



**TOWN OF NEEDHAM, MASSACHUSETTS
PUBLIC WORKS DEPARTMENT
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October 11, 2013

Needham Board of Appeals
Needham Public Safety Administration Building
500 Dedham Avenue
Needham, MA 02492

RE: Application for Comprehensive Permit
Needham Mews-692 and 744 Greendale Avenue
Plan Revision 09/30/13

Dear Members of the Board,

The Department of Public Works has completed its review of the above referenced revised plans for a Chapter 40B Comprehensive Permit. The applicant is proposing to develop a 268-unit rental apartment development on approximately 6-acres on Greendale Avenue adjacent to Route 128.

The review was conducted in accordance with Needham's non-zoning regulations and standard engineering practice.

During the course of the review, the Department of Public Works has determined that the above referenced property is not capable of supporting the level of development proposed for it. The revised documents submitted for review are as follows:

- Stormwater Management System Revised Drainage Calculations, prepared by Tetra Tech dated September 30, 2013;
- Lot Consolidation Plan of Land, compiled by Tetra Tech for Greendale Avenue Venture LLC, signed and stamped by Robert F. Daylor, PLS, dated 4/12/13 and revised 05/29/13, 1 page;
- Comprehensive Permit Plans, Needham Mews Residential Development, 692 + 744 Greendale Avenue, prepared by Tetra Tech for Greendale Avenue LLC, consisting of 12 sheets dated 4/12/13 and revised 09/30/13;
- Architectural Plans, Needham Mews, 692 + 744 Greendale Avenue, Needham, MA, Application for Comprehensive Permit Site Approval, prepared by TAT The Architectural Team for Greendale Avenue Venture, LLC, consisting of 31 sheets: dated 4/8/2013 and revised 09/16/13;
- Landscape Plans and Materials Plans, prepared by TAT The Architectural Team, Consultant: Stantec Consulting Services, consisting of 3 sheets: dated 4/8/2013 and revised 09/16/13;

Our comments and recommendations are as follows:

- We have not received a revised Zoning waiver request reflecting the new design. Fourteen zoning related waivers were requested under the original design.
- The applicant proposes to construct a reinforced concrete “culvert” within the limits of the existing sewer easement. Permission would be required from the Board of Selectmen to allow construction of the structure within the limits of the sewer easement. Based on the design provided, the culvert would interfere with the Town's ability to own, operate and maintain the existing sewer main and therefore permission cannot be granted.
- We have not received a revised General Bylaw waiver request reflecting the new design. Eight “waivers” were requested from the General Bylaws under the original design. To the extent that the original waiver requests apply to the new design; we do not recommend that the “waivers” regarding fire lane width, signs, monument signs, and storage of flammable materials be granted. We recommend that a revised waiver request be submitted reflecting the new design. We also recommend that the Boards and Town Officials most familiar with and knowledgeable of each area of the General Bylaws dealing with each request review and comment on each “waiver”
- We recommend that the applicant be required to comply with the Town's Street Permit requirements and Trench Permit bylaws and regulations.
- We recommend that the applicant list any other waivers that they may be seeking for the new design.
- The MassHousing Project Eligibility (Site Approval) Application letter submitted reflecting the original design requires that the applicant comply with the Commonwealth's Sustainable Development Principles embraced by the DHCD as part of their Final Approval application submittal. No revised information has been submitted reflecting the new design. The applicant should submit a revised narrative showing how the revised development design will advance the sustainable development principles adopted by the Commonwealth of Massachusetts. The applicant informed the Town (verbally) that the revised narrative information was included on the revised design plans. No revised narrative information has been included on any of the plans or documents submitted for our review. According to our review of the information submitted, the revised development design will not advance the principles for the following reasons:
 1. The revised development is inconsistent with the surrounding development. The development proposes a 268 unit apartment complex in a mostly wooded area with 10,000 sf house lots across the street. The revised development proposes to restrict access and interferes with maintenance of the town's existing sewer main by constructing a reinforced concrete culvert above the sewer and within the limits of the sewer easement to accommodate the revised development. The development will substantially reduce open space and provides no pedestrian link from the revised development to the adjacent conservation areas due to the proposed construction of a retaining wall surrounding two-thirds of the property and provides no pedestrian walkway to the only opening in the retaining wall where access might be made. The revised design also proposes a wooden guard rail preventing access through the opening and a steep slope from the guard rail to the existing trail network below the wall that is unsafe to traverse.
 2. The revised development will not protect land and ecosystems. The revised proposal calls for removing almost every single tree on site. It will not increase the quality of the existing conservation land adjacent to the site, nor will it increase accessibility to it.
 3. The revised development will not use Natural Resources wisely by encouraging recycling. The recycling stations at the trash areas in the buildings shown in the original design have all been removed in the revised design. No trash or

recycling areas have been designated in any of the buildings in the revised design.

