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Lopez, Donna

From: Carol O'Hare [c.burchardohare@att.net]
Sent: Monday, April 08, 2013 1:00 PM
To: City Council; Lopez, Donna
Cc: Davis, Henrietta; Simmons, Denise; Cheung, Leland; Decker, Marjorie; Kelley, Craig; Maher, David; Reeves, Ken; Toomey, Tim (home); vanBeuzekom, Minka; City Manager; Rossi, Rich; Murphy, Brian; Dash, Stuart; Lint, Elizabeth; Sarah Eusdon Gallop; smarsh@mitimco.mit.edu; Michael Owu; DBaird@GOULSTONSTORRS.com; anthonygalluccio@comcast.net
Subject: City Council: 1 editorial correction - Noise Standards, MIT's PUD-5 - Major Problems! (Not just details.)
Importance: High

Hello,

My earlier email's references to §13.81.1 should have been to **§13.89.1**. Please correct this. I regret the bother.

Thank you.

Carol O'Hare

Lopez, Donna

From: Carol O'Hare [c.burchardohare@att.net]
Sent: Monday, April 08, 2013 10:48 AM
To: City Council
Cc: Lopez, Donna
Subject: City Council: Noise Standards, MIT's PUD-5 - Major Problems! (Not just details.)
Attachments: ZoningKendall-MIT-SpecialMITNoiseStandards-CBOComment130408.doc; ZoningKendall-MIT-MechanicalNoise-JoSoletCommentsToCityCouncil130401.doc

Importance: High

Dear Mayor Davis, Vice Mayor Simmons and City Councillors:

I know this is a heavy-duty hit at this 11th hour. But, I received MIT's revised "Noise" section only on Friday. And, even though MIT and their legal counsel made some prior changes, there's just not enough time to fix the language before your meeting this evening.

I hope my description of the remaining problems and ambiguities about the Noise §13.81.1 will be one more reason for you to delay your approval of MIT's PUD-5. MIT's revisions raise even more questions than the original did for me. I also think this type of scrutiny and analysis should have been done before this PUD-5 proposal was even presented to the City Council. You should not have to spend time on this.

In short, if you pass MIT's proposed Noise section, as is, you will, among other things:

- set a new noise standards in a haphazard way, by zoning rather than by noise regulation, as this becomes a model for future developers;
- allow more noise than is currently permitted in residential areas; and
- create a permitting and enforcement nightmare for permitting and enforcement personnel.

I think my 14-point/1-page attachment will convince you that my concerns are not just "legal details," "fine points" or "nit-picks." There will be serious, real-life problems and consequences if you adopt §13.81.1, as is. And, I've suggested some fixes.

On a positive note, I do think it's a good idea, with residences and outdoor uses existing and planned in this PUD, to regulate mechanical equipment noise here, as was done in the Alexandria Properties/Binney St. PUD. **But**, please just stop at mechanical equipment. Don't inadvertently, in the loaded second paragraph of §13.81.1, create new materially less restrictive noise-loudness standards and noise-measurement specifications for the entire PUD. Alexandria Properties' PUDs did not do that. **And**, given the facts that this PUD-5 will be mixed-use, with residences scattered throughout and that the underlying zone is Residence C-3B, it just makes common sense to comply with the standards applicable in Residential Areas.

The Noise Control Ordinance desperately needs amending, clarifying and updating for reasons you're already aware of. If you're going to include noise standards in the zoning context, at least you should know their effects, whether intended or unintended.

Even though the Planning Board, CDD staff, the City Council and MIT have achieved a lot during this review process, I urge you to take some more time to allow some remaining, significant matters like this to be appropriately addressed and fixed.

To bring these noise concerns home to you, I've attached "Jo Solet's 4/1/13 Comments to City Council," which she presented in person at your Ordinance Committee meeting on April 2. Her 1-pager provides dramatic evidence that noise pollution, from whatever source, should be a high priority for our City officials and personnel.

Thank your for your time and consideration.

Sincerely,

Carol O'Hare

172 Magazine Street

cc: Donna Lopez, Interim City Clerk: **Please include this and my attached memo with the Official Record.**

Robert W. Healy, City Manager

Richard C. Rossi, Assistant City Manager

Planning Board

Brian Murphy, Assistant City Manager, Community Development

Stuart Dash

Elizabeth Y. Lint, Esq.

Sarah Eusdon Gallop, Co-Director, Office of Government and Community Affairs, MIT

Steve Marsh, Managing Director, MITIMCo

Michael Owu, Director, MITIMCo

Darren M. Baird, Esq.

Anthony D. Galuccio, Esq.

**MIT PUD-5, Very Special Noise Standards & Loopholes
(with Carol O'Hare's questions and concerns noted)**

April 8, 2013 City Council Meeting

13.81.1 Rooftop¹ Mechanical Equipment Noise Mitigation.² Sound emanating from rooftop mechanical equipment on all new or substantially altered structures³ (i.e., alterations to an existing structure or building the cost of which exceeds fifty percent (50%) of the assessed value of such building or structure)⁴ in an approved Final Development Plan shall be minimized by the adoption of best available and feasible⁵ practices regarding the location and sizing of equipment, the selection of equipment and sound attenuation measures.

At a minimum,⁶ any noise or vibration emanating from new⁷ commercial or substantially altered⁸ (as defined in this Section 13.89.1) commercial buildings⁹ shall not be normally¹⁰ perceptible **at ground level¹¹ without instruments at a distance of one hundred (100) feet from the source lot line¹² and shall comply with the provisions of the City of Cambridge Noise Ordinance applicable to Commercial Areas (as such term is defined in the Noise Ordinance).**¹³ [Emphasis added.]

In order to enforce these requirements, the applicant shall provide, in addition to Noise Mitigation narrative required as part of Article 19.000 review, acoustical reports prepared by a professional acoustical engineer as described below:

- a. Prior to and as a condition of the issuance of the first certificate of occupancy for a new or substantially altered commercial building, an acoustical report, including field measurements, demonstrating compliance of such building with all applicable noise requirements; and
- b. Prior to obtaining any building permit to add any equipment having a capacity greater than five (5) horsepower to the rooftop, a narrative report demonstrating that there will be continued compliance with all applicable noise requirements after such addition, and upon completion of such addition and as a condition to operation thereof, an acoustical report, including field measurements, demonstrating such compliance.

¹ Why just rooftop? Although it may not be anticipated, mechanical equipment can be installed at ground level or underground?

² Only the first and b. paragraphs relate to **Rooftop Mechanicals**. The middle three paragraphs seem to govern "any noise or vibration emanating from new or substantially altered commercial buildings" throughout the PUD. So, the caption is confusing, raises questions and should be modified.

³ What about replacements of existing mechanical equipment?

⁴ Add: "and new and substantially altered mechanical equipment".

⁵ "Feasible" is a flexible word, but I understand why MIT would want some cap on required expenditures.

⁶ What does this "At a minimum" mean? It seems like a sop. But, won't it be subject to debate, if not litigation, and cause headaches for permitting and enforcement personnel?

⁷ Why should new or substantially altered buildings have less rigorous minimum noise and vibration standards than existing buildings, if, for example, the noise is emanating from sound

systems? This is just an example of the unanticipated consequences of including this throw-in paragraph covering general noise/vibrations into the section that was originally meant to address rooftop, mechanical noise

⁸ Same comment as in fn. 3.

⁹ The terms “commercial building” and “commercial use” are used throughout this Amendment. I don’t think they are defined terms in the Zoning Ordinance. They could be more clearly defined in this PUD-5 Amendment. I believe a “commercial building” is one in which the following uses are conducted: **office, laboratory, retail business, consumer service, light industry and wholesale business and storage**, but not if 75% or more of the space (excluding retail uses) is devoted to institutional uses. What happens if a “commercial use” is conducted outdoors? Some of those uses could produce significant noise.

The PUD-5 area is a mixed-use area, including residential uses scattered throughout. While I don’t doubt that MIT’s current administrators will aim for the highest noise control standards, who knows who will develop or modify the building in the future or what shortcuts future administrators will opt in another recession, for example.

¹⁰ What does “normally” mean? How should or will the City’s permitting and enforcement personnel interpret this?

¹¹ It’s patently absurd to measure rooftop or other upper-level mechanical noise from ground level, when office workers and residents occupy equally high or even higher floors, where the noise will be louder than at ground level.

Indeed, the Noise Control Ordinance defines “Real property boundary” as “an imaginary line along the ground surface, and its vertical extension, which separates the real property owned by one person from that owned by another person, but not including intra-building real property divisions.” Ordinance 18.16.030 (21).

¹² Under the Noise Ordinance, unless otherwise specified, noise measurements are taken at the “boundary line,” not the “lot line.” Ordinance 18.16.060, A through E.

And, “**Real property boundary**” means **an imaginary line along the ground surface, and its vertical extension**, which separates the real property owned by one person from that owned by another person, but not including intra-building real property divisions.” Ordinance 18.16.030, 21. So, measurements and noise projections should obviously be taken and anticipated at the noise-affected portions of nearby existing or anticipated buildings.

¹³ **Delete this language.** MIT’s selection of this “Commercial Area” less rigorous noise standard is not worthy of the Institution. They’ve already agreed to the “best available and feasible practices standard.” How does that jibe with choosing almost a less restrictive Noise Standard, especially when everyone acknowledges that the City’s existing Noise Standards are seriously out of date, for such a broad range of uses, ranging from laboratory to light industry and wholesale business and storage? What’s more, in the Alexandria Properties’ PUD Amendment, on which this was modeled, the developer doesn’t get to choose the applicable Noise Standard.

See unmarked copy of MIT’s Noise Section on p. 3 below.

13.81.1 Rooftop Mechanical Equipment Noise Mitigation. Sound emanating from rooftop mechanical equipment on all new or substantially altered structures (i.e., alterations to an existing structure or building the cost of which exceeds fifty percent (50%) of the assessed value of such building or structure) in an approved Final Development Plan shall be minimized by the adoption of best available and feasible practices regarding the location and sizing of equipment, the selection of equipment and sound attenuation measures.

At a minimum, any noise or vibration emanating from new commercial or substantially altered (as defined in this Section 13.89.1) commercial buildings shall not be normally perceptible at ground level without instruments at a distance of one hundred (100) feet from the source lot line and shall comply with the provisions of the City of Cambridge Noise Ordinance applicable to Commercial Areas (as such term is defined in the Noise Ordinance). In order to enforce these requirements, the applicant shall provide, in addition to Noise Mitigation narrative required as part of Article 19.000 review, acoustical reports prepared by a professional acoustical engineer as described below:

- a. Prior to and as a condition of the issuance of the first certificate of occupancy for a new or substantially altered commercial building, an acoustical report, including field measurements, demonstrating compliance of such building with all applicable noise requirements; and
- b. Prior to obtaining any building permit to add any equipment having a capacity greater than five (5) horsepower to the rooftop, a narrative report demonstrating that there will be continued compliance with all applicable noise requirements after such addition, and upon completion of such addition and as a condition to operation thereof, an acoustical report, including field measurements, demonstrating such compliance.

April 1, 2013
City Council Meeting
Jo M. Solet, PhD
15 Berkeley St
Division of Sleep Medicine at Harvard Medical School
Cambridge Historical Commissioner
Member HGRC, writing construction code for healthcare facilities

I am here tonight because I have heard concern from neighborhoods about the impact of MIT development and zoning changes, especially related to noise impacts on quality of life.

We need not trade quality of life and diminished health for prosperity in Cambridge. It would be ironic indeed if in welcoming innovators we failed to put in place the required innovations available to protect the health and quality of life of our citizens. The technology is available.

I note in his letter dated today the City Manager expresses some concern about the complexity and interpretability of the Noise Ordinance. This is noteworthy because noise enforcement is for the most part complaint driven in Cambridge. This means citizens must understand what it is written and how to exercise their rights. It would be preferable in cases of installation of permanent noise producing equipment for readings to be taken first before permission is granted by the city to run the equipment. Then in cases in which violations are encountered, mandated fines should be fully levied during periods when equipment continues to run. This will help fund enforcement.

With regard to actual decibels level maximums of 50 decibels at night cited in the Ordinance, I would like to bring your attention to grant funded research, for which I served as PI/senior author published last summer in the Annals of Internal Medicine with my research colleagues also members of the Division of Sleep Medicine at Harvard Medical School. I have a copy to submit for the records. In our research protocol, we exposed sleeping subjects to a series of noises (recorded at a hospital site) at rising decibel levels in all stages of sleep, while tracking their arousals, brain waves and heart rate changes. In stage 2 sleep in which adults spend substantial parts of the night as many as 80% of sleepers were awakened by some noises as low as 45 decibels.

There are several mechanisms through which noise can damage health and well-being. Along with sleep disruption, noise has also been implicated in delayed reading acquisition in school children, in decreased work efficiency, lowered moods, declines in helping behavior.

A growing body of research implicates noise in circulatory and cardiac problems including hypertension (elevated blood pressure), angina (heart-related chest pains), and increased heart rate. While not viewed as a direct cause of mental illness, noise stress may intensify and accelerate existing mental health problems.

Let me repeat:

We need not trade quality of life and diminished health for prosperity in Cambridge. It would be ironic indeed if in welcoming innovators we failed to put in place the required innovations available to protect the health and quality of life of our citizens. The technology is available.