

City of Cambridge

HEALTH AND ENVIRONMENT*Vice Mayor Henrietta Davis, Chair**Councillor Anthony D. Galluccio**Councillor Brian Murphy*

In City Council February 10, 2003

The Health and Environment Committee held a public meeting on Friday, January 31, 2003 at ten o'clock and ten minutes A.M. in the Sullivan Chamber.

The purpose of this meeting was to discuss visual and acoustical draft recommendations by the Rooftop Mechanicals Task Force (RTMTF).

Present at the meeting were Vice Mayor Henrietta Davis, Chair of the Committee, Councillor Brian Murphy, Richard Rossi, Deputy City Manager, Stuart Dash, Director of Community Planning, Community Development Department, Iram Farooq, Zoning and Land Use Project Planner, Community Development Department, Carol Bellew, member, RTMTF, Richard Scali, Executive Director, License Commission, Andrea Boyer, License Commission, Ranjit Singh, Assistant Commissioner of Inspectional Services and Donna P. Lopez, Deputy City Clerk. Also present were Noel Johnson, John Moot, Hedy Pocius, Elie Yarden, Karen Carmean, Lillian Greeley, Jo Solet, Stash Horowitz, Mark Snyder and Megan Brook.

Vice Mayor Davis opened the meeting and stated that the purpose was specifically related to rooftop mechanicals on new buildings. A presentation will be made by the staff of the Community Development Department then the meeting would be opened to the general public to ask questions about the issues.

The committee heard from Stuart Dash who gave an overview of what the RTMTF has been working on. The RTMTF committee was charged to work on rooftop equipment for new development throughout the city. During the citywide zoning proposal the city tried to work on this issue and the visual issue of rooftop mechanicals. The City Council did not approve the proposal as offered. Acoustical and visual issues were reviewed. The RTMTF was appointed. It consists of residents, people from the industry and builders of biotech buildings. The visual aspect was worked on first. Issues discussed included issues such as if the structure was too tall or too big. He informed the committee that sometimes the equipment fills a room similar in size to the Sullivan Chamber. Air handling is a primary concern for the rooftop mechanicals equipment. The primary work done was on the visual aspect. Standards will relate to Article 19 of the Zoning Ordinance entitled "Project Review" for the Planning Board to do project reviews. On the acoustical aspect residents were interviewed and questioned about the impact to the residents. Recommendations were established. A draft set of recommendations is in process, he said. The visual recommendation has placed responsibility on the Planning Board. He informed the committee that at this time a

building permit can be issued and the plans never contain what is on the roof. With the recommendations of the RTMTF standards for the Planning Board are established to assess the visual impact. The acoustical recommendation focuses on noise accumulating over time, otherwise buildings, or a series of buildings, could exceed the noise ordinance.

Vice Mayor Davis questioned the current decibel level in the noise ordinance as it relates to the standard applied by the RTMTF because the RTMTF is using a new standard. Mr. Dash stated that the focus is on new equipment. Vice Mayor Davis asked what is standard for the rooftop mechanicals, as it currently exists. Ms. Boyer responded that the License Commission uses background level noise to match what noise is present. Vice Mayor Davis asked what is the level used. Ms. Boyer stated that the License Commission tries to base the measurement on 50, but it is higher in East Cambridge. Vice Mayor Davis commented that the city should work toward a quiet environment. The rooftop mechanical standard might be better, she said. Vice Mayor Davis asked about how the measurement was taken. Ms. Boyer stated she measures from the resident's home. Vice Mayor Davis asked what does the ordinance contain. Mr. Scali responded "from the lot line of the sources building". But that is an abstract point in the air. The point of disturbance has always been used as a measure. Vice Mayor Davis commented that the ordinance requirement and enforcement are different. When the rooftop mechanical recommendations are made enforcement needs to conform to the recommendations, stated Vice Mayor Davis.

Mr. Dash stated that new buildings needed to present their noise levels based on their equipment. Ms. Farooq stated that background noise levels are higher than the ordinance regulation. The city is requesting people to do better. The city needs to depend on analysis made by the manufacturer or experts.

Vice Mayor Davis stated that enforcement is the job of the License Commission. Mr. Scali commented that if measurements were taken at the lot line every building would be in violation of the ordinance. Vice Mayor asked about using yards. Mr. Scali stated that yards are not used to measure noise because people are not in their yards all day or night. Vice Mayor Davis stated that more discussion is needed to develop a standard that could be enforced. Ms. Farooq stated that the draft recommendation has the lot line or 100 feet, but it is still being discussed. Vice Mayor Davis referred the issue of the standard vis a vis enforcement to the Deputy City Manager. Mr. Dash commented that Article 19 allows enforcement in the special permit provision; this standard must be met regardless of the noise ordinance. Ms. Farooq stated that RTMTF is trying to establish a numerical standard. Mr. Scali asked if the measurement is being done from the air or the ground. Mr. Dash responded that this is still in the discussion stage. Enforcement of the proposed ordinance needs to be addressed, said Vice Mayor Davis.

Vice Mayor Davis asked if there is a height limit with the current standard and the proposed standard. Mr. Dash stated that there is no height limit. The RFMTF is discussing height limits adjacent to residential districts.

Ms. Farooq stated that under the citywide zoning, the proposal was to limit coverage on rooftops to no more than 30% of the roof and no higher than 20%. However this standard was unrealistic. Coverage, she said is hard to limit. Vice Mayor Davis stated that she does not understand why the rooftop mechanical is not considered part of the FAR of the building. Mr. Dash responded that the rooftop mechanicals is part of the building in the Planning Board review. The critical piece is how the rooftop mechanical is treated as part of the building.

At ten o'clock and forty minutes A.M. Vice Mayor Davis opened the meeting to public comment.

Noel Johnson, 139 Pine Street, asked if this applies to residential mechanicals. Mr. Dash stated that it has to be a large residential development. Article 19 applies only to new development greater than 50,000 square feet.

Hedy Pocius, 2 Mt. Auburn Street, spoke about noisy mechanicals at 1050 Mass. Ave. She asked how was this installed because it is close to a 40-unit apartment building on Putnam Avenue. Mr. Dash informed the committee that the Planning Board could discuss equipment placement. Ms. Pocius also spoke of equipment at 1100 Mass. Avenue. The equipment goes on and off all night. This is an older building with older equipment that would not be included in the recommendations of the RTMTF. Mr. Scali informed Ms. Pocius that the License Commission would investigate this building.

Vice Mayor Davis commented that the RTMTF is working on making Cambridge a liveable urban city. The new and the old buildings could work against each other. Mr. Dash stated that there are two noise level standards, residential and commercial.

Councillor Murphy asked what is the shelf life of rooftop mechanicals. Mr. Rossi stated that it depends on the equipment design. Councillor Murphy asked if there is a review process for replacement equipment. A permit is required for installation stated Mr. Rossi. Installers of air conditioning units are provided with a copy of the noise ordinance said Ms. Boyer.

Ms. Pocius informed the committee that the exhaust at 933 Mass. Ave. faces the balconies at 929 Mass. Ave. She asked if there a regulation to have the exhaust directed away from the building. This should be considered in the future. Mr. Dash stated that the Planning Board could review this on new buildings. The rooftop mechanical recommendations will help to prevent this from happening, said Mr. Rossi. He suggested Inspectional Services present this committee with their permitting process.

Elie Yarden, 143 Pleasant Street, stated that there are health and environmental issues. Decibel readings do not provide good criteria for health issues and is not sufficient. Low-level noise, he said, can produce neurological and psychological issues. More is being learned about the harm of noise. A rooftop mechanical standard is needed for specific areas. The environmental impact is important. The issue of crowding and the cumulative effect of noise needs to be addressed.

Karen Carmean, 1657 Cambridge Street, stated that there are more old buildings than new buildings in the city and these buildings cannot be left out of the discussions. The high school needed to be evaluated because of pollution from a building on the Cambridge Street side. The Verizon building on Ware Street installed rooftop mechanicals and this noise has blocked out other noise in the neighborhood. The mechanicals on the high school are loud and now she cannot hear the noise from the Verizon building. This issue is escalating. She asked about a “boom” for lot line measurement. Mr. Rossi commented that cranes lift these units to install the equipment. The specifications on the mechanicals is approved, but when the equipment is installed the equipment does not work as approved.

Carole Bellew, 257 Charles Street, member of the RTMTF, voiced her concern about old noise verses new noise. New noise she is not so concerned about because there will be control. A 40-foot building with a 30- foot rooftop mechanical is a problem for her. The noise ordinance cannot be enforced because the noise level is already too high. This issue has to come back to the table, she said. A survey could be conducted to check the decibel levels of the whole city. Standards will be established. Mixed-use zones create another problem. This issue may need to be tweaked.

Lillian Greeley, 4 University Road #103, suggested different standards be developed for different residences. Rhythms and pitches of noise should be considered because they cause neurological issues. The “boom” tester may be away from the area making the noise; it should be in the center. Ms. Boyer stated that each measurement case is different.

Jo Solet, 15 Berkeley St., thanked the RTMTF for their work. She liked the flexibility in the design process. She requested that the health testimony **(ATTACHMENT A and B)** be distributed to the RTMTF for their information. She stated that people are becoming repressors—noise is having an effect even when people say it does not. Noise, she said, has an effect on crime, divorce and aggression. The full spectrum of noise needs to be measured including different decibel levels and “c” levels. She liked the suggestion of a survey of noise throughout the city. She is against a grandfather clause.

Stash Horowitz, 12 Florence Street, stated that the committee should not count mechanicals in Floor Area Ratio (FAR). There is no incentive for developers to put mechanicals inside of a building. Above ground mechanicals need to have FAR. He told the committee about a cooperative situation he had with Mr. Bill Sage of Radisson hotel and Trader Joe’s. There was a hum that was disturbing. Mr. Horowitz thought it was coming from the hotel. Mr. Sage shut down the hotel for five minutes. The noise was emanating from Trader Joe’s. Trader Joe’s stated that they would baffle the noise from the mechanicals, but this was too costly. Instead the equipment was relocated.

Megan Brook, 103 Inman Street, stated that the review process is news to the general public. She asked if developers were asked to comply with the noise ordinance in

advance of installing outside air conditions. Mr. Singh responded in the affirmative. Ms. Brook stated that more creative measures for measuring noise could be developed.

At this time Vice Mayor Davis submitted the following two motions:

ORDERED: That the City Manager be and hereby is requested to convene appropriate departments to discuss the overlap of proposed acoustical standards of the RTMTF and existing mechanical devices, their enforcement and replacement.

The motion prevailed.

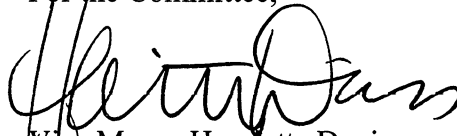
ORDERED: That the City Manager be and hereby is requested to instruct the Assistant City Manager for Community Development to forward to the Rooftop Mechanicals Task Force for their information the health testimony contained in the this report as ATTACHMENT A and B.

The motion prevailed.

Vice Mayor Davis thanked those present for their attendance.

The meeting adjourned at eleven o'clock and twenty-eight minutes A.M.

For the Committee,

A handwritten signature in black ink, appearing to read 'Henrietta Davis', written over the printed name.

Vice Mayor Henrietta Davis
Chair

Jo M. Solet, Ph.D.
Testimony June 18, 2002
Health and Environment and Public Safety Committees

While I am here in my capacity as a private citizen, I am also a Historical Commissioner in Cambridge and a member of the Behavioral Medicine Faculty of the Cambridge Health Alliance, the program that specifically deals with health and stress. Questions of noise in the city bring together concerns related to both of these roles.

It was not so many years ago that it was considered preposterous to limit the freedom of smokers for the purpose of protecting the health of others. Now we recognize the rights of individuals to breathe smoke-free air when they choose. Noise is the new frontier: a problem of growing concern which is damaging the quality of life of citizens of this city.

New technologies hailed as "time saving" or "efficient" produce noise interference which disturbs the safety, health, concentration, sleep, and communication of those who live and work under noise pressure.

Noise has been implicated not only in direct hearing loss, but in delayed reading acquisition in school children, in decreased work efficiency, lowered moods, declines in helping behavior and even increases in violence.

A growing body of data implicates noise in circulatory and cardiac problems including hypertension (elevated blood pressure), angina, and increased heart rate.

While not viewed as a direct cause of mental illness, noise stress may intensify and accelerate existing mental health problems.

There are several mechanisms through which these health effects may occur. For example:

1. Sleep interference, including delayed falling asleep, lighter sleep, less sleep, and too short periods of deep restful sleep.
2. Interference with complex activities, especially when mastery requires attention to multiple tasks and a large working memory. Inhibited mastery both reduces self-esteem, and leads to work errors and accidents.

3. Simultaneous noise renders speech partially inextractable, making interpretation difficult and nuances of communication unavailable, thereby increasing misunderstanding and altering relationships.

Even moderate risks become important when the population density in exposed areas is large, such as the neighborhoods of Cambridge. Citizens in areas of mixed use (industrial or institutional with residential) may suffer the most.

The characteristics of noise which constitute important variables include not just volume, but frequencies, familiarity, predictability, number and time distribution, controllability and perceived meaning of the source. Fire engine sirens may be tolerated as necessary whereas hours of leaf blower operation may feel intolerable.

Does the noise increase we are experiencing constitute progress?

Leaf blowers take the place of raking which expends no fossil fuel and spares the hearing of workers. These workers are often non-English speakers who are unable to assert their rights or concerns and who because of additive hearing loss may never learn English. No progress for them.

Grass clippings can easily be collected in an attached bag or basket. Leaves can be raked onto strategically placed tarps and carried to trucks or bagged for pick-up. There have been beautiful gardens for centuries without the dust, fuel waste, hearing damage and interference we are tolerating now. No, this is not progress.

Among the other new technological scourges are vacuum trucks. These huge vacuum engines sit running in the street or parking lots while workers snake hoses into buildings to clean. In a large condo such as the one behind my home, this vacuuming can go on for hours, moving from unit to unit. The alternative, to bring a vacuum into the unit, has worked for decades, saves fuel and spares the serenity of all but those actually benefiting from the service. No, this is not progress.

One of the most common citizen noise complaints relates to the mushrooming presence of outdoor AC units. Putting aside the fact that there frequently are only 8-10 truly hot days during many summers in Cambridge, the indiscriminate placement, poor unit choice, and lack of buffering of these units destroys the outdoors for those who do not share a "fortress mentality" and instead wish to enjoy their yards, take a stroll, or sleep with their windows open. Even in the middle of cool summer nights the machines keep chugging. There is always a background din.

No, this is not progress.

I ask you to spend five days in the country and watch yourself come back alive. Recognize how shut-down you are forced to be in this city, how much noise you must screen out, what armor you must wear to live and work here. You may say, "Well, it is your choice to live in the city." To that I say, " Make this city livable, make it a model of concern for the quality of life, yours and mine."

Thank you.

Addendum:

Dust raised by lawn blowers may also increase lead exposure. Many Cambridge yards have decades of lead paint dust accumulated in the soil.

ATTB

June 27, 2002

TO: William King, Chairman
Commission Members
Charles Sullivan, Executive Director

FROM: Lloyd M. Aiello, MD
2-1/2 Berkeley Street
Cambridge, MA 02138

SUBJ: Cambridge Historical Commission: Thursday, June 27, 2002 - 6:00 pm
Case #: 1180 EDS HVAC

Introduction: Noise Disturbance

Chapter 8/16 Noise Control: 8.16.030 #16:

“Noise disturbance means any sound which (a) causes temporary or permanent hearing loss in persons exposed; or (b) is injurious to the public health; (c) causes a nuisance which is prohibited by law; or (d) is defined as a noise disturbance pursuant to the provisions of this chapter.”

As you probably know, A-weighting and C-weighting frequency curves have different impacts. While A-weighting frequency characteristics range from 500-10,000 Hz, the human ear is sensitive from 32 to 20,000 Hz. Music sound levels are characteristically measured by C-weighting in which frequencies measured are from 32 to 10,000 Hz. Many people such as musicians and pilots are very sensitive to the lower frequencies of 32 to 500 Hz and to higher frequencies of 10,000 to 20,000 Hz. Measuring the A-curve only, does not qualitatively impact on noise levels effectively. Additionally, the collectivity of multiple HVAC frequencies may at times be “in phase” and thus additive. All of these characteristics especially when they include the low and high frequencies may create a chronic ambient noise that is not only very disturbing but may result in permanent hearing loss, circulatory and cardiac problems, mood and learning alterations.

Those affected by the EDS very high volume AC (Case #1180) include

(1) Neighbors who experience effectively an auditory and vibratory Chinese Water Torture: 2 musicians, 4 professors, and those EDS spiritual students, faculty and guests who use the outdoor garden adjacent to the HVAC for contemplation

(2) the Public:

- The fully sensed passerby must cover ears and use sign language.
- The deaf tense from the vibration
- The blind recoil from the broad frequency range to which they are uniquely sensitive as their guide dog quickens the pace.

The present treated HVAC does not meet ordinance at 60 dB in daytime nor 50 dB at night for location #1 or for Washburn Hall lot line. Ambient noise at night in this neighborhood is 50 dB.

“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, “...” or the public way. – See a Superior Court judge recent ruling.

Solution to these problems for Historic Cambridge includes at least in part:

- Clear interpretation of the ordinances
- Enforcement of the ordinances
- Revisions of the ordinances
- Upgrade in design and function of the hardware (R&D) or ban it

Specifically:

To respond to the needs of the public, the neighbors, and the folks of EDS, it appears that the action that would be truly effective and beneficial to all is to relocate this EDS HVAC as discussed at the site visit by the Historical Commission members.

Comment

- (1) Over the years, we have been privileged by treasured friendships of our EDS “garden” neighbors. Together, we have kept the spirit and letter of Historic Cambridge. This EDS HVAC situation clearly threatens this integrity.
- (2) This Historical Commission is an essential ingredient of our democracy, our revolutionary exercise ensuring that the taxpayers remain free – and free to preserve our historical heritage – all of it in harmony of community and nature. This Historical Commission has done this since the beginning – always unwavering in pursuing its Charter in fact and in spirit.
- (3) **The EDS may come close to HVAC compliance with the ordinances of the City of Cambridge, while overlooking the essential needs of this Historic community, their own community, the property owners in Cambridge who recently experienced up to a 30% increase in their taxes, and the public – all of whom contribute to the spiritual and economic health of this important tax free institution.**
- (4) We wish to thank the Commission for their efforts in assisting in finding a solution favorable to all.



City of Cambridge

O-12.

IN CITY COUNCIL

February 10, 2003

VICE MAYOR DAVIS
COUNCILLOR DECKER
COUNCILLOR GALLUCCIO
COUNCILLOR MAHER
COUNCILLOR MURPHY
COUNCILLOR REEVES
COUNCILLOR SIMMONS
MAYOR SULLIVAN
COUNCILLOR TOOMEY

ORDERED: That the City Manager be and hereby is requested to convene appropriate departments to discuss the overlap of proposed acoustical standards of the RTMTF and existing mechanical devices, their enforcement and replacement.

In City Council February 10, 2003.
Adopted by the affirmative vote of nine members.
Attest:- D. Margaret Drury, City Clerk.

A true copy;

D. Margaret Drury

ATTEST:-

D. Margaret Drury
City Clerk



City of Cambridge

O-13.

IN CITY COUNCIL

February 10, 2003

VICE MAYOR DAVIS
COUNCILLOR DECKER
COUNCILLOR GALLUCCIO
COUNCILLOR MAHER
COUNCILLOR MURPHY
COUNCILLOR REEVES
COUNCILLOR SIMMONS
MAYOR SULLIVAN
COUNCILLOR TOOMEY

ORDERED: That the City Manager be and hereby is requested to instruct the Assistant City Manager for Community Development to forward to the Rooftop Mechanicals Task Force for their information the health testimony contained in the this report as ATTACHMENT A and B.

In City Council February 10, 2003.
Adopted by the affirmative vote of nine members.
Attest:- D. Margaret Drury, City Clerk.

A true copy;

A handwritten signature in black ink, reading "D. Margaret Drury". The signature is written in a cursive style with a large, stylized "D" and "M".

ATTEST:-

D. Margaret Drury
City Clerk

S-43

Committee Report #3

Committee Report from Vice Mayor Henrietta Davis, Chair of the Health and Environment Committee, for a meeting held on January 31, 2003 to discuss visual and acoustical draft recommendations by the Rooftop Mechanicals Task Force (RTMTF).

In City Council February 10, 2003

**REPORT ACCEPTED.
TWO ORDERS ADOPTED.
SEE ORDERS #12 AND #13.
PLACED ON FILE.**