



CITY OF CAMBRIDGE

Community Development Department

To: Planning Board

From: CDD Staff

Date: June 15, 2021

Re: Special Permit PB #371, 269-301 Vassar Street – Continued Hearing

Submission Type: Special Permit Application

Applicant: Massachusetts Institute of Technology

Zoning District(s): Special District 6 (SD-6) and Special District 11 (SD-11)

Proposal Summary: Construction of two dormitory buildings totaling 328,050 square feet of graduate student housing as well as 345 long-term and 35 short-term bicycle parking spaces.

Special Permits Requested: Special Permit to increase building height to 105 feet in SD-6 (Section 17.63.2(b)), Special Permit to increase building height to 100 feet in SD-11 (Section 17.203.2), Project Review Special Permit (Section 19.20), Special Permit for reduction of required off-street parking (Section 6.35.1), and Special Permit for reduction of Green Roofs Requirement (Section 22.35.3). *A summary of the applicable special permit findings is listed on the following page. Applicable sections of the zoning are provided in an appendix.*

Other City Permits Needed: BZA Variance for yard setbacks, Certificate of Appropriateness from Cambridge Historic Commission (CHC)

Planning Board Action: Grant or deny requested special permits.

Memo Contents: Review of area planning and zoning, comments on proposal addressing planning, zoning, and urban design.

Other Staff Reports: Traffic, Parking and Transportation Dept. (TP+T), Department of Public Works (DPW), in separate documents for previous hearing.

IRAM FAROOQ
Assistant City Manager for
Community Development

SANDRA CLARKE
Deputy Director
Chief of Administration

KHALIL MOGASSABI
Deputy Director
Chief of Planning

Requested Special Permits	Summarized Findings <i>(detailed zoning text on following pages)</i>
Project Review Special Permit (Section 19.20)	<ul style="list-style-type: none"> • The project will have no substantial adverse impact on city traffic within the study area, upon review of the traffic impact indicators analyzed in the Transportation Impact Study and mitigation efforts proposed. • The project is consistent with the urban design objectives of the City as set forth in Section 19.30.
Special Permit to reduce required parking (Section 6.35.1)	<p>Lesser amount of parking will not cause excessive congestion, endanger public safety, substantially reduce parking availability for other uses or otherwise adversely impact the neighborhood; or will provide positive environmental or other benefits to the users of the lot and the neighborhood, including assisting in provision of affordable housing units.</p>
Special Permit to increase building height in SD-6 (Section 17.63.2(b))	<ul style="list-style-type: none"> • The height of the other buildings or portions of buildings constructed in the district is reduced to significantly below the one hundred (100) foot height permitted as of right. • In the vicinity of Fort Washington buildings are constructed below the one hundred (100) foot height permitted or green space is created so as to increase the views from Fort Washington across the MIT campus to the river and to the Boston skyline beyond. • The view corridors along residential Cambridgeport streets, such as Erie and Pacific Streets, are uninterrupted by buildings, wherever possible. • Green space is created in the district at grade where it can be visible to the general public. • The buildings are distributed in the district so as to create a visual penetration as viewed from the residential Cambridgeport neighborhood to the MIT campus and to the River Beyond.
Reduction of Green Roofs Requirement (Section 22.35.3)	<p>The Planning Board may grant a special permit to reduce the required Green Roof Area, Biosolar Green Roof Area, or Solar Energy System below the area required by Section 22.35.2, provided that each square foot so reduced be compensated by a unit price contribution to the Cambridge Affordable Housing Trust.</p>
Special Permit to increase building height in SD-11 (Section 17.203.2)	<p>Special permits will be normally granted if the zoning requirements are met, unless it is found not to be in the public interest due to one of the criteria enumerated in Section 10.43:</p> <p>(a) It appears that requirements of this Ordinance cannot or will not be met, or</p> <p>(b) traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character, or</p>

Requested Special Permits	Summarized Findings <i>(detailed zoning text on following pages)</i>
General Special Permit Criteria (Section 10.43)	<p>(c) the continued operation of or the development of adjacent uses as permitted in the Zoning Ordinance would be adversely affected by the nature of the proposed use, or</p> <p>(d) nuisance or hazard would be created to the detriment of the health, safety and/or welfare of the occupant of the proposed use or the citizens of the City, or</p> <p>(e) for other reasons, the proposed use would impair the integrity of the district or adjoining district, or otherwise derogate from the intent and purpose of this Ordinance, and</p> <p>(f) the new use or building construction is inconsistent with the Urban Design Objectives set forth in Section 19.30.</p>

