



CITY OF SOMERVILLE, MASSACHUSETTS  
STRATEGIC PLANNING AND COMMUNITY DEVELOPMENT  
JOSEPH A. CURTATONE, MAYOR

**STAFF**

MADELEINE MASTERS, *DIRECTOR OF PLANNING*  
CHRISTOPHER DI IORIO, *PLANNER/ZONING ADMINISTRATOR*  
LORI MASSA, *PLANNER/ZONING ADMINISTRATOR*  
FREDERICK J. LUND, *SENIOR DRAFTSMAN*

**Case #:** 2007-65  
**Site:** 88 Beacon Street  
**Date:** July 3, 2008  
**Recommendation:** Conditional Approval

---

PLANNING STAFF REPORT—UPDATED

---

**Applicant Name:** Nextel Communications of the Mid-Atlantic, Inc.  
**Applicant Address:** 9 Crosby Drive, Bedford MA 01730  
**Property Owner Name:** 88 Beacon Street Realty, Inc.  
**Property Owner Address:** 59 Union Square, Somerville, MA 02143  
**Agent Name:** Heather Castagnaro  
**Alderman:** Maryann Heuston

Legal Notice: Applicant Nextel Communications of the Mid-Atlantic, Inc. & Owner 88 Beacon Street Realty, Inc. seek a special permit under SZO §7.11.15.3 to install a wireless communications facility on the roof of 88 Beacon Street, Somerville. Pursuant to an Order of the Superior Court, dated October 23, 2007, the Zoning Board of Appeals will conduct a *de novo* hearing on the request. See, *Kramer v. Ercolini et al.*, Superior Court C.A. No. MICV03-2174.

Zoning District/Ward: Residence C (RC) zone. Ward 2.  
Zoning Approval Sought: Special Permit under SZO §7.11.15.3  
Date Public Hearing: ZBA: February 6, 2008  
Date of Decision: N/A  
Vote: N/A

---

Subsequent to several public hearings and the Board's procurement of consulting services from a communications systems engineer, the Staff report has been revised. Deleted text is marked with ~~strike through~~ and added text is preceded by "Update 07/03/08" and underlined.

## I. PROJECT DESCRIPTION

1. Subject Property: The subject property, an 11,080 s.f. lot, contains a brick condominium building, six stories in height, with an elevator penthouse located on the roof. According to the Assessor's records, there are 32 one and two bedroom units in the building. The building is located on Beacon Street, very close to the Cambridge border, in a Residence C (RC) zoning district.

2. Proposal: The Applicant seeks special permit approval for a wireless communications facility on the roof of the subject site. This facility would be comprised of two freestanding structures: a false penthouse containing an array of four antennas, and a separate equipment shelter housing radios, batteries, and other equipment, on the outside of which would be mounted two separate arrays of four antennas each. These structures would be designed as false penthouses and screened by a fiberglass materials designed to match the building's brick façade. The penthouse on the north/street-facing corner (housing only four antennas) would measure 15' x 6' x 6'. The penthouse on the north/rear-facing corner containing the internal equipment shelter and the external shielded antennas would measure 20' x 11.5'. ~~Both facilities would meet the 10' required setback from the building edge.~~ Coaxial cables connecting the equipment room with the antennas would be contained in a cable tray mounted nearly flush with the roof. These trays would not be visible from the street level.

Update 07/03/08: Further review of plans shows that the equipment shelter would not meet the maximum height and required setbacks from the roof edge on the right-hand side. SZO §14.3.2 limits equipment to 10' in height and §14.3.4 requires at least a 10' setback of equipment from a roof's edge (as well as a setback equivalent to the structure's height, so that the equipment sits behind a 45-degree plane extending from the cornice).

The actual setback from the roof's edge on the right-hand side falls just short of the 10' requirement, being shown as 9.7'. While in itself this might be *de minimis*, it appears that other dimensional standards are violated. The equipment shelter's height appears to be greater than 10', resulting in violations of both the height limit and the 45-degree plane setback. While height is indicated in the submission, plans do provide the elevation of the shelter and the roof; the difference in these indicates that the structure is 12.5' in height.

Noncompliance with this requirement can only be permitted via a variance.

3. Nature of Application: A special permit is required by the Table of Uses, §7.11.15.3 of the Zoning Ordinance, for any proposed wireless communications facilities within an RC zoning district. The information supplied by the Applicant complies with the requirements of the SZO.

4. Surrounding Neighborhood: The building is located very close to the Cambridge border near Harvard Square. There are various retail and restaurant uses located along Beacon Street. However, the majority of the area consists of residential uses of various types, including two-family dwellings as well as multi-unit apartment buildings. There are also several Harvard University buildings close to the site on the Cambridge side of the border.

