	8
20.0" SP							
2235	13.682	15-F15030-7	90	60	97	7	8
2358	18.928	15-F16420-7	92	66	98	7	8
2507	19.736	15-F16420-10	94	68	94	10	8
2817	17.791	15-F15030-8	90	61	92	8	8
2866	17.864	15-F15030-10	91	62	94	10	8
21.0" SP							
2476	15.149	15-F15030-8	91	61	96	8	8
2547	20.277	15-F16420-8	94	67	100	8	8
2550	15.596	15-F15030-10	92	62	99	10	8



Radial Wheels 3000 RPM 50 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
.5" SP							
183	.114	8-R07025-3	78	96	20	3	4
239	.131	8-R07025-4	78	97	22	4	4
1.0" SP							
157	.111	8-R07025-3	78	96	41	3	4
193	.138	8-R08013-3	79	98	34	3	4
197	.151	8-R08025-3	78	100	31	3	4
204	.120	8-R07025-4	78	97	44	4	4
248	.163	8-R08013-4	80	99	36	4	4
288	.192	8-R08025-4	79	101	33	4	4
356	.294	9-R09026-4	80	102	26	4	4
390	.301	9-R09026-5	81	103	27	5	4
1.5" SP							
126	.105	8-R07025-3	78	96	61	3	4
160	.107	8-R07025-4	78	97	66	4	4
165	.129	8-R08013-3	79	98	51	3	4
177	.147	8-R08025-3	78	100	46	3	4
212	.150	8-R08013-4	79	99	54	4	4
249	.182	8-R08025-4	79	101	50	4	4
328	.274	9-R09026-4	80	102	39	4	4
359	.280	9-R09026-5	81	103	40	5	4
375	.393	9-R10413-4	81	106	31	4	4
383	.383	9-R09626-4	81	104	33	4	4

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
1.5" SP (continued)							
424	.416	9-R09626-5	82	105	34	5	4
451	.486	9-R10527-4	84	108	28	4	4
499	.531	9-R10527-5	83	109	28	5	4
624	.747	10-R10527-6	84	110	29	6	5
653	.836	10-R11026-6	86	111	27	6	5
2.0" SP							
81	.089	8-R07025-3	78	96	82	3	4
91	.086	8-R07025-4	78	97	88	4	4
122	.112	8-R08013-3	79	98	68	3	4
154	.141	8-R08025-3	78	100	78	3	4
164	.130	8-R08013-4	79	99	71	4	4
206	.165	8-R08025-4	79	101	66	4	4
300	.251	9-R09026-4	80	102	52	4	4
326	.261	9-R09026-5	81	103	53	5	4
355	.362	9-R09626-4	80	104	44	4	4
384	.400	9-R10413-5	81	107	44	5	4
393	.391	9-R09626-5	82	105	46	5	4
427	.463	9-R10527-4	83	108	38	4	4
470	.505	9-R10527-5	83	109	37	5	4
578	.714	10-R10527-6	84	110	38	6	5
618	.785	10-R11026-6	85	111	36	6	5
691	.980	10-R11426-6	86	112	31	6	5
759	1.235	10-R12227-6	90	114	27	6	5

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
2.0" SP (continued)							
930	1.318	12-R11426-7	85	115	31	7	6
1045	1.672	12-R12227-7	89	116	28	7	6
1157	2.009	12-R13032-7	90	117	25	7	6
2.5" SP							
67	.092	8-R08013-3	79	98	85	3	4
80	.097	8-R08013-4	79	99	89	4	4
114	.127	8-R08025-3	78	100	77	3	4
154	.141	8-R08025-4	79	101	83	4	4
270	.228	9-R09026-4	80	102	65	4	4
294	.243	9-R09026-5	82	103	67	5	4
331	.345	9-R09626-4	80	104	54	4	4
347	.375	9-R10413-5	81	107	55	5	4
357	.365	9-R09626-5	82	105	57	5	4
402	.440	9-R10527-4	81	108	47	4	4
440	.477	9-R10527-5	81	109	47	5	4
533	.669	10-R10527-6	83	110	48	6	5
582	.736	10-R11026-6	83	111	45	6	5
597	.982	10-R12213-6	84	113	38	6	5
660	.924	10-R11426-6	85	112	39	6	5
732	1.194	10-R12227-6	89	114	34	6	5
873	1.249	12-R11426-7	84	115	39	7	6
999	1.598	12-R12227-7	85	116	34	7	6
1109	1.927	12-R13032-7	88	117	31	7	6



Radial Wheels 3000 RPM 50 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
2.5" SP (continued)							
1170	2.064	12-R14016-7	87	119	29	7	6
1254	2.220	12-R13722-7	88	118	29	7	6
1301	2.561	12-R14032-7	97	120	26	7	6
3.0" SP							
45	.098	9-R08025-3	79	100	92	3	4
234	.203	9-R09026-4	80	102	78	4	4
251	.217	9-R09026-5	82	103	80	5	4
274	.332	9-R10413-4	80	106	62	4	4
301	.349	9-R10413-5	81	107	66	5	4
305	.325	9-R09626-4	80	104	65	4	4
323	.339	9-R09626-5	82	105	68	5	4
371	.414	9-R10527-4	82	108	56	4	4
410	.449	9-R10527-5	81	109	56	5	4
487	.604	10-R10527-6	83	110	58	6	5
546	.691	10-R11026-6	83	111	54	6	5
566	.951	10-R11213-6	84	113	45	6	5
628	.874	10-R11426-6	83	112	47	6	5
706	1.150	10-R12227-6	88	114	41	6	5
811	1.182	12-R11426-7	83	115	47	7	6
948	1.523	12-R12227-7	85	116	41	7	6
1061	1.843	12-R13032-7	87	117	38	7	6
1133	1.998	12-R14016-7	86	119	35	7	6
1207	2.132	12-R13722-7	87	118	34	7	6
1265	2.500	12-R14032-7	96	120	31	7	6
3.5" SP							
164	.166	9-R09026-4	81	102	91	4	4
179	.175	9-R09026-5	81	103	93	5	4
227	.305	9-R10413-4	80	106	73	4	4
239	.317	9-R10413-5	81	107	77	5	4
268	.296	9-R09626-4	80	104	76	4	4
284	.310	9-R09626-5	81	105	80	5	4
340	.388	9-R10527-4	82	108	66	4	4
379	.420	9-R10527-5	81	109	65	5	4
443	.544	10-R10527-6	83	110	67	6	5
507	.651	10-R11026-6	82	111	63	6	5
529	.904	10-R12213-6	83	113	53	6	5
594	.828	10-R11426-6	83	112	55	6	5
678	1.105	10-R12227-6	88	114	48	6	5
753	1.116	12-R11426-7	83	115	54	7	6
889	1.448	12-R12227-7	84	116	48	7	6
1011	1.758	12-R13032-7	86	117	44	7	6
1090	1.926	12-R14016-7	86	119	41	7	6
1158	2.032	12-R13722-7	87	118	40	7	6
1228	2.437	12-R14032-7	96	120	37	7	6
4.0" SP							
152	.267	9-R10413-4	80	106	83	4	4
161	.272	9-R10413-5	81	107	88	5	4
205	.251	9-R09626-4	80	104	87	4	6
216	.262	9-R09626-5	81	105	91	5	4
311	.365	9-R10527-4	82	108	75	4	4
345	.391	9-R10527-5	81	109	75	5	4
409	.529	10-R10527-6	83	110	77	6	5
468	.621	10-R11026-6	82	111	71	6	5
486	.830	10-R12213-6	83	113	61	6	5
558	.788	10-R11426-6	82	112	62	6	5
647	1.059	10-R12227-6	87	114	54	6	5
700	1.052	12-R11426-7	82	115	62	7	6
831	1.371	12-R12227-7	83	116	55	7	6
960	1.672	12-R13032-7	85	117	50	7	6
1043	1.848	12-R14016-7	85	119	46	7	6
1105	1.935	12-R13722-7	86	118	46	7	6
1189	2.369	12-R14032-7	95	120	42	7	6
4.5" SP							
26	.216	9-R10413-5	81	107	99	5	4
47	.223	9-R10413-4	80	106	94	4	4
271	.334	9-R10527-4	81	108	85	4	4

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
4.5" SP (continued)							
299	.353	9-R10527-5	84	109	81	5	4
361	.473	10-R10527-6	83	110	87	6	5
426	.579	10-R11026-6	82	111	80	6	5
428	.707	10-R12213-6	80	113	68	6	5
521	.763	10-R11426-6	82	112	70	6	5
613	1.011	10-R12227-6	84	114	61	6	5
642	.983	12-R11426-7	82	115	70	7	6
781	1.293	12-R12227-7	83	116	62	7	6
907	1.584	12-R13032-7	84	117	57	7	6
991	1.768	12-R14016-7	85	119	52	7	6
1049	1.839	12-R13722-7	82	118	52	7	6
1147	2.296	12-R14032-7	94	120	47	7	6
1444	2.746	15-R13446-7	85	121	47	7	8
1512	2.924	15-R13446-8	85	122	51	8	8
1531	2.965	15-R14032-7	85	124	47	7	8
1621	3.048	15-R13446-10	85	123	52	10	8
1655	3.255	15-R14032-8	86	125	49	8	8
1717	3.399	15-R14032-10	86	126	51	10	8
5.0" SP							
195	.279	9-R10527-4	81	108	94	4	4
224	.299	9-R10527-5	81	109	93	5	4
262	.365	10-R10527-6	81	110	96	6	5
339	.643	10-R12213-6	80	113	76	6	5
374	.515	10-R11026-6	82	111	89	6	5
480	.734	10-R11426-6	82	112	78	6	5
575	.960	10-R12227-6	84	114	68	6	5
579	.913	12-R11426-7	82	115	78	7	6
728	1.212	12-R12227-7	82	116	69	7	6
848	1.492	12-R13032-7	84	117	63	7	6
935	1.684	12-R14016-7	84	119	52	7	6
988	1.746	12-R13722-7	85	118	57	7	6
1102	2.217	12-R14032-7	91	120	58	7	6
1357	2.592	15-R13446-7	84	121	54	7	8
1434	2.762	15-R13446-8	85	122	57	8	8
1450	2.810	15-R14032-7	85	124	53	7	8
1529	2.871	15-R13446-10	85	123	58	10	8
1566	3.069	15-R14032-8	85	125	54	8	8
1612	3.161	15-R14032-10	85	126	56	10	8
5.5" SP							
231	.371	10-R11026-6	79	111	98	6	5
239	.516	10-R12213-6	82	113	83	6	5
433	.679	10-R11426-6	82	112	86	6	5
505	.832	12-R11426-7	82	115	86	7	6
531	.907	10-R12227-6	84	114	75	6	5
669	1.131	12-R12227-7	82	116	76	7	6
793	1.401	12-R13032-7	83	117	69	7	6
870	1.594	12-R14016-7	84	119	64	7	6
920	1.664	12-R13722-7	84	118	63	7	6
1054	2.129	12-R14032-7	91	120	58	7	6
1277	2.421	15-R13446-7	85	121	60	7	8
1360	2.590	15-R13446-8	84	122	62	8	8
1378	2.653	15-R14032-7	85	124	58	7	8
1433	2.685	15-R13446-10	85	123	63	10	8
1476	2.879	15-R14032-8	85	125	60	8	8
1504	2.909	15-R14032-10	85	126	62	10	8
1656	3.654	15-R15247-4-7	89	139	49	7	8
1761	3.762	15-R15247-4-8	91	140	51	8	8
1862	3.923	15-R15247-4-10	90	141	51	10	8
6.0" SP							
356	.568	10-R11426-6	81	112	94	6	5
405	.724	12-R11426-7	82	115	93	7	6
490	.862	10-R12227-6	81	114	82	6	5
603	1.058	12-R12227-7	82	116	83	7	6
750	1.317	12-R13032-7	83	117	75	7	6
794	1.499	12-R14016-7	84	119	69	7	6
846	1.574	12-R13722-7	84	118	69	7	6
998	2.027	12-R14032-7	90	120	63	7	6

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
6.0" SP (continued)							
1193	2.241	15-R13446-7	85	121	65	7	8
1278	2.410	15-R13446-8	85	122	68	8	8
1301	2.491	15-R14032-7	86	124	63	7	8
1328	2.484	15-R13446-10	84	123	69	10	8
1380	2.683	15-R14032-8	85	125	65	8	8
1394	2.668	15-R14032-10	85	126	68	10	8
1486	3.591	15-R15134-7	87	127	52	7	8
1633	4.292	15-R16322-7	88	133	51	7	8
1704	4.277	15-R15134-8	88	128	52	8	8
1733	4.494	15-R15450-7	88	130	49	7	8
1764	4.653	15-R16322-8	88	134	52	8	8
1802	4.388	15-R15134-10	88	129	56	10	8
1852	4.754	15-R16322-10	89	135	53	10	8
1933	5.050	15-R15450-8	90	131	51	8	8
2096	5.046	15-R15450-10	91	132	51	10	8
6.5" SP							
441	.805	10-R12227-6	80	114	88	6	5
522	.966	12-R12227-7	82	116	90	7	6
704	1.230	12-R13032-7	82	117	82	7	6
704	1.369	12-R14016-7	83	119	75	7	6
770	1.443	12-R13722-7	83	118	75	7	6
932	1.902	12-R14032-7	88	120	68	7	6
1098	2.055	15-R13446-7	86	121	71	7	8
1183	2.217	15-R13446-8	85	122	74	8	8
1211	2.248	15-R13446-10	84	123	75	10	8
1217	2.322	15-R14032-7	87	124	69	7	8
1276	2.475	15-R14032-8	85	125	70	8	8
1291	2.450	15-R14032-10	85	126	73	10	8
1409	3.367	15-R15134-7	87	127	56	7	8
1567	4.117	15-R16322-7	87	133	56	7	8
1619	3.985	15-R15134-8	88	128	57	8	8
1677	4.314	15-R15450-7	88	130	53	7	8
1710	4.469	15-R16322-8	88	134	57	8	8
1712	4.123	15-R15134-10	88	129	60	10	8
1791	4.574	15-R16322-10	88	135	58	10	8
1870	4.827	15-R15450-8	90	031	55	8	8
2014	4.875	15-R15450-10	90	132	55	10	8
7.0" SP							
348	.647	10-R12227-6	83	114	95	6	5
405	.830	12-R12227-7	82	116	96	7	6
639	1.139	12-R13032-7	82	117	88	7	6
680	1.309	12-R13722-7	83	118	80	7	6
875	1.794	12-R14032-7	86	120	73	7	6
973	1.863	15-R13446-7	87	121	76	7	8
1042	1.992	15-R13446-8	85	122	79	8	8
1077	1.993	15-R13446-10	84	123	81	10	8
1160	2.257	15-R14032-8	85	125	76	8	8
1182	2.237	15-R14032-10	85	126	79	10	8
1188	2.157	15-R14032-7	87	124	74	7	8
1328	3.143	15-R15134-7	87	127	60	7	8
1500	3.932	15-R16322-7	86	133	60	7	8
1528	3.693	15-R15134-8	88	128	61	8	8
1616	3.850	15-R15134-10	88	129	65	10	8
1618	4.133	15-R15450-7	87	130	57	7	8
1647	4.274	15-R16322-8	87	134	61	8	8
1705	4.347	15-R16322-10	88	135	62	10	8
1802	4.599	15-R15450-8	90	131	59	8	8
1861	5.149	15-R16550-7	89	136	52	7	8
1927	4.693	15-R15450-10	89	132	59	10	8
2104	5.785	15-R16550-8	90	137	52	8	8
2278	5.989	15-R16550-10	92	138	52	10	8
7.5" SP							
465	1.028	12-R14016-7	83	119	87	7	6
539	1.023	12-R13032-7	82	117	94	7	6
572	1.164	12-R13722-7	82	118	86	7	6
825	1.697	12-R14032-7	85	120	79	7	6
832	1.647	15-R13446-7	88	121	82	7	8



Radial Wheels 3000 RPM 50 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
7.5" SP (continued)							
886	1.735	15-R13446-8	85	122	85	8	8
915	1.725	15-R13446-10	84	123	86	10	8
1006	1.969	15-R14032-7	88	124	79	7	8
1032	2.024	15-R14032-8	85	125	81	8	8
1060	2.025	15-R14032-10	85	126	84	10	8
1247	2.930	15-R15134-7	87	127	65	7	8
1430	3.737	15-R16322-7	86	133	64	7	8
1431	3.403	15-R15134-8	87	128	65	8	8
1511	3.569	15-R15134-10	88	129	70	10	8
1554	3.951	15-R15450-7	87	130	61	7	8
1570	4.062	15-R16322-8	88	134	65	8	8
1579	4.046	15-R16322-10	88	135	66	10	8
1727	4.363	15-R15450-8	89	131	64	8	8
1816	5.045	15-R16550-7	89	136	55	7	8
1834	4.496	15-R15450-10	89	132	63	10	8
2046	5.565	15-R16550-8	90	137	56	8	8
2189	5.787	15-R16550-10	92	138	56	10	8
8.0" SP							
331	.849	12-R14016-7	82	119	93	7	6
462	.997	12-R13722-7	82	118	92	7	6
678	1.403	15-R13446-7	86	121	87	7	8
694	1.427	15-R13446-10	84	123	92	10	8
713	1.428	15-R13446-8	83	122	91	8	8
768	1.591	12-R14032-7	84	120	84	7	6
872	1.744	15-R14032-7	89	124	84	7	8
892	1.784	15-R14032-8	84	125	87	8	8
920	1.833	15-R14032-10	85	126	90	10	8
1165	2.726	15-R15134-7	87	127	69	7	8
1323	3.133	15-R15134-8	87	128	70	8	8
1353	3.526	15-R16322-7	87	133	68	7	8
1379	3.249	15-R15134-10	88	129	74	10	8
1449	3.736	15-R16322-10	87	135	71	10	8
1483	3.834	15-R16322-8	89	134	70	8	8
1486	3.770	15-R15450-7	86	130	65	7	8
1637	4.110	15-R15450-8	89	131	68	8	8
1732	4.274	15-R15450-10	89	132	68	10	8
1768	4.942	15-R16550-7	89	136	59	7	8
1946	5.355	15-R16550-8	89	137	59	8	8
2098	5.600	15-R16550-10	91	138	59	10	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
8.5" SP							
210	.673	12-R13722-7	82	118	98	7	6
390	1.079	15-R13446-10	81	123	98	10	8
444	1.025	15-R13446-7	83	121	92	7	8
474	1.063	15-R13446-8	82	122	96	8	8
691	1.474	12-R14032-7	85	120	89	7	6
692	1.438	15-R14032-7	86	124	90	7	8
722	1.508	15-R14032-8	82	125	92	8	8
742	1.631	15-R14032-10	85	126	96	10	8
1072	2.507	15-R15134-7	87	127	73	7	8
1204	2.857	15-R15134-8	87	128	74	8	8
1237	2.928	15-R15134-10	88	129	79	10	8
1264	3.293	15-R16322-7	86	133	73	7	8
1322	3.426	15-R16322-10	87	135	75	10	8
1383	3.579	15-R16322-8	89	134	74	8	8
1411	3.582	15-R15450-7	86	130	69	7	8
1540	3.850	15-R15450-8	89	131	72	8	8
1625	4.038	15-R15450-10	89	132	72	10	8
1717	4.829	15-R16550-7	88	136	63	7	8
1854	5.152	15-R16550-8	89	137	63	8	8
2008	5.414	15-R16550-10	90	138	63	10	8
9.0" SP							
962	2.266	15-R15134-7	87	127	78	7	8
1070	2.563	15-R15134-8	86	128	78	8	8
1087	2.614	15-R15134-10	88	129	84	10	8
1135	2.965	15-R16322-7	86	133	77	7	8
1183	3.099	15-R16322-10	87	135	80	10	8
1221	3.201	15-R16322-8	90	134	79	8	8
1328	3.383	15-R15450-7	86	130	73	7	8
1435	3.582	15-R15450-8	89	131	76	8	8
1510	3.789	15-R15450-10	89	132	76	10	8
1662	4.703	15-R16550-7	88	136	66	7	8
1772	4.960	15-R16550-8	88	137	67	8	8
1923	5.241	15-R16550-10	90	138	67	10	8
9.5" SP							
787	1.932	15-R15134-7	86	127	82	7	8
903	2.228	15-R15134-8	86	128	83	8	8
938	2.340	15-R15134-10	87	129	88	10	8
982	2.606	15-R16322-7	86	133	81	7	8
1021	2.742	15-R16322-10	87	135	84	10	8
1030	2.782	15-R16322-8	91	134	83	8	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
9.5" SP (continued)							
1222	3.168	15-R15450-7	86	130	77	7	8
1316	3.307	15-R15450-8	89	131	81	8	8
1392	3.529	15-R15450-10	90	132	80	10	8
1600	4.557	15-R16550-7	88	136	70	7	8
1704	4.786	15-R16550-8	88	137	70	8	8
1839	5.070	15-R16550-10	89	138	70	10	8
10.0" SP							
603	1.599	15-R15134-7	85	127	86	7	8
707	1.865	15-R15134-8	85	128	87	8	8
759	2.035	15-R15134-10	85	129	93	10	8
771	2.196	15-R16322-7	86	133	85	7	8
788	2.311	15-R16322-8	89	134	87	8	8
799	2.288	15-R16322-10	86	135	89	10	8
1094	2.913	15-R15450-7	85	130	81	7	8
1185	3.014	15-R15450-8	89	131	87	8	8
1261	3.244	15-R15450-10	90	132	85	10	8
1525	4.357	15-R16550-7	88	136	74	7	8
1630	4.602	15-R16550-8	87	137	74	8	8
1750	4.884	15-R16550-10	88	138	74	10	8
11.0" SP							
259	1.150	15-R15134-8	82	128	96	8	8
279	1.080	15-R15134-7	83	127	95	7	8
338	1.324	15-R16322-7	84	133	94	7	8
376	1.641	15-R16322-10	83	135	97	10	8
379	1.476	15-R16322-8	84	134	96	8	8
818	2.331	15-R15450-7	84	130	89	7	8
892	2.370	15-R15450-8	87	131	93	8	8
938	2.528	15-R15450-10	89	132	93	10	8
1355	3.925	15-R16550-7	87	136	81	7	8
1461	4.191	15-R16550-8	86	137	82	8	8
1551	4.438	15-R16550-10	87	138	81	10	8
12.0" SP							
1143	3.445	15-R16550-7	87	136	88	7	8
1221	3.662	15-R16550-8	90	137	89	8	8
1307	3.857	15-R16550-10	87	138	89	10	8
13.0" SP							
818	2.656	15-R16550-7	91	136	96	7	8
909	2.893	15-R16550-8	91	137	96	8	8
979	3.082	15-R16550-10	87	138	96	10	8

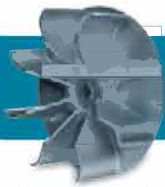


Backward Curve 3000 RPM 50 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
.5" SP							
162	.102	8-B07025-3	80	167	21	3	4
190	.132	8-B08125-3	80	169	16	3	4
198	.101	8-B07025-4	79	168	23	4	4
251	.168	8-B08125-4	79	170	17	4	4

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
1.0" SP							
137	.097	8-B07025-3	80	167	43	3	4
168	.095	8-B07025-4	79	168	47	4	4
170	.129	8-B08125-3	80	169	32	3	4
223	.159	8-B08125-4	79	170	35	4	4

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
1.0" SP (continued)							
309	.181	9-B08725-4	80	171	27	4	4
321	.185	9-B08725-5	80	172	28	5	4
376	.283	9-B10127-4	81	173	21	4	4
414	.300	9-B10127-5	81	174	22	5	4



Backward Curve 3000 RPM 50 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
1.0" SP (continued)							
479	.486	10-B10127-6	79	175	23	6	5
1.5" SP							
100	.089	8-B07025-3	79	167	64	3	4
122	.084	8-B07025-4	79	168	70	4	4
151	.124	8-B08125-3	80	169	48	3	4
191	.146	8-B08125-4	79	170	52	4	4
280	.170	9-B08725-4	80	171	40	4	4
292	.174	9-B08725-5	80	172	42	5	4
347	.267	9-B10127-4	82	173	31	4	4
384	.286	9-B10127-5	81	174	33	5	4
444	.467	10-B10127-6	79	175	35	6	5
541	.641	10-B10727-6	81	176	29	6	5
924	1.289	12-B13031-7	86	177	20	7	6
2.0" SP							
49	.073	8-B07025-3	80	167	86	3	4
49	.069	8-B07025-4	79	168	94	4	4
116	.114	8-B08125-3	80	169	64	3	4
152	.131	8-B08125-4	79	170	70	4	4
250	.158	9-B08725-4	80	171	53	4	4
261	.160	9-B08725-5	80	172	56	5	4
317	.249	9-B10127-4	81	173	42	4	4
353	.272	9-B10127-5	81	174	45	5	4
410	.456	10-B10127-6	79	175	47	6	5
510	.621	10-B10727-6	80	176	39	6	5
882	1.244	12-B13031-7	86	177	27	7	6
2.5" SP							
74	.101	8-B08125-3	80	169	80	3	4
91	.109	8-B08125-4	79	170	87	4	4
216	.143	9-B08725-4	80	171	67	4	4
225	.146	9-B08725-5	80	172	70	5	4
282	.229	9-B10127-4	81	173	52	4	4
312	.252	9-B10127-5	81	174	56	5	4
368	.432	10-B10127-6	78	175	58	6	5
475	.597	10-B10727-6	80	176	49	6	5
839	1.198	12-B13031-7	85	177	34	7	6
1001	1.595	12-B14132-7	88	178	29	7	6
3.0" SP							
20	.087	8-B08125-3	80	169	96	3	4
157	.117	8-B08725-4	80	171	80	4	4
165	.120	9-B08725-5	80	172	84	5	4
252	.211	9-B10127-4	81	173	63	4	4
279	.226	9-B10127-5	81	174	67	5	4
311	.381	10-B10127-6	79	175	70	6	5
436	.567	10-B10727-6	79	176	58	6	5
798	1.153	12-B13031-7	84	177	41	7	6
964	1.557	12-B14132-7	87	178	34	7	6
3.5" SP							
57	.081	9-B08725-5	81	172	98	5	4
157	.117	9-B08725-4	80	171	94	4	4
209	.184	9-B10127-4	81	173	73	4	4
242	.200	9-B10127-5	81	174	78	5	4
269	.343	10-B10127-6	79	175	82	6	5
390	.526	10-B10727-6	79	176	68	6	5
758	1.109	12-B13031-7	84	177	48	7	6
927	1.517	12-B14132-7	86	178	40	7	6
4.0" SP							
149	.151	9-B10127-4	81	173	84	4	4
163	.170	9-B10127-5	81	174	89	5	4
192	.282	10-B10127-6	79	175	93	6	5
350	.495	10-B10727-6	79	176	78	6	5
719	1.066	12-B13031-7	83	177	54	7	6
890	1.475	12-B14132-7	85	178	46	7	6

