

CITY OF NEWTON

IN BOARD OF ALDERMEN

ZONING & PLANNING COMMITTEE REPORT

MONDAY, MAY 24, 2010

Present: Ald. Johnson (Chairman), Lappin, Sangiolo, Baker, Swiston, Shapiro, Yates and Lennon

Also Present: Ald. Crossley and Hess-Mahan

Others Present: Marie Lawlor (Assistant City Solicitor), Candace Havens (Interim Director, Planning Dept.), Juris Alksnitis (Planning Dept.), Jen Molinsky, Anne Phelps (Conservation Planner), Tom Greytak, Chris Chiu and Henry Finch (FAR Working Group members), Karyn Dean (Committee Clerk)

#142-09(3) ZONING & PLANNING COMMITTEE proposing that subsection 30-15(u) of Chapter 30 relative to floor area ratio, as established by Ordinance Z-51, dated August 10, 2009, be amended by extending the provisions of paragraph nos. 1. 2. and 3. from July 30, 2010 to October 31, 2010. [05/11/11 @ 10:10 AM]

**ACTION:** **HELD 8-0**

**NOTE:** This item was docketed so that the Committee had time to further discuss and recommend revisions to the ordinance. The Chairman will be asking for a public hearing date of June 28, 2010 for this item and will be requesting that the deadline be further extended to December 31, 2010. The Committee will ask for this amendment to be made at the time of the vote. This item was held and will next be taken up on the public hearing date.

#142-09(4) INTERIM DIRECTOR OF PLANNING AND DEVELOPMENT requesting discussion of findings of Floor Area Ratio Working Group and consideration of recommended revisions to Chapter 30 regarding FAR limits tied to lot sizes and definitions of “gross floor area”, “carport”, “mass below first story”, “porch”, “enclosed porch”, and “floor area ratio” as well as phasing of ongoing changes. [05/11/10 @ 7:07 PM]

**ACTION:** **HELD 8-0**

**NOTE:** The Floor Area Ratio Working Group submitted their Final Report to the Committee and will be included in the Friday packet. Tom Greytak, a member of the working group, offered a presentation of their findings. The PowerPoint presentation can be found attached to the online report.

### FAR Working Group

Mr. Greytak said that Mike Kruse, former Director of the Planning and Development Department, had guided the Group well. Jen Molinsky, former Sr. Planner, did all the research, gathered and analyzed all the data and wrote the Final Report. John Lojek, Commissioner of Inspectional Services, kept the group rooted in what actually happens during the approval process and the problems his office faces when enforcing the rules. Mr. Greytak noted that the group worked together very well and members were not reluctant to express strong opinions. Everyone in the group was willing to consider other points of view along with their own however, and in the end, there was unanimous support for the proposal in the Final Report.

### 50% Demolition Rule

Mr. Greytak said that the FAR concept is relatively new to Newton as a dimensional control (13 years). The Group determined that one major flaw with the FAR idea had to do with Footnote 7 or “the demolition clause” which tied the exemption from the FAR limits to what was taken away, not to what was being built. If any less than 50% of a building was removed, one was free from the FAR limits even if the replacement structure was almost equal in size to the existing building. The result would be far out of compliance with the FAR intent. The Board of Aldermen realized this problem and eliminated Footnote 7 this past March. There were some applications in the pipeline, however, so the Board added a transition period of one year. The FAR Working Group was then established to look at fine tuning the process.

### Density and Dimensional Controls

Mr. Greytak explained that FAR is only one of several dimensional controls that are applied. The others include site placement which is the setback requirements; footprint which maximum lot coverage and minimum open space; proportion which is determined by the maximum height and maximum number of stories; and bulk, which is what FAR is supposed to limit and is the mass above ground.

### Maps

Jen Molinsky prepared a set of maps from every assessor district in the City. The map in the presentation can be accessed in the online report. The orange parcels are a bit over the FAR limit (0 to 0.1 over) and the red parcels are substantially over the limit (more than 0.1 over). Yellow represents neutral and green and blue are below the limits.

### Bulk Control vs. Character of a Neighborhood

The Group found that there was a strong and useful correlation between the homes that looked out of place because of overall mass or bulk and the extent to which they exceeded the FAR limit. This told them that the FAR concept was working. On the other hand, the FAR limit was not so useful in indentifying homes that appeared out of place because of style or design. The problem is exacerbated by the fact that each zoning district contains vastly different neighborhoods. They concluded that FAR is not a good tool for “maintaining the character of a neighborhood.” Establishment of local historic districts could be a more effective tool but not all neighborhoods are eligible and some that are may not want to subject themselves to that level of oversight and control.

### Smaller Lots

Mr. Greytak explained that the Group also found that the FAR limits severely hampered what could be done on smaller lots. The restrictive topography of some of these lots compounded the problem and for many was the feature that contributed to them being small in the first place. The Group felt there should be some relief for smaller lots especially since there are not that many small lots in Newton, and the lot size limits in the zoning districts will limit the creation of new ones. Granting some relief, they believe, would not compromise the overall look and feel of the City. Ald. Yates asked if the relief for the smaller lots would change the number of lots that would become substantially over the FAR limit. Mr. Greytak said the percentage would be quite small. Ald. Yates was still concerned that structures could be torn down and rebuilt in a way that was not proper for an area. He felt the “bonus” for smaller lots should apply to existing homes only.

Ald. Baker asked if the Group was able to look at what the impact would be on neighboring lots. Mr. Greytak said that many of the small lots are situated in groups due to topography and would all welcome some relief. There are other areas of very large lots with a sprinkling of smaller lots within them. In that case, the larger lots are not really going to feel much of an impact from a smaller isolated lot. Mr. Greytak said that setback requirements would also provide some protection for abutters. Mr. Finch said that FAR rules for existing homes did not exist 15 months ago.

### Gross Floor Area

Mr. Greytak said that there was one other major flaw associated with the current FAR rules which had to do with gross floor area (GFA). The current definition of GFA is exclusive. Some things that are not included are detached structures including garages, but then there’s the question of what “detached” means. Basements are excluded but there are many types of configurations in basements which may in fact add to the bulk. Attic or “half-story” space above the second floor is also currently excluded. Builders and architects will try to play with these rules to get the maximum square footage for clients but in doing so utility and aesthetics may be sacrificed.

### Capacity

The Group wondered if these proposed changes would promote a tremendous expansion in the building capability of the City. They found the answer was no based on two reality checks. They looked at the building capacity within the City (number of square feet that could be built going all the way to the limits on all of the lots). The fraction that happens to be developed under both the current and the proposed rules is about the same. If they found that the developed fraction under the new rule is a much smaller portion, then the expansion could be large. But that was not the case. Please refer to the Final Report for those numbers.

Proposal

The Group proposes making changes in the definition of GFA to make it more inclusive rather than exclusive. They would also recommend increasing the FAR limits to compensate for GFA changes and allow higher limits for smaller lots. And finally, they would like to allow for a trial period through which the FAR “bonus” would be extended.

Please see the attached Final Report for the details of the proposed definition changes of GFA and a proposed sliding scale of FAR limits for lot sizes. Mr. Greytak explained that in using these proposed definition changes, more space is counted in the GFA so the FAR limit must also go up, not necessarily proportionally, but in a consistent manner. As proposed earlier, the smaller lots would get a boost in the allowable FAR.

Phasing in New Rules

Mr. Greytak said that the new rules they are proposing are simpler, fairer and easier to enforce. He also said they would not make any significant changes in the look and feel of the residential neighborhoods. On the other hand, he said the Group could not guarantee that they hadn't missed something. Therefore, they would like to propose a trial period during which the old GFA definition and FAR limits apply including the current temporary FAR bonus; and the City requires FAR calculations be made using *both* the new and the proposed rules. This would require extending the current FAR bonus for another 6 months or year. This would also require the builders and the Planning Department to carry out the calculations for both the new and old rules and determines what the impact would be. This would allow some time for the architects and builders to become familiar with the new rules and if they saw issues they would let the Planning Dept and/or Inspectional Services know. It would also allow the departments to see where the rules might need to be fine tuned based on actual experiences. The Group would be willing to come back at the end of the trial period to analyze the results and help determine what might need to be changed.

Ald. Lappin asked for clarification on whether the new or old FAR would apply during the trial period. Mr. Greytak said the old FAR would apply. However, Mr. Finch said that the Group stated from January 1st to July 1<sup>st</sup>, either could be used as is often done in state codes for trial periods. However, the old GFA would have to be used with the old FAR and the new GFA would be used with the new FAR.

Ald. Hess-Mahan said that the many of the previous subcommittees (half-story, 50% demo, de minimus, etc.) came back with the same analysis that this Working Group has provided which is that the GFA definition did not work and was leading to unintended and undesirable results; the FAR would need to be adjusted in light of that; and the 50% demo rule was really not “fixable”. This Working Group was able to find solutions to those problems. He thinks they will lead to an equity and flexibility that was intended in the original rules but never quite executed.

Ald. Crossley said she was happy to see distinctions between the different kinds of dimensional controls and the fact that there is interplay among those controls. She thought it might be a good idea to lay those out for the rest of the Board. She thought it

was useful to go through the charts and see that the opportunities lie where they should lie which is on the nonconforming old lots that might be burdened by FAR. She appreciated the Group's work and the proposed roll-out of the new rules. Her one concern was the definition of "porches" and how it contributes to mass. She felt it could be confusing and should be more flushed out. Mr. Greytak said they would need to determine what the tripping point for the definition of a porch would be – heat-able, or enclosed, etc. He felt the Commissioner of Inspectional Services should be consulted on this. Ald. Baker said porches that extend into space add to the bulk whether it is screened or heat-able or enclosed, etc.

Ald. Lappin asked what percentage of current homes that are conforming would become nonconforming under the new rules. Jen Molinsky said that 25% of all properties in SR1 districts are currently nonconforming. Under the new rules, 20% would be nonconforming.

Ald. Baker said these new rules would allow more properties to be built without a special permit. Mr. Greytak said if a property is currently nonconforming and the change will make it conforming, it would basically place the property at or near the threshold. Then the property would need a special permit process to go beyond. Ald. Johnson said she went to a Working Group meeting where some architects looked at some of their actual projects and applied both the new and old rules, which was quite interesting and helpful. Ald. Baker said he would like to see some of those examples and Ald. Johnson agreed that would be helpful.

Ald. Crossley said that this was a complicated issue and thought it would be a good idea to lay out the changes in an easy to follow format. Ald. Hess-Mahan said in the attempt to normalize the FAR so that it reflects what is already out there, it might be helpful to quantify that in terms of actual square feet so people can understand the reality of what might be built next door to them.

Ald. Swiston asked why the setback, footprint and height restrictions do not put enough control on bulk so that FAR is needed to control bulk. Mr. Finch said the architects in the Working Group generally felt that it might not be necessary to have any FAR and the non-architects felt the opposite. Jen Molinsky said without FAR one is left with a much larger envelope than what is allowed with FAR. The setbacks and height set the outer boundary, but the FAR limits that even further. If one built right up to setbacks and so forth, structures would be much bigger without the FAR controls. If FAR were taken away, she felt that the setbacks and other restrictions would have to be radically changed.

