Planning & Transportation Commission
Staff Report

From: Jonathan Lait, Planning and Development Services Director
Lead Department: Planning and Development Services

Meeting Date: August 9, 2023
Report #: 2307-1781

TITLE
LEGISLATIVE: Recommendation to City Council Regarding Proposed Amendments to Palo Alto Municipal Code (PAMC) Title 18 (Zoning) and Title 9 (Public Peace, Morals and Safety), Chapter 9.10 (Noise) to Facilitate the Installation of Electrification Equipment for Residential Development

RECOMMENDATION
Staff recommends that the Planning and Transportation Commission review and recommend that the City Council adopt the attached draft ordinance (Attachment A) which contains changes to the PAMC to further facilitate the installation of electrification equipment in residential neighborhoods.

These code changes are added to the draft ordinance modifying six Title 18 chapters that the PTC recommended on December 14, 2022, which has not yet been presented to City Council in 2023. Modifications from the December 14, 2022 ordinance are shown as double-underline/ double-strikethrough text. Links to the staff report and meeting minutes from the PTC meeting of December 14, 2022 are provided in the footnote below[1].

BACKGROUND
The City's barrier reduction strategy for sustainability and climate action includes updating the City's ordinances to ensure the success of electrification programs, such as the new Heat Pump Water Heater (HPWH) Pilot Program that is now underway. Staff's proposal to facilitate the

[1] Links to PTC December 14, 2022 PTC staff report https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/agendas-minutes/planning-and-transportation-commission/2022/ptc-12.14.2022-title-18-zoning.pdf
Meeting minutes – verbatim: https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/agendas-minutes/planning-and-transportation-commission/2022/ptc-12.14.2022-verbatim-minutes.pdf
Meeting minutes – summary: https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/agendas-minutes/planning-and-transportation-commission/2022/ptc-12.14.2022-summary-minutes.pdf

placement of such equipment without requiring and reviewing individual noise reports requires modification of the noise ordinance (Title 9) as well as sections of Title 18, as described in this report.

ADU-Associated Noise-Producing Equipment

On June 5, 2023, the City Council adopted an Accessory Dwelling Unit (ADU) ordinance (Ordinance 5585), modifying the placement of noise-producing equipment for ADUs only, as follows:

> (i) Noise-producing equipment such as air conditioners, water heaters, and similar service equipment that exclusively serves an ADU/JADU may be located anywhere on the site, provided they maintain the underlying front yard setback requirements of the property and, if the property is a corner lot, a 10-foot street-side setback. ~~shall be located outside of the setbacks for the ADU/JADU~~. All such equipment shall be insulated and housed, except that the Director may permit installation without housing and insulation, provided that a combination of technical noise specifications, location of equipment, and/or other screening or buffering will assure compliance with the city's Noise Ordinance at the nearest property line. All service equipment must meet the city's Noise Ordinance in Chapter 9.10 of the Municipal Code.

Prior PTC Review of Electrification Equipment Ordinance

On December 14, 2022, staff presented the PTC with a draft ordinance that proposed to facilitate adoption of electrification equipment following adoption of the City's updated Green Building Code. The draft changes were to Chapters 18.04 (Definitions), 18.10 (Low-Density Residential), 18.12 (R-1 Zones), 18.13 (Multiple Family Residential Zones), 18.40 (General Standards and Exceptions), and 18.54 (Parking Facilities Design Standards). The PTC recommended some adjustments to the ordinance on December 14, 2022. These adjustments have been incorporated into the attached ordinance and are also noted with double-underline/double-strikethrough text.

PTC recommended the staff prepared ordinance with modifications:

- Allow a 4-foot encroachment into the front yard setback for lots with a conforming front yard setback and 2-feet into the front yard setback for lots with a non- conforming front yard setback. So, that would be 2-feet from the existing structure for those non-conforming situations.
- Amend the Home Improvement Exception Sections to include electrification equipment.
- Add the following clause at the end of 18.10.040 H (3), 18.10.040 L (3) and 18.13.040 B (1)(d) and that language is after the word insulation "due to noise generation below applicable maximums".

Discussion of Noise in Prior PTC Review

PTC report has extensive background information, including the City's policies on noise. With respect to noise, the December 14, 2022 draft ordinance simply required compliance with the City's noise ordinance. The staff report report noted that staff was considering two approaches to addressing noise-producing electrification equipment within property setbacks:

(1) The Planning Director could maintain a list of equipment types and appropriate decibel levels within a range or threshold for maximum decibel level for noise-producing equipment placed within property setbacks.
(2) Staff could ask applicants to demonstrate that the equipment will not exceed a certain noise level and that sufficient fire access will be provided (i.e. a three-foot clearance around buildings).

The report also noted staff's concern about the placement of multiple pieces of equipment and the potential for cumulative noise and increasing the ambient noise level in a neighborhood. The report also stated the current practice for when noise reports are required:

- No noise reports are required with the electrification projects for single- and two-family residential projects.
- Housing projects of three units or more require discretionary review and therefore, environmental review is required, and noise reports may be requested.

Consultant Assistance

In early 2023, staff determined that additional study was necessary before approaching City Council with the draft ordinance the PTC recommended in December 2022. Staff was concerned that most of the electrification equipment on the market appear to operate at noise levels in excess of what is permitted under the City's existing noise ordinance.

Staff retained a noise consultant to assist staff work toward a solution with respect to the Noise Ordinance standards. Staff and the consultant studied the concept of 'presumed compliance', where setbacks would be established for the installation of electrification equipment based upon noise levels. The consultant has prepared the attached documents (Attachments B, C, and D). The consultants prepared a presentation (Attachment C) to assist staff in explaining this subject and proposal. The consultant-prepared spreadsheet (Attachment D) shows the equipment studied.

The table in Attachment B, Table 1, would establish the required setbacks for noise-producing electrification equipment.

The introduction in the consultant's document, Attachment B, states:

> *The City of Palo Alto Municipal Code allows for noise-producing electrification equipment, such as heat pump water heaters and heat pump HVAC equipment, to be placed in the rear and side yard setbacks.* The Planning and Development Services Department has determined setback requirements for locating noise-producing electrification equipment to meet the Noise Ordinance limit of 40 dBA and 50 dBA,

where applicable, at the property line. The figures illustrate the minimum setback requirements given the manufacturers' dBA for the equipment. As the manufacturer's dBA for the equipment increases, the setback would increase as shown in Table 1.

Staff has italicized the first sentence here, to highlight that Council has not yet adopted the PTC- recommended ordinance allowing placement in setbacks.

Utility Incentives

In 2022, the City Council approved utility incentives for the installation of electrification equipment in residential neighborhoods. This prompted the City Council to request the removal of code barriers to accomplish a successful sustainability program to replace gas-powered equipment with electric equipment. The incentive program requires a change to the Noise Ordinance to facilitate these installations.

In October 2022, Council approved an Advanced Heat Pump Water Heater Pilot program, with a goal of installing 1000 heat pump water heaters within one year. This program promotes heat pump water heater installation in single family homes through a turnkey installation service by a City-provided contractor, with a low up-front cost and an option for on-bill financing; alternatively, customers may opt for the $2300 rebate if they choose their own installation contractor. The replacement of residential gas appliances such as water heaters with electric heat pump alternatives is a key action in the City's Sustainability/Climate Action Plan to meet the City's aggressive greenhouse gas emissions reduction goal. Over the next year, Utilities anticipate rolling out additional residential electrification incentives to promote the replacement of gas furnaces with heat pump heating, ventilation and air conditioning (HVAC) equipment as well as launching a whole home electrification pilot program. A change to the Noise Ordinance will facilitate the adoption of electrification equipment in residential neighborhoods.

In addition to utility incentives, state and federal incentives are also available to accelerate the adoption of electrification equipment in order to meet climate goals. The TECH Clean California program currently offers a rebate of $1000 per unit for new heat pump HVAC systems in single family homes. The 2022 Inflation Reduction Act offers a 30% federal tax credit for residential electrification upgrades, including an annual maximum of $2000 each for heat pump water heater and heat pump HVAC installation.

Spreadsheet of Residential Projects

To provide relevant data for this study, the Chief Building Officials prepared a spreadsheet (Attachment E) inclusive of all residential projects that included either heat pump or air conditioning units or both. This spreadsheet included all building permit projects issued between January 1, 2022 and June 13, 2023. Staff included the manufacturers, model number, and dbA level, if these were able to be extracted from the permitting information.

Comprehensive Plan Policies on Noise

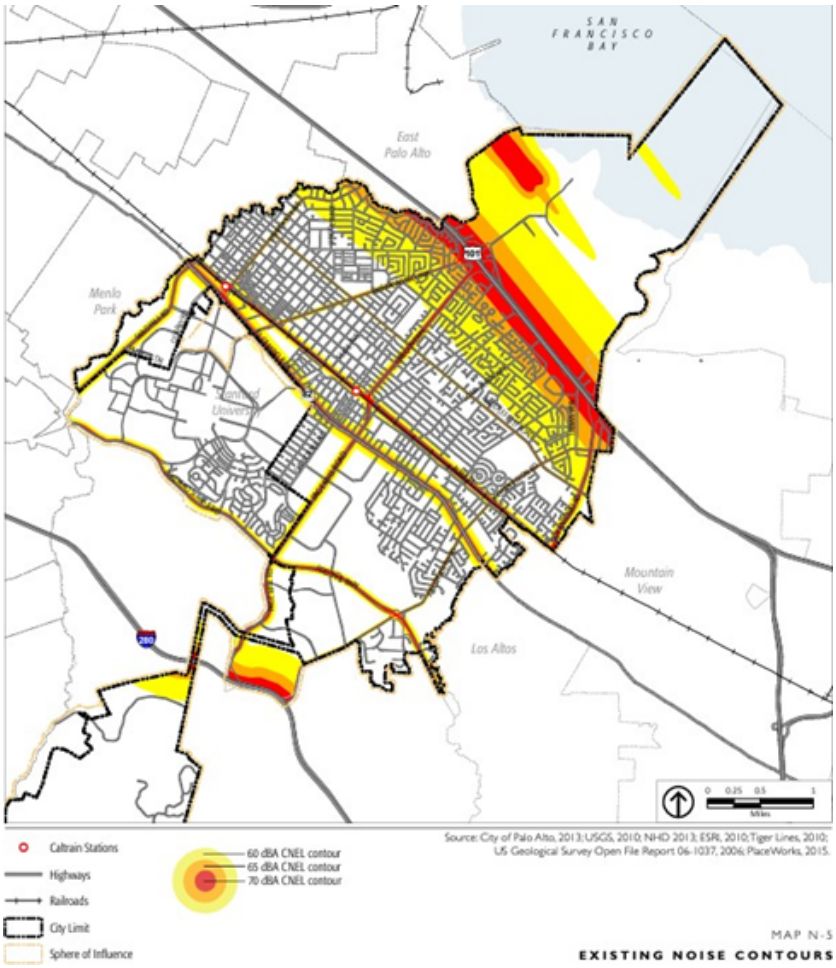
The December 14, 2022 PTC report provided a review of the Comprehensive Plan policies regarding noise, which are relevant policies[2] for this discussion. Noise is addressed in the Palo Alto Comprehensive Plan, and staff has used Comprehensive Plan policies as well as the municipal code to guide decisions on issuing building permits. The Comprehensive Plan addresses diverse noise sources and provides the policy foundation for much more rigorous requirements established in the City's Noise Ordinance. The policies and programs in the Comprehensive Plan regulate the placement of future "sensitive receptors"—homes, schools, medical clinics, and the like—in compatible noise environments and acknowledge the importance of quiet environments in public open spaces and conservation areas.

This section of the Comprehensive Plan also guides the analysis and design of proposed new development to avoid creating new noise impacts on existing sensitive receptors. In addition, this section supports the City's ongoing efforts to coordinate with regional, State and federal authorities on noise issues of concern to the Palo Alto community, such as overflights into and out of Bay Area airports and the proposed high speed rail project.

Noise Contours in Comp Plan v. Local Ambient Noise

The below map excerpted from the Comprehensive Plan shows CNEL (Community Noise Equivalent Level), which is a weighted average of noise level over time used to compare the noisiness of neighborhoods. This is not the same as "local ambient noise," which is more specifically defined in the Noise Ordinance.

[2] Policies on noise from Comp Plan, link: https://www.cityofpaloalto.org/files/assets/public/planning-amp-development- services/file-migration/historic/long-range-planning/resources/compplan_2017_04_naturalenviro_pdf_w_links.pdf



MAP N-5
EXISTING NOISE CONTOURS

TABLE N-1 LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

Land Use Category	Exterior Noise Exposure L_{dn} or CNEL, dB					
	55	60	65	70	75	80
Residential, Hotel, & Motels						
Outdoor Sports & Recreation, Neighborhood Parks & Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Business Commercial, & Professional						
Auditoriums, Concert Halls, & Amphitheaters						
Industrial, Manufacturing, Utilities, & Agriculture						

	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal convention, construction, without any special insulation requirements.
	Conditionally Acceptable	Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.
	Unacceptable	New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

Source: City of Palo Alto, 2017.

Noise Ordinance

The City's noise ordinance Chapter 9.10, Section 9.10.030 sets a permissible noise limit in residential zones of 6 dBA over the local ambient noise levels, and Section 9.10.020 defines 'local ambient'. The existing noise ordinance of the City of Palo Alto limits noise levels caused by stationary noise sources. The existing noise ordinance requires that ambient noise levels first be established through noise measurements, and then, defines an exceedance if noise levels would exceed ambient noise levels by more than 6 dBA.

Selected definitions from PAMC 9.10.020 relevant to Table 1 compliance

> (a) "Sound level," expressed in decibels (dB), means a logarithmic indication of the ratio between the acoustic energy present at a given location and the lowest amount of acoustic energy audible to sensitive human ears and weighted by frequency to account for characteristics of human hearing, as given in the American National Standards Institute Standard S1.1, "Acoustic Terminology," paragraph 2.9, or successor reference. All references to dB in this chapter utilize the A-level weighting scale, abbreviated dBA, measured as set forth in this section.
>
> (b) "Precision sound level meter" means a device for measuring sound level in decibel units within the performance specifications in the American National Standards Institute Standard S1.4, "Specification for Sound Level Meters."
>
> (c) "Noise level" means the maximum continuous sound level or repetitive peak sound level, produced by a source or group of sources as measured with a precision sound level meter. In order to measure a noise level, the controls of the precision sound level meter should be arranged to the setting appropriate to the type of noise being measured.
>
> (d) "Local ambient" means the lowest sound level repeating itself during a six-minute period as measured with a precision sound level meter, using slow response and "A" weighting. The minimum sound level shall be determined with the noise source at issue silent, and in the same location as the measurement of the noise level of the source or sources at issue. However, for purposes of this chapter, in no case shall the local ambient be considered or determined to be less than: (1) Thirty dBA for interior noise in Section 9.10.030(b); (2) Forty dBA in all other sections. If a significant portion of the local ambient is produced by one or more individual identifiable sources which would otherwise be operating continuously during the six-minute measurement period and contributing significantly to the ambient sound level, determination of the local ambient shall be accomplished with these separate identifiable noise sources silent.

Excerpt from PAMC 9.10.030 re residential property noise limits

This code section states, in pertinent part:

(a) No person shall produce, suffer or allow to be produced by any machine, animal or device, or any combination of same, on residential property, a noise level more than six dB above the local ambient at any point outside of the property plane.

(b) No person shall produce, suffer or allow to be produced by any machine, animal, or device, or any combination of same, on multi-family residential property, a noise level more than six dB above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.

Additional information from Section 9.10.030 is provided in the Discussion section of this report.

Home Improvement Exceptions

PAMC sections 18.10.110 and 18.12.120 enable a discretionary review process for exceptions to the development standards of these chapters. The process is the Home Improvement Exception (HIE) process, allowing staff to approve a home improvement or minor addition to an existing single-family or two-family home, or accessory structure in the RE, R-1, RMD, or R-2 districts. There are required findings for the PDS Director to tentatively approve or deny these exceptions, and a Director's Hearing may be requested to contest the Director's action; HIE decisions following Director's Hearing actions may be appealed to Council. The exceptions are limited to a list described in subsection c of 18.12.120. The attached ordinance adds 'Electrification equipment' to the list of exceptions in subsection c, to enable further flexibility in placement of such equipment, subject to the approval findings.

In the areas of Palo Alto with local ambient noise level above 50dBA, the equipment noise level can be up to and including the level of the local ambient, for presumed compliance at a three-foot setback from rear and interior side property lines, and ten feet from the street side yard property line, but not in the front setback.

DISCUSSION

Draft Ordinance Title 9 Changes

In addition to the changes recommended by the PTC on December 14, 2022, the attached ordinance modifies Chapter 9.10. While the PTC's purview does not include recommendations on changes to other PAMC titles beyond Titles 18 and 21, the PTC's feedback is sought because these changes will affect the placement of noise-producing electrification equipment in residential zones. The draft ordinance modifies Title 9 to:

(1) Establish a table with minimum setbacks for placement of electrification equipment based on local ambient noise and the noise level of the equipment. This table would be used to determine compliance for electrification equipment in lieu of individualized noise studies.

(2) Raise the local ambient noise level noted in PAMC Chapter 9.10 to a minimum 50 dBa for the 'flats' area and 40 dBA in the foothills area. Note, as of the preparation of this report and ordinance, these terms have not yet been fully defined.

(2) Change the noise ordinance to allow for limited exceedances of the current limit of 6dBa above the ambient level - to a limit of 8dBA above.

Proposed Noise Thresholds

In addition to the consultant's Table 1 showing setbacks, the consultant prepared two graphs intended to replace the standard currently set forth in the City's noise ordinance for residential zone districts. These graphs, referenced in the proposed ordinance, show the relationship between the source levels of the equipment and the necessary setbacks to meet the noise limits. They show the setback gradient for equipment producing noise above ambient noise levels of 40 dBA (the ambient noise level encountered in the foothills area of Palo Alto) and 50 dBA (found in other areas in Palo Alto).

A two-tier noise level threshold is proposed to simplify the process for documenting ambient noise levels and defining an exceedance. The thresholds account for the ambient noise environment in various areas of Palo Alto and establish a standalone threshold to simplify the application of the ordinance.

Foothills

For the Palo Alto foothills area, the relatively low ambient noise environment requires a more conservative threshold to ensure that the installation of new equipment facilitated by these zoning code changes would not result in a substantial permanent increase ambient noise levels. After a review of ambient noise data and the regulatory criteria established by neighboring communities having a similar location and noise source characteristics (Portola Valley and Los Altos Hills), 40 dBA was selected as the noise level threshold that would be applied to equipment installed in the foothills.

Palo Alto 'Flats'

The second noise level tier would be applied in the non-foothills areas of Palo Alto, or 'flats' areas where ambient noise levels are higher because of the proximity to major transportation noise sources traversing the areas including highways and major arterial roadways. To ensure that the installation of new equipment facilitated by these zoning code changes would not result in a substantial permanent increase ambient noise levels in the Palo Alto flats, 50 dBA was selected. The 50 dBA noise limit is consistent with other nearby communities including East Palo Alto, Los Altos, Mountain View, Menlo Park, and Sunnyvale.

Increased Exceedance of Local Ambient – Good Neighbor Placement

The consultant's document notes that good neighbor placement of equipment and sound baffling may not work to allow the installation to meet the existing standard of 6 dbA above

ambient. The handout (Attachment B) notes that owners seeking to install electrification equipment are advised to:

- Select the quietest equipment possible and utilize the manufacturer's noise control packages where applicable
- Place equipment as far as possible from adjacent property lines or in areas shielded by structures or noise barriers. Note that acoustical enclosures may not be feasible noise control options as air-flow requirements, building setbacks, or other constraints may limit their effectiveness.
- Orient the equipment take advantage of the directionality of the noise source (i.e., point the noise source away from receptors.

ATTACHMENTS
Attachment A: Draft Ordinance
Attachment B: Electric Noise Equipment Handout
Attachment C: Noise Ordinance Update
Attachment D: Equipment Noise Level for Palo Alto
Attachment E: Spreadsheet of installations

AUTHOR/TITLE:
Amy French, Chief Planning Official

Ordinance No. _____

Ordinance of the Council of the City of Palo Alto Amending Palo Alto Municipal Code (PAMC) Title 18 (Zoning), Chapters 18.04 (Definitions), 18.10 (Low-Density Residential), 18.12 (R-1, Single Family Residence District), 18.13 (Multifamily Residential Zones), 18.40 (General Standards and Exceptions), and 18.54 (Parking Facilities Design Standards) and Title 9 (Public Peace, Morals, and Safety), Chapter 9.10 (Noise) to Facilitate Adoption of Electrification Equipment Required by the 2022 Green Building Code and Local Amendments

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Section 18.04.030 (Definitions) of Chapter 18.04 (Definitions) of Title 18 (Zoning) is amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

18.04.030 Definitions

(a) Throughout this title the following words and phrases shall have the meanings ascribed in this section.

[. . .]

(49) ~~(reserved)~~ "Electrification Equipment" means one or more devices that use electric energy to serve a dwelling unit's needs for heating and cooling, water heating, cooking, and electric vehicle charging. In addition, ancillary equipment such as an electric panel, photovoltaic equipment, and energy storage systems that are deployed to support such devices shall be considered Electrification Equipment.

[. . .]

SECTION 2. Section 18.10.040 (Site Development Standards) of Chapter 18.10 (RE, R2, RMD Low-Density Residential District) of Title 18 (Zoning) of the PAMC is amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

18.10.040 Development Standards

[. . .]

(h) Location of Noise-Producing Equipment and Electrification Equipment

(1) Electrification equipment and any associated housing, screening, insulation, or bollards necessary to enable compliance with the applicable regulations, including Chapter 9.10 of this Code, shall provide a minimum three foot interior side and rear yard setback and a minimum ten foot street sideyard

setback. Except as otherwise provided in this Title EVSE and energy storage systems, electrification equipment shall not be located in the required front yard setback and shall at all times provide sufficient clearance for fire safety purposes. All other noise-producing equipment, such as ~~air conditioners, pool equipment,~~ gas powered generators, commercial kitchen fans, and similar service equipment shall be located outside of the front, rear and side yard setbacks. Such equipment may, however, be located up to 6 feet into the street sideyard setback. All ~~such~~ noise-producing equipment, including electrification equipment, shall be insulated and housed, except that the Planning Director may permit installation without housing and insulation, provided ~~the equipment is located within the building envelope and where~~ that a combination of technical noise specifications, location of equipment, and/or other screening or buffering will assure compliance with the City's Noise Ordinance at the nearest property line. ~~Any replacement of such equipment shall conform to this section where feasible; replacement of equipment for which permits were obtained prior to these restrictions is allowable in the same location, provided the replacement equipment complies with the City's noise ordinance.~~ All service equipment must meet the City Noise Ordinance in Chapter 9.10 of this code.

