



CITY OF CAMBRIDGE

Office of the City Solicitor
City Hall

795 Massachusetts Avenue
Cambridge, Massachusetts 02139

Tel. (617) 349-4121
Fax. (617) 349-~~4121~~4134

Russell B. Higley
City Solicitor

Donald A. Drisdell
Deputy City Solicitor

Michael C. Costello
Assistant City Solicitor

Birge Albright
Legal Counsel

Gail S. Gabriel
Legal Counsel

Diane Wynshaw-Boris
Legal Counsel

Laura H. Yager
Legal Counsel

Linda A. Stamper
Legal Counsel

Arthur J. Goldberg
Legal Counsel

May 16, 1994

Robert W. Healy
City Manager
795 Massachusetts Avenue
Cambridge, MA 02139

Re: Council Order #19 (2/14/94) - Noise Ordinance

Dear Mr. Healy:

Council Order #19 requests that the City Manager direct the Law Department "to draft amendments to the ... Noise Ordinance to accomplish objectives raised in the attached letter." We learn from the letter in question, dated January 31, 1994, and an earlier letter, dated October 28, 1993, that the problem is apparently caused by exhaust fans and air conditioning units on top of buildings at 38 and 64 Sidney Street, which generate noise which disturbs some residents of Brookline Street and Auburn Street, but which does not violate the Noise Ordinance.

I am attaching copies of the following documents relating to this situation:

1. Letter dated October 28, 1993 from Brookline Street residents to City Manager and City Council.
2. Council Order #14 (11/15/93).

3. Memorandum dated December 1, 1993 from Robert Bersani to City Manager.

4. Memorandum dated December 13, 1993 from Henderson T. Headley regarding noise measurements at 69 Brookline Street.

5. Minutes of Planning Board meeting on December 21, 1993 regarding "Mechanical noise from office buildings at University Park."

6. Letter dated January 31, 1994 from Brookline Street and Auburn Street residents to City Manager and City Council.

7. Council Order #19 (2/14/94).

8. Noise Ordinance (Cambridge Code, Chapter 8.16).

The problem can be addressed in two ways. First, the City may be able to require either changes in the HVAC equipment itself or the construction of barriers around the equipment. Second, we can amend the Noise Ordinance.

With regard to the first approach, I call your attention to Commissioner Bersani's memorandum of December 1, 1993, in which he states:

... the Inspectional Services Department could require during the plan review prior to issuance of the building permit that evidence be provided by the appropriate design professional that noise impacts to the community were considered in the design.

It is my understanding that the Inspectional Services Department is now doing this.

I also believe that the Planning Board and the Board of Zoning Appeal, when granting special permits and variances, could impose conditions on the purchase and installation of mechanical systems designed to reduce their noise. See Bobrowski, Handbook of Massachusetts Land Use and Planning Law, §§8.5, 9.5 (1993).

With regard to amending the Noise Ordinance, I see three ways in which this could be done:

1. Noise from HVAC equipment could be treated as a "non-measured noise disturbance" under Code §8.16.080. This section states that certain acts

are declared to be loud, disturbing and unnecessary noises in violation of this chapter ...

The acts enumerated in this section are, for the most part, acts which produce noise that is difficult to measure with a decibel meter, such as noise from horns, radios, phonographs, animals and the like. Some of this kind of noise might be referred to as non-continuous noise.

Since the noise from HVAC equipment is both continuous and susceptible of measurement, I do not recommend that it be treated as a "non-measured noise disturbance."

2. If HVAC noise is treated as a "measured noise disturbance" under §8.16.060, then it is governed by the noise standards set forth in Table 8.16.060E, "Table of Zoning District Noise Standards." If the decibel levels in this Table were reduced across the board by, e.g., 5 decibels, then much of the HVAC noise which is now legal would become illegal.

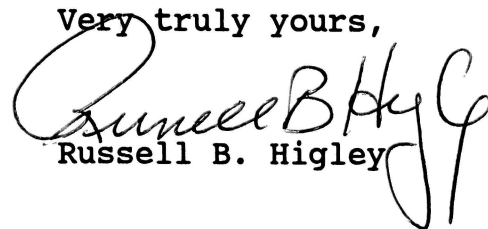
However, other kinds of noise which are now legal would also become illegal, and, since it would be very difficult to predict the overall impact of this change, I recommend that an acoustical consultant be retained to analyze the impact of such a change prior to its consideration by the Council.

3. The third alternative is that suggested by Commissioner Bersani in his memorandum of December 1, 1993. There he states:

... Another possible action would be to modify the ... noise ordinance to include a provision that accounts for the special case of continuous noise. For this case, a maximum level lower than the 60/50 dB(A) currently allowed may be appropriate. As this is a highly specialized area, an acoustical consultant should be retained to make recommendations.

I am attaching a copy of Sec. 36-15 of the Miami Code, which sets noise levels for mechanical equipment such as air conditioning compressors, pumps, blowers, exhaust fans and filters. I believe that we could use this approach, but I agree with Commissioner Bersani that the precise decibel levels should be determined by an acoustical consultant.

Very truly yours,



Russell B. Higley

RBH/jab
Enclosures

October 28, 1993

Mayor Reeves
Vice Mayor Cyr
Councillor Duehay
Councillor Myers
Councillor Sullivan
Councillor Toomey
Councillor Russell
Councillor Walsh
Councillor Wolf
City Manager Healy

Dear Members of the Council and Mr. Manager,

We are writing to you to request your assistance in solving a serious noise problem caused by exhaust fans and air conditioners on top of the Clark and Richards Buildings at 38 and 64 Sydney Street, owned by Forest City Corporation.

This noise which is generated 24 hours a day and 7 days a week has the quality of an airplane roar. It is particularly nerve wracking late at night and early in the morning.

We have tried to work this problem out with the property owners over the past three years. In the end the response has been that it would be too expensive for them to correct and that the new housing would act as a noise buffer. If we had made a construction mistake that disturbed our neighbors to this same extent, we would not be allowed to give excuses to avoid correcting it. Further, to suggest that the tenants in the new housing should endure this noise to our benefit, conveys a lack of concern for our neighborhood.

We fear that if this problem is not solved, when the new commercial buildings are added, that this problem will greatly increase. We need your help.

We are asking for your assistance in three areas. First we want measures taken to solve the existing noise problem, and assurances that the design of the new buildings do not create new noise problems. Further we feel that it would be of great help to city neighborhoods if a new ordinance was created which specifically deals with this problem.

Three years is long enough, we would like to hear from you as soon as possible. (Contact persons: Peggy Lynch 876-1501 and Peter Valentine 661-3261) Thank you.

Nelson Dolt
9 Brookline St
Cambridge

Robert P. Macy
53 Brookline St
Cambridge, MA

William A. Lee
75 Brookline St
Cambridge

Peggy Lynch
64 Brookline St
Cambridge

Peter Valentine
37 Brookline
Cambridge MA

Dick Dhuson
53 Brookline St
Cambridge MA 02139

Jerry Taylor
55 Brookline St
Cambridge MA

Jan P. Becko

Howard R. ...
104 Auburn St

John ...

Jan Elder
51 Brookline



City of Cambridge

14.

*Scale
Berman
Pishey*

IN CITY COUNCIL

November 15, 1993

COUNCILLOR WOLF
COUNCILLOR DUEHAY
COUNCILLOR MYERS

- WHEREAS: The attached letter relates to noise from air conditioners from a commercial building; and
- WHEREAS: Issues around air conditioner noise have been a theme of complaints over the last few years, both from commercial buildings and from residences; and
- WHEREAS: This City Council has passed several orders requesting mitigation for particular situations, but also a resolution for the broad issues and problems; and
- WHEREAS: These do not seem to have been forthcoming; now therefore be it
- ORDERED: That the City Manager be requested to convene representatives from the appropriate agencies to find what actions, in ordinance, codes, or enforcement, could handle these issues in a clear way; and be it further
- ORDERED: That the City Manager be asked to follow up on this particular issue to assist the parties to coming to a satisfactory resolution; and be it further
- ORDERED: That the City Manager report back to the City on this matter at his earliest convenience.

In City Council November 15, 1993.
Adopted by the affirmative vote of nine members.
Attest:- D. Margaret Drury, City Clerk.

A true copy;

ATTEST:-

D. Margaret Drury

D. Margaret Drury
City Clerk



CITY OF CAMBRIDGE

INSPECTIONAL SERVICES DEPARTMENT 831 MASS. AVE.
CAMBRIDGE, MASSACHUSETTS 02139 (617) 349-6100

ROBERT R. BERSANI
Managing Director/
Acting Commissioner

December 1, 1993

To: City Manager

From: Managing Director, Inspectional Services

Subject: Council Order #14, dated 11/15/93 RE: NOISE FROM AIR
CONDITIONERS AT THE CLARK AND RICHARD BLDGS. AT 38 & 64 SYDNEY
STREET

1. The noise generated by the HVAC equipment from the Forest City development has been an irritation to residents on Brookline Street for about three years. Noise readings taken at the residences in June, 1992 showed levels within that permitted by the noise ordinance. My understanding is that the License Commission is in the process of taking a second set of readings. I expect that these will not be much different than those taken in 1992. Since in this case there does not appear to be a violation of the City Ordinance or of 310 CMR (Department of Environmental Protection), resolution of the residents' concerns would have to be from a voluntary effort by the developer.

2. I spoke with Mr. Jack Dobson, Project Manager at Forest City on this problem. He told me that he had been counting on early construction of complexes at 45 and 75 Sydney, which would be between the Clark and Richards bldgs and Brookline Street, to shield the fan noise. As the noise is still a problem and since there is not yet a definite construction start date, Mr. Dobson told me that he would investigate the possibility of installing some type of a baffling structure to reduce the noise level. He envisions this structure would be temporary pending construction at 45 and 75 Sydney. I requested that he keep me advised of progress on this plan.

3. Long term there are several actions that can be taken to try to minimize these kinds of problems from recurring. Most important would be to raise the level of awareness at the various agencies, e.g.; Planning Board, BZA, and this Department, that are involved in approving large industrial or research complexes in the City. These Boards and Departments need to impress upon developers and designers the need to consider carefully the impact of exterior sound producing mechanical equipment on the surrounding community and engineer solutions to minimize these impacts. As an example, the Inspectional Services Department could require during the plan review prior to issuance of the building permit that evidence be provided by the appropriate design professional that noise impacts

to the community were considered in the design. Another possible action would be to modify the current noise ordinance to include a provision that accounts for the special case of continuous noise. For this case, a maximum level lower than the 60/50 dB(A) currently allowed may be appropriate. As this is a highly specialized area, an acoustical consultant should be retained to make recommendations.

Very truly yours,


R. R. Bersani

cc
Alex Rodriguez
Russell B. Higley

From: Henderson T Headley (VAX:HEADLEY_H)
To: Boyer
Date: December 13, 1993, (Monday) 10:53pm
Subject: Lynch vs Forest City

Please be advised that noise readings were taken at the home of Margaret Lynch on 12/10 and 12/11/93 respectively. A night and day reading were taken with no evidence of a noise violation. Below is a summary of the noise analysis taken from various sections of Ms. Lynch's residence. The night reading was taken at approximately 10:00 p.m. on 12/10 and the day reading was taken at approximately 8:30 a.m. on 12/12. These results were shared with Ms. Lynch and she understood that a violation did not exist. However, she would like the License Commission to intervene with Forest City management to inquire about a goodwill gesture relative to the noise issue. Please advise.

	<u>12/10/93 dB(A)</u>	<u>12/11/93 dB(A)</u>
Front Porch	48.8 - 49.6	47.9 - 49.8
Deck	48.6 - 49.4	49.1 - 49.5
Master Bedroom (window closed)	36.6 - 37.8	37.1 - 38.1
Master Bedroom (window opened)	49.1 - 50.0	49.3 - 49.9

cc: Scali

Planning Board Meeting December 21, 1993

Planning Board Members Present: V. Mathias (VM), A. Cohn (FC), H. Salemme (HS), H. Russell (HR), A. Callaghan (MC), P. Dietrich (PD).

CDD Staff Present: L. Barber (LB), L. Malenfant (LM), M. Rosenberg (MR) after public hearing.

PUBLIC HEARING

Special Permit #66, Cambridgeside Galleria, Major Amendment; Lotus Development Office Building.

Mr. Dan Ratner, Corporate Services for Lotus Development summarized the request for two special permits amending the Special permit #66 to allow the construction of a sixth floor on the office building and to allow complete use of the basement. In combination an additional 32,000 square feet would be added requiring a variance to increase the permitted floor area above the 2.0 limit allowed in the district and by the Special Permit #66. In addition, a variance to eliminate the additional loading bay required as a result of the additional floor area is requested as the bay is not needed functionally and its placement along Cambridgeside Place would have severe design and urban design consequences. Mr. Jim Flanik, Arrowstreet, Inc., briefly reviewed the design reflecting the additional floor. He indicated that the design review with the CDD has been going well, with most outstanding issues resolved.

MC: asked if second bay is required because the building now exceeds 100,000 square feet. JF: yes. Have designed space for two small bays, one of which will be used for a compactor. Inserting an additional, longer bay would interfere with alignment of lobby and entry on the park access and convert all of Cambridgeside Place frontage to utility use, which no one wishes to see happen.

HR: asks if building has been designed to be sold off. JF: yes.

No one from the general public asked questions. None spoke in favor or in opposition to the request.

MC: asks if original permit requires continued design review. JF: yes, and current review is ongoing and resolving all major issues.

FC: asks if additional floor area is a variance. LB: yes; brings entire project above the FAR limit in the district and the special permit.

On a motion by H. Russell and F. Cohn the requested amendment was approved unanimously as submitted.

2. Special Permit #105 - 3-5 Linnaean Street

Resident at 7 Linnaean Street spoke as a representative of all residents in the building and in opposition to the waiver.

FC: inquired of other board members if there were any arguments in favor of the waiver as the arguments against, as outlined in staff memo to the Board, seem so strong.

HR: From own review which concludes as the memo does, it is clear that the waiver should not be granted. Options are available for the owner to cross the space with a driveway to parking located elsewhere on the lot.

On a Motion by F. Cohn and V. Mathias the request for a waiver of the provisions of the Massachusetts Avenue Overlay District was denied. Motion passed unanimously with P. Dietrich not voting as he did not attend the hearing.

3. Mechanical Noise from Office Buildings at University Park.

PD: indicated that Peter Valentine, Brookline Street, had approached him with a request that the Planning Board review the problem of noise from mechanical equipment at University Park and generally in the city.

Peter Valentine: asks that the Planning Board, when reviewing new buildings in the future, address this concern specifically.

Peggy Lynch, 69 Brookline Street. believes that the noise that is most troublesome is beyond the regular air conditioning noises. Concerned that the midrise portion of the Brookline Street housing will also have mechanical equipment on the roof. Makes reference to the growth policy document which encourages a close association with housing and office/research use; noise will be a major issue for such an arrangement. Asks the Planning board for assistance in crafting an ordinance that might deal with the problem as well as enforcement of obligation of owners to deal with issue on future buildings.

MR: it is an important issue that is related to recommendations of the growth policy document.

PD: important, particularly in areas where the board has agonized over the appropriate mix of uses in an area.

PL: problem seems to be related particularly to venting for special equipment in labs and manufacturing areas.

HR: given the fact that noise reading indicate current conditions are near of slightly above the limit established in the noise ordinance, it is likely that additional buildings will push reading over the limit.

PV: concerned that city has not the expertise to solve the problem or has not thought about the issue in the past. Notes an echo chamber effect already between the two buildings on Sidney street where exhaust fans face the pedestrian space between them. Its important that proposals come into the Board well ahead of time to permit the issue to be addressed (reference is made by Board and staff to the design review process required of new buildings in the Cambridgeport Revitalization Development

District). Indicates that maybe part of the problem is regulating the uses inside the buildings as the research buildings seem to be the major culprits.

PD: Board should communicate with Insepctional Services and the License Commission with a recommendation that the noise ordinance be changed to reflect this concern.

Peter Calkins, Forest City Management, Asset Manger (arrived partway through the discussion): Recognizes that the problem may be exacerbated in the future with new construction. Will look at issue in design of new buildings and are looking at retrofitting old buildings. seems to be a problem of noise traveling some distance; don't hear it close to building or on the common.

PD: board will be looking to Forest City to develop improved guidelines for new buildings.

HR: suggests communications be cc'd to the Council.

PD: Engineers should select the quietest equipment.

PC: noise is only one of the considerations; cost and energy use are other important ones.

PV: would like a checkpoint at which new buildings get a review and this issue is analyses. would like the city to be equipped with the expertise to evaluate the situation.

4. Charles Square - Amendment to Permit to Eliminate the Cap on the size of Any Individual Retail Establishment.

[Due to a misunderstanding about the time at which this item would be discussed by the Board, the applicants did not arrive before the adjournment of the meeting]

MR and LB summarized the request as they understood it from an earlier meeting with the applicants. Permittee is requesting a minor amendment to Permit #12 such that the 15,000 - 18,000 upper limit on the size of any retail establishment be eliminated. No increase in the permitted area of retail use in the project, ca 45,000 square feet, is requested. It has been a very difficult space to rent and retain tenants for and need the flexibility to rent to those enterprises that can draw their own clientele to this out of the way location. No store can depend on foot traffic in this location. About 30,000 square feet of space would be available for rent.

Board members recognized the problem of the space and location and the past history of vacancies. They expressed no strong reservation for the proposal but wished to consider it at the next meeting after the Advisory Committee and others were notified of the request and given an opportunity to comment.



City of Cambridge

[Handwritten signature]

19.

IN CITY COUNCIL
February 14, 1994

COUNCILLOR DUEHAY
COUNCILLOR BORN
COUNCILLOR MYERS
COUNCILLOR TRIANTAFILLOU

ORDERED: That the City Manager be and hereby is requested to direct the Law Department to draft amendments to the Cambridge Noise Ordinance to accomplish objectives raised in the attached letter.

In City Council February 14, 1994.
Adopted by the affirmative vote of seven members.
Attest:- D. Margaret Drury, City Clerk.

A true copy;

ATTEST:- *D. Margaret Drury*
D. Margaret Drury
City Clerk

19

January 31, 1994

City Manager Robert Healy
Mayor Kenneth Reeves
Vice Mayor Sheila Russell
Councillor Kathy Born
Councillor Frank Duehay
Councillor Jonathan Meyers
Councillor Michael Sullivan
Councillor Timothy Toomey
Councillor Katherine Triantifilou
Councillor William Walsh

BUILDING NOISE FROM 38 AND 64 SYDNEY STREET

In November of 1993 following a letter written by Brookline Street residents, Councillor Alice Wolf submitted an order requesting that the City Manger's office look into a building noise problem generated by Forest City Buildings on Sydney Street. As a result of that order Inspectional Services has made new decibel readings. These data were submitted to the Planning Board at a hearing on December 21, 1993 which was planned independently of the above order. We were pleased to have a chance to discuss this with the Planning Board.

We have three requests 1) that the city assist us in our work with Forest City to solve this noise problem; 2) that the Planning Board think about building noise and its impact on residential areas when granting permits for future projects; and 3) a new noise ordinance be written addressing this specific kind of noise problem.

We think and the Planning Board apparently agreed that the noise being generated by the stack vents on these buildings is a serious problem. First it is already noisy for neighbors, second when the new Forest City buildings are built, and the Home Owner's Rehab housing is built, residents and R and D buildings will be that much closer to each other. (Indeed, the funding for the Home Owner's Rehab housing mandates that they, too will have air conditioning units.)

At the Planning Board meeting, we requested that a new ordinance be developed that will prevent this problem from occurring in the future. This is a different kind of noise than what is currently covered by the noise ordinance which was written to deal primarily with music played in the street and bars. Building noise is constant and immobile. At the Planning Board meeting, members of the CDD expressed an interest working on developing such legislation.

We would like the Council to act on developing such an ordinance as quickly as possible. We are left still with the problem of the noise as it presently exists. We plan to ask for further assistance from the Inspectional Services in this matter. We look forward to the opportunity to discuss this with members of the City Council and would like to be present when the City Manager's office reports back on this problem.

Yours truly,

Margaret Lynn
69 Brookline St

Paul Capelloni
158 Brookline St.

Jan Pucibello
69 Brookline St

Tess Ewing (Tess Ewing)
104 AUBURN ST

Walter
104 Auburn St
Cambridge

Paul
158 Brookline

Peter Valentine
37 Brookline St.

Robert D. Jany
53 Brookline

Dickinson
53 Brookline St

John Elding
51 Brookline St

cc: Peter Caulkins, Forest City Management
Michael Rosenberg, Assistant City Manager
Paul Dietrich, City of Cambridge Planning Board
Peter Daly, Home Owner's Rehab Inc.

Chapter 8.16

NOISE CONTROL

Sections:

- 8.16.010 Short title.
- 8.16.020 Declaration of findings and policy—Scope.
- 8.16.030 Definitions.
- 8.16.040 Enforcement.
- 8.16.050 General prohibition of noise disturbances.
- 8.16.060 Measured noise disturbance.
- 8.16.070 Restrictions on noise emitted from construction sites.
- 8.16.080 Non-measured noise disturbances.
- 8.16.090 Exceptions and variances.
- 8.16.100 Miscellaneous.

8.16.010 Short title.

This chapter may be cited as the “Noise Control Ordinance” of the City of Cambridge. (Ord. 1121 (part), 1991)

8.16.020 Declaration of findings and policy—Scope.

A. Declaration of Findings and Policy. Whereas excessive sound and vibration are a serious hazard to the public health and welfare, safety, and the quality of life; and whereas the people have a right to and should be ensured an environment free from excessive sound and vibration that may jeopardize their health or welfare or safety or degrade the quality of life; now, therefore, it is the policy of the City to prevent excessive sound and vibration which may jeopardize the health and welfare or safety of its citizens or degrade the quality of life.

B. Scope. This chapter shall apply to the control of all sound and vibration originating within the limits of the City, unless otherwise exempted by law. (Ord. 1121 (part), 1991)

8.16.030 Definitions.

1. “Authorized enforcement personnel” means

the City Police Commissioner, the Commissioner of the Inspectional Services Department, the Chairperson of the License Commission and their designees.

2. “Commercial area” means any area defined as an office or business district by the City zoning ordinance, Article 3.000.

3. “Construction” means any site preparation, assembly, erection, substantial repair, alteration, or similar action, but excluding demolition, for or of public or private rights-of-way, structures, utilities or similar property.

4. “Daytime” means the period between the hours of seven a.m. and six p.m. daily except Sunday and holidays according to the time system locally in effect.

5. “dB” means the abbreviation for decibel.

6. “dB(A)” means the A-weighted sound level in decibels, as measured by a general purpose sound level meter complying with the provisions of Specifications for Sound Level Meters (S1. 4 1971), American National Standards Institute (ANSI), properly calibrated, and operated on the “A” weighting network.

7. “Demolition” means any dismantling, intentional destruction or removal of structures, utilities, public or private right-of-way surfaces, or similar property.

8. “Emergency” means any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate action.

9. “Emergency work” means any work performed for the purpose of preventing or alleviating the physical trauma or property damage threatened or caused by an emergency.

10. “Hz” means the abbreviation for Hertz, which means cycles per second.

11. “Impact device” means a construction device in which or by which a hammer, meaning a moving mass of hard solid material, is mechanically by means of a working fluid or compressed air caused to repetitively impact upon and transmit kinetic energy to a tool. The tool may be included as a part of the device, as in the case of a moil on a paving breaker or the drill steel of a jackhammer, or it may

be a mass to which the impact device is temporarily connected as in the case of a pile and pile driver. Examples of impact devices are pile drivers, paving breakers and power impact hammers, impact wrenches, riveters and stud drivers.

12. "Industrial area" means any area defined as an industrial district by the City zoning ordinance, Article 3.000.

13. "L₁₀ level" means the A-weighted sound level exceeded ten percent of the time.

14. "Motor vehicles" means any vehicle so defined in G.L., c. 90, § 1.

15. "Motorcycle" means any vehicle so defined in G.L., c. 90, § 1.

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.

17. "Noise sensitive zone" means any area designated by the enforcement authority pursuant to subsection B of Section 8.16.040 of this chapter for the purpose of ensuring exceptional quiet. Noise sensitive zones shall include, but not be limited to, areas where noise sensitive activity occurs, such as the operation of schools, libraries open to the public, churches, hospitals and nursing homes.

18. "Person" means any individual, association, partnership, or corporation, and includes any officer, employee, department, agency or instrumentality of a state or any political subdivision of a state.

19. "Public right-of-way" means any street, avenue, boulevard, highway, sidewalk or alley or similar place which is owned or controlled by a governmental entity.

20. "Public space" means any real property or structures thereon which are owned or controlled by a governmental entity.

21. "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.

22. "Residential area" means any area defined as a residence district by the City zoning ordinance, Article 3.000.

23. "Sound pressure level" is numerically equal to twenty times the logarithm (to the base ten) of the sound pressure to the reference sound pressure (the reference sound pressure shall equal twenty micropascals). Unless otherwise stated, the level is understood to be that of a root mean-square pressure.

24. "Weekday" means any day Monday through Friday which is not a legal holiday. (Ord. 1121 (part), 1991)

8.16.040 Enforcement.

A. Enforcement Officials. The Police Commissioner, the Commissioner of the Inspectional Services Department and the Chairperson of the License Commission shall be the authorized enforcement personnel charged with the enforcement of these provisions.

B. The License Commission may designate any appropriate area as a noise sensitive zone as that term is defined in Section 8.16.030(17) of this chapter.

C. Violations. Authorized enforcement personnel may: order and specify reasonable remedial actions to be taken by a violator of this chapter to achieve compliance; or issue citations, pursuant to G.L., c. 40, § 21D, for violations of these provisions assessing fines of three hundred dollars for each day such violation is committed or permitted to continue. Additionally, any person found in violation of any of the provisions of this chapter may be prosecuted for a misdemeanor and upon conviction thereof shall be fined three hundred dollars.

D. Injunction. As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provision of this chapter and which causes a noise disturbance may be subject to abatement summarily by a restraining order or injunction issued by a court of competent jurisdiction.

E. Suspension or Revocation of License or Permit. As an additional remedy for violation of any

provision of this chapter, any enforcement official under subsection A of this section may summarily suspend, and after a hearing may revoke, any license or permit, including a building or demolition permit. (Ord. 1121 (part), 1991)

8.16.050 General prohibition of noise disturbances.

No person or persons owning, leasing or controlling the operation of any source or sources of noise shall wilfully, negligently, or through failure to provide necessary equipment or facilities or to take necessary precautions, permit the establishment or continuation of a condition of noise disturbance. (Ord. 1121 (part), 1991)

8.16.060 Measured noise disturbance.

A. This section shall apply to the use or occupancy of any lot or structure thereon and to the noise produced thereby, but shall not apply to the following:

1. To the intermittent or occasional use, during the daytime, of light homeowner's residential outdoor equipment or commercial service equipment provided said equipment and its use complies with other provisions of this chapter;

2. To construction activities and the associated use of construction devices nor to the noise produced thereby, provided such activities, and such equipment and its use, comply with provisions of this chapter.

B. Noise in Residential Areas or Affecting Residential Property. No person shall create or cause to be emitted from or by any source subject to the provisions of this chapter, any noise which causes or results in a noise level, measured at any lot line of any lot located in any residential area or in residential use elsewhere in conformance with the zoning ordinance, in excess of any level of subsection E of this section, residential district noise standard, provided, that if said lot is located in any industrial area, the noise level measured at the lot line shall not exceed any level of subsection E of this section, residential-industrial noise standard. Noise emitted from construction sites shall be excepted from this regulation.

C. Noise in Commercial Areas. No person shall create or cause to be emitted from or by any source subject to the provisions of this chapter, any noise which causes or results in a noise level, measured at any lot line of any lot in any commercial area other than a lot in residential use in conformance with the zoning ordinance, in excess of any level of subsection E of this section, business district noise standard. Noise emitted from construction sites shall be excepted from this regulation.

D. Noise in Industrial Areas. No person shall create or cause to be emitted from or by any source subject to this chapter, any noise which causes or results in a noise level, measured at any lot line of any lot in recreational or business use in any industrial area in conformance with the zoning ordinance, in excess of any level of subsection E of this section, industrial district noise standard. Noise emitted from construction sites shall be excepted from this regulation.

E. Area Noise Standards. Noise standards referred to in this chapter for the several zoning districts of the City, as defined in and established pursuant to the City zoning ordinance are established by Table 8.16.060E following this section. (Ord. 1121 (part), 1991)

8.16.070 Restrictions on noise emitted from construction sites.

A. 1. Except as provided for in subsections C and D of this section, it is unlawful for any person to operate any construction device or devices on any construction site if the operation of such device or devices emits noise, measured at the lot line of the affected property, in excess of the values shown below:

Lot Use of Affected Property	L ₁₀ Level	Maximum Noise Level
Residential	75 dB(A)	86 dB(A)
Business or Office	80 dB(A)	—
Industrial	85 dB(A)	—

TABLE 8.16.060E
TABLE OF ZONING DISTRICT NOISE STANDARDS
Maximum Allowable Octave Band Sound Pressure Levels

Octave Band Center Frequency Measurement (Hz)	Residential Area		Residential in Industrial		Commercial Area	Industry Area
	Daytime	Other Times	Daytime	Other Times	Anytime	Anytime
31.5	76	68	79	72	79	83
63	75	67	78	71	78	82
125	69	61	73	65	73	77
250	62	52	68	57	68	73
500	56	46	62	51	62	67
1,000	50	40	56	45	56	61
2,000	45	33	51	39	51	57
4,000	40	28	47	34	47	53
8,000	38	26	44	32	44	50
Single Number Equivalent (dB(A))	<u>60</u>	<u>50</u>	<u>65</u>	<u>55</u>	<u>65</u>	<u>70</u>

2. The same level shall apply to a public way as applies to an industrial use. Measurements should not be taken closer than fifty feet or approximately fifteen meters from the nearest active construction device on the construction site. The maximum noise level shall be measured on the sound level meter at slow response.

B. The L_{10} level shall be determined in the following manner:

1. Every ten seconds, on the mark, the A-weighted noise level on the sound level meter with slow response is recorded until one hundred observations have been made. If, during any of these observations, a measurement is substantially affected by any source outside the construction site (such as aircraft overflight), measurements made during these periods will not be considered. However, the obser-

vation period shall be extended until one hundred valid measurements are obtained. The L_{10} level will be that level that is equal to the tenth highest level recorded

2. If, in the estimation of the person taking the measurements, outside noise sources contribute significantly to the noise level, the above procedure shall be repeated (with the same outside noise source contributions) when construction is inactive, in order to determine the existing background L_{10} level. The L_{10} level during construction must exceed the background L_{10} level by 5 dB(A) to be considered a violation of subsection A of this section.

C. 1. Except as provided for in subsection D of this section, it shall be unlawful to operate a construction device at any street excavation, grading or repair, utility street work installation or repair,

which produces a noise level exceeding 86 dB(A) at a distance of fifty feet or approximately fifteen meters from the device.

2. The provisions of subsection A of this section shall not apply to any construction site covered by subdivision C(1). The provisions of this subsection will not be applicable to any construction device used in emergency service work that is necessary to return utility service to an area provided that within twenty-four hours such device is brought into compliance with this section or is not reused within the City until it does comply.

D. The provisions of subsections A and C of this section shall not be applicable to impact devices. (Ord. 1121 (part), 1991)

8.16.080 Non-measured noise disturbances.

Noise Disturbances Prohibited. The following acts are declared to be loud, disturbing and unnecessary noises in violation of this chapter, but said enumeration shall not be deemed to be exclusive. Non-commercial public speaking and public assembly activities conducted on any public space or public right-of-way shall be exempt from the operation of this section.

A. Horns, Signalling Devices, Etc. The sounding of any horn or signalling device on any automobile, motorcycle, street car or other vehicle on any street or public place of the City, except as a danger warning; the creation by means of any such signalling device of any unreasonably loud or harsh sound; and the sounding of any such device for an unnecessary and unreasonable period of time. The use of any signalling device except the one operated by hand or electricity; the use of any horn, whistle or other device operated by engine exhaust; and the use of any such signalling device when traffic is for any reason held up.

B. Radios, Phonographs, Etc. Using, operating, or permitting to be played, used or operated any radio receiving set, musical instrument, phonograph, loudspeaker or public address systems, unless used by the City, or other machine or device for the producing or reproducing of sound between the hours of eleven p.m. and seven a.m. the following

day on weeknights and twelve a.m. and seven a.m. on weekend nights, or at any time in a noise sensitive zone, in such a manner as to be plainly audible at a distance of fifty feet from the building, structure, vehicle or dwelling unit in which it is located.

C. Street Sales. Offering for sale or selling anything by shouting or outcry within any residential or commercial area of the City except between the hours of eight a.m. and five p.m. if all necessary permits are obtained.

D. Animals, Birds, Etc. Owning, possessing or harboring any animal or bird which frequently or for continued duration, howls, barks, meows, squawks or makes other sounds which are plainly audible within a noise sensitive zone, or plainly audible at a distance of fifty feet from the lot line of the lot on which it is located.

E. Loading and Unloading. Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between the hours of nine p.m. and seven a.m. the following day on weekdays, or between the hours of nine p.m. and nine a.m. the following day when the following day is a Saturday, Sunday or holiday in such a manner as to be plainly audible at a distance of fifty feet from the lot line of the lot on which such activity is located, or to be plainly audible within a noise sensitive zone. ✓

F. Construction. Operating or permitting the operation of any tools or equipment used in construction, drilling, or demolition work:

1. Between the hours of six p.m. and seven a.m. the following day on weekdays, or between the hours of six p.m. and nine a.m. the following day when the following day is a Saturday, Sunday or holiday, such that the sound therefrom is plainly audible at a distance of fifty feet from the lot line of the lot on which said activity is located, or within a noise sensitive zone, except for emergency work of public service utilities or by special variance issued pursuant to subsection B of Section 8.16.090;

2. This section shall not apply to the use of domestic power tools subject to subsection L of Section 8.16.080.

G. Vehicle or Motorboat Repairs and Testing. Repairing, rebuilding, modifying, or testing any

motor vehicle, motorcycle, or motorboat in such a manner as to be plainly audible at a distance of fifty feet from the lot line of the lot on which said activity is located, or within a noise sensitive zone.

H. Places of Public Entertainment. Operating, playing or permitting the operation or playing of any radio, television, phonograph, drum, musical instrument, sound amplifier, or similar device which produces, reproduces, or amplifies sound in any place of public entertainment in such a manner as to be plainly audible at a distance of fifty feet from the source or to be plainly audible within a noise sensitive zone.

I. Vibration. Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at fifty feet from the source if on a public space or public right-of-way. For the purposes of this section, "vibration perception threshold" means the minimum ground- or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or visual observation of moving objects.

J. Emergency Signalling Devices.

1. The intentional sounding or permitting the sounding outdoors of any fire, burglar or civil defense alarm, siren, whistle or similar stationary emergency signalling device, except for emergency purposes or for testing, as provided in subdivision (2) following.

2. a. Testing of a stationary emergency signalling device shall occur at the same time of day each time such a test is performed, but not before eight a.m. or after ten p.m. Any such testing shall use only the minimum cycle test time. In no case shall such test time exceed ten minutes.

b. Testing of the complete emergency signalling system, including the functioning of the signalling device and the personnel response to the signalling device, shall not occur more than once in each calendar month. Such testing shall not occur before eight a.m. or after ten p.m. The time limit specified

in paragraph (a) above shall not apply to such complete system testing.

3. Sounding or permitting the sounding of any exterior burglar (or fire) alarm or any motor vehicle burglar alarm unless such alarm is automatically terminated within ten minutes of activation.

K. Noise Sensitive Zones.

1. Creating or causing the creation of any sound within any noise sensitive zone as defined by this chapter, so as to disrupt the activities normally conducted within the zone, provided that conspicuous signs are displayed indicating the presence of the zone; or

2. Creating or causing the creation of any sound within any noise sensitive zone, as defined by this chapter, containing a hospital, nursing home, or similar activity, so as to interfere with the functions of such activity or disturb or annoy the patients in the activity, provided that conspicuous signs are displayed indicating the presence of the zone.

L. Domestic Power Tools. Operating or permitting the operation of any mechanically powered saw, drill, sander, grinder, lawn or garden tool, snow blower, or similar device used outdoors in residential areas between the hours of ten p.m. and seven a.m. so as to be plainly audible at a distance of fifty feet from the lot line of the lot on which said activity is located, or in a noise sensitive zone.

M. Electronic Bug Killing Devices. The use of an electric bug killing device between the hours of eleven p.m. and eight a.m. if a written objection to such use by an abutter has been received by the City Clerk within one year. (Ord. 1121 (part), 1991)

8.16.090 Exceptions and variances.

A. Emergency Exception. The provisions of this chapter shall not apply to (a) the emission of sound for the purpose of alerting persons to the existence of an emergency, or (b) the emission of sound in the performance of emergency work.

B. Special Variances.

1. The License Commission shall have the authority, consistent with this section, to grant special variances which may be requested pursuant to any section of this chapter.

2. Any person seeking a special variance pursuant to this section shall file an application with the License Commission. The application shall contain information which demonstrates that bringing the source of sound or activity for which the special variance is sought into compliance with this chapter would constitute an unreasonable hardship on the applicant, on the community, or on other persons. Notice of an application for a special variance shall be published according to procedure. Any individual who claims to be adversely affected by allowance of the special variance may file a statement with the License Commission containing any information to support his claim. If the License Commission finds that a sufficient controversy exists regarding an application, a public hearing may be held.

3. In determining whether to grant or deny the application, the License Commission shall balance the hardship to the applicant and the community, of not granting the special variance, against the adverse impact on the health, safety, and welfare of persons affected, the adverse impact on property affected, and any other adverse impacts of granting the special variance. The License Commission shall also consider whether the noise disturbance occurs in or across a buffer zone. Buffer zones shall be the imaginary line along the ground surface, its vertical extension, and the area at fifty feet on either side of the line, which separates a residential area from a commercial area or an industrial area. Applicants for special variances and other persons contesting special variances may be required to submit any information the License Commission may reasonably require. In granting or denying an application, the License Commission shall place on public file a copy of the decision and the reasons for denying the special variance.

4. Special variances shall be granted by notice to the applicant containing all necessary conditions, including a time limit on the permitted activity. The special variance shall not become effective until all conditions are agreed to by the applicant. Noncompliance with any condition of the special variance

shall terminate it and subject the person holding it to those provisions of this chapter regulating the source of sound or activity for which the special variance was granted.

5. Application for extension of time limits specified in special variances or for modification of other substantial conditions shall be treated like applications for initial special variances under subdivision (2).

6. The License Commission may issue guidelines defining the procedures to be followed in applying for a special variance and the criteria to be considered in deciding whether to grant a special variance.

C. Variances for Time to Comply.

1. Within sixty days following the effective date of the ordinance codified in this chapter, the owner of any commercial or industrial source of sound may apply to the License Commission for a variance in time to comply with Section 8.16.080I, vibration, or Section 8.16.060, measured noise disturbance.

2. Any person seeking a variance in time to comply shall file an application with the License Commission. The application shall contain information which demonstrates that bringing the source of sound or activity for which the variance is sought into compliance with this chapter prior to the date requested in the application would constitute an unreasonable hardship on the applicant, on the community, or on other persons. Notice of an application for a variance in time to comply shall be published according to procedure. Any individual who claims to be adversely affected by allowance of the variance in time to comply may file a statement with the License Commission containing any information to support his claim. If the License Commission finds that a sufficient controversy exists regarding an application, a public hearing may be held.

3. In determining whether to grant or deny the application, the License Commission shall balance the hardship to the applicant and the community, of not granting the variance in time to comply against the adverse impact on health, safety, and welfare of persons affected, the adverse impact on property affected, and any other adverse impacts of granting the variance. The License Commission shall also

consider whether the noise disturbance occurs in or across a buffer zone. Buffer zones shall be the imaginary line along the ground surface, its vertical extension and the area at fifty feet on either side of the line which separates a residential area from a commercial area or an industrial area. Applicants for variances in time to comply and persons contesting variances may be required to submit any information the License Commission may reasonably require. In granting or denying an application, the License Commission shall place on public file a copy of the decision and the reasons for denying or granting the variance in time to comply.

4. Variances in time to comply shall be granted to the applicant containing all necessary conditions, including a schedule for achieving compliance. The variance in time to comply shall not become effective until all conditions are agreed to by the applicant. Noncompliance with any condition of the variance shall terminate the variance and subject the person holding it to those provisions of this chapter for which the variance was granted.

5. Application for extension of time limits specified in variances in time to comply or for modification of other substantial conditions shall be treated like applications for initial variances under subsection B of Section 8.16.090, except that the License

Commission must find that the need for the extension or modification clearly outweighs any adverse impacts of granting the extension or modifications.

6. The License Commission may issue guidelines defining the procedures to be followed in applying for a variance in time to comply and the criteria to be considered in deciding whether to grant a variance.

D. Reconsideration. Any person aggrieved by a decision or action of the authorized enforcement officials may, within ten business days of said decision or action, request reconsideration of same by the official. (Ord. 1121 (part), 1991)

8.16.100 Miscellaneous.

A. Severability. It is the intention of the City Council that each separate provision of this chapter shall be deemed independent of all other provisions herein, and it is further the intention of the City Council that if any provision of this chapter be declared to be invalid, all other provisions thereof shall remain valid and enforceable.

B. All ordinances or parts of ordinances inconsistent herewith are repealed.

C. This chapter shall take effect thirty days after its adoption. (Ord. 1121 (part), 1991)

such as pile drivers, steam shovels, pneumatic hammers, pumps, or other like equipment is prohibited:

- (1) Between the hours of 6:00 p.m. and 8:00 a.m. the following day on weekdays, or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across and at a residential district boundary or within a noise sensitive zone, except for emergency work of public service utilities or by special permission issued pursuant to section 36-13(b).
- (2) At any other time such that the sound level at or across a real property boundary exceeds a reading of .79 weighted average dBA for the daily period of operation. Such sound levels shall be measured with a sound level meter manufactured according to standards prescribed by the American National Standards Institute.

Holidays, as used herein, shall mean those days designated by the United State Congress as legal public holidays, except that whenever any such day shall fall upon a Sunday, the Monday next following shall be deemed a public holiday for purposes of this section.

Noise disturbance as used herein, shall mean any sound which (a) endangers or injures the safety or health of humans or animals, or (b) annoys or disturbs a reasonable person of normal sensitivities, or (c) endangers or injures personal or real property.

Noise sensitive zone, as used herein, shall mean existing quiet zones, if any, and those areas containing noise sensitive activities including, but not limited to, operations of schools, libraries open to the public, houses of worship, hospitals, and nursing homes.

Residential districts, as used herein, shall mean any residential district as set forth in the city's zoning ordinance, as amended, or as may be hereafter amended.

Weighted average dBA, as used herein, means the twenty-four-hour energy average of the sound pressure level in decibels (dB), as measured on a sound level meter using the A-weighted network;

any readings taken during the period 10:00 p.m. to 7:00 a.m. the following day are increased by ten (10) dBA before averaging the other readings. The A-weighted network (dBA) is recommended by the U.S. Environmental Protection Agency as a means of describing environmental noise because it most closely mimics the human ear by weighting the frequency spectrum to give greater weight to the frequencies between one thousand (1,000) and six thousand (6,000) Hertz (cycles per second).

(b) *Exception*. The city manager is hereby authorized to permit the operation and use of any of the above construction machinery during the aforesaid prohibited periods of time in the event that such operation or use is required to eliminate or reduce any dangerous or hazardous condition which endangers life or property.

(c) *Violation; penalty*. Any person who shall violate any provision of this section shall, upon conviction thereof, be punished by a fine of not more than five hundred dollars (\$500.00) or imprisonment for not more than sixty (60) days, or shall be both fined and imprisoned; each twenty-four-hour day is to be considered a separate violation. (Code 1967, § 36-13; Ord. No. 9063, § 1, 1-24-80; Ord. No. 10754, § 1, 6-28-90)

Sec. 36-14. Emission of steam and other gases.

It shall be unlawful to permit or cause the emission of steam or other gases if such emission cannot be done without the production of disturbing noises. (Code 1967, § 36-14; Ord. No. 10754, § 1, 6-28-90)

Sec. 36-15. Mechanical and fire equipment.

It shall be unlawful to operate mechanical and fire equipment, including air conditioning compressors, pumps, blowers, exhaust fans, filters and other similar noise producing equipment, in all residential, institutional, commercial and industrial zoned property, when such equipment emits noise which exceeds the following noise levels, measured at the receiving property line nearest to the source; such sound levels shall be measured with a sound level meter manufactured according

to standards prescribed by the American National Standards Institute:

Receiving Land Use	<i>At Property Line or Beyond Between 10:00 p.m. and 7:00 a.m.</i>	<i>At Property Line or Beyond Between 7:00 a.m. and 10:00 p.m.</i>
	<i>Maximum Permitted Sound Level in Decibels dBA</i>	<i>Maximum Permitted Sound Level in Decibels dBA</i>
Single-family	5dBA above ambient or maximum of 55 dBA	10dBA above ambient or maximum of 60 dBA
Multifamily, Institutional, Parks and noise sensitive zones	5dBA above ambient or maximum of 60dBA	10dBA above ambient or maximum of 65dBA
Retail commercial (offices, retail, restaurants and movies)	5dBA above ambient or maximum of 65dBA	10dBA above ambient or maximum of 65dBA
Wholesale commercial and industrial	5dBA above ambient or maximum of 70dBA	10dBA above ambient or maximum of 75dBA

(Code 1967, § 36-15; Ord. No. 10754, § 1, 6-28-90)

The word "aircraft," as used in this section, shall mean any contrivance used or designated for navigation or for flight in the air. The word "aircraft" shall include helicopters and lighter-than-air dirigibles and balloons. The words "sound-amplifying equipment" shall mean any machine or device for the amplification of music, the human voice or any other noise or sound for the purpose of disseminating such music, human voice or any other noise or sound to persons on the ground. "Sound-amplifying equipment" shall not be construed as including warning devices on authorized emergency aircraft or any horns or other warning device used only for traffic safety purposes. (Code 1967, § 36-17)

Sec. 36-16. Mufflers for motorboats.

It shall be unlawful for any person to operate, or for the owners of any motorboat or outboard motorboat to permit same to be operated upon any river, bay or waterway in the city unless such motorboat or outboard motorboat is equipped with an adequate muffler, which muffler shall not be open or cut out while the boat is being operated. (Code 1967, § 36-16)

Sec. 36-17. Sound amplification from aircraft prohibited.

No person shall operate, or cause to be operated, in or over the city any aircraft for any purpose with sound-amplifying equipment in operation, and no person shall operate, or cause to be operated, in or over the city any aircraft for commercial sound-advertising purposes.



CITY OF CAMBRIDGE
CAMBRIDGE, MASSACHUSETTS 02139

TEL. 349-430C
FAX. 349-4307

EXECUTIVE DEPARTMENT
ROBERT W. HEALY
City Manager

RICHARD C. ROSSI
Deputy City Manager

June 6, 1994

To The Honorable, The City Council:

With reference to Council Order #19 dated 2/14/94, which requested the Law Department to draft amendments to the Noise Ordinance, please find attached a response from City Solicitor Russell B. Higley.

Very truly yours,

Robert W. Healy
City Manager

RWH/mev
attachment

Consent Agenda # 8 0-42

Response to City Council Order Number
Nineteen dated February 14, 1994 regarding
amendments to the Noise Ordinance.

12/18/95 - Placed on file
at end of Legislative
Session

In City Council,

June 6, 1994

Referred to the
Ordinance Committee
copy sent to Ordinance
Committee 6/8/94 (dl)