Ald. Johnson said she would like to meet with Mr. Lojek and Ms. Havens to determine the best way to move forward. The Committee voted to hold this item by a vote of 8-0.

#141-10 INTERIM DIRECTOR OF PLANNING AND DEVELOPMENT  
requesting revision of **Section 22-22 Floodplain/watershed protection provisions** of the City of Newton Ordinances in order to comply with updated FEMA (Federal Emergency Management Agency) requirements.  
[05/11/10 @ 10 39 AM]

**ACTION:** **APPROVED 7-0-1 (Ald. Sangiolo abstaining)**

**NOTE:** Candace Havens, Interim Director of Planning, introduced this item. She explained that in order for the City of Newton to retain membership in the National Flood Insurance Program, FEMA is requiring adoption of required language, new flood panels, incorporation dates of the flood Insurance Study and effective dates of the new panels by June 4, 2010. In order to accomplish this, amendments to Section 22-22 of the City of Newton ordinances must be made. The Board schedule would not allow for these changes to be approved by the deadline of June 4, 2010, but instead at the next full Board of Aldermen meeting on June 7, 2010. Anne Phelps, Conservation Planner, has spoken with FEMA and has received permission to have the board order signed on June 8<sup>th</sup> by Mayor Warren with the stipulation that there be no new building permits for work in the flood zone during the period of June 4 through June 7, 2010.

#### Changes

Anne Phelps apologized for the hastened schedule of this item. She said she did not fully understand the timing of the Board schedule and should have brought this to them earlier. She is asking for an emergency preamble to void the 20 day appeal period and a letter is attached with her request. Ms. Phelps said that the changes were quite small according to the Engineering Dept. The proposed changes (indicated in **bold**) are attached to this report. Ms. Phelps said that the changes have come primarily because FEMA changed the datum it was using for reference for elevation. The Newton datum is based on low tide and the current floodplain ordinance was written based on that. Ald. Crossley and Ald. Yates said they see some significant changes in the elevations

Ald. Yates said that the references to street names have been changed and he wondered why. Ms. Phelps said that the Engineering Dept. made those changes based on more widely accepted and used names for certain streets/bridges, etc. Maria Rose, the Environmental Engineer, reviewed all of the elevations along the Charles River. Her recommendation was to change some of the reference points for taking elevations.

#### Notification

Ald. Lappin asked how residents that are living in areas where changes have been made would be notified. Ms. Phelps said it was her understanding that residents have been notified by letter over the years by FEMA. The preliminary maps were published in 2007, but the City was just recently advised that they would be the final maps. Ald. Johnson said she wants to be sure that residents are notified in a method that is clear and explains exactly what they need to do, if anything. In light of the recent floods, she feels this is an important issue and communication is extremely important. Ald. Johnson would like to find out more definitively how the residents were notified, who was

notified, and determine if further notification is necessary. Ms. Phelps said she would communicate with FEMA to get more information regarding the notification process.

Follow Up

Ald. Johnson noted that there was a serious time constraint on this item. She would like to approve this item in Committee and docket a parens (2) as a discussion item in order to understand it more completely. Ald. Lappin and Ald. Johnson noted that this is not the usual way in which the Committee works, but considering the implications of not making these changes, it seems the best way to handle this. Ald. Johnson also asked that any questions, concerns or comments from the Committee after reading through the changes be sent to the Committee Clerk. No comments have been forthcoming as of the writing of this report. The Law Department has reviewed and approved the proposed language and changes.

The Committee voted to approve this item by a vote of 7-0-1 with Ald. Sangiolo abstaining.

Respectfully submitted,

Marcia Johnson, Chairman

# FAR Working Group

## Members

K. Edward Alexander, American Society of Architects, Emeritus  
Chris Chu, Architect (alternate member)  
Henry Finch, Architect  
Thomas Greytak, Homeowner  
Treff LaFleche, Architect  
Peter Sachs, Architect  
Alan Schlesinger, Attorney

## Staff and Support

Mike Kruse, Director, Department of Planning and Development (to January 1, 2010)  
Candace Havens, Interim Director (beginning January 1, 2010)  
Jennifer Molinsky, Principal Planner.  
John Lojek, Commissioner of Inspectional Services



# FAR Timeline

1997 FAR limits first applied in Newton, exception for renovations with less than 50% demolition (Footnote 7)

March 2009 Footnote 7 eliminated, making limits applicable to all residential development, including additions

June 2009 For an adjustment period of 1 year a FAR bonus of .05 to .07 is added for qualifying residences

June 2009 FAR Working Group established

# Density and Dimensional Controls

Placement on Site

Setback requirements

Footprint

Maximum lot coverage,  
Minimum open space

Proportion

Maximum height,  
Maximum number of stories

Bulk

FAR limits



# Proposal

Change the definition of Gross Floor Area  
*Make it more inclusive*

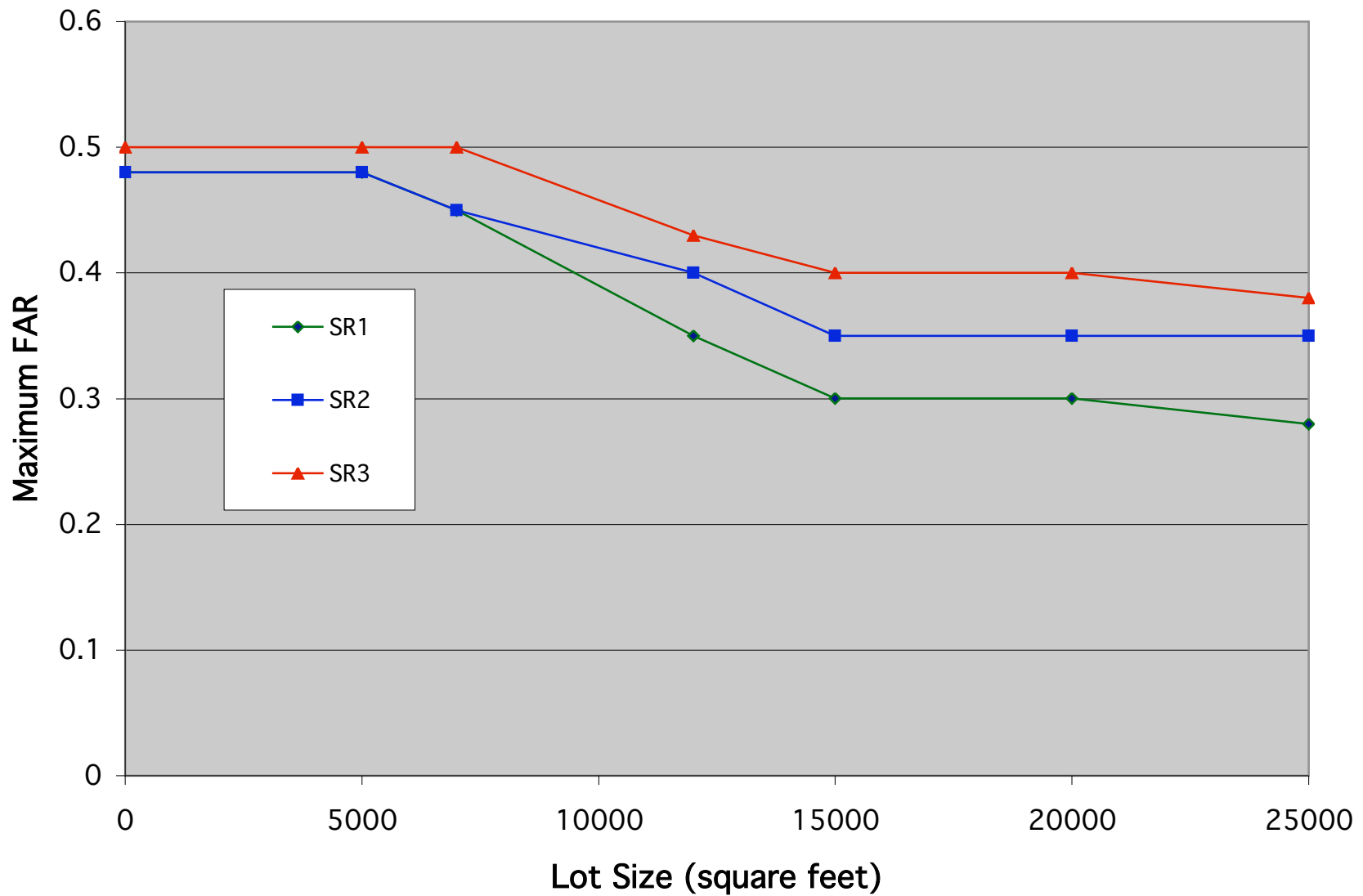
Increase the FAR limits to compensate for GFA changes  
*Allow higher limits for smaller lots*

Allow for a trial period  
*Extend “FAR bonus” through this period*

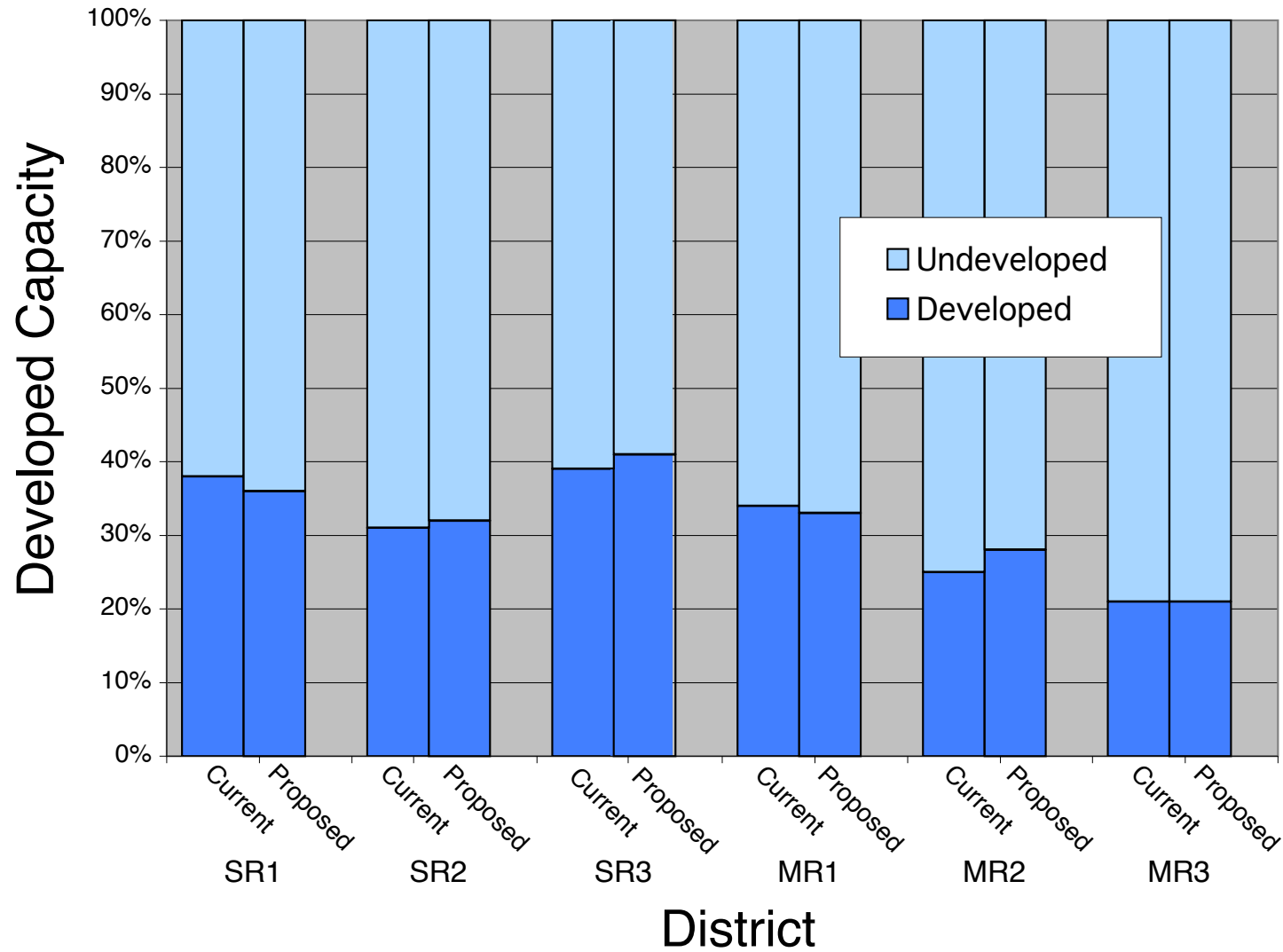
# Elements of Gross Floor Area

	<b>Current Definition of GFA</b>	<b>Proposed Definition of GFA</b>
<b>Basements</b>	Excluded	Included: a percentage of “mass below first story,” which may include basements, crawl spaces, and other above-grade features lying below the first story, that exceed a standard exemption for foundation walls. In no event can more than 50% of the floor area of an area below the first story be counted toward FAR.
<b>First and second stories</b>	Included	Included
<b>Atria / other vertical spaces</b>	Included	Included
<b>Space above the second story</b>	Excluded if space meets the definition of half story; included if it exceeds maximum space to be counted as a half story	Included if it meets the dimensional definition in the Building Code of a habitable room (70 sq. ft. or more, with min. ceiling heights of 7’ on at least 50% of its area and 5’ ceiling heights on remainder)
<b>Enclosed porches</b>	Included only if heated	Included
<b>Open porches, carports, port cocheres</b>	Excluded	Excluded
<b>Attached garages</b>	Included	Included
<b>Detached garages and any space above the first floor with a ceiling height of 7 feet or more</b>	Excluded	Included
<b>Other detached structures</b>	Excluded	Included, with one exemption for a detached shed or other structure less than 120 sq. ft.

# Proposed Sliding FAR Limits



# Capacity



# Phasing in the New Rules

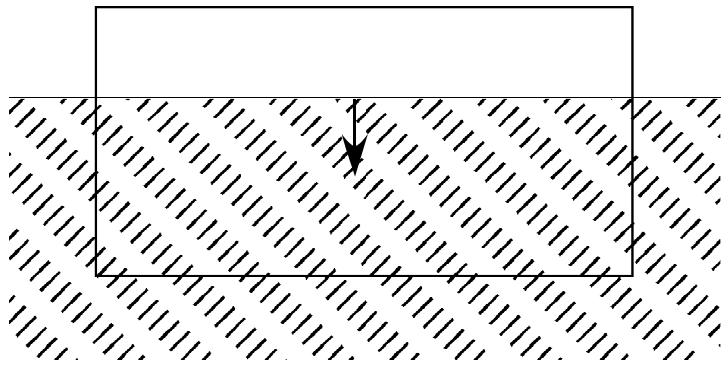
We propose a trial period during which

The old GFA definition and FAR limits apply including the current temporary FAR bonus

The City requires FAR calculations be made using both the new and the proposed rules



# BASEMENTS



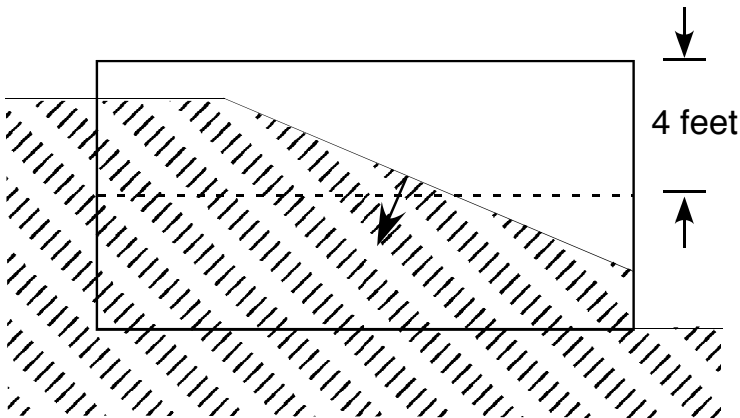
## Old and New

Totally excluded until 1/2 is above ground

} Basement

Then, totally included

} Story



## Old

Totally excluded until 1/2 is above ground

} Basement

Then, totally included

} Story

## New

Fraction below line included until 1/2 is above ground

} Basement

Then, totally included

} Story

**MEMORANDUM**

**DATE:** MAY 20, 2010  
**TO:** ZONING AND PLANNING COMMITTEE OF THE BOARD OF ALDERMEN  
**FROM:** CANDACE HAVENS, INTERIM DIRECTOR OF PLANNING AND DEVELOPMENT  
JURIS ALKSNTIS, INTERIM ZONING ADMINISTRATOR *CH*  
**RE:** ITEMS SCHEDULED FOR DISCUSSION AT ZAP MEETING, MAY 24, 2010  
**CC:** JOHN LOJEK, COMMISSIONER OF INSPECTIONAL SERVICES  
MARIE LAWLOR, LAW DEPARTMENT

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#142-09(3) ZONING & PLANNING COMMITTEE proposing that subsection 30-15(u) of Chapter 30 relative to floor area ratio, as established by Ordinance Z-51, dated August 10, 2009, be amended by extending the provisions of paragraph nos. 1, 2, and 3, from July 30, 2010 to October 31, 2010.

#142-09(4) INTERIM DIRECTOR OF PLANNING AND DEVELOPMENT requesting discussion of findings of Floor Area Ratio Working Group and consideration of recommended revisions to Chapter 30 regarding FAR limits tied to lot sizes and definitions of "gross floor area", "carport", "mass below first story", "porch", "enclosed porch", and "floor area ratio" as well as phasing of ongoing changes.

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**BACKGROUND**

On March 16, 2009, the City adopted Ordinance Z-44 eliminating Footnote 7 from Table 1, *Density & Dimensional Controls in Residence Districts and for Residential Use*. This footnote contained multiple subsections affecting Floor Area Ratio (FAR), including the well known "50% demolition" loophole. While this action eliminated the provision whereby residential redevelopment or rehabilitation involving large additions could qualify for unlimited FAR, small "bump-outs" and "mudroom" additions were also precluded.

In the process of responding to concerns raised by a number of residents, the Zoning and Planning Committee began to review overall FAR provisions while also working on ways to provide immediate relief for modest additions. The latter was addressed by Ordinance Z-51, August 10, 2009, which also clarified FAR-related Footnotes 5 and 6 and relocated these provisions into the new subsection 30-15(u) of the Zoning Ordinance. However,

the FAR relief mechanisms or "the bumps" were also made subject to a time limit ending July 30, 2010, pending further study.

In June, 2009, an FAR Working Group was established to study FARs in Newton and to propose amendments to the Zoning Ordinance. The Working Group has completed its work and has issued the *FAR Working Group Final Report*, May 2010 (*Attachment "A"*). The *Final Report* will be presented by representatives of the FAR Working Group at the upcoming Zoning and Planning Committee meeting on May 24, 2010.

**Petition #142-09(3) – Proposal to extend current "sunset" dates.**

This petition seeks to amend the existing July 30, 2010 "sunset" dates pertaining to the FAR "bonus" measures contained in subsection 30-15(u), paragraphs 1, 2, and 3, respectively. The proposed extended date is October 31, 2010.

- Paragraph 1 provides "as-of-right" additional FAR of up to .05 above Table 1 values for *existing* single-family and two-family homes at least ten years old for owners seeking modest additions.
- Paragraph 2 provides "as-of-right" additional FAR of up to .07 above Table 1 values for *existing* single-family and two-family homes on pre-1953 lots meeting paragraph 1 requirements and also meeting post-1953 setback requirements or not building closer to the lot line than the existing structure.
- Paragraph 3 provides "as-of-right" additional FAR of up to .05 above Table 1 values for *new* single-family and two-family homes at time of initial construction on pre-1953 lots provided post-1953 setback and lot coverage requirements along with pre-1953 open space requirements are met.

The Planning and Development Department supports the proposed time extensions, which will facilitate review of the utility of these provisions. Extension would also allow the further coordination of these provisions with such final decisions and amendments to FAR as may be adopted by the City pursuant to the recommendations of the *FAR Working Group Final Report*.

**Petition #142-09(4) – FAR Working Group Final Report – presentation/discussion**

Key objectives of the study were to ensure that FAR regulations more accurately reflect current conditions, are easier to apply and enforce, and would result in new construction that is in keeping with surrounding structures and also consistent with the *Newton Comprehensive Plan*.

The *Final Report* contains complex material, and suggests an innovative approach which departs significantly from current practice with respect to FAR in Newton. New concepts include:

- Significantly expanding the definition of residential "floor area, gross" while removing many current exemptions and including more countable area, thereby inducing an increase in calculable FAR across the City.
- Adding new definitions for "carport," "mass below first story," "porch," and "porch, enclosed."
- Raising the residential FAR "ceiling" to accommodate FAR increases due to expanding the definition.
- Establishing a sliding scale for residential FAR linked to lot size, providing higher FAR limits for smaller lots.
- Establishing seven subcategories of lot size within each residential zone and providing a discrete FAR range for each subcategory.
- Allowing for an overlap between the end of the FAR "bump" and the beginning of a new FAR system and requiring calculations to be performed for both methods as a means of gathering information during a transitional period.
- Allowing for review of the data by the Working Group in a year to determine whether the proposed solution should be made permanent and/or if adjustments should be made.

#### **RECOMMENDATION**

Staff recommends the Committee hear the Working Group's presentation and take the opportunity to fully digest the concepts, material, and anticipated outcomes at this meeting. Draft language of an ordinance that reflects the Working Group's recommendations is included at the end of their report; however, the Committee may wish to reflect on the material before considering specific amendments to the Zoning Ordinance.

## FAR Working Group Final Report

### Executive Summary

The FAR Working Group was appointed in June 2009 to the study floor area ratio (FAR) in the City of Newton and to propose amendments to the Zoning Ordinance designed to ensure that FAR regulations more accurately reflect current conditions, are easier to apply and enforce, and result in new construction that is in keeping with surrounding structures and the *Newton Comprehensive Plan*.

The Working Group met 14 times from July 2009 to March 2010, including an interim presentation to the Zoning and Planning Committee of the Board of Aldermen. The group first conducted field work and data analyses to assess current, actual FAR in neighborhoods across the City, finding that 1) because FAR is in part a function of the definition of gross floor area (GFA), the exemption of certain features from the calculation of GFA allow significant residential living space to be built free from FAR; and 2) because FAR is in part a function of lot size, many homes on small lots, particularly those that are older and in need of updating, are particularly restricted from making even small additions.

From the findings of these efforts, the Working Group developed proposals to ensure the fairer application of FAR limits through the removal of existing exemptions in the definition of gross floor area, and to address the restricted development potential on smaller sized lots through a graduated system of FAR limits tied to lot size categories in each zone.

Members of the group and City staff, as well as architects from the Newton community, then tested these proposals to examine their potential impact on actual residential development in the City. The Working Group made modifications based on the testing results. The final proposals consist of two separate but related parts: a fairer and more inclusive definition of "gross floor area" and a sliding scale of FAR limits tied to lot size categories intended to give smaller lots a modest increase in FAR and reduce FAR nonconformities on these lots, while also keeping overall opportunities for expanded development in the residential neighborhoods of the City roughly consistent to what is possible today.

The Working Group proposes the new system go into effect on February 1, 2011. It recommends that from August 1, 2010 until then, the City require FAR calculations be made according to both the old and new systems. This will allow both architects and the City to become familiar with the new system and to uncover any possible problems with implementation. The current FAR "bonus" should be extended for an extra six months to cover this period.

## FAR Working Group Final Report

### I. Residential FAR in Newton and Appointment of the FAR Study Group

Floor Area Ratio, or FAR, is the ratio of the gross floor area of a building to its lot size, and is a measure of building mass.<sup>1</sup> FAR limits were added to the dimensional controls in residential zoning districts in Newton in 1997 as a response to concerns about the demolition of smaller homes and their replacement with larger-scale dwellings that many felt were out of character with their surroundings. At the time FAR was adopted, FAR limits were made applicable to new residential construction and to residential construction when over 50% of an existing house was demolished.

In the years after the adoption of residential FAR limits, many public officials and citizens raised concerns that Newton's FAR limits were easily and lawfully exceeded when homeowners and developers took advantage of the numerous exemptions from FAR limits found in the definition of gross floor area and in what was informally referred to as the "50% demo provision" to maximize their development potential. The latter provision (previously located in Sec. 30-15, Table 1, Footnote 7) was particularly problematic: as long as less than 50% of an existing home was demolished, there was no FAR limit on what could then be built on the site, other than limits imposed by other dimensional controls. Though intended to facilitate the creation of small additions, such as mudrooms or bathrooms, in practice it allowed very large expansions of existing homes, often to sizes that significantly exceeded FAR limits for new construction in the zoning district.

In March 2009, the Board passed Ordinance Z-44, which deleted Footnote 7, including the 50% demo provision, in its entirety, thereby making FAR limits applicable to *all* residential development, including expansions of existing dwellings. As a result of this change, completely new homes as well as renovations of or additions to existing homes *both* have to comply with FAR limits.

In the wake of the adoption of Z-44, a number of homeowners who were planning to make small additions using the 50% demo provision learned that they would be unable to proceed without a special permit<sup>2</sup> because their homes either already exceeded FAR limits or would exceed them with their proposed additions. To aid homeowners in these situations, the Board then passed Ord. Z-51, which grants an FAR bonus of .05 to .07 for qualifying residential properties; this provision is set to

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<sup>1</sup> Please see Attachment 1 for a graphic depiction of floor area ratio. An FAR limit of "1" means that on a 10,000 sq. ft. lot, a 10,000 sq. ft. building could be built; an FAR limit of .5 would allow a 5,000 sq. ft. building to be built on that same lot. In Newton, current residential FAR limits range from .2 to .4 depending on the zoning district and age of the lot.

<sup>2</sup> Under the City's Zoning Ordinance, an applicant may seek a special permit from the Board of Aldermen to exceed FAR, as long as the proposed structure is consistent with and not in derogation of the size, scale and design of other neighborhood structures (see Sec. 30-15(u)(4)).

sunset on July 31, 2010. In June of 2009, the Board also passed a resolution requesting that the Director of Planning and Development conduct a study of residential FAR in Newton to advise on how the zoning ordinance might be amended with regard to FAR limits.

As a result of this resolution, the "FAR Working Group" was appointed in June 2009 with the goals of assessing existing FAR limits in residential neighborhoods of the City and making recommendations for amending the zoning ordinance to ensure that FAR regulations more accurately reflect current usage and ensure that new construction is in keeping with surrounding structures and the *Newton Comprehensive Plan*. Members of the Working Group were appointed by the President of the Board of Aldermen and the Mayor. The members of the group, all residents of Newton, include:

- K. Edward Alexander, American Society of Architects, Emeritus
- Chris Chu, Architect (alternate member)
- Henry Finch, Architect
- Thomas Greytak, Homeowner
- Treff LaFleche, Architect
- Peter Sachs, Architect
- Alan Schlesinger, Attorney

The Working Group was staffed by Mike Kruse, Director of the Department of Planning and Development (until January 2010), Candace Havens, Interim Director (beginning January 1, 2010), and Jennifer Molinsky, Principal Planner. Commissioner of Inspectional Services John Lojek also participated in the work of the group.

## II. Methodology & Analysis

The Working Group met 14 times from July 14, 2009 to March 16, 2010, including one presentation of its interim results to the Zoning and Planning Committee in September, 2009. In October, 2009, the group also shared draft proposals with a group of Newton architects in a meeting organized by members of the Working Group.

In reaching the conclusions presented in this report, the Working Group followed the following process:

- 1) Initial research and analysis
- 2) Development of preliminary proposals, testing, and
- 3) Formulation of final proposals

These stages, and the results of each, are described below.

### Stage 1: Initial Research and Analysis

The Working Group first sought to assess how the existing fabric of residential development compares to the FAR limits in the Zoning Ordinance. The group aimed to understand the character and evolution of existing neighborhoods; to evaluate the actual FAR of the dwellings within these neighborhoods, including the variation in actual FAR within and among City neighborhoods; and to identify the locations where the actual FAR of the existing residential fabric already exceeds FAR limits (most likely because dwellings predated FAR limits).

To facilitate these analyses, the Planning Department used City Assessor's data to estimate<sup>3</sup> the current FAR of every single-, two-, and three-family dwelling in the City in the Single-Residence (SR) 1, 2, and 3 districts and the Multi-Residence (MR) 1, 2, and 3 districts.<sup>4</sup> This information was placed on 20 neighborhood maps (using neighborhood divisions created by the Assessing Department) whose color codes identified the extent to which each home fell below or exceeded FAR limits. Working Group members and staff then spent time in each of the residential neighborhoods, noting development patterns and comparing the FAR maps to the actual built environment, and then reconvened to share and discuss their findings. Staff also prepared a variety of analyses describing actual FAR in each residential zoning district. Finally, the Planning Department provided data on specific cases, and the Inspectional Services Department supplied information on the practical difficulties of implementation of FAR regulations, as well as evidence of how FAR rules have been manipulated to create dwellings that are larger than those in their surrounding areas.

The initial analyses led to the following findings and conclusions:

- ***The Working Group agreed that the purpose of FAR limits is to regulate above-grade building mass.*** Its role, therefore, is distinct from, but complementary to, the City's other dimensional controls, which include:
  - Height controls and multiple-story regulations, which concern proportion;
  - Maximum lot coverage and minimum open space requirements, which concern open space;
  - Setback requirements, which regulate placement on site; and
  - FAR, which regulates mass.
- ***Exemptions of certain elements from the definition of gross floor area (and therefore from FAR calculations) have led to unintended design results and have provided incentives for creative manipulation of FAR rules.*** For example, the exemption of half stories from FAR calculations<sup>5</sup> have

<sup>3</sup> All figures in this document are best estimates based on Assessor's data.

<sup>4</sup> Condominiums, as well as multifamily dwellings over three units, were excluded from the analysis, as were residences in the MR4 district (which applies only in one unique area in the City).

<sup>5</sup> Until November 3, 2008, all half story spaces were exempted from FAR calculations, but Ord. Z-35 amended zoning so that half story spaces immediately above the first story are now included in FAR.



encouraged the inclusion of half stories over garages and above the second floor to provide living areas "free" from FAR calculations. Other exemptions include those for above-grade basement areas (encouraging walk-out basements and basement garages, even where it has been necessary to carve out and terrace the landscape to make these possible) and detached structures (including large detached garages with living space above). Because of these exemptions, houses with equivalent FAR, as calculated by the City, may have very different actual floor areas.

- *The Working Group's field visits and review of the data confirmed that, in all zoning districts, there are a larger number of houses that are nonconforming with respect to FAR (i.e., they exceed FAR limits) on smaller lots than on larger lots, particularly on smaller lots that were created before 1953 when minimum lot size standards became stricter.* For those houses that are at or over FAR limits, a small addition (e.g. a single room, a mudroom, or bathroom) would require a special permit, a process that is often perceived as costly and uncertain. As shown in the table below, typically, the nonconformity rate on larger lots is much lower and the potential to expand, even through significant building projects, is higher.

#### Parcels Nonconforming with Respect to FAR

Lot Size Category (sq. ft.)	SR1		SR2		SR3	
	Number of Parcels	Nonconforming with Respect to FAR	Number of Parcels	Nonconforming with Respect to FAR	Number of Parcels	Nonconforming with Respect to FAR
ALL	1,600	25%	7,813	22%	6,243	14%
0-4999	2	100%	109	94%	438	53%
5000-6999	18	72%	655	67%	1,374	25%
7000-11999	202	60%	3,954	26%	3,520	8%
12000-14999	175	45%	1,360	9%	479	1%
15000-19999	490	26%	1,151	4%	265	0%
20000-24999	186	13%	308	1%	86	0%
25000+	527	0%	276	0%	81	0%

	MRI		MR2		MR3	
	Number of Parcels	Nonconforming with Respect to FAR	Number of Parcels	Nonconforming with Respect to FAR	Number of Parcels	Nonconforming with Respect to FAR
ALL	3,260	22%	1,023	38%	47	34%
0-4999	445	58%	373	72%	8	75%
5000-6999	906	37%	301	32%	12	50%
7000-11999	1,069	10%	243	9%	16	19%
12000-14999	610	2%	94	5%	10	10%
15000-19999	146	2%	12	0%	1	0%
20000-24999	54	0%	0		0	
25000+	30	0%	0		0	

calculations. Half story spaces in detached structures or above the second story are still exempt from FAR calculations.