19.30 Citywide Urban Design Objectives [SUMMARIZED]

Objective	Indicators
New projects should be responsive to the existing or anticipated pattern of development.	<ul style="list-style-type: none"> • Transition to lower-scale neighborhoods • Consistency with established streetscape • Compatibility with adjacent uses • Consideration of nearby historic buildings
Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.	<ul style="list-style-type: none"> • Inhabited ground floor spaces • Discouraged ground-floor parking • Windows on ground floor • Orienting entries to pedestrian pathways • Safe and convenient bicycle and pedestrian access
The building and site design should mitigate adverse environmental impacts of a development upon its neighbors.	<ul style="list-style-type: none"> • Location/impact of mechanical equipment • Location/impact of loading and trash handling • Stormwater management • Shadow impacts • Retaining walls, if provided • Building scale and wall treatment • Outdoor lighting • Tree protection (requires plan approved by City Arborist)
Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.	<ul style="list-style-type: none"> • Water-conserving plumbing, stormwater management • Capacity/condition of water and wastewater service • Efficient design (LEED standards)
New construction should reinforce and enhance the complex urban aspects of	<ul style="list-style-type: none"> • Institutional use focused on existing campuses • Mixed-use development (including retail) encouraged where allowed

Cambridge as it has developed historically.	<ul style="list-style-type: none"> • Preservation of historic structures and environment • Provision of space for start-up companies, manufacturing activities
Expansion of the inventory of housing in the city is encouraged.	<ul style="list-style-type: none"> • Housing as a component of large, multi-building development • Affordable units exceeding zoning requirements, targeting units for middle-income families
Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.	<ul style="list-style-type: none"> • Publicly beneficial open space provided in large-parcel commercial development • Enhance/expand existing open space, complement existing pedestrian/bicycle networks • Provide wider range of activities

Update

Since the last Planning Board meeting on February 16, 2021, the Applicant has worked with staff to respond to comments and questions raised in the initial review of the application. The Applicant’s recent submission provides a revised set of plans and additional information about the project in narrative and graphic form. This memo comments on the additional information and proposed changes and is supplementary to CDD’s initial memo on this proposal.

Planning Board Action

The current Application (as revised) consists of two separate buildings, a “West Building” and an “East Building,” flanked in the middle by a central plaza that will create a connection between Fort Washington Park, the Grand Junction Multi-Use Path, and Vassar Street. The development will consist of approximately 328,050 square feet and 690 beds, of which the West Building contains 168,000 square feet and 355 beds and the East Building consists of 160,050 square feet and 335 beds.

The Applicant is seeking many Special Permits from the Planning Board as noted in the table above. Applicable sections of the zoning are provided in an appendix.

Planning Board Comments from the First Hearing

The following summarizes some of the key comments made by the Planning Board at the hearing on 2/16/2021 in addition to comments from staff memos:

- Planning Board members were generally supportive of the proposal and the addition of dormitory housing to accommodate the present and future needs of MIT graduate students.
- Planning Board members did not oppose the proposed height of the buildings or the reduction in off-street parking for the proposed development.
- Planning Board members felt that the architectural design of the proposed buildings could be vastly improved and better showcase the civic identity of the City of Cambridge and the institutional values of MIT.

- Planning Board members were interested in seeing more details of how the proposed Central Plaza open space would meet the Grand Junction railroad crossing and connect to Fort Washington Park. Of particular interest to the Planning Board was how the orientation of the Central Plaza would align with the orientation of Fort Washington Park.
- Some Planning Board members desired to see a larger Central Plaza between the proposed buildings.
- Some Planning Board members did not support the proposed mesh screening of the rooftop mechanicals.
- Planning Board members were interested to know more about how the existing MIT shuttle service would accommodate future needs of residents at the proposed buildings.

CDD Staff Comments on New Materials

Planning and Zoning

Since the last Planning Board hearing, the Applicant has revised the application and proposed design of the buildings to be responsive to many of the concerns and questions raised by the Planning Board, members of the public, and City staff. The following specific changes have been made to the application:

- The façade material of the proposed buildings has been modified from a precast brick cladding to a folded metal panel rainscreen, while the ground story has been changed to brick.
- The windows have been increased in size to achieve a more vertical proportion.
- The color of the proposed brick on the upper story low bars has been brightened, and the window surrounds have been further refined.
- Additional curtainwall glazing has been incorporated into the façade, with particular focus at elevator lobbies, corridors and stairs in order to break up the façade's massing and increase transparency of interior active spaces.
- Interior common spaces have been further oriented towards the Central Plaza and Vassar Street frontage in order to maximize ground story activity and permeability.
- The Central Plaza has been further refined to increase its visual and physical access between the MIT lawn, Vassar Street, and Fort Washington Park and provide a stronger sense of public access.

