City of Laguna Beach

Community Development Department

APPLICANT'S GUIDE FOR:

Air Conditioning Units

The following information is intended to provide applicants with an understanding of the process for installation of air conditioning units. The applicant must prepare a site plan showing the proposed location of the air conditioning unit and all required setbacks. Note that mechanical equipment is not allowed in the front or side yard setbacks and must maintain a 5-foot clearance from all property lines. AC units are subject to the City's exterior noise standards. The maximum decibel level is 60 dB during the day and 50 dB at night, with the exception that the measurement shall be taken at the property line. [LBMC 7.25.040], [LBMC 7.25.130], [LBMC 7.25.150].

Required Submittal Items

- Air Conditioning Unit Noise Analysis sheet
- Site plan showing proposed AC unit location
- AC unit specifications
- Two forms of sound attenuation (These must be kept in working condition for the life of the unit)

Projects Subject to Ministerial Approval

If the proposed mechanical equipment is ground mounted, includes two forms of sound attenuation, is located outside of the required front and side yard setbacks, and maintains a 5-foot clearance from all property lines, the application can be processed ministerially.

Projects Subject to Administrative Design Review

If a proposed AC unit does not meet the requirements in order to be processed with a ministerial approval, the project will be processed through Administrative Design Review. All neighbors within a 300-foot radius of the subject property will be notified by mail 14 days prior to the hearing. If any neighbors within this area oppose the project, the applicant must work with them in order to mitigate concerns. If no neighbors have concerns with the proposed location, the proposal will be approved administratively at the hearing. After approval, there is a 14-day appeal period before the permit can be issued.

An appeal of a decision on an Administrative Design Review application is subject to the provisions of LBMC 25.05.070, and LBMC 25.07.016 when a Coastal Development Permit is required.

Noise Level Compliance

If an air conditioning unit is approved and installed and a neighbor believes that the noise from the unit exceeds the allowable standards, they may notify the code enforcement department who will measure the decibel level from the property line.

Revised 11/14/19

Air Conditioning Unit Approval Process

Prepare a site plan showing the proposed location of the AC unit(s). Mechanical equipment is not allowed within the front or side yard setbacks, and must maintain a 5-foot clearance from all property lines. Include a manufacturer's specification sheet for the AC unit, which includes decibel rating.

Ground mounted mechanical equipment outside of he required front and side yard setbacks, 5 feet from all property lines, and including two forms of sound attenuation may be processed ministerially.

Does the application meet the requirements?

Yes

1. Submit application to the Planning Division.
2. If approved by Planning, submit to Building for an over the counter permit.

No

Administrative Design Review required: The applicant must contact a notification listing service prior to scheduling a hearing date to prepare a noticing packet. All neighbors within a 300-foot radius will be notified 14 days prior to the hearing.

An Administrative Design Review Hearing is held.

Staff will work to mitigate any concerns brought up at the hearing. The project may be approved by the Director, approved with conditions, denied, or the Director may determine that the project requires the full Design Review Board. If approved, there is a 14-day appeal period before the building permit can be issued.

Sound Attenuation Techniques

*Inquire with air conditioning manufacturer before installing any of these sound attenuation techniques.

Physical enclosures (fencing with insulation):

These are typically made with fiberglass, foam, or other materials that can absorb or deflect noise emanating from the unit. The enclosure is placed around the unit (allowing for adequate air flow) and can reduce noise by five to ten decibels.

Internal sound compression blanket:

These are installed inside the air conditioning unit around the compressor --- the noisiest component of the unit. The blanket itself is typically made from a combination of rubber and glass insulation that can reduce noise from the unit by approximately five decibels.

Shock absorption base:

The concrete foundation underneath most air conditioning units can amplify vibration-related noise. Vibration pads are made of rubber and can be inserted underneath the unit to eliminate direct contact with the foundation and absorb vibrational energy.

Air Conditioning Unit Noise Analysis

Single Condenser Unit Calculation (ARI Std 275)

The basic procedure for estimation of the sound level at a given point of evaluation consists of combining the sum of several factors with the Sound Rating Level for the equipment. This is done for an exterior condition at the nearest property line of the neighbor.

** For the Barrier Shield, L2 and D must occur at not less than 5 ft. from finish surface for Point of Evaluation.

Example Calculation:

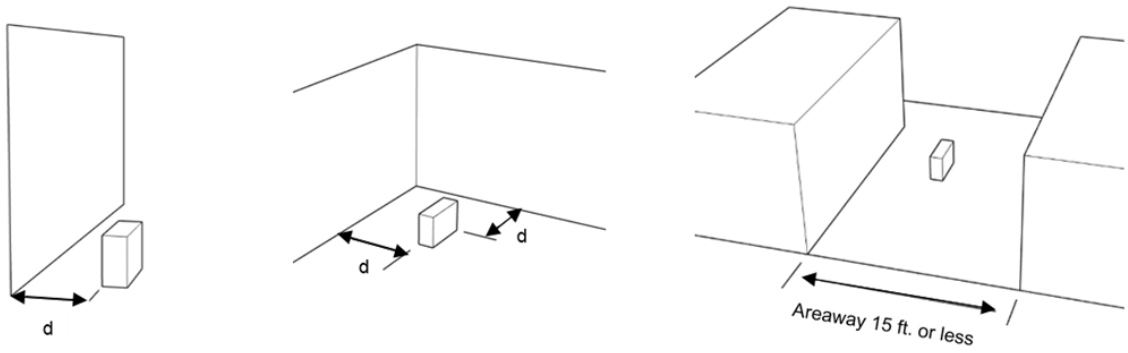
Sound Rating of Equipment _____ dB
\+ Equipment Location Factor _____ (Table 1)
\- Barrier Shielding Factor _____ (Table 2)
\- Distance Factor _____ (Table 3)
= Estimated Sound Level _____ dB
At the Point of Evaluation (Property Line)

Equipment Location Factor

This factor takes into consideration the effect of walls and other reflective surfaces adjacent to the equipment.

TABLE 1: EQUIPMENT LOCATION FACTOR	VALUE (dB)
(a) Equipment on the ground or roof or inside of building wall with no adjacent reflective surface within 10 ft. (3m) (d greater than 10 ft. [3m])	0
(b) Equipment on the ground or roof or inside of building wall with a single adjacent reflective surface within 10ft. (3m) (d less than 10ft. [3m])	3
(c) Equipment on the ground or roof or inside of building wall within 10 ft. [3m] of two adjacent walls forming an inside corner (d less than 10 ft. [3m] to both surfaces.)	6
(d) Equipment on the ground or roof or inside of building wall and between two opposite reflecting surfaces less than 15 ft. [4.6m] apart.	6

(b) (c) (d)



Barrier Shielding Factor

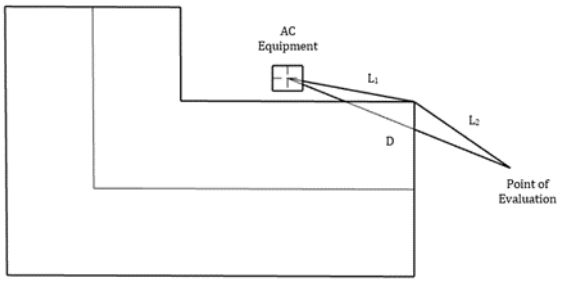
(See example sketches, below)

Sound reduction benefits can be gained when a solid structure obstructs the sound path. These structures could be:

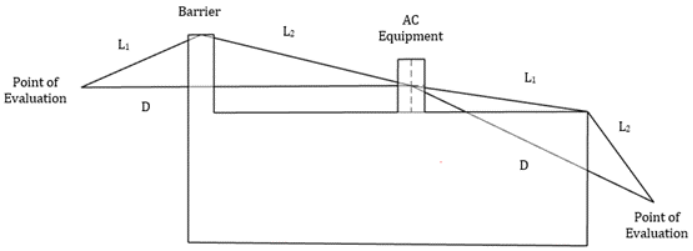
- Corner of building.
- Corner of flat roof and wall.
- Parapet around flat roof.
- Heavy continuous wall (ARI 275 4.1.2)

Note: Typical wood fence not adequate.

BARRIER SHIELDING	
L (ft.)	VALUE (dB)
0.5	4 dB
1	7 dB
2	10 dB
3	12 dB
6	15 dB
12	17 dB



Example 1: Corner of building as barrier.



Example 2: Flat roof and parapet wall as barriers.

L=L_1+L_2 - D where: L_1+L_2= Distance from equipment to point of evaluation around barrier. (Use minimum L_1+L_2 value.)

D= Direct distance from equipment to Point of Evaluation

Distance Factor

The direct distance, **D**, from the equipment location to the point of evaluation is a very significant application factor in determining the estimated A-weighted sound pressure levels resulting from the operation of outdoor equipment in any installation.

TABLE 3: DISTANCE FACTOR

ft.	VALUE (dB)	ft.	VALUE (dB)	ft.	VALUE (dB)
4	9.5	20	23.5	90	36.5
5	11.5	25	25.5	100	37.5
6	13	30	27	125	39.5
7	14.5	40	29.5	150	41
8	15.5	50	31	175	42.5
9	16.5	60	33	200	43.5
10	17.5	70	34.5	400	49.5
15	21	80	35.5		

Multiple Condenser Unit Calculation (ARI Std 275)

Assumptions: We are working with a project that has two condensers. The difference in sound rating between the two condensers is approximately 6 dB, with 72 being the maximum value.

Example Calculation: Exterior

Sound Rating of Equipment _____ dB
+ Multiple Condenser Unit Factor _____ (Table 4)
+ Equipment Location Factor _____ (Table 1)
- Barrier Shielding Factor _____ (Table 2)
- Distance Factor _____ (Table 3)
= Estimated Sound Level _____ dB
At the Point of Evaluation (Property Line)

Multiple Condenser Unit Installation

When there are two AC units, figure the dB level of each at the Property Line. Then use Table 4 to determine the overall combined sound level of the two units. When there are three or more AC units, figure the dB levels of each at the property line. Then, using Table 4, determine the overall combined sound levels of two units that are the loudest (loudest at the point of evaluation) Compare those combined sound levels with the third loudest unit and come up with another combined level, etc., until all units have been considered. Those final combined sound levels are the resultant of the multiple units.

TABLE 4: MULTI-UNIT INSTALLATIONS

Difference Between Numbers (dB) At Point of Evaluation	VALUE (dB) To be added to larger number
0.0 to 0.5	3
1.0 to 1.5	2.5
2.0 to 3.0	2
3.5 to 5.0	1.5
5.5 to 7.0	1
> 7.0	0

Values from Table 4 shall be added to the unit with the highest dB level among the units being evaluated.

Note: The scale is not set, but should remain consistent throughout.

Site Plan: Please include a plan showing the proposed location of the AC unit(s). Be sure to include the location of property lines and call out the distance from the unit(s) to each property line. A clearance of 5 feet is required from all property lines. AC units are not permitted within the front or side setbacks.

Sound Attenuation: Please note the sound attenuation measures proposed (minimum of two)

_____

_____

Unit 1	**Unit 2** (If Applicable)	**Unit 3** (If Applicable)	**Unit 4** (If Applicable)
Sound Rating of Equipment _____ dB	_____ dB	_____ dB	_____ dB
+ Equipment Location Factor _____ (Table 1)	+ _____ (Table 1)	+ _____ (Table 1)	+ _____ (Table 1)
- Barrier Shielding Factor _____ (Table 2)	- _____ (Table 2)	- _____ (Table 2)	- _____ (Table 2)
- Distance Factor _____ (Table 3)	- _____ (Table 3)	- _____ (Table 3)	- _____ (Table 3)
- Sound Attenuation Reduction _____	- _____	- _____	- _____
= Estimated Sound Level _____ dB At the Point of Evaluation (Property Line)	= _____ dB	= _____ dB	= _____ dB
When two or more unit:			
+ Multiple Condenser Unit Factor _____ (Table 4)	+ _____ (Table 4)	+ _____ (Table 4)	+ _____ (Table 4)
= Grand Total _____ dB with Multi-Unit Value	= _____ dB	= _____ dB	= _____ dB

CITY OF LAGUNA BEACH NOISE ORDINANCE COMPLIANCE APPLICANT ACKOWLEDGEMENT FORM FOR PROPOSED HEATING, VENTING, AND AIR CONDITIONING (HVAC) OR POOL/SPA EQUIPMENT

I have read the Noise Ordinance (Chapter 7.25) of the Laguna Beach Municipal Code and understand that by signing this acknowledgement form I am certifying that the proposed equipment noted below will comply with the noise limits established in LBMC 7.25.040. I understand that generally the noise limits are 60 dBA for daytime, and 50 dBA for nighttime, or the ambient noise levels, whichever is higher, for neighboring affected residential properties.

(Note: Applicants for residential air conditioners may use the methodologies specified in Standard 270 “Sound Rating of Outdoor Equipment,” 1995, and Standard 275 “Standard Application of Sound Rated Outdoor Unitary Equipment,” 1997, of the Air-conditioning and Refrigeration Institute (ARI), as both may be amended, for determining compliance with the City’s Noise Ordinance standards. Timers restricting use of air conditioning units at nighttime are highly recommended.)

_____

Project Site Address

_____

Accessor’s Parcel Number (APN)

_____

Proposed Equipment to be Installed

_____

Building Permit #

_____

Name (Typed or Printed)

_____ _____

Signature Date

_____

Contractor’s License Number