5. Parking: According to the Division of Traffic & Parking, the on-street parking situation in this area of Beacon Street is limited. There are 31 off-street parking spaces currently existing, although

approximately 45 would now be required for the 32 units in the building; this difference creates a legally non-conforming situation.

**Update 07/03/08:** In addition to being nonconforming with current standards, the site appears to be in violation of its original permits, which would have required 32 parking spaces for the 32 units. One of these required spaces currently houses two garbage dumpsters. In addition, while no plan of the parking survives from the original permits, the plan submitted with the present application indicates that the dimensions of these spaces are also nonconforming. While any prior nonconformity in parking—quantity or dimension—would be protected, any increase in the nonconformity would require a Special Permit under SZO §4.5.

The Applicant has submitted a study by transportation consultants, Traffic Solutions, LLC, which asserts that relocation of the equipment shelter into the parking lot would either reduce the dimensions of at least one existing space or displace at least one parking space, increasing the nonconformity. While it is unclear to Planning Staff that this outcome is inevitable, it may nevertheless be appropriate to require relief for parking in order to reduce the impacts of the current proposal. Since the site appears to be in noncompliance with the permits under which it was developed, such relief may be in order anyway.

6. Impacts on Abutting Properties: The installation has been designed to minimize the visual obtrusiveness of the facilities. By sheathing the antennas and the equipment room in material that mimics the brick façade, the additional equipment appears similar to a penthouse such as already exists on the roof of the structure. As viewed from the street, this sheathing, combined with the setbacks of the facilities and the height of the building, reduces the visual impact. However, concerns have been raised about the visual impacts to abutters in a neighboring nine-story residential building, whose southerly views could be significantly impacted.

~~While the location of the equipment shelter appears to be necessary to preserve the signal quality,~~ it may be more appropriate to mount the street- and rear-facing antennas on the façade, to minimize the visual obtrusiveness of the equipment from the point of view of the neighbors immediately to the northwest. While the street-facing antennas would be somewhat more visible from the street level, this impact would be modest compared to the 15-foot obstruction to abutters' views. The rear-facing antennas would not be visibly obtrusive if mounted on the rear wall, and would remove approximately four feet's worth of obstruction to views.

**Update 07/03/08:** Site visits to abutting properties demonstrate significant visual and acoustic impacts from antennas and especially the equipment shelter to abutting properties. These facilities are at eye-level with neighboring properties and, as they span much of the depth of the building, they block much of the adjoining property owners' views. Furthermore, the air conditioning units required to cool the equipment shelter run intermittently on a 24-hour basis, generating noticeable noise impacts, even when windows are closed. However, if the facilities were to be accommodated elsewhere than on the roof, it is difficult to imagine such impacts. Façade-mounting the antennas would present some additional visual impacts from Beacon Street, but to a far lesser degree than the requested configuration.

7. Green Building Practices: N/A.

8. Comments from Fire Prevention Bureau: Any construction enclosure for electrical equipment will require detection devices and the Bureau will require a site plan to determine Fire Department access to the site.
9. Comments from Ward Alderman: Alderman Heuston has not submitted written comments.

**Update 07/03/08:**

### **FINDINGS OF PEER REVIEW CONSULTANT**

At the Board's request, the City has procured the services of a communications system engineer, Professor Andrew Klein of Worcester Polytechnic Institute, as a Peer Review Consultant, pursuant to Mass. Gen. Laws Chapter 44, Section 53G, in order to evaluate the Applicant's proposal.

Professor Klein has submitted his final report, which is attached, and which calls into question several technical assumptions that underpin the current request. Speaking generally, his findings indicate inexplicably pessimistic projections by the Applicant when evaluating alternative sites and configurations. Of particular interest to Planning staff, he finds that the equipment shelter may be relocated to the parking lot without harming the signal quality, and that relocation of antennas to the façade of 88 Beacon Street would "seem like an attractive alternative" to roof-mounting.

While he is careful to state that he cannot predict with certainty that relocation of the antennas would be satisfactory, Professor Klein's analysis indicates that the Applicant's evaluation of façade-mounting was likely pessimistic (showing antennas mounted lower than would seem necessary), that negative effects might be mitigated through employment of alternate mounting and signal technologies, and that there might even be limited advantages (reduced obstruction by buildings) to this alternative.

With regard to relocation of the equipment shelter to the parking lot, Professor Klein states in his Summary of Findings that this option is "highly recommended" if space is available.

### **UPDATED FINDINGS OF PLANNING STAFF**

In addition to the findings required under SZO §7.11.15.3 are provided in the following section, Planning Staff have made findings based on the Applicant's submission and subsequent comments, as well as based on the findings of the Peer Review Consultant.