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
4.5" SP							
56	.119	9-B10127-4	81	173	94	4	4
296	.435	10-B10727-6	79	176	88	6	5
682	1.025	12-B13031-7	83	177	61	7	6
851	1.429	12-B14132-7	85	178	52	7	6
1103	1.610	15-B14132-7	82	179	48	7	8
1124	1.655	15-B14132-10	83	181	54	10	8
1134	1.648	15-B14132-8	83	180	50	8	8
5.0" SP							
181	.343	10-B10727-6	79	176	97	6	5
647	.985	12-B13031-7	83	177	68	7	6
812	1.380	12-B14132-7	84	178	57	7	6
1035	1.568	15-B14132-10	83	181	60	10	8
1037	1.540	15-B14132-7	82	179	54	7	8
1055	1.557	15-B14132-8	82	180	56	8	8
1356	2.563	15-B15247-7	85	182	47	7	8
1429	2.755	15-B15247-8	86	183	48	8	8
1515	2.782	15-B15247-10	86	184	51	10	8
5.5" SP							
647	.985	12-B13031-7	83	177	75	7	6
812	1.380	12-B14132-7	84	178	63	7	6
960	1.497	15-B14132-10	82	181	66	10	8
967	1.465	15-B14132-7	81	179	59	7	8
973	1.475	15-B14132-8	82	180	62	8	8
1301	2.461	15-B15247-7	84	182	51	7	8
1361	2.632	15-B15247-8	85	183	53	8	8
1431	2.662	15-B15247-10	85	184	56	10	8
6.0" SP							
549	.879	12-B13031-7	83	177	82	7	6
734	1.277	12-B14132-7	84	178	69	7	6
886	1.429	15-B14132-10	81	181	72	10	8
888	1.380	15-B14132-7	81	179	64	7	8
890	1.411	15-B14132-8	81	180	67	8	8
1241	2.347	15-B15247-7	84	182	56	7	8
1298	2.489	15-B15247-8	84	183	58	8	8
1354	2.544	15-B15247-10	84	184	61	10	8
6.5" SP							
466	.791	12-B13031-7	88	177	88	7	6
690	1.214	12-B14132-7	83	178	75	7	6
799	1.353	15-B14132-10	81	181	78	10	8
801	1.285	15-B14132-7	81	179	70	7	8
801	1.330	15-B14132-8	81	180	73	8	8
1166	2.194	15-B15247-7	83	182	61	7	8
1232	2.339	15-B15247-8	83	183	63	8	8
1271	2.412	15-B15247-10	84	184	66	10	8
1590	3.914	15-B16550-7	89	188	48	7	8
1764	4.271	15-B16550-8	89	189	50	8	8
1847	4.361	15-B16550-10	88	190	51	10	8
7.0" SP							
349	.674	12-B13031-7	83	177	95	7	6
638	1.120	12-B14132-7	83	178	80	7	6
687	1.264	15-B14132-10	81	181	84	10	8
701	1.178	15-B14132-7	81	179	75	7	8
701	1.228	15-B14132-8	81	180	79	8	8
1086	2.027	15-B15247-7	83	182	65	7	8
1158	2.181	15-B15247-8	83	183	68	8	8
1178	2.259	15-B15247-10	83	184	71	10	8
1547	3.813	15-B16550-7	89	188	52	7	8
1704	4.151	15-B16550-8	88	189	53	8	8
1784	4.228	15-B16550-10	88	190	55	10	8
7.5" SP							
526	1.147	15-B14132-10	80	181	90	10	8
575	1.022	12-B14132-7	83	178	86	7	6

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
7.5" SP (continued)							
575	1.044	15-B14132-7	81	179	80	7	8
590	1.092	15-B14132-8	80	180	84	8	8
994	1.856	15-B15247-7	82	182	70	7	8
1066	2.008	15-B15247-8	82	183	73	8	8
1070	2.057	15-B15247-10	82	184	76	10	8
1502	3.705	15-B16550-7	89	188	56	7	8
1642	4.023	15-B16550-8	88	189	57	8	8
1720	4.098	15-B16550-10	87	190	59	10	8
8.0" SP							
300	.973	15-B14132-10	80	181	96	10	8
429	.875	15-B14132-7	81	179	86	7	8
436	.906	15-B14132-8	80	180	90	8	8
483	.916	12-B14132-7	83	178	92	7	6
882	1.681	15-B15247-7	82	182	75	7	8
940	1.806	15-B15247-8	82	183	78	8	8
946	1.846	15-B15247-10	82	184	82	10	8
1452	3.588	15-B16550-7	90	188	59	7	8
1580	3.880	15-B16550-8	88	189	61	8	8
1652	3.971	15-B16550-10	87	190	63	10	8
8.5" SP							
240	.699	15-B14132-8	80	180	95	8	8
277	.697	15-B14132-7	80	179	91	7	8
346	.763	12-B14132-7	83	178	98	7	6
757	1.495	15-B15247-7	82	182	79	7	8
788	1.596	15-B15247-10	82	184	87	10	8
799	1.592	15-B15247-8	82	183	82	8	8
1396	3.440	15-B16550-7	90	188	63	7	8
1516	3.728	15-B16550-8	87	189	65	8	8
1580	3.835	15-B16550-10	86	190	67	10	8
9.0" SP							
152	.587	15-B14132-7	80	179	97	7	8
588	1.332	15-B15247-10	81	184	92	10	8
610	1.293	15-B15247-7	82	182	84	7	8
629	1.357	15-B15247-8	81	183	87	8	8
1335	3.285	15-B16550-7	90	188	67	7	8
1446	3.567	15-B16550-8	87	189	69	8	8
1502	3.687	15-B16550-10	86	190	71	10	8
9.5" SP							
392	1.170	15-B15247-10	81	184	97	10	8
448	1.099	15-B15247-8	81	183	92	8	8
449	1.067	15-B15247-7	82	182	89	7	8
1268	3.123	15-B16550-7	91	188	71	7	8
1370	3.394	15-B16550-8	86	189	72	8	8
1416	3.522	15-B16550-10	85	190	75	10	8
10.0" SP							
243	.821	15-B15247-8	81	183	97	8	8
288	.845	15-B15247-7	82	182	93	7	8
1193	2.952	15-B16550-7	91	188	74	7	8
1275	3.188	15-B16550-8	86	189	76	8	8
1314	3.321	15-B16550-10	85	190	79	10	8
11.0" SP							
975	2.539	15-B16550-7	88	188	82	7	8
1041	2.701	15-B16550-8	88	189	84	8	8
1078	2.858	15-B16550-10	84	190	87	10	8
12.0" SP							
702	2.021	15-B16550-7	88	188	89	7	8
746	2.139	15-B16550-8	87	189	92	8	8
770	2.240	15-B16550-10	84	190	95	10	8
13.0" SP							
199	1.129	15-B16550-8	84	189	99	8	8
307	1.290	15-B16550-7	87	188	96	7	8



Forward Curve 3000 RPM 50 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
.5" SP							
321	.244	8-F07620-3	78	142	14	3	4
504	.522	8-F07620-4	79	143	14	4	4
1.0" SP							
301	.237	8-F07620-3	78	142	29	3	4
474	.493	8-F07620-4	78	143	29	4	4
651	1.125	9-F10020-4	83	144	17	4	4
766	1.365	9-F10020-5	83	145	17	5	4
1.5" SP							
276	.227	8-F07620-3	77	142	43	3	4
439	.454	8-F07620-4	77	143	43	4	4
630	1.072	9-F10020-4	83	144	25	4	4
739	1.316	9-F10020-5	83	145	25	5	4
1042	2.413	10-F10020-6	85	146	24	6	5
1078	2.613	10-F10520-6	86	147	21	6	5
2.0" SP							
246	.213	8-F07620-3	79	142	58	3	4
397	.406	8-F07620-4	77	143	58	4	4
606	1.020	9-F10020-4	82	144	34	4	4
712	1.262	9-F10020-5	82	145	33	5	4
1008	2.303	10-F10020-6	85	146	32	6	5
1047	2.529	10-F10520-6	85	147	29	6	5
1880	5.823	12-F12220-7	89	148	21	7	6
2.5" SP							
207	.191	8-F07620-3	78	142	72	3	4
350	.353	8-F07620-4	77	143	72	4	4
579	.970	9-F10020-4	82	144	42	4	4
684	1.201	9-F10020-5	82	145	42	5	4
973	2.188	10-F10020-6	85	146	40	6	5
1015	2.439	10-F10520-6	85	147	36	6	5
1838	5.698	12-F12220-7	89	148	26	7	6
1949	6.042	12-F12224-7	90	149	24	7	6
2006	6.934	12-F13420-7	91	150	22	7	6
2117	7.390	12-F13430-7	92	151	21	7	6
3.0" SP							
146	.148	8-F07620-3	79	142	87	3	4
299	.296	8-F07620-4	79	143	87	4	4
548	.921	9-F10020-4	81	144	50	4	4
655	1.137	9-F10020-5	82	145	50	5	4
938	2.067	10-F10020-6	84	146	48	6	5
984	2.341	10-F10520-6	85	147	43	6	5
1795	5.566	12-F12220-7	88	148	31	7	6
1912	5.908	12-F12224-7	90	149	29	7	6
1972	6.819	12-F13420-7	91	150	26	7	6
2072	7.212	12-F13430-7	92	151	25	7	6
3.5" SP							
514	.878	9-F10020-4	81	144	59	4	4
622	1.071	9-F10020-5	82	145	58	5	4
907	1.931	10-F10020-6	84	146	55	6	5
958	2.233	10-F10520-6	85	147	50	6	5
1751	5.427	12-F12220-7	88	148	36	7	6
1874	5.769	12-F12224-7	90	149	34	7	6
1938	6.702	12-F13420-7	91	150	31	7	6
2028	7.035	12-F13430-7	92	151	29	7	6
4.0" SP							
477	.828	9-F10020-4	80	144	67	4	4
586	1.001	9-F10020-5	82	145	67	5	4
872	1.795	10-F10020-6	83	146	63	6	5
930	2.121	10-F10520-6	84	147	57	6	5
1706	5.279	12-F12220-7	87	148	41	7	6
1834	5.625	12-F12224-7	89	149	39	7	6
1903	6.583	12-F13420-7	90	150	35	7	6
1984	6.861	12-F13430-7	91	151	33	7	6
4.5" SP							
441	.750	9-F10020-4	80	144	76	4	4

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
4.5" SP (continued)							
547	.925	9-F10020-5	82	145	75	5	4
835	1.656	10-F10020-6	83	146	71	6	5
900	2.005	10-F10520-6	84	147	64	6	5
1660	5.117	12-F12220-7	87	148	46	7	6
1793	5.476	12-F12224-7	89	149	44	7	6
1868	6.462	12-F13420-7	90	150	39	7	6
1950	6.728	12-F13430-7	91	151	38	7	6
5.0" SP							
399	.654	9-F10020-4	81	144	84	4	4
507	.846	9-F10020-5	81	145	84	5	4
791	1.514	10-F10020-6	83	146	79	6	5
866	1.883	10-F10520-6	84	147	71	6	5
1614	4.948	12-F12220-7	87	148	52	7	6
1750	5.312	12-F12224-7	88	149	49	7	6
1832	6.339	12-F13420-7	90	150	44	7	6
1915	6.591	12-F13430-7	91	151	42	7	6
5.5" SP							
117	.194	9-F10020-5	81	145	92	5	4
324	.535	9-F10020-4	81	144	93	4	4
739	1.367	10-F10020-6	82	146	87	6	5
828	1.753	10-F10520-6	83	147	78	6	5
1565	4.773	12-F12220-7	87	148	57	7	6
1704	5.142	12-F12224-7	88	149	53	7	6
1801	6.242	12-F13420-7	90	150	48	7	6
1879	6.448	12-F13430-7	91	151	46	7	6
6.0" SP							
668	1.218	10-F10020-6	82	146	95	6	5
780	1.610	10-F10520-6	83	147	86	6	5
1515	4.591	12-F12220-7	86	148	62	7	6
1657	4.965	12-F12224-7	87	149	58	7	6
1770	6.146	12-F13420-7	90	150	52	7	6
1842	6.300	12-F13430-7	90	151	50	7	6
6.5" SP							
710	1.427	10-F10520-6	81	147	93	6	5
1463	4.401	12-F12220-7	86	148	67	7	6
1606	4.780	12-F12224-7	87	149	63	7	6
1738	6.043	12-F13420-7	90	150	57	7	6
1802	6.146	12-F13430-7	90	151	54	7	6
2924	13.117	15-F15020-7	93	152	52	7	8
3253	14.114	15-F15020-8	93	153	51	8	8
7.0" SP							
566	1.164	10-F10520-6	82	147	100	6	5
1409	4.202	12-F12220-7	86	148	72	7	6
1553	4.586	12-F12224-7	86	149	68	7	6
1704	5.932	12-F13420-7	89	150	61	7	6
1762	5.985	12-F13430-7	90	151	58	7	6
2802	10.910	15-F15020-10	90	154	57	10	8
2870	12.850	15-F15020-7	93	152	56	7	8
2984	15.323	15-F16420-7	95	161	50	7	8
3185	13.820	15-F15020-8	93	153	55	8	8
3229	13.701	15-F15040-7	99	158	51	7	8
7.5" SP							
1353	3.992	12-F12220-7	85	148	77	7	6
1495	4.380	12-F12224-7	86	149	73	7	6
1668	5.811	12-F13420-7	89	150	65	7	6
1719	5.816	12-F13430-7	89	151	63	7	6
2738	10.729	15-F15020-10	90	154	61	10	8
2813	12.575	15-F15020-7	93	152	60	7	8
3102	13.061	15-F15030-7	94	155	53	7	8
3114	13.517	15-F15020-8	92	153	59	8	8
3160	13.380	15-F15040-7	99	158	55	7	8
3245	15.289	15-F16420-10	92	163	52	10	8
3376	17.001	15-F16420-8	94	162	52	8	8
3425	15.049	15-F15030-10	92	157	52	10	8
3617	16.341	15-F15030-8	94	156	51	8	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
7.5" SP (continued)							
3754	16.956	15-F15040-8	100	159	51	8	8
8.0" SP							
1298	3.777	12-F12220-7	82	148	83	7	6
1432	4.161	12-F12224-7	86	149	78	7	6
1674	5.637	12-F13430-7	89	151	67	7	6
2659	10.526	15-F15020-10	90	154	65	10	8
2753	12.288	15-F15020-7	92	152	64	7	8
2879	14.823	15-F16420-7	95	161	58	7	8
3037	12.726	15-F15030-7	93	155	57	7	8
3040	13.205	15-F15020-8	92	153	63	8	8
3087	13.058	15-F15040-7	99	158	59	7	8
3151	15.922	15-F16440-7	98	164	51	7	8
3191	15.099	15-F16420-10	92	163	55	10	8
3337	16.750	15-F16420-8	93	162	56	8	8
3376	14.755	15-F15030-10	91	157	55	10	8
3543	15.986	15-F15030-8	94	156	54	8	8
3667	16.483	15-F15040-8	100	159	54	8	8
4045	19.143	15-F15040-10	98	160	51	10	8
8.5" SP							
1238	3.546	12-F12220-7	82	148	88	7	6
1363	3.925	12-F12224-7	81	149	78	7	6
1588	5.531	12-F13420-7	89	150	74	7	6
1626	5.447	12-F13430-7	89	151	71	7	6
2573	10.298	15-F15020-10	90	154	70	10	8
2690	11.987	15-F15020-7	92	152	68	7	8
2823	14.559	15-F16420-7	94	161	61	7	8
2963	12.881	15-F15020-8	92	153	67	8	8
2969	12.383	15-F15030-7	93	155	61	7	8
3011	12.729	15-F15040-7	98	158	62	7	8
3086	15.607	15-F16440-7	98	164	54	7	8
3132	14.898	15-F16420-10	92	163	59	10	8
3292	16.490	15-F16420-8	93	162	59	8	8
3323	14.458	15-F15030-10	91	157	59	10	8
3466	15.613	15-F15030-8	94	156	57	8	8
3578	16.006	15-F15040-8	100	159	57	8	8
3592	18.448	15-F16440-8	100	165	51	8	8
3963	18.646	15-F16040-10	98	160	55	10	8
9.0" SP							
1160	3.282	12-F12220-7	83	148	93	7	6
1363	3.925	12-F12224-7	81	149	87	7	6
1541	5.365	12-F13420-7	89	150	78	7	6
1575	5.243	12-F13430-7	88	151	75	7	6
2481	10.040	15-F15020-10	89	154	74	10	8
2623	11.669	15-F15020-7	92	152	72	7	8
2764	14.285	15-F16420-7	94	161	65	7	8
2883	12.556	15-F15020-8	92	153	71	8	8
2896	12.027	15-F15030-7	93	155	64	7	8
2942	12.392	15-F15040-7	98	158	66	7	8
3020	15.341	15-F16440-7	98	164	57	7	8
3059	14.674	15-F16420-10	92	163	62	10	8
3223	16.200	15-F16420-8	93	162	63	8	8
3265	14.160	15-F15030-10	91	157	62	10	8
3387	15.209	15-F15030-8	94	156	61	8	8
3489	15.544	15-F15040-8	99	159	61	8	8
3530	18.163	15-F16440-8	100	165	54	8	8
3879	18.143	15-F15040-10	98	160	58	10	8
4028	21.215	15-F16440-10	99	166	50	10	8
9.5" SP							
1024	2.874	12-F12220-7	83	148	98	7	6
1192	3.340	12-F12224-7	82	149	92	7	6
1489	5.171	12-F13420-7	89	150	83	7	6
1519	5.014	12-F13430-7	88	151	79	7	6
2384	9.747	15-F15020-10	89	154	78	10	8
2552	11.326	15-F15020-7	92	152	76	7	8
2702	13.999	15-F16420-7	94	161	68	7	8
2797	12.218	15-F15020-8	91	153	75	8	8
2817	11.648	15-F15030-7	92	155	68	7	8



Forward Curve 3000 RPM 50 Hz

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
9.5" SP (continued)							
2838	12.055	15-F15040-7	96	158	70	7	8
2953	15.111	15-F16440-7	98	164	61	7	8
2976	14.424	15-F16420-10	92	163	66	10	8
3151	15.898	15-F16420-8	93	162	66	8	8
3178	13.900	15-F15030-10	91	157	65	10	8
3305	14.780	15-F15030-8	93	156	67	8	8
3397	15.073	15-F15040-8	99	159	64	8	8
3465	17.868	15-F16440-8	100	165	57	8	8
3793	17.634	15-F15040-10	98	160	61	10	8
3949	20.773	15-F16440-10	99	166	53	10	8
10.0" SP							
1070	2.934	12-F12224-7	82	149	97	7	6
1459	4.764	12-F13430-7	88	151	83	7	6
2282	9.409	15-F15020-10	89	154	82	10	8
2476	10.959	15-F15020-7	91	152	80	7	8
2638	13.700	15-F16420-7	94	161	72	7	8
2706	11.851	15-F15020-8	91	153	79	8	8
2735	11.279	15-F15030-7	92	155	71	7	8
2737	11.710	15-F15040-7	96	158	73	7	8
2883	14.857	15-F16440-7	97	164	64	7	8
2889	14.152	15-F16420-10	92	163	69	10	8
3076	15.584	15-F16420-8	93	162	70	8	8
3089	13.603	15-F15030-10	90	157	69	10	8
3218	14.335	15-F15030-8	93	156	67	8	8
3301	14.586	15-F15040-8	97	159	67	8	8
3399	17.560	15-F16440-8	99	165	60	8	8
3706	17.119	15-F15040-10	97	160	64	10	8
3867	20.326	15-F16440-10	98	166	56	10	8
11.0" SP							
1229	4.129	12-F13420-7	83	150	96	7	6
1311	4.244	12-F13430-7	83	151	92	7	6

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
11.0" SP (continued)							
2038	8.547	15-F15020-10	86	154	90	10	8
2300	10.131	15-F15020-7	85	152	80	7	8
2496	13.049	15-F16420-7	93	161	79	7	8
2500	10.994	15-F15020-8	86	153	87	8	8
2527	10.928	15-F15040-7	96	158	81	7	8
2555	10.484	15-F15030-7	91	155	78	7	8
2703	13.530	15-F16420-10	91	163	76	10	8
2735	14.264	15-F16440-7	97	164	70	7	8
2904	12.888	15-F15030-10	90	157	76	10	8
3028	13.386	15-F15030-8	92	156	74	8	8
3091	13.553	15-F15040-8	96	159	74	8	8
3258	16.902	15-F16440-8	97	165	66	8	8
3528	16.075	15-F15040-10	97	160	71	10	8
3695	19.388	15-F16440-10	98	166	62	10	8
12.0" SP							
2064	9.096	15-F15020-7	86	152	96	7	8
2241	9.875	15-F15020-8	87	153	95	8	8
2307	9.934	15-F15040-7	95	158	88	7	8
2330	12.297	15-F16420-7	92	161	86	7	8
2350	9.681	15-F15030-7	90	155	86	7	8
2578	13.485	15-F16440-7	97	164	77	7	8
2703	12.793	15-F16420-10	91	163	83	10	8
2720	14.159	15-F16420-8	92	162	84	8	8
2726	11.964	15-F15030-10	89	157	83	10	8
2799	12.340	15-F15030-8	91	156	81	8	8
2844	12.404	15-F15040-8	96	159	81	8	8
3106	16.176	15-F16440-8	97	165	72	8	8
3363	15.066	15-F15040-10	96	160	77	10	8
3513	18.440	15-F16440-10	98	166	67	10	8
13.0" SP							
2084	8.638	15-F15030-7	86	155	93	7	8
2124	11.467	15-F16420-7	92	161	93	7	8

CFM	BHP	MODEL	DBA @ 5'	CURVE NO.	% OF PEAK SP	INLET DIA.	OUTLET DIA.
13.0" SP (continued)							
2261	11.829	15-F16420-10	94	163	90	10	8
2403	12.530	15-F16440-7	96	164	83	7	8
2495	13.243	15-F16420-8	91	162	91	8	8
2524	10.858	15-F15030-10	85	157	90	10	8
2526	11.074	15-F15030-8	88	156	88	8	8
2558	11.086	15-F15040-8	95	159	88	8	8
2940	15.365	15-F16440-8	96	165	78	8	8
3173	13.975	15-F15040-10	96	160	84	10	8
3323	17.511	15-F16440-10	98	166	73	10	8
14.0" SP							
1540	6.487	15-F15030-7	86	155	100	7	8
1912	10.420	15-F16420-10	88	163	97	10	8
2175	9.178	15-F15030-8	86	156	94	8	8
2192	11.425	15-F16440-7	92	164	89	7	8
2200	9.447	15-F15040-8	94	159	94	8	8
2209	11.946	15-F16420-8	88	162	98	8	8
2236	9.392	15-F15030-10	86	157	97	10	8
2751	14.427	15-F16440-8	96	165	84	8	8
2941	12.747	15-F15040-10	93	160	90	10	8
3125	3.647	15-F16440-10	97	166	78	10	8
15.0" SP							
1906	10.043	15-F16440-7	92	164	96	7	8
2523	13.277	15-F16440-8	95	165	90	8	8
2608	11.489	15-F15040-10	94	160	97	10	8
2917	15.905	15-F16440-10	93	166	84	10	8
16.0" SP							
2214	11.657	15-F16440-8	96	165	96	8	8
2696	14.892	15-F16440-10	94	166	90	10	8
17.0" SP							
2461	13.435	15-F16440-10	94	166	95	10	8

Spark Resistant Construction

Type A

All parts of the fan in contact with the air or gas being handled shall be made of non-ferrous material.

Type B

Fan shall have entirely non-ferrous wheel and a non-ferrous ring about the opening through which the shaft passes.

Type C

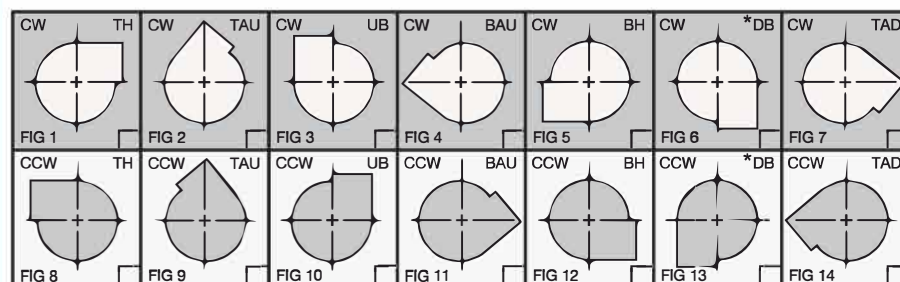
Fan shall be so constructed that a shift of the wheel or shaft will not permit two ferrous parts of the fan to rub or strike.

Model AF meets the requirements of Type A Spark Resistant Construction (with the exception of the shaft) since they have aluminum wheels and housings.

Hi-Temp Construction

All AF arrangements with cast aluminum radial or backward curve wheels can be operated with airstream temperatures up to 200°F. Blowers with aluminum forward curve wheels can be operated with airstream temperatures up to 150°F. Higher temperature construction up to 700°F is available with welded steel construction (radial wheels only) and welded steel housings in arrangements 1, 8, and 9.

Discharge Positions



NOTE: Rotation is viewed from driven side.

NOTE: Downblast discharge not available with outlet flange.

Conversion Factors

Volume: cubic meters/sec. x 2119 = cubic feet/min. (CFM)

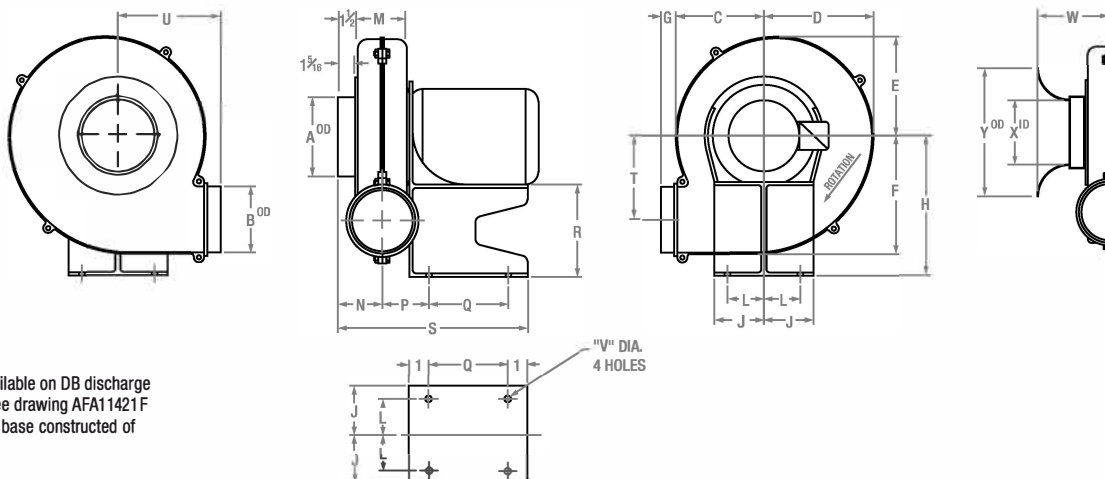
Pressure: Pascals (N/m²) x 0.004 = inches water

Power: kilowatts (Kw) x 1.341 = horsepower

Length: centimeters (cm) x 0.3937 = inches

Temperature: (°C x 1.8) + 32 = °F

Arrangement 4 Cast Aluminum Base



NOTES:

- ① Outlet flange not available on DB discharge
- ② For flange details, see drawing AFA11421F
- ③ Housing, wheel, and base constructed of cast aluminum

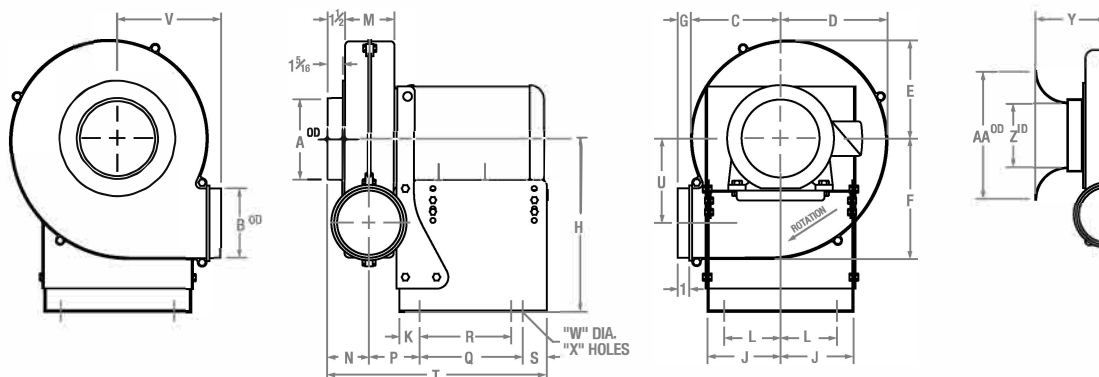
ALL DIMENSIONS SHOWN IN INCHES

FAN SIZE	MOTOR FRAME SIZE	INLET DIA. A	OUTLET DIA. B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	NET WTS. NO MOTOR LBS.
AF-8	56-C, 143-TC, 145-TC	3	4	4 ⁵ / ₁₆	5 ¹ / ₁₆	5 ³ / ₃₂	6 ¹ / ₁₆	1 ¹ / ₈	8 ¹ / ₂	3 ³ / ₄	1 ¹ / ₈	2 ³ / ₄	3 ¹ / ₂	2 ⁷ / ₈	2 ⁷ / ₈	5	5	11 ³ / ₄	4 ⁹ / ₁₆	6 ⁹ / ₁₆	7 ¹ / ₈	25
		4	4	4 ⁵ / ₁₆	5 ¹ / ₁₆	5 ³ / ₃₂	6 ¹ / ₁₆	1 ¹ / ₈	8 ¹ / ₂	3 ³ / ₄	1 ¹ / ₈	2 ³ / ₄	3 ¹ / ₂	2 ⁷ / ₈	2 ⁷ / ₈	5	5	11 ³ / ₄	4 ⁹ / ₁₆	6 ⁹ / ₁₆	7 ¹ / ₈	25
AF-9	56-C, 143-TC, 145-TC	4	4	6	7 ¹ / ₄	6 ¹⁷ / ₃₂	7 ³ / ₄	1 ¹ / ₈	10 ¹ / ₂	3 ³ / ₄	1 ¹ / ₈	2 ³ / ₄	3 ³ / ₄	3 ¹ / ₈	3 ¹ / ₈	6	7	13 ¹ / ₈	5 ⁵ / ₈	7 ³ / ₈	7 ¹ / ₈	33
		5	4	6	7 ¹ / ₄	6 ¹⁷ / ₃₂	7 ³ / ₄	1 ¹ / ₈	10 ¹ / ₂	3 ³ / ₄	1 ¹ / ₈	2 ³ / ₄	3 ³ / ₄	3 ¹ / ₈	3 ¹ / ₈	6	7	13 ¹ / ₈	5 ⁵ / ₈	7 ³ / ₈	7 ¹ / ₈	33
AF-10	56-C, 143-T, 145-TC	6	5	6 ¹ / ₁₆	8 ⁵ / ₁₆	7 ¹⁵ / ₃₂	9	1 ¹ / ₈	10 ¹ / ₂	3 ³ / ₄	1 ¹ / ₂	2 ³ / ₄	3 ³ / ₄	3 ³ / ₈	3 ³ / ₈	6	7	14 ⁷ / ₁₆	6 ³ / ₈	7 ¹³ / ₁₆	7 ¹ / ₈	39
		6	5	6 ¹ / ₁₆	8 ⁵ / ₁₆	7 ¹⁵ / ₃₂	9	1 ¹ / ₈	10 ¹ / ₂	3 ³ / ₄	1 ¹ / ₂	2 ³ / ₄	3 ³ / ₄	3 ³ / ₈	3 ³ / ₈	6	7	14 ⁷ / ₁₆	6 ³ / ₈	7 ¹³ / ₁₆	7 ¹ / ₈	39

MOTORS	
FRAME SIZE	WT. LBS.
56-C	24
143-TC	33
145-TC	45

INLET BELL			
FAN SIZE	INLET DIA.	W	X
AF-8	3	4 ¹ / ₄	2 ⁵ / ₈
AF-9	4	4 ³ / ₄	3 ¹ / ₈
AF-10	5	5 ¹ / ₈	4 ¹ / ₈
AF-10	6	6 ³ / ₈	5 ¹ / ₂

Arrangement 4 Steel Base



NOTES:

- ① AF-15 with 182T/184T frame motor is not available in DB discharge
- ② AF-15, Add 7/8" to dimensions "P" & "T" for DB discharge (213T, 215T, 254T, 284TS, 286TS only)
- ③ AF-15 not available with 56 or 56C frame motors
- ④ For flange details, see drawing AFA11421F
- ⑤ Motor base is field adjustable to accept motor frames as shown
- ⑥ All sizes "DB" discharge only available less outlet flange

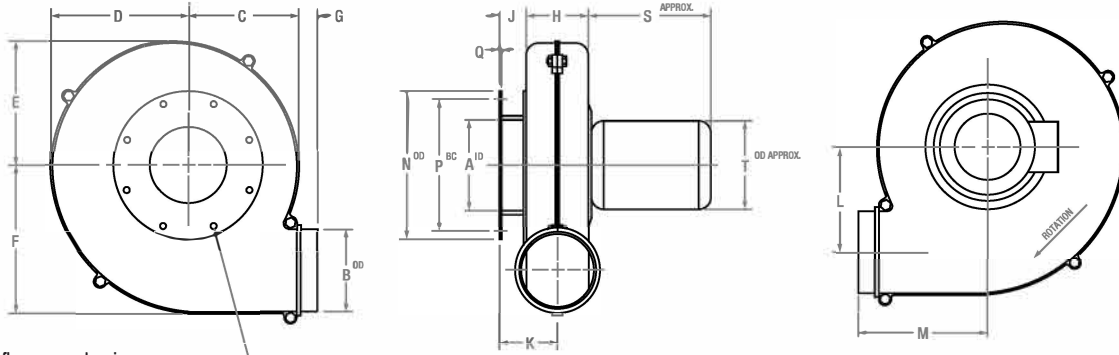
ALL DIMENSIONS SHOWN IN INCHES

FAN SIZE	MOTOR FRAME SIZE	INLET DIA. A	OUTLET DIA. B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	NET WTS. NO MOTOR LBS.
AF-10	56, 143T, 145T, 56C, 143TC, 145TC, 182T	6	5	6 ¹ / ₁₆	8 ⁵ / ₁₆	7 ¹⁵ / ₃₂	9	1 ¹ / ₈	11 ¹ / ₂	5	1 ¹ / ₈	4	3 ³ / ₄	3 ³ / ₈	3 ³ / ₈	8	7	1 ³ / ₈	15 ⁵ / ₁₆	6 ³ / ₈	7 ¹³ / ₁₆	1 ¹ / ₂	6	39
		7	6	7 ³ / ₄	9 ¹ / ₄	8 ¹ / ₂	10 ¹ / ₂	1 ¹ / ₈	11 ¹ / ₂	5	1 ¹ / ₈	4	4 ¹ / ₄	3 ³ / ₈	3 ³ / ₈	8	7	1 ³ / ₈	15 ⁵ / ₁₆	7 ³ / ₈	8 ¹ / ₂	1 ¹ / ₂	6	46
AF-12	56, 143T, 145T, 56C, 143TC, 145TC, 182T, 184T	7	6	7 ³ / ₄	9 ¹ / ₄	8 ¹ / ₂	10 ¹ / ₂	1 ¹ / ₈	11 ¹ / ₂	6 ³ / ₈	1 ¹ / ₈	4 ¹ / ₄	4 ¹ / ₄	3 ³ / ₈	4 ¹ / ₈	8 ¹ / ₂	-	2 ¹ / ₈	18 ¹ / ₈	7 ³ / ₈	8 ¹ / ₂	9 ¹ / ₈	4	46
		7	6	7 ³ / ₄	9 ¹ / ₄	8 ¹ / ₂	10 ¹ / ₂	1 ¹ / ₈	11 ¹ / ₂	6 ³ / ₈	1 ¹ / ₈	4 ¹ / ₄	4 ¹ / ₄	3 ³ / ₈	4 ¹ / ₈	8 ¹ / ₂	-	2 ¹ / ₈	18 ¹ / ₈	7 ³ / ₈	8 ¹ / ₂	9 ¹ / ₈	4	46
AF-15	143T, 145T, 182T, 184T, 213T, 215T	8	8	9 ³ / ₈	11	10	12	1 ¹ / ₈	15	6 ³ / ₈	1 ³ / ₄	4 ¹ / ₂	5 ¹ / ₂	4 ⁷ / ₈	5 ¹ / ₂	8 ¹ / ₂	-	2 ¹ / ₈	20 ¹ / ₂	7 ⁷ / ₈	10 ¹ / ₈	9 ¹ / ₈	4	79
		10	8	9 ³ / ₈	11	10	12	1 ¹ / ₈	15	7	1 ³ / ₄	4 ¹ / ₂	5 ¹ / ₂	4 ⁷ / ₈	5 ¹ / ₂	16 ¹ / ₄	-	2	27 ¹ / ₈	7 ⁷ / ₈	10 ¹ / ₈	1 ¹ / ₈	4	121

MOTORS	
FRAME	WT.
SIZE	LBS.
56C	24
143T	32
145T	40
182T	58
184T	70
213T	100
215T	130
254T	240
256T	300
284TS	403
286TS	420

INLET BELL			
FAN SIZE	INLET DIA.	Y	Z
AF-10	6	6 ³ / ₈	5 ¹ / ₂
AF-12	7	6 ¹ / ₈	6 ¹ / ₂
AF-15	8	7 ³ / ₈	7 ¹ / ₂
AF-15	10	9 ¹ / ₄	9 ¹ / ₂

Arrangement 4 Inlet Flange Mount



NOTES:

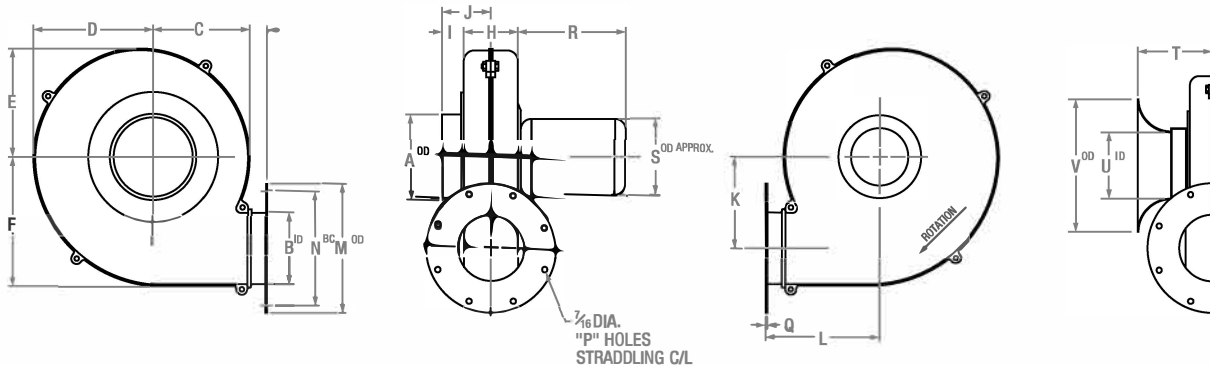
- For optional outlet flange, see drawing AFA11421F
- Inlet flange is welded to inlet side housing
- Housing, flange, and wheel are constructed of cast aluminum

ALL DIMENSIONS SHOWN IN INCHES

FAN SIZE	MOTOR FRAME SIZE	INLET DIA. A	OUTLET DIA. B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	NET WTS. NO MOTOR LBS.
AF-8	56-C, 143-TC, 145-TC	2 9/16 3 3/16	4	4 1/16	5 1/16	5 3/32	6 1/16	1 1/8	3 1/2	1 1/8	3 1/8	4 9/16	6 9/16	7 1/2 9	6 7 1/2	1/4	4 8	14
AF-9	56-C, 143-TC, 145-TC	3 9/16 4 9/16	4	6	7 1/4	6 17/32	7 3/4	1 3/16	3 3/4	1 7/8	3 5/16	5 5/8	7 3/8	9 10	7 1/2 8 1/2	1/4	8	20
AF-10	56-C, 143-TC, 145-TC	5 1/2	5	6 1/16	8 9/16	7 15/32	9	1 1/8	3 3/4	1 13/16	3 11/16	6 3/8	7 13/16	11	9 1/2	1/4	8	35
AF-12	56-C, 143-TC, 145-TC, 182-TC, 184-TC	6 1/4	6	7 3/4	9 1/4	8 1/2	10 1/16	1 1/8	4 1/4	1 13/16	3 15/16	7 5/8	8 7/8	11	9 1/2	15/16	8	40
AF-15	143-TC, 145-TC, 182-TC, 184-TC, 213-TC, 215-TC	6 3/4 7 1/2 9 1/16	8	9 9/16	11	10	12	1 9/16	5 7/8	2	4 15/16	7 7/8	10 15/16	11 13 1/2 16	9 1/2 11 3/4 14 1/4	1/2	8 8 12	56

MOTORS			
FRAME SIZE	WT. LBS.	S	T
56-C	25	11 1/2	6 1/4
143-TC	33	11 1/2	7
145-TC	45	11 1/2	7
182-TC	60	14 1/2	9
184-TC	70	14 1/2	9
213-TC	120	16	10 1/2
215-TC	140	16	10 1/2

Arrangement 4 Outlet Flange Mount



NOTES:

- For optional inlet flange, see drawing AFA11421F
- Inlet flange is welded to motor side housing and bolted to inlet side housing
- Housing, flange, and wheel are constructed of cast aluminum

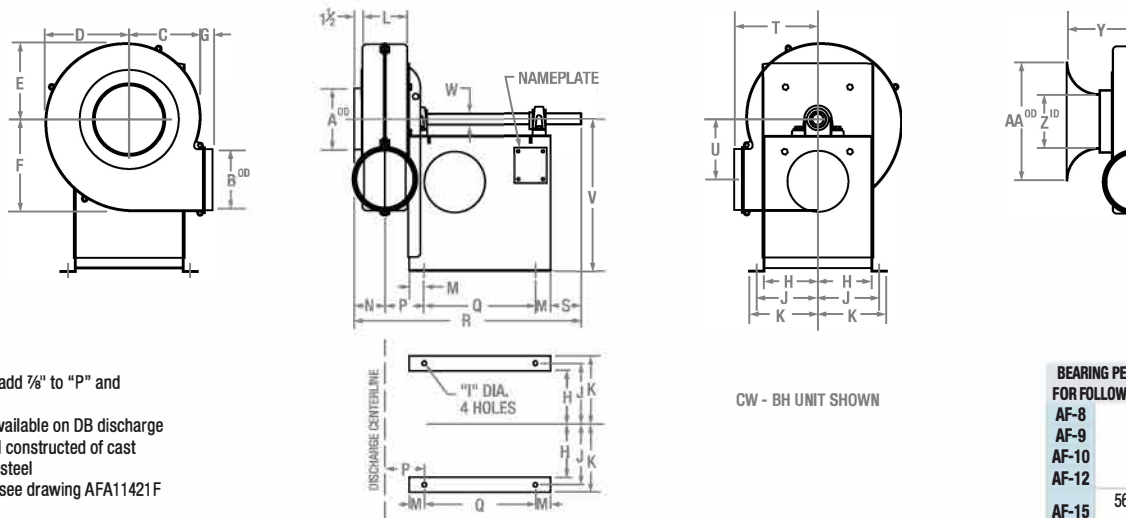
ALL DIMENSIONS SHOWN IN INCHES

FAN SIZE	MOTOR FRAME SIZE	INLET DIA. A	OUTLET DIA. B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	NET WTS. NO MOTOR LBS.
AF-8	56-C, 143-TC, 145-TC	3 4	3 9/16	4 1/16	5 1/16	5 3/32	6 1/16	1 1/8	3 1/2	1 1/8	2 7/8	4 9/16	6 9/16	9	7 1/2	8	1/4	14
AF-9	56-C, 143-TC, 145-TC	4 5	3 9/16	6	7 1/4	6 17/32	7 3/4	1 3/16	3 3/4	1 7/8	3 1/8	5 5/8	7 3/8	9	7 1/2	8	1/4	20
AF-10	56-C, 143-TC, 145-TC	6	4 9/16	6 1/16	8 9/16	7 15/32	9	1 1/8	3 3/4	1 1/2	3 3/8	6 3/8	8 1/8	10	8 1/2	8	5/16	35
AF-12	56-1C8, 143-TC, 145-TC, 182-TC, 184-TC	7	5 1/2	7 3/4	9 1/4	8 1/2	10 1/16	1 7/8	4 1/4	1 1/2	3 3/8	7 9/16	9 3/16	11	9 1/2	8	5/16	40
AF-15	143-TC, 145-TC, 182-TC, 213-TC, 215-TC	7 8 10	7 1/2	9 9/16	11	10	12	2 1/16	5 7/8	1 1/2	4 7/8	7 7/8	11 1/16	13 1/2	11 3/4	8	5/16 1/2 1/2	56

MOTORS			
FRAME SIZE	WT. LBS.	S	T
56-C	25	11 1/2	6 1/4
143-TC	33	11 1/2	7
145-TC	45	11 1/2	7
182-TC	60	14 1/2	9
184-TC	70	14 1/2	9
213-TC	120	16	10 1/2
215-TC	140	16	10 1/2

INLET BELL				
FAN SIZE	INLET DIA.	T	U	V
AF-8	3	4 1/4	2 5/8	5 1/4
AF-8	4	4 3/4	3 3/8	7 1/4
AF-9	4	4 15/16		
AF-9	5	5 1/16	4 9/16	9 1/4
AF-10	6	6 9/16	5 1/2	11
AF-12	7	6 15/16		
AF-15	7	7 3/4	6 1/2	13
AF-15	8	8 1/4	7 1/2	15
AF-15	10	9 1/4	9 1/2	19

Arrangement 1



NOTES:

- ① For DB discharge, add $\frac{7}{8}$ " to "P" and "R" dimensions
- ② Outlet flange not available on DB discharge
- ③ Housing and wheel constructed of cast aluminum, base is steel
- ④ For flange details, see drawing AFA11421F

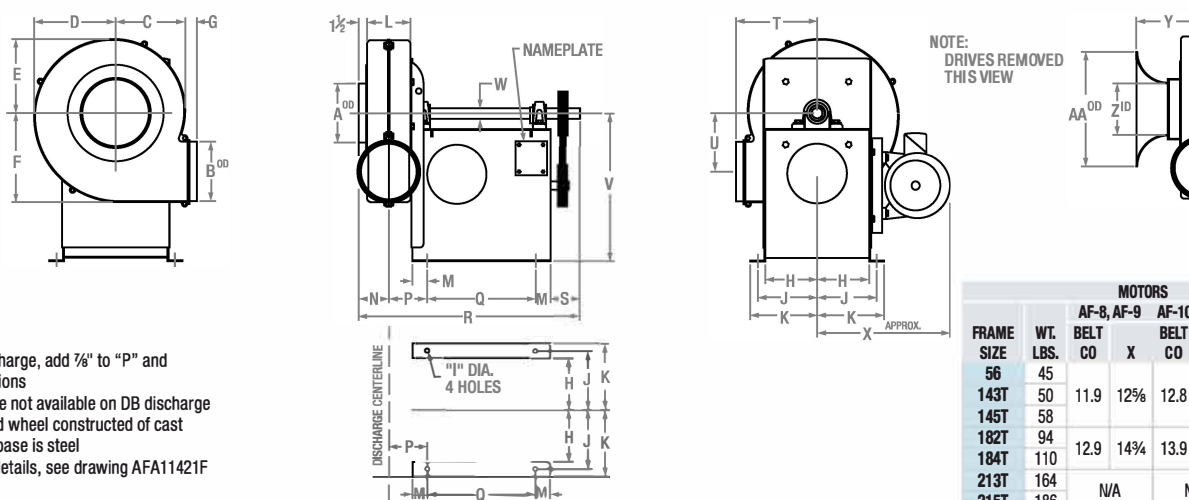
ALL DIMENSIONS SHOWN IN INCHES

ALL DIMENSIONS GIVEN IN INCHES																										STANDARD DUTY				HEA DUTY				FAN SIZE	INLET DIA.	INLET BELL		
FAN SIZE	INLET DIA. A	OUTLET DIA. B	C	D	E	F	G	H	I	J	K	L	M	N	P ^①	Q	R ^①	S	T	U	V	W	KEY-WAY	WEIGHTS LBS.	W	KEY-WAY	WEIGHTS LBS.	Y	Z	AA								
AF-8	3	4	4 ¹ / ₁₆	5 ¹ / ₁₆	5 ⁵ / ₃₂	6 ¹ / ₁₆	1 ¹ / ₈	4	7 ¹ / ₈	5	6	3 ¹ / ₂	1	2 ¹ / ₈	3	12	21 ¹ / ₈	3	6 ¹ / ₈	4	15	9 ¹ / ₄	1 ¹ / ₄ x 1 ¹ / ₈	36	1	1 ¹ / ₄ x 1 ¹ / ₈	41	AF-8	3	4 ¹ / ₄	2 ⁵ / ₈	5 ¹ / ₄						
	4																											AF-8	4	4 ³ / ₄	3 ⁵ / ₈	7 ¹ / ₄						
AF-9	4	4	6	7 ¹ / ₄	6 ¹ / ₃₂	7 ³ / ₄	1 ¹ / ₈	4	7 ¹ / ₈	5	6	3 ³ / ₄	1	3 ¹ / ₁₆	3 ¹ / ₈	12	22 ³ / ₁₆	3	7 ³ / ₁₆	5 ⁵ / ₈	15	9 ¹ / ₄	1 ¹ / ₄ x 1 ¹ / ₈	39	1	1 ¹ / ₄ x 1 ¹ / ₈	45	AF-9	4	4 ¹ / ₈	3 ⁵ / ₈	7 ¹ / ₄						
	5																											AF-9	5	5 ⁷ / ₁₆	4 ⁵ / ₈	9 ¹ / ₄						
AF-10	6	5	6 ¹ / ₁₆	8 ¹ / ₁₆	7 ¹ / ₃₂	9	1 ¹ / ₈	5	9 ¹ / ₈	6	7	3 ³ / ₄	1	3 ³ / ₈	3 ¹ / ₈	12	22 ¹ / ₂	3	7 ¹ / ₂	6 ¹ / ₈	15	1	1 ¹ / ₄ x 1 ¹ / ₈	49	1 ¹ / ₈	1 ¹ / ₄ x 1 ¹ / ₈	58	AF-10	6	6 ¹ / ₈	5 ¹ / ₂	11						
AF-12	7	6	7 ³ / ₄	9 ¹ / ₄	8 ¹ / ₂	10 ¹ / ₁₆	1 ¹ / ₂	5	9 ¹ / ₈	6	7	4 ¹ / ₄	1	3 ³ / ₈	3 ³ / ₈	12	23	3	8 ⁷ / ₈	7 ³ / ₄	15	1	1 ¹ / ₄ x 1 ¹ / ₈	52	1 ¹ / ₈	1 ¹ / ₄ x 1 ¹ / ₈	63	AF-12	7	6 ¹ / ₈	6 ¹ / ₂	13						
	8																											AF-15	7	7 ³ / ₄								
AF-15	8	8	9 ¹ / ₈	11	10	12	1 ¹ / ₈	7	9 ¹ / ₈	8	9	5 ¹ / ₂	2	4 ⁷ / ₈	5 ¹ / ₈	14 ¹ / ₂	30 ¹ / ₄	4	10 ¹ / ₁₆	7 ¹ / ₂	20	1 ¹ / ₈	9 ¹ / ₈ x 9 ¹ / ₈	94	1 ¹ / ₈	9 ¹ / ₈ x 9 ¹ / ₈	118	AF-15	8	8 ¹ / ₄	7 ¹ / ₂	15						
	10																											AF-15	10	9 ¹ / ₄	9 ¹ / ₄							

BEARING PEDESTAL IS PREPUNCHED FOR FOLLOWING MOTOR SLIDE BASES

AF-8	
AF-9	56, 143-T, 145-T,
AF-10	182-T, 184-T
AF-12	
AF-15	56, 143-T, 145-T, 182-T, 184-T, 213-T, 215-T

Arrangement 9



NOTES:

- ① For DB discharge, add $\frac{7}{8}$ " to "P" and "R" dimensions
- ② Outlet flange not available on DB discharge
- ③ Housing and wheel constructed of cast aluminum, base is steel
- ④ For flange details, see drawing AFA11421F

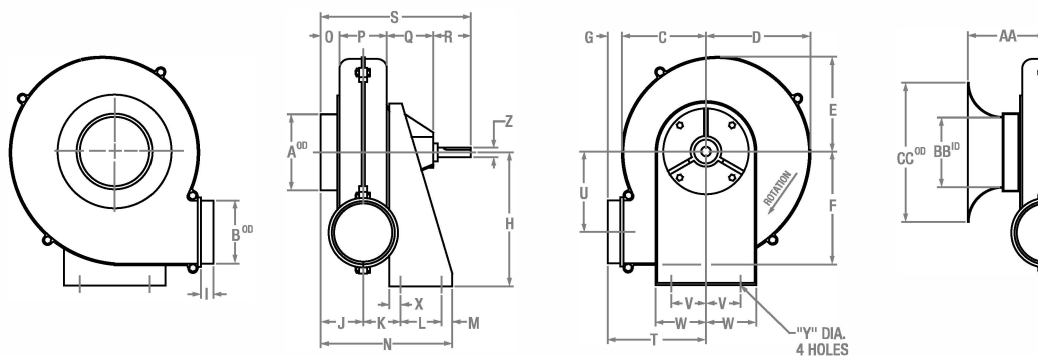
ALL DIMENSIONS SHOWN IN INCHES

FAN SIZE	INLET DIA. A	OUTLET DIA. B	C	D	E	F	G	H	I	J	K	L	M	N	DIMENSIONS SHOWN IN INCHES										STANDARD DUTY				HEA DUTY				FAN SIZE	INLET DIA.	INLET BELL			
															P	Q	R	S	T	U	V	W	KEY-WAY	WEIGHTS LBS.	W	KEY-WAY	WEIGHTS LBS.	Y	Z	AA								
AF-8	3	4	4 1/16	5 1/16	5 3/32	6 1/16	1 3/8	4	7/16	5	6	3 1/2	1	2 7/8	3	12	21 1/8	3	6 5/16	4	15	3/4	1/4 x 1/8	36	1	1/4 x 1/8	41	AF-8	3	4 1/4	2 5/8	5 1/4						
	4																											AF-8	4	4 3/4	3 3/8	7 1/4						
AF-9	4	4	6	7 1/4	6 1/32	7 3/4	1 1/8	4	7/16	5	6	3 3/4	1	3 1/16	3 1/8	12	22 1/8	3	7 3/16	5 5/8	15	3/4	1/4 x 1/8	39	1	1/4 x 1/8	45	AF-9	4	4 1/8	3 3/8	7 1/4						
	5																											AF-9	5	5 7/16	4 5/8	9 1/4						
AF-10	6	5	6 1/16	8 5/16	7 1/32	9	1 1/8	5	9/16	6	7	3 3/4	1	3 3/8	3 1/8	12	22 1/2	3	7 1/16	6 3/8	15	1	1/4 x 1/8	49	1 3/16	1/4 x 1/8	58	AF-10	6	6 3/8	5 1/2	11						
AF-12	7	6	7 3/4	9 1/4	8 1/2	10 1/16	1 1/8	5	9/16	6	7	4 1/4	1	3 5/8	3 3/8	12	23	3	8 7/8	7 5/16	15	1	1/4 x 1/8	52	1 3/16	1/4 x 1/8	63	AF-12	7	6 3/8	6 1/2	13						
	8																											AF-15	8	8 1/4	7 1/2	15						
AF-15	8	8	9 3/8	11	10	12	1 1/8	7	9/16	8	9	5 1/2	2	4 7/8	5 1/8	14 5/8	30 1/4	4	10 1/16	7 7/8	20	1 7/8	3/8 x 3/16	94	1 1/8	3/8 x 3/16	118	AF-15	8	8 1/4	7 1/2	15						
	10																											AF-15	10	9 1/4	9 1/4							

NOTE: DRIVES REMOVED THIS VIEW

FRAME SIZE	WT. LBS.	MOTORS					
		AF-8, AF-9	AF-10, AF-12	AF-15			
56	45						
143T	50	11.9	12.5%	12.8	13.3%	15.3	15.5%
145T	58						
182T	94						
184T	110	12.9	14.4%	13.9	15.5%	16.4	17.4%
213T	164						
215T	186	N/A		N/A		17.2	19.5%

Arrangement 2



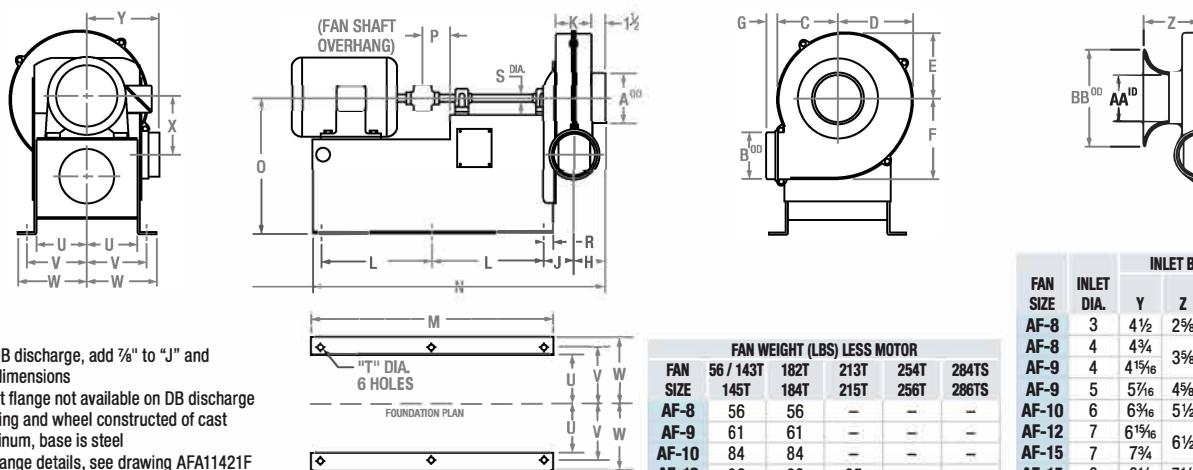
NOTES:

- ① Outlet flange not available on DB discharge
- ② For flange details, see drawing AFA11421F
- ③ Housing, wheel and base constructed of cast aluminum, bearing housing constructed of cast iron

ALL DIMENSIONS SHOWN IN INCHES

FAN SIZE	INLET DIA. A	OUTLET DIA. B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	SHAFT DIA. Z	KEY-WAY	NET WTS. NO MOTOR LBS.	FAN SIZE	INLET DIA.	INLET BELL		
AF-8	3	4	4 ¹⁵ / ₁₆	5 ¹³ / ₁₆	5 ³ / ₃₂	6 ¹ / ₁₆	1 ¹ / ₈	10	2 ¹ / ₈	2 ¹ / ₈	3 ¹ / ₄	3 ¹ / ₄	9 ³ / ₄	1 ¹ / ₈	3 ¹ / ₂	3 ¹ / ₁₆	3	11 ¹⁵ / ₁₆	6 ⁵ / ₁₆	4 ⁹ / ₁₆	2 ⁷ / ₈	4	1	7 ¹ / ₁₆	3 ¹ / ₄	1/4 x 1/8	27	AF-8	3	4 ¹ / ₄	2 ⁵ / ₈	5 ¹ / ₄
	4																											4	4 ¹⁵ / ₁₆	3 ³ / ₈	7 ¹ / ₄	
AF-9	4	4	6	7 ¹ / ₄	6 ¹³ / ₃₂	7 ³ / ₄	1 ³ / ₈	10	3 ¹ / ₈	2 ³ / ₃₂	3 ¹ / ₄	3 ¹ / ₄	10 ¹ / ₃₂	1 ³ / ₈	3 ³ / ₄	3 ¹ / ₁₆	3	11 ⁵ / ₁₆	7 ³ / ₁₆	5 ⁵ / ₁₆	2 ⁷ / ₈	4	1	7 ¹ / ₁₆	3 ¹ / ₄	1/4 x 1/8	33	AF-9	4	4 ¹⁵ / ₁₆	3 ³ / ₈	7 ¹ / ₄
	5																											5	5 ¹⁵ / ₁₆	4 ⁵ / ₈	9 ¹ / ₄	
AF-10	6	5	6 ¹ / ₁₆	8 ⁵ / ₁₆	7 ¹³ / ₃₂	9	1 ¹ / ₈	10	3 ³ / ₈	2 ³ / ₃₂	3 ¹ / ₄	3 ¹ / ₄	10 ¹ / ₃₂	1 ¹ / ₂	3 ³ / ₄	3 ¹ / ₁₆	3	11 ⁵ / ₁₆	7 ³ / ₁₆	6 ³ / ₁₆	2 ⁷ / ₈	4	1	7 ¹ / ₁₆	3 ¹ / ₄	1/4 x 1/8	47	AF-10	6	6 ³ / ₁₆	5 ¹ / ₂	11
AF-12	7	6	7 ³ / ₄	9 ¹ / ₄	8 ¹ / ₂	10 ¹ / ₈	1 ¹ / ₂	11 ¹ / ₂	3 ³ / ₈	3 ¹ / ₁₆	4 ¹ / ₂	1 ¹ / ₄	12 ²⁵ / ₃₂	1 ¹ / ₂	4 ¹ / ₄	5 ⁹ / ₁₆	4	15 ⁵ / ₁₆	8 ⁷ / ₁₆	7 ³ / ₁₆	3 ¹ / ₈	4 ¹ / ₂	1 ¹ / ₄	3 ¹ / ₄	1	1/4 x 1/8	70	AF-12	7	6 ¹⁵ / ₁₆	6 ¹ / ₂	13
	8																											8	8 ³ / ₄	7 ³ / ₄	6 ¹ / ₂	13
AF-15	8	8	9 ³ / ₈	11	10	12	1 ¹ / ₈	15	4 ⁷ / ₁₆	4 ³ / ₈	4 ¹ / ₂	1 ¹ / ₄	14 ⁹ / ₁₆	1 ¹ / ₂	5 ⁷ / ₈	5 ⁹ / ₁₆	4	16 ¹⁵ / ₁₆	10 ¹⁵ / ₁₆	7 ⁷ / ₈	3 ³ / ₄	5	1 ¹ / ₄	3 ¹ / ₄	1 ¹ / ₈	3/8 x 3/16	93	AF-15	7	7 ³ / ₄	6 ¹ / ₂	15
	10																											10	8 ¹ / ₄	9 ¹ / ₂	19	

Arrangement 8



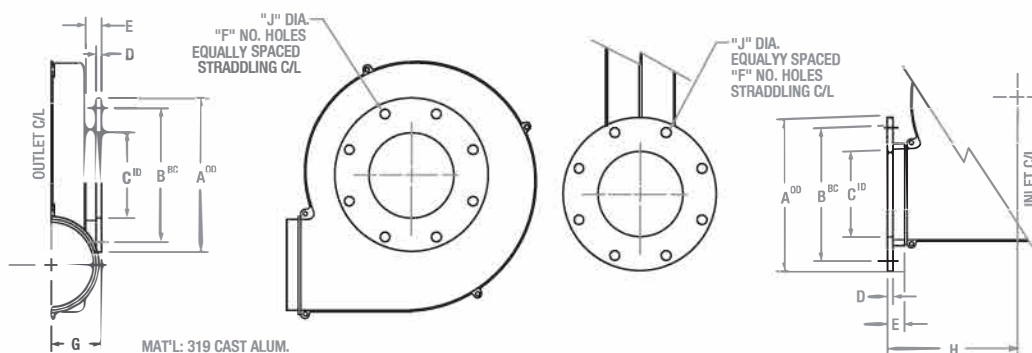
NOTES:

- ① For DB discharge, add 7/8" to "J" and "N" dimensions
- ② Outlet flange not available on DB discharge
- ③ Housing and wheel constructed of cast aluminum, base is steel
- ④ For flange details, see drawing AFA11421F

ALL DIMENSIONS SHOWN IN INCHES

FAN SIZE	INLET DIA. A	OUTLET DIA. B	C	D	E	F	G	H	J	K	56 / 143T / 145T			182T / 184T			213T / 215T			254T / 256T			284TS / 286TS			P	Q	R	S	STANDARD DUTY		HEAVY DUTY		T	U	V	W	X	Y
											L	M	N	L	M	N	L	M	N	L	M	N	L	M	N					S	S								
																																KEY-WAY	KEY-WAY						
AF-8	3 4	4	4 ¹⁵ / ₁₆	5 ¹³ / ₁₆	5 ³ / ₃₂	6 ¹ / ₁₆	1 ¹ / ₈	2 ¹ / ₈	3	3 ¹ / ₂	11 ¹⁵ / ₁₆	24 ³ / ₈	29 ¹ / ₄	11 ¹⁵ / ₁₆	25 ¹ / ₈	30 ³ / ₄	—	—	—	—	—	—	—	—	—	3	15	1	3 ¹ / ₄	3 ¹ / ₈ x 3 ¹ / ₂	1	1 ¹ / ₄ x 1 ¹ / ₈	7 ¹ / ₈	4 ¹ / ₂	5 ¹ / ₂	6 ¹ / ₂	4 ⁹ / ₁₆	6 ⁵ / ₁₆	
AF-9	4 5	4	6	7 ¹ / ₄	6 ¹³ / ₃₂	7 ³ / ₄	1 ³ / ₈	3 ¹ / ₈	3 ¹ / ₄	3 ³ / ₄	11 ⁵ / ₁₆	24 ³ / ₈	29 ¹ / ₄	11 ⁵ / ₁₆	25 ¹ / ₈	31 ¹ / ₁₆	—	—	—	—	—	—	—	—	—	3	15	1	3 ¹ / ₄	3 ¹ / ₈ x 3 ¹ / ₂	1	1 ¹ / ₄ x 1 ¹ / ₈	7 ¹ / ₈	4 ¹ / ₂	5 ¹ / ₂	6 ¹ / ₂	5 ⁵ / ₈	7 ³ / ₁₆	
AF-10	6	5	6 ¹ / ₁₆	8 ⁵ / ₁₆	7 ¹³ / ₃₂	9	1 ¹ / ₈	3 ³ / ₈	3 ¹ / ₄	3 ³ / ₄	11 ⁵ / ₁₆	25	30 ³ / ₄	12 ¹ / ₄	26 ¹ / ₂	32	—	—	—	—	—	—	—	—	3	15	1	1	1 ¹ / ₄ x 1 ¹ / ₈	1 ³ / ₁₆	1 ¹ / ₄ x 1 ¹ / ₈	9 ¹ / ₈	4 ¹ / ₂	5 ¹ / ₂	6 ¹ / ₂	6 ³ / ₈	7 ¹ / ₁₆		
AF-12	7 8	6	7 ³ / ₄	9 ¹ / ₄	8 ¹ / ₂	10 ¹ / ₈	1 ¹ / ₂	3 ³ / ₈	3 ³ / ₄	4 ¹ / ₂	11 ¹ / ₂	25	31	12 ¹ / ₄	26 ¹ / ₂	32 ¹ / ₂	15 ⁵ / ₁₆	32 ⁵ / ₁₆	38 ⁵ / ₁₆	—	—	—	—	—	—	3	15	1	1	1 ¹ / ₄ x 1 ¹ / ₈	1 ³ / ₁₆	1 ¹ / ₄ x 1 ¹ / ₈	9 ¹ / ₈	5 ¹ / ₂	6 ¹ / ₂	7 ¹ / ₂	7 ⁵ / ₈	8 ¹ / ₁₆	
AF-15	8 10	8	9 ³ / ₈	11	10	12	1 ¹ / ₈	4 ⁷ / ₁₆	5 ⁷ / ₈	5 ⁹ / ₁₆	12 ⁵ / ₈	28 ³ / ₈	36 ³ / ₈	13 ³ / ₈	30 ³ / ₈	38 ³ / ₈	14 ¹ / ₂	33 ³ / ₈	41 ¹ / ₄	17 ¹ / ₂	39 ¹ / ₂	47 ¹ / ₂	18 ³ / ₈	40 ³ / ₈	48 ³ / ₈	4	20	2	1 ¹ / ₈	3 ¹ / ₈ x 3 ¹ / ₈	1 ¹ / ₁₆	3 ¹ / ₈ x 3 ¹ / ₈	9 ¹ / ₈	7	8	9	7 ⁷ / ₈	10 ¹ / ₁₆	

Flanges

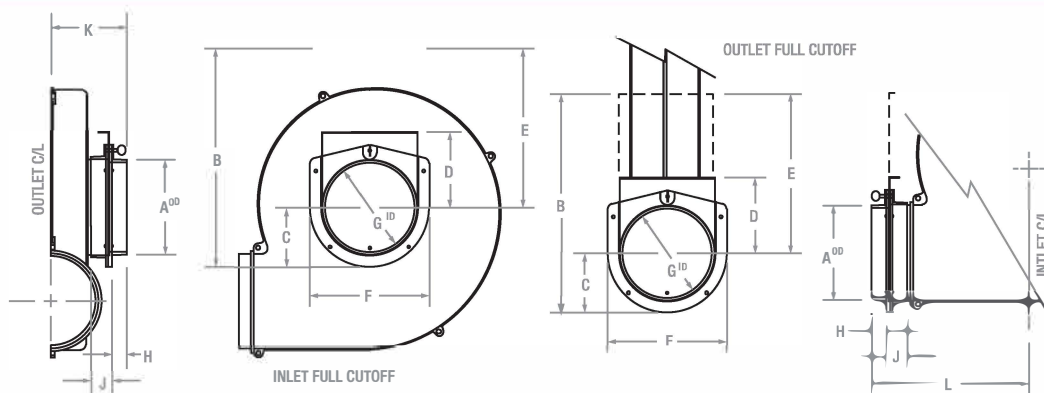


ALL DIMENSIONS SHOWN IN INCHES

FAN SIZE	INLET	OUTLET	A	B	C	D	E	F	G	H	MATCHES 125 / 150 LB. ANSI FLANGE BOLT PATTERN		MATCHES 125 / 150 LB. ANSI FLANGE BOLT PATTERN EXCEPT HOLE DIA. = 7/16 (AFC STANDARD)	
											J	PART NUMBER	J	PART NUMBER
AF-8	3	X	7 1/2	6	2 1/16	1/4	1 1/4	4	3 1/8	—	3/4	24149F	7/16	24149F-7/16
	4	4	9	7 1/2	3 3/16	1/4	1 1/4	8	3 1/8	6 9/16	3/4	24101F	7/16	24101F-7/16
AF-9	4	4	9	7 1/2	3 3/16	1/4	1 1/4	8	3 3/16	7 7/16	3/4	24101F	7/16	24101F-7/16
	5	X	10	8 1/2	4 9/16	1/4	1 1/4	8	3 3/16	—	3/4	24103F	7/16	24103F-7/16
AF-10	X	5	10	8 1/2	4 9/16	1/4	1 1/4	8	—	8 1/8	3/4	24103F	7/16	24103F-7/16
	6	X	11	9 1/2	5 1/2	5/16	1 1/4	8	3 5/8	—	7/8	24106F	7/16	24106F-7/16
AF-12	X	6	11	9 1/2	5 1/2	5/16	1 1/4	8	—	9 9/16	7/8	24106F	7/16	24106F-7/16
	7*	X	11	9 1/2	6 1/4	5/16	1 1/4	8	3 5/8	—	7/8	24129F	7/16	24129F-7/16
AF-15	7*	X	11	9 1/2	6 1/4	5/16	1 1/4	8	4 3/4	—	7/8	24129F	7/16	24129F-7/16
	8	8	13 1/2	11 3/4	7 1/2	1/2	1 1/4	8	4 5/8	11 7/16	7/8	24044F	7/16	24044F-7/16
	10	X	16	14 1/4	9 1/16	1/2	1 1/2	12	4 5/8	—	1	24130F	7/16	24130F-7/16

*O.D. and B.C. match 6" ANSI flange

Full Cut-Off Dampers



ALL DIMENSIONS SHOWN IN INCHES

INLET	OUTLET	SIZE	PART NO.	A	B	C	D	E	F	G	H	J	K	L
AF-8	—	3"	63649	2 15/16	7 3/8	2 3/16	3	5 3/16	4	2 1/2	1 1/4	1 7/16	5 1/2	8 1/8
AF-8	AF-8	4"	63650	3 15/16	9 7/8	2 3/4	3 3/4	7 1/8	5	3 1/2	1 1/4	1 7/16	5 1/2	8 1/8
AF-9	AF-9	5"	63651	4 15/16	12 5/8	3 3/8	4 3/4	9	6 3/4	4 1/2	1 1/4	1 7/16	5 5/8	8 15/16
AF-10	AF-12	6"	63652	5 15/16	13 3/8	3 3/4	4 3/4	9 7/8	7 1/2	5 1/2	1 1/4	1 7/16	5 5/8	10 1/8
AF-12	—	7"	63653	6 15/16	15 3/8	4 1/4	5 1/4	11 1/8	8 1/2	6 1/2	1 1/4	1 7/16	5 7/8	10 3/8
AF-15	AF-15	8"	63654	7 15/16	18 3/8	5	6 3/8	13 3/8	10	7 1/2	1 1/4	1 7/16	6 1/4	12 1/8
AF-15	—	10"	63655	9 15/16	22 3/8	6	7 3/8	16 3/8	12	9 1/2	1 3/4	1 15/16	6 1/4	12 1/8



Howden Industrial Fan Group
American Fan / Joy Fan / Garden City Fan

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Protector® Series

AUTOMATIC STANDBY GASEOUS GENERATOR

More power. More protection.

Thousands of homeowners and business owners trust their Protector Series automatic backup generator to preserve their entire home and/or business during a power outage. A Protector Series generator senses a power outage, turns on automatically, and delivers power to your entire home, including all large appliances and sensitive electronics with a quieter output of sound with no change in level or tone. This allows you to continue living life comfortably and keep business operating without interruption.

Features & Benefits:



Quiet-Test™ Self-Test Mode

Runs at a lower, quieter RPM for a five minute test, to ensure the system is running properly while consuming less fuel. Quiet-Test Self-Test Mode can be programmed to run weekly, bi-weekly, or monthly.



TruePower™ Technology

Delivers best-in-class power quality with less than 5% total harmonic distortion for clean, smooth operation of sensitive electronics and appliances.



Controller Selectable Fuel

Fuel type selection using only the controller simplifies generator installation.



Built in the USA*

Generac generators and engines are engineered and built in the USA*

**Assembled in the USA using domestic and foreign parts.*



Surge Capacity

Designed to start and power large electrical loads for homes and businesses.



Generac Designed & Built Engine

Purpose-built exclusively for generator use. Utilizes the first in class, dual-valve ultra-low pressure fuel delivery system and intelligent proprietary engine controls that manage over 100 performance functions to ensure peak efficiency in all temperature ranges and elevations.



Cellular Connectivity

Reliable, constant connection enables the Generator Owner to monitor function through Mobile Link and the supporting Dealer through Fleet.



Small Footprint

Generac liquid-cooled product packs more power into a small footprint – ideal when space is a premium. The neutral styling, color and small footprint fits unobtrusively into landscaping.



Corrosion Resistant Enclosure & Frame

Aluminum enclosure, zinc plated fasteners, and electro-galvanized frame rails with powder coat provide years of corrosion protection in extreme environments.



24/7/365 Customer Support Team

Standing by all day, every day from our headquarters in Wisconsin to answer any questions you might have.

For more features and benefits, visit www.Generac.com.

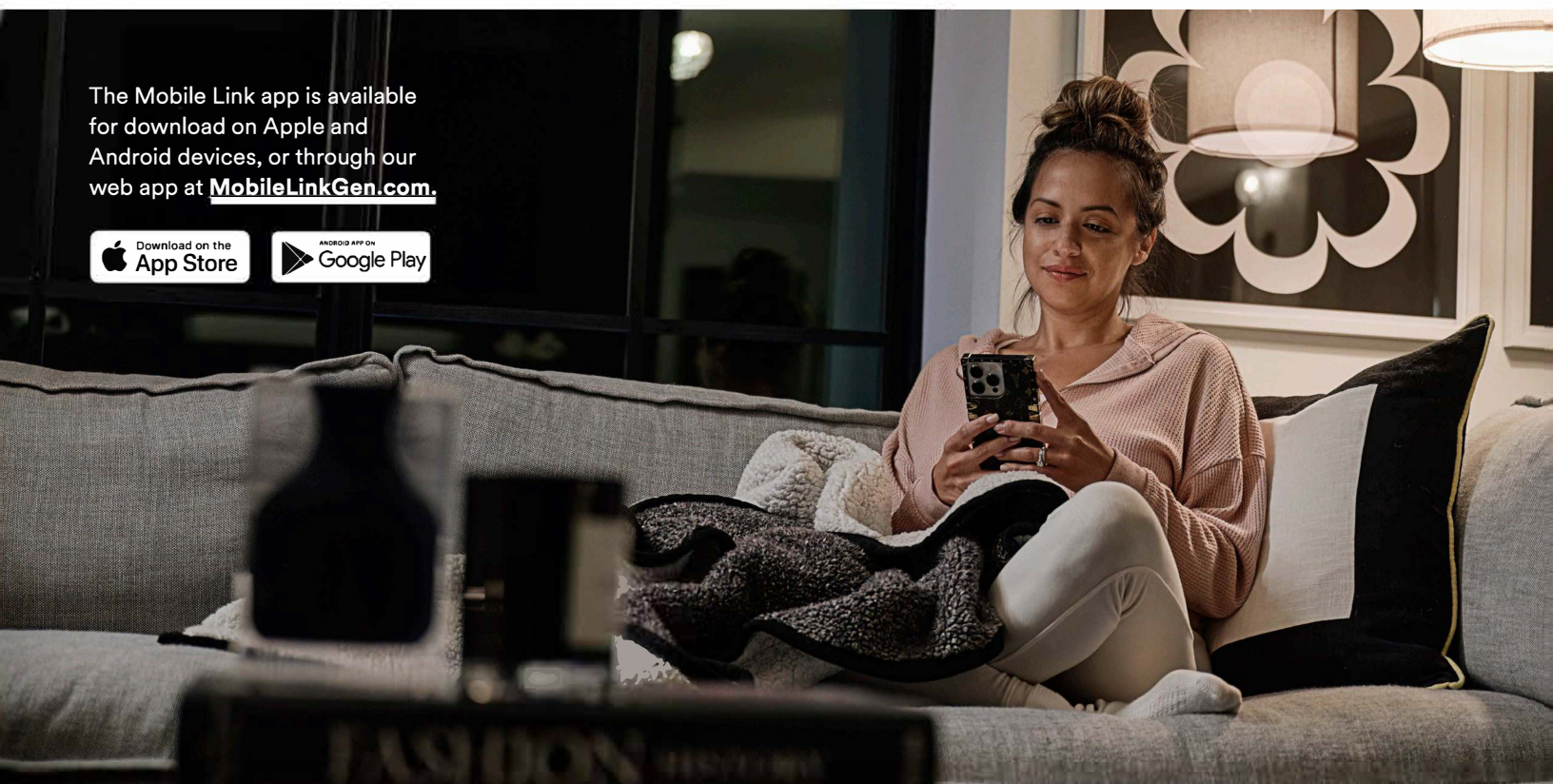


Monitor the status of your generator from anywhere in the world with Mobile Link™ Connectivity – from any device at any time. With standard cellular connectivity on all 32 and 40 kW Protector Series models, Mobile Link seamlessly connects to your homes' system, allowing you to easily receive information, such as current operating status and maintenance alerts, using your smartphone, tablet, or PC. All of these features, backed by a standard 5 Year/2,000 hour Limited Warranty, make a Protector Series generator the right backup power solution for your home or business.

Ideal Industries/Applications:

- Convenience Stores & Gas Stations
- Small Outpatient & Dental Clinics
- School Offices & District Buildings
- Banks & Financial Institutions
- Manufacturing Industry & Distribution
- Restaurants & Bars
- Offices with Small Server Rooms
- Larger Homes or Homes with Guest Houses
- Green Houses

The Mobile Link app is available for download on Apple and Android devices, or through our web app at MobileLinkGen.com.



32-40 kW Protector® Series | Automatic Standby Gaseous Generator

Specifications (LP/NG)	32 kW	40 kW
Model Number	XG03245	XG04045
Output Amperage LP/NG 120/240 V 1-Phase, 1.0 PF	133/133	167/167
Output Amperage LP/NG 208/120 V 3-Phase, 0.8 PF	111/111	139/139
Output Amperage LP/NG 240/120 V 3-Phase, 0.8 PF	96/96	120/120
Output Amperage LP/NG 480/277 V 3-Phase, 0.8 PF	48/48	60/60
Engine/Alternator RPM	1800	
Engine	4.5 L NA, Inline 4-Cylinder	4.5 L NA, Inline 4-Cylinder
Fuel Consumption @ Full Load - LP US gph	4.9	5.7
Fuel Consumption @ Full Load - NG CFH	406	494
60 Hz Emergency Standby Power Generator	Yes	
Quiet-Test Mode	Yes	
db(A) at Exercise	58	
db(A) Normal Operating Load	64	64
Dimensions (L" x W" x H")	83.4 x 34 x 45.2	83.4 x 34 x 45.2
Generator Weight (lbs.)	1780	1780
Mobile Link and Fleet Standard via Cellular Connectivity	Yes	
SCAQMD Model	No	Yes



Nationwide Service Network

Generac's commitment to service includes scheduled maintenance programs, warranty assistance and emergency service to ensure that Generac customers are never left powerless. The largest nationwide service network has factory-trained technicians on staff and maintains large inventories of Generac parts, components and accessories. Find a service provider near you at [Generac.com](https://www.generac.com).

Generac Power Systems, Inc.
S45 W29290 Hwy. 59, Waukesha, WI 53189

[www.Generac.com](https://www.generac.com) | 888-GENERAC (436-3722)

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Specifications are subject to change without notice.



ATTACHMENT 3

SoundPLAN Data – Construction Noise

10631 Rio Vista Apartments
SoundPLAN Data - Construction

Source name	Reference	Noise	Corrections		
		Level dB(A)	Cwall dB(A)	CI dB(A)	CT dB(A)
Construction	Lw/unit	116.3	-	-	-

10631 Rio Vista Apartments
SoundPLAN Data - Construction

No.	Coordinates		Height	Noise
	X	Y		Level
	(meters)		(meters)	dB(A)
1	635622.97	3650903.35	270.91	69.5
2	635605.50	3650857.31	266.76	69.4
3	635694.40	3651038.29	266.69	54.3
4	635693.88	3651000.72	270.27	58.7
5	635688.58	3650954.15	268.02	55.0
6	635674.83	3650895.41	266.69	59.3
7	635673.77	3650855.19	266.69	59.2
8	635676.94	3650796.99	266.69	66.5
9	635677.47	3650759.42	266.69	65.0
10	635682.23	3650712.32	268.56	59.5
11	635629.85	3650712.32	266.86	63.5
12	635534.07	3650712.32	266.69	67.3
13	635426.65	3650710.73	266.00	64.1
14	635436.17	3650809.16	266.69	63.9
15	635484.32	3650861.54	266.47	65.8

ATTACHMENT 4

SoundPLAN Data – Vehicle Traffic Noise

10631 Rio Vista Apartments
SoundPLAN Data - Traffic

Station	ADT	Traffic values	Vehicle nar day	evening	night	Speed	Control	Constr.	Affect.	Road surface	Gradient
km	Veh/24h	Vehicles type	Veh/h	Veh/h	Veh/h	km/h	device	km/h	veh. %		Min / Max %
N Rio Vista Avenue Traffic direction: In entry direction											
0+000	10890	Total	-	699	363	157	-	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	10890	Automobiles	-	650	338	146	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	10890	Medium trucks	-	21	11	5	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	10890	Heavy trucks	-	14	7	3	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	10890	Buses	-	7	4	2	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	10890	Motorcycles	-	7	4	2	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	10890	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+296	-	-	-	-	-	-	-	-	-	-	-
N River Road/Drive Traffic direction: In entry direction											
0+000	10890	Total	-	699	363	157	-	none	-	-	Average (of DGAC and PCC) 0
0+000	10890	Automobiles	-	650	338	146	40	none	-	-	Average (of DGAC and PCC) 0
0+000	10890	Medium trucks	-	21	11	5	40	none	-	-	Average (of DGAC and PCC) 0
0+000	10890	Heavy trucks	-	14	7	3	40	none	-	-	Average (of DGAC and PCC) 0
0+000	10890	Buses	-	7	4	2	40	none	-	-	Average (of DGAC and PCC) 0
0+000	10890	Motorcycles	-	7	4	2	40	none	-	-	Average (of DGAC and PCC) 0
0+000	10890	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+256	1500	Total	-	96	50	22	-	none	-	-	Average (of DGAC and PCC) 0
0+256	1500	Automobiles	-	89	47	20	40	none	-	-	Average (of DGAC and PCC) 0
0+256	1500	Medium trucks	-	3	2	1	40	none	-	-	Average (of DGAC and PCC) 0
0+256	1500	Heavy trucks	-	2	1	0	40	none	-	-	Average (of DGAC and PCC) 0
0+256	1500	Buses	-	1	1	0	40	none	-	-	Average (of DGAC and PCC) 0
0+256	1500	Motorcycles	-	1	1	0	40	none	-	-	Average (of DGAC and PCC) 0
0+256	1500	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+565	-	-	-	-	-	-	-	-	-	-	-
W Jones Street Traffic direction: In entry direction											
0+000	1500	Total	-	96	50	22	-	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	1500	Automobiles	-	89	47	20	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	1500	Medium trucks	-	3	2	1	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	1500	Heavy trucks	-	2	1	0	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	1500	Buses	-	1	1	0	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	1500	Motorcycles	-	1	1	0	40	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+000	1500	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) #DIV/0!
0+268	-	-	-	-	-	-	-	-	-	-	-
W Trail Street Traffic direction: In entry direction											
0+000	1500	Total	-	96	50	22	-	none	-	-	Average (of DGAC and PCC) 0
0+000	1500	Automobiles	-	89	47	20	40	none	-	-	Average (of DGAC and PCC) 0
0+000	1500	Medium trucks	-	3	2	1	40	none	-	-	Average (of DGAC and PCC) 0
0+000	1500	Heavy trucks	-	2	1	0	40	none	-	-	Average (of DGAC and PCC) 0
0+000	1500	Buses	-	1	1	0	40	none	-	-	Average (of DGAC and PCC) 0
0+000	1500	Motorcycles	-	1	1	0	40	none	-	-	Average (of DGAC and PCC) 0
0+000	1500	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+269	-	-	-	-	-	-	-	-	-	-	-

10631 Rio Vista Apartments
SoundPLAN Data - Traffic

No.	Coordinates		Floor	Height (meters)	Day dB(A)	Noise Level		CNEL dB(A)
	X (meters)	Y (meters)				Evening dB(A)	Night dB(A)	
1	635630.30	3650927.97	1.FI	264.81	47.8	45.0	41.3	49.7
1	635630.30	3650927.97	2.FI	267.61	50.4	47.6	43.9	52.3
1	635630.30	3650927.97	3.FI	270.41	51.9	49.1	45.4	53.8
2	635564.32	3650790.80	1.FI	266.68	40.2	37.4	33.7	42.1
2	635564.32	3650790.80	2.FI	269.48	42.0	39.2	35.6	43.9
2	635564.32	3650790.80	3.FI	272.28	44.2	41.4	37.8	46.1
3	635650.60	3650791.68	1.FI	268.47	55.2	52.4	48.7	57.1
3	635650.60	3650791.68	2.FI	271.27	58.9	56.1	52.4	60.8
3	635650.60	3650791.68	3.FI	274.07	59.4	56.6	53.0	61.3
4	635643.80	3650763.69	1.FI	267.29	54.5	51.7	48.0	56.4
4	635643.80	3650763.69	2.FI	270.09	57.6	54.7	51.1	59.5
4	635643.80	3650763.69	3.FI	272.89	59.0	56.2	52.5	60.9
5	635618.60	3650750.76	1.FI	267.18	49.8	46.9	43.3	51.7
5	635618.60	3650750.76	2.FI	269.98	51.7	48.8	45.3	53.6
5	635618.60	3650750.76	3.FI	272.78	52.3	49.4	45.8	54.2
6	635610.68	3650814.53	1.FI	266.68	49.3	46.4	42.8	51.2
6	635610.68	3650814.53	2.FI	269.48	50.7	47.9	44.2	52.6
6	635610.68	3650814.53	3.FI	272.28	51.9	49.1	45.5	53.8
7	635603.33	3650786.55	1.FI	266.68	44.7	41.8	38.2	46.6
7	635603.33	3650786.55	2.FI	269.48	46.1	43.3	39.6	48.0
7	635603.33	3650786.55	3.FI	272.28	47.4	44.5	40.9	49.3
8	635576.34	3650770.94	1.FI	266.68	45.1	42.3	38.7	47.0
8	635576.34	3650770.94	2.FI	269.48	46.4	43.6	40.0	48.3
8	635576.34	3650770.94	3.FI	272.28	47.7	44.9	41.3	49.7
9	635544.01	3650771.16	1.FI	266.55	42.3	39.5	35.9	44.2
9	635544.01	3650771.16	2.FI	269.35	44.5	41.7	38.1	46.4
9	635544.01	3650771.16	3.FI	272.15	47.0	44.1	40.6	48.9
10	635531.86	3650785.77	1.FI	266.68	41.8	38.9	35.4	43.7
10	635531.86	3650785.77	2.FI	269.48	43.3	40.5	36.9	45.3
10	635531.86	3650785.77	3.FI	272.28	45.0	42.1	38.5	46.9
11	635543.23	3650823.34	1.FI	266.37	27.4	24.6	21.0	29.4
11	635543.23	3650823.34	2.FI	269.17	28.7	25.9	22.3	30.7
11	635543.23	3650823.34	3.FI	271.97	30.3	27.5	23.9	32.2
12	635576.01	3650843.19	1.FI	266.32	46.5	43.7	40.0	48.4
12	635576.01	3650843.19	2.FI	269.12	47.6	44.7	41.1	49.5
12	635576.01	3650843.19	3.FI	271.92	48.6	45.7	42.1	50.5
13	635459.61	3650741.73	1.FI	266.27	50.0	47.2	43.6	52.0
13	635459.61	3650741.73	2.FI	269.07	51.9	49.0	45.5	53.8
13	635459.61	3650741.73	3.FI	271.87	52.1	49.3	45.7	54.1
14	635492.17	3650766.59	1.FI	266.04	44.9	42.1	38.5	46.9
14	635492.17	3650766.59	2.FI	268.84	46.4	43.5	40.0	48.3
14	635492.17	3650766.59	3.FI	271.64	47.7	44.9	41.3	49.6
15	635471.43	3650782.76	1.FI	266.04	34.6	31.7	28.1	36.5
15	635471.43	3650782.76	2.FI	268.84	35.8	33.0	29.4	37.8
15	635471.43	3650782.76	3.FI	271.64	36.9	34.1	30.5	38.9
16	635503.54	3650803.61	1.FI	265.76	32.0	29.2	25.6	33.9
16	635503.54	3650803.61	2.FI	268.56	33.9	31.0	27.4	35.8
16	635503.54	3650803.61	3.FI	271.36	36.9	34.1	30.5	38.8
17	635579.35	3650908.85	1.FI	265.46	45.4	42.6	38.9	47.3
17	635579.35	3650908.85	2.FI	268.26	46.7	43.8	40.2	48.6
17	635579.35	3650908.85	3.FI	271.06	47.8	44.9	41.3	49.7
18	635589.95	3650935.28	1.FI	265.08	46.0	43.2	39.5	47.9
18	635589.95	3650935.28	2.FI	267.88	47.2	44.3	40.7	49.1
18	635589.95	3650935.28	3.FI	270.68	48.2	45.4	41.8	50.1
19	635568.21	3650934.83	1.FI	265.59	26.4	23.5	20.0	28.3
19	635568.21	3650934.83	2.FI	268.39	27.4	24.6	21.0	29.3
19	635568.21	3650934.83	3.FI	271.19	30.2	27.3	23.7	32.1
20	635580.47	3650960.59	1.FI	265.14	31.7	28.8	25.3	33.6
20	635580.47	3650960.59	2.FI	267.94	32.9	30.1	26.5	34.9
20	635580.47	3650960.59	3.FI	270.74	34.3	31.4	27.9	36.2

10631 Rio Vista Apartments
SoundPLAN Data - Traffic

Source name										Noise Level			
										Day dB(A)	Evening dB(A)	Night dB(A)	CNEL dB(A)
1	1.FI	47.8	45.0	41.3	49.7	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									47.2	44.3	40.7	49.0
	N River Road/Drive									25.7	22.9	19.3	27.7
	W Jones Street									38.6	35.8	32.2	40.6
	W Trail Street									29.9	27.1	23.5	31.9
1	2.FI	50.4	47.6	43.9	52.3	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									49.7	46.9	43.2	51.6
	N River Road/Drive									29.0	26.2	22.6	30.9
	W Jones Street									41.2	38.3	34.8	43.1
	W Trail Street									32.9	30.1	26.5	34.9
1	3.FI	51.9	49.1	45.4	53.8	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									51.3	48.4	44.8	53.2
	N River Road/Drive									33.7	30.9	27.3	35.6
	W Jones Street									42.3	39.4	35.9	44.2
	W Trail Street									34.0	31.2	27.6	36.0
2	1.FI	40.2	37.4	33.7	42.1	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									39.3	36.5	32.8	41.2
	N River Road/Drive									31.4	28.6	25.0	33.4
	W Jones Street									27.6	24.7	21.2	29.5
	W Trail Street									11.4	8.6	5.0	13.3
2	2.FI	42.0	39.2	35.6	43.9	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									40.0	37.2	33.6	41.9
	N River Road/Drive									37.1	34.3	30.7	39.1
	W Jones Street									27.9	25.1	21.5	29.9
	W Trail Street									13.9	11.1	7.5	15.8
2	3.FI	44.2	41.4	37.8	46.1	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									41.1	38.2	34.6	43.0
	N River Road/Drive									41.1	38.2	34.7	43.0
	W Jones Street									28.8	25.9	22.4	30.7
	W Trail Street									17.5	14.7	11.1	19.5
3	1.FI	55.2	52.4	48.7	57.1	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									55.0	52.2	48.6	56.9
	N River Road/Drive									40.2	37.4	33.8	42.1
	W Jones Street									28.0	25.1	21.6	29.9
	W Trail Street									29.8	27.0	23.4	31.8
3	2.FI	58.9	56.1	52.4	60.8	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									58.8	55.9	52.3	60.7
	N River Road/Drive									42.0	39.2	35.5	43.9
	W Jones Street									34.2	31.4	27.8	36.1
	W Trail Street									39.0	36.1	32.6	40.9
3	3.FI	59.4	56.6	53.0	61.3	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									59.2	56.4	52.7	61.1
	N River Road/Drive									44.2	41.3	37.7	46.0
	W Jones Street									35.1	32.2	28.7	37.0
	W Trail Street									41.1	38.3	34.7	43.1
4	1.FI	54.5	51.7	48.0	56.4	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									54.1	51.2	47.6	56.0
	N River Road/Drive									44.0	41.2	37.5	45.9
	W Jones Street									23.6	20.8	17.2	25.6
	W Trail Street									28.5	25.7	22.1	30.5
4	2.FI	57.6	54.7	51.1	59.5	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									56.9	54.0	50.4	58.8
	N River Road/Drive									49.3	46.5	42.9	51.2
	W Jones Street									23.5	20.7	17.1	25.4
	W Trail Street									30.8	28.0	24.4	32.8
4	3.FI	59.0	56.2	52.5	60.9	0.0	0.0	0.0	0.0				
	N Rio Vista Avenue									58.0	55.2	51.5	59.9
	N River Road/Drive									52.2	49.4	45.7	54.1
	W Jones Street									26.1	23.3	19.7	28.1
	W Trail Street									32.8	30.0	26.4	34.8

10631 Rio Vista Apartments
SoundPLAN Data - Traffic

Source name										Noise Level			
										Day	Evening	Night	CNEL
										dB(A)	dB(A)	dB(A)	dB(A)
5	1.FI	49.8	46.9	43.3	51.7	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										44.8	42.0	38.3	46.7
N River Road/Drive										48.1	45.2	41.7	50.0
W Jones Street										7.1	4.2	0.7	9.0
W Trail Street										11.6	8.8	5.2	13.6
5	2.FI	51.7	48.8	45.3	53.6	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										45.8	43.0	39.3	47.7
N River Road/Drive										50.4	47.5	44.0	52.3
W Jones Street										7.8	5.0	1.4	9.8
W Trail Street										12.6	9.8	6.2	14.5
5	3.FI	52.3	49.4	45.8	54.2	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										47.1	44.2	40.6	49.0
N River Road/Drive										50.7	47.9	44.3	52.7
W Jones Street										11.4	8.5	5.0	13.3
W Trail Street										15.9	13.1	9.5	17.9
6	1.FI	49.3	46.4	42.8	51.2	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										48.9	46.0	42.4	50.8
N River Road/Drive										29.7	26.9	23.2	31.6
W Jones Street										32.5	29.7	26.1	34.5
W Trail Street										36.5	33.7	30.1	38.5
6	2.FI	50.7	47.9	44.2	52.6	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										50.2	47.3	43.7	52.1
N River Road/Drive										33.3	30.5	26.8	35.2
W Jones Street										33.8	30.9	27.4	35.7
W Trail Street										39.3	36.5	32.9	41.3
6	3.FI	51.9	49.1	45.5	53.8	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										51.4	48.5	44.9	53.3
N River Road/Drive										35.6	32.8	29.2	37.5
W Jones Street										34.6	31.8	28.2	36.6
W Trail Street										41.1	38.3	34.7	43.0
7	1.FI	44.7	41.8	38.2	46.6	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										43.1	40.3	36.6	45.0
N River Road/Drive										38.6	35.8	32.2	40.6
W Jones Street										25.6	22.8	19.2	27.5
W Trail Street										29.9	27.1	23.6	31.9
7	2.FI	46.1	43.3	39.6	48.0	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										44.6	41.8	38.1	46.5
N River Road/Drive										39.8	37.0	33.4	41.8
W Jones Street										27.4	24.5	21.0	29.3
W Trail Street										31.9	29.1	25.5	33.9
7	3.FI	47.4	44.5	40.9	49.3	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										45.8	43.0	39.3	47.7
N River Road/Drive										41.2	38.4	34.8	43.1
W Jones Street										28.8	25.9	22.4	30.7
W Trail Street										34.2	31.4	27.8	36.2
8	1.FI	45.1	42.3	38.7	47.0	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										40.4	37.6	33.9	42.3
N River Road/Drive										43.3	40.4	36.9	45.2
W Jones Street										6.9	4.1	0.5	8.8
W Trail Street										10.5	7.6	4.1	12.4
8	2.FI	46.4	43.6	40.0	48.3	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										40.8	38.0	34.3	42.7
N River Road/Drive										45.0	42.1	38.6	46.9
W Jones Street										7.6	4.7	1.2	9.5
W Trail Street										12.2	9.3	5.8	14.1
8	3.FI	47.7	44.9	41.3	49.7	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										41.3	38.4	34.8	43.2
N River Road/Drive										46.6	43.8	40.2	48.5
W Jones Street										12.2	9.3	5.8	14.1
W Trail Street										16.5	13.7	10.2	18.5

10631 Rio Vista Apartments
SoundPLAN Data - Traffic

Source name										Noise Level			CNEL dB(A)
										Day dB(A)	Evening dB(A)	Night dB(A)	
9	1.FI	42.3	39.5	35.9	44.2	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										29.0	26.1	22.5	30.9
N River Road/Drive										42.1	39.2	35.7	44.0
W Jones Street										14.7	11.9	8.3	16.6
W Trail Street										11.0	8.2	4.6	12.9
9	2.FI	44.5	41.7	38.1	46.4	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										38.8	36.0	32.3	40.7
N River Road/Drive										43.1	40.3	36.7	45.0
W Jones Street										23.2	20.3	16.8	25.1
W Trail Street										12.7	9.9	6.4	14.7
9	3.FI	47.0	44.1	40.6	48.9	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										41.5	38.6	35.0	43.4
N River Road/Drive										45.5	42.7	39.1	47.4
W Jones Street										26.3	23.4	19.9	28.2
W Trail Street										16.3	13.5	9.9	18.2
10	1.FI	41.8	38.9	35.4	43.7	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										24.2	21.4	17.7	26.1
N River Road/Drive										41.7	38.9	35.3	43.6
W Jones Street										5.2	2.4	-1.2	7.2
W Trail Street										6.3	3.5	-0.1	8.2
10	2.FI	43.3	40.5	36.9	45.3	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										32.8	30.0	26.3	34.7
N River Road/Drive										42.9	40.1	36.5	44.9
W Jones Street										6.4	3.6	0.0	8.3
W Trail Street										7.4	4.5	1.0	9.3
10	3.FI	45.0	42.1	38.5	46.9	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										36.4	33.5	29.9	38.3
N River Road/Drive										44.3	41.5	37.9	46.2
W Jones Street										10.1	7.3	3.7	12.0
W Trail Street										11.0	8.1	4.6	12.9
11	1.FI	27.4	24.6	21.0	29.4	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										20.2	17.3	13.7	22.1
N River Road/Drive										26.4	23.6	20.0	28.3
W Jones Street										6.9	4.1	0.5	8.9
W Trail Street										10.1	7.3	3.7	12.1
11	2.FI	28.7	25.9	22.3	30.7	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										21.8	19.0	15.3	23.7
N River Road/Drive										27.6	24.7	21.2	29.5
W Jones Street										9.5	6.7	3.1	11.5
W Trail Street										11.9	9.1	5.5	13.8
11	3.FI	30.3	27.5	23.9	32.2	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										24.7	21.9	18.2	26.6
N River Road/Drive										28.6	25.8	22.2	30.5
W Jones Street										13.0	10.2	6.6	15.0
W Trail Street										15.5	12.7	9.1	17.5
12	1.FI	46.5	43.7	40.0	48.4	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										46.0	43.1	39.5	47.9
N River Road/Drive										27.5	24.6	21.0	29.4
W Jones Street										31.9	29.0	25.5	33.8
W Trail Street										34.8	32.0	28.4	36.8
12	2.FI	47.6	44.7	41.1	49.5	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										47.0	44.2	40.5	48.9
N River Road/Drive										29.6	26.8	23.2	31.5
W Jones Street										33.3	30.4	26.9	35.2
W Trail Street										36.2	33.4	29.8	38.2
12	3.FI	48.6	45.7	42.1	50.5	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										47.8	45.0	41.4	49.7
N River Road/Drive										34.2	31.3	27.7	36.1
W Jones Street										34.3	31.4	27.9	36.2
W Trail Street										37.6	34.8	31.2	39.6

10631 Rio Vista Apartments
SoundPLAN Data - Traffic

Source name										Noise Level			CNEL dB(A)
										Day dB(A)	Evening dB(A)	Night dB(A)	
13	1.FI	50.0	47.2	43.6	52.0	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										32.3	29.5	25.8	34.2
N River Road/Drive										49.9	47.1	43.5	51.9
W Jones Street										1.2	-1.6	-5.2	3.2
W Trail Street										2.4	-0.5	-4.0	4.3
13	2.FI	51.9	49.0	45.5	53.8	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										33.7	30.9	27.2	35.6
N River Road/Drive										51.8	49.0	45.4	53.7
W Jones Street										3.2	0.4	-3.2	5.1
W Trail Street										3.3	0.5	-3.1	5.2
13	3.FI	52.1	49.3	45.7	54.1	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										34.6	31.8	28.2	36.5
N River Road/Drive										52.0	49.2	45.6	54.0
W Jones Street										7.0	4.2	0.6	9.0
W Trail Street										7.7	4.8	1.3	9.6
14	1.FI	44.9	42.1	38.5	46.9	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										36.7	33.8	30.2	38.6
N River Road/Drive										44.2	41.4	37.8	46.2
W Jones Street										9.1	6.3	2.7	11.1
W Trail Street										11.7	8.9	5.3	13.7
14	2.FI	46.4	43.5	40.0	48.3	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										37.8	34.9	31.3	39.7
N River Road/Drive										45.7	42.9	39.3	47.7
W Jones Street										10.1	7.3	3.7	12.0
W Trail Street										11.6	8.7	5.2	13.5
14	3.FI	47.7	44.9	41.3	49.6	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										38.5	35.7	32.0	40.4
N River Road/Drive										47.1	44.3	40.7	49.1
W Jones Street										13.5	10.7	7.1	15.4
W Trail Street										14.7	11.9	8.3	16.6
15	1.FI	34.6	31.7	28.1	36.5	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										22.8	20.0	16.4	24.7
N River Road/Drive										34.2	31.4	27.8	36.2
W Jones Street										2.1	-0.7	-4.3	4.1
W Trail Street										4.2	1.4	-2.1	6.2
15	2.FI	35.8	33.0	29.4	37.8	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										24.5	21.6	18.0	26.4
N River Road/Drive										35.5	32.6	29.1	37.4
W Jones Street										5.0	2.2	-1.4	6.9
W Trail Street										5.7	2.8	-0.7	7.6
15	3.FI	36.9	34.1	30.5	38.9	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										25.5	22.7	19.0	27.4
N River Road/Drive										36.6	33.7	30.2	38.5
W Jones Street										8.9	6.1	2.5	10.8
W Trail Street										9.3	6.5	2.9	11.3
16	1.FI	32.0	29.2	25.6	33.9	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										28.9	26.0	22.4	30.8
N River Road/Drive										29.0	26.2	22.6	31.0
W Jones Street										11.1	8.3	4.7	13.1
W Trail Street										10.5	7.6	4.1	12.4
16	2.FI	33.9	31.0	27.4	35.8	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										31.4	28.6	24.9	33.3
N River Road/Drive										30.1	27.2	23.6	32.0
W Jones Street										11.2	8.4	4.8	13.2
W Trail Street										12.3	9.5	5.9	14.3
16	3.FI	36.9	34.1	30.5	38.8	0.0	0.0	0.0	0.0				
N Rio Vista Avenue										35.3	32.5	28.8	37.2
N River Road/Drive										31.6	28.8	25.2	33.6
W Jones Street										14.0	11.2	7.6	16.0
W Trail Street										15.8	12.9	9.4	17.7

10631 Rio Vista Apartments
SoundPLAN Data - Traffic

Source name										Noise Level			CNEL dB(A)
										Day dB(A)	Evening dB(A)	Night dB(A)	
17 1.FI 45.4 42.6 38.9 47.3 0.0 0.0 0.0 0.0										44.8	42.0	38.4	46.7
N Rio Vista Avenue										28.9	26.1	22.5	30.9
N River Road/Drive										32.6	29.8	26.2	34.6
W Jones Street										31.7	28.9	25.3	33.7
W Trail Street													
17 2.FI 46.7 43.8 40.2 48.6 0.0 0.0 0.0 0.0										46.1	43.2	39.6	48.0
N Rio Vista Avenue										30.7	27.9	24.2	32.6
N River Road/Drive										34.2	31.4	27.8	36.1
W Jones Street										32.9	30.0	26.5	34.8
W Trail Street													
17 3.FI 47.8 44.9 41.3 49.7 0.0 0.0 0.0 0.0										46.9	44.1	40.4	48.8
N Rio Vista Avenue										36.4	33.5	29.9	38.3
N River Road/Drive										35.6	32.7	29.2	37.5
W Jones Street										33.9	31.1	27.5	35.9
W Trail Street													
18 1.FI 46.0 43.2 39.5 47.9 0.0 0.0 0.0 0.0										45.3	42.5	38.8	47.2
N Rio Vista Avenue										26.6	23.8	20.1	28.5
N River Road/Drive										35.7	32.8	29.3	37.6
W Jones Street										32.1	29.3	25.7	34.1
W Trail Street													
18 2.FI 47.2 44.3 40.7 49.1 0.0 0.0 0.0 0.0										46.4	43.6	40.0	48.3
N Rio Vista Avenue										28.5	25.7	22.0	30.4
N River Road/Drive										37.4	34.6	31.0	39.3
W Jones Street										33.3	30.4	26.9	35.2
W Trail Street													
18 3.FI 48.2 45.4 41.8 50.1 0.0 0.0 0.0 0.0										47.3	44.4	40.8	49.2
N Rio Vista Avenue										33.9	31.1	27.4	35.8
N River Road/Drive										38.8	36.0	32.4	40.8
W Jones Street										34.4	31.6	28.0	36.4
W Trail Street													
19 1.FI 26.4 23.5 20.0 28.3 0.0 0.0 0.0 0.0										21.2	18.4	14.7	23.1
N Rio Vista Avenue										24.5	21.7	18.1	26.4
N River Road/Drive										11.8	9.0	5.4	13.8
W Jones Street										8.2	5.3	1.8	10.1
W Trail Street													
19 2.FI 27.4 24.6 21.0 29.3 0.0 0.0 0.0 0.0										22.0	19.1	15.5	23.8
N Rio Vista Avenue										25.6	22.8	19.2	27.6
N River Road/Drive										12.8	10.0	6.5	14.8
W Jones Street										9.3	6.5	2.9	11.3
W Trail Street													
19 3.FI 30.2 27.3 23.7 32.1 0.0 0.0 0.0 0.0										26.4	23.5	19.9	28.3
N Rio Vista Avenue										27.3	24.5	20.9	29.2
N River Road/Drive										16.7	13.9	10.3	18.6
W Jones Street										13.3	10.5	6.9	15.3
W Trail Street													
20 1.FI 31.7 28.8 25.3 33.6 0.0 0.0 0.0 0.0										20.1	17.2	13.6	22.0
N Rio Vista Avenue										14.7	11.8	8.2	16.6
N River Road/Drive										31.2	28.4	24.8	33.2
W Jones Street										9.4	6.5	3.0	11.3
W Trail Street													
20 2.FI 32.9 30.1 26.5 34.9 0.0 0.0 0.0 0.0										21.0	18.2	14.5	22.9
N Rio Vista Avenue										15.5	12.7	9.1	17.4
N River Road/Drive										32.5	29.7	26.1	34.5
W Jones Street										10.2	7.4	3.8	12.1
W Trail Street													
20 3.FI 34.3 31.4 27.9 36.2 0.0 0.0 0.0 0.0										24.6	21.8	18.1	26.5
N Rio Vista Avenue										19.2	16.4	12.7	21.1
N River Road/Drive										33.6	30.8	27.2	35.5
W Jones Street										13.7	10.9	7.3	15.7
W Trail Street													