4. The revised development will not use Natural Resources wisely by encouraging use of public transportation and carpooling. The developer proposes to construct a total of 379 underground parking spaces and 79 surface parking spaces to serve 268 units (536 bedrooms – of which 62 are lofts). In the original proposal the developer proposed to charge a \$50 fee per month for 225 of the underground parking spaces no information has been submitted regarding a fee being charged in the revised design. If a fee is proposed to be charged under the new design; the applicant should disclose the affected number of spaces and the fee amount. The developer also claims to provide bike storage in the buildings to encourage bicycling. There are storage areas proposed in all the buildings, but the developer proposed to charge \$50 per month for 50 units to use them in the original design. No information has been provided in the revised design.
5. The developer claims that linkages have been provided to conservation land by constructing one or more pathways from the site to the conservation land. No pathways linking the revised development are shown on the plans and a wooden guard rail is proposed on the property severing access to the trail and abutting conservation/recreation land.
6. The developer claims that the site is designed to minimize the disturbed area of the site. The plans indicate that almost the entire site is proposed to be disturbed (98.1%). The area around the existing house at 692 Greendale under the original proposal is now proposed to be removed in the revised design; leaving only 1.9% of the site undisturbed. This amount of disturbance does not meet the Sustainable Development Principles cited above. The amount of disturbance will also require a National Pollutant Discharge Elimination (NPDES) Permit from the EPA.
7. The developer claims that stormwater is proposed to be infiltrated entirely on site. The revised drainage calculations submitted contained no description, analysis, conclusions or recommendations to substantiate the claim.
8. The developer claims that the residents, building manager and management team will be educated and trained about the green features of the apartment homes. No office space or work area has been provided for the building manager and the management team.
9. The MassHousing General Development Information form reflecting the original design has several inconsistencies and missing and/or conflicting information as to the number of buildings on site, the number of existing buildings to be torn down, the number of units proposed, explanation as to how the increased density (above 8 units per acre) is compatible with or enhances the surrounding area, utility allowances, etc. No revisions to the form have been made reflecting the revised development plan.

Property Lot Consolidation Plan

- Lot consolidation Plan of Land Sheet 1 has been revised to comply with the Registry of Deeds recordable format. The plan must be revised to provide the signature block for the members of the Planning Board to sign the plan. The revised plan has not been stamped and signed by a Registered Professional Surveyor.
- The portion of Hardy Street along the Northwesterly property boundary may not be passable by some motor vehicles, but is passable by others. It is also passable by pedestrians. The note should be revised to reflect the current condition of Hardy Street.
- The Flood Plain referenced information has been corrected
- The total property area shown as 6.02 Acres does not match the existing record information.

- The plan appears to “claim” a portion of the abandoned section of Hardy Street along the southeasterly corner of the property. No recorded deed or plan information exists to support the claim. The bearings and or distances in the south easterly corner of the property do not conform to any plan of record.
- The property within the boundaries of Hardy Street may be owned, “in fee” by the Town of Needham. We recommend that Town Counsel be consulted regarding the disposition of Hardy Street.
- The reference information regarding the “Drain Easement to be Acquired” plan does not about the subject property and the consolidation plan provides no mathematical relationship to the drain easement shown on the plan.
- The two referenced plans by Needham Survey Associates, Inc., do not appear to be recorded at the Registry of Deeds.

Based on the above, the property boundaries and the area have not been established for the property to support the proposed development.

Stormwater Report and Plans:

The applicant has prepared revised stormwater calculations that are not consistent with standard engineering practice. No report including a description, analysis, conclusions or recommendations has been submitted. The applicant has not documented compliance with stormwater and drainage requirements for both predevelopment and postdevelopment. The proposed development may result in flooding on the adjacent State Highway property and may increase flooding on land N/F Town of Needham and land N/F Greendale Avenue Worship Center.

- Some of the existing sub-catchment areas shown on the pre development collection of stormwater are arbitrarily designated. As a result the applicant’s revised analysis skews the existing flow off the property. The predevelopment catchment areas need to be redrawn.
- Drainage appears to be entering the site from Greendale Avenue at two locations. Provisions must be made to accommodate this stormwater flow.
- The applicant has adjusted the pond configurations based on revised topography.
- One of the existing sub-catchment design points (1R) is located beyond the property thereby skewing the report to reflect post-development mitigated flow conditions that the applicant has no control over.
- The revised analysis indicates that the existing “Soil Hydrologic Group” categories on the site have been corrected.
- Time of concentration used for post development conditions were direct entry values. The report should provide some justification for the time of concentration used or show the direct entry values were calculated.
- For post-development stormwater mitigation, the analysis indicates that a greater storage capacity was used in the infiltration chamber calculations than that provided for on the plans and details. Furthermore, it appears that the design is relying on storage above the actual discharge points, indicating that the system is designed to surcharge. The stormwater analysis must be revised so they do not conflict with each other. The stormwater storage system should not be designed to surcharge.
- The void space percentage used in the storage calculations should not exceed 35% based on the proposed crushed stone gradation.
- Post construction catchment areas do not conform to standard engineering practice and must be designed to determine whether the post development condition will result in flooding offsite for all storm events analyzed. Roof lines must be considered and drainage must be provided in the courtyard and pool areas.