(2) Where existing improvements comply with front setback requirements, EVSE may encroach up to four feet into the required front setback. Where existing improvements do not comply with front setback requirements, EVSE may encroach into the otherwise required front setback by two feet beyond the existing improvement. EVSE and energy storage systems and associated equipment and safety bollards may be located within required on-site parking spaces, as further described in PAMC Chapter 18.54 Section 18.54.020.

(3) The Planning Director may publish administrative regulations to further implement this subsection (h), including a list of equipment or technologies that may presumptively be installed without housing and insulation due to noise generation below applicable maximums.

[. . .]

SECTION 3. Sections 18.12.040 (Site Development Standards), 18.12.050 (Permitted Encroachments, Projections, and Exceptions), and Section 18.12.120 (Home Improvement Exception) of Chapter 18.12 (R-1 Single- Family Residential District) of Title 18 (Zoning) of the

PAMC are amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

18.12.040 Site Development Standards

[. . .]

(l) Location of Noise-Producing Equipment and Electrification Equipment

(1) Electrification equipment and any associated housing, screening, insulation, or bollards necessary to enable compliance with the applicable regulations, including Chapter 9.10 of this Code, shall provide a minimum three foot interior side and rear yard setback and a minimum ten foot street sideyard setback. Except as otherwise provided in this Title for EVSE and energy storage systems, electrification equipment shall not be located in the required front yard setback and shall at all times provide sufficient clearance for fire safety purposes. All other noise-producing equipment, such as ~~air conditioners, pool equipment,~~ gas powered generators, commercial kitchen fans, and similar service equipment shall be located outside of the front, rear and side yard setbacks. Such equipment may, however, be located up to 6 feet into the street sideyard setback. All ~~such~~ noise-producing equipment, including electrification equipment, shall be insulated and housed, except that the Planning Director may permit installation without housing and insulation, provided ~~the equipment is located within the building envelope and where~~ that a combination of technical noise specifications, location of equipment, and/or other screening or buffering will assure compliance with the City's Noise Ordinance at the nearest property line. ~~Any replacement of such equipment shall conform to this section where feasible, except the Director may allow replacement of existing equipment in a non-complying location, if such equipment had prior building permit(s), with equipment that meets the City's Noise Ordinance.~~ All service equipment must meet the City Noise Ordinance in Chapter 9.10 of this code.

(2) Where existing improvements comply with front setback requirements, EVSE may encroach up to four feet into the required front setback. Where existing improvements do not comply with front setback requirements, EVSE may encroach into the otherwise required front setback by two feet beyond the existing improvement. EVSE and energy storage systems and associated equipment and safety bollards may be located within required on-site

parking spaces, as further described in PAMC Chapter 18.54 Section 18.54.020.

(3) The Planning Director may publish administrative regulations to further implement this subsection (I), including a list of equipment or technologies that may presumptively be installed without housing and insulation due to noise generation below applicable maximums.

[. . .]

18.12.050 Permitted Encroachments, Projections and Exceptions

[. . .]

(a) Setback/Yard Encroachments and Projections

[. . .]

(3) Allowed Projections

[. . .]

(F) Pools, Spas, and Hot Tubs and Associated Electrification Equipment

(i) Pools, spas, and hot tubs may extend into a required rear yard a distance not to exceed fourteen feet, provided that a minimum setback of six feet from the property line shall be maintained.

(ii) No swimming pool, hot tub, spa, or similar accessory facility shall be located in any portion of a required front or street side yard.

(iii) Electrification equipment for pools, spas, hot tubs, and swimming pools subject to meeting the standards for set forth in Table 1 of Section 9.10.030.

[. . .]

18.12.120 Home Improvement Exceptions

[. . .]

(c) Limits of Home Improvement Exception

A home improvement exception may be granted only for one or more of the following, not to exceed the specified limits:

[. . .]

(16) To allow electrification equipment to: (A) encroach further into the setbacks otherwise established in the district for accessory structures, as long as the equipment complies with the standards set forth in Table 1 of Section 9.10.030; and/or (B) exceed the noise ordinance standard by two decibels (i.e. up to 8 dbA above local ambient level).

[. . .]

SECTION 4. Section 18.13.040 (Development Standards) of Chapter 18.13 (Multiple Family Residential Zones – RM20, RM30, RM40) of Title 18 (Zoning) of the PAMC is amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

18.13.040 Development Standards

[. . .]

(b) Setbacks, Daylight Planes and Height - Additional Requirements and Exceptions

(1) Setbacks

(A) Required parking spaces shall not be located in a required front yard, nor in the first ten feet (10') adjoining the street property line of a required street side yard.

(B) Projections into yards are permitted only to the extent allowed by Section 18.40.070 of this code.

(C) Electrification equipment and any associated housing, screening, insulation, or bollards necessary to enable compliance with the applicable regulations, including Chapter 9.10 of this Code, shall provide a minimum three foot interior side and rear yard setback and a minimum ten foot street sideyard setback. Except as otherwise provided in this Title for EVSE and energy storage systems, electrification equipment shall not be located in the required front yard setback and shall at all times provide sufficient clearance for fire safety purposes. All electrification equipment must meet the City Noise Ordinance in Chapter 9.10 of this code.

(D) Where existing improvements comply with front setback requirements, EVSE may encroach up to four feet into the required front setback. Where existing improvements do not comply with front setback requirements, EVSE may encroach into the otherwise required front setback by two feet beyond the existing improvement.

(E) The Planning Director may publish administrative regulations to further implement subsection (b)(1)(C), including a list of equipment or technologies that may presumptively be installed within setbacks without housing and insulation due to noise generation below applicable maximums.

[. . .]

SECTION 5. Sections 18.40.060 (Permitted Uses and Facilities in Required Yards) of Chapter 18.40 (General Standards and Exceptions) of Title 18 (Zoning) of PAMC is amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

18.40.060 Permitted Uses and Facilities in Required Yards

Except as otherwise prescribed by district regulations or other provisions of this title, use and development of required yards shall be limited to the following:

[. . .]

(f) Electrification equipment for residential uses only: When installed in a required yard, electrification equipment and any associated housing, screening, insulation, or bollards necessary to enable compliance with the applicable regulations, including Chapter 9.10 of this Code, shall provide a minimum three foot interior side and rear yard setback and a minimum ten foot street sideyard setback. Except as otherwise provided in this Title for EVSE and energy storage systems, electrification equipment shall not be located in the required front yard setback and shall at all times provide sufficient clearance for fire safety purposes. EVSE, energy storage systems, and safety bollards may encroach two feet into a 20-foot standard front setback.

SECTION 6. Section 18.40.260 (Visual Screening and Landscaping) of Chapter 18.40 (General Standards and Exceptions) of Title 18 (Zoning) of PAMC is amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

18.40.260 Visual Screening and Landscaping

[. . .]

(b) Requirements

[. . .]

(2) For all project types:

(A) All areas not covered by structures, service yards, walkways, driveways, and parking spaces shall be landscaped with ground cover, shrubs, and/or trees.

(B) Rooftop equipment shall be screened by a parapet or enclosure. Rooftop equipment or rooftop equipment enclosures shall be set back at least 20 feet from the building edge or a minimum of 100 feet from the property line, whichever is closer. Roof vents, flues and other protrusions through the roof of any building or structure shall be obscured from ground-level public view (when viewed from the sidewalk on the opposite side of a street), by a roof screen or proper placement. See Section 18.40.090 (height limit exceptions) for further restrictions.

(C) A minimum ten-foot planting and screening strip shall be provided adjacent to any façade abutting a low density residential district (R-1, R-2, or RMD) or abutting railroad tracks.

(D) All exterior mechanical and other types of equipment, whether installed on the ground or attached to a building roof or walls, shall be obscured from public view when viewed from the abutting opposite sidewalk, except for residentially used EVSE and energy storage systems and associated bollards.

[. . .]

SECTION 7. Section 18.54.020 (Vehicle Parking Facilities) of Chapter 18.54 (Parking) of Title 18 (Zoning) of PAMC is amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

18.54.020 Vehicle Parking Facilities

(a) Parking Facility Design

Parking facilities shall be designed in accordance with the following regulations:

(1) Requirements for dimensions of parking facilities at, above, and below grade are contained in this section and in Figures 1-6 and Tables 3-6 of Section 18.54.070.

(2) Stalls and aisles shall be designed such that columns, walls, or other obstructions do not interfere with normal vehicle parking maneuvers. All required stall and aisle widths shall be designed to be clear of such obstructions except as otherwise provided in subsection (a)(4) below.

(3) The required stall widths shown in Table 3 of Section 18.54.070 shall be increased by 0.5 foot for any stall located immediately adjacent to a wall, whether on one or both sides. The director may require that the required stall widths be increased by 0.5 foot for any stall located

immediately adjacent to a post, where such post limits turning movements into or out of the stall.

(4) For property owners or tenants seeking to install EVSE, the required stall widths shown in Table 3 of Section 18.54.070 may be reduced by no more than eighteen inches below the code-required minimum dimensions in order to accommodate EVSE or associated electrical utility equipment. For parking lots and garages other than for one- and two-family use, t~~T~~his reduction may be applied to 10% of the total required parking stalls, or two stalls, whichever is greater. The director may approve a reduction in width for a greater number of stalls through a director's adjustment pursuant to Section 18.52.050. For one- and two-family residential garages and carports, 18-inch reductions are allowed for both stall width and depth to enable electrification equipment and protective bollards, as long as (i) the reduced width is not continuous along the side of the stall, to provide a six-foot length near the middle of the stall for opening two vehicular side doors, and (ii) the proposed garage has an interior clearance depth of 20 feet in compliance with 18.54.020 (b)(2) or an existing substandard garage has a depth of at least 19 feet-six inches. For a garage depth less than 19 feet-six inches but greater than 18 feet, such equipment may be installed on the back wall of the garage at a location at least four feet above the finished floor.

[. . .]

(b) Off-Street Parking Stalls

(1) Each off-street parking stall shall consist of a rectangular area not less than eight and one-half (8.5) feet wide by seventeen and one-half (17.5) feet long (uni-class stall), or as otherwise prescribed for angled parking by Table 3 in Section 18.54.070.

(2) Garages and carports for single-family and two-family development shall provide a minimum interior clearance of ten (10) feet wide by twenty (20) feet long for a single car and a minimum of twenty (20) feet wide by twenty (20) feet long for two cars to allow sufficient clearance, except as otherwise provided in subsection (a)(4) above.

SECTION 8. Section 9.10.020 (Definitions) of Chapter 9.10 (Noise) of Title 9 (Public Peace, Morals, and Safety) of the Palo Alto Municipal Code is amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

9.10.020 Definitions.

For the purposes of this chapter, certain terms are defined as follows:

[. . .]

(d) "Local ambient" means the lowest sound level repeating itself during a six-minute period as measured with a precision sound level meter, using slow response and "A" weighting. The minimum sound level shall be determined with the noise source at issue silent, and in the same location as the measurement of the noise level of the source or sources at issue. However, for purposes of this chapter, in no case shall the local ambient be considered or determined to be less than: (1) Thirty dBA for interior noise in Section 9.10.030(b); (2) Forty dBA in the Palo Alto Foothills areas; (3) Fifty dBA in all other sections. If a significant portion of the local ambient is produced by one or more individual identifiable sources which would otherwise be operating continuously during the six-minute measurement period and contributing significantly to the ambient sound level, determination of the local ambient shall be accomplished with these separate identifiable noise sources silent.

SECTION 9. Section 9.10.030 (Residential Property Noise Limits) of Chapter 9.10 (Noise) of Title 9 (Public Peace, Morals, and Safety) of the Palo Alto Municipal Code is amended to read as follows (additions underlined, deletions ~~struck-through~~, and omissions noted with bracketed ellipses):

9.10.030 Residential property noise limits.

(a) No person shall produce, suffer or allow to be produced by any machine, animal or device, or any combination of same, on residential property, a noise level more than six dB above the local ambient at any point outside of the property plane, except as modified in (c) below.

(b) No person shall produce, suffer or allow to be produced by any machine, animal, or device, or any combination of same, on multi-family residential property, a noise level more than six dB above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.

(c) In 40 to 50 dBA local ambient noise level environments, electrification equipment, as defined in Title 18, shall be deemed to comply with this Section 9.10.030 if the equipment is placed at the setbacks established in Table 1 – Setback Requirements.

(i) Heat pump condenser units shall be allowed to emit noise at 8dB above the local ambient noise level if the unit(s) are set back at least 10 feet from a rear or interior side property line.

(ii) Electrification equipment in areas with local ambient noise over 50 dBA shall be subject to generally applicable noise standards.

//

Table 1 – Setback Requirements

Equipment Sound Level (dBA) in 40 dBA Area	Equipment Sound Level (dBA) in 50 dBA Area	Minimum Setback from Receiving Property Line (ft.)
43	53	4
44	54	5
46	56	6
47	57	7
49	59	8
50	60	9
51	61	10
52	62	12
53	63	13
54	64	15
55	65	17
56	66	19
57	67	22
58	68	24
59	69	27
60	70	30

SECTION 10. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 11. The Council finds that the adoption of this ordinance is exempt from the provisions of the California Environmental Quality Act pursuant to CEQA Guideline sections 15061(b)(3) because it can be seen with certainty that the proposed modifications, which retain existing noise standards in Chapter 9.10, will not result in a significant impact on the physical environment. Additionally, the activity regulated by the ordinance is exempt under CEQA Guideline 15301 because it involves the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, and mechanical equipment, involving negligible or no expansion of existing or former uses.

SECTION 12. This ordinance shall be effective on the thirty-first date after the date of its adoption.

INTRODUCED:

PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

NOT PARTICIPATING:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

APPROVED:

_____
Senior Asst. City Attorney

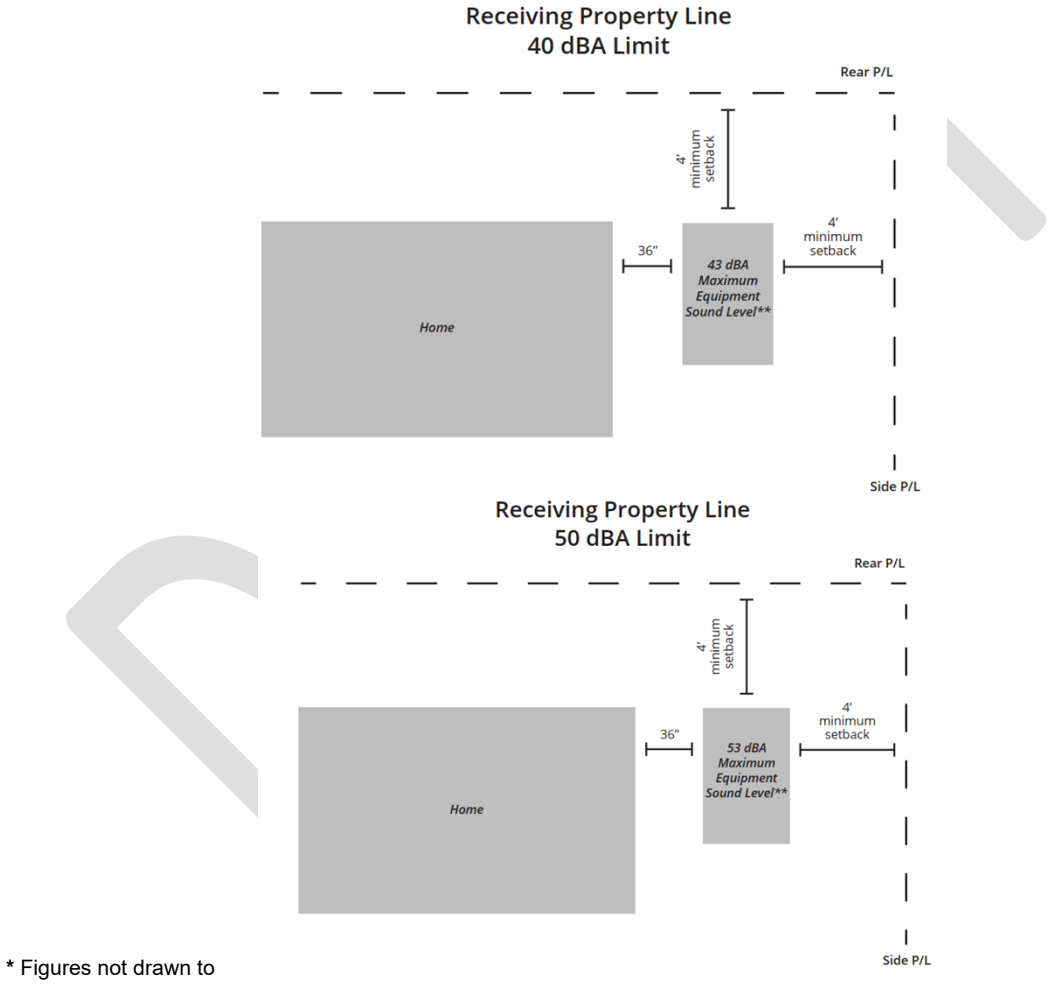
_____
City Manager

_____
Director of Planning & Community Environment

CITY OF PALO ALTO
PLANNING & DEVELOPMENT SERVICES
250 Hamilton Avenue, 5th Floor
Palo Alto, CA 94301
(650) 329-2441

Residential Electrification Equipment:
Noise Standards and Placement Guidelines

The City of Palo Alto Municipal Code allows for noise-producing electrification equipment, such as heat pump water heaters and heat pump HVAC equipment, to be placed in the rear and side yard setbacks. The Planning and Development Services Department has determined setback requirements for locating noise-producing electrification equipment to meet the Noise Ordinance limit of 40 dBA and 50 dBA, where applicable, at the property line. The figures illustrate the minimum setback requirements given the manufacturers dBA for the equipment. As the manufacturer's dBA for the equipment increases, the setback would increase as shown in Table 1.



* Figures not drawn to scale

Table 1 – Setback Requirements

Equipment Sound Level (dBA) in 40 dBA Area	Equipment Sound Level (dBA) in 50 dBA Area	Setback from Receiving Property Line (ft.)
43	53	4

44	54	5
46	56	6
47	57	7
49	59	8
50	60	9
51	61	10
52	62	12
53	63	13
54	64	15
55	65	17
56	66	19
57	67	22
58	68	24
59	69	27
60	70	30

All noise producing electrification equipment will need to maintain a 36-inch separation between structures. If the proposed electrification equipment exceeds the dBA listed in Table 1, then the setback shall be determined by the Planning Department upon consultation with a professional noise consultant. Further, if installing multiple units, the applicant shall provide a certified noise consultant report verifying compliance with the setback requirements.

EQUIPMENT PLACEMENT AND RECOMMENDATIONS

To further promote good neighbor relations, staff recommends the following measures:

- Select the quietest equipment possible and utilize the manufacturer's noise control packages where applicable.
- Place equipment as far as possible from adjacent property lines or in areas shielded by structures or noise barriers. Note that acoustical enclosures may not be feasible noise control options as air-flow requirements, building setbacks, or other constraints may limit their effectiveness.
- Orient the equipment take advantage of the directionality of the noise source (i.e., point the noise source away from receptors).

BUILDING PERMIT SUBMITTAL REQUIREMENTS FOR PLANNING APPROVAL (2 COPIES OF EACH)

1. **Site plan –** Showing property lines, building footprint, location of electrification unit(s), and setback to side and rear property lines measured from the face of the unit. The site plan shall have the model number(s) of the proposed units and the nominal size of the unit (i.e. tons).
2. **Manufacturer's Specifications (Product Data)** – Provide the title page and page showing the noise rating of the unit. For variable speed units, the highest noise rating of the unit will be used. Brochures or other marketing materials are not acceptable.

Zoning Code Changes to Facilitate Residential Electrification - Noise

Illingworth & Rodkin, Inc.

June 23, 2023

Outline

- Regulatory Background
- Equipment and Noise Levels
- Estimated Setbacks to 40 and 50 dBA Limits
- Setback Recommendations Based on Limits

Regulatory Background

- Palo Alto Noise Ordinance

9.10.030 Residential property noise limits.

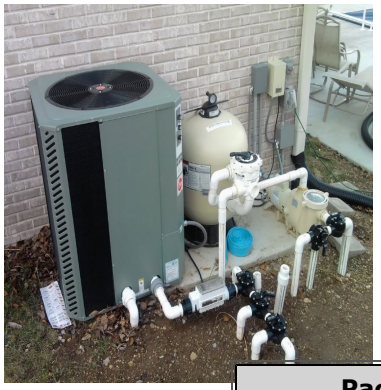
(b) No person shall produce, suffer or allow to be produced by any machine, animal, or device, or any combination of same, on residential property, a noise level **more than six (6) dB above the local ambient** at any point outside the property plane.

- Surrounding Community's Noise Standards (Nighttime)
  - East Palo Alto – 50 dBA
  - Los Altos – 50 dBA
  - Los Alto Hills – 40 dBA
  - Menlo Park – 50 dBA
  - Mt. View – 50 dBA
  - Portola Valley – 40 dBA
  - Sunnyvale – 50 dBA

Equipment and Noise Levels

- Equipment Types:
  - Heat Pumps
  - Heat Pump Water Heaters
    - https://www.paloaltoonline.com/blogs/p/2021/01/24/will-you-save-money-with-a-heat-pump-water-heater
  - Heat Pump Pool Heater
  - Energy Storage Systems
  - Electric Vehicle Charging Stations

- Equipment Noise Levels at 3 feet:
  - Heat Pumps – 46-75 dBA
    - Avg./Med. – 56-58 dBA
  - Heat Pump Water Heaters – 37-58 dBA
  - Heat Pump Pool Heater – 55-65 dBA
  - Energy Storage Systems - < 40 dBA
  - Electric Vehicle Charging Stations - < 40 dBA



Estimated Setbacks to 40 and 50 dBA Limits

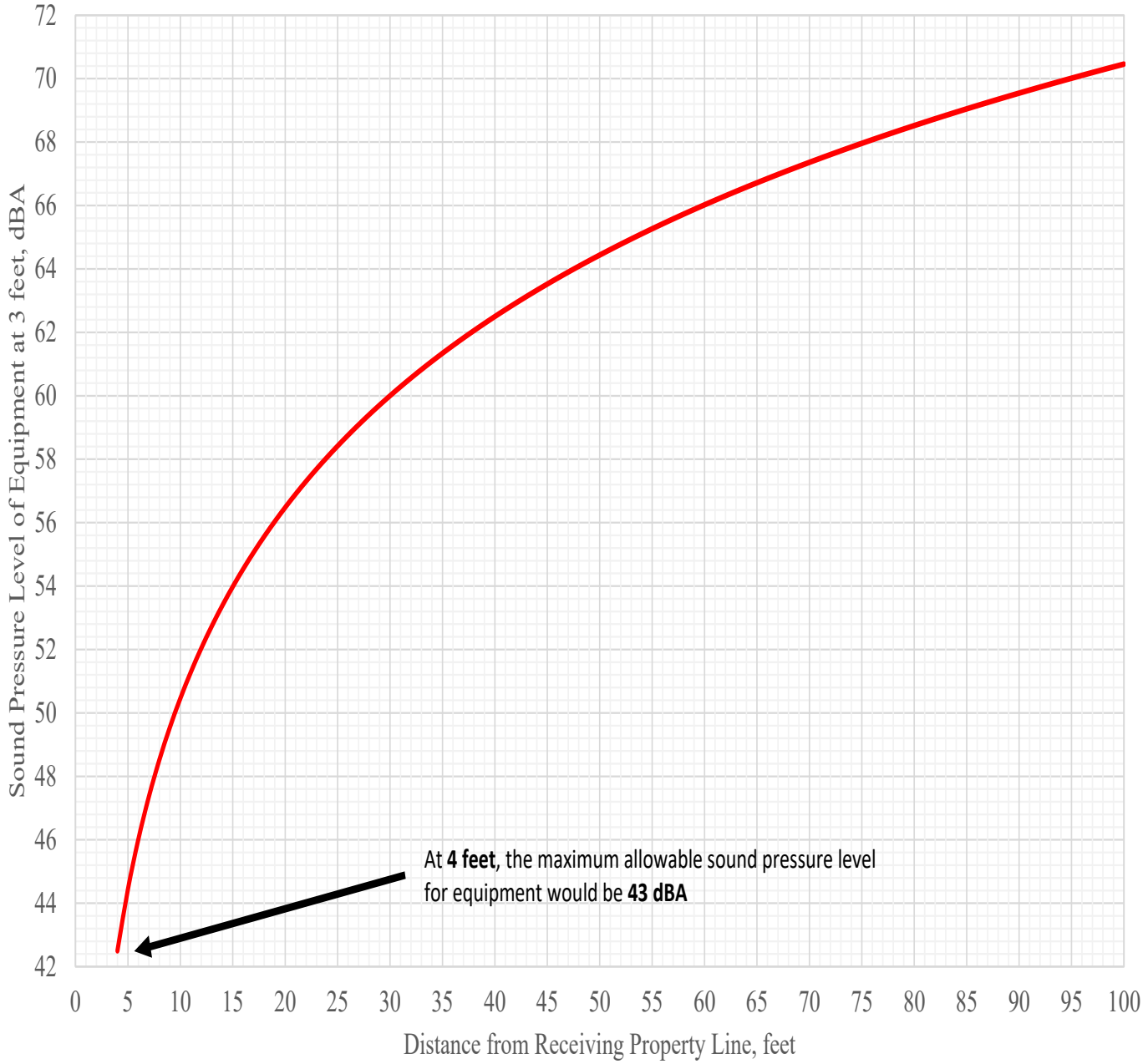
Sound Pressure Levels of Heat Pumps	Minimum Distance to 40 dBA Limit	Minimum Distance to 50 dBA Limit
Under 40 dBA	3 feet or less	1 foot or less
40 to 50 dBA	3 to 10 feet	1 to 3 feet
50 to 55 dBA	10 to 20 feet	3 to 6 feet
55 to 60 dBA	20 to 30 feet	6 to 10 feet
60 to 65 dBA	30 to 55 feet	10 to 20 feet
65 to 70 dBA	55 to 100 feet	20 to 30 feet
Above 70 dBA	More than 100 feet	More than 30 feet

Setback Recommendations Based on Limits

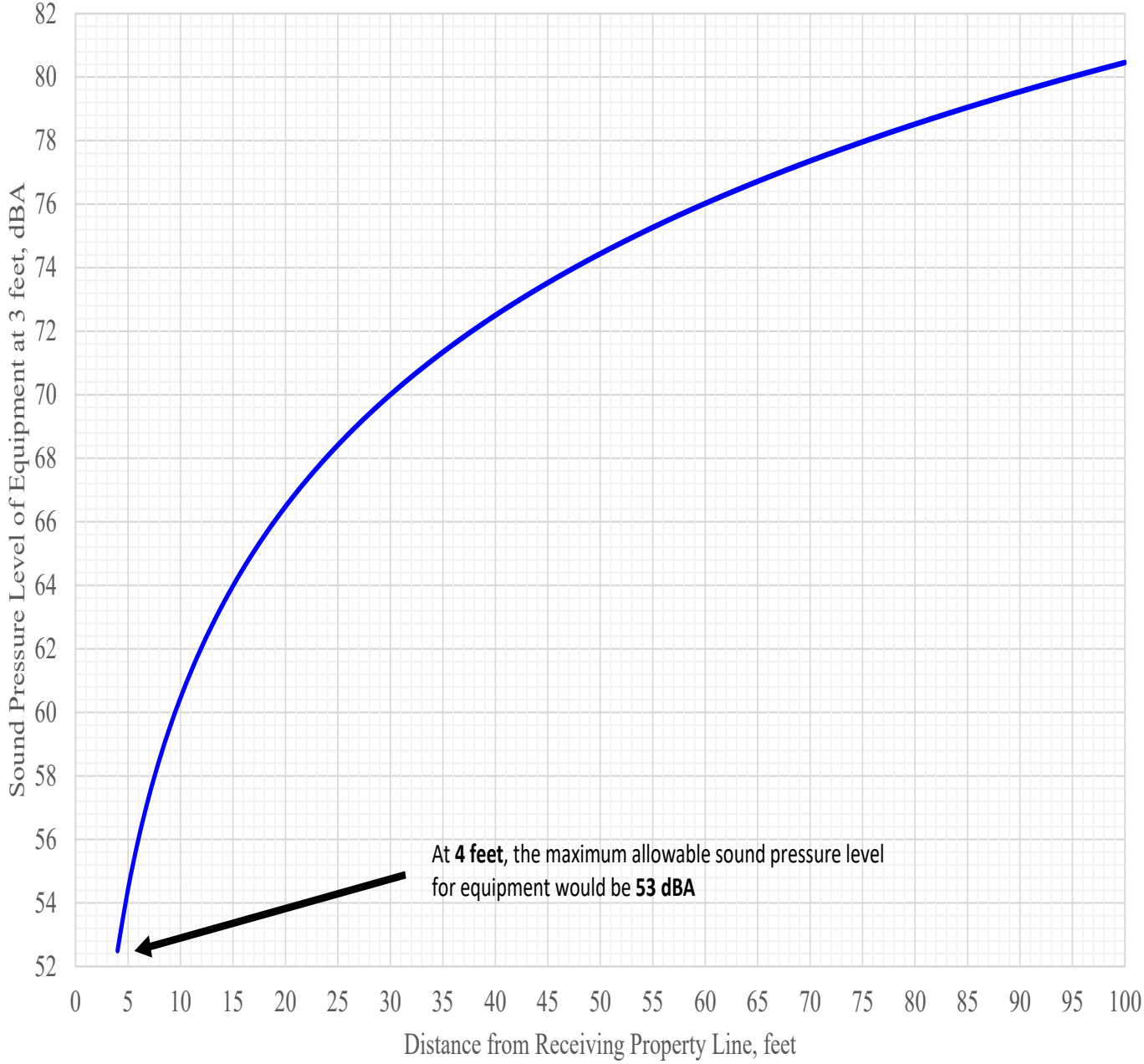
- If a threshold of 40 dBA is used:
  - Equipment **50 dBA or less** permitted at a minimum of **10 feet** from property line
  - Equipment **60 dBA or less** permitted at a minimum of **30 feet** from property line
  - Equipment **65 dBA or less** permitted at a minimum of **55 feet** from property line
  - Equipment over **65 dBA** shall require a noise study to verify thresholds are met

- If a threshold of 50 dBA is used:
  - Equipment **50 dBA or less** permitted at a minimum of **3 feet** from property line
  - Equipment **55 dBA or less** permitted at a minimum of **6 feet** from property line
  - Equipment **60 dBA or less** permitted at a minimum of **10 feet** from property line
  - Equipment **65 dBA or less** permitted at a minimum of **20 feet** from property line
  - Equipment **70 dBA or less** permitted at a minimum of **30 feet** from property line
  - Equipment over **70 dBA** shall require a noise study to verify thresholds are met

Allowable Equipment Noise Level to Meet 40 dBA Limit at Property



Allowable Equipment Noise Level to Meet 50 dBA Limit at Property



Summary of Confirmed Levels from Equipment List SPL at 1r

Manufacturer	Unit/Model	Indoor Levels	Outdoor Levels	
Rinnai	SENSEI	48-49	52-53	
LG	LMU240HV		50-54	
	LMU36CHV		52-55	
	LMU363HV		51-54	
	LMU481HV		53-55	
	LA120HSV5/ LSU120HSV5	21-41	47-51	
	LS090HFV5	21-41	47-51	
Goodman	GSXC18			
Mitsubishi	PVFY-P12NAMU-E1	27-35		
	PVFY-P48NAMU-E	35-43		
	PVFY-P36NAMU-E1	35-43		
	PVA-A36AA7	32-40	52-53	
	PUZ-A36NKA7(-BS)		49-51	
	PVA-A42AA7/ PUZ-A42NKA7(-BS)	34-42	52-53	
	PUY-A42NKA7(-BS)	34-45		52
	PUMY-P36NKMU3(-BS)		49-53	
	MXZ-2C20NA		50-54	
	MXZ-2C20NA2		50-54	
	MXZ-3C24NA		51-55	
	MXZ-3C24NA2		51-55	
	MXZ-3C24NA3-U1		51-55	
	MXZ-3C30NA2		52-56	
	MXZ-3C30NA3		52-56	
	MXZ-4C36NA2-U1		54-56	
	MXZ-5C42NA2		56-58	
	MXZ-5C42NAHZ2		50-54	
	MXZ-8C60NA		58-59	
	MXZ-8C60NA2		58-59	
	MXZ-8C48NA		51-54	
	MXZ-8C48NA2		51-54	
	MXZ-SM48NAM-U1		51-54	
	MXZ-SM60NAM-U1		58-59	
	MLZ-KP18NA/ SUZ-KA18NA2	26-48	54-55	
	MUZ-WR12NA			51
	SVZ-KP24NA/ SUZ-KA24NAHZ	33-41	52-53	
	SVZ-KP36NA/ SUZ-KA36NAHZ	35-42	52-53	
	SVZ-KP36NA/ SUZ-KA36NA2	35-43		55
	SUZ-KA18NA(H)2	26-48	54-55	
	SUZ-KA36NA2		54-55	
	MSZ-GL18NA/ MUZ-GL18NA-U1	28-49	54-55	
	MSZ-GL12NA/ MUZ-GL12NA	19-45	49-51	
	MSZ-GL15NA/ MUZ-GL15NA	26-49	49-51	
	MSZ-GL42NA	41-53		55
	MSZ-GL09NA/ MUZ-GL09NA	19-43	48-50	
	MSZ-GL06NA	19-43		
	MSZ-FS09NA	40-42		

	MSZ-FS06NA	40-42		
	MSZ-FS15NA/ MUZ-FS15NA	25-46	51-55	
	MSZ-JP12WA/ MUZ-JP12WA	22-45	49-51	
	MSZ-WR09NA/ MUZ-WR09NA	22-43	48-50	
Carrier	38MARBQ12AA3			56
	38MARBQ24AA3			62
	38MARBQ30AA3			61.5
	38MARBQ36AA3			61.5
	38MA*R		52.5-60.5	
	38MURA		54-62	
	38MPRAQ24AA3			62
	38MGRQ30D			62
	38MGRQ18B3			62
	38MGRQ48E			64
	38MBRBQ48AA3			62.9
	34SCA5			65
	24VNA6			
	25VNA8			
	25HBC5			
	25VNA448A**3			
	25HHA4			
	25TPA7			
	40MAQ/ 38MAQ	27-46	55.5-63	
	40MBAAQ24XA3	35.8-45.2		
	50VT-C			
	N4H424GKG			
	FX4D			
Bryant	40MBDQ		38	57.3
	288BNV			
	226A			
	284ANV			
	214DNA024P00			
	224ANS			
	214DNA036P00			
	214A			
	214D			
	38MARB		54-62	
	38MURA		54-62	
Samsung	AR09JSALBWKXCV/ AR09JSALBWKNCV		29	53
	AM060MXMDCH/AA		58-60	
	AC024KNZDCH/AA	35-41		
	AC024JXADCH/AA			50
Daikin	FTX18NMVJU/ RX18NMVJU			54
	FTKB12AXVJU/ RKB12AXVJU	32-42		48
	2MX18AXVJU		51-56	
	2MXS18NMVJUA		50-51	
Blueridge	BMY917C			54.5
Lennox	XC16 Elite			

	EL18XPV-036			
	EL16XP1 Elite			
	ML14XP1 Merit			
	MLB048			65
	MLA018		56-59	
	16HPX Merit		67-75	
	MPB mini-split		62-63	
RUUD	Professional Ultra Hybrid			49
American Standard	4A6L6030A1 (Silver 15 models)			
	Silver 16 models			
	4A619036A100H (Platinum 19 models)			
	4A6V8036A100 (Platinum 18 models)			
	4A6L9036A1000A		45-54	
Gree	GMV5 series		48-67	
	GMV VRF			56
	FLEXX24/36HP230V1A			55
	GMV-60WL/C-T(U)			63
RHEEM	Professional Prestige ProTerra Hybrid			49
	RIWH09AVSA/ ROSH09AVSA	23-43	47-48	
Fujitsu	ARU18RLF	27-32		
	18RLFCD	27-32	52-55	
	48LMAS1			55
	24GLXM			55
Payne	FMC4X2400AL			54
Tempstar	NH4A448AKA			
Trane	4TWR7036B-SUB-1C-EN			
TOSOT	TU36-24WADU		60-62	
	TU36-24AADU		49	
Bosch	IDS BOVA15			
	Climate 500	22.5-47.5	53-63	
Voltex	AL Smart Hybrid Electric		45	
DuctlessAire	13 SEER Ductless Mini Split	35-50	55-60	
Pioneer	Diamante Ultra	27-39	50-52	
	DC Inverter + heat pump	32-50	50-58	
Sanco2	water heater			37

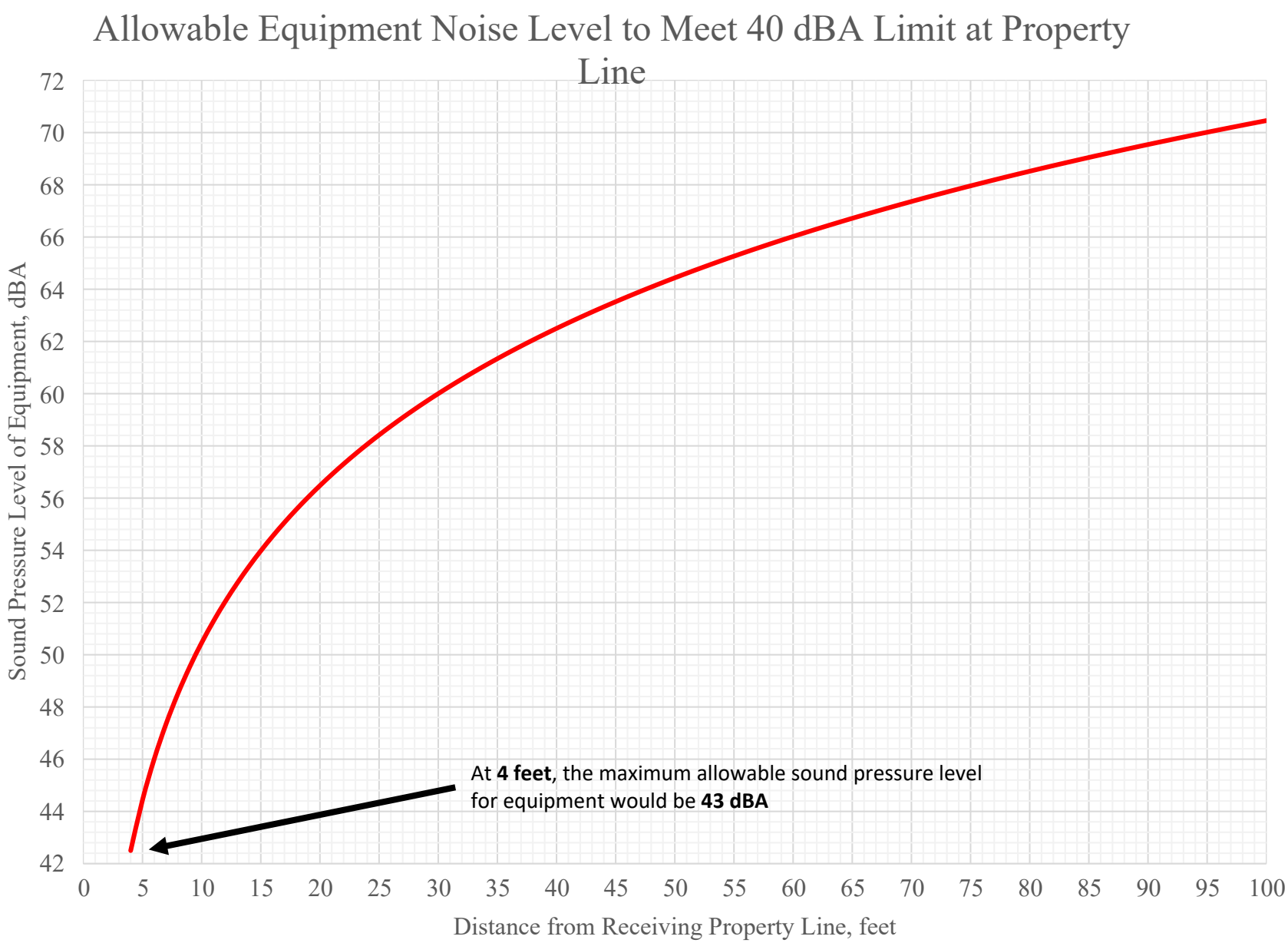
Heat Pump Summary:

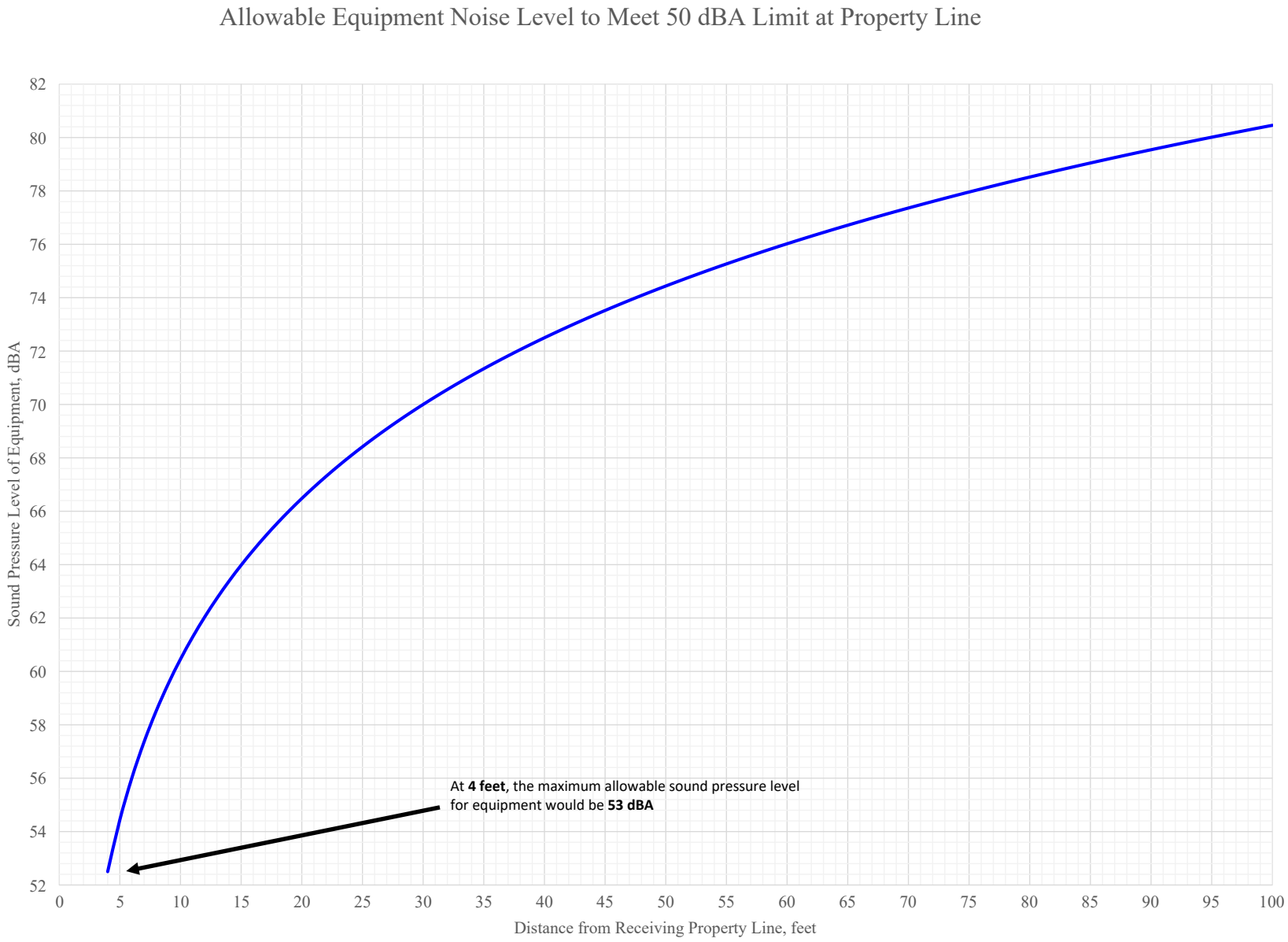
SWL Sound Power	Max SPL at 3 feet	Distance to 40 dBA			Distance to 50 dBA	
	53	13	40.3		5	48.6
	54	15	40.0		5	49.6
	55	17	39.9		6	49.0
	54	15	40.0		5	49.6
	55	17	39.9		6	49.0
	51	11	39.7		4	48.5
	51	11	39.7		4	48.5
68-74	63	41	40.3		13	50.3
	53	13	40.3		5	48.6
	51	11	39.7		4	48.5
	53	13	40.3		5	48.6
	52	12	40.0		4	49.5
	53	13	40.3		5	48.6
	54	15	40.0		5	49.6
	54	15	40.0		5	49.6
	55	17	39.9		6	49.0
	55	17	39.9		6	49.0
	55	17	39.9		6	49.0
	56	18	40.4		6	50.0
	56	18	40.4		6	50.0
	56	18	40.4		6	50.0
	58	23	40.3		8	49.5
	54	15	40.0		5	49.6
	59	26	40.2		9	49.5
	59	26	40.2		9	49.5
	54	15	40.0		5	49.6
	54	15	40.0		5	49.6
	54	15	40.0		5	49.6
	59	26	40.2		9	49.5
	55	17	39.9		6	49.0
	51	11	39.7		4	48.5
	53	13	40.3		5	48.6
	53	13	40.3		5	48.6
	55	17	39.9		6	49.0
	55	17	39.9		6	49.0
	55	17	39.9		6	49.0
	55	17	39.9		6	49.0
	51	11	39.7		4	48.5
	51	11	39.7		4	48.5
	55	17	39.9		6	49.0
	50	10	39.5		3	50.0

		55	17	39.9	6	49.0
		51	11	39.7	4	48.5
		50	10	39.5	3	50.0
		56	18	40.4	6	50.0
		62	36	40.4	12	50.0
		61.5	34	40.4	11	50.2
		61.5	34	40.4	11	50.2
		60.5	31	40.2	10	50.0
		62	36	40.4	12	50.0
		62	36	40.4	12	50.0
		62	36	40.4	12	50.0
		62	36	40.4	12	50.0
		64	46	40.3	15	50.0
		62.9	40	40.4	13	50.2
		65	51	40.4	17	49.9
51-68		57	21	40.1	7	49.6
55-73		62	36	40.4	12	50.0
68-74		63	41	40.3	13	50.3
56-72		61	32	40.4	11	49.7
69-74		63	41	40.3	13	50.3
71-74		63	41	40.3	13	50.3
		63	41	40.3	13	50.3
73-75		64	46	40.3	15	50.0
68-79		68	72	40.4	23	50.3
64.7-70		59	26	40.2	9	49.5
		57.3	21	40.4	7	49.9
57-73		62	36	40.4	12	50.0
70-75		64	46	40.3	15	50.0
56-72		61	32	40.4	11	49.7
	76	65	51	40.4	17	49.9
69-74		63	41	40.3	13	50.3
	77	66	57	40.4	18	50.4
72-77		66	57	40.4	18	50.4
68-79		68	72	40.4	23	50.3
		62	36	40.4	12	50.0
		62	36	40.4	12	50.0
		53	13	40.3	5	48.6
		60	29	40.3	10	49.5
		50	10	39.5	3	50.0
		54	15	40.0	5	49.6
		48	8	39.5	3	48.0
		56	18	40.4	6	50.0
		51	11	39.7	4	48.5
		54.5	16	40.0	5	50.1
74-78		67	64	40.4	21	50.1

	61	50	10	39.5			
	71	60	29	40.3	10	49.5	
	76	65	51	40.4	17	49.9	
		65	51	40.4	17	49.9	
		59	26	40.2	9	49.5	
		75	161	40.4	51	50.4	
		63	41	40.3	13	50.3	
		49	9	39.5	3	49.0	
69-75		64	46	40.3	15	50.0	
69-74		63	41	40.3	13	50.3	
43-57		46	6	40.0	2	49.5	
56-74		63	41	40.3	13	50.3	
		54	15	40.0	5	49.6	
		67	64	40.4	21	50.1	
		56	18	40.4	6	50.0	
		55	17	39.9	6	49.0	
		63	41	40.3	13	50.3	
		49	9	39.5	3	49.0	
		48	8	39.5	3	48.0	
		55	17	39.9	6	49.0	
		55	17	39.9	6	49.0	
		55	17	39.9	6	49.0	
		54	15	40.0	5	49.6	
	70	59	26	40.2	9	49.5	
	72	61	32	40.4	11	49.7	
		62	36	40.4	12	50.0	
59-80		69	81	40.4	26	50.2	
		63	41	40.3	13	50.3	
		60	29	40.3	10	49.5	
		52	12	40.0	4	49.5	
		58	23	40.3	8	49.5	
		37	3	37.0	1	46.5	
min		46	6		2		
max		75	161		51		
median		56	18		6		
average		58	28		9		

for equipment to meet thresholds at 4ft: 43 dBA 53 dBA


Allowable Equipment Noise Level to Meet 40 dBA Limit at Property Line
Sound Pressure Level of Equipment, dBA
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
Distance from Receiving Property Line, feet
At **4 feet**, the maximum allowable sound pressure level for equipment would be **43 dBA**


Allowable Equipment Noise Level to Meet 50 dBA Limit at Property Line
Sound Pressure Level of Equipment, dBA
82
80
78
76
74
72
70
68
66
64
62
60
58
56
54
52
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
Distance from Receiving Property Line, feet
At **4 feet**, the maximum allowable sound pressure level
for equipment would be **53 dBA**

Summary Table

Sound Pressure Levels	Min Dist to 40 dBA, feet	Min Distance to 50 dBA, feet	
under 40 dBA		3	1
40-50 dBA	3 to 10	1 to 3	
50-55 dBA	10 to 20	3 to 6	
55-60 dBA	20 to 30	6 to 10	
60-65 dBA	30 to 55	10 to 20	
65-70 dBA	55 to 100	20 to 30	
above 70 dBA	more than 100	more than 30	

Manufacturer's Sound Pressure L[illegible]

Detailed Table - by feet Nominal 3 feet)

Distance from Receiving Property Line, feet	SPL to meet 40 dBA, dBA	SPL to meet 50 dBA, dBA
4	42.5	52.5
5	44.4	54.4
6	46.0	56.0
7	47.4	57.4
8	48.5	58.5
9	49.5	59.5
10	50.5	60.5
11	51.3	61.3
12	52.0	62.0
13	52.7	62.7
14	53.4	63.4
15	54.0	64.0
16	54.5	64.5
17	55.1	65.1
18	55.6	65.6
19	56.0	66.0
20	56.5	66.5
21	56.9	66.9
22	57.3	67.3
23	57.7	67.7
24	58.1	68.1
25	58.4	68.4
26	58.8	68.8
27	59.1	69.1
28	59.4	69.4
29	59.7	69.7
30	60.0	70.0
31	60.3	70.3
32	60.6	70.6
33	60.8	70.8
34	61.1	71.1
35	61.3	71.3
36	61.6	71.6
37	61.8	71.8
38	62.1	72.1
39	62.3	72.3
40	62.5	72.5
41	62.7	72.7
42	62.9	72.9
43	63.1	73.1
44	63.3	73.3
45	63.5	73.5
46	63.7	73.7
47	63.9	73.9
48	64.1	74.1

49	64.3	.3
50	64.4	74.4
51	64.6	74.6
52	64.8	74.8
53	64.9	74.9
54	65.1	75.1
55	65.3	75.3
56	65.4	75.4
57	65.6	75.6
58	65.7	75.7
59	65.9	75.9
60	66.0	76.0
61	66.2	76.2
62	66.3	76.3
63	66.4	76.4
64	66.6	76.6
65	66.7	76.7
66	66.8	76.8
67	67.0	77.0
68	67.1	77.1
69	67.2	77.2
70	67.4	77.4
71	67.5	77.5
72	67.6	77.6
73	67.7	77.7
74	67.8	77.8
75	68.0	78.0
76	68.1	78.1
77	68.2	78.2
78	68.3	78.3
79	68.4	78.4
80	68.5	78.5
81	68.6	78.6
82	68.7	78.7
83	68.8	78.8
84	68.9	78.9
85	69.0	79.0
86	69.1	79.1
87	69.2	79.2
88	69.3	79.3
89	69.4	79.4
90	69.5	79.5
91	69.6	79.6
92	69.7	79.7
93	69.8	79.8
94	69.9	79.9
95	70.0	80.0
96	70.1	80.1

97	70.2	.2
98	70.3	80.3
99	70.4	80.4
100	70.5	80.5

DATE OPENED	RECORD ID	RECORD STATUS DATE	ADDR FULL LINE#	Heat Pump System	WH Heat Pump
4/30/2019	19000-01025	1/20/2022	877 ASPEN WY, PALO ALTO, CA 94303	No	Yes
4/19/2021	21BLD-00894	12/13/2022	2742 LOUIS RD, PALO ALTO, CA 94303	Yes	No
5/14/2021	21BLD-01170	6/13/2023	1881 FULTON ST, PALO ALTO, CA 94303	Yes	No
5/19/2021	21BLD-01192	2/7/2023	1280 WILSON ST, PALO ALTO, CA 94301	Yes	No
7/2/2021	21BLD-01669	3/23/2022	916 COLORADO AV, PALO ALTO, CA 94303	Yes	Yes
7/8/2021	21BLD-01691	3/23/2022	916 COLORADO AV, PALO ALTO, CA 94303	Yes	Yes
8/2/2021	21BLD-01940	2/10/2023	2290 GREER RD, PALO ALTO, CA 94303	Yes	Yes
8/18/2021	21BLD-02069	5/10/2022	1201 PARKINSON AV, PALO ALTO, CA 94301	Yes	Yes
8/24/2021	21BLD-02140	3/9/2022	4206 DARLINGTON CT, UNIT B, PALO ALTO, CA 94306	Yes	Yes
9/16/2021	21BLD-02320	4/25/2023	531 CENTER DR	Yes	No
9/17/2021	21BLD-02339	8/19/2022	609 OREGON AV, PALO ALTO, CA 94301	Yes	No
9/22/2021	21BLD-02385	2/2/2022	1144 FOREST AV, PALO ALTO, CA 94301	Yes	Yes
9/22/2021	21BLD-02386	2/7/2022	1144 FOREST AV, PALO ALTO, CA 94301	Yes	Yes
9/27/2021	21BLD-02434	6/21/2022	340 COLERIDGE AV, PALO ALTO, CA 94301	Yes	Yes

9/27/2021	21BLD-02435	6/21/2022	340 COLERIDGE AV, PALO ALTO, CA 94301	Yes	Yes
9/28/2021	21BLD-02443	5/5/2022	575 N CALIFORNIA AV, PALO ALTO, CA 94301	Yes	Yes
11/18/2021	21BLD-02912	8/1/2022	4049 ORME ST, PALO ALTO, CA 94306	Yes	Yes
11/22/2021	21BLD-02944	1/27/2023	776 ROSEWOOD DR, PALO ALTO, CA 94303	Yes	Yes
12/10/2021	21BLD-03113	1/31/2023	4186 OLD ADOBE RD, PALO ALTO, CA 94022	Yes	Yes
12/10/2021	21BLD-03115	1/31/2023	4186 OLD ADOBE RD, PALO ALTO, CA 94022	Yes	Yes
12/15/2021	21BLD-03148	1/24/2023	2920 COWPER ST, PALO ALTO, CA 94306	Yes	Yes
2/18/2022	22BLD-00502	7/13/2022	3224 GREER RD, PALO ALTO, CA 94303	Yes	Yes
2/18/2022	22BLD-00503	7/13/2022	3224 GREER RD, PALO ALTO, CA 94303	Yes	Yes
3/7/2022	22BLD-00652	8/1/2022	230 FERNANDO AV, PALO ALTO, CA 94306	Yes	No
3/17/2022	22BLD-00773	6/7/2023	265 COLERIDGE AV, PALO ALTO, CA 94301	Yes	Yes
4/13/2022	22BLD-00992	9/6/2022	425 MIDDLEFIELD RD, PALO ALTO, CA 94301	Yes	Yes
4/13/2022	22BLD-00993	9/6/2022	425 MIDDLEFIELD RD, PALO ALTO, CA 94301	Yes	Yes
4/29/2022	22BLD-01150	4/28/2023	780 TALISMAN CT, PALO ALTO, CA 94303	Yes	Yes
5/12/2022	22BLD-01273	3/22/2023	67 TULIP LN, PALO ALTO, CA 94303	Yes	No

6/29/2022	22BLD-01683	10/12/2022	1062 LOS ROBLES AV, PALO ALTO, CA 94306	Yes	Yes
6/30/2022	22BLD-01700	4/6/2023	947 WAVERLEY ST, PALO ALTO, CA 94301	Yes	No
7/22/2022	22BLD-01882	10/20/2022	2251 BOWDOIN ST, PALO ALTO, CA 94306	Yes	Yes
8/18/2022	22BLD-02107	12/14/2022	3093 STELLING DR, PALO ALTO, CA 94303	Yes	Yes
8/29/2022	22BLD-02191	5/2/2023	1960 WEBSTER ST, PALO ALTO, CA 94301	Yes	Yes
8/29/2022	22BLD-02192	5/2/2023	1960 WEBSTER ST, PALO ALTO, CA 94301	Yes	Yes
8/30/2022	22BLD-02198	4/12/2023	2323 BYRON ST, PALO ALTO, CA 94301	Yes	Yes
9/16/2022	22BLD-02320	3/15/2023	2712 COWPER ST, PALO ALTO, CA 94306	Yes	Yes
9/19/2022	22BLD-02348	1/17/2023	2708 GASPAR CT, PALO ALTO, CA 94306	Yes	No
11/4/2022	22BLD-02787	5/17/2023	3884 MAGNOLIA DR, PALO ALTO, CA 94306	Yes	Yes
11/14/2022	22BLD-02836	5/25/2023	4161 VERDOSA DR, PALO ALTO, CA 94306	No	Yes
12/13/2022	22BLD-03092	3/29/2023	787 SOUTHAMPTON DR, PALO ALTO, CA 94303	Yes	Yes
10/20/2021	21BLD-02655	5/11/2022	2090 YALE ST, PALO ALTO, CA 94306	Yes	Yes

8/24/2022	22BLD-02158	1/10/2023	869 E MEADOW DR, PALO ALTO, CA 94303	Yes	Yes
10/14/2022	22BLD-02562	2/6/2023	230 IRIS WY, PALO ALTO, CA 94303	Yes	Yes
10/18/2022	22BLD-02598	1/23/2023	138 WALTER HAYS DR, PALO ALTO, CA 94303	Yes	Yes
7/24/2020	20000-01392	12/7/2022	775 MAYVIEW AV, PALO ALTO, CA 94303	Yes	No
5/24/2021	21BLD-01246	3/31/2022	910 CALIFORNIA AV, PALO ALTO, CA 94306	Yes	No
6/14/2021	21BLD-01453	1/24/2022	611 WILDWOOD LN, PALO ALTO, CA 94303	Yes	No
9/3/2021	21BLD-02237	4/18/2023	4077 BEN LOMOND DR, PALO ALTO, CA 94306	Yes	No
9/9/2021	21BLD-02273	2/2/2022	3292 MURRAY WY, PALO ALTO, CA 94303	Yes	No
9/28/2021	21BLD-02447	11/30/2022	630 LINCOLN AV, PALO ALTO, CA 94301	Yes	No
11/3/2021	21BLD-02777	1/27/2023	4030 BEN LOMOND DR, PALO ALTO, CA 94306	Yes	No
11/30/2021	21BLD-03007	1/30/2023	3321 THOMAS DR, PALO ALTO, CA 94303	Yes	No
12/1/2021	21BLD-03029	12/22/2022	1265 WILSON ST, PALO ALTO, CA 94301	Yes	Yes

12/3/2021	21BLD-03042	10/8/2022	435 SHERIDAN AV, UNIT 210, PALO ALTO, CA 94306	Yes	No
1/5/2022	22BLD-00017	1/28/2022	826 LOMA VERDE AV, PALO ALTO, CA 94303	No	Yes
1/5/2022	22BLD-00023	3/22/2022	4130 AMARANTA CT, PALO ALTO, CA 94306	Yes	No
1/6/2022	22BLD-00029	5/2/2022	505 E CHARLESTON RD, PALO ALTO, CA 94306	Yes	No
1/13/2022	22BLD-00089	1/18/2023	740 LA PARA AV, PALO ALTO, CA 94306	Yes	No
1/19/2022	22BLD-00132	3/10/2023	768 MONTROSE AV, PALO ALTO, CA 94303	Yes	No
1/20/2022	22BLD-00143	1/19/2023	746 LOS ROBLES AV, PALO ALTO, CA 94306	Yes	No
1/24/2022	22BLD-00197	1/18/2023	2491 AZTEC WY, PALO ALTO, CA 94303	No	Yes
1/25/2022	22BLD-00215	2/9/2022	161 CALIFORNIA AV, UNIT K200, PALO ALTO, CA 94306	Yes	No
1/26/2022	22BLD-00255	7/25/2022	641 LYTTON AV, PALO ALTO, CA 94301	Yes	No
1/27/2022	22BLD-00258	8/8/2022	625 LYTTON AV, PALO ALTO, CA 94301	Yes	No
2/1/2022	22BLD-00308	1/18/2023	670 SAN ANTONIO RD, UNIT 19, PALO ALTO, CA 94306	Yes	No
2/7/2022	22BLD-00369	2/13/2023	4295 PONCE DR, PALO ALTO, CA 94306	Yes	No
2/11/2022	22BLD-00420	1/20/2023	1127 HOPKINS AV, PALO ALTO, CA 94301	No	Yes
2/11/2022	22BLD-00425	6/20/2022	1029 RAMONA ST, PALO ALTO, CA 94301	No	Yes
2/15/2022	22BLD-00447	5/12/2022	740 GAILEN, PALO ALTO, CA 94303	Yes	No

2/15/2022	22BLD-00463	1/31/2023	244 WEBSTER ST, PALO ALTO, CA 94301	Yes	No
2/23/2022	22BLD-00526	2/1/2023	4006 BEN LOMOND DR, PALO ALTO, CA 94306	Yes	No
3/3/2022	22BLD-00633	7/12/2022	4055 MANZANA LN, PALO ALTO, CA 94306	Yes	No
3/4/2022	22BLD-00635	4/28/2022	387 ELY PL, PALO ALTO, CA 94306	Yes	No
3/7/2022	22BLD-00648	5/4/2022	784 ROSEWOOD DR, PALO ALTO, CA 94303	Yes	No
3/7/2022	22BLD-00649	4/26/2022	747 HOLLY OAK DR, PALO ALTO, CA 94303	Yes	No
3/14/2022	22BLD-00727	5/25/2022	1557 WAVERLEY ST, PALO ALTO, CA 94301	Yes	No
3/22/2022	22BLD-00807	7/28/2022	2484 RAMONA ST, PALO ALTO, CA 94301	Yes	No
3/24/2022	22BLD-00839	5/13/2022	4250 POMONA AV, PALO ALTO, CA 94306	Yes	No
3/28/2022	22BLD-00854	6/13/2022	1440 HAMILTON AV, PALO ALTO, CA 94301	Yes	No
4/11/2022	22BLD-00974	8/25/2022	1161 HARRIET ST, PALO ALTO, CA 94301	Yes	No
4/13/2022	22BLD-00991	8/8/2022	3422 JANICE WY, PALO ALTO, CA 94303	Yes	No
4/19/2022	22BLD-01065	6/6/2023	737 LOMA VERDE AV, UNIT 10, PALO ALTO, CA 94303	Yes	No
4/20/2022	22BLD-01069	7/12/2022	349 IRIS WY, PALO ALTO, CA 94303	Yes	No
4/25/2022	22BLD-01099	8/12/2022	3895 MUMFORD PL, PALO ALTO, CA 94306	Yes	No
4/27/2022	22BLD-01122	5/5/2023	780 UNIVERSITY AV, PALO ALTO, CA 94301	Yes	No

4/27/2022	22BLD-01138	3/28/2023	1405 SKYLINE BL, PALO ALTO, CA 94304	Yes	No
5/2/2022	22BLD-01159	6/2/2023	411 MAUREEN AV, PALO ALTO, CA 94306	Yes	No
5/3/2022	22BLD-01173	10/28/2022	3743 LAGUNA AV, PALO ALTO, CA 94306	Yes	No
5/3/2022	22BLD-01176	10/28/2022	925 CLARA DR, PALO ALTO, CA 94303	Yes	No
5/10/2022	22BLD-01238	6/23/2022	595 E MEADOW DR, PALO ALTO, CA 94306	Yes	No
5/16/2022	22BLD-01312	8/18/2022	2789 BRYANT ST, PALO ALTO, CA 94306	Yes	No
5/17/2022	22BLD-01326	12/8/2022	251 PARKSIDE DR, PALO ALTO, CA 94306	Yes	No
5/23/2022	22BLD-01383	10/13/2022	2310 HANOVER ST, PALO ALTO, CA 94306	Yes	No
5/23/2022	22BLD-01384	4/19/2023	360 IRIS WY, PALO ALTO, CA 94303	Yes	No
5/23/2022	22BLD-01389	12/29/2022	580 NEWELL RD, PALO ALTO, CA 94303	Yes	No
5/25/2022	22BLD-01402	12/21/2022	892 BRUCE DR, PALO ALTO, CA 94303	Yes	No
5/25/2022	22BLD-01407	2/27/2023	800 HIGH ST, UNIT 314, PALO ALTO, CA 94301	Yes	No
5/25/2022	22BLD-01409	8/18/2022	771 GAILEN AV, PALO ALTO, CA 94303	Yes	No
5/27/2022	22BLD-01428	2/1/2023	365 FOREST AV, UNIT 4E, PALO ALTO, CA 94301	Yes	No
6/8/2022	22BLD-01512	8/26/2022	520 E CHARLESTON RD, PALO ALTO, CA 94306	Yes	No
6/13/2022	22BLD-01546	9/13/2022	3089 COUNTRY CLUB CT, PALO ALTO, CA 94304	Yes	No

6/13/2022	22BLD-01555	9/2/2022	2674 SOUTH CT, PALO ALTO, CA 94306	Yes	No
6/14/2022	22BLD-01567	8/4/2022	788 BARRON AV, PALO ALTO, CA 94306	No	Yes
6/14/2022	22BLD-01569	9/14/2022	3740 EGRET LN, PALO ALTO, CA 94303	Yes	No
6/17/2022	22BLD-01593	6/27/2022	185 FOREST AV, UNIT 2C, PALO ALTO, CA 94301	Yes	No
6/20/2022	22BLD-01599	2/13/2023	4123 BRIARWOOD WY, PALO ALTO, CA 94306	Yes	No
7/6/2022	22BLD-01732	8/18/2022	111 GREENMEADOW WY, PALO ALTO, CA 94306	Yes	No
7/7/2022	22BLD-01757	9/7/2022	173 CREEKSIDE DR, PALO ALTO, CA 94306	Yes	No
7/19/2022	22BLD-01853	12/13/2022	725 GARLAND DR, PALO ALTO, CA 94303	Yes	No
7/19/2022	22BLD-01859	9/28/2022	616 FOREST AV, PALO ALTO, CA 94301	Yes	No
7/20/2022	22BLD-01866	9/30/2022	10 SOMERSET PL, PALO ALTO, CA 94301	Yes	No
7/20/2022	22BLD-01870	2/27/2023	800 HIGH ST, UNIT 315, PALO ALTO, CA 94301	Yes	No
7/26/2022	22BLD-01899	10/24/2022	774 UNIVERSITY AV, PALO ALTO, CA 94301	Yes	No
8/9/2022	22BLD-02026	8/17/2022	784 ALESTER AV, PALO ALTO, CA 94303	Yes	No
8/12/2022	22BLD-02046	10/19/2022	1221 WAVERLEY ST, PALO ALTO, CA 94301	Yes	No

8/16/2022	22BLD-02066	3/14/2023	4058 BEN LOMOND DR, PALO ALTO, CA 94306	Yes	No
8/22/2022	22BLD-02131	8/30/2022	1611 STANFORD AV, PALO ALTO, CA 94306	Yes	No
8/30/2022	22BLD-02213	10/27/2022	81 ROOSEVELT CIR, PALO ALTO, CA 94306	Yes	No
8/31/2022	22BLD-02230	1/27/2023	4072 SCRIPPS AV, PALO ALTO, CA 94306	Yes	No
9/7/2022	22BLD-02261	10/10/2022	3391 SOUTH CT, PALO ALTO, CA 94306	Yes	No
9/13/2022	22BLD-02288	1/30/2023	3136 SOUTH CT, PALO ALTO, CA 94306	Yes	No
9/22/2022	22BLD-02371	12/2/2022	788 HOLLY OAK DR, PALO ALTO, CA 94303	Yes	No
9/22/2022	22BLD-02375	12/9/2022	715 WEBSTER ST, PALO ALTO, CA 94301	Yes	No
9/27/2022	22BLD-02412	1/5/2023	4160 OLD TRACE RD, PALO ALTO, CA 94306	Yes	No
9/28/2022	22BLD-02418	11/2/2022	3673 RAMONA ST, PALO ALTO, CA 94306	Yes	No
10/5/2022	22BLD-02497	12/20/2022	380 MACLANE, PALO ALTO, CA 94306	Yes	No
10/12/2022	22BLD-02546	1/12/2023	3165 MADDUX DR, PALO ALTO, CA 94303	Yes	No
10/17/2022	22BLD-02581	4/19/2023	2585 PARK BL, UNIT Z104, PALO ALTO, CA 94306	Yes	No
10/19/2022	22BLD-02623	12/8/2022	1017 GUINDA ST, PALO ALTO, CA 94301	Yes	No
10/20/2022	22BLD-02648	10/28/2022	116 Emerson ST, BLDG	No	Yes

10/26/2022	22BLD-02690	11/8/2022	3868 MAGNOLIA DR, PALO ALTO, CA 94306	Yes	No
10/31/2022	22BLD-02729	2/9/2023	474 MONROE DR, PALO ALTO, CA 94306	Yes	No
11/7/2022	22BLD-02796	1/13/2023	976 CELIA DR, PALO ALTO, CA 94303	No	Yes
11/23/2022	22BLD-02903	12/20/2022	3435 CORK OAK WY, PALO ALTO, CA 94303	Yes	No
11/29/2022	22BLD-02936	12/13/2022	851 LYTTON AV, PALO ALTO, CA 94301	Yes	No
12/1/2022	22BLD-02956	1/24/2023	328 OXFORD AV, PALO ALTO, CA 94306	Yes	Yes
12/5/2022	22BLD-02986	5/26/2023	670 SAN ANTONIO RD, UNIT 6, PALO ALTO, CA 94306	Yes	No
12/13/2022	22BLD-03088	5/5/2023	2575 PARK BL, UNIT S200, PALO ALTO, CA 94306	Yes	No
12/19/2022	22BLD-03169	5/24/2023	200 FULTON ST, PALO ALTO, CA 94301	No	Yes
12/23/2022	22BLD-03250	2/7/2023	722 MARION AV, PALO ALTO, CA 94303	Yes	Yes
12/28/2022	22BLD-03262	6/6/2023	3757 KLAMATH LN, PALO ALTO, CA 94303	Yes	No
1/9/2023	23BLD-00040	2/10/2023	942 WAVERLEY ST, PALO ALTO, CA 94301	No	Yes
1/9/2023	23BLD-00049	2/9/2023	698 MAYBELL AV, PALO ALTO, CA 94306	Yes	No
1/9/2023	23BLD-00052	1/31/2023	375 WAVERLEY ST, PALO ALTO, CA 94301	Yes	No
1/12/2023	23BLD-00090	4/4/2023	291 PARKSIDE DR, PALO ALTO, CA 94306	Yes	No

1/12/2023	23BLD-00096	2/17/2023	777 MORENO AV, PALO ALTO, CA 94303	Yes	No
1/18/2023	23BLD-00127	2/23/2023	2781 ROSS RD, PALO ALTO, CA 94303	Yes	No
1/23/2023	23BLD-00144	4/26/2023	894 LA PARA AV, PALO ALTO, CA 94306	Yes	No
1/23/2023	23BLD-00150	3/8/2023	2266 SAINT FRANCIS DR, PALO ALTO, CA 94303	Yes	No
1/24/2023	23BLD-00163	1/31/2023	808 LA JENNIFER WY, PALO ALTO, CA 94306	Yes	No
1/25/2023	23BLD-00184	3/2/2023	488 FERNE AV, PALO ALTO, CA 94306	Yes	No
1/25/2023	23BLD-00188	5/23/2023	4010 NELSON DR, PALO ALTO, CA 94306	Yes	No
1/30/2023	23BLD-00222	6/2/2023	942 WAVERLEY ST, PALO ALTO, CA 94301	Yes	No
2/2/2023	23BLD-00252	4/11/2023	428 E CHARLESTON RD, PALO ALTO, CA 94306	Yes	No
2/7/2023	23BLD-00277	2/23/2023	2068 HARVARD ST, PALO ALTO, CA 94306	Yes	No
2/7/2023	23BLD-00283	2/23/2023	698 MATADERO AV, PALO ALTO, CA 94306	Yes	No
2/13/2023	23BLD-00340	3/22/2023	168 LOIS LN, PALO ALTO, CA 94303	No	Yes
2/16/2023	23BLD-00367	5/24/2023	1549 ALMA ST, PALO ALTO, CA 94301	Yes	No
2/22/2023	23BLD-00395	3/17/2023	3359 BRYANT ST, PALO ALTO, CA 94306	No	Yes
2/22/2023	23BLD-00397	6/6/2023	7 PHILLIPS RD, PALO ALTO, CA 94303	Yes	No
3/3/2023	23BLD-00463	5/3/2023	712 MATADERO AV, PALO ALTO, CA 94306	No	Yes
3/6/2023	23BLD-00476	3/7/2023	4169 OAK HILL AV, PALO ALTO, CA 94306	Yes	No
3/7/2023	23BLD-00488	6/8/2023	2131 HARVARD ST, PALO ALTO, CA 94306	Yes	No

3/8/2023	23BLD-00506	4/11/2023	130 MELVILLE AV, PALO ALTO, CA 94301	Yes	No
3/10/2023	23BLD-00529	4/21/2023	3679 ROSS RD, PALO ALTO, CA 94303	Yes	No
3/10/2023	23BLD-00530	3/23/2023	3775 WRIGHT PL, PALO ALTO, CA 94306	Yes	No
3/16/2023	23BLD-00591	4/3/2023	435 SHERIDAN AV, UNIT 103, PALO ALTO, CA 94306	Yes	No
3/16/2023	23BLD-00593	3/29/2023	3158 GREER RD, PALO ALTO, CA 94303	Yes	No
3/16/2023	23BLD-00598	3/22/2023	2300 SOUTH CT, PALO ALTO, CA 94301	Yes	No
3/20/2023	23BLD-00614	5/17/2023	723 COASTLAND DR, PALO ALTO, CA 94303	No	Yes
3/20/2023	23BLD-00619	3/22/2023	151 WAVERLEY ST, PALO ALTO, CA 94301	Yes	No
3/21/2023	23BLD-00640	5/23/2023	2730 BRYANT ST, PALO ALTO, CA 94306	Yes	No
3/22/2023	23BLD-00650	5/23/2023	153 CALIFORNIA AV, UNIT F203, PALO ALTO, CA 94306	Yes	No
3/23/2023	23BLD-00656	5/30/2023	3394 SOUTH CT, PALO ALTO, CA 94306	Yes	No
3/24/2023	23BLD-00669	4/20/2023	2698 EMERSON ST, PALO ALTO, CA 94306	Yes	No
3/24/2023	23BLD-00681	6/12/2023	4217 PARK BL, PALO ALTO, CA 94306	Yes	No
3/27/2023	23BLD-00687	5/1/2023	230 PARKSIDE DR, PALO ALTO, CA 94306	Yes	No
3/28/2023	23BLD-00710	6/5/2023	926 BAUTISTA CT, PALO ALTO, CA 94303	Yes	Yes
3/29/2023	23BLD-00725	5/8/2023	3694 LOUIS RD, PALO ALTO, CA 94303	Yes	No
3/29/2023	23BLD-00727	4/4/2023	534 GEORGIA AV, PALO ALTO, CA 94306	Yes	No

3/30/2023	23BLD-00737	6/6/2023	2150 AMHERST ST, PALO ALTO, CA 94306	Yes	No
3/30/2023	23BLD-00741	4/14/2023	474 EVERETT AV, PALO ALTO, CA 94301	Yes	No
3/30/2023	23BLD-00742	4/4/2023	742 JOSINA AV, PALO ALTO, CA 94306	Yes	No
4/3/2023	23BLD-00755	4/25/2023	670 SAN ANTONIO RD, UNIT 11, PALO ALTO, CA 94306	Yes	No
4/4/2023	23BLD-00766	4/14/2023	840 HAMILTON AV, PALO ALTO, CA 94301	Yes	No
4/11/2023	23BLD-00828	6/7/2023	2150 HIGH ST, PALO ALTO, CA 94301	Yes	No
4/14/2023	23BLD-00855	5/1/2023	2141 BYRON ST, PALO ALTO, CA 94301	Yes	No
4/17/2023	23BLD-00877	4/25/2023	2300 SOUTH CT, PALO ALTO, CA 94301	No	Yes
4/24/2023	23BLD-00925	5/16/2023	457 HOMER AV, PALO ALTO, CA 94301	Yes	No
4/28/2023	23BLD-00979	5/23/2023	2960 OTTERSON CT, PALO ALTO, CA 94303	Yes	No
5/8/2023	23BLD-01060	5/18/2023	935 ADDISON AV, PALO ALTO, CA 94301	Yes	No
5/9/2023	23BLD-01070	5/12/2023	390 MATADERO AV, PALO ALTO, CA 94306	Yes	No
5/12/2023	23BLD-01113	6/5/2023	223 EDLEE AV, PALO ALTO, CA 94306	Yes	No
5/15/2023	23BLD-01124	5/19/2023	224 GREENMEADOW WY, PALO ALTO, CA 94306	Yes	No
5/17/2023	23BLD-01156	6/1/2023	951 MORENO AV, PALO ALTO, CA 94303	Yes	No

5/18/2023	23BLD-01163	5/30/2023	1520 WALNUT DR, PALO ALTO, CA 94303	No	Yes
5/19/2023	23BLD-01186	6/2/2023	728 CHIMALUS DR, PALO ALTO, CA 94306	Yes	No
5/19/2023	23BLD-01187	6/13/2023	1655 EL CAMINO REAL, PALO ALTO, CA 94306	Yes	No
5/19/2023	23BLD-01188	6/12/2023	3505 LAGUNA AV, PALO ALTO, CA 94306	Yes	No
6/2/2023	23BLD-01327	6/13/2023	908 MORENO AV, PALO ALTO, CA 94303	Yes	No
2/15/2019	19000-00383	4/25/2023	849 WINTERGREEN WY, PALO ALTO, CA 94303	Yes	No
5/25/2021	21BLD-01268	2/27/2023	3207 ALMA ST, PALO ALTO, CA 94306	Yes	No
5/25/2021	21BLD-01269	3/3/2023	3209 ALMA ST, PALO ALTO, CA 94306	Yes	No
5/25/2021	21BLD-01270	3/3/2023	3211 ALMA ST, PALO ALTO, CA 94306	Yes	No
10/6/2021	21BLD-02531	4/27/2022	567 HALE ST, PALO ALTO, CA 94301	Yes	No

1/5/2022	22BLD-00021	7/13/2022	4094 NELSON DR, PALO ALTO, CA 94306	No	Yes
2/2/2022	22BLD-00335	9/29/2022	698 WILDWOOD LN, PALO ALTO, CA 94303	Yes	No
4/25/2022	22BLD-01098	6/23/2022	216 CREEKSIDE DR	Yes	No
4/26/2022	22BLD-01110	2/14/2023	1489 DANA AV, PALO ALTO, CA 94301	Yes	No
9/1/2022	22BLD-02232	1/6/2023	1650 BRYANT ST, PALO ALTO, CA 94301	Yes	No
10/3/2022	22BLD-02451	11/10/2022	252 EVERETT AV, PALO ALTO, CA 94301	Yes	No
12/1/2022	22BLD-02955	1/4/2023	2699 RAMONA ST, PALO ALTO, CA 94306	No	Yes
12/2/2022	22BLD-02962	3/2/2023	4261 SUZANNE DR, PALO ALTO, CA 94306	Yes	No
12/13/2022	22BLD-03075	3/28/2023	471 NEVADA AV, PALO ALTO, CA 94301	Yes	No
12/21/2022	22BLD-03206	2/13/2023	3560 BRYANT ST	Yes	Yes
12/22/2022	22BLD-03236	6/5/2023	1795 PARK BL, BLDG	Yes	No

1/3/2023	23BLD-00002	5/18/2023	235 FERNE AV, PALO ALTO, CA 94306	Yes	No
1/11/2023	23BLD-00079	5/18/2023	377 WAVERLEY ST, PALO ALTO, CA 94301	Yes	Yes
3/3/2023	23BLD-00465	3/22/2023	1919 TASSO ST, PALO ALTO, CA 94301	Yes	No
3/15/2023	23BLD-00573	5/1/2023	850 CHIMALUS DR, PALO ALTO, CA 94306	Yes	Yes
3/16/2021	21BLD-00617	2/23/2023	460 MATADERO AV, PALO ALTO, CA 94306	Yes	No
3/24/2021	21BLD-00691	2/7/2023	570 KELLY WY, PALO ALTO, CA 94306	Yes	Yes
5/7/2021	21BLD-01094	4/13/2023	882 LOMA VERDE AV, PALO ALTO, CA 94303	Yes	No
8/12/2021	21BLD-02017	4/7/2023	626 GLENBROOK DR, PALO ALTO, CA 94306	No	Yes

8/30/2021	21BLD-02185	7/21/2022	915 COLORADO AV, PALO ALTO, CA 94303	Yes	No
9/3/2021	21BLD-02234	4/25/2023	1656 CHANNING AV, PALO ALTO, CA 94303	Yes	No
12/8/2021	21BLD-03084	10/12/2022	3912 GROVE AV, PALO ALTO, CA 94303	Yes	No
1/12/2022	22BLD-00079	1/5/2023	883 LOMA VERDE AV, PALO ALTO, CA 94303	Yes	No
4/19/2022	22BLD-01041	11/22/2022	2875 EMERSON ST, PALO ALTO, CA 94306	Yes	No
4/20/2022	22BLD-01078	5/30/2023	746 SAN CARLOS CT, PALO ALTO, CA 94306	Yes	No
5/25/2022	22BLD-01405	8/1/2022	1820 COWPER ST, PALO ALTO, CA 94301	Yes	Yes
6/28/2022	22BLD-01671	4/20/2023	327 WAVERLEY ST, PALO ALTO, CA 94301	Yes	No

7/28/2022	22BLD-01923	11/29/2022	761 MATADERO AV, PALO ALTO, CA 94306	Yes	Yes
8/22/2022	22BLD-02125	6/13/2023	2743 GREER RD, PALO ALTO, CA 94303	Yes	No
11/3/2022	22BLD-02774	1/30/2023	3093 STELLING DR, PALO ALTO, CA 94303	Yes	Yes
12/19/2022	22BLD-03155	4/21/2023	840 KIPLING ST, PALO ALTO, CA 94301	Yes	Yes
1/11/2023	23BLD-00074	3/29/2023	2249 COLUMBIA ST	Yes	Yes
2/10/2023	23BLD-00326	4/25/2023	875 RORKE WY, PALO ALTO, CA 94303	Yes	No
12/10/2021	21BLD-03116	1/31/2023	4186 OLD ADOBE RD, PALO ALTO, CA 94022	Yes	No
10/20/2022	22BLD-02646	12/20/2022	567 SAINT CLAIRE DR, PALO ALTO, CA 94306	Yes	No

Permits issued between 1/1/2022 and 6/13/2023

DESCRIPTION	HPWH Manufacturer and Model
Res: 2-STORY SFR (2630 SF) WITH JADU, HEAT PUMP (A/C) AND TANKLESS WATER HEATER.	
BUILD (N) DETACHED ADU (390 SF) WITH COVERED ENTRY (36 SF) HEAT PUMP AND 100AMP SUB PANEL.	
DETACHED ADU (886 SF) TO INCLUDE STUDY, STORAGE, A/C AND GAS TANKLESS WATER HEATER.	RUR199e (REU-NP3237W-US) (Rinnai)-53 dbA RUR160e (REU-NP2530W-US) (Rinnai)-52 dbA
2-STORY SFR (2564 SF) WITH BASEMENT (1636 SF) 400 AMP ELECTRICAL SERVICE, HEAT PUMP AND TRASH ENCLOSURE.	
Res: ONE STORY HOUSE 2434SF WITH ATTACHED JADU 382SF. (NEW DETACHED 665 SQ.FT. ADU 21BLD-01691) (DECONSTRUCTION HOUSE WITH ATTACHED GARAGE 21BLD-01692)	
Res: DETACHED 665 SQ.FT. ADU. (ONE STORY HOUSE WITH ATTACHED JADU 21BLD-01669) (DECONSTRUCTION HOUSE WITH ATTACHED GARAGE 21BLD-01692)	
BUILD DETACHED ADU (565 SF) TO INCLUDE HEAT PUMP, HEAT PUMP WATER HEATER.	
RES: TWO-STORY WITH BASEMENT AND ATTACHED ONE-CAR GARAGE. (DECONSTRUCTION ONE-STORY RES UNDER 21BLD-02066 AND DECONSTRUCTION OF DET GAR UNDER 21BLD-2067).	SANCO$_2$ Heat Pump Water Heater - 37 dbA
DETACHED ADU IN THE REAR YARD (493 SF)	
CONVERT DETACHED GARAGE TO ADU (367 SF) TO INCLUDE HEAT PUMP, GAS TANKLESS WATER HEATER AND 100 AMP SUBPANEL. RE-ROOF (7 SQS) REPLACE TILE ROOFING, DECK TO REMAIN.	
CONVERT (E) DETACHED GARAGE TO ADU (298 SF) TO INCLUDE HEAT PUMP. ***please review from PLAN in 21BLD-02338***	
2-STORY HOUSE ~3258 WITH ATTACHED GARAGE ~200	
DETACHED ADU ~723 SF (please refer to plans in main house permit 21bld-02385)	
NEW SFR (2865 SF) WITH BASEMENT (2805 SF) AND ATTACHED GARAGE (564 SF) TO INCLUDE HEAT PUMP, HEAT PUMP WATER HEATER, OUTDOOR KITCHEN AND 400 AMP ELECTRICAL SERVICE.	