- *The Working Group found the City's existing residential zoning districts too blunt to account for the range of neighborhood character, yet acknowledged the need, at present, to develop FAR recommendations that work within existing zones.* The Group found that, as expected, Newton is distinguished by the richness of its residential architecture and also by the varied nature of its neighborhoods, which developed at different times and reflect unique histories, building styles, and densities. There is significantly less variation among the City's zoning districts, however: all the City's single-family neighborhoods are divided into only three Single Residence zoning districts. For example, much of Oak Hill Park, a neighborhood characterized by post-war ranches, many of which are well below FAR limits, is zoned SR2, as are the majorities of Newton Highlands and Newton Centre, where many older Victorian homes exceed FAR limits. Working within existing zoning designations presents challenges to preserving the character of each neighborhood.
- *The Working Group found that a number of elements of massing can not be regulated by FAR limits, or indeed, by other dimensional controls, but that these nonetheless influence neighborhood character. These included quality of design, compatibility of design with neighboring structures, topography, and landscaping.*

Out of their research and the findings noted above, the Working Group coalesced around the goals of developing recommendations for zoning amendments that would:

- 1) *Ensure a fairer application of FAR limits by more clearly defining what is included in the calculations of gross floor area and by eliminating exemptions to gross floor area; and*
- 2) *Ensure a fairer distribution of massing to ensure that smaller lots have some opportunities for minor expansions that would be compatible with the existing character within their neighborhoods.*

### **Stage 2: Preliminary Proposals & Testing**

With these goals in mind, the Working Group moved into its second stage of work, the development of preliminary proposals to revise the definition of gross floor area and FAR limits. This section briefly discusses the Working Group's processes, while the final proposals are presented in Part III below.

#### ***Gross Floor Area Definition***

The first proposal centered on amending the definition of gross floor area (GFA). The group focused particularly on 1) clarifying existing language and 2) removing

exemptions to the calculation of GFA, including exemptions for above-grade portions of basements, third floor space, enclosed porches, and detached structures. Once language had been drafted to amend the definition of GFA, the architects on the Working Group tested the proposed language on their own projects to assess how the new language, if adopted, would change FAR calculations for individual dwellings. City staff did the same, by assessing how amended language would have changed FAR calculations on recent applicants for special permits to exceed FAR limits. Finally, several Working Group members reached out to their colleagues in the architectural community and invited them to apply the draft language to their recent projects to assess the difference it would have on FAR calculations and design incentives. The testing process resulted in refinements to the draft language.

At the same time, City staff prepared analyses to show the estimated effect of the draft proposals on *all* dwellings in the City. Again using Assessor's data, the Group was able to see the average rise in actual FAR calculations that would result from eliminating many of the current exemptions in how FAR is calculated. By assuming that 25% of each home's basement would "count" toward FAR, the Group could see that across the City, the changes would result in a .05 rise in actual FAR, though for individual houses, the precise figure varied depending on how much square footage on the property was currently exempt from GFA calculations and would be counted under the proposal.

### ***FAR Limits***

The Working Group assessed FAR limits by incorporating a rise in all zones to account for the changes to the definition of GFA described above, and then examined how best to address the challenges on small lots. The Group considered simply raising FAR limits in each zoning district, but discarded the idea because it would open more development capacity on medium and larger sized lots, where high percentages of dwellings were already significantly below FAR limits (and, indeed, since FAR is based on lot size, the absolute expansion possibility on larger lots would increase significantly more than it would on smaller lots). The Working Group ultimately determined that the only way to address the limitations on small lots without opening development capacity on larger lots was to *tie FAR limits directly to lot size*. Staff then developed various prototypes of sliding scales, where FAR limits are higher for smaller lots and then fall as lot size increases. (It is important to note, that because FAR is itself a function of lot size, larger lots still have more absolute development capacity under all schemes the group considered.)

The Working Group used three main criteria to assess each iteration of the sliding scale:

- The scale's effect on a sample group of houses known to the architects;

- The scale's effect on rates of nonconformity with respect to FAR, including overall rates, rates within each zone, and rates within each lot size category; and
- The scale's effect on the amount of undeveloped capacity, including the average undeveloped capacity on each lot, within each district, and within each lot size category.

The Working Group's final proposal for a sliding scale of FAR limits is proposed in Section III below.

### **Stage 3: Formulation of Final Proposals**

The Working Group's iterative process of analyses, testing, and refinement of proposals led to the final set of draft amendments that are presented in Section III.

## **III. Proposals**

The Working Group's proposals to change the definition of "gross floor area" and amend residential FAR limits, as well as to phase in the proposed changes, are presented below.

### ***Gross Floor Area***

The proposed definition of "floor area, gross" would remove existing exemptions for attic and half story space, above-grade portions of basements, some enclosed porches, and detached structures. The actual proposed language is included as Attachment 2 and includes amendments to the definition of "floor area, gross" as well as the addition of several new definitions for "porch," "carport," and "mass below first story." The table below compares the elements included in the current definition of GFA to those in the Working Group's proposal.

## Elements of Gross Floor Area

	Current Definition of GFA	Proposed Definition of GFA
<b>Basements</b>	Excluded	Included: a percentage of "mass below first story," which may include basements, crawl spaces, and other above-grade features lying below the first story, that exceed a standard exemption for foundation walls. In no event can more than 50% of the floor area of an area below the first story be counted toward FAR.
<b>First and second stories</b>	Included	Included
<b>Atria / other vertical spaces</b>	Included	Included
<b>Space above the second story</b>	Excluded if space meets the definition of half story; included if it exceeds maximum space to be counted as a half story	Included if it meets the dimensional definition in the Building Code of a habitable room (70 sq. ft. or more, with min. ceiling heights of 7' on at least 50% of its area and 5' ceiling heights on remainder)
<b>Enclosed porches</b>	Included only if heated	Included
<b>Open porches, carports, port cocheres</b>	Excluded	Excluded
<b>Attached garages</b>	Included	Included
<b>Detached garages and any space above the first floor with a ceiling height of 7 feet or more</b>	Excluded	Included
<b>Other detached structures</b>	Excluded	Included, with one exemption for a detached shed or other structure less than 120 sq. ft.

*FAR Limits*

The Working Group is proposing a sliding scale of FAR limits for each of the three SR and MR districts it studied. As noted above, the scale takes into account the average rise in actual FARs resulting from the changes to the definition of gross floor area and also addresses the specific challenges faced by small lots, as well as the need to ensure that new development respects its surroundings.

In all residential zoning districts, the Working Group proposes that lots be divided by size into seven categories. FAR limits are set for the very beginning and very end of each category. For lot sizes falling in the between the two ends of a category, the FAR limit will vary smoothly, that is, linearly. This is the same approach used with the

federal income tax rates. It insures that a small difference in lot size does not give rise to a significant difference in allowed FAR. The proposed scales are shown below:

#### Proposed Sliding FAR Scale

Lot Size Category (sq. ft.)	SR1	SR2	SR3
	FAR Range for Lot Size Category	FAR Range for Lot Size Category	FAR Range for Lot Size Category
0-4999	.48 to .48	.48 to .48	.50 to .50
5000-6999	.48 to .45	.48 to .45	.50 to .50
7000-11999	.45 to .35	.45 to .40	.50 to .43
12000-14999	.35 to .30	.40 to .35	.43 to .40
15000-19999	.33 to .30	.35 to .35	.40 to .40
20000-24999	.30 to .28	.35 to .35	.40 to .38
25000+	.28	.35	.38

Lot Size Category (sq. ft.)	MR1	MR2/MR3
	FAR Range for Lot Size Category	FAR Range for Lot Size Category
0-4999	.60 to .60	.60 to .60
5000-6999	.60 to .55	.60 to .55
7000-11999	.55 to .50	.55 to .55
12000-14999	.50 to .50	.55 to .45
15000-19999	.50 to .45	.45 to .40
20000-24999	.45 to .40	.40 to .40
25000+	.40	.40

The table above shows that a 12,000 sq. ft. lot in an SR1 district would have an FAR limit of .35, while, at the other end of the lot size category, a lot of 14,999 sq. ft. would have an FAR limit of .3. The chart also shows that a 13,500 sq. ft. lot would have an FAR limit somewhere between these two numbers (it would actually be .33 according to the FAR calculator).

The Working Group considered how this system, which is more nuanced than the current single FAR per zoning district, can be made user friendly. The group suggests that a table of values of FAR limits at specific lot sizes can be given in the Zoning Ordinance text along with the statement that the FAR limits vary proportionately between these points. An online, user-friendly calculator for computing the exact FAR limit applicable to a particular lot can be made available on the City's website so that individuals can quickly figure their exact FAR limit.

The Working Group arrived at these new FAR limits based on their professional judgment about the amount of "mass above ground" that lots in each zoning district can support and still maintain the look and feel consistent with current development and with the *Newton Comprehensive Plan*. As a simple reality check, to see that the new limits would not make a major quantitative change within the city, the group

looked at the effect these changes would have on the nonconformity rate and the amount of allowed but unrealized floor space in the City.

As the following table reveals, the proposed sliding FAR scale reduces the nonconformity rates overall and particularly on smaller lots, so that more lots are now conforming with FAR limits. (Some lots may be *just* conforming; that is, their actual FAR may fall just under the limit, so conformity does not necessarily equal significant expansion potential.)

**Percent Nonconforming with Respect to FAR, SR Districts**

Zone	Lot Size Category	Total Number of Parcels	Current Nonconforming With Respect to FAR	Proposed Nonconforming With Respect to FAR
SR1	ALL	1,600	25%	20%
	0-4999	2	100%	100%
	5000-6999	18	72%	33%
	7000-11999	202	60%	30%
	12000-14999	175	45%	39%
	15000-19999	490	26%	25%
	20000-24999	186	13%	15%
	25000+	527	0%	5%
SR2	ALL	7,813	22%	13%
	0-4999	109	94%	72%
	5000-6999	655	67%	34%
	7000-11999	3,954	26%	13%
	12000-14999	1,360	9%	7%
	15000-19999	1,151	4%	7%
	20000-24999	308	1%	4%
	25000+	276	0%	1%
SR3	ALL	6,243	14%	9%
	0-4999	438	53%	37%
	5000-6999	1,374	25%	17%
	7000-11999	3,520	8%	4%
	12000-14999	479	1%	2%
	15000-19999	265	0%	0%
	20000-24999	86	0%	2%
	25000+	81	0%	0%

As noted above, the Working Group also looked at allowed but unrealized floor area capacity in each zoning district under the proposed scheme as well as current FAR rules. When assessing FAR limits, it is possible to consider the total development capacity under FAR limits not just for a particular lot, but for an entire district. There are two components of that capacity: the amount that has already been built (the "*developed capacity*"), and the as-of-yet unrealized development capacity that theoretically could be built in compliance with FAR, assuming other dimensional controls allowed (the "*undeveloped capacity*"). The table below shows the developed and undeveloped capacity that the Working Group estimates exists in the City under

the sliding scale proposals. It also compares the proposals to existing undeveloped capacity under current FAR regulations. As is shown in the final two columns, undeveloped capacity under current rules and the proposed sliding scale do not vary significantly overall, though some capacity has been redistributed to smaller lots.

