



City of Cambridge
Department of Public Works

Owen O'Riordan, Commissioner

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November 28, 2017

TO: Planning Board

FROM: Katherine F. Watkins, PE
City Engineer

RE: Vassar Street Undergraduate Residence Hall Special Permit Application

We are in receipt of the Planning Board Special Permit submission for the Vassar Street Undergraduate Residence Hall at 121-169 Vassar Street, dated November 8, 2017.

The DPW has met with the Applicant, MIT, and their consultant team to review the proposal for the work. The Applicant and their consultant team have demonstrated a general understanding our Department's requirements for development projects and have indicated a willingness to work with the DPW to meet the requirements and to address our concerns.

Generally, the DPW, based on the provided documentation, does not anticipate the project having any issue meeting all of the requirements of the DPW with the understanding that the project will be subject to a through and complete engineering review at the time of the Building Permit Application. Issues that have been discussed have been highlighted below.

Stormwater Management:

Under the City Land Disturbance Regulations because the project requires a Special Permit from the Planning Board, the Applicant will need to obtain a Stormwater Control Permit from the Department of Public Works.

The City requirements cover the design standards and long term operation and maintenance of a management system for the project site, as well as the construction phase erosion and sedimentation control plans. Specific permit requirements include, but are not limited to, documentation of:

1. A stormwater management system that:
 - a. reduces the peak rate of runoff from the post development 25-year storm event to the rate of the existing 2-year event.
 - b. makes improvements to the quality of the stormwater runoff including an 80% reduction in the amount of Total Suspended Solids and 65% reduction in the Phosphorus load.

2. A plan for erosion and sedimentation controls and BMP's for the construction phase of the new development.
3. A plan outlining the long term operation and maintenance procedures of the designed system to ensure sustained operation of the system into the buildings future.

The DPW will review the Stormwater Control Permit and work with the Applicant to make sure that all permit requirements, including but not limited to those listed above, are met.

Climate Change / Resiliency:

The Applicant has been asked to address flood level impacts and building resiliency associated with increased flood elevations presented in the November 2015 *Climate Change Vulnerability Assessment*. Flood Elevations associated with the projected 2070 10-year storm and 100-year storm events have been provided to the Applicant and are also provided below.

Location Name	2070 10yr precip	2070 100yr precip
125 Vassar	19.3 CCB	20.3 CCB
169 Vassar	n/a	20.2 CCB

Discussions and graphics included in the Special Permit Application acknowledge the provided elevations and commit to designing a facility that is consistent the goals of the study. Some of the proposed mitigation measures to minimize impacts of future flooding include:

1. Occupied spaces being established above the 2070 100-year storm event elevation
2. Building mechanical systems will be elevated above the 2070 100-year flood elevation.
3. No basement space is proposed.

The DPW will continue to work with the Applicant to ensure the final design is meeting the City requirements for building resiliency.

Other Public Infrastructure:

The Applicant commits to working with the City of Cambridge DPW and other departments as the design specifics for the development are progressed. Significant impacts, both permanent and during construction are anticipated within the public right-of-way. Discussions have commenced with the Applicant, their consultants and contractors to begin to identify and address concerns. DPW will continue to review and evaluate all proposed work and impacts in the public right of way, as the design is developed. Some items worth noting include:

1. The Development will be required to remove inflow/infiltration (I/I) from the City sewer system at a rate of 4 times the projects added wastewater generation. The DPW will work with the Applicant to confirm the required removal volume. The Applicant is committed to completing the required I/I removal through the Talbot Street project in conjunction with other MIT developments.
2. There has been numerous discussions with the Applicant and their construction management team related to the projects potential impacts to street trees as a result of construction logistics for the new dorm building. The Applicant and their team have worked hard to minimize impact to the existing street trees while establishing the structure on a site with numerous constraints.

At a November 17th, 2017 meeting with Applicant, the City Engineer and the City Arborist, the Applicant made a compelling case that three (3) Street Trees along the project frontage should be considered for removal to facilitate the project. The City Arborist agreed to schedule a tree removal hearing in December. The Applicant proposes the following as mitigation for the requested removals:

- a. Trees will be replanted, to replace lost caliper inches, along Vassar Street in the vicinity of the project. While replanting is the goal, if the caliper inches replacement cannot be met, a contribution to the tree fund would be required.
- b. Applicant will commit to replacing 5 trees on other sections of Vassar Street that have been removed due to poor health. The Applicant will work with the City Arborist to establish a replanting plan and schedule which shall include investigations into why the previous trees went into decline.
- c. Per the Applicants Contractor's plan, street trees to remain during construction will be protected and maintained during the entire duration of construction.

We look forward to working with the Applicant and other City Departments on this project. Please feel free to contact me with any questions or concerns related to the comments or information provided above.

Sincerely,



Katherine F. Watkins, P.E.
City Engineer

Cc: David Lefcourt, City Arborist