CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT

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To: Planning Board

From: CDD Staff

Date: December 29, 2015

Re: **PB #302 and #303 – MIT "NoMa" and "SoMa" Final Development Plans**

Update

On January 5, the Planning Board will open the second phase of public hearings on two Planned Unit Development (PUD) proposals in the PUD-5 District, one located North of Main Street ("NoMa") and the other South of Main Street ("SoMa"). Both PUDs are part of a concept plan to redevelop land owned by the Massachusetts Institute of Technology (MIT) in Kendall Square. This plan has been under discussion since 2010 and the zoning for the PUD-5 district was adopted in 2013 following the completion of the Kendall Square Central Square (K2C2) Planning Study and Design Guidelines.

These two Development Proposals were heard by the Board on September 8, 2015, and the Board made a Preliminary Determination granting conditional approval (attached). According to the PUD review procedures in Article 12.000 of the Zoning Ordinance, after the Preliminary Determination is made, the Applicant provides a revised Final Development Plan, which is reviewed at a second hearing.

Final Development Plan Review

While the prior review considered the overall consistency of the proposal with plans and guidelines for the area, the second stage of review considers the particular elements of the development plan for consistency with applicable plans and guidelines as well as responsiveness to the comments made in the Preliminary Determination.

Because each PUD proposes over 50,000 square feet of new construction, each is also subject to Project Review Special Permit approval. When making a decision, the Board will apply the transportation impact criteria and urban design criteria in Article 19.000 of the Zoning Ordinance along with the criteria for approval of a PUD special permit (all described on the following page). As discussed further below, the NoMa application also cites the Flood Plain Special Permit requirements.

The upcoming hearing will be an opportunity for MIT to describe their plans in greater detail and to address some of the questions raised at the first hearing. It is expected that more time will be needed to refine certain elements of the plan. In this memo, staff comments on the additional material provided in the Final Development Plans and raises some additional points that will require further discussion.

The ultimate goal of the review is for the Board to reach a decision on a phased development plan that clearly describes the development authorized on each component site, a program of measures to mitigate impacts and provide public benefits, and processes for ongoing review and consideration of plan amendments over time.

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Requested Action	**Required Findings (Summarized)** (see appendix for zoning text excerpts)

Approval of a PUD Final Development Plan (Section 12.35.3)	The PUD Final Development Plan:
	• Conforms with general PUD development controls and district development controls.
	• Conforms with adopted policy plans or development guidelines for that portion of the city (refer to K2 study and *Kendall Square Design Guidelines*).
	• Provides benefits to the city which outweigh its adverse effects, considering:
	  ○ quality of site design
	  ○ traffic flow and safety
	  ○ adequacy of utilities and other public works
	  ○ impact on existing public facilities
	  ○ potential fiscal impact
	• Contains revisions to the Development Proposal in response to the Preliminary Determination.

Project Review Special Permit (Section 19.20)	• 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 *(see attached for details)*.
Flood Plain Overlay District (Section 20.70) ***PB #302 (NoMa) ONLY – See Page 5***	• No filling or other encroachment in Zone A areas which would impair the ability to carry and discharge flood waters, except where offset by stream improvements. • Displacement of water retention capacity shall be replaced in equal volume. • Flood water retention systems are suitably designed and located so as not to cause any nuisance, hazard, or detriment. • Certification and supporting documentation by a Massachusetts registered professional engineer demonstrating no increase in flood levels during the occurrence of the 100-year flood.

Special Permit Conditions for a PUD Final Development Plan

Granting a PUD special permit, like any special permit, involves making a series of findings based on the criteria in the zoning. However, the conditions of a PUD special permit tend to be more complex because a PUD may involve phased development on a number of sites over a longer period of time. According to the zoning, the Permittee must agree in writing to the conditions in a PUD special permit when it is granted.

Typical conditions for a multi-phased PUD special permit cover the following range of topics:

- **Overall Development.** Approves the development concept as a whole, including the extents of the development parcel, aggregate Gross Floor Area (GFA), mix of uses, and amount of open space.
- **Component Development.** Approves the arrangement of individual building sites (including open space and parking) within the development parcel, with the authorized uses, GFA, height, setbacks and open space on each.
- **Site Plan.** Authorizes basic site design parameters as set forth in the Final Development Plan such as circulation, access and egress for pedestrians, bicycles and vehicles, as well as loading and access for other service functions, for each site and the development as a whole.
- **Ongoing Detailed Design Review.** Because development is permitted as a multi-site phased master plan, the Board may establish a process for ongoing review of the detailed design for each site. Final designs could be subject to future Planning Board approval (as a matter of general business) or staff review and certification, depending on the Board's level of comfort with the advancement of the designs in the Final Development Plan. Different procedures could be applied to different component sites, and additional review could be required if future design changes are proposed. The conditions might also identify particular aspects of the designs that require ongoing review, including (but not limited to) façade materials, screening of mechanical systems, sustainable design elements and landscaping.
- **Parking.** Total authorized minimum and maximum accessory parking for the development, including any off-site parking. May include more detailed conditions on how the parking may be used, such as the assignment of spaces to different uses, including off-site uses (if allowed).
- **Transportation Management/Mitigation.** Measures that are required to mitigate the transportation impacts of the project, including public improvements to improve transportation systems in the area as well as programmatic requirements incorporated into the project itself, would be specified and could be targeted to particular phases of the development. Large projects may also require monitoring and reporting of transportation impacts over the course of the project.
- **Infrastructure.** The special permit may specify necessary public infrastructure improvements and connect them to particular phases of the project. (In this case, the Department of Public Works has outlined the requirements in a memo provided to the Planning Board, which would apply at the building permit stage of each phase of development.)

- **Other Mitigation or Public Improvements.** There may be conditions related to other topics such as noise and wind mitigation, retail and open space programming, or other issues depending on the requirements in the PUD zoning, the particular characteristics of the project and issues that were raised during the public hearing.
- **Phasing.** One of the most unique and important elements of a PUD special permit is that it approves the overall phasing of the development. The intent is not to specify the exact timing of each stage of development, though a total timeframe for project completion is usually set, which could be "renewed" by the Planning Board in the event that the pace of development slows due to unforeseen circumstances). The intent is to specify an overall framework by which residential and commercial development, mitigation measures and public improvements will be tied together into a predictable development sequence. Phasing could be established based on the completion of development sites or based on other "milestones" such as the amount of total development or development of particular uses. Alternative phasing options could be approved in the conditions, and future changes to the phasing could be authorized as Minor Amendments (see below).
- **Amendments.** The zoning allows for PUD Final Development Plans to be modified over time by approval of Major or Minor Amendments. This is crucial because it is typical for long-term PUD developments to be amended many times over the course of development. Minor Amendments may be approved by a written determination of the Planning Board (without requiring a new special permit), while Major Amendments require a new special permit process with two public hearings and a special permit decision. The conditions of a PUD special permit may specify a range of modifications that could be approved as Minor Amendments.

Flood Plain Considerations

The NoMa application cites the Flood Plain Special Permit requirements, because according to FIRM maps published by FEMA, it appears that the area around the Broad Canal is included within Flood Zone AE. However, the applicant's civil engineer has indicated in a letter attached to the application that the site is entirely above the 100-year flood elevation. While the applicability of the Flood Plan Special Permit criteria is not entirely clear, the Board is nonetheless being asked to affirm that the proposal does not violate the zoning requirements for development in a flood plain.

Comments on Final Development Plans

The previous staff memos (attached, with the Preliminary Determination) discussed how the NoMa and SoMa proposals respond to the PUD-5 zoning requirements, which are based on the City's "K2" study for Kendall Square undertaken in 2011-2012. The Planning Board's Preliminary Determination found that the PUD proposals conform, in concept, to the PUD-5 requirements and the objectives of the K2 study. The proposals will provide capacity for future economic development in Kendall Square, provide housing in excess of the required minimum, front buildings with continuous active ground floor uses and provide publicly accessible open space. Furthermore, the proposals will result in a net increase in student housing (which is incentivized in the PUD-5 zoning), retain historic buildings along Main Street, and introduce a community-oriented institutional presence to the area with the MIT Museum.

The Preliminary Determination, along with prior staff memos (provided as a supplemental appendix), raise a set of issues to be discussed in further detail in the Final Development Plan review. For convenience, staff has grouped those issues into the broad categories listed below.

- Site Design, Circulation, Open Space
- Building Design
- Transportation Impacts & Mitigation
- Sustainability
- Housing
- Active Uses & Innovation Space Programming
- Infrastructure (discussed in DPW memos dated September 1, 2015)

The Final Development Plan submissions have been reviewed by CDD staff from the Community Planning Division, Environmental & Transportation Planning Division, Economic Development Division and Housing Division, in collaboration with staff in the Traffic, Parking and Transportation Department (TPT). This group has provided initial comments on all of the above topic areas except for Infrastructure, which is being reviewed separately by the Department of Public Works (DPW).

These comments on the Final Development Plans focus on the particular elements of the project and how it responds to the Preliminary Determination as well as the specific objectives, guidelines and criteria for review of a PUD plan in Kendall Square.

While the Final Development Plan submissions are comprehensive, the staff comments are still somