



## **PUBLIC CORRESPONDENCE**

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**From:** [Eric Muller](#)  
**To:** [Public Comment](#)  
**Subject:** PUBLIC COMMENT AGENDA ITEM #7 - July 11, 2023: mechanical equipment ordinance (consent calendar)  
**Date:** Friday, July 7, 2023 9:13:30 AM

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Dear Council,

> 7. Adoption of an Ordinance of the City Council of the City of Los  
> Altos Adding Chapter 11.14 Mechanical Equipment to Title 11  
> Miscellaneous Property Regulations of the Los Altos Municipal Code

I am fully in favor of strict noise controls, and probably more so that most residents. However, I think that the proposed ordinance has the potential to create more problems than it will solve and (with all due respect to the work of staff) needs more than a few tweaks before it can be adopted. I urge the Council to step back and look carefully at the details (see #9 for specific suggestions). I will try to be physically present at and before the meeting to answer any question you may have. Sorry for the long comment.

Thank you,  
Eric Muller

1. Because this proposed ordinance attempts to address noise issues indirectly, it will inevitably cause false positives (prohibit relatively silent equipment) and false negatives (fail to address noisy equipment). In my experience, problem solving by indirect approaches is difficult. The staff report explains that the checks related to noise done at the time a permit application is considered are not guarantees of actual performance (to which I fully agree). But there is no mention of checks done at inspection time (do the city inspector measure actual noise before granting the permit?), nor of the difficulty of dealing with later potential violations. That makes it difficult to judge if the proposed ordinance has the right balance of constraints and benefits. If the noise ordinance cannot practically be enforced, then we have to put all our eggs in the proposed ordinance, and it should probably be very constraining. But the more the noise ordinance can be enforced, the less the proposed ordinance needs to and should be constraining.

2. The proposed ordinance does not fully define Mechanical Equipment: there are examples, but there is no limit on what mechanical equipment is.

For example, it seems reasonable to conclude that this ordinance applies to all equipment with fans such as: inverters for solar panels (which can easily go to 55 dB, per unit), energy storage systems (e.g. Tesla Powerwall, 58 dB, per unit). It is not clear that the council intended for the ordinance to apply to those systems.

There may also be in the future new types of mechanical equipment that are important for the broad electrification of our homes or otherwise beneficial, do not cause noise problems, yet could not be deployed because of this ordinance (at least for the multiple years it would take to recognize those types of equipment and update the city code).

One could even argue that any system with moving parts is mechanical equipment: electric gates, or automatic doors in stores. That would of course be somewhat silly. The point is that this ordinance is not as unambiguous as it seems.

This is also a good example of the balance mentioned in #1: should the ordinance constrain all possible equipment (as it does now), or just those things that have shown to be problematic in practice (has the city received any complaint about solar inverters?)

3. The bulk of Los Altos is zoned R1-10, i.e. single family with a 10 feet interior side setback, a 20 feet exterior side setback, a 25 feet front and rear setback.

Walking in various neighborhoods, it seems that the vast majority of homes, old and new, have been built with no more than the required side setbacks. In other words, the ordinance practically prevents installation in side yards of pretty much any mechanical system (it would have to be paper thin), for the vast majority of homes (and some systems such as window AC and tank-less water heaters sometime need to be on sides, so that effectively rules them out all together, in those applications).

Installation in the rear is the least desirable, both for enjoyment and for technical reasons (e.g. heat pumps for water or ducted heating/cooling, as the existing connections to water pipes and ducts are typically in the garage, near the front of the house).

So the ordinance would practically lead to, for example 1) installations of equipment in the front yard, 2) replacement of gas furnaces by gas furnaces, to avoid outside equipment all together, 3) forgo installation of energy storage systems, even where there is no noise issue. That seems counter productive.

4. Currently, pumps for pools are unlikely in the front yards, are prohibited in the side yards and only need to be 5ft from any property line in the back. It is therefore very likely that most existing pool equipment will become non-conforming.

Similarly, it is likely that most HVAC, solar inverters and energy storage systems are currently installed in the side yards (see #3), and will become non-conforming.

All those non-conforming installations will require significant work and expense when replaced, even if the new equipment fully complies with the noise ordinance.

Even worse: if I have a noisy (but within limits) and inefficient but functioning HVAC, I may actually be discouraged from replacing it by a quieter and more efficient equipment because of the necessary relocation.

5. It was suggested that replacement of existing non-conforming equipment could be handled by variance if necessary.

5a. Variance is a great mechanism to handle uncommon situations, but a very poor tool if granted liberally.

5b. The current code defines under what conditions variances are possible and the process to obtain them, for specific sections of the code (6.16 Noise Control, 12.56 House Trailers and motor court, 12.60 Flood Plain Management, 14 Zoning). Wouldn't one need something similar for the proposed 11.14? Note that there are no provisions for variance in chapter 11.

5c. Looking at the existing cases, it seems that granting a variance typically involves or allows for public participation. It also seems difficult to limit the use of variance to existing installations (or at least, to restrict applications for variance to those cases). It is likely that many installations (replacement or new installations) will request a variance, which may overwhelm the process (and possibly have a fiscal impact).

6. Regarding 11.14.030: "When existing mechanical equipment and appurtenances are voluntarily being eliminated or replaced, the new mechanical equipment shall comply with all provisions of this chapter."

6a. If existing equipment is eliminated, there is no new equipment. I suggest to strike "eliminated or"

6b. It is unclear whether "voluntarily" makes any restriction (e.g. if a distinction is made between "replaced for fire" and "replaced because it broke down"), I suspect that the intent is comply in all cases, so I suggest to strike "voluntarily"

6c. For clarity, the result of both suggestions is "When existing mechanical equipment and appearances are replaced, the new mechanical equipment shall comply with all provisions of this chapter."

7. Regarding 11.14.040:

7a. "Any mechanical equipment [...] shall comply with the side and rear yard setbacks". It is totally unclear (at least to me) whether equipment can be installed in the front yard. If the intent is to prohibit that, I think this should be explicitly stated, e.g. add "and shall not be installed in front yards" or equivalent. Otherwise I suggest to change to "with the front, side and rear yard setbacks".

7b. Given the discussion in #3, preventing installation in the front yard leaves practically no solution for some systems (e.g. heat pumps for ducted systems). See also #10 below.

7c. Under "i", it seems strange to require a 10 feet distance when the setback is 0 feet, but not when the setback is 5 or 7.5 feet (e.g. zone R3-4.5, R3.1.8, R3.1). Shouldn't the minimum 10 feet distance apply in all cases?

8. Setbacks for mechanical equipment do not need to equal setbacks for houses, as proposed in this ordinance. Mountain View, Menlo Park and Campbell have setbacks specifically for mechanical equipment, either 3 or 5 feet. Cupertino uses "accessory structure" setbacks (but I can't determine the precise value). Many of the problems mentioned in these comments would disappear with a 5 feet setback. On the other hand, as stated in #1, I don't have enough data to judge if 5 feet is enough.

9. Recommendations:

9a. as this is on the consent calendar, please pull it out for discussion

9b. in my opinion, addressing the issues listed above will take more than can be reasonably and effectively done during this City Council meeting. Please take the time to do this right.

9c. clarify the Council's intention for front yards

9d. ask staff to use the permits issued in the last six or twelve months to understand current practices and estimate the number of non-conforming properties.

Use at least residential mechanical, residential electrical, photovoltaic, and pools permits. Collect the noise levels submitted in permits for HVAC and similar. Identify the types of equipment that can be considered mechanical equipment. Collect the locations (front, side, rear). Count how many applications would be rejected if the ordinance had been in place. Extrapolate to determine the number of properties that would become non conforming (not just those permitted in the period studied).

9e. ask staff to document the practical difficulties with the enforcement of the noise ordinance

9f. consider using a uniform 5 feet setback.

10. Anecdotal evidence: This year, I want to replace my remaining gas appliances, an aging gas water heater and an aging gas furnace (forced air). Both are in the garage. I am considering a very efficient and very quiet heat pump specified at 37 dB (<https://ul.lavanan.click32/>, <https://www.harscothermal.com/product/...YYA20m5vc2PstG9y2I6yTpcOmE3NGRiYWNkNwNiVzdYzVIMzUoM7OyMmE5ZWYwZGFyOjY6N2RjMTo2Yz05ND44YTY1ODAzZmRlYmM4NGNkMjUzZDBiNGE4OTM4OTMzMTBmOGFjYzJlMjY1YmF1YjE0NjA6VjA/>) a refrigerator is between 32 and 47 dB and 37 dB would be qualified as a quiet refrigerator, so no noise issue in any case (for comparison, common AC heat pumps are 70 dB). My side yards are 10 feet, so not possible. The heat pump cannot be too far from the water tank, so the only place in the rear yard is just in front of the sliding patio door, and I suspect you would not permit that. That leaves only the front yard (if allowed). Or should install brand new gas appliances?

Thanks again for your attention.  
Eric Muller

**From:** [Don Bray](#)  
**To:** [Public Comment](#)  
**Subject:** PUBLIC COMMENT AGENDA ITEM 7 - JULY 11, 2023  
**Date:** Monday, July 10, 2023 1:26:35 PM

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Dear Los Altos City Council Members,

As a 30+ year resident of Los Altos and former Chair of the Los Altos Environmental Commission, I am writing to respectfully request that Item 7 on the July 11<sup>th</sup>, 'Adoption of Mechanical Equipment Ordinance', be pulled for further investigation and revision.

I am concerned that this ordinance was drafted without adequate consideration the significant additional cost burden this will impose on electrifying existing residences. As written, it will impede the successful implementation of the Los Altos Climate Action Plan. In addition, it will limit the City's preparedness for the Bay Area Air Quality Management District's Regulation 9 Rule 4, which schedules the prohibition of the sale and installation of gas-fired furnaces by 2029.

I recommend that implementation of this ordinance be temporarily halted to allow time for additional investigation and revision.

The Mechanical ordinance, as drafted, specifies a minimum setback of 10 feet from a property line for mechanical equipment such as heat pump HVAC systems. 10-foot side yards are common in Los Altos (including my own). This ordinance would eliminate the potential location of such equipment in many side yards. This greatly impacts the practical siting of such equipment – including at or near garages that often include existing mechanical and/or electrical equipment such as gas furnaces, air conditioners or water heaters that may be replaced or integrated with new heat pump-based systems.

A well-conceived ordinance v/v mechanical equipment and noise should not rely on arbitrary set-back requirements. In fact, local cities currently have a wide variety of such set-back requirements, several of which are only 3-5 feet. A good ordinance would include a minimum set-back that still generally allows for side-yard deployments, while considering noise levels (equipment dBA ratings etc.), noise screening, and importantly, adjacent property considerations – for instance, proximity and usage of neighboring residential space. At the neighbor's, is there an immediately adjacent open backyard, garage, or bedroom?

In my opinion, a noise ordinance should primarily focus on limiting and mitigating the impact of noise emitted rather than imposing arbitrary and financially burdensome equipment set-back limits. Noise issues are most often related to the equipment itself, and the equipment's location relative to the neighbor's living spaces and the effectiveness of noise mitigation measures taken.

We need to identify a solution that is right for Los Altos, one that mitigates mechanical equipment noise while simultaneously encouraging and accelerating the electrification of our existing buildings.

Thank you,

Don Bray  
447 Paco Drive, Los Altos

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