1. Staff find that the visual and acoustic impacts of the equipment shelter and antennas, if located on the roof of 88 Beacon Street, are significant to abutters.
2. Staff find that there is insufficient evidence that the proposed configuration of the facility is uniquely qualified to meet the Applicant's need.
3. Staff find that the equipment shelter may be relocated away from the roof, dramatically reducing the impacts on abutting properties, without harming signal quality. Staff find this an appropriate solution, even if parking relief is required. Alternatively, the facility could be located in the building's interior.

4. Staff find that there is insufficient evidence that antennas must be roof-mounted in order to function properly. With appropriate sheathing or other aesthetic interventions, wall-mounting these antennas would eliminate significant negative visual impacts to immediate abutters, while only modestly impacting street-level views.

## II. FINDINGS FOR SPECIAL PERMIT (SZO §7.11.15.3)

**UPDATE 07/03/08:** Based on the above findings, staff have modified the required findings under §7.11.15.3 to reflect a revised recommendation that the proposed use be approved, with the equipment shelter relocated away from the roof, and the antennas façade-mounted and appropriately screened.

1) Compliance with Standards: ~~With relocation of facilities away from the roof and appropriate screening, some modifications and further explanation,~~ Staff finds that this proposal is in compliance with the standards and criteria of SZO §14.5 for wireless communications facilities, which must be considered prior to granting a special permit:

- a. Height of proposed facility: The facility is one of the highest along this section of Beacon Street, minimizing the visual impact to lower structures and to the street. However, there is a taller structure immediately northwest, whose views would be impacted.
- b. Proximity to residential structures and zoning districts: The proposed facility would be on a residential building in a Residence C zoning district. Areas immediately surrounding the property are primarily residential, with one-, two- and three- family dwellings. Beacon Street has a number of commercial uses, while Inman Square and the intersection of Washington and Beacon Streets are nearby commercial nodes.
- c. Nature of uses on adjacent and nearby properties: As described above, the predominant land use immediately surrounding the site is residential, although there are many commercial uses along Beacon Street near the property.
- d. Surrounding topography and prominence of proposed facility: The height of the building gives the facility a great degree of obscurity from the ground level in the surrounding area. ~~Facilities would be visible from a few hundred feet away, and from the neighboring residential structure, as described above.~~

**Update 07/03/08:** As proposed by the Applicant, facilities would be less visually prominent as viewed from the street but extremely visually prominent as viewed from neighboring properties. As proposed by Staff, one array of antennas would be somewhat more visually prominent as viewed from the street but would be far less prominent as viewed from abutting properties; the equipment shelter would not be visible from either vantage.

- e. Surrounding tree cover and foliage: Due to the height of the installation, tree cover would not be effective for shielding the facility.
- f. Design of tower & reduction of visual obtrusiveness: ~~As previously described, the facility would be in two parts: a false penthouse for antennas and an equipment shelter with sheathed side-mounted antennas. While the bulk and number of roof-mounted structures~~

~~would increase, from many angles the facilities would not be visible. Nevertheless, the Planning Staff finds that the equipment would impact the direct abutters to the northwest, and recommends that the street facing and rear facing antennas be wall mounted to minimize that impact. Ideally, the equipment shelter would also be located out of view of the street and abutters; however, the parking arrangement does not permit the loss of any spaces, and the remaining ground floor area is too small.~~

**Update 07/03/08:** The placement of the facility, rather than its design, will have the most impact on its visual obtrusiveness. Removal of the equipment shelter from the roof would significantly reduce the visual impact. Façade-mounting antennas will somewhat increase their visibility to the public, while dramatically reducing their visual impact to immediate abutters. Design of their screening materials can reduce this impact to the public view.

- g. Location of tower and suitable alternative sites: The Applicant represents that no other existing buildings located in the immediate area met their requirements. A map and short explanation of rejected sites has been submitted and includes: 120 Beacon Street (at southeast corner of Beacon and Washington Streets—deemed too low, too little capacity), 94 Beacon Street (residential property to the north—deemed too tall, too much interference), 1575 Cambridge Street (southwest of site—deemed too far, too little coverage), 1493 Cambridge Street (south of site—deemed too far, too much overlapping coverage, too tall, too much interference).

~~It is notable that three other service providers have located facilities onto neighboring 94 Beacon Street, and that collocation is an expressed goal of Article 14 of the SZO; the Applicant has stated that that side was too high for their needs but further elaboration on that statement has not yet been provided. Staff recommends that the justification for rejecting this less visible site be further explained.~~

**Update 07/03/08:** As noted earlier in this report, the peer review consultant has found that, while 88 Beacon Street may be the best location for the facility under the present circumstances, relocation of antennas from the roof to the façade is an “attractive” option.

- h. Proposed Ingress and Egress: Access to and from the equipment is through a roof-hatch from an interior hallway.
- i. Distance from existing facilities: The Applicant has listed existing locations as 1 Brattle Street, 1950 Massachusetts Avenue, and 139 Hampshire Street in Cambridge; and proposed locations at 100 Concord Avenue and 25 Eighth Street in Cambridge.
- j. Availability of suitable existing facilities (demonstration of need): The Applicant has submitted maps of existing and proposed coverage (with and without the facility on the subject property) demonstrating a gap in coverage without the proposed facilities.
- 2) Consistency with Purposes: ~~With relocation of facilities away from the roof and appropriate screening, some modifications and further explanation,~~ this proposal is consistent with the purpose of the S.Z.O, specifically to “to facilitate the adequate provision of ...other public requirements; to ...increase the amenities of the municipality” (SZO §1.2). Additionally, the Staff finds that this proposal is consistent with the purpose of Wireless Communications facilities, as outlined in §14.1 of the S.Z.O, specifically to “enhance the ability of the providers of telecommunications services to provide such services to the community quickly, effectively, and efficiently; encourage users

of...antennas to configure them in ways that minimize the adverse visual impact of the...antennas through careful design, siting...and innovative camouflaging techniques.”

3) Site and Area Compatibility: *With relocation of facilities away from the roof and appropriate screening, ~~some modifications and further explanation~~*, the facility would be designed in a manner that is reasonably compatible with both the existing features of the site and the characteristics of the built and non-built surrounding area and land uses. ~~Constructing and shielding the equipment shelter and south-facing antennas in a manner that resembles existing penthouses of similar materials lessens the visual impact felt to the majority of abutters and to the street level. Nevertheless, in order to reduce the visual impacts to the direct abutters to the north, the Planning staff recommends that the street facing and rear facing antennas be mounted to the wall and sheathed in the matching false brick material, so that only a single and somewhat smaller “penthouse” is on the roof.~~

**Update 07/03/08:** Noise impacts are not specifically addressed in the required findings but can be significant when large equipment shelters require several air conditioners. Due to the residential surroundings of the subject property, the Applicant should show how noise impacts from any part of the facility would be mitigated, as part of the building permit application.

### III. RECOMMENDATION

#### **Special Permit to Install a Wireless Communications Facility (S.Z.O §7.11.15.3)**

*With relocation of facilities away from the roof as conditioned below, ~~modifications to the location of the street facing and rear facing antennas, and provided that the Applicant gives a more explicit justification for rejecting a taller neighboring site~~*, Planning Staff finds that the proposed use as a wireless communications facility is consistent with the purposes of the S.Z.O. and will not be detrimental to the surrounding neighborhood.

Based on the above findings, the Planning Staff recommends **CONDITIONAL APPROVAL** of the requested **SPECIAL PERMIT** for the proposed use, with the following conditions attached:

#	Condition	Timeframe for Compliance	Verified (initial)	Notes
1	Approval is based on applications materials and plans <b>as modified in conditions 2 and 3.</b>		Building Permit/ Perpetual	ISD/Plng
	Date	Submission		
	12/11/02 Plan Date	“Final Construction Drawing" as modified by conditions 2 & 3, showing antennas and equipment shelter removed from the roof.		
	Any changes to the approved site plan and			

#	Condition	Timeframe for Compliance	Verified (initial)	Notes
	elevations, other than <i>de minimis</i> changes or changes required by the conditions below, must receive ZBA approval.			
2	The equipment shelter shall be relocated from the roof. If this results in the loss of a parking space, a special permit will be required for the expansion of the nonconforming parking situation. Proof of noise mitigation will also be required.	BP	ISD/Plng	
3	The antennas shall be removed from the roof (most likely, façade-mounted) and screened. Prior to installation, the material and location shall be approved by Planning Staff.	Building Permit	Plng	
4	Any antenna that is not operated continuously for a period of twelve (12) months shall be considered abandoned, and the owner of such antenna shall remove the same within ninety (90) days of notice from the City of Somerville informing the owner of such abandonment;	Perpetual	ISD	
5	Any construction enclosure for electrical equipment will require detection devices and that the Bureau will require a site plan to determine Fire Department access to the site.	CO	Fire Prev.	
6	The Applicant shall contact Planning Staff at least five working days in advance of a request for a final sign-off on the building permit to ensure the proposal was constructed in accordance with the plans and information submitted and the conditions attached to this approval.	Final Building Permit Signoff	Plng. / ISD	



## Map of 88 Beacon Street