NEW DETACHED ADU (678 SF) WITH COVERED ENTRY (120 SF) TO INCLUDE HEAT PUMP, EVCS AND HEAT PUMP WATER HEATER.	
2-STORY SFR (2,229 SF) WITH JADU (257 SF) TO INCLUDE HEAT PUMP, HEAT PUMP WATER HEATER AND 200 AMP ELECTRICAL SERVICE.	
NEW 1,000 SF DETACHED ADU WITH HEAT PUMP EQUIPMENT. (PHOTOVOLTAIC SYSTEM ~2.4kW PERMIT 22BLD-00593.)	
RES: SINGLE STORY SFR (3158 SF) WITH ATTACHED GARAGE (462 SF), HEAT PUMP AND HEAT PUMP WATER HEATER.	RUUD - Professional Ultra Hybrid, 40, 50, 65 and 80-Gallon Capacities 208-240 Volt / 1 PH Electric - 49 dbA
RES: SFR (9,633 SF) TO INCLUDE HEAT PUMP, HEAT PUMP WATER HEATERS, AND GREY WATER SYSTEM.	RUUD - Professional Ultra Hybrid, 40, 50, 65 and 80-Gallon Capacities 208-240 Volt / 1 PH Electric - 49 dbA
DETACHED GUEST HOUSE (1,976 SF) TO INCLUDE HEAT PUMP. ***please review from PLAN file located in 21BLD-03113***	
SFR (2667 SF) WITH ATTACHED JADU (393 SF) AND ATTACHED GARAGE (222 SF) TO INCLUDE HEAT PUMP, HEAT PUMP WATER HEATER AND 200 AMP ELECTRICAL SERVICE.	PERFORMANCE PLATINUM Hybrid, 40, 50, 65 and 80-Gallon Capacities 208-240 Volt / 1 PH Electric
Res: 2-STORY SFR (2489 SF) WITH ATTACHED GARAGE (263 SF) TO INCLUDE HEAT PUMP, HEAT PUMP WATER HEATER AND 200 AMP ELECTRICAL SERVICE.	
DETACHED ADU (1000 SF) TO INCLUDE HEAT PUMP, HEAT PUMP WATER HEATER.	
DETACHED ADU (476 SF) WITH COVERED ENTRY (100 SF) TO INCLUDE HEAT PUMP AND TANKLESS WATER HEATER.	
NEW 2-STORY SFR (2,600 SF) WITH CONDITIONED BASEMENT (1,700 SF) AND ATTACHED GARAGE (400 SF) TO INCLUDE HEAT PUMPS, HEAT PUMP WATER HEATER, OUTDOOR KITCHEN, OUTDOOR FIREPLACE, AND 400 AMP ELECTRICAL SERVICE.	
RES: 2-STORY SFR (4,018 SF) WITH HEAT PUMP AND HEAT PUMP WATER HEATER. 400 AMP ELECTRICAL SERVICE, EVCS	
RES: DETACHED ADU (799 SF) WITH HEAT PUMP AND HEAT PUMP WATER HEATER.	
BUILD DETACHED ADU (476 SF) TO INCLUDE HEAT PUMP AND HEAT PUMP WATER HEATER.	Rheem - Professional Prestige® ProTerra™ Hybrid Electric with LeakGuard™ -
DETACHED ADU 427 SF	

DETACHED ADU (470 SF) TO INCLUDE HEAT PUMP AND HEAT PUMP WATER HEATER. BLD, PLAN, FIRE, WGW, ELEC, UF, PW.	
DETACHED ADU 675 SF	Rheem - PERFORMANCE PLATINUM High Efficiency Condensing Tankless Gas Water Heater
SINGLE STORY SFR (2399 SF) WITH ATTACHED GARAGE (226 SF) HEAT PUMP, HEAT PUMP WATER HEATER, 200 AMP ELECTRICAL SERVICE.	
RES: 2-STORY SFR (3070 SF) WITH ATTACHED GARAGE (228 SF) HEAT PUMPS, HEAT PUMP WATER HEATERS, AND 400 AMP ELECTRICAL SERVICE.	
BUILD 2-STORY SFR (3515 SF) WITH BASEMENT (2,275 SF) ATTACHED GARAGE (227 SF) HEAT PUMP, HEAT PUMP WATER HEATER, AND 400 AMP ELECTRICAL SERVICE.	
CONVERT ACCESSORY STRUCTURE TO ADU (468 SF) WITH HEAT PUMP AND HEAT PUMP WATER HEATER.	
BUILD SFR (3108 SF) WITH ATTACHED GARAGE (455 SF) HEAT PUMP, HEAT PUMP WATER HEATER, SOLAR WATER HEATER, PV (5.1 kW) 12 MODULE SYSTEM, EVCS (32 AMP/ LEVEL 2) AND 400 AMP ELECTRICAL SERVICE.	ICC-SRCC™ Solar Heating and Cooling Listing Number: SRCC-19004
BUILD DETACHED ADU (563 SF) WITH ATTACHED DECK, HEAT PUMP AND HEAT PUMP WATER HEATER.	Rheem - Professional Prestige ProTerra Hybrid Electric with LeakGuard
DETACHED ADU (526 SF) TO INCLUDE HEAT PUMP AND ELECTRIC WATER HEATER.	Rheem - PerFORMANCE PLATINUM ProTerra Hybrid Electric with Leakguard
DETACHED 1-STORY 515 SF ADU CONSISTING OF (1) BDM (1) BTHRM. ADU TO BE EQUIPED W/ HEAT PUMP WATER HEATER & HEAT PUMP DUCTLESS HVAC UNIT. WORK TO ALSO INCLUDE A 110 AMP SUBPANEL FOR ADU. * NO WORK TO BE CONDUCTED ON THE (E) MAIN SFD.*	
BUILD N DETACHED ADU 592 SF	Grainger - RHEEM Electric Water Heater: 240V AC, 50 gal, 4,500 W, Single Phase, 58.6 in Ht, 21 gph @ 90°F Item 38UN47 Mfr. Model PROE50 T2 RH95
2-STORY SFR WITH ATTACHED GARAGE, HEAT PUMPS, HEAT PUMP WATER HEATER, AND 400 AMP ELECTRICAL SERVICE.	Rheem - PERFORMANCE PLATINUM™ ProTerra Hybrid Electric with LeakGuard
TWO ADU'S UNDER ONE DETACHED STRUCTURE 846 SF	Rheem - PERFORMANCE PLATINUM Hybrid Electric

2-STORY SFR (2818 SF) WITH ATTACHED ADU (799 SF) ATTACHED GARAGE (266 SF) HEAT PUMPS, HEAT PUMP WATER HEATER, AND 200 AMP ELECTRICAL SERVICE.	
Res: 2-STORY SFR (2,309 SF) WITH ADU (498 SF) WITH HEAT PUMPS, HEAT PUMP WATER HEATER, AND 400A SERVICE.	RHEEM - PERFORMANCE PLATINUM Hybrid Electrc
Res: 2-Story SFR (2332 SF) with JADU (499 SF), Garage (220 SF), heat pump, heat pump water heater, 400A service.	Rheem - PERFORMANCE PLATINUM Hybrid Electrc
CHANGE OUT 4 TON 16 SEER AC ON THE RIGHT SIDE YARD, COIL, AND 9 SUPPLY DUCTS.	
REPLACE EXISTING GAS FURNACE WITH NEW HEAT PUMP SYSTEM. NEW DUCTWORK IN FIRST FLOOR CRAWLSPACE AREA, USE EXISTING DUCT WORK FOR WORK ON SECOND FLOOR.	
INSTALL DUCTLESS MINI SPLIT W/ ELECTRICAL	
REPLACE FURNACE WITH A HEAT PUMP SYSTEM	
INSTALL (2) MINI-SPLIT SYSTEM ASSOCIATED INDOOR UNITS	
INSTALL HEAT PUMP IN THE REAR YARD	
2 MINI-SPLIT SYSTEMS	
Minisplit install. Carrier, Ductless Multi-Zone 48K Heat Pump Condenser (Up To Five Zones) ELECTRICAL: New circuit 220v 30/40 amp average of 30 feet,. Standard breaker and New disconnect box and whip to condenser.	
REPLACE 2 GAS FURNACES WITH HEAT PUMP FAN COILS SAME LOCATIONS, RECONNECT TO EXISTING LOCATIONS, INSTALL MXZ-8C60, 5 TON HEAT PUMP, 59 DBA ON 3: PAD, 50 AMP DEDICATED CIRCUIT WITH FUSED DISCONNECT	

Suite 210: 2-TON HEAT PUMP C/O ON BALCONY, AIR HANDLER IN CLOSET	
INSTALL 80 GALLON HPWH AND EVCS	RUUD - Professional Ultra Hybrid, 40, 50, 65 and 80-Gallon Capacities 208-240 Volt / 1 PH Electric - 49 dbA
INSTALL (N) HEAT PUMP	
INSTALL DUCTLESS MINI SPLIT WITH ELECTRICAL	
5 TON HEAT PUMP MULTI ZONE ADD ON + DISCONNECT.	
INSTALL MINI SPLIT SYSTEM	
REPLACE 2 GAS FURNACES WITH NEW HEAT PUMP FAN COILS IN THE SAME LOCATIONS IN GARAGE AND ATTIC. CAP GAS LINE. Reconnect to existing duct work. Install MXZ-8C60, 5 ton heat pump, 60K. 58 dBA on 3" light weight pad. Connect to existing 50AMP dedicated circuit from previously removed hot tub.	
80 gallon heat pump WATER HEATER installation	Rheem PROPH80T2RH375-30 Electric Hot Water Heater 4,500 Watt 240 VAC 80 Gallon
DIRECT REPLACEMENT OF EXISTING INDOOR AIR HANDLER, ADD (N) OUTDOOR HEAT PUMP ON FLAT ROOF	
INSTALL (N) MULTI ZONE HEAT PUMP ON THE BALCONY (HOA APPROVED) WITH ASSOCIATED WALL MOUNTED UNITS IN THE LIVING ROOM AREA AND MASTER BEDROOM.	
UNIT 3: INSTALL (N) HEAT PUMP AT BALCONY.	
UNIT #19: INSTALL (N) DUCTLESS HEAT PUMP SYSTEM.	
RESIDENTIAL HEAT PUMP UNIT ASSOCIATED INDOOR UNITS.	
REPLACE 50 GALLON GAS HOT WATER HEATER WITH 40 GALLON HYBRID HWH (Rheem XE40T10H45UO selected)	PERFORMANCE PLATINUM™ ProTerra Hybrid Electric with LeakGuard
CONVERTING EXISTING FURNACE TO A FAN COIL WITH BACK UP STRIP HEATERS ADDING AN OUTDOOR HEAT PUMP CONDENSER. UPGRADING FROM A TRADITIONAL WATER HEATER TO A SMART HEAT PUMP WATER HEATER	PERFORMANCE PLATINUM™ ProTerra Hybrid Electric with LeakGuard
ADDING COOLING AND HEATING MINI-SPLIT EQUIPMENT	

HEAT PUMP	
INSTALL HEAT PUMP AND ASSOCIATED INDOOR UNITS.	
INSTALL N HEAT PUMP AND REPLACE FURNACE	
HEAT PUMP INSTALLATION, DUCTWORK REPLACEMENT, EV CHARGER INSTALLATION	
INSTALL (N) HEAT PUMP. AIR HANDLER IN THE ATTIC WITH ASSOCIATED CONDENSOR AT EXTERIOR PAD.	
INSTALL (N) HEAT PUMP.	
INSTALL (N) HEAT PUMP SYSTEM.	
Replace gas furnace with new heat pump fan coil, 3 ton 36K Btuh. Install new MXZ-8C60 heat pump condenser, 59 dBA, on 3" pad. Add 2 Ductless fan coils for upstairs bedrooms. 50 amp dedicated circuit with fused disconnect.	
FURNACE AND AIR HANDLER AND ADD HEAT PUMP	
INSTALL (N) FAN COIL/AIR HANDLER. REPLACE (E) A/C WITH (N) HEAT PUMP.	
UPGRADE ELECTRICAL SERVICE AND PANEL TO 200AMP, INSTALL NEW HEAT PUMP MINI-SPLIT SYSTEM, NO CHANGE TO EXISTING FLOOR AREA	
INSTALL MULTI ZONE DUCTLESS MINI SPLIT SYSTEM.	
INSTALL HEAT PUMP AND ASSOCIATED INDOOR UNITS.	
INSTALL HEAT PUMP UNIT ASSOCIATED EQUIPMENT.	
INSTALL (N) MINI SPLIT HEAT PUMP.	
REMOVE (E) FURNACE AND INSTALL (N) HEAT PUMP.	

INSTALL (N) HEAT PUMP AND AIR HANDLERS.	
REPLACE FURNACE WITH AIR HANDLER. INSTALL HEATPUMP	
R&R EXISTING GAS FURNACE & INSTALL (N) HEAT PUMP SYSTEM	
R&R GAS FURNACE HEAT PUMP-MINI SPLIT	
REPLACE FURNACE WITH HEAT PUMP. ADD DUCTING.	
INSTALL HEAT PUMP	
REPLACE HEAT PUMPS AND AIR HANDLER. DUCTING SYSTEM TO REMAIN.	
INSTALL HEAT PUMP UNIT AND FAN COILS	
REMOVE FURNACE. INSTALL HEAT PUMP AND AIR HANDLER.	
HEAT PUMP WITH SOUND BLANKET.	
REMOVE GAS FURNACE AND INSTALL HEAT PUMP SYSTEM	
Suite 314: R&R IN-KIND INDOOR AIR HANDLER AND OUTDOOR HEAT PUMP	
RESIDENTIAL INSTALLATION OF HEAT PUMP PACKAGE	
INSTALL HEAT PUMP 48,000 BTU, COOLING 54,000 BTU HEATING 20 EER 12.2 EER 11.5 HSPF ON PATIO. INSTALL WALL MOUNTED MINI SPLIT14,400 BTUS COOLING 16,474 BTUS HEATING IN KITCHEN. INSTALL WALL MOUNTED MINI SPLIT 19,200 BTUS COOLING 21,051 BTUS HEATING IN LIVING ROOM. INSTALL WALL MOUNTED MINI SPLIT 14,400 BTUS COOLING 16,474 BTUS HEATING IN BEDROOM	
INSTALL NEW DUCTLESS MXZ-5C42 HEAT PUMP WITH 5 HIGH WALL MOUNTED FAN COILS. 42K BTUH,59 dBA, on 3" LIGHT WEIGHT PAD. PROVIDE 40 AMP DEDICATED CIRCUIT W/FUSED DISCONNECT SWITCH FROM MAIN ELECTRICAL PANEL.	
3 TON SEER 15 HEATPUMP ADD ON RIGHT SIDE YARD; ASSOCIATED ELECTRICAL AIR HANDLER	

REPLACE FURNACE AND ADD HEAT PUMP & EVAPORATOR COIL (HYBRID/DUAL FUEL SYSTEM)	
PANEL UPGRADE TO 400 AMP, SUB-PANEL REPLACEMENT, ELECTRIC WATER HEATER CIRCUIT, EVSE LEVEL 2 INSTALLATION	RHEEM - Professional Prestige® ProTerra™ Hybrid Electric with LeakGuard
CHANGE OUT (E) HEAT PUMP, AND ADD (N) AIR HANDLER.	
ADD (N) DUCTLESS MINI-SPLIT SYSTEM (INCLUDES 1 OUTDOOR HEAT PUMP AND 3 INDOOR AIR HANDLERS)	
HEAT PUMP.	
INSTALL HEAT PUMP.	
HEAT PUMP AND 5 INDOOR WALL MOUNT UNITS.	
4.5 TON MINI SPLIT & HEAT PUMP	
REPLACE HEAT PUMP AND AC;INTERIOR & EXTERIOR	
INSTALL (N) HEAT PUMP AND ASSOCIATED INDOOR AIR HANDLER.	
Suite 315: REPLACE HEAT PUMP AND AIR HANDLER, SAME LOCATION. ADD SOUND BLANKET.	
REPLACE FURNANCE IN KIND; INSTALL EXTERIOR HEAT PUMP; REPLACE DUCTWORK; ZONE: RM-30	
2-ZONE ROOFTOP HEAT PUMP SYSTEM WITH 1 WALL-MOUNTED INTERIOR UNIT IN LIVING ROOM, AND ONE WALL-MOUNTED UNIT IN BEDROOM	
INSTALL (2) DUCTLESS HEAT PUMPS MXZ-8C48, 4 TON, 58 DBA, ON 3" LIGHT WEIGHT PADS. REPLACE 2 GAS FURNACES, SAME LOCATION, RECONNECT TO EXISTING DUCTS WITH FAN COILS. ADD 4 HIGH WALL DUCTLESS FAN COILS FOR BEDROOMS. (2) 40 AMP DEDICATED CIRCUITS WITH FUSED DISCONNECTS. INSTALL NEW SANCO2 GS4-45HPCHOT WATER HEAT PUMP UNIT WITH PIPING TO 83 GALLON HOLDING TANK. 15.4K BTUH, 37 DBA, ON 3"" LIGHT WEIGHT PAD. 15 AMP DEDICATED CIRCUIT WITH FUSED DISCONNECT.	

BOILER AND WATER HEATER REPLACEMENT TO HEAT PUMP **UPDATE SCOPE TO ADD RADIANT FLOOR PANELS**oc	
REPLACE EXISTING GAS FURNACE WITH NEW SPLIT DUCTED HEAT PUMP SYSTEM IN THE PRESCHOOL.	
INSTALL DUCTLESS HEAT PUMP SYSTEM MXZ-5C42, 3.5TON, 58 DBA ON 3" LIGHT WEIGHT PAD WITH 5 HIGHWALL DUCTLESS FAN COILS. 40 AMP DEDICATED CIRCUIT WITH FUSED DISONNECT SWITCH	
ADD HEAT PUMP.	
DUCTLESS MINI SPLIT W/ ELECTRICAL	
REMOVE AND REPLACE (CONDENSER AND FURNACE WITH HEAT PUMP AND AIR HANDLER.	
DUCTLESS HEAT PUMP SYSTEM MXZ-4C36 WITH 3 HIGH WALL FAN COILS. 36k BTUH, 3.0 ton, 58 dBA, on 3" LIGHT WEIGHT PAD. 25 AMP DEDICATED CIRCUIT WITH FUSED DISCONNECT SWITCH	
HEAT PUMP SYSTEM	
INSTALL 2 NEW ELECTRIC HEAT PUMP SYSTEMS	
HEAT PUMP.	
INSTALLATION OF HEAT PUMP AC SYSTEM & COINCIDING DUCTWORK.	
REPLACEMENT OF FURNACE WITH A SPLIT DUCTED HEAT PUMP SYSTEM	
R/R OF (E) HEATPUMP & FAN COIL - 2 TON CAPACITY UNIT LOCATED ON THE ROOF OF DWELLING (3-STORY BUILDING)	
FURNACE REPLACEMENT, ADD HEAT PUMP. INSTALL SOUND BLANKET ON HEAT PUMP COMPRESSOR.	
REPLACE WATER HEATER ADD HPWH	State Water Heaters - PREMIER® HYBRID 50 – 80 GALLON ELECTRIC HEAT PUMP WATER HEATER

PROPOSAL INCLUDES (2) HEATPUMP ADDONS - 1 LOCATED IN THE BACKYARD, 1 LOCATED ON THE RIGHT SIDE YARD (BOTH UNITS NEED ELECTRICAL). ALSO PROPOSED (2) AIR HANDLER ADDONS INSIDE THE SFR.	
HEAT PUMP WITH ASSOCIATED AIR HANDLERS.	
REPLACE WATER HEATER WITH HEAT PUMP WATER HEATER AT THE GARAGE.	Rheem -XE65T1 OHS45UO XE65T1 OHS45UO
ADD (N) DUCTLESS HEAT PUMP SYSTEM (INCLUDES 1 OUTDOOR HEAT PUMP AND 5 INDOOR AIR HANDLERS).	
REPLACE EXISTING HVAC WITH AIR HANDLER AND OUTDOOR HEAT PUMP EQUIP: AIR HANDLER- LG LQN090HV4 & HEAT PUMP- LG LMU36CHV (MAX dBA: 55)	
REPLACE GAS WATER HEATER WITH HEAT PUMP TYPE.	SANC02 43-GALLON HEAT PUMP WATER HEATER SYSTEM - GS4-45HPC & SAN-43SSAQA 43 Gallon Tank
MULTIFAMILY: Suite 6: DUCTLESS HEAT PUMP WITH 3 HIGH WALL FAN COILS, 1 MAIN LIVING AREA, 2 BEDROOMS. MXZ-3C30 HEAT PUMP, 30K BTUH, 2.5 TON, 58 DBA, ON 3" LIGHT WEIGHT PAD. 25 AMP DEDICATED CIRCUIT WITH FUSED DISCONNECT.	
MULTI-FAMILY: HEAT PUMP AND AIR HANDLER REPLACEMENT.	
R/R GAS WATER HEATER WITH A 50GAL HEAT PUMP WATER HEATER SAME LOCATION IN BASEMENT	Rheem - Performance Platinum 50 Gal. 10-Year Hybrid High Efficiency Smart Tank Electric Water Heater
REPLACE GAS WATER HEATER AND FURNACE WITH ELECTRIC HPWH AND MINI SPLIT HEAT PUMP. INSTALL NEW CIRCUITRY. MAIN PANEL CONVERT TO SUB. UPGRADE ELECTRIC SERVICE AND INSTALL MAIN PANEL (200A).	
CHANGEOUT 3 TON 14 SEER AC IN FRONT YARD, 3 TON COIL, 70K 93% FURNACE IN ATTIC	
REPLACE WATER HEATER WITH HEAT PUMP WATER HEATER, AT BASEMENT.	Rheem - PERFORMANCE PLATINUM™ Hybrid Electric
DIRECT REPLACEMENT HEAT PUMP AND CONDENSER	
REMOVING EXISTING BROKEN GRAVITY FED FURNACE TO BE REPLACED WITH A DUCTED MINI-SPLIT HEAT PUMP SYSTEM AT REAR UNIT EXISTING UNIT 375	
HPWH IN GARAGE	RUUD - Professional Ultra™ Hybrid Electric with LeakGuard

REPLACEMENT OF TWO FURNACES AND TWO HEAT PUMPS.	
INSTALL A CENTRAL HEAT PUMP SYSTEM INCLUDING NEW DUCTWORK SYSTEM.	
REPLACE FURNACE WITH INDOOR AIR HANDLER. INSTALL HEAT PUMP. UPGRADE MAIN PANEL FROM 100 AMPS TO 200 AMPS.	
REPLACE GAS FURNACE WITH HEAT PUMP IN ATTIC. INSTALL 30 AMP CIRCUIT WITH DISCONNECT SWITCH.	
RESIDENTIAL Custom Multi-Zoned HP Ducted for the Main House. 4 Zoned Ductless Heat Pump for the Bedrooms	
RESIDENTIAL DUCTLESS MINI-SPLIT SYSTEM, (1) HEAT PUMP AND (5) INDOOR AIR HANDLERS.	
RESIDENTIAL DUCTLESS HEAT PUMP	
REPLACE HEAT PUMP AND AIR HANDLER. SAME LOCATION. LIKE-FOR-LIKE.	
RESIDENTIAL (2) HEAT PUMPS INSTALLATION	
FLOOD DAMAGE REPAIR: INSTALL HEAT PUMP WITH ASSOCIATED AIR HANDLER.	
R/R MINISPLIT WITH HEAT PUMP MINISPLIT, LOCATED BEHIND DWELLING	
REPLACE GAS WATER HEATER WITH HEAT PUMP WATER HEATER IN SAME LOCATION.	RHEEM - PERFORMANCE PLATINUM™ ProTerra Hybrid Electric with LeakGuard
DUCTLESS MINISPLIT HEAT PUMP LOCATED AT THE REAR OF THE DWELLING	
RESIDENTIAL HEAT PUMP WATER HEATER WITH EXPANSION TANK (65 GAL) IN GARAGE	Bradford White - AeroTherm® Series Heat Pump Water Heater - RE2H50S10
RESIDENTIAL FURNACE REPLACEMENT. INSTALL HEAT PUMP CONDENSER.	
R/R 50GAL HEAT PUMP WATER HEATER ; SAME LOCATION LOCATED IN CLOSET	RHEEM - PERFORMANCE PLATINUM™ Hybrid Electric -
INSTALL HEAT PUMP ON SIDE OF PROPERTY.	
R/R FURNACE. WORK INCLUDES INSTALLATION OF HEAT PUMP A/C LOCATED IN THE SIDE YARD.	