Dimensional Changes

The overall development has not significantly changed from a programmatic perspective. With the exception of an additional special permit being requested for reduction in the required Green Roof Area under Section 22.35.3 (described below), no additional relief is required in the revised application from the original filing in late 2020. The total proposed gross floor area has increased by 1,050 square feet. The proposed floor area ratio, building heights, yard setbacks, off-street parking, loading and bicycle parking remain the same. The overall proposed number of beds also remains the same – 355 in the West Building, and 335 in the East Building.

Green Roofs Ordinance

The applicant acknowledges the recently adopted Green Roofs Requirement, which requires that 80% of available roof area be devoted to Green Roof Area or Biosolar Green Roof Area for any new buildings of at least 25,000 square feet for particular uses, including educational purposes.

The proposed project includes 44,971 square feet of total roof area. After rooftop mechanical exemptions of 21,425 square feet and 1,462 square feet dedicated to resident roof terraces, there remains 22,084 square feet of roof area subject to the Green Roofs ordinance. In the revised application, the applicant shows 10,928 square feet (approximately 49.5%) of Green Roof Area coverage. For the remaining 30.5% of roof area subject to the Green Roofs ordinance, the applicant has requested a special permit exemption from the Planning Board pursuant to Section 22.35.3.

The Planning Board may grant a special permit to reduce the required Green Roof Area on the condition that “each square foot so reduced be compensated by a unit price contribution to the Cambridge Affordable Housing Trust,” to be used to install green roofs or solar energy systems on affordable housing developments. The City is beginning a process to determine the average cost of green roof design, installation, and maintenance in order to calculate the required contributions, which will likely be completed later this year.

Traffic, Parking & Transportation (TP&T) Considerations

Since the last Planning Board hearing, the applicant has worked with City staff in the Traffic, Parking & Transportation Department as well as the City’s Environment and Transportation Division to further refine the design of the proposed Vassar Street cycle track, Vassar Street improvements, and proposed Central Plaza design. Staff expects further refinements of these designs and improvements to be a part of continuing review if the Planning Board grants the requested special permits.

Urban Design

CDD and CHC staff met with the MIT design team to address the Planning Board comments from the hearing. The two main issues that were discussed at the Planning Board included:

- Overall building(s) façade appearance. This primarily focused on façade coloration and material. The Board expressed its concern about the overwhelming color representation in the renderings--dark red and dark grey brick color that clad both towers and low bar buildings.
- Central Plaza landscape design and open space relationship to the context. This concerned the Central Plaza’s visual and physical connection to the Historic Fort Washington Park; and its private vs public use/activity and access.

The MIT design team has made some substantial changes in their revised submittal to address the Planning Board’s main concerns. The design revisions included changes in material color, selection and additional refinements in building elevations. The most prominent revisions were changes from brick to metal panel cladding material and an expanded curtain wall system on the East and West Towers. In addition, there were revisions to the cycle track, curb locations, and an additional 1,050 SF GFA floor space. The Central Plaza space was refined by organizing and re-aligning landscape elements and site

furniture to provide great clarity to context and a more visible connection for public access through the space. Below are UD staff commentary and discussion points related to the major design items.

East and West Tower Facades

The East and West Tower facades are now clad in metal panel rainscreen with a lighter shade of red brick than the dark red color used in the original brick panel system. The color renderings appear to represent the metal panel as a light shade of tan or sand color.

Vertical and horizontal metal panel joints articulate and modulate the surfaces and provide visual scale and relationship to the Low Bar buildings.

The repetitive flared and inclined recesses for the punched-in-windows is a positive expressive feature of the architectural treatment for window openings offered to each individual living unit. The individual window glazing appears larger than in the original scheme.

Most common areas including elevator lobbies, lounges, staircases, and corridor ends are now expressed on the building exterior. The interplay of curtain wall and metal panel surfaces adds visual interest to the Tower facades. These expanded curtain wall glazing areas of the facades act as desirable ‘fissures’ of transparency and connectivity in the overall design. The elevator lobbies, corridor ends, and staircases have generous transparent glazing area adding contrast, and an enhancement in daylighting and views. Some of the interior circulation and common areas are open to floors below.