ATTACHMENT 5

FHWA RD-77-108 – Off-Site Traffic Noise Increase

No	Roadway	Segment	Based on AM Peak Hour					Based on PM Peak Hour				
			Existing	Opening Year	Opening Year + Project	Increase over Existing	Increase over Opening Year	Existing	Opening Year	Opening Year + Project	Increase over Existing	Increase over Opening Year
1	W River Road	West of Project Driveway	49.7	49.9	49.9	0.2	0.0	45.2	45.2	45.2	0.0	0.0
2	W River Road	East of Project Driveway	49.7	49.9	54.2	4.5	4.3	45.2	45.2	53.8	8.6	8.6
3	W River Road	West of N Rio Vista Avenue	40.0	40.0	52.5	12.5	12.5	41.3	41.3	53.3	12.0	12.0
4	W River Drive	East of N Rio Vista Avenue	53.7	53.8	54.0	0.3	0.2	48.5	48.5	49.1	0.6	0.6
5	W River Drive	West of Western Avenue	58.4	58.5	57.9	-0.5	-0.6	50.4	50.4	50.8	0.4	0.4
6	W River Drive	East of Western Avenue	56.4	56.5	55.3	-1.1	-1.2	48.3	48.3	48.3	0.0	0.0
8	W A Street	East of N Rio Vista Avenue	58.3	58.3	58.8	0.5	0.5	56.6	56.6	57.5	0.9	0.9
9	W A Street	West of Western Avenue	61.8	61.9	62.1	0.3	0.2	58.6	58.7	59.3	0.7	0.6
10	W A Street	East of Western Avenue	60.2	60.2	60.4	0.2	0.2	58.0	58.1	58.3	0.3	0.2
11	W Main Street	West of N Rio Vista Avenue	64.6	64.7	64.7	0.1	0.0	65.4	65.5	65.6	0.2	0.1
12	W Main Street	East of N Rio Vista Avenue	65.5	65.6	65.8	0.3	0.2	66.4	66.5	66.6	0.2	0.1
13	W Main Street	West of Western Avenue	65.6	65.7	65.8	0.2	0.1	67.4	67.5	67.6	0.2	0.1
14	W Main Street	East of Western Avenue	65.4	65.5	65.7	0.3	0.2	66.3	66.4	66.6	0.3	0.2
15	N Rio Vista Avenue	North of W River Drive	54.6	54.7	55.3	0.7	0.6	53.1	53.2	54.1	1.0	0.9
16	N Rio Vista Avenue	South of W River Drive	57.1	57.2	58.6	1.5	1.4	54.6	54.6	57.3	2.7	2.7
17	N Rio Vista Avenue	North of W A Street	58.5	58.6	59.6	1.1	1.0	55.7	55.8	58.0	2.3	2.2
18	N Rio Vista Avenue	South of W A Street	61.0	61.1	61.5	0.5	0.4	59.2	59.2	59.9	0.7	0.7
19	N Rio Vista Avenue	North of W Main Street	60.7	60.7	61.1	0.4	0.4	60.8	60.8	61.3	0.5	0.5
20	N Rio Vista Avenue	South of W Main Street	57.8	57.8	57.9	0.1	0.1	57.4	57.4	57.5	0.1	0.1
21	Western Avenue	North of W River Drive	62.1	62.2	62.2	0.1	0.0	60.9	61.0	61.0	0.1	0.0
22	Western Avenue	South of W River Drive	60.9	61.0	61.0	0.1	0.0	61.0	61.0	61.0	0.0	0.0
23	Western Avenue	North of W A Street	60.8	60.9	60.9	0.1	0.0	61.0	61.1	61.1	0.1	0.0
24	Western Avenue	South of W A Street	61.3	61.4	61.6	0.3	0.2	61.2	61.3	61.5	0.3	0.2
25	Western Avenue	North of W Main Street	62.0	62.1	62.2	0.2	0.1	61.8	61.9	62.1	0.3	0.2
26	Western Avenue	South of W Main Street	62.0	62.1	62.1	0.1	0.0	63.0	63.1	63.1	0.1	0.0

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Existing - AM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway Name		Traffic Vol.	Speed	Distance	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
				(Mph)	to CL							
1	W River Road	West of Project Driveway	28	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	W River Road	East of Project Driveway	28	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	W River Road	West of N Rio Vista Avenue	3	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	W River Drive	East of N Rio Vista Avenue	70	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	W River Drive	West of Western Avenue	205	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	W River Drive	East of Western Avenue	130	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	W A Street	West of N Rio Vista Avenue	30	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	W A Street	East of N Rio Vista Avenue	200	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	W A Street	West of Western Avenue	452	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	W A Street	East of Western Avenue	311	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	W Main Street	West of N Rio Vista Avenue	544	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	W Main Street	East of N Rio Vista Avenue	671	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	W Main Street	West of Western Avenue	684	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
14	W Main Street	East of Western Avenue	650	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
15	N Rio Vista Avenue	North of W River Drive	87	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
16	N Rio Vista Avenue	South of W River Drive	154	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
17	N Rio Vista Avenue	North of W A Street	210	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
18	N Rio Vista Avenue	South of W A Street	376	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
19	N Rio Vista Avenue	North of W Main Street	347	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
20	N Rio Vista Avenue	South of W Main Street	180	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
21	Western Avenue	North of W River Drive	481	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
22	Western Avenue	South of W River Drive	370	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
23	Western Avenue	North of W A Street	363	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
24	Western Avenue	South of W A Street	406	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
25	Western Avenue	North of W Main Street	470	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Western Avenue	South of W Main Street	476	25	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Existing - AM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

FHWA RD-77-108
Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Existing - AM Peak Hour Volumes
Assessment Metric: Hard

Segment	Roadway Name		Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	W River Road	West of Project Driveway	44.6	41.2	47.1	49.7	0	0	1	5	15	47
2	W River Road	East of Project Driveway	44.6	41.2	47.1	49.7	0	0	1	5	15	47
3	W River Road	West of N Rio Vista Avenue	34.9	31.5	37.4	40.0	0	0	0	1	2	5
4	W River Drive	East of N Rio Vista Avenue	48.6	45.2	51.1	53.7	0	1	4	12	37	117
5	W River Drive	West of Western Avenue	53.3	49.9	55.8	58.4	1	3	11	35	109	346
6	W River Drive	East of Western Avenue	51.3	47.9	53.8	56.4	1	2	7	22	69	218
8	W A Street	East of N Rio Vista Avenue	53.2	49.8	55.7	58.3	1	3	11	34	107	338
9	W A Street	West of Western Avenue	56.7	53.3	59.2	61.8	2	8	24	76	239	757
10	W A Street	East of Western Avenue	55.1	51.7	57.6	60.2	2	5	17	52	166	524
11	W Main Street	West of N Rio Vista Avenue	61.7	56.4	59.8	64.6	5	14	46	144	456	1,442
12	W Main Street	East of N Rio Vista Avenue	62.6	57.3	60.8	65.5	6	18	56	177	561	1,774
13	W Main Street	West of Western Avenue	62.7	57.4	60.8	65.6	6	18	57	182	574	1,815
14	W Main Street	East of Western Avenue	62.5	57.2	60.6	65.4	5	17	55	173	548	1,734
15	N Rio Vista Avenue	North of W River Drive	49.6	46.2	52.0	54.6	0	1	5	14	46	144
16	N Rio Vista Avenue	South of W River Drive	52.0	48.6	54.5	57.1	1	3	8	26	81	256
17	N Rio Vista Avenue	North of W A Street	53.4	50.0	55.9	58.5	1	4	11	35	112	354
18	N Rio Vista Avenue	South of W A Street	55.9	52.5	58.4	61.0	2	6	20	63	199	629
19	N Rio Vista Avenue	North of W Main Street	55.6	52.2	58.0	60.7	2	6	19	59	186	587
20	N Rio Vista Avenue	South of W Main Street	52.7	49.3	55.2	57.8	1	3	10	30	95	301
21	Western Avenue	North of W River Drive	57.0	53.6	59.5	62.1	3	8	26	81	256	811
22	Western Avenue	South of W River Drive	55.8	52.5	58.3	60.9	2	6	19	62	195	615
23	Western Avenue	North of W A Street	55.8	52.4	58.2	60.8	2	6	19	60	190	601
24	Western Avenue	South of W A Street	56.2	52.9	58.7	61.3	2	7	21	67	213	674
25	Western Avenue	North of W Main Street	56.9	53.5	59.4	62.0	3	8	25	79	251	792
26	Western Avenue	South of W Main Street	56.9	53.5	59.4	62.0	3	8	25	79	251	792

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Existing - PM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway Name		Traffic Vol.	Speed	Distance	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
				(Mph)	to CL							
1	W River Road	West of Project Driveway	10	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	W River Road	East of Project Driveway	10	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	W River Road	West of N Rio Vista Avenue	4	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	W River Drive	East of N Rio Vista Avenue	21	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	W River Drive	West of Western Avenue	33	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	W River Drive	East of Western Avenue	20	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	W A Street	West of N Rio Vista Avenue	28	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	W A Street	East of N Rio Vista Avenue	136	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	W A Street	West of Western Avenue	218	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	W A Street	East of Western Avenue	187	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	W Main Street	West of N Rio Vista Avenue	658	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	W Main Street	East of N Rio Vista Avenue	820	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	W Main Street	West of Western Avenue	1,039	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
14	W Main Street	East of Western Avenue	801	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
15	N Rio Vista Avenue	North of W River Drive	61	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
16	N Rio Vista Avenue	South of W River Drive	86	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
17	N Rio Vista Avenue	North of W A Street	112	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
18	N Rio Vista Avenue	South of W A Street	246	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
19	N Rio Vista Avenue	North of W Main Street	355	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
20	N Rio Vista Avenue	South of W Main Street	163	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
21	Western Avenue	North of W River Drive	368	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
22	Western Avenue	South of W River Drive	373	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
23	Western Avenue	North of W A Street	380	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
24	Western Avenue	South of W A Street	395	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
25	Western Avenue	North of W Main Street	453	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Western Avenue	South of W Main Street	601	25	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Existing - PM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

FHWA RD-77-108
Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Existing - PM Peak Hour Volumes
Assessment Metric: Hard

Segment	Roadway Name		Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	W River Road	West of Project Driveway	40.2	36.8	42.6	45.2	0	0	1	2	5	17
2	W River Road	East of Project Driveway	40.2	36.8	42.6	45.2	0	0	1	2	5	17
3	W River Road	West of N Rio Vista Avenue	36.2	32.8	38.7	41.3	0	0	0	1	2	7
4	W River Drive	East of N Rio Vista Avenue	43.4	40.0	45.9	48.5	0	0	1	4	11	35
5	W River Drive	West of Western Avenue	45.3	42.0	47.8	50.4	0	1	2	5	17	55
6	W River Drive	East of Western Avenue	43.2	39.8	45.7	48.3	0	0	1	3	11	34
8	W A Street	East of N Rio Vista Avenue	51.5	48.1	54.0	56.6	1	2	7	23	72	229
9	W A Street	West of Western Avenue	53.5	50.2	56.0	58.6	1	4	11	36	115	362
10	W A Street	East of Western Avenue	52.9	49.5	55.4	58.0	1	3	10	32	100	315
11	W Main Street	West of N Rio Vista Avenue	62.5	57.2	60.7	65.4	5	17	55	173	548	1,734
12	W Main Street	East of N Rio Vista Avenue	63.5	58.2	61.6	66.4	7	22	69	218	690	2,183
13	W Main Street	West of Western Avenue	64.5	59.2	62.7	67.4	9	27	87	275	869	2,748
14	W Main Street	East of Western Avenue	63.4	58.1	61.5	66.3	7	21	67	213	674	2,133
15	N Rio Vista Avenue	North of W River Drive	48.0	44.6	50.5	53.1	0	1	3	10	32	102
16	N Rio Vista Avenue	South of W River Drive	49.5	46.1	52.0	54.6	0	1	5	14	46	144
17	N Rio Vista Avenue	North of W A Street	50.6	47.3	53.1	55.7	1	2	6	19	59	186
18	N Rio Vista Avenue	South of W A Street	54.1	50.7	56.5	59.2	1	4	13	42	132	416
19	N Rio Vista Avenue	North of W Main Street	55.7	52.3	58.1	60.8	2	6	19	60	190	601
20	N Rio Vista Avenue	South of W Main Street	52.3	48.9	54.8	57.4	1	3	9	27	87	275
21	Western Avenue	North of W River Drive	55.8	52.4	58.3	60.9	2	6	19	62	195	615
22	Western Avenue	South of W River Drive	55.9	52.5	58.4	61.0	2	6	20	63	199	629
23	Western Avenue	North of W A Street	56.0	52.6	58.4	61.0	2	6	20	63	199	629
24	Western Avenue	South of W A Street	56.1	52.7	58.6	61.2	2	7	21	66	208	659
25	Western Avenue	North of W Main Street	56.7	53.3	59.2	61.8	2	8	24	76	239	757
26	Western Avenue	South of W Main Street	57.9	54.6	60.4	63.0	3	10	32	100	315	998

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year - AM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway Name		Traffic Vol.	Speed	Distance	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
				(Mph)	to CL							
1	W River Road	West of Project Driveway	29	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	W River Road	East of Project Driveway	29	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	W River Road	West of N Rio Vista Avenue	3	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	W River Drive	East of N Rio Vista Avenue	72	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	W River Drive	West of Western Avenue	210	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	W River Drive	East of Western Avenue	132	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	W A Street	West of N Rio Vista Avenue	30	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	W A Street	East of N Rio Vista Avenue	204	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	W A Street	West of Western Avenue	460	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	W A Street	East of Western Avenue	316	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	W Main Street	West of N Rio Vista Avenue	555	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	W Main Street	East of N Rio Vista Avenue	685	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	W Main Street	West of Western Avenue	699	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
14	W Main Street	East of Western Avenue	663	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
15	N Rio Vista Avenue	North of W River Drive	89	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
16	N Rio Vista Avenue	South of W River Drive	158	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
17	N Rio Vista Avenue	North of W A Street	214	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
18	N Rio Vista Avenue	South of W A Street	384	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
19	N Rio Vista Avenue	North of W Main Street	354	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
20	N Rio Vista Avenue	South of W Main Street	182	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
21	Western Avenue	North of W River Drive	491	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
22	Western Avenue	South of W River Drive	377	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
23	Western Avenue	North of W A Street	369	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
24	Western Avenue	South of W A Street	413	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
25	Western Avenue	North of W Main Street	480	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Western Avenue	South of W Main Street	486	25	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year - AM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

FHWA RD-77-108
Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year - AM Peak Hour Volumes
Assessment Metric: Hard

Segment	Roadway Name		Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	W River Road	West of Project Driveway	44.8	41.4	47.3	49.9	0	0	2	5	15	49
2	W River Road	East of Project Driveway	44.8	41.4	47.3	49.9	0	0	2	5	15	49
3	W River Road	West of N Rio Vista Avenue	34.9	31.5	37.4	40.0	0	0	0	1	2	5
4	W River Drive	East of N Rio Vista Avenue	48.7	45.3	51.2	53.8	0	1	4	12	38	120
5	W River Drive	West of Western Avenue	53.4	50.0	55.9	58.5	1	4	11	35	112	354
6	W River Drive	East of Western Avenue	51.4	48.0	53.8	56.5	1	2	7	22	71	223
8	W A Street	East of N Rio Vista Avenue	53.3	49.9	55.7	58.3	1	3	11	34	107	338
9	W A Street	West of Western Avenue	56.8	53.4	59.3	61.9	2	8	24	77	245	774
10	W A Street	East of Western Avenue	55.2	51.8	57.6	60.2	2	5	17	52	166	524
11	W Main Street	West of N Rio Vista Avenue	61.8	56.5	59.9	64.7	5	15	47	148	467	1,476
12	W Main Street	East of N Rio Vista Avenue	62.7	57.4	60.8	65.6	6	18	57	182	574	1,815
13	W Main Street	West of Western Avenue	62.8	57.5	60.9	65.7	6	19	59	186	587	1,858
14	W Main Street	East of Western Avenue	62.6	57.3	60.7	65.5	6	18	56	177	561	1,774
15	N Rio Vista Avenue	North of W River Drive	49.7	46.3	52.1	54.7	0	1	5	15	47	148
16	N Rio Vista Avenue	South of W River Drive	52.1	48.8	54.6	57.2	1	3	8	26	83	262
17	N Rio Vista Avenue	North of W A Street	53.5	50.1	55.9	58.6	1	4	11	36	115	362
18	N Rio Vista Avenue	South of W A Street	56.0	52.6	58.5	61.1	2	6	20	64	204	644
19	N Rio Vista Avenue	North of W Main Street	55.6	52.3	58.1	60.7	2	6	19	59	186	587
20	N Rio Vista Avenue	South of W Main Street	52.8	49.4	55.2	57.8	1	3	10	30	95	301
21	Western Avenue	North of W River Drive	57.1	53.7	59.6	62.2	3	8	26	83	262	830
22	Western Avenue	South of W River Drive	55.9	52.5	58.4	61.0	2	6	20	63	199	629
23	Western Avenue	North of W A Street	55.8	52.4	58.3	60.9	2	6	19	62	195	615
24	Western Avenue	South of W A Street	56.3	52.9	58.8	61.4	2	7	22	69	218	690
25	Western Avenue	North of W Main Street	57.0	53.6	59.5	62.1	3	8	26	81	256	811
26	Western Avenue	South of W Main Street	57.0	53.6	59.5	62.1	3	8	26	81	256	811

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year - PM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway Name		Traffic Vol.	Speed	Distance	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
				(Mph)	to CL							
1	W River Road	West of Project Driveway	10	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	W River Road	East of Project Driveway	10	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	W River Road	West of N Rio Vista Avenue	4	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	W River Drive	East of N Rio Vista Avenue	21	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	W River Drive	West of Western Avenue	33	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	W River Drive	East of Western Avenue	20	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	W A Street	West of N Rio Vista Avenue	28	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	W A Street	East of N Rio Vista Avenue	138	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	W A Street	West of Western Avenue	223	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	W A Street	East of Western Avenue	191	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	W Main Street	West of N Rio Vista Avenue	671	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	W Main Street	East of N Rio Vista Avenue	836	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	W Main Street	West of Western Avenue	1,060	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
14	W Main Street	East of Western Avenue	815	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
15	N Rio Vista Avenue	North of W River Drive	62	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
16	N Rio Vista Avenue	South of W River Drive	87	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
17	N Rio Vista Avenue	North of W A Street	114	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
18	N Rio Vista Avenue	South of W A Street	250	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
19	N Rio Vista Avenue	North of W Main Street	363	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
20	N Rio Vista Avenue	South of W Main Street	166	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
21	Western Avenue	North of W River Drive	375	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
22	Western Avenue	South of W River Drive	380	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
23	Western Avenue	North of W A Street	388	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
24	Western Avenue	South of W A Street	404	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
25	Western Avenue	North of W Main Street	462	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Western Avenue	South of W Main Street	613	25	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year - PM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

FHWA RD-77-108
Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year - PM Peak Hour Volumes
Assessment Metric: Hard

Segment	Roadway Name	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
		Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	W River Road West of Project Driveway	40.2	36.8	42.6	45.2	0	0	1	2	5	17
2	W River Road East of Project Driveway	40.2	36.8	42.6	45.2	0	0	1	2	5	17
3	W River Road West of N Rio Vista Avenue	36.2	32.8	38.7	41.3	0	0	0	1	2	7
4	W River Drive East of N Rio Vista Avenue	43.4	40.0	45.9	48.5	0	0	1	4	11	35
5	W River Drive West of Western Avenue	45.3	42.0	47.8	50.4	0	1	2	5	17	55
6	W River Drive East of Western Avenue	43.2	39.8	45.7	48.3	0	0	1	3	11	34
8	W A Street East of N Rio Vista Avenue	51.6	48.2	54.0	56.6	1	2	7	23	72	229
9	W A Street West of Western Avenue	53.6	50.3	56.1	58.7	1	4	12	37	117	371
10	W A Street East of Western Avenue	53.0	49.6	55.5	58.1	1	3	10	32	102	323
11	W Main Street West of N Rio Vista Avenue	62.6	57.3	60.8	65.5	6	18	56	177	561	1,774
12	W Main Street East of N Rio Vista Avenue	63.6	58.3	61.7	66.5	7	22	71	223	706	2,233
13	W Main Street West of Western Avenue	64.6	59.3	62.7	67.5	9	28	89	281	889	2,812
14	W Main Street East of Western Avenue	63.5	58.2	61.6	66.4	7	22	69	218	690	2,183
15	N Rio Vista Avenue North of W River Drive	48.1	44.7	50.6	53.2	0	1	3	10	33	104
16	N Rio Vista Avenue South of W River Drive	49.6	46.2	52.0	54.6	0	1	5	14	46	144
17	N Rio Vista Avenue North of W A Street	50.7	47.3	53.2	55.8	1	2	6	19	60	190
18	N Rio Vista Avenue South of W A Street	54.1	50.7	56.6	59.2	1	4	13	42	132	416
19	N Rio Vista Avenue North of W Main Street	55.8	52.4	58.2	60.8	2	6	19	60	190	601
20	N Rio Vista Avenue South of W Main Street	52.4	49.0	54.8	57.4	1	3	9	27	87	275
21	Western Avenue North of W River Drive	55.9	52.5	58.4	61.0	2	6	20	63	199	629
22	Western Avenue South of W River Drive	56.0	52.6	58.4	61.0	2	6	20	63	199	629
23	Western Avenue North of W A Street	56.0	52.7	58.5	61.1	2	6	20	64	204	644
24	Western Avenue South of W A Street	56.2	52.8	58.7	61.3	2	7	21	67	213	674
25	Western Avenue North of W Main Street	56.8	53.4	59.3	61.9	2	8	24	77	245	774
26	Western Avenue South of W Main Street	58.0	54.6	60.5	63.1	3	10	32	102	323	1,021

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year + Project - AM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway Name		Traffic Vol.	Speed	Distance	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
				(Mph)	to CL							
1	W River Road	West of Project Driveway	29	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	W River Road	East of Project Driveway	79	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	W River Road	West of N Rio Vista Avenue	53	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	W River Drive	East of N Rio Vista Avenue	75	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	W River Drive	West of Western Avenue	183	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	W River Drive	East of Western Avenue	102	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	W A Street	West of N Rio Vista Avenue	30	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	W A Street	East of N Rio Vista Avenue	229	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	W A Street	West of Western Avenue	485	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	W A Street	East of Western Avenue	325	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	W Main Street	West of N Rio Vista Avenue	562	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	W Main Street	East of N Rio Vista Avenue	710	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	W Main Street	West of Western Avenue	724	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
14	W Main Street	East of Western Avenue	701	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
15	N Rio Vista Avenue	North of W River Drive	102	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
16	N Rio Vista Avenue	South of W River Drive	218	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
17	N Rio Vista Avenue	North of W A Street	274	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
18	N Rio Vista Avenue	South of W A Street	419	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
19	N Rio Vista Avenue	North of W Main Street	389	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
20	N Rio Vista Avenue	South of W Main Street	185	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
21	Western Avenue	North of W River Drive	494	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
22	Western Avenue	South of W River Drive	377	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
23	Western Avenue	North of W A Street	369	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
24	Western Avenue	South of W A Street	429	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
25	Western Avenue	North of W Main Street	496	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Western Avenue	South of W Main Street	489	25	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year + Project - AM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

FHWA RD-77-108
Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year + Project - AM Peak Hour Volumes
Assessment Metric: Hard

Segment	Roadway Name		Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	W River Road	West of Project Driveway	44.8	41.4	47.3	49.9	0	0	2	5	15	49
2	W River Road	East of Project Driveway	49.1	45.7	51.6	54.2	0	1	4	13	42	132
3	W River Road	West of N Rio Vista Avenue	47.4	44.0	49.9	52.5	0	1	3	9	28	89
4	W River Drive	East of N Rio Vista Avenue	48.9	45.5	51.4	54.0	0	1	4	13	40	126
5	W River Drive	West of Western Avenue	52.8	49.4	55.3	57.9	1	3	10	31	97	308
6	W River Drive	East of Western Avenue	50.2	46.9	52.7	55.3	1	2	5	17	54	169
8	W A Street	East of N Rio Vista Avenue	53.8	50.4	56.2	58.8	1	4	12	38	120	379
9	W A Street	West of Western Avenue	57.0	53.6	59.5	62.1	3	8	26	81	256	811
10	W A Street	East of Western Avenue	55.3	51.9	57.8	60.4	2	5	17	55	173	548
11	W Main Street	West of N Rio Vista Avenue	61.9	56.5	60.0	64.7	5	15	47	148	467	1,476
12	W Main Street	East of N Rio Vista Avenue	62.9	57.6	61.0	65.8	6	19	60	190	601	1,901
13	W Main Street	West of Western Avenue	63.0	57.6	61.1	65.8	6	19	60	190	601	1,901
14	W Main Street	East of Western Avenue	62.8	57.5	60.9	65.7	6	19	59	186	587	1,858
15	N Rio Vista Avenue	North of W River Drive	50.2	46.9	52.7	55.3	1	2	5	17	54	169
16	N Rio Vista Avenue	South of W River Drive	53.5	50.2	56.0	58.6	1	4	11	36	115	362
17	N Rio Vista Avenue	North of W A Street	54.5	51.1	57.0	59.6	1	5	14	46	144	456
18	N Rio Vista Avenue	South of W A Street	56.4	53.0	58.9	61.5	2	7	22	71	223	706
19	N Rio Vista Avenue	North of W Main Street	56.1	52.7	58.5	61.1	2	6	20	64	204	644
20	N Rio Vista Avenue	South of W Main Street	52.8	49.4	55.3	57.9	1	3	10	31	97	308
21	Western Avenue	North of W River Drive	57.1	53.7	59.6	62.2	3	8	26	83	262	830
22	Western Avenue	South of W River Drive	55.9	52.5	58.4	61.0	2	6	20	63	199	629
23	Western Avenue	North of W A Street	55.8	52.4	58.3	60.9	2	6	19	62	195	615
24	Western Avenue	South of W A Street	56.5	53.1	59.0	61.6	2	7	23	72	229	723
25	Western Avenue	North of W Main Street	57.1	53.7	59.6	62.2	3	8	26	83	262	830
26	Western Avenue	South of W Main Street	57.0	53.7	59.5	62.1	3	8	26	81	256	811