INSTALL 3-ZONE HEAT PUMP MINI SPLIT. WORK TO INCLUDE AN ELECTRICAL CIRCUIT AND CONDENSATE LINES.	
REPLACE FURNACE WITH AIR HANDLER. ADD HEAT PUMP AND 30 AMP DEDICATED CIRCUIT WITH FUSED DISCONNECT.	
HEATPUMP MINI SPLIT LOCATED IN THE SIDE YARD	
MULTI-FAMILY: HEAT PUMP REPLACEMENT	
RESIDENTIAL: INSTALL HEAT PUMP AND AIR HANDLER IN ATTIC WITH DUCTS.	
RESIDENTIAL: ADD HEAT PUMP A/C UNIT AND 3 INDOOR UNITS.	
INSTALL SUBPANEL IN GARAGE. REPLACE GAS WATER HEATER WITH HEAT PUMP WATER HEATER.	Rheem - PERFORMANCE PLATINUM™ Hybrid Electric - XE40T10H45U0/XE50T10H45U0/XE65T10H45U0/XE80T10H45U0
INSTALLATION OF NEW HEAT PUMP.	
R/R DUCTLESS MINI SPLIT ; SAME LOCATION, LOCATED IN THE SIDEYARD	
#F203 ; R/R HEATPUMP A/C LOCATED ON THE ROOF OF MULTIFAMILY BUILDING	
RESIDENTIAL FURNANCE AND HEAT PUMP REPLACEMENT.	
DUCTLESS MINI SPLIT LOCATED IN THE REAR YARD	
RESIDENTIAL INSTALL 2 MINISPLIT HEAT PUMP OUTOORS AND 5 INDOOR UNIT	
DUCTLESS MINI-SPLIT SYSTEM: HEATPUMP AND 6 INDOOR AIR HANDLERS	
RESIDENTIAL 2 HEAT PUMPS EXTERIOR REPLACEMENT AND REPLACE HEAT PUMP WATER HEATER IN GARAGE.	
EXTERIOR RESIDENTIAL HEAT PUMP INSTALLATION.	
HEAT PUMP	

ADD NEW 2 TON 24 SEER DUCTLESS MINI SPLIT IN LEFT SIDE YARD. ADD ELECTRICAL FOR NEW INSTALL, 2 AIR HANDLERS	
MULTIFAMILY: ADD NEW 3 TON 19 SEER DUCTLASS MINI SPLIT IN LEFT SIDE YARD, ADD ELECTRICAL FOR NEW INSTALL, 4 INTERIOR AIR HANDLERS	
RESIDENTIAL: REPLACE GAS FURNACE WITH HEAT PUMP AIR HANDLER AND INSTALL HEAT PUMP CONDENSER.	
RES: Suite 11: HEAT PUMP	
REPLACEMENT OF FURNACE IN EXISTING LOCATION AND ADDING NEW AC.	Carrier - 58TP0/58TP1 PERFORMANCE™ TWO-STAGE, VARIABLE-SPEED 4-WAY MULTIPOISE INDUCED-COMBUSTION GAS FURNACE Input Capacities: 45,000 thru 135,000 Btuh Series A
REMOVE FURNACE. INSTALL HEAT PUMP. INSTALL 30-AMP DEDICATED CIRCUIT WITH FUSED DISCONNECT.	
*****ML/SC***** R/R GAS FURNACE LIKE FOR LIKE SAME LOCATION LOCATED IN THE BASEMENT MECHANICAL CLOSET. WILL ALSO INSTALL A 18 SEER HEAT PUMP CONDENSING UNIT	
Residential water heater replacement at same location, change from tanked gas water heater to tanked heat pump water heater	Rheem - PERFORMANCE PLATINUM™ Hybrid Electric - XE40T10H45U0/XE50T10H45U0/XE65T10H45U0/XE80T10H45U0
RESIDENTIAL HEAT PUMP REPLACEMENT.	
RESIDENTIAL INTERIOR AND EXTERIOR HEAT PUMP INSTALLATION	
ADD 4 TON 18 SEER MINI SPLIT WITH 48K AIR HANDLER LOCATED IN THE BACKYARD	
RESIDENTIAL HEAT PUMP INSTALLATION AND HEAT PUMP ADDTION TO FURNACE	
RESIDENTIAL HVAC INSTALLATION, 2 MINI-SPLIT SYSTEMS ON EXTERIOR ROOF OF CAR PORT	
INSTALL HEAT PUMP HVAC UNIT LOCATED IN THE SIDE YARD. WORK INCLUDES 3 WALL MOUNTED UNITS.	
INSTALLATION OF HEATPUMP HVAC UNIT & 4 INDOOR UNITS	

REPLACE TANKLESS WATER HEATER WITH HEAT PUMP WATER HEATER	AO Smith - VOLTEX® AL SMART HYBRID ELECTRIC HEAT PUMP WATER HEATER WITH ANTI-LEAK TECHNOLOGY - HPTS-50/HPTS-66/HPTS-80
RESIDENTIAL A/C REPLACEMENT WITH HEAT PUMP. SAME LOCATION.	
SFD: ADD HEAT PUMP CONDENSER TO EXISTING FURNACE.	
RESIDENTIAL INSTALLATION OF TWO HEAT PUMPS AND DUCTWORK.	
SFD: INSTALLATION OF HEATPUMP WITH 3 INDOOR UNITS.	
RESIDENTIAL ATTACHED ADU (281.70 SF) WITH TANKLESS WATER HEATER	
21PCE-00313 - STOP WORK ORDER: REMODEL UNIT - ADD WASHER/DRYER IN THE KITCHEN, ADD WH IN BATHROOM, ELECTRICAL AND FRAMING. ADD GAS HEATER. REMODEL BEDROOM WALLS***Add kitchen and bathroom remodels, replace windows and doors***(CHANGE OF SCOPE - CW - 2/3/2022)	RHEEM - XG29T06EC32U0
21PCE-00314 - STOP WORK ORDER: LEGALIZE UNPERMITTED BATHROOM AND KITCHEN REMODEL, GAS WATER HEATER AND WALL FURNACE REPLACEMENT, ADD WASHER/DRYER IN THE BATHROOM. LIGHTING AND ELECTRICAL REMODEL. LEGALIZE WINDOW REPLACEMENT. (CW 1/25/2022). ACBO email 2/8/2022: fence modification as redmarked on front sheet. Verify all scope of work.	RHEEM - XG29T06EC32U0
21PCE-00315 - STOP WORK ORDER: WATER HEATER IN BATHROOM, WASHER/DRYER IN THE BATHROOM, NEW LIGHTING, FANS**Add kitchen and bath remodel, window and door replacements, dt***(SCOPE CHANGE -CW- 2/3/2022)	RHEEM - XG29T06EC32U0
RESIDENTIAL REMODEL (7,000 SF) TO INCLUCE REMODEL THROUGHOUT ENTIRE HOUSE (BASEMENT TO 3RD FLR) REMOVE AND REPLACE FURNACE, WATER HEATER, VARIOUS WINDOWS. ADD SF TO REAR PORCH, (N) A/C, (N) GAS FIREPLACE AND (N) SKYLIGHTS. MEP UPDATED THROUGHOUT.	

RESIDENTIAL ADDITION (108 SF) AND REMODEL (1879 SF) ADDITION TO INCLUDE (N) SF AT KITCHEN AND (N) HALF BATHROOM. FULL HOME REMODEL, COVERSION TO ALL ELECTRIC HOME, MEP UPDATED THROUGHOUT AREA OF WORK. EVCS (2 / 80 AMP / LEVEL 2 / QTY 2) INTERIOR AND EXTERIOR OF GARAGE. ELECTRICAL SERVICE UPGRADE TO 400 AMPS. RE-ROOF (30 SQS)	Rheem - PERFORMANCE PLATINUM™ Hybrid Electric - XE40T10H45U0/XE50T10H45U0/XE65T10H45U0/XE80T10H45U0
CONVERT (E) GARAGE TO ADU (379 SF) TO INCLUDE (N) HEAT PUMP.	
RESIDENTIAL REMODEL TO INCLUDE REMOVAL OF (E) DURAFOAM ROOF AND REPLACE WITH PVC ROOF (30 SQS) ASSOCIATED INSULATION AND FACIA. INSTALL (N) HEAT PUMP (N) PEX WATER LINE (N) RECESSED LIGHTING AND (N) INSULATION AT ALL EXTERIOR WALLS. UPDATED ALL ELECTRICAL WIRING, SWITCHES, AND OUTLETS.	
ACCESSORY STRUCTURE / GARAGE CONVERSION TO ADU (660 SF) WITH HEAT PUMP AND TANKLESS WATER HEATER.	
REMOVE FURNACE AND INSTALL HEAT PUMPS. REPLACE ALL DUCT WORK.	
MULTI-FAMILY REMODEL 194SF. THIS PROJECT INCLUDES INTERIOR IMPROVEMENTS TO AN EXISTING BUILDING. BUILDING INTERIOR WORK AT ALL 4 UNITS TO INCLUDE: REMOVAL OF INTERIOR NON-LOAD BEARING WALLS, INTERIOR DOORS, WASHERS, DRYERS & WALL HEATERS AS IDENTIFIED. NEW STACKABLE WASHER & DRYER, MULTI ROOM DUCTLESS HEAT PUMP SYSTEM & CONDENSORS.	
R/R GAS WATER HEATER WITH 50GAL HEAT PUMP WATER HEATER	NorCal Water Heaters -50 gallon Heat pump Bradford White 50 Gallon Heatpump BRE2H50S101NCW
RESIDENTIAL REMODEL (1,380 SF) TO INCLUDE MODIFICATIONS TO INTERIOR LAYOUT TO CREATE FOUR (N) BATHROOMS. CONVERT UNPERMITTED WORKSHOP INTO BEDROOM . ADD (N) A/C. RELOCATE KITCHEN AND FRONT ENTRY. ELECTRICAL SERVICE UPGRADE TO 200 AMP AND RELOCATION. REMOVE AND REPLACE VARIOUS DOORS AND WINDOWS.	
CONVERT DETACHED GARAGE TO ADU (323 SF) WITH COVERED PATIO AREA (222 SF) HEAT PUMP AND 100 AMP SUB PANEL.	Rheem - PERFORMANCE PLATINUM™ Hybrid Electric - ECCH160XLN-2
RES: CONVERT GARAGE TO ADU (373 SF) TO INCLUDE HEAT PUMP, HEAT PUMP WATER HEATER. REMODEL TO CREATE UTILITY ROOM.	ECOSMART - ECO 8 / ECO 11 - Tankless Electric Water Heater
CONVERT ACCESSORY STRUCTURE/GARAGE TO ADU WITH STORAGE/MECH SPACE AND HEAT PUMP.	

CONVERT GARAGE TO JADU (360 SF) CREATE MUDROOM (121 SF) IN GARAGE SPACE. ADD HEAT PUMP.	
CONVERT PORTION OF DETACHED GARAGE TO ADU (317 SF) TO INCLUDE HEAT PUMP AND HEAT PUMP WATER HEATER. REPLACE VARIOUS WINDOWS AND DOORS.	Rheem - Professional Classic Ultra Low Nox Gas Water heater (Professional Classic Series Atmospheric)
REMODEL KITCHEN AND BATHROOM REMODEL (ELECTRICAL REWIRE, DIRECT REPLACEMENT, NO WINDOW OR WALL CHANGES) REPLACE FURNACE (DIRECT REPLACEMENT). ADD HEAT PUMP. MAIN SERVICE PANEL UPGRADE 200 AMP.	
REMOVE A NON-BEARING WALL TO COMBINE AN EXISTING UTILITY ROOM AND AN EXISTING BATHROOM INTO A LARGER BATHROOM. UPGRADE MAIN ELECTRICAL PANEL FROM 200 AMP TO 400 AMP. ADD A HEAT PUMP WATER HEATER AND HEAT PUMP. MAKE SOME MINOR ELECTRICAL CIRCUIT UPGRADES.	Bradford White - AeroTherm® Series Heat Pump Water Heater - RE2H50S10
RESIDENTIAL ADDITION/REMODEL. ADDITION AT THE REAR OF THE HOUSE TO ADD 2 NEW BEDROOMS AND 1 BATHROOM (673.5 s.f.) AND REMODEL (E) BATHROOM, KITCHEN AND LIVING ROOM CEILING (approx. 400 s.f.)	
ADDITION AND REMODEL TO SFR: NEW 261 SF JADU, REMODEL 1391 SF (N) LAUNDRY ROOM, REMODEL KITCHEN, ELIMINATE CHIMNEY AND FIREPLACE	
RESIDENTIAL REMODEL TO CONVERT ATTACHED GARAGE INTO AN ADU. ~420 SF. **SCOPE CHANGE TO CONSTRUCT AN ATTACHED JADU ~355 SF***oc	
RESIDENTIAL ADDITION (764 SF) AND REMODEL (988 SF) ADDITION TO INCLUDE ENTRY, FAMILY ROOM, GUEST BATHROOM, OFFICE, EXPANDED KITCHEN AREA, LAUNDRY AREA AND COVERED ENTRY PORCH. REMODEL TO INCLUDE UPDATED BEDROOM 2 BATH AND CLOSET, HALL STORAGE, MASTER BEDROOM BATH AND CLOSET, EXPANDED KITCHEN AND RAISED CEILINGS AT LIVING/DINING ROOM. REPLACE WINDOWS THROUGHOUT. ADD SKYLIGHTS, A/C, FURNACE IN ATTIC, HEAT PUMP WATER HEATER, GAS FIREPLACE INSERT. ELECTRICAL SERVICE UPGRADE TO 200 AMPS.	SanCO2 Heat Pump Water Heater SANCO2™ High-Efficiency Heat Pump Water Heater The Clear Path to Net Zero Energy.

RESIDENTIAL ADDITION (123 SF) AND REMODEL (396 SF) REMODEL TO INCLUDE GARAGE CONVERSION TO JADU (330 SF) AND 2ND FLOOR BATHROOM REMODEL. INSTALL (N) HEAT PUMP, GAS TANKLESS WATER HEATER, FURNACE AND EXTERIOR LIGHTING. PARTIAL RE-ROOF.	
CONVERT PORCH TO ATTACHED JADU (350 SF) TO INCLUDE HEAT PUMP, 100 AMP SUBPANEL. (main house under construction - see 19000-00936)	
RESIDENTIAL REMODEL TO INCLUDE KITCHEN, MASTER BATHROOM AND HALLWAY BATHROOM. REPLACE 19 WINDOWS AND 22 DOORS. NEW LIGHTING AND INSTALL MINI-SPLIT SYSTEM. UPGRADE EXISITING ELECTRICAL SERVICE TO 200 AMPS	
RESIDENTIAL ADDITION 466SF AND REMODEL 300SF INCLUDES ATTACHED ACCESSORY DWELLING UNIT ON EXISTING SINGLE FAMILY HOME. CONVERT ONE EXISTING BATHROOM AND BEDROOM	
RESIDENTIAL ADDITION (570 SF) AND REMODEL (200 SF) ADDITION TO INCLUDE ATTACHED ADU (486 SF) WITH HEAT PUMP AND HP TANK WATER HEATER. (N) SF AT KITCHEN AND FRONT ENTRY. REMODEL AT MASTER BED & BATH. CONVERT STUDY TO GUEST BATH. MODIFY GAS LINE FROM METER TO HOUSE. ELECTRICAL SERVICE UPGRADE TO 400 AMPS.	
GARAGE CONVERSION TO ADU (241 SF) WITH ADDITIONAL SF (314 SF) FOR TOTAL ADU AREA (554 SF) TO INCLUDE (N) LAUNDRY. (N) MECHANICAL ROOM WITH A (N) HEAT PUMP. RELOCATE WATER HEATER AND FURNACE.	
RESIDENTIAL ADDITION/REMODEL TO INCLUDE: KITCHEN REMODEL, ADDITION TO KITCHEN WINDOW BAY, LAUNDRY AND POWDER ROOM REMODEL. ON SECOND FLOOR REMODEL ONE BEDROOM TO CREATE ANOTHER BATHROOM AND WALK-IN CLOSET, REMODEL 2 ADDITIONAL BATHROOMS. UPDATE LIGHTING THROUGHOUT THE HOUSE, ADD NEW HEATPUMP FURNACE WITH 2 INTERIOR UNITS. NEW TANKLESS WATER HEATER. REMODEL REAR COVERED PATIO, NEW IPE SIDING OVER REAR ELEVATION, REROOF COVERED PATIO. UPDGRADE MAIN ELECTRICAL PANEL TO 200 AMPS.	AO Smith - PROLINE® XE CONDENSING TANKLESS WITH X3® SCALE PREVENTION TECHNOLOGY OUTDOOR ATO-240HX3, ATO-340HX3, ATO-540HX3
CONVERT EXISTING DETACHED WORKSHOP INTO ADU (248 SF). UPGRADE SEWER, GAS, ELECTRICAL. ADD TANKLESS GAS WH, HP FOR ADU.	

ATTACHED 834 SF ACCESSORY DWELLING UNIT (ADU). UPGRADE MAIN PANEL TO 200 AMPS. (DEMO CARPORT IN PREPARATION FOR ADDITION ON SEPARATE PERMIT 22BLD-01924)	
CONVERSION CARPORT (145 SF) AND PORTION RESIDENCE TO AN ATTACHED JADU (446 SF)	
TEMP POWER	
RESIDENTIAL ADDITION & REMODEL. ADDITION TO INCLUDE 2ND FLR, SF AT KITCHEN, AND BEDROOM 1. REMODEL TO INCLUDE CONVERSION OF BEDROOM, HALL, AND POWDER ROOM. CREATE LAUNDRY ROOM. UPDATE DINING ROOM LAYOUT. EXPANSION OF UTILITY ROOM AT BASEMENT. RELOCATE STAIRS TO BASEMENT. ADD REAR DECK. ELECTRICAL SERVICE UPGRADE TO 200 AMPS.	
INTERIOR REMODEL AT FIRST FLOOR (940 SQFT): REMODEL AND RELOCATE KITCHEN AND PRIMARY BEDROOM, REMODEL BATHROOM. INSTALL SLIDING GLASS DOORS TO REAR YARD, HEAT PUMP DUCTLESS MINI-SPLIT HVAC SYSTEM, HEAT PUMP WATER HEATER, DECK AT REAR YARD.	Navien NPE-2 Series Tankless Wataer Heater
RESIDENTIAL INTERIOR REMODEL TO INCLUDE KITCHEN, 3 BATHROOMS, UPGRADE ELECTRICAL PANEL TO 200 AMPS, TWO MINI-SPLIT SYSTEMS, REPLACE 24 WINDOWS AND DOORS AND 5 SKYLIGHTS THROUGHOUT HOUSE, ADD NEW SIDING. CONVERT UNCONDITIONED UTILITY ROOM TO MASTER SUITE. (E) UNCONDITIONED SUNROOM TO REMAIN.	Rheem - PERFORMANCE PLATINUM™ Hybrid Electric - XE40T10H45U0/XE50T10H45U0/XE65T10H45U0/XE80T10H45U0
DETACHED GYM (663 SF) TO INCLUDE HEAT PUMP.	
REPLACE EXISTING GAS FURNACE AND INSTALL A NEW FAN COIL AND HEAT PUMP 19 SEERS.	

AC Manufacturer and Model	Heat Pump Heating and Cooling Manufacturer and Model
LG LMU240HV - 50/54 dbA Goodman - GSXC18 - 68/74 dbA	
	Mitsubishi Electric - PVFY-P12NAMU-E1 - 27-35 dbA Mitsubishi Electric - PVFY-P48NAMU-E1 - 35-43 dbA
	Mitsubishi Electric - MSZ-FS06NA - 20-40 dbA Mitsubishi Electric - MUZ-FS06NAH - 47-49 dbA
	Mitsubishi Electric - MSZ-GL12NA - 49-51 dbA Mitsubishi Electric - MUZ-GL12NADB - 49-51 dbA
	Carrier - 38MARBQ12AA3 - 56 dbA
	Bryant - 40MBDQ Ducted Style Ductless System Sizes 09 to 58 - 66 dbA
Samsung AR09JSALBWKXCV / AR09JSALBWKNCV - 29-53 dbA	

	Bryant - 288BNV EVOLUTIONR V VARIABLE SPEED HEAT PUMP WITH PURON REFRIGERANT 1--5 TON - 55-73 dbA
	City Multi - Model: PVFY-P36NAMU-E1 - 35-43 dbA
	Carrier - 38MA*R, Outdoor Unit Single Zone Ductless System Sizes 09 to 36 - 25-50 dbA
	Mitsubishi Electric - MXZ-3C24NA - 51-55 DB
	Carrier - 25VNA8 Infinityr 18VS Variable Speed Heat Pump with Puronr Refrigerant - 55 dbA
	Mitsubishi Electric - MXZ-3C24NA2 - 51 dbA
	Mitsubishi Electric - PUMY-P36NKMU3(-BS) - 49-53 dbA

	Mitsubishi Electric - MXZ-3C224NA2 - 51-55 dbA
	Samsung - AM060MXMDCH/AA - 58-60 dbA
	Mitsubishi Electric - MXZ-2C20NA2 - 50-54 dbA
	Daikin - FTX18NMVJU / RX18NMVJU - 54 dbA
	LG - LA120HSV5 - Single Zone Art Cool™ Mirror Wall Mount - 45-48 dbA
	Blueridge BMY917C x1 9,000 BTU 16.5 SEER Single Zone Ductless Mini Split Outdoor Condenser - 54.5 dbA
Mitsubishi Electric - PVA-A42AA7 & PUZ-A42NKA7(-BS) - 36-44 dbA	Mitsubishi Electric - SVZ-KP24NA & SUZ-KA24NAHZ - 36-41 dbA
Carrier - 40MAQ / 38MAQ - 55.5 fbA	

	Mitsubishi Electric - SVZ-KP36NA & SUZ-KA36NAHZ - 61-90 dbA
	Mitsubishi Electric - SVZ-KP24NA & SUZ-KA24NAHZ - 115 dbA
Lennox - XC16 ELITE® Series - R-410A - Two-Stage Compressor - 60 Hz - 73 dbA	
	Bryant - MODEL 226A PREFERRED SERIES 2--STAGE HEAT PUMP WITH PURON REFRIGERANT 2 TO 5 NOMINAL TONS - 70 dbA
Daikin - FTKB12AXVJU / RKB12AXVJU - 46-52 dbA	
	New Condenser Heat Pump Outdoor Unit1 Model # 38MPRAQ24AA3 62 dB & Heat Pump 2 Model #: 38MGRQ30D 62.3 dB
	Mitsubishi Electric - MXZ-3C24NA2-U1 - 52-56 dbA Mitsubishi Electric - MXZ-4C24NA2-U1 - 50-54 dbA
	Lennox - model # EL18XPV-036 - 63-75 dbA
	Indoor units location 1 MITSUBISHI MSZGL18NA 1003887T location 2 MITSUBISHI MSZGL12NA 11E35252 outdoor units MITSUBISHI MXZ5C42NA2 12P01484 58 dBA MITSUBISHI MXZ3C30NA2 01U48308B 58 dBA
	Ductless 48000 Btuh Up to 22 SEER Heat Pump 5 Zone 208/230-1 Item: 38MGRQ48E--3 MFR: 38MGRQ48E--3 - 64 dbA
	Mitsubishi Electric - MXZ-8C60NA2 - 70-115 dbA

	Lennox - ML14XP1 MERIT® Series - 76 dbA
	American Standard 4A6L6030A1, 2.5 Ton -58 dbA
	Mitsubishi Electric - MXZ-3C30NA2 - 52-56 dbA
	Mitsubishi Electric - MXZ-8C60NA2 - 54 dbA
Daikin - #2MX518 - 51 dbA	
	Mitsubishi Electric - MXZ-8C60NA - 58 dbA
	Bryant - 214DNA024P00) - 76 dbA
	Mitsubishi Electric - MXZ-3C24NA2 - 55 dbA
	Mitsubishi Electric - MXZ-3C24NA2 - 55 dbA
	Mitsubishi Electric - MXZ-3C24NA2-U1 - 51-55 dbA
	Mitsubishi Electric - PUMY-P36NKMU3(-BS) - 49-53 dbA
	American Standard Heat Pump - 4A6l9036A1000H - 60 dbA
	Mitsubishi Electric - MSZ-GL15NA & MUZ-GL15NA - 49-51 dbA

	Mitsubishi Electric - MXZ-8C48NA - 51-54 dbA
	Mitsubishi Electric - MXZ-2C20NA2 - 50 dbA
American Standard TAM9A0C36V31DA - Platinum Series, 3 Ton, Variable Speed Multi-Position Air Handler, R410A, 208-230/1/60	American Standard 4A6V8036A1000 - Platinum 18 Series 3 Ton, 18 SEER, R410a Variable Speed Heat Pump Unit, 208-230/1/60 -
	Heat Pump Model 284ANV – Make "Bryant" 284ANV048000 HEAT PUMP (EVOLUTION™ EXTREME 24 VARIABLE-SPEED Sound Level 72 dB(A) Sound Blanket of 15dBA will be provided
	Mitsubishi Electric - SVZ-KP36NA & SUZ-KA36NAHZ - 61-90 dbA
	Mitsubishi Electric - MSZ-GL12NA-U1 & MSZ-GL42NA-U1 - 54 dbA
	Mitsubishi Electric - MLZ-KP18NA & SUZ-KA18NA2 - 54-55 dbA
	Mitsubishi Electric - MXZ-8C60NA - 59 dBA
	Lennox Lennox CBA27UHE-024-230 located in attic EL15XP1-024-230 71 dBA install 10dB sound blanket
	American Standard - 4A6L9060A1XXXB -
	Mitsubishi Electric - MXZ-5C42NA2-U1 - 51-54 dbA
	Mitsubishi Electric- MXZ-5C42NAHZ2 - 5-80 dbA
	Mitsubishi Electric - MSZ-GK12NA-U1 - 19-45 dbA
	Mitsubishi Electric - MUZ-WR12 - 54 dbA
	Mitsubishi Electric - MXZ-4C36NA2-U1 - 54-56 dbA
	Samsung - AC024KNZDCH/AA - 50 dBA

	Mitsubishi Electric - MSZ-GL 18NA-U1 - ## dbA
	Mitsubishi Electric - SUZ-KA36NA2 - 55 dbA
Mitsubishi Electric - PVFY-P48NAMU-E1	Mitsubishi Electric - MXZ-SM48NAM-U1 - 51-54 dbA
Mitsubishi Electric - PVFY-P48NAMU-E1	Mitsubishi Electric - mxz-sm48nam-u1 - 51-54 dbA
	Mitsubishi Electric - SVZ-KP36NA & SUZ-KA36NA2 - 55 dbA
Mitsubishi Electric - SVZ - SVZ-KP36NA 36,000 BTU Multi Position Ducted Heat Pump Air Handler	Mitsubishi Electric - SUZ - SUZ-KA36NA2.TH 36k BTU - M-Series SUZ Outdoor Condenser - Single Zone Only Sound Level – 55 dBA
	GREE - GMV5 - 208-230V Heat Pump - 57 dBA
	Bryant - 224ANS PREFERRED┐ SERIES HEAT PUMP WITH PURON└ REFRIGERANT 1–1/2 TO 5 NOMINAL TONS -69 dbA
GREE - Indoor Air Handler Model Number GMV-ND36A/AT(U)	Gree GMV VRF System, 4 Ton, Outdoor Unit Model Number GMV-48WL/A-T(U) 18SEER, 57dB(A)
	Lennox - EL16XP1 ELITE® Series - R-410A - 60 Hz - 71 dbA
	Carrier - 25VNA448A**30 - 51 dbA
	Bryant, model # 214DNA036P00, 3 ton, is 70 dBA
	Mitsubishi Electric - MXZ-8C48NA2 - 54 dbA Mitsubishi Electric - MSZ-FS15NA & MUZ-FS15NAH
	Mitsubishi Electric - MXZ-8C48NA2 - 54 dbA
	Mitsubishi Electric - MXZ-5c42 - 59 dbA
	Carrier - 38MARBQ36AA3 - utdoor Unit Single Zone Heat Pump Ductless System - 61.5 dbA

	Bryant - 214D Legacy™ Line Heat Pump with Puron® Refrigerant 1-1/2 To 5 Nominal Tons - 68-69 dbA
Fujitsu - ARU18RLF -	Fujitsu - 18RLFCD - 32-55 dbA
	Mitsubishi - MXZ-4C36NA2-U1 - 54-56 dbA
Mitsubishi Electric - MSZ-GL09NA	Mitsubishi Electric - MS2-GL09NA & MUZ-GL09NA - 48-50 dbA
	Mitsubishi Electric - MXZ-4C36NA2 - 56 dbA
Mitsubishi Electric - MSZ-GL06NA	Mitsubishi Electric - MXZ-5C42NA2 MULTI-ZONE INVERTER HEAT-PUMP SYSTEM - 58 dbA
LG - LMN079HVT Multi F Wall Mounted High Efficiency Indoor Unit 7,000 Btu/h	Carrier - 38MGRQ18B3 - 62 dbA
MSZ-GL12NA 12,000 BTU Ductless Wall Mounted Mini split indoor unit MSZ-GL09NA 9,000 BTU Ductless Wall Mounted Mini split indoor unit	MXZ - MXZ-3C30NA2 28,600 BTU Ductless Multi Zone Heat Pump Condenser Sound Level- 55dbA
Indoor Unit: MSZ-JP12WA-U1	Mitsubishi Electric - MSZ-JP12WA & MUZ-JP12WA - 49-51 dbA
	Bryant - 214A Legacyt RNC Line Heat Pump with Puronr Refrigerant Size 018--060 (1--1/2 To 5 Tons - 70-72 dbA
	American Standard, model # 4A6L9024A1000A, 2 ton, 53 dBA
	Mitsubishi Electric - MXZ-3C24NA2 - 51-55 dbA
	Mitsubishi Electric - MXZ-8C48 - 58 dbA

	New Condenser Heat Pump Outdoor Unit Model # 38MBRBQ48AA3 Decibel: 62.9 DB
	Mitsubishi Electric - : MXZ-5C42NA2 - 56-58 dbA
	Mitsubishi Electric - MXZ-3C24NA2 -55 dbA
Mitsubishi Electric - MSZ-WR09NA	Mitsubishi Electric - MSZ-WR09NA & MUZ-WR09NA - 48-50 dbA
	Amreican Standard - 4A6L9036A1000A - 48 dbA
	Mitsubishi Electric - MXZ-4C36NA2 - 54-56 dbA
MSZ-FS09NA 9,000 BTU Ductless Heat Pump 3D I-SEE Sensor Air Handler MSZ-FS06NA 6,000 BTU Ductless Heat Pump 3D I-SEE Sensor Air Handler MLZ-KP18NA-U1 18,000 BTU One-Way Ceiling Cas	MXZ-4C36NA2 36,000 BTU Ductless Multi Zone Heat Pump Condenser Sound level 56dBA
	GREE - FLEXX24/36HP230V1A - 45 dbA
	Mitsubishi Electric - MXZ-5C42NA2 - 58 dbA
40MBAA - "Carrier" 40MBAAQ24XA3 Air Handler Unit Ductless System	Single Zone "Performance" Heat Pump - "Carrier" 38MARBQ24AA3 Performance Heat Pump Outdoor (Single-zone) Sound Level- 52.5 dbA
Carrier - Model # 40MBABQ30XB3	Carrier - Model # 38MARBQ30AA3 Decibel: 63 dBA
Fancoil Model: (indoors): Manufacturer: Payne Model: FMC4X2400AL dBA rating: Standard Rating dBA 54	Heatpump Model (Roof): Manufacturer: Carrier/Day & Night Model: N4H424GKG . dBA rating: Standard Rating dBA 76
Lennox - CBA38MV DAVE LENNOX SIGNATURE® COLLECTION - R-410A Ready - Multi-Position - Variable Speed - 60 Hz -	Lennox - EL18XPV ELITE® Series - Variable Capacity - Precise Comfort® Technology - R-410A - 60 Hz - 61 dbA

	25HBC5 Comfort™15 Heat Pump with Puron®Refrigerant 1-1/2 to 5 Nominal Tons - 68 dbA
	Mitsubishi Electric - MXZ-SM60NAM-U1 - 58 dbA
Mitsubishi Electric - MXZ-5C42NA2	Mitsubishi Electric - MXZ-5C42NA2 - 56-58 dbA
LG LQN090HV4	LG LMU36CHV (MAX dBA: 55)
	Mitsubishi Electric - SUBMITTAL DATA: MXZ-3C30NA2 - 52-56 dbA
Carrier - FX4D Comfort™ Series Fan Coil Sizes 019 thru 061	Carrier - 25HBC5 Comfort™ 15 Heat Pump with Puron®Refrigerant 1-1/2 to 5 Nominal Tons - 68-69 dbA
	LG - LMU481HV 4.0 Ton Heat Pump - 57-81 dbA
Tempstar 4 Ton 14 SEER A/C Condensing Unit, 208-230/1/60, R-410A Item: NH4A448AKA MFG: NH4A448AKA	
	Carrier - 24VNA6 -Infinity Variable-Speed Air Conditioner with Greenspeed Technology - 51 dbA
	Mitsubishi Electric - MXZ-3C24NA3-U1 - 51-55 dbA

	Trane - 41WR7036B-SUB-1C-EN - 3 Ton Split System Heat Pump -1 Ph - 72 dbA
	Bryant - 38MARB Outdoor Unit Single Zone Ductless System Sizes 06 to 36 - 30-50 dbA
	Lennox - Elite Series - ELI18XPV Heat Pump - 61 dbA
Mitsubishi Electric - PVA-A42AA7	Mitsubishi Electric - PVA-A42AA7 & PUZ-A42NKA7(-BS) 42,000 BTU/H MULTI-POSITION AIR HANDLER - 52-53 dbA
	Mitsubishi Electric - SVZ-KP36NA & SUZ-KA36NA2 36,000 BTU/H MULTI-POSITION AIR HANDLER - 55 dbA
	Carrier 38MGRQ48E3 38MGRQ48E--3 Performance Series Minisplit Outdoor Unit for 5 Zones with 48000 BTU Cooling and 36000 BTU Heat Pump Capacity, 230/208 Volts/50 Amps - 64 dbA
	Mitsubishi Electric - SUBMITTAL DATA: MXZ-3C30NA2 - 52-56 dbA
Lennox - CBA25UHV (HFC-410A) SERIES UNITS	Lennox - 16HPX MERIT® Series - R-410A - Two-Stage Compressor - 60 Hz - 74 dbA
	Mitsubishi Electric - MXZ-2C20NA2-U1 - 50-54 dbA
	Bryant - 38MARB Outdoor Unit Single Zone Ductless System Sizes 06 to 36 - 30-50 dbA
	Mitsubishi Electric - MXZ-5C42NA.2 - 56-58 dbA
	Mitsubishi Electric - MXZ-3C30NA2-U1 - 52-56 dbA
	Bryant - 38MURA - Outdoor Unit Single Zone Ductless System - Sizes 1-1/2 to 4 Nominal Tons - 54 dbA
	Mitsubishi Electric - MXZ-5C42NA2 - 58 dbA
	Carrier - 38MURA Outdoor Unit Single Zone Heat Pump System Sizes 1-1/2 to 5 Nominal Tons - 54 dbA

	Mitsubishi Electric - MXZ-3C30NA3 2.5-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM - 52 dbA
Mitsubishi Electric - M-SERIES - SVZ-KP36NA - 35-43 dbA	
	Mitsubishi Electric - MXZ-3C24NA2 - 51--55 dbA
	Carrier - 25HHA4 Performance Serie Heat Pump ith Puron refrigerant - 69 dbA
	Mitsubishi Electric - R410A - SUZ-KA18NA(H)2.TH - 32-43 dbA
	Gree - GMV-60WL/C-T(U) - 208~230V Mini Heat Pump (C-Series) - 63 dbA
	Carrier - 25TPA7 Performance Series 2-Stage Heat Pump with Puron® Refrigerant 2-5 Tons - 70 dbA
Lennox - MLA/MLB Mini-Split Low Ambient Multi-Zone Heat Pump Systems - R-410A - 60 Hz -26.5 dbA	Lennox - MLB048 Heat Pump Outdoor Unit / MLA018 thru 036 Heat Pump Outdoor Units - 62.3 dbA
	Carrier - 50VT-C Comfort™ 14 SEER Single-Packaged Heat Pump System with Puron® (R-41 OA) Refrigerant Single Phase 2-5 Nominal Tons (Sizes 24-60) Three Phase 3-5 Nominal Tons (Sizes 36-60) - 75 dbA
	Lennox - SL280DFV - icomfort® ENABLED SL280DFV SERIES UNITS - 74-81 dbA
	Mitsubishi Electric - MXZ-3C24NA2 - 55 dbA
Lennox - MCFA/MCFB Ceiling/Floor-Mount Non-Ducted Indoor Unit	Lennox - MPB, Mini-Split Multi-Zone Heat Pump Systems - R-410A - 60 Hz - 62 dbA
	Mitsubishi Electric - MXZ-SM60NAM 5-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM - 58 dbA
Mitsubishi Electric - Indoor Unit: PEAD-A42AA	Mitsubishi Electric - MXZ-5C42NA2 MULTI-ZONE INVERTER HEAT-PUMP SYSTEM - 58 dbA
	Mitsubishi Electric - MXZ-5C42NA2-U1 - 56-58 dbA
	Mitsubishi Electric - MXZ-5C42NA2 MULTI-ZONE INVERTER HEAT-PUMP SYSTEM -58 dbA

Mitsubishi Electric - MSZ-GL15NA 15,000 BTU/H WALL-MOUNTED INDOOR UNIT - 26-44 dbA	Mitsubishi Electric - MXZ-3C24NA3 2-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM - 51 dbA
	Carrier - 38MGR Multi-zone Heat Pump Outdoor Unit Ductless System Sizes 18, 24, 30, 36 and 48 - 62-64 dbA
Indoor Unit: PVA-A36AA7	Mitsubishi Electric - PVA-A36AA7 & PUZ-A36NKA7(-BS) 36,000 BTU/H AIR HANDLER HEAT PUMP SYSTEM - 52-53 dbA
Indoor Unit: MSZ-GL12NA	Mitsubishi Electric - MSZ-GL12NA & MUZ-GL12NA 12,000 BTU/H WALL-MOUNTED HEAT PUMP SYSTEM - 56 dbA
	Carrier - 34SCA5 ComfortSeries Air Conditioner with Puron Refrigerant 1-1/2 to 5 Nominal Tons - 65 dbA
	Mitsubishi Electric - MXZ-5C42NA2 MULTI-INDOOR INVERTER HEAT PUMP SYSTEM - 56-58 dbA
	Bryant - 288BNV EVOLUTIONR V VARIABLE SPEED HEAT PUMP WITH PURONr REFRIGERANT 1--5 TON -55 dbA
	Mitubishi Electric - MXZ-4C36NA2 - 56 dbA
	TOSOT - T-Unix - ODU Model:TU36-24WADU IDU Model:TU36-24AADU - 62 dbA
Indoor unit: AMUG48LMAS	Fujitsu - 48LMAS1 - Inverter Driven Heat Pump - 55 dbA
	Bosch - Split System Heat Pump Bosch IDS BOVA15 IDS Light Condensing Units | 2-5 Ton Capacity | R410A - 55-69 dbA
Indoor Unit: MSZ-GL09NA	Mitsubishi Electric - MSZ-GL09NA & MUZ-GL09NA 9,000 BTU/H WALL-MOUNTED HEAT PUMP SYSTEM - 48-50 dbA
Indoor Unit: MSZ-GL18NA	Mitsubishi Electric - MXZ-4C36NA2 - 54-56 dbA
	Mitsubishi Electric - MXZ-4C36NA 2 - 54-56 dbA

	Mitsubishi Electric - MXZ-SM48NAM - 4-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM - 51 dbA
	Bryant - 38MURA Outdoor Unit Single Zone Ductless System Sizes 1-1/2 to 5 Nominal Tons - 54 dbA
Indoor unit: Mitsubishi Electric - SVZ-KP30NA Mitsubishi Electric - MFZ-KJ18NA	[HP] heat pump MXZ-3C24NA Sound Level – 55 dbA heat pump MXZ-5C42NA Sound Level – 58 dbA Mitsubishi MSZ-FS06NA Hyper Heat Single Zone Indoor Unit
Indoor unit: MSZ-FS06NA-U1	Mitsubishi Electric - MXZ-3C30NA2-U1 - 52-56 dbA

	DuctlessAire- 13 SEER Ductless Mini Split Air Conditioner Heat Pump System - 35-42 dbA
Samsung - Wind-Free 1Way Cassette for North America (R410A, 60Hz) - AM***AN1PCH	
BOSCH - Bosch Climate 5000 Ductless Minisplit System - 20 dbA	BOSCH - Bosch Climate 5000 Ductless Minisplit System - 20 dbA
	Mitsubishi Electric - SVZ-KP36NA & SUZ-KA36NA2 / SUZ-KA36NA2 TH - 55 dbA
	GREE - 9,000 BTU/H (208/230V) Wall Mounted Heat Pump System - 28-43 dbA
	Carrier - 24VNA6 INFINITY® VARIABLE SPEED AIR CONDITIONER WITH GREENSPEED™ INTELLIGENCE 2 TO 5 NOMINAL TONS - 51 dbA
	Mitsubishi Electric - MXZ-3C24NA2 - M Series - 51-55 dbA

Indoor unit: WT009ALFI22HLD	Pioneer - Diamante ULTRA - 20~23 SEER Ultra High E□ciency Heat Pump + DC Inverter in One System Single Zone (9,000 ~ 24,000 BTU/hr) 110V~120V / 208V~230V, 60Hz, 1Ph - YN009ALFI22RPD - 52 dbA
	Mitsubishi Electric - MXZ-3C2ANA3-U1 - 51-55 dbA
Carrier 3 ton Air Handler Ductless System , 208/1, 40MBAAQ36XA3	Carrier - Performance Series 38MBRC Outdoor Unit - Size 38 - 38MRBCQ36AA3 - 63 dbA
	GREE - Gree 2-3 Ton 18 SEER Heat Pump Condensing Unit, 208-230/1/60, R-410A Item: FLEXX36HP230V1AO MFG: FLEXX36HP230V1AO - 49 dbA
	Rheem® Mini-Split Heat Pump Systems - RIWH09AVSA / ROSH09AVSA - 47-51 dbA
LG - Indoor Unit (IDU) - LSN090HFV3	LG - LS090HFV3 Single Zone Standard Efficiency Wall Mount Outdoor Unit (ODU) - LSU090HFV3, - 42 dbA
	SANCO2 HEAT PUMP - dbA not listed

	Pinoeer - DC Inverter + Heat Pump in One System - WYT-19 Diamante Series Single Zone Mini Splits - 58 dbA
	Daikin - 4MXS36RMVJU - 4 Port, 3-Ton Outdoor Heat Pump - 56-73 dbA
	Daikin - 2MXS18NMVJUA - 51 dbA
	LA120HSV5 Single Zone Art Cool™ Mirror Wall Mount Outdoor Unit (ODU) - LSU120HSV5, Indoor Unit (IDU) - LAN120HSV5 - 39 dbA
	Pinoeer - DC Inverter + Heat Pump in One System - WYT-19 Diamante Series Single Zone Mini Splits - 58 dbA
Carrier - FZ4A Performance™ 2-Speed Series Fan Coil Sizes 024 thru 061	Carrier - 214D Legacyt Line Heat Pump with Puronr Refrigerant 1---1/2 To 5 Nominal Tons - 69 dbA

	Mitsubishi Electric - MXZ-2C20NA2 - 50 dbA
Indoor unit: PVA-A42AA7	Mitsubishi Electric - PVA-A42AA7 & PUY-A42NKA7(-BS) 42,000 BTU/H AIR HANDLER AIR-CONDITIONING SYSTEM - 34-42 dbA
	LG LMU363HV - 36k BTU - Outdoor Condenser - For 2-4 Zones - 54 dbA
Indoor unit: AMUG24LMAS	Fujitsu - 24RGLXM - 55 dbA