The curtain wall glazing also serves to delineate between building surfaces, forms, and massing. The design qualities of the curtain wall, transparent and spandrel glass seamlessly blend the metal cladding surfaces of the East and West Towers with brick clad of the Low Bar buildings. The transparent glass enhances the exterior/interior relationship and supports occupants’ health and wellbeing.

East & West Low Bar buildings

The Low Bar buildings continue to anchor the street wall by their elegance of urbane scale, texture, and materials. Clad in a lighter variety of grey brick color, the Low Bar building façades almost glitter with the multiple shades of charcoal and grey brick. The facades’ two-story brick infill, articulated with an approximately 4-inch brickwork reveal in a lighter grey tone, stands out as a frame around the two-story window openings--encompassing a window from the lower and upper level with the metal spandrels. The color renderings of the elevation detail of the modular brick 1 & 2 represent a lighter shade of brick color.

Low Bar Building Facades facing Central Plaza

Staff believes the two facades facing the Central Plaza could be animated further with greater dimensionality and color. As a backdrop for the Central Plaza space, the facades could offer a colorful setting and surface reflections with more curtain wall system and providing access to views and daylighting to more residents. Programmatically, this could be accomplished by expanding multiple common area spaces of a modest size facing the Central Plaza at levels 2-6. Staff is cognizant of MIT’s commitment to maximize the number of units but believes the number of bedrooms can be recovered elsewhere at MIT.

Central Plaza

The revised Central Plaza's landscape scheme provides more visually open space at the center of the plaza. Trees are grouped in small clusters along the Plaza's main path rather than the more random placement that characterized the previous scheme. The revised tree placement provides a few additional feet of clearance between groupings and opens up the tree canopy along the entire length of the Plaza. This adds to the sense of openness and creates a stronger visual link between Vassar Street public access to the Plaza and the Grand Junction pedestrian crossing. The scheme also adds 1080 square feet to the publicly beneficial open space and 300 SF of planting area.

The proposed Central Plaza space continues to be a critical piece for the MIT Graduate dormitory and part of the West campus open space planning strategy. It provides an access and connection for pedestrians and bicyclists between Vassar Street and Fort Washington Park, Grand Junction Multi-Use Path, and the Cambridgeport neighborhood. The Plaza's center point roughly aligns with the extension of both the existing rail crossing path and the Plaza's entry point from Vassar Street curb extension.

Visual mock-up and material samples

CDD and CHC staff will continue the follow-up discussions with the MIT design team to work on any details or refinements the Planning Board deem necessary. As part of the continued design review, staff would like to get more information about the design development details. For example, it is not clear how the different inclined and angled metal panel surfaces *join* each other at the window recesses and corners on the East and West Towers. Large expanses of metal panel must be of sufficient gage thickness to eliminate the potential of an 'oil canning' effect, a distracting visual effect often caused by lower gage metal panel and improper installation.

Generally, staff believes that metal panels with thicker gage such as ALUCOBOND flat aluminum sheet, or aluminum composite material (ACM) could be an option to provide a crisp and sharp appearance to avoid the oil canning potential.

Staff is unclear whether the two-window with metal panel spandrels on the Low Bar buildings are part of one unitized system.

Staff recommend that brick and metal panel samples be provided to CDD as soon as available. This would assist the design review team's confirmation of actual colors, materials, and finishes.

Continuing Review

The following is a summary of issues that staff recommends as conditions for ongoing design review by staff if the Board decides to grant the special permit:

- Continuing urban design review including the following items:
 - Green roof access, mechanical screen wall material, rooftop equipment, and mechanical doghouse.
 - Central Plaza details related to site furnishing including pedestrian lighting, pavement materials and pattern, and color schemes.
 - Central Plaza path design to ensure safe and unobstructed travel routes for people walking and bicycling.

- Grand Junction Multi Use Path fence design.
- Vassar Street public realm design, including grade-separated cycle track, sidewalks, trees, curb cut design and curb access.
- Final determination of the Bluebikes station location.
- Final determination of the proposed MBTA bus stop along Vassar Street.
- Review of façade design details, especially the ground floor details, material transitions and reveals, and window specifications.
- Review of all exterior materials and colors, including a materials mock-up of all wall assemblies on the site prior to any exterior materials being ordered.