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year + Project - PM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway Name		Traffic Vol.	Speed	Distance	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
				(Mph)	to CL							
1	W River Road	West of Project Driveway	10	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	W River Road	East of Project Driveway	71	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	W River Road	West of N Rio Vista Avenue	64	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	W River Drive	East of N Rio Vista Avenue	24	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	W River Drive	West of Western Avenue	36	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	W River Drive	East of Western Avenue	20	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	W A Street	West of N Rio Vista Avenue	28	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	W A Street	East of N Rio Vista Avenue	169	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	W A Street	West of Western Avenue	254	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	W A Street	East of Western Avenue	203	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	W Main Street	West of N Rio Vista Avenue	679	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	W Main Street	East of N Rio Vista Avenue	867	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	W Main Street	West of Western Avenue	1,091	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
14	W Main Street	East of Western Avenue	862	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
15	N Rio Vista Avenue	North of W River Drive	77	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
16	N Rio Vista Avenue	South of W River Drive	159	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
17	N Rio Vista Avenue	North of W A Street	187	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
18	N Rio Vista Avenue	South of W A Street	292	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
19	N Rio Vista Avenue	North of W Main Street	405	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
20	N Rio Vista Avenue	South of W Main Street	169	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
21	Western Avenue	North of W River Drive	378	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
22	Western Avenue	South of W River Drive	380	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
23	Western Avenue	North of W A Street	388	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
24	Western Avenue	South of W A Street	423	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
25	Western Avenue	North of W Main Street	481	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Western Avenue	South of W Main Street	616	25	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108
Traffic Noise Prediction Model

Data Input Sheet

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year + Project - PM Peak Hour Volumes

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : Peak

FHWA RD-77-108
Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Rio Vista Apartments
Project Number : 10631
Modeled Condition : Opening Year + Project - PM Peak Hour Volumes
Assessment Metric: Hard

Segment	Roadway Name		Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	W River Road	West of Project Driveway	40.2	36.8	42.6	45.2	0	0	1	2	5	17
2	W River Road	East of Project Driveway	48.7	45.3	51.2	53.8	0	1	4	12	38	120
3	W River Road	West of N Rio Vista Avenue	48.2	44.8	50.7	53.3	0	1	3	11	34	107
4	W River Drive	East of N Rio Vista Avenue	44.0	40.6	46.4	49.1	0	0	1	4	13	41
5	W River Drive	West of Western Avenue	45.7	42.3	48.2	50.8	0	1	2	6	19	60
6	W River Drive	East of Western Avenue	43.2	39.8	45.7	48.3	0	0	1	3	11	34
8	W A Street	East of N Rio Vista Avenue	52.4	49.0	54.9	57.5	1	3	9	28	89	281
9	W A Street	West of Western Avenue	54.2	50.8	56.7	59.3	1	4	13	43	135	426
10	W A Street	East of Western Avenue	53.2	49.8	55.7	58.3	1	3	11	34	107	338
11	W Main Street	West of N Rio Vista Avenue	62.7	57.4	60.8	65.6	6	18	57	182	574	1,815
12	W Main Street	East of N Rio Vista Avenue	63.7	58.4	61.9	66.6	7	23	72	229	723	2,285
13	W Main Street	West of Western Avenue	64.7	59.4	62.9	67.6	9	29	91	288	910	2,877
14	W Main Street	East of Western Avenue	63.7	58.4	61.8	66.6	7	23	72	229	723	2,285
15	N Rio Vista Avenue	North of W River Drive	49.0	45.6	51.5	54.1	0	1	4	13	41	129
16	N Rio Vista Avenue	South of W River Drive	52.2	48.8	54.7	57.3	1	3	8	27	85	269
17	N Rio Vista Avenue	North of W A Street	52.9	49.5	55.4	58.0	1	3	10	32	100	315
18	N Rio Vista Avenue	South of W A Street	54.8	51.4	57.3	59.9	2	5	15	49	155	489
19	N Rio Vista Avenue	North of W Main Street	56.2	52.8	58.7	61.3	2	7	21	67	213	674
20	N Rio Vista Avenue	South of W Main Street	52.4	49.0	54.9	57.5	1	3	9	28	89	281
21	Western Avenue	North of W River Drive	55.9	52.5	58.4	61.0	2	6	20	63	199	629
22	Western Avenue	South of W River Drive	56.0	52.6	58.4	61.0	2	6	20	63	199	629
23	Western Avenue	North of W A Street	56.0	52.7	58.5	61.1	2	6	20	64	204	644
24	Western Avenue	South of W A Street	56.4	53.0	58.9	61.5	2	7	22	71	223	706
25	Western Avenue	North of W Main Street	57.0	53.6	59.5	62.1	3	8	26	81	256	811
26	Western Avenue	South of W Main Street	58.1	54.7	60.5	63.1	3	10	32	102	323	1,021

ATTACHMENT 6

SoundPLAN Data – Operational Noise

10631 Rio Vista Apartments
SoundPLAN Data - Operation

Source name	Reference	Level	dB(A)	Frequency spectrum [dB(A)]								Corrections		
				63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Cwall dB(A)	CI dB(A)	CT dB(A)
HVAC1 - Clubhouse	Lw/unit	Day	76.8									-	-	-
HVAC1 - Clubhouse		Night	73.8									-	-	-
HVAC2	Lw/unit	Day	76.8									-	-	-
HVAC2		Night	73.8									-	-	-
HVAC3	Lw/unit	Day	76.8									-	-	-
HVAC3		Night	73.8									-	-	-
HVAC4	Lw/unit	Day	76.8									-	-	-
HVAC4		Night	73.8									-	-	-
HVAC5	Lw/unit	Day	76.8									-	-	-
HVAC5		Night	73.8									-	-	-
HVAC6	Lw/unit	Day	76.8									-	-	-
HVAC6		Night	73.8									-	-	-
HVAC7	Lw/unit	Day	76.8									-	-	-
HVAC7		Night	73.8									-	-	-
HVAC8	Lw/unit	Day	76.8									-	-	-
HVAC8		Night	73.8									-	-	-
HVAC9	Lw/unit	Day	76.8									-	-	-
HVAC9		Night	73.8									-	-	-
HVAC10	Lw/unit	Day	76.8									-	-	-
HVAC10		Night	73.8									-	-	-
HVAC11	Lw/unit	Day	76.8									-	-	-
HVAC11		Night	73.8									-	-	-
HVAC12	Lw/unit	Day	76.8									-	-	-
HVAC12		Night	73.8									-	-	-
HVAC13	Lw/unit	Day	76.8									-	-	-
HVAC13		Night	73.8									-	-	-
HVAC14	Lw/unit	Day	76.8									-	-	-
HVAC14		Night	73.8									-	-	-
HVAC15	Lw/unit	Day	76.8									-	-	-
HVAC15		Night	73.8									-	-	-
HVAC16	Lw/unit	Day	76.8									-	-	-
HVAC16		Night	73.8									-	-	-
HVAC17	Lw/unit	Day	76.8									-	-	-
HVAC17		Night	73.8									-	-	-
HVAC18	Lw/unit	Day	76.8									-	-	-
HVAC18		Night	73.8									-	-	-
HVAC19	Lw/unit	Day	76.8									-	-	-
HVAC19		Night	73.8									-	-	-
HVAC20	Lw/unit	Day	76.8									-	-	-
HVAC20		Night	73.8									-	-	-
HVAC21	Lw/unit	Day	76.8									-	-	-
HVAC21		Night	73.8									-	-	-
HVAC22	Lw/unit	Day	76.8									-	-	-
HVAC22		Night	73.8									-	-	-
HVAC23	Lw/unit	Day	76.8									-	-	-
HVAC23		Night	73.8									-	-	-
HVAC24	Lw/unit	Day	76.8									-	-	-
HVAC24		Night	73.8									-	-	-
HVAC25	Lw/unit	Day	76.8									-	-	-
HVAC25		Night	73.8									-	-	-
HVAC26	Lw/unit	Day	76.8									-	-	-
HVAC26		Night	73.8									-	-	-
HVAC27	Lw/unit	Day	76.8									-	-	-
HVAC27		Night	73.8									-	-	-
HVAC28	Lw/unit	Day	76.8									-	-	-
HVAC28		Night	73.8									-	-	-
HVAC29	Lw/unit	Day	76.8									-	-	-
HVAC29		Night	73.8									-	-	-
HVAC30	Lw/unit	Day	76.8									-	-	-
HVAC30		Night	73.8									-	-	-
HVAC31	Lw/unit	Day	76.8									-	-	-
HVAC31		Night	73.8									-	-	-
HVAC32	Lw/unit	Day	76.8									-	-	-
HVAC32		Night	73.8									-	-	-
HVAC33	Lw/unit	Day	76.8									-	-	-
HVAC33		Night	73.8									-	-	-
HVAC34	Lw/unit	Day	76.8									-	-	-
HVAC34		Night	73.8									-	-	-

10631 Rio Vista Apartments
SoundPLAN Data - Operation

Source name	Reference	Level	dB(A)	Frequency spectrum [dB(A)]								Corrections		
				63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Cwall dB(A)	Cl dB(A)	CT dB(A)
HVAC35	Lw/unit	Day	76.8									-	-	-
HVAC35		Night	73.8									-	-	-
HVAC36	Lw/unit	Day	76.8									-	-	-
HVAC36		Night	73.8									-	-	-
HVAC37	Lw/unit	Day	76.8									-	-	-
HVAC37		Night	73.8									-	-	-
HVAC38	Lw/unit	Day	76.8									-	-	-
HVAC38		Night	73.8									-	-	-
HVAC39	Lw/unit	Day	76.8									-	-	-
HVAC39		Night	73.8									-	-	-
HVAC40	Lw/unit	Day	76.8									-	-	-
HVAC40		Night	73.8									-	-	-
HVAC41	Lw/unit	Day	76.8									-	-	-
HVAC41		Night	73.8									-	-	-
HVAC42	Lw/unit	Day	76.8									-	-	-
HVAC42		Night	73.8									-	-	-
HVAC43	Lw/unit	Day	76.8									-	-	-
HVAC43		Night	73.8									-	-	-
HVAC44	Lw/unit	Day	76.8									-	-	-
HVAC44		Night	73.8									-	-	-
HVAC45	Lw/unit	Day	76.8									-	-	-
HVAC45		Night	73.8									-	-	-
HVAC46	Lw/unit	Day	76.8									-	-	-
HVAC46		Night	73.8									-	-	-
HVAC47	Lw/unit	Day	76.8									-	-	-
HVAC47		Night	73.8									-	-	-
HVAC48	Lw/unit	Day	76.8									-	-	-
HVAC48		Night	73.8									-	-	-
HVAC49	Lw/unit	Day	76.8									-	-	-
HVAC49		Night	73.8									-	-	-
Emergency Generator	Lw/unit	Day	85.9	52.7	62.8	70.3	75.7	78.9	80.1	79.9	77.8	-	-	-
Emergency Generator		Night	-	-	-	-	-	-	-	-	-	-	-	-
Blower Fan	Lw/unit	Day	84.8	46.8	57.9	76.4	81.8	77	76.2	71	64.9	-	-	-
Blower Fan		Night	84.8	46.8	57.9	76.4	81.8	77	76.2	71	64.9	-	-	-

10631 Rio Vista Apartments
SoundPLAN Data - Operation

No.	Coordinates		Noise Level without Barrier		Noise Level with Barrier		Difference	
	X	Y	Day	Night	Day	Night	Day	Night
	(meters)		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1	635622.97	3650903.35	41.2	38.2	41.2	38.2	0.0	0.0
2	635605.50	3650857.31	42.6	39.6	42.6	39.6	0.0	0.0
3	635694.40	3651038.29	33.7	30.6	33.8	30.6	0.1	0.1
4	635693.88	3651000.72	35.2	32.0	35.3	32.1	0.1	0.1
5	635688.58	3650954.15	37.0	33.8	37.1	33.9	0.1	0.1
6	635674.83	3650895.41	39.2	36.0	39.4	36.1	0.2	0.1
7	635673.77	3650855.19	40.2	36.8	40.5	37.0	0.3	0.1
8	635676.94	3650796.99	42.8	38.7	42.9	38.7	0.1	0.0
9	635677.47	3650759.42	48.2	43.3	44.1	40.2	-4.1	-3.1
10	635682.23	3650712.32	43.2	38.4	39.7	36.2	-3.4	-2.2
11	635629.85	3650712.32	44.3	40.1	42.0	38.8	-2.2	-1.3
12	635534.07	3650712.32	41.7	38.5	41.8	38.5	0.1	0.0
13	635426.65	3650710.73	37.8	34.8	37.9	34.9	0.1	0.0
14	635436.17	3650809.16	40.6	37.6	40.6	37.6	0.0	0.0
15	635484.32	3650861.54	40.9	37.9	40.9	37.9	0.0	0.0

10631 Rio Vista Apartments
SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
1	1.Fl	41.2	38.2	41.2	38.2				
Blower Fan						8.9	8.9	9.1	9.1
Emergency Generator						8.3	-	8.3	-
HVAC1 - Clubhouse						21.1	18.1	21.1	18.1
HVAC2						22.6	19.6	22.6	19.6
HVAC3						21.5	18.5	21.5	18.5
HVAC4						21.5	18.5	21.5	18.5
HVAC5						21.0	18.0	21.0	18.0
HVAC6						21.2	18.2	21.2	18.2
HVAC7						22.2	19.2	22.2	19.2
HVAC8						21.9	18.9	21.9	18.9
HVAC9						23.6	20.6	23.6	20.6
HVAC10						25.2	22.2	25.2	22.2
HVAC11						22.9	19.9	22.9	19.9
HVAC12						21.7	18.7	21.7	18.7
HVAC13						20.7	17.7	20.7	17.7
HVAC14						23.2	20.2	23.2	20.2
HVAC15						23.7	20.7	23.7	20.7
HVAC16						24.1	21.1	24.1	21.1
HVAC17						25.1	22.1	25.1	22.1
HVAC18						26.5	23.5	26.5	23.5
HVAC19						25.2	22.2	25.2	22.2
HVAC20						24.0	21.0	24.0	21.0
HVAC21						21.3	18.3	21.3	18.3
HVAC22						20.2	17.2	20.2	17.2
HVAC23						19.2	16.2	19.2	16.2
HVAC24						19.2	16.2	19.2	16.2
HVAC25						20.2	17.2	20.2	17.2
HVAC26						21.2	18.2	21.2	18.2
HVAC27						22.9	19.9	22.9	19.9
HVAC28						24.1	21.1	24.1	21.1
HVAC29						26.0	23.0	26.0	23.0
HVAC30						20.8	17.8	20.8	17.8
HVAC31						18.9	15.9	18.9	15.9
HVAC32						18.9	15.9	18.9	15.9
HVAC33						15.9	12.9	15.9	12.9
HVAC34						15.5	12.5	15.5	12.5
HVAC35						15.0	12.0	15.0	12.0
HVAC36						16.8	13.8	16.8	13.8
HVAC37						17.3	14.3	17.3	14.3
HVAC38						17.8	14.8	17.8	14.8
HVAC39						18.5	15.5	18.5	15.5
HVAC40						18.9	15.9	18.9	15.9
HVAC41						20.7	17.7	20.7	17.7
HVAC42						28.5	25.5	28.5	25.5
HVAC43						26.4	23.4	26.4	23.4
HVAC44						26.9	23.9	26.9	23.9
HVAC45						25.9	22.9	25.9	22.9
HVAC46						31.0	28.0	31.0	28.0
HVAC47						29.1	26.1	29.1	26.1
HVAC48						30.2	27.2	30.2	27.2
HVAC49						31.6	28.6	31.6	28.6

10631 Rio Vista Apartments
SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
2	1.FI	42.6	39.6	42.6	39.6				
Blower Fan						10.1	10.1	10.3	10.3
Emergency Generator						9.2	-	9.2	-
HVAC1 - Clubhouse						25.1	22.1	25.1	22.1
HVAC2						27.0	24.0	27.0	24.0
HVAC3						24.4	21.4	24.4	21.4
HVAC4						24.0	21.0	24.0	21.0
HVAC5						23.3	20.3	23.3	20.3
HVAC6						21.9	18.9	21.9	18.9
HVAC7						25.4	22.4	25.4	22.4
HVAC8						26.1	23.1	26.1	23.1
HVAC9						26.7	23.7	26.7	23.7
HVAC10						31.0	28.0	31.0	28.0
HVAC11						27.2	24.2	27.2	24.2
HVAC12						26.0	23.0	26.0	23.0
HVAC13						25.2	22.2	25.2	22.2
HVAC14						27.3	24.3	27.3	24.3
HVAC15						27.5	24.5	27.5	24.5
HVAC16						28.5	25.5	28.5	25.5
HVAC17						31.4	28.4	31.4	28.4
HVAC18						32.4	29.4	32.4	29.4
HVAC19						26.3	23.3	26.3	23.3
HVAC20						23.5	20.5	23.5	20.5
HVAC21						22.7	19.7	22.7	19.7
HVAC22						19.9	16.9	19.9	16.9
HVAC23						21.7	18.7	21.7	18.7
HVAC24						17.4	14.4	17.4	14.4
HVAC25						18.9	15.9	18.9	15.9
HVAC26						22.2	19.2	22.2	19.2
HVAC27						23.1	20.1	23.1	20.1
HVAC28						25.8	22.8	25.8	22.8
HVAC29						31.4	28.4	31.4	28.4
HVAC30						18.6	15.6	18.6	15.6
HVAC31						17.9	14.9	17.9	14.9
HVAC32						17.5	14.5	17.5	14.5
HVAC33						17.1	14.1	17.1	14.1
HVAC34						17.5	14.5	17.5	14.5
HVAC35						12.0	9.0	12.0	9.0
HVAC36						11.6	8.6	11.6	8.6
HVAC37						16.5	13.5	16.5	13.5
HVAC38						16.8	13.8	16.8	13.8
HVAC39						17.4	14.4	17.4	14.4
HVAC40						17.8	14.8	17.8	14.8
HVAC41						15.5	12.5	15.5	12.5
HVAC42						28.9	25.9	28.9	25.9
HVAC43						25.3	22.3	25.3	22.3
HVAC44						23.1	20.1	23.1	20.1
HVAC45						21.2	18.2	21.2	18.2
HVAC46						25.3	22.3	25.3	22.3
HVAC47						26.1	23.1	26.1	23.1
HVAC48						27.0	24.0	27.0	24.0
HVAC49						30.3	27.3	30.3	27.3

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
3	1.FI	33.7	30.6	33.8	30.6				
Blower Fan						15.4	15.4	17.0	17.0
Emergency Generator						19.7	-	21.4	-
HVAC1 - Clubhouse						14.2	11.2	14.2	11.2
HVAC2						16.0	13.0	16.0	13.0
HVAC3						15.0	12.0	15.0	12.0
HVAC4						14.5	11.5	14.5	11.5
HVAC5						14.8	11.8	14.8	11.8
HVAC6						15.0	12.0	15.0	12.0
HVAC7						15.3	12.3	15.3	12.3
HVAC8						15.4	12.4	15.4	12.4
HVAC9						16.2	13.2	16.2	13.2
HVAC10						16.4	13.4	16.4	13.4
HVAC11						15.4	12.4	15.4	12.4
HVAC12						14.8	11.8	14.8	11.8
HVAC13						14.6	11.6	14.6	11.6
HVAC14						14.5	11.5	14.5	11.5
HVAC15						15.0	12.0	15.0	12.0
HVAC16						15.4	12.4	15.4	12.4
HVAC17						16.6	13.6	16.6	13.6
HVAC18						17.0	14.0	17.0	14.0
HVAC19						15.9	12.9	15.9	12.9
HVAC20						15.3	12.3	15.3	12.3
HVAC21						14.9	11.9	14.9	11.9
HVAC22						14.6	11.6	14.6	11.6
HVAC23						14.2	11.2	14.2	11.2
HVAC24						14.8	11.8	14.8	11.8
HVAC25						14.9	11.9	14.9	11.9
HVAC26						15.1	12.1	15.1	12.1
HVAC27						15.4	12.4	15.4	12.4
HVAC28						15.9	12.9	15.9	12.9
HVAC29						17.0	14.0	17.0	14.0
HVAC30						14.3	11.3	14.3	11.3
HVAC31						13.6	10.6	13.6	10.6
HVAC32						13.1	10.1	13.1	10.1
HVAC33						12.6	9.6	12.6	9.6
HVAC34						12.5	9.5	12.5	9.5
HVAC35						12.2	9.2	12.2	9.2
HVAC36						12.1	9.1	12.1	9.1
HVAC37						12.4	9.4	12.4	9.4
HVAC38						12.6	9.6	12.6	9.6
HVAC39						13.1	10.1	13.1	10.1
HVAC40						13.7	10.7	13.7	10.7
HVAC41						14.2	11.2	14.2	11.2
HVAC42						19.1	16.1	19.1	16.1
HVAC43						19.6	16.6	19.6	16.6
HVAC44						20.0	17.0	20.0	17.0
HVAC45						21.9	18.9	21.9	18.9
HVAC46						22.4	19.4	22.4	19.4
HVAC47						20.8	17.8	20.8	17.8
HVAC48						21.2	18.2	21.2	18.2
HVAC49						20.4	17.4	20.4	17.4

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
4	1.FI	35.2	32.0	35.3	32.1				
Blower Fan						16.9	16.9	18.5	18.5
Emergency Generator						21.3	-	23.0	-
HVAC1 - Clubhouse						15.3	12.3	15.3	12.3
HVAC2						17.6	14.6	17.6	14.6
HVAC3						16.3	13.3	16.3	13.3
HVAC4						16.6	13.6	16.6	13.6
HVAC5						15.9	12.9	15.9	12.9
HVAC6						16.3	13.3	16.3	13.3
HVAC7						16.0	13.0	16.0	13.0
HVAC8						16.6	13.6	16.6	13.6
HVAC9						17.7	14.7	17.7	14.7
HVAC10						18.0	15.0	18.0	15.0
HVAC11						16.6	13.6	16.6	13.6
HVAC12						16.4	13.4	16.4	13.4
HVAC13						15.7	12.7	15.7	12.7
HVAC14						16.4	13.4	16.4	13.4
HVAC15						17.1	14.1	17.1	14.1
HVAC16						16.7	13.7	16.7	13.7
HVAC17						18.1	15.1	18.1	15.1
HVAC18						18.4	15.4	18.4	15.4
HVAC19						17.1	14.1	17.1	14.1
HVAC20						17.4	14.4	17.4	14.4
HVAC21						16.1	13.1	16.1	13.1
HVAC22						15.7	12.7	15.7	12.7
HVAC23						15.3	12.3	15.3	12.3
HVAC24						15.3	12.3	15.3	12.3
HVAC25						15.7	12.7	15.7	12.7
HVAC26						16.0	13.0	16.0	13.0
HVAC27						16.5	13.5	16.5	13.5
HVAC28						17.1	14.1	17.1	14.1
HVAC29						18.4	15.4	18.4	15.4
HVAC30						15.2	12.2	15.2	12.2
HVAC31						14.5	11.5	14.5	11.5
HVAC32						13.9	10.9	13.9	10.9
HVAC33						13.9	10.9	13.9	10.9
HVAC34						13.6	10.6	13.6	10.6
HVAC35						13.4	10.4	13.4	10.4
HVAC36						12.9	9.9	12.9	9.9
HVAC37						13.3	10.3	13.3	10.3
HVAC38						13.6	10.6	13.6	10.6
HVAC39						13.9	10.9	13.9	10.9
HVAC40						14.5	11.5	14.5	11.5
HVAC41						15.2	12.2	15.2	12.2
HVAC42						20.5	17.5	20.5	17.5
HVAC43						21.0	18.0	21.0	18.0
HVAC44						22.3	19.3	22.3	19.3
HVAC45						21.9	18.9	21.9	18.9
HVAC46						24.1	21.1	24.1	21.1
HVAC47						23.5	20.5	23.5	20.5
HVAC48						23.0	20.0	23.0	20.0
HVAC49						22.6	19.6	22.6	19.6

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
5	1.FI	37.0	33.8	37.1	33.9				
Blower Fan						19.1	19.1	20.7	20.7
Emergency Generator						23.6	-	25.3	-
HVAC1 - Clubhouse						17.0	14.0	17.0	14.0
HVAC2						20.0	17.0	20.0	17.0
HVAC3						18.2	15.2	18.2	15.2
HVAC4						17.8	14.8	17.8	14.8
HVAC5						17.3	14.3	17.3	14.3
HVAC6						18.3	15.3	18.3	15.3
HVAC7						17.8	14.8	17.8	14.8
HVAC8						18.4	15.4	18.4	15.4
HVAC9						20.2	17.2	20.2	17.2
HVAC10						20.4	17.4	20.4	17.4
HVAC11						18.6	15.6	18.6	15.6
HVAC12						18.2	15.2	18.2	15.2
HVAC13						17.4	14.4	17.4	14.4
HVAC14						17.7	14.7	17.7	14.7
HVAC15						18.5	15.5	18.5	15.5
HVAC16						18.6	15.6	18.6	15.6
HVAC17						20.5	17.5	20.5	17.5
HVAC18						20.7	17.7	20.7	17.7
HVAC19						18.8	15.8	18.8	15.8
HVAC20						18.5	15.5	18.5	15.5
HVAC21						18.0	15.0	18.0	15.0
HVAC22						17.7	14.7	17.7	14.7
HVAC23						17.1	14.1	17.1	14.1
HVAC24						16.7	13.7	16.7	13.7
HVAC25						17.2	14.2	17.2	14.2
HVAC26						17.6	14.6	17.6	14.6
HVAC27						18.3	15.3	18.3	15.3
HVAC28						18.7	15.7	18.7	15.7
HVAC29						20.5	17.5	20.5	17.5
HVAC30						16.6	13.6	16.6	13.6
HVAC31						16.1	13.1	16.1	13.1
HVAC32						15.8	12.8	15.8	12.8
HVAC33						14.5	11.5	14.5	11.5
HVAC34						14.2	11.2	14.2	11.2
HVAC35						14.3	11.3	14.3	11.3
HVAC36						13.8	10.8	13.8	10.8
HVAC37						14.2	11.2	14.2	11.2
HVAC38						14.7	11.7	14.7	11.7
HVAC39						15.0	12.0	15.0	12.0
HVAC40						15.6	12.6	15.6	12.6
HVAC41						16.5	13.5	16.5	13.5
HVAC42						24.1	21.1	24.1	21.1
HVAC43						22.5	19.5	22.5	19.5
HVAC44						22.7	19.7	22.7	19.7
HVAC45						23.1	20.1	23.1	20.1
HVAC46						25.7	22.7	25.7	22.7
HVAC47						25.4	22.4	25.4	22.4
HVAC48						25.2	22.2	25.2	22.2
HVAC49						25.0	22.0	25.0	22.0