#### Development Capacity, SR Districts

Zone	Lot Size	Total Number of Parcels	Proposed Developed Capacity (Square footage of existing buildings, calculated under proposed definition of GFA)	Amount Remaining Under FAR Limits Proposed Underdeveloped Capacity	Total Capacity Proposed Under FAR Sliding Scale	Percent of Total Capacity Under Current FAR Rules	Percent of Total Capacity Under Proposed Sliding Scale
SR1	ALL	1,600	7,201,199	3,989,864	11,191,063	38%	36%
	0-4999	2	4,356	0	4,356	0%	0%
	5000-6999	18	40,709	9,835	50,544	5%	19%
	7000-11999	202	657,369	124,625	781,994	7%	16%
	12000-14999	175	656,729	106,486	763,215	13%	14%
	15000-19999	490	1,844,362	595,438	2,439,799	23%	24%
	20000-24999	186	875,349	320,674	1,196,023	31%	27%
	25000+	527	3,122,325	2,832,806	5,955,131	52%	48%
SR2	ALL	7,813	25,399,339	11,903,877	37,303,216	31%	32%
	0-4999	109	210,959	10,413	221,372	1%	5%
	5000-6999	655	1,618,298	238,135	1,856,433	4%	13%
	7000-11999	3,954	11,761,276	4,293,890	16,055,165	20%	27%
	12000-14999	1,360	4,625,994	2,180,589	6,806,584	32%	32%
	15000-19999	1,151	4,251,895	2,449,124	6,701,018	41%	37%
	20000-24999	308	1,405,883	980,567	2,386,450	47%	41%
	25000+	276	1,525,034	1,751,160	3,276,194	59%	53%
SR3	ALL	6,243	15,281,726	10,548,416	25,830,141	39%	41%
	0-4999	438	793,617	138,348	931,966	9%	15%
	5000-6999	1,374	3,077,973	1,039,192	4,117,166	18%	25%
	7000-11999	3,520	8,529,932	5,925,502	14,455,433	36%	41%
	12000-14999	479	1,394,616	1,233,662	2,628,277	50%	47%
	15000-19999	265	837,012	953,619	1,790,631	59%	53%
	20000-24999	86	320,805	415,606	736,411	62%	56%
	25000+	81	327,771	842,487	1,170,258	77%	72%

The results for the MR districts are shown below:



## Percent Nonconforming with Respect to FAR, MR Districts

	Lot Size	Total Number of Parcels	Current Nonconforming With Respect to FAR	Proposed Nonconforming With Respect to FAR
<b>MR1</b>	<b>ALL</b>	<b>3,260</b>	<b>22%</b>	<b>16%</b>
	0-4999	445	58%	40%
	5000-6999	906	37%	24%
	7000-9999	1,069	10%	11%
	10000-14999	610	2%	2%
	15000-19999	146	2%	4%
	20000-24999	54	0%	0%
	25000+	30	0%	0%
<b>MR2</b>	<b>ALL</b>	<b>1,023</b>	<b>38%</b>	<b>30%</b>
	0-4999	373	72%	56%
	5000-6999	301	32%	24%
	7000-9999	243	9%	7%
	10000-14999	94	5%	6%
	15000-19999	12	0%	0%
	20000-24999	0		
	25000+	0		
<b>MR3</b>	<b>ALL</b>	<b>47</b>	<b>34%</b>	<b>36%</b>
	0-4999	8	75%	63%
	5000-6999	12	50%	58%
	7000-9999	16	19%	25%
	10000-14999	10	10%	10%
	15000-19999	1	0%	0%
	20000-24999	0		
	25000+	0		

## Development Capacity, MR Districts

Zone	Lot Size	Total Number of Parcels	Proposed Developed Capacity (Square footage of existing buildings, calculated under proposed definition of GFA)	Amount Remaining Under FAR Limits Proposed Undeveloped Capacity	Total Capacity Proposed Under FAR Sliding Scale	Percent of Total Capacity Undeveloped Under Current FAR Rules	Percent of Total Capacity Undeveloped Under Proposed Sliding Scale
<b>MR1</b>	<b>ALL</b>	<b>3,260</b>	<b>9,691,511</b>	<b>4,792,259</b>	<b>14,483,770</b>	<b>34%</b>	<b>33%</b>
	0-4999	445	918,682	168,043	1,086,725	9%	15%
	5000-6999	906	2,439,163	660,320	3,099,484	16%	21%
	7000-11999	1,069	3,342,836	1,405,846	4,748,682	28%	30%
	12000-14999	610	2,087,926	1,445,963	3,533,890	43%	41%
	15000-19999	146	589,921	530,415	1,120,336	56%	47%
	20000-24999	54	200,686	306,957	507,642	69%	60%
	25000+	30	112,297	274,715	387,012	78%	71%
<b>MR2</b>	<b>ALL</b>	<b>1,023</b>	<b>2,571,526</b>	<b>1,016,646</b>	<b>3,588,171</b>	<b>25%</b>	<b>28%</b>
	0-4999	373	722,579	99,855	822,434	7%	12%
	5000-6999	301	790,054	226,961	1,017,015	18%	22%
	7000-11999	243	697,145	382,037	1,079,182	32%	35%
	12000-14999	94	317,411	265,906	583,317	44%	46%
	15000-19999	12	44,336	41,887	86,223	54%	49%
	20000-24999	0	0	0	0		
	25000+	0	0	0	0		
<b>MR3</b>	<b>ALL</b>	<b>47</b>	<b>160,344</b>	<b>42,307</b>	<b>202,651</b>	<b>21%</b>	<b>21%</b>
	0-4999	8	18,646	1,959	20,605	4%	10%
	5000-6999	12	37,829	3,600	41,429	6%	9%
	7000-11999	16	60,671	13,393	74,064	20%	18%
	12000-14999	10	38,391	21,411	59,802	37%	36%
	15000-19999	1	4,807	1,944	6,751	28%	29%
	20000-24999	0	0	0	0		
	25000+	0	0	0	0		

*Phasing*

The Working Group's proposals represent a significant departure from current zoning. Despite much analysis and testing, some of the effects of the changes are unclear. This is particularly true of the basement calculation: the Working Group did not have access to data on existing grades in the City, and therefore could make only an informed judgment about the average percentage of a basement that would likely count toward FAR. Actual results will certainly vary by dwelling and neighborhood, but it is unclear if the overall average will also vary from the estimate.

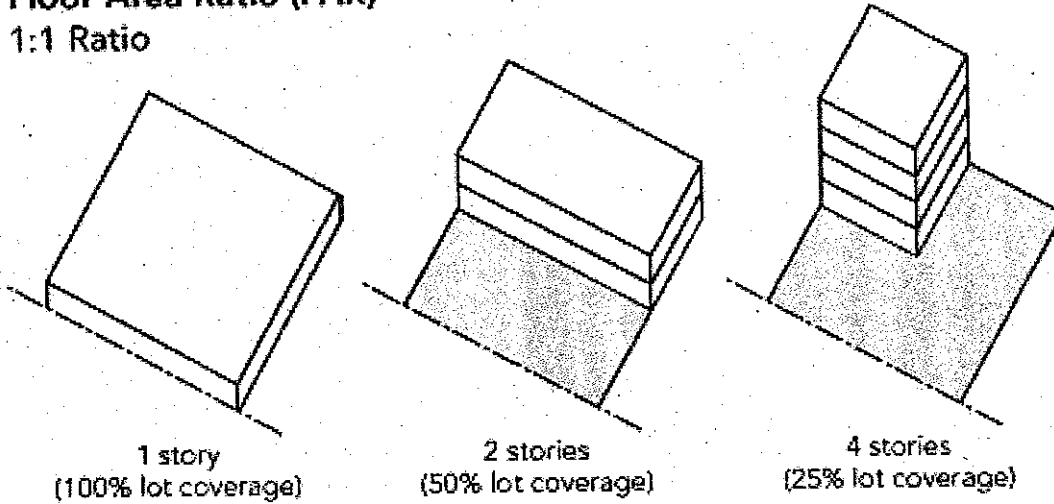
Because of these uncertainties, the Group strongly recommends a period of phasing in of the proposed changes, for two reasons. First, a phase-in period will allow additional data to be gathered to further assess the amendments. Second, a phase-in period will also allow the public to become accustomed to the changes and to plan their construction projects accordingly.

Specifically, the Working Group recommends that the FAR "bonus" adopted last summer and set to sunset July 31, 2010, be extended another six months, through January 31, 2011. This six month period would give homeowners and those in the design and building professions adequate time to adjust to the new system. During this time, the Group also recommends that the City require FAR calculations be made according to both the existing and the new systems as a way to collect additional data on its likely impacts. The new system would go into effect February 1, 2011, and the Working Group has volunteered to reconvene in one year from this date to assess how well it is working and to recommend minor modifications if needed.

**Attachment 1: Explanation of Floor Area Ratio**

An FAR of "1" might look like any of the following:

**Floor Area Ratio (FAR)  
1:1 Ratio**



In Newton, residential FAR limits range from .2 to .4, which translates to a maximum allowed gross floor area for a dwelling of 20% to 40% of lot size. FAR limits for each zoning district are given below:

Zoning District	FAR Limit
SR1	.25 (lots created before 12/7/53) .20 (all others)
SR2	.3
SR3	.35
MR1	.4
MR2	.4
MR3	.4

Graphic from [http://www.lacity.org/lahd/curriculum/images/ch\\_far.gif](http://www.lacity.org/lahd/curriculum/images/ch_far.gif)

**Attachment 2: Proposed Amendments to Section 30-1, Definitions**

**Add the following definitions to Sec. 30-1:**

***Carport:*** A one-story roofed structure permanently open on at least three sides and designed for or used for occupancy by a motor vehicle. For the purposes of this ordinance, a one-story port-cochere meets the definition of a carport.

***Mass below first story:*** For the purposes of calculating gross floor area, any cellar, crawl space, basement, or other enclosed area lying directly below a first story in a residential structure.

***Porch:*** A roofed projection that extends from the façade of a residential structure and that is neither heated nor air conditioned. A porch may share no more than two exterior walls with the residential structure. Railings or solid walls on the projecting facades of the porch may be no higher than 36" as measured from the finished porch floor; the remainder of these facades may be open to the elements or enclosed by mesh, glass, or similar material.

***Porch, enclosed:*** A porch enclosed by either permanent or detachable glass or other similar material.

**Amend the following definitions in Sec. 30-1:**

***Floor area ratio (proposals underlined):***

- (a) For residential structures in residential districts, gross floor area of all buildings on the lot divided by total lot area.
- (b) For all others: Gross floor area of all buildings on the lot divided by total lot area. Any portion of a basement not used for storage, parking or building mechanicals shall be included in determining floor area ratio.

***Floor area, gross:***

- (a) ~~For residential structures in residential districts, the sum of the floor area within the perimeter of the outside walls of the building without deduction for garage space, hallways, stairs, closets, thickness of walls, columns, atria, open wells and other vertical open spaces, or other features exclusive of any portion of a basement as defined in this section. For atria, open wells and other vertical open spaces, floor area shall be calculated by multiplying the floor level area of such space by a factor equal to the average height in feet divided by ten (10). Excluded from the calculation are bays or bay windows which are cantilevered and do not have foundations and which occupy no more than ten (10) per cent of the wall area on~~

which they are mounted and any space in an attic or half story above the second story as defined in this ordinance.

(a) For residential structures and buildings accessory to residential structures in residential districts, the sum of the floor area of all principal and accessory buildings whether or not habitable, except as excluded below. Floor area measurements shall be taken within the perimeter of the outside walls of each building without deduction for garage space, hallways, stairs, closets, thickness of walls, columns, atria, open wells and other vertical open spaces, or other features as defined in this section.

a. Gross floor area shall include:

- i. First and second stories;
- ii. Any space above the second story, whether finished or unfinished, that meets all of the following criteria:
  1. Lies within the area of a horizontal plane that is five (5) feet above the floor and which touches the side walls and/or the underside of the roof rafters;
  2. Is at least seven (7) feet in any horizontal dimension, as measured within the area having a wall height of five feet or more;
  3. Has a minimum ceiling height of seven (7) feet on at least 50 percent of its required floor area; and
  4. Has a floor area of not less than 70 square feet as measured within the area having a wall height of five feet or more.
- iii. Atria, open wells, and other vertical open spaces, where floor area shall be calculated by multiplying the floor level area of such space by a factor equal to the average height in feet divided by ten (10);
- iv. Enclosed porches;
- v. Attached garages;
- vi. Detached garages and any space above the first story of a detached garage that has a ceiling height of 7' or greater;
- vii. Other detached accessory buildings, such as sheds or cabanas, except as exempted in (b)(iii) below.
- viii. A portion of mass below the first story, to be calculated as follows:

$X/Y$  \* Floor area of mass below first story

Where:

X = Sum of the width of those sections of exposed walls below the first story having an exterior height equal to or greater than four (4) feet as measured from existing or proposed grade, whichever is lower, to the top of the first floor

Y = Perimeter of exterior walls below first story

b. Gross floor area shall not include:

- i. Unenclosed porches;

- ii. Carports; and
- iii. One detached accessory building equal to or less than 120 square feet in size.

(b) For all others: The floor area within the perimeter of the outside walls of the building without deduction for hallways, stairs, closets, thickness of walls, columns or other features.

# Memorandum

**To:** Board of Aldermen  
**CC:** David Olson, Karyn Dean, Candace Havens  
**From:** Anne Phelps  
**Date:** 6/4/2010  
**Re:** Request for Emergency Preamble to void the 20-day appeal period for appeal of the revised Watershed/Floodplain Ordinance, Sec. 22-22

## FEMA Requirements

To retain membership in the National Flood Insurance Program, FEMA is requiring adoption of required language, new flood panels, incorporation of dates of the Flood Insurance Study and effective dates of the new panels by June 4, 2010.

Although the amended Watershed/Floodplain Ordinance will be voted on by Newton's Board of Aldermen June 7, 2010, the FEMA Chief of Floodplain Management and Insurance Branch for FEMA Region I has informed me that suspension from the National Floodplain Insurance can only be avoided if Newton guarantees it can enact the revised Ordinance effective June 8<sup>th</sup>, 2010.

In order to ensure that FEMA will allow Newton to bridge this gap without a suspension, the Board of Aldermen must approve the required revisions (**the new flood maps and flood elevations represent only very small, even insignificant changes in actual flood areas**) on June 7<sup>th</sup>, the Mayor must sign the Ordinance by June 8<sup>th</sup>, and the Ordinance must take effect immediately.



**Sec. 22-22. Floodplain/watershed protection provisions.**

(a) There is hereby established a Floodplain/Watershed Protection District, the purpose of which is to:

- (1) assure the continuation of the natural flow patterns of watercourses within the city;
- (2) provide adequate and safe floodwater storage capacity in order to protect persons and property against increase in the hazards of flood inundation;
- (3) protect and preserve the water table and groundwater recharge areas within the city; and
- (4) allow the city to maintain compliance with the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973, and the regulations promulgated pursuant thereto.

The Floodplain District is established as an overlay district to all other districts. All development in the district, including structural and non-structural activities, whether permitted by right or by special permit must be in compliance with Chapter 131, Section 40 of the Massachusetts General Laws and with the following:

Section of the Massachusetts State Building Code which addresses floodplain and coastal high hazard areas (currently 780 CMR 120.g, "Flood Resistant Construction and Construction in Coastal Dunes");

Wetlands Protection Regulations, Department of Environmental Protection (DEP) (currently 310 CMR 10.00);

Inland Wetland Restriction, DEP (currently 310 CMR 13.00);

Minimum Requirements for the Subsurface Disposal of Sanitary Sewage, DEP currently 310 CMR 15, Title 5);

Any variances from the provisions and requirements of the above referenced state regulations may only be granted in accordance with the required variance procedures of these state regulations.

The areas of the city included in this district are set forth in subsection (g) of this section.

(b) The provisions of this section shall take precedence over any conflicting city ordinance. Any uses in the Floodplain/Watershed Protection District, whether permitted by right or by special permit or variance, shall be subject to the following:

- (1) Except as provided in subsections (b)(2) and (e) of this section, no building or other structure shall be erected, constructed, altered, enlarged or otherwise created for any residence or other purpose; no dumping of trash, rubbish, garbage or junk or other waste materials shall be permitted; no filling, dumping, excavation, removal or transfer of gravel, sand, loam or other materials which will restrict floodwater flow or reduce floodwater storage capacity shall be permitted.
- (2) Subsection (b)(1) notwithstanding, after a public hearing the conservation commission may issue an order of conditions for the following uses in the Floodplain/Watershed

Protection District:

- a) Any building or structure for which compensatory storage is provided and for which certification is submitted by a registered professional engineer demonstrating that such building or structure shall not result in any increase in flood levels during the 100-year flood.

Compensatory storage shall mean a volume not previously used for flood storage, and shall be incrementally equal to the theoretical volume of flood water at each elevation which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or wetland being affected by the proposed project. Further, with respect to waterways, such compensatory volume shall be provided within the same reach of the waterway.

- b) Construction, operation, and maintenance of dams and other water-control devices including temporary alteration of the water level for emergency purposes.
  - c) Bridges and like structures permitting passage between lands of the same owner, except that such bridges and structures shall be constructed, maintained, and used at the expense and risk of such owner, and shall be designed and constructed so as to minimize the effect of such structures on water storage and water flow.
  - d) Parking lots, driveways, and walkways ancillary to permitted or existing uses within the district.
  - e) Recreation, including golf courses, municipal, county or state parks (but not an amusement park), boating, fishing, and any other noncommercial open-air recreation uses and structures ancillary to these uses.
  - f) Ancillary structures for farms, stock farms, truck gardens, nurseries, orchards, and tree farms.
- (3) No order of conditions shall be issued under paragraphs (2)(b)-(2)(f) of this subsection unless it is demonstrated to the satisfaction of the conservation commission that the cumulative effect of the proposed project, when combined with all other existing and anticipated development, will not increase the water surface elevation of the 100-year flood at any point within the city.

(c) The construction, reconstruction or enlargement of any building or structure in the Floodplain/Watershed Protection District shall also be subject to the following provisions:

- (1) All construction of residential structures shall have the lowest floor (including the basement) at or above the pertinent flood elevation established within subsection (g) hereof, and all construction of non-residential structures shall have either the lowest floor (including the basement) at or above the pertinent flood elevation of said subsection (g), or along the attendant utility and sanitary facilities shall be floodproofed, i.e. designed so that below the established flood elevation the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
- (2) Where watertight floodproofing of a structure is permitted, a registered professional

engineer or architect shall certify that the methods used are adequate to withstand the flood depths, pressures and velocities, impact and uplift forces and other factors associated with the pertinent flood levels.

(d) In its discretion, the conservation commission may accept a single notice of intent, conduct a single hearing, and issue a single order of conditions pursuant to its jurisdiction under this section and its jurisdiction under the Wetlands Protection Act, G.L. c. 131, sec. 40; provided, however, that in the event that the provisions of this section are more restrictive than those of the said Wetlands Protection Act and the regulations promulgated pursuant thereto, the provisions of this section shall control.

(e) Nothing in this section shall be deemed to prohibit the reconstruction (but not enlargement) of any building or structure destroyed by fire or natural disaster; provided, however, that such a reconstruction shall be pursuant to an order of conditions issued by the conservation commission.

(f) The boundaries of the Floodplain/Watershed Protection District are intended to correspond with the maximum lateral extent of floodwater which will result from the ~~one-percent chance flood~~ (100-year flood). ~~The district includes all special flood hazard areas within the City of Newton designated as Zone A and AE on the Middlesex County Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA) for the administration of the National Flood Insurance Program. The map panels of the Middlesex County FIRM that are wholly or partially within the City of Newton are panel numbers 25017C0532E, 25017C0534E, 25017C0551E, 25017C0552E, 25017C0553E, 25017C0554E, 25017C0556E, 25017C0558E, 25017C0561E, 25017C0562E. 25017C0566E dated June 4, 2010. The exact boundaries of the District may be defined by the 100-year base flood elevations shown on the FIRM and further defined by the Middlesex County Flood Insurance Study (FIS) report dated September 28, 2007. The FIRM and FIS report are incorporated herein by reference and are on file with the city clerk, planning board, inspectional services, conservation commission and engineering. Said boundaries have been determined by reference to data prepared for the city pursuant to the National Flood Insurance Program, as currently administered by the Federal Emergency Management Agency. Said boundaries, so determined, shall be presumed accurate. This presumption may be overcome only by credible evidence from a registered professional engineer or other professional competent in such matters.~~

(g) The following areas are hereby designated as included in the Floodplain/Watershed Protection District and are subject to the provisions of this section and regulations promulgated by the conservation commission pursuant thereto:

1. Floodplain/Watershed Areas\*

Floodplain	Elevation (feet)**
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Along Charles River from:

- (1) Newton/West Roxbury line to Kendrick  
Street bridge ..... ~~100.2—99.9~~ 96.7-96.5
- (2) ~~Kendrick~~ Nahanton Street bridge to  
Silk Mill Dam ..... ~~95.7—95.7~~ 95.6-95.5

- (3) Silk Mill Dam (foot) to Metropolitan

- Circular Dam (crest) ..... 80.75—80.75
- (4) Metropolitan Circular Dam (foot) to  
Route 9 bridge ..... 72.75—72.75
- (5) Route 9 bridge to Route 128  
bridge..... 72.75—71.7
- (6) Route 128 bridge to Walnut Street  
bridge ..... 71.7—70.75
- (7) ~~Walnut~~ Wales Street bridge to Cordingly Dam  
and Falls (crest) ..... 70.75—69.72
- (8) Cordingly Dam and Falls (foot of falls) to ~~Finlay Dam~~  
~~Newton Lower Falls Dam~~ (crest) ~~53.7~~ 55.5—52.75
- (9) ~~Newton Lower Falls Dam~~ ~~Finlay~~ Dam (foot) to Washington Street  
Route 16 bridge ..... 49.70—49.70
- (10) Washington Street Route 16 bridge  
to M.D.C. RR bridge ..... 49.70—~~48.9~~47.5
- (11) M.D.C. bridge to Concord St  
bridge..... ~~48.9~~47.5—46.745.5
- (12) Concord St bridge to Norumbega  
bridge-Route 30 ..... ~~46.7~~ 45.5—~~46.2~~ 44.5
- (13) Norumbega bridge-Route 30 to  
Newton/Waltham boundary  
(west) ..... ~~46.2~~ 44.5—~~45.7~~ 44.5
- (14) Newton/Waltham boundary (east)  
to Bridge Street bridge (west)... 27.75—24.75
- (15) Bridge Street bridge (east) to ~~Newton~~/Watertown  
Dam ~~boundary (west)~~(crest) ~~24.7~~ 23.5—~~21.7~~ 17.5
- (16) ~~Newton~~/Watertown Dam (foot) ~~boundary (east)~~  
to Newton/Boston boundary ~~15.7~~ 10.5—~~15.7~~ 10.5

Along Paul Brook from:

- (17) 150 feet south of Route 9 to Hagen  
Road..... 127.85—125.79
- (18) Hagen Road to Haynes Road (north side  
of culvert) ..... 125.79—125.65
- (19) Haynes Road (south side of culvert) to

Olde Field Road.... ~~123.7~~ 124.5—~~122.7~~ 122.6

(20) Olde Field Road to Great Meadow Road..... ~~122.76~~—~~121.9~~ 122.0

(21) Great Meadow Road to Parker Street (east side of culvert) ..... ~~121.9~~ 122.0—121.3

(22) Parker Street (west side of culvert) to Mildred Road..... ~~120.6~~—121.0—~~120.4~~—120.5

(23) Mildred Road to the confluence of South Meadow Brook ..... ~~120.4~~ 120.5—~~120.2~~ 120.3

Along South Meadow Brook from:

(24) The confluence of Paul Brook to Dedham Street (east side of culvert) ~~120.2~~ 120.3—~~119.9~~ 119.5

(25) Dedham Street (west side of culvert) to ~~Brierfield Road~~ Upland Ave ~~118.9~~ 119.3—~~118.7~~ 118.8

(26) ~~Brierfield Road~~ Upland Ave to Winchester Street ~~Jaconnet/Kenneth~~ Streets ..... ~~118.7~~ 118.8—~~117.7~~ 118.5

(27) ~~Jaconnet/Kenneth~~ Winchester Streets to Needham Street (east side of culvert to trash ~~t~~rack) ..... ~~117.7~~ 118.5—~~117.3~~ 117.5

(28) Needham Street (west side of culvert) to Tower Road Culvert ~~115.2~~ 116.5—~~115.0~~ 115.5

Along Cheese Cake Brook from:

(29) Watertown Street culvert to Dunstan Street (west side of culvert)..... 46.7—~~45.75~~

(30) Dunstan Street (east side of culvert) to Cross Street (west side of culvert)..... ~~45.1~~ 45.0—~~44.6~~ 44.5

(31) Cross Street (east side of culvert) to Parsons Street (west side of culvert)..... ~~44.1~~ 44.0—43.8

(32) Parsons Street (east side of culvert) to Eddy Street..... ~~42.2~~ 43.5—~~41.8~~ 42.5

\*The data figures in this table are to be used in determining the location of the floodplain and represent information obtained from FEMA’s Flood Insurance Study, Preliminary Release dated September 28, 2007 volumes 1,2,3, and 4 and the corresponding Flood Insurance Rate Maps (FIRMs), which were then converted to City of Newton base. No changes

to the Preliminary Release are expected for Newton and thus the FIRMs will become effective on June 4, 2010; if any discrepancies arise, the more conservative of the two shall apply. Plans showing the general location of the floodplain, to be used only as a guide, are available for viewing at the Engineering Division of the Department of Public Works or Inspectional Services Department.

\*\*Includes all lands below the listed elevation in feet, City of Newton Base. The higher elevation applies to the upstream end of the designated area while the lower elevation applies to the downstream end. The floodplain elevation for any land is determined by interpolation between the floodplain elevation figure shown in the above table on the basis of its relative distance in feet from the upstream and downstream ends.

## 2. Floodways\*\*\*

### *South Meadow Brook*

Cross Section	Distance****	Width	(Feet)
A		1,922	50
B		2,865	50
C		4,148	860
D		4,691	480
E		6,060	50

### *Paul Brook*

Cross Section	Distance****	Width	(Feet)
F		6,942	40
G		7,892	60
H		8,655	40
I		9,560	40
J		10,310	40

### *Cheese Cake Brook*

Cross Section	Distance****	Width	(Feet)
A		5,742	30
B		5,892	30
C		6,202	30
D		6,578	30
E		7,158	30

\*\*\* The South Meadow Brook, Paul Brook and Cheese Cake Brook Floodways as shown on the Federal Emergency Management Agency Floodway Data Table ~~2 8 on page 11~~ of the F.E.M.A. "Flood Insurance Study, ~~City of Newton, Mass., No. 255226CV001A Middlesex County~~", MA, June 4, 2010.

\*\*\*\* Feet above confluence with the Charles River.

## 3. Open brooks and streams and their tributaries:

Watershed Brook or Stream	Distance (feet)*****
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- (1) Brunnen Brook..... 30
- (2) Cheese Cake Brook from Brae Burn Golf Course to end of Oldham Road and from Eddy Street to Charles River .....30
- (3) Cold Spring Brook ..... 30
- (4) College Brook ..... 30
- (5) Country Club Brook..... 30
- (6) Cranberry Brook ..... 30
- (7) Dolan Brook..... 30
- (8) Edmands Brook..... 30
- (9) Hahn Brook..... 30
- (10) Hammond Brook ..... 30
- (11) Hyde Brook ..... 30
- (12) King Brook..... 30
- (13) Lacey Brook ..... 30
- (14) Laundry Brook ..... 30
- (15) Paul Brook from Route 9 to 150 feet south of Route 9 ..... 30
- (16) Runaway Brook..... 30
- (17) Saw Mill Brook ..... 30
- (18) Saw Mill Brook, south branch..... 30
- (19) South Meadow Brook from Newton/Brookline boundary to Brandeis Road; from Tower Road (south side of culvert) to trash rack; from Oak Street to Charles River...30
- (20) Stearns Brook ..... 30
- (21) Strong's Brook ..... 30
- (22) Thompsonville Brook.....30

\*\*\*\*\*Measured as horizontal distance on both sides of brook or stream from centerline.

4. Wetlands:

Watershed	Elevation (feet)*
(1) Bird Swamp off Hammond Pond Parkway at Chestnut Hill Mall/Towers Entrance .....	214.0
(2) Webster Conservation Area - East of Hammond Pond Parkway, south of MBTA tracks, Chestnut Hill .....	173.0
(3) Webster Conservation Area - East of Hammond Pond Parkway, north of MBTA tracks, Chestnut Hill .....	173.0
(4) Skunk Hollow Swamp .....	151.6
(5) Kennard Conservation Area Wetland, Chestnut Hill	146.0
(6) Bald Pate Meadow .....	142.0
(7) Vine Street West Swamp .....	138.0
(8) Wayne Pond Swamp .....	130.0
(9) Old Woodlot Swamp .....	125.0
(10) Waban Kettle Wetland Off Waban Avenue, Carlton Road, Nehoiden Road, Crofton Road, Waban .....	122.0
(11) Longfellow Pond Wetland .....	122.0
(12) Great Meadow Swamp .....	119.0
(13) Winchester Street Swamp .....	112.0
(14) Cold Spring Swamp .....	110.0
(15) Goddard Street, Christina Street, Roland Street, Charlemont Street, Newton Highlands .....	105.0
(16) Nahanton Street Swamp .....	102.2
(17) Oak Hill Swamp off Saw Mill Brook Parkway	96.0
(18) Cabot Street Meadow .....	84.0
(19) Dolan Pond Wetland off Webster Park, Auburndale .....	52.0
(20) Flowed Meadow, Auburndale .....	46.0
(21) Cranberry Wetland .....	29.0

\*Includes all lands below the listed elevation in feet, City of Newton Base.



5. Ponds

Watershed .....	Elevation (feet)*
(1) Bare Pond.....	234.0
(2) Cat Pond.....	228.0
(3) Charles River Country Club Pond.....	182.0
(4) Houghton Pond .....	173.0
(5) Hammond Pond .....	172.0
(6) Crystal Lake .....	149.0
(7) Longfellow Pond.....	122.0
(8) Brae Burn Pond.....	98.0
(9) City Hall Pond.....	95.0
(10) Bullough's Pond .....	92.4
(11) Dresser Pond .....	82.0
(12) Lasell Pond.....	76.0
(13) Strong's Pond .....	65.0
(14) Silver Lake .....	45.0

\*Includes all lands below the listed elevation in feet, City of Newton Base.  
(Ord. No. S-83, 1-21-85; Ord. No. T-167, 8-12-91; Ord. No. V-289, 3-20-00)

In Zones A and AE, along watercourses that have not had a regulatory floodway designated, the best available federal, state, local or other floodway data shall be used to prohibit encroachments in floodways which would result in any increase in flood levels within the community during the occurrence of the base flood discharge.

In a riverine situation, the planning department shall notify the following of any alteration or relocation of a watercourse:

- Adjacent communities
- NFIP State Coordinator, MA Department of Conservation and Recreation, 251 Causeway Street, Suite 600-700
- NFIP Program Specialist, Federal Emergency Management Agency, Region I, 99 High Street, 6<sup>th</sup> Floor, Boston, MA 0210

Other Use Regulations

- 1) In Zones AE, along watercourses that have a regulatory floodway designated on the Middlesex County FIRMs, encroachments are prohibited in the regulatory floodway which would result in any increase in flood levels within the community during the occurrence of the base flood discharge.
- 2) All subdivision proposals must be designed to assure that:
  - a) such proposals minimize flood damage;
  - b) all public utilities and facilities are located and constructed to minimize or eliminate flood damage; and
  - c) adequate drainage is provided to reduce exposure to flood hazards.