- As part of the NPDES requirements, the applicant must comply with the Public Outreach & Education and Public Participation & Involvement control measures. The applicant shall submit a letter to the town identifying the measures selected and dates by which the measures will be completed in order to incorporate it into the Zoning Board's decision.
- The applicant is required to comply with the Memorandum of Understanding signed by the Town with the EPA. The Massachusetts Stormwater Management Policy applies.

Layout Plan Sheet C-2:

- The Layout Plan has been revised to show the Town's existing 20' wide sewer easement crossing the properties.
- The boundary lines and area of the properties have not been established.
- A reinforced concrete culvert is proposed within a portion of the existing sewer easement. The culvert will prevent access to the Town's sewer main.
- The driveway width has been increased to 24 ft. (18 ft minimum where no parking is allowed)
- The revised design provides the ability for fire truck based on a 50' design vehicle at various hinge points on site. (horizontally)
- Overall dimensions of the proposed buildings have been provided on the revised plans.
- The driveway curb roundings are too sharp to accommodate the speed of traffic on Greendale Avenue (50 mph).

Grading and Drainage Plan Sheet C-3:

- The grade of the two driveway accesses from Greendale Avenue to the main site drive is unsafe. The slope is too steep for emergency vehicles to access under emergency conditions. The two access drives from Greendale Avenue to the main site drive must be redesigned.
- There is a proposed puddle in front of the townhouse located northerly of the southernmost driveway access.
- There is a proposed 1:2 (Vertical : Horizontal) slope proposed immediately adjacent to the access drive near Route 128 at the sewer easement. The design creates a safety problem for pedestrians and inhibits access to the trail network.
- The handicap accessible surface parking space and accessible route exceeds 2% slopes near the southerly access drive entering the site.
- No details have been provided for the retaining wall adjacent to Building A. The wall is structurally significant and will require a building permit to construct. The wall and building is likely to be impacted by access to the sewer main
- The design indicates that grading and public shade tree removal will be required within the Greendale Avenue public right of way to support the proposed design (at the site drive entrances).
- There is a proposed point source stormwater discharge from the property onto Route 128. No easement has been provided to accommodate the discharge.

Utility Plan Sheet C-4:

- The gas lines must be located away from the electric lines by at least 5 feet.
- The water, drain, sewer, gas and electric lines must be separated by at least 5 feet. Water and sewer lines must be separated by at least 10 feet.
- Plans do not call for emergency generators or transformers. If emergency generators and transformers are proposed, they should indicated on the plans

Landscape Plans Sheet L-1:

- Landscape plans show existing trees to be removed in the Right of Way of Greendale Avenue and replaced with proposed trees. Public shade tree removals require permission from the Tree Warden and Board of Selectmen to be removed.
- Landscape plans show proposed trees to be planted directly over the utilities and on top of the walls. The design must be revised to show the trees planted a minimum of 10 feet from the utilities and walls.
- Landscape Plans show trees and other plantings within the area that is designated for snow disposal.

Other Comments:

- The design shows a Semi-Public Pool for the site that is subject to Department of Health Regulations requiring showers and sanitary facilities for the pool. These areas have not been shown on the plans. The backwash for the pool is required to employ separators if diatomaceous earth is used, de-chlorination facilities if the discharge is directed to the stormwater system and/or a connection to the sanitary system if approved by the Board of Health and Plumbing Inspector. We recommend that the Board of Health and Plumbing Inspector review the plans to determine compliance requirements.
- No office space, tool/parts storage, or equipment storage has been provided for the proposed development.
- The design indicates that more than 50,000 GPD will be generated and discharged into the town's sewer system considering the above requirements. A DEP Sewer Connection Permit will be required.
- The MassHousing Project Eligibility (Site Approval) Application letter recommended that the following issues be addressed in the application to the Board of Appeals for a Comprehensive Permit and prior to the applicant's submission to MassHousing for Final Approval:
 1. A detailed traffic study assessing potential impacts to the town's roadways and appropriate mitigation. The rest of the traffic study was submitted yesterday to the Board of Appeals. More time for the Town is required to analyze the study.
 2. A revised Stormwater Management plan is required to be submitted.
 3. Confirmation of the geotechnical findings of the site since the initial application to MassHousing have not been submitted to the Board of Appeals for review as recommended.
 4. Building and site design measures to address noise exposure and noise attenuation measures have not been submitted for review.
 5. Details regarding the site amenities, playgrounds, community rooms, outdoor seating areas and specific information regarding pedestrian links to nearby conservation areas have not been submitted to the Board of Appeals as recommended by MassHousing. There is no walkway to the trail network and a guard rail and steep slope is preventing pedestrian access.

The review indicates that the site as currently designed is not capable of supporting the level of development proposed for it.

Additional review will be required should the plans be revised.

If you have any questions regarding the above, please contact our office at 781-455-7550.

Truly yours,

Anthony L Del Gaizo
Town Engineer

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