10631 Rio Vista Apartments
SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
6	1.FI	39.2	36.0	39.4	36.1				
Blower Fan						22.7	22.7	24.3	24.3
Emergency Generator						27.4	-	29.0	-
HVAC1 - Clubhouse						15.9	12.9	15.9	12.9
HVAC2						23.6	20.6	23.6	20.6
HVAC3						21.8	18.8	21.8	18.8
HVAC4						20.9	17.9	20.9	17.9
HVAC5						20.0	17.0	20.0	17.0
HVAC6						20.7	17.7	20.7	17.7
HVAC7						22.0	19.0	22.0	19.0
HVAC8						23.0	20.0	23.0	20.0
HVAC9						24.8	21.8	24.8	21.8
HVAC10						24.8	21.8	24.8	21.8
HVAC11						22.0	19.0	22.0	19.0
HVAC12						21.9	18.9	21.9	18.9
HVAC13						20.2	17.2	20.2	17.2
HVAC14						20.0	17.0	20.0	17.0
HVAC15						21.1	18.1	21.1	18.1
HVAC16						21.9	18.9	21.9	18.9
HVAC17						24.4	21.4	24.4	21.4
HVAC18						24.0	21.0	24.0	21.0
HVAC19						22.3	19.3	22.3	19.3
HVAC20						21.8	18.8	21.8	18.8
HVAC21						20.3	17.3	20.3	17.3
HVAC22						19.6	16.6	19.6	16.6
HVAC23						19.5	16.5	19.5	16.5
HVAC24						18.7	15.7	18.7	15.7
HVAC25						19.4	16.4	19.4	16.4
HVAC26						19.9	16.9	19.9	16.9
HVAC27						20.9	17.9	20.9	17.9
HVAC28						21.6	18.6	21.6	18.6
HVAC29						23.3	20.3	23.3	20.3
HVAC30						17.3	14.3	17.3	14.3
HVAC31						16.7	13.7	16.7	13.7
HVAC32						16.3	13.3	16.3	13.3
HVAC33						15.7	12.7	15.7	12.7
HVAC34						15.5	12.5	15.5	12.5
HVAC35						15.2	12.2	15.2	12.2
HVAC36						14.8	11.8	14.8	11.8
HVAC37						15.3	12.3	15.3	12.3
HVAC38						15.6	12.6	15.6	12.6
HVAC39						16.2	13.2	16.2	13.2
HVAC40						16.7	13.7	16.7	13.7
HVAC41						17.2	14.2	17.2	14.2
HVAC42						25.0	22.0	25.0	22.0
HVAC43						24.7	21.7	24.7	21.7
HVAC44						24.6	21.6	24.6	21.6
HVAC45						22.8	19.8	22.8	19.8
HVAC46						24.2	21.2	24.2	21.2
HVAC47						25.5	22.5	25.5	22.5
HVAC48						25.9	22.9	25.9	22.9
HVAC49						27.5	24.5	27.5	24.5

10631 Rio Vista Apartments
SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
7	1.FI	40.2	36.8	40.5	37.0				
Blower Fan						26.0	26.0	27.5	27.5
Emergency Generator						30.7	-	32.4	-
HVAC1 - Clubhouse						8.0	5.0	8.0	5.0
HVAC2						26.5	23.5	26.5	23.5
HVAC3						24.5	21.5	24.5	21.5
HVAC4						22.8	19.8	22.8	19.8
HVAC5						21.2	18.2	21.2	18.2
HVAC6						23.0	20.0	23.0	20.0
HVAC7						23.3	20.3	23.3	20.3
HVAC8						25.1	22.1	25.1	22.1
HVAC9						27.9	24.9	27.9	24.9
HVAC10						27.3	24.3	27.3	24.3
HVAC11						24.6	21.6	24.6	21.6
HVAC12						23.3	20.3	23.3	20.3
HVAC13						23.8	20.8	23.8	20.8
HVAC14						21.1	18.1	21.1	18.1
HVAC15						22.6	19.6	22.6	19.6
HVAC16						24.0	21.0	24.0	21.0
HVAC17						26.0	23.0	26.0	23.0
HVAC18						24.3	21.3	24.3	21.3
HVAC19						23.0	20.0	23.0	20.0
HVAC20						23.1	20.1	23.1	20.1
HVAC21						21.9	18.9	21.9	18.9
HVAC22						21.5	18.5	21.5	18.5
HVAC23						20.8	17.8	20.8	17.8
HVAC24						20.1	17.1	20.1	17.1
HVAC25						20.8	17.8	20.8	17.8
HVAC26						21.4	18.4	21.4	18.4
HVAC27						22.1	19.1	22.1	19.1
HVAC28						22.6	19.6	22.6	19.6
HVAC29						23.5	20.5	23.5	20.5
HVAC30						18.3	15.3	18.3	15.3
HVAC31						17.7	14.7	17.7	14.7
HVAC32						17.3	14.3	17.3	14.3
HVAC33						17.0	14.0	17.0	14.0
HVAC34						16.8	13.8	16.8	13.8
HVAC35						14.6	11.6	14.6	11.6
HVAC36						16.1	13.1	16.1	13.1
HVAC37						16.4	13.4	16.4	13.4
HVAC38						16.6	13.6	16.6	13.6
HVAC39						17.1	14.1	17.1	14.1
HVAC40						17.4	14.4	17.4	14.4
HVAC41						17.5	14.5	17.5	14.5
HVAC42						23.2	20.2	23.2	20.2
HVAC43						22.2	19.2	22.2	19.2
HVAC44						21.5	18.5	21.5	18.5
HVAC45						22.2	19.2	22.2	19.2
HVAC46						22.1	19.1	22.1	19.1
HVAC47						23.3	20.3	23.3	20.3
HVAC48						22.6	19.6	22.6	19.6
HVAC49						25.0	22.0	25.0	22.0

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
8	1.FI	42.8	38.7	42.9	38.7				
Blower Fan						33.5	33.5	33.6	33.6
Emergency Generator						38.1	-	38.4	-
HVAC1 - Clubhouse						6.2	3.2	6.2	3.2
HVAC2						32.5	29.5	32.5	29.5
HVAC3						25.4	22.4	25.4	22.4
HVAC4						24.2	21.2	24.2	21.2
HVAC5						25.0	22.0	25.0	22.0
HVAC6						19.1	16.1	19.1	16.1
HVAC7						26.0	23.0	26.0	23.0
HVAC8						24.5	21.5	24.5	21.5
HVAC9						32.2	29.2	32.2	29.2
HVAC10						28.2	25.2	28.2	25.2
HVAC11						28.6	25.6	28.6	25.6
HVAC12						19.6	16.6	19.6	16.6
HVAC13						18.3	15.3	18.3	15.3
HVAC14						17.1	14.1	17.1	14.1
HVAC15						24.7	21.7	24.7	21.7
HVAC16						25.3	22.3	25.3	22.3
HVAC17						26.3	23.3	26.3	23.3
HVAC18						25.3	22.3	25.3	22.3
HVAC19						22.9	19.9	22.9	19.9
HVAC20						20.4	17.4	20.4	17.4
HVAC21						19.3	16.3	19.3	16.3
HVAC22						19.0	16.0	19.0	16.0
HVAC23						19.1	16.1	19.1	16.1
HVAC24						17.8	14.8	17.8	14.8
HVAC25						18.4	15.4	18.4	15.4
HVAC26						18.4	15.4	18.4	15.4
HVAC27						19.8	16.8	19.8	16.8
HVAC28						21.1	18.1	21.1	18.1
HVAC29						23.1	20.1	23.1	20.1
HVAC30						16.1	13.1	16.1	13.1
HVAC31						16.1	13.1	16.1	13.1
HVAC32						11.4	8.4	11.4	8.4
HVAC33						10.7	7.7	10.7	7.7
HVAC34						10.2	7.2	10.2	7.2
HVAC35						9.6	6.6	9.6	6.6
HVAC36						9.6	6.6	9.6	6.6
HVAC37						10.1	7.1	10.1	7.1
HVAC38						10.7	7.7	10.7	7.7
HVAC39						15.6	12.6	15.6	12.6
HVAC40						15.7	12.7	15.7	12.7
HVAC41						15.5	12.5	15.5	12.5
HVAC42						21.0	18.0	21.0	18.0
HVAC43						20.5	17.5	20.5	17.5
HVAC44						19.4	16.4	19.4	16.4
HVAC45						19.3	16.3	19.3	16.3
HVAC46						19.7	16.7	19.7	16.7
HVAC47						20.1	17.1	20.1	17.1
HVAC48						20.0	17.0	20.0	17.0
HVAC49						21.6	18.6	21.6	18.6

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
9	1.FI	48.2	43.3	44.1	40.2				
Blower Fan						41.9	41.9	36.9	36.9
Emergency Generator						46.0	-	39.9	-
HVAC1 - Clubhouse						9.2	6.2	9.2	6.2
HVAC2						32.4	29.4	32.4	29.4
HVAC3						33.5	30.5	33.5	30.5
HVAC4						34.0	31.0	34.0	31.0
HVAC5						29.8	26.8	29.8	26.8
HVAC6						26.0	23.0	26.0	23.0
HVAC7						27.4	24.4	27.4	24.4
HVAC8						27.9	24.9	27.9	24.9
HVAC9						26.9	23.9	26.9	23.9
HVAC10						18.8	15.8	18.8	15.8
HVAC11						18.8	15.8	18.8	15.8
HVAC12						18.6	15.6	18.6	15.6
HVAC13						18.6	15.6	18.6	15.6
HVAC14						17.4	14.4	17.4	14.4
HVAC15						17.5	14.5	17.5	14.5
HVAC16						17.7	14.7	17.7	14.7
HVAC17						17.6	14.6	17.6	14.6
HVAC18						14.3	11.3	14.3	11.3
HVAC19						13.7	10.7	13.7	10.7
HVAC20						13.6	10.6	13.6	10.6
HVAC21						14.1	11.1	14.1	11.1
HVAC22						14.0	11.0	14.0	11.0
HVAC23						14.1	11.1	14.1	11.1
HVAC24						13.4	10.4	13.4	10.4
HVAC25						13.5	10.5	13.5	10.5
HVAC26						13.5	10.5	13.5	10.5
HVAC27						13.1	10.1	13.1	10.1
HVAC28						13.2	10.2	13.2	10.2
HVAC29						13.4	10.4	13.4	10.4
HVAC30						12.0	9.0	12.0	9.0
HVAC31						11.8	8.8	11.8	8.8
HVAC32						11.8	8.8	11.8	8.8
HVAC33						11.7	8.7	11.7	8.7
HVAC34						11.7	8.7	11.7	8.7
HVAC35						11.7	8.7	11.7	8.7
HVAC36						11.2	8.2	11.2	8.2
HVAC37						11.3	8.3	11.3	8.3
HVAC38						11.3	8.3	11.3	8.3
HVAC39						11.4	8.4	11.4	8.4
HVAC40						11.4	8.4	11.4	8.4
HVAC41						11.4	8.4	11.4	8.4
HVAC42						19.3	16.3	19.3	16.3
HVAC43						17.7	14.7	17.7	14.7
HVAC44						18.2	15.2	18.2	15.2
HVAC45						16.8	13.8	16.8	13.8
HVAC46						18.0	15.0	18.0	15.0
HVAC47						18.4	15.4	18.4	15.4
HVAC48						18.3	15.3	18.3	15.3
HVAC49						19.6	16.6	19.6	16.6

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
10	1.FI	43.2	38.4	39.7	36.2				
Blower Fan						35.8	35.8	30.1	30.1
Emergency Generator						40.3	-	33.3	-
HVAC1 - Clubhouse						21.7	18.7	21.7	18.7
HVAC2						26.4	23.4	26.4	23.4
HVAC3						27.6	24.6	27.6	24.6
HVAC4						28.3	25.3	28.3	25.3
HVAC5						27.5	24.5	27.5	24.5
HVAC6						25.7	22.7	25.7	22.7
HVAC7						26.0	23.0	26.0	23.0
HVAC8						25.8	22.8	25.8	22.8
HVAC9						24.9	21.9	24.9	21.9
HVAC10						20.3	17.3	20.3	17.3
HVAC11						20.2	17.2	20.2	17.2
HVAC12						20.1	17.1	20.1	17.1
HVAC13						21.8	18.8	21.8	18.8
HVAC14						20.9	17.9	20.9	17.9
HVAC15						19.2	16.2	19.2	16.2
HVAC16						19.4	16.4	19.4	16.4
HVAC17						19.3	16.3	19.3	16.3
HVAC18						16.6	13.6	16.6	13.6
HVAC19						16.5	13.5	16.5	13.5
HVAC20						16.4	13.4	16.4	13.4
HVAC21						16.5	13.5	16.5	13.5
HVAC22						17.0	14.0	17.0	14.0
HVAC23						20.9	17.9	20.9	17.9
HVAC24						19.1	16.1	19.1	16.1
HVAC25						17.1	14.1	17.1	14.1
HVAC26						16.0	13.0	16.0	13.0
HVAC27						15.8	12.8	15.8	12.8
HVAC28						16.1	13.1	16.1	13.1
HVAC29						16.0	13.0	16.0	13.0
HVAC30						18.9	15.9	18.9	15.9
HVAC31						18.6	15.6	18.6	15.6
HVAC32						18.5	15.5	18.5	15.5
HVAC33						18.2	15.2	18.2	15.2
HVAC34						18.0	15.0	18.0	15.0
HVAC35						17.8	14.8	17.8	14.8
HVAC36						16.7	13.7	16.7	13.7
HVAC37						17.2	14.2	17.2	14.2
HVAC38						17.1	14.1	17.1	14.1
HVAC39						17.5	14.5	17.5	14.5
HVAC40						17.5	14.5	17.5	14.5
HVAC41						17.5	14.5	17.5	14.5
HVAC42						13.9	10.9	13.9	10.9
HVAC43						13.6	10.6	13.6	10.6
HVAC44						13.4	10.4	13.4	10.4
HVAC45						13.0	10.0	13.0	10.0
HVAC46						13.9	10.9	13.9	10.9
HVAC47						13.8	10.8	13.8	10.8
HVAC48						14.0	11.0	14.0	11.0
HVAC49						14.2	11.2	14.2	11.2

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
11	1.FI	44.3	40.1	42.0	38.8				
Blower Fan						35.6	35.6	29.9	29.9
Emergency Generator						40.0	-	32.7	-
HVAC1 - Clubhouse						25.5	22.5	25.5	22.5
HVAC2						28.6	25.6	28.6	25.6
HVAC3						29.6	26.6	29.6	26.6
HVAC4						29.6	26.6	29.6	26.6
HVAC5						31.5	28.5	31.5	28.5
HVAC6						31.6	28.6	31.6	28.6
HVAC7						26.1	23.1	26.1	23.1
HVAC8						26.5	23.5	26.5	23.5
HVAC9						25.3	22.3	25.3	22.3
HVAC10						19.9	16.9	19.9	16.9
HVAC11						26.4	23.4	26.4	23.4
HVAC12						27.5	24.5	27.5	24.5
HVAC13						28.1	25.1	28.1	25.1
HVAC14						27.9	24.9	27.9	24.9
HVAC15						24.6	21.6	24.6	21.6
HVAC16						24.5	21.5	24.5	21.5
HVAC17						18.9	15.9	18.9	15.9
HVAC18						19.9	16.9	19.9	16.9
HVAC19						19.7	16.7	19.7	16.7
HVAC20						20.0	17.0	20.0	17.0
HVAC21						22.1	19.1	22.1	19.1
HVAC22						24.1	21.1	24.1	21.1
HVAC23						24.3	21.3	24.3	21.3
HVAC24						22.0	19.0	22.0	19.0
HVAC25						21.7	18.7	21.7	18.7
HVAC26						22.6	19.6	22.6	19.6
HVAC27						19.3	16.3	19.3	16.3
HVAC28						19.2	16.2	19.2	16.2
HVAC29						18.9	15.9	18.9	15.9
HVAC30						21.7	18.7	21.7	18.7
HVAC31						21.4	18.4	21.4	18.4
HVAC32						21.3	18.3	21.3	18.3
HVAC33						21.0	18.0	21.0	18.0
HVAC34						20.8	17.8	20.8	17.8
HVAC35						20.6	17.6	20.6	17.6
HVAC36						18.9	15.9	18.9	15.9
HVAC37						19.4	16.4	19.4	16.4
HVAC38						19.5	16.5	19.5	16.5
HVAC39						19.7	16.7	19.7	16.7
HVAC40						19.8	16.8	19.8	16.8
HVAC41						19.6	16.6	19.6	16.6
HVAC42						11.9	8.9	11.9	8.9
HVAC43						10.9	7.9	10.9	7.9
HVAC44						10.4	7.4	10.4	7.4
HVAC45						9.9	6.9	9.9	6.9
HVAC46						9.7	6.7	9.7	6.7
HVAC47						10.3	7.3	10.3	7.3
HVAC48						10.7	7.7	10.7	7.7
HVAC49						11.2	8.2	11.2	8.2

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
12	1.FI	41.7	38.5	41.8	38.5				
Blower Fan						24.4	24.4	24.4	24.4
Emergency Generator						29.1	-	30.8	-
HVAC1 - Clubhouse						29.2	26.2	29.2	26.2
HVAC2						20.8	17.8	20.8	17.8
HVAC3						21.7	18.7	21.7	18.7
HVAC4						22.8	19.8	22.8	19.8
HVAC5						24.4	21.4	24.4	21.4
HVAC6						25.7	22.7	25.7	22.7
HVAC7						24.2	21.2	24.2	21.2
HVAC8						23.4	20.4	23.4	20.4
HVAC9						21.5	18.5	21.5	18.5
HVAC10						21.4	18.4	21.4	18.4
HVAC11						22.8	19.8	22.8	19.8
HVAC12						24.2	21.2	24.2	21.2
HVAC13						27.8	24.8	27.8	24.8
HVAC14						26.4	23.4	26.4	23.4
HVAC15						24.0	21.0	24.0	21.0
HVAC16						22.6	19.6	22.6	19.6
HVAC17						21.0	18.0	21.0	18.0
HVAC18						22.2	19.2	22.2	19.2
HVAC19						23.6	20.6	23.6	20.6
HVAC20						23.2	20.2	23.2	20.2
HVAC21						24.3	21.3	24.3	21.3
HVAC22						25.4	22.4	25.4	22.4
HVAC23						26.8	23.8	26.8	23.8
HVAC24						25.8	22.8	25.8	22.8
HVAC25						24.3	21.3	24.3	21.3
HVAC26						22.8	19.8	22.8	19.8
HVAC27						21.9	18.9	21.9	18.9
HVAC28						22.0	19.0	22.0	19.0
HVAC29						21.1	18.1	21.1	18.1
HVAC30						25.8	22.8	25.8	22.8
HVAC31						27.1	24.1	27.1	24.1
HVAC32						29.4	26.4	29.4	26.4
HVAC33						28.4	25.4	28.4	25.4
HVAC34						27.7	24.7	27.7	24.7
HVAC35						26.5	23.5	26.5	23.5
HVAC36						25.0	22.0	25.0	22.0
HVAC37						27.8	24.8	27.8	24.8
HVAC38						26.5	23.5	26.5	23.5
HVAC39						25.0	22.0	25.0	22.0
HVAC40						24.9	21.9	24.9	21.9
HVAC41						24.2	21.2	24.2	21.2
HVAC42						15.9	12.9	15.9	12.9
HVAC43						14.8	11.8	14.8	11.8
HVAC44						14.3	11.3	14.3	11.3
HVAC45						13.7	10.7	13.7	10.7
HVAC46						14.4	11.4	14.4	11.4
HVAC47						14.9	11.9	14.9	11.9
HVAC48						15.5	12.5	15.5	12.5
HVAC49						16.2	13.2	16.2	13.2

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SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
13	1.FI	37.8	34.8	37.9	34.9				
Blower Fan						18.0	18.0	19.7	19.7
Emergency Generator						17.9	-	22.1	-
HVAC1 - Clubhouse						21.3	18.3	21.3	18.3
HVAC2						16.2	13.2	16.2	13.2
HVAC3						16.6	13.6	16.6	13.6
HVAC4						17.0	14.0	17.0	14.0
HVAC5						18.4	15.4	18.4	15.4
HVAC6						18.7	15.7	18.7	15.7
HVAC7						18.0	15.0	18.0	15.0
HVAC8						17.7	14.7	17.7	14.7
HVAC9						17.3	14.3	17.3	14.3
HVAC10						17.7	14.7	17.7	14.7
HVAC11						18.1	15.1	18.1	15.1
HVAC12						18.4	15.4	18.4	15.4
HVAC13						20.1	17.1	20.1	17.1
HVAC14						20.4	17.4	20.4	17.4
HVAC15						18.8	15.8	18.8	15.8
HVAC16						18.1	15.1	18.1	15.1
HVAC17						18.0	15.0	18.0	15.0
HVAC18						13.7	10.7	13.7	10.7
HVAC19						14.2	11.2	14.2	11.2
HVAC20						14.7	11.7	14.7	11.7
HVAC21						15.5	12.5	15.5	12.5
HVAC22						18.1	15.1	18.1	15.1
HVAC23						22.5	19.5	22.5	19.5
HVAC24						18.5	15.5	18.5	15.5
HVAC25						17.4	14.4	17.4	14.4
HVAC26						15.6	12.6	15.6	12.6
HVAC27						14.7	11.7	14.7	11.7
HVAC28						14.2	11.2	14.2	11.2
HVAC29						13.7	10.7	13.7	10.7
HVAC30						18.8	15.8	18.8	15.8
HVAC31						20.1	17.1	20.1	17.1
HVAC32						21.4	18.4	21.4	18.4
HVAC33						23.7	20.7	23.7	20.7
HVAC34						25.9	22.9	25.9	22.9
HVAC35						28.8	25.8	28.8	25.8
HVAC36						28.9	25.9	28.9	25.9
HVAC37						27.9	24.9	27.9	24.9
HVAC38						26.0	23.0	26.0	23.0
HVAC39						24.2	21.2	24.2	21.2
HVAC40						23.1	20.1	23.1	20.1
HVAC41						18.9	15.9	18.9	15.9
HVAC42						11.6	8.6	11.6	8.6
HVAC43						12.3	9.3	12.3	9.3
HVAC44						12.5	9.5	12.5	9.5
HVAC45						12.9	9.9	12.9	9.9
HVAC46						12.0	9.0	12.0	9.0
HVAC47						11.9	8.9	11.9	8.9
HVAC48						11.8	8.8	11.8	8.8
HVAC49						11.3	8.3	11.3	8.3

10631 Rio Vista Apartments
SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
14	1.FI	40.6	37.6	40.6	37.6				
Blower Fan						2.8	2.8	2.8	2.8
Emergency Generator						1.1	-	1.1	-
HVAC1 - Clubhouse						10.0	7.0	10.0	7.0
HVAC2						12.7	9.7	12.7	9.7
HVAC3						12.8	9.8	12.8	9.8
HVAC4						12.9	9.9	12.9	9.9
HVAC5						13.5	10.5	13.5	10.5
HVAC6						13.9	10.9	13.9	10.9
HVAC7						13.2	10.2	13.2	10.2
HVAC8						13.1	10.1	13.1	10.1
HVAC9						13.1	10.1	13.1	10.1
HVAC10						14.9	11.9	14.9	11.9
HVAC11						15.2	12.2	15.2	12.2
HVAC12						15.2	12.2	15.2	12.2
HVAC13						15.3	12.3	15.3	12.3
HVAC14						15.9	12.9	15.9	12.9
HVAC15						15.8	12.8	15.8	12.8
HVAC16						15.7	12.7	15.7	12.7
HVAC17						18.7	15.7	18.7	15.7
HVAC18						21.0	18.0	21.0	18.0
HVAC19						22.1	19.1	22.1	19.1
HVAC20						21.9	18.9	21.9	18.9
HVAC21						19.8	16.8	19.8	16.8
HVAC22						19.5	16.5	19.5	16.5
HVAC23						19.6	16.6	19.6	16.6
HVAC24						21.0	18.0	21.0	18.0
HVAC25						22.0	19.0	22.0	19.0
HVAC26						24.3	21.3	24.3	21.3
HVAC27						22.4	19.4	22.4	19.4
HVAC28						22.5	19.5	22.5	19.5
HVAC29						21.6	18.6	21.6	18.6
HVAC30						25.4	22.4	25.4	22.4
HVAC31						27.4	24.4	27.4	24.4
HVAC32						27.1	24.1	27.1	24.1
HVAC33						27.5	24.5	27.5	24.5
HVAC34						27.1	24.1	27.1	24.1
HVAC35						26.1	23.1	26.1	23.1
HVAC36						31.4	28.4	31.4	28.4
HVAC37						29.2	26.2	29.2	26.2
HVAC38						29.6	26.6	29.6	26.6
HVAC39						29.7	26.7	29.7	26.7
HVAC40						29.0	26.0	29.0	26.0
HVAC41						29.8	26.8	29.8	26.8
HVAC42						19.8	16.8	19.8	16.8
HVAC43						19.0	16.0	19.0	16.0
HVAC44						19.1	16.1	19.1	16.1
HVAC45						18.2	15.2	18.2	15.2
HVAC46						17.4	14.4	17.4	14.4
HVAC47						17.9	14.9	17.9	14.9
HVAC48						18.2	15.2	18.2	15.2
HVAC49						19.0	16.0	19.0	16.0

10631 Rio Vista Apartments
SoundPLAN Data - Operation

Source name						Noise Level without Barrier		Noise Level with Barrier	
						Day dB(A)	Night dB(A)	Day dB(A)	Night dB(A)
15	1.FI	40.9	37.9	40.9	37.9				
Blower Fan						4.3	4.3	4.3	4.3
Emergency Generator						2.6	-	2.6	-
HVAC1 - Clubhouse						9.1	6.1	9.1	6.1
HVAC2						16.4	13.4	16.4	13.4
HVAC3						16.4	13.4	16.4	13.4
HVAC4						16.2	13.2	16.2	13.2
HVAC5						16.4	13.4	16.4	13.4
HVAC6						17.0	14.0	17.0	14.0
HVAC7						16.7	13.7	16.7	13.7
HVAC8						16.9	13.9	16.9	13.9
HVAC9						16.9	13.9	16.9	13.9
HVAC10						19.3	16.3	19.3	16.3
HVAC11						19.5	16.5	19.5	16.5
HVAC12						19.3	16.3	19.3	16.3
HVAC13						19.4	16.4	19.4	16.4
HVAC14						20.3	17.3	20.3	17.3
HVAC15						20.1	17.1	20.1	17.1
HVAC16						20.2	17.2	20.2	17.2
HVAC17						20.1	17.1	20.1	17.1
HVAC18						24.0	21.0	24.0	21.0
HVAC19						25.0	22.0	25.0	22.0
HVAC20						24.8	21.8	24.8	21.8
HVAC21						26.6	23.6	26.6	23.6
HVAC22						26.7	23.7	26.7	23.7
HVAC23						24.3	21.3	24.3	21.3
HVAC24						25.9	22.9	25.9	22.9
HVAC25						28.7	25.7	28.7	25.7
HVAC26						27.6	24.6	27.6	24.6
HVAC27						27.9	24.9	27.9	24.9
HVAC28						26.3	23.3	26.3	23.3
HVAC29						25.6	22.6	25.6	22.6
HVAC30						28.8	25.8	28.8	25.8
HVAC31						24.6	21.6	24.6	21.6
HVAC32						23.9	20.9	23.9	20.9
HVAC33						23.9	20.9	23.9	20.9
HVAC34						23.3	20.3	23.3	20.3
HVAC35						22.0	19.0	22.0	19.0
HVAC36						23.4	20.4	23.4	20.4
HVAC37						24.0	21.0	24.0	21.0
HVAC38						24.8	21.8	24.8	21.8
HVAC39						26.0	23.0	26.0	23.0
HVAC40						27.1	24.1	27.1	24.1
HVAC41						29.7	26.7	29.7	26.7
HVAC42						23.7	20.7	23.7	20.7
HVAC43						22.9	19.9	22.9	19.9
HVAC44						23.2	20.2	23.2	20.2
HVAC45						21.7	18.7	21.7	18.7
HVAC46						21.4	18.4	21.4	18.4
HVAC47						22.8	19.8	22.8	19.8
HVAC48						22.5	19.5	22.5	19.5
HVAC49						22.6	19.6	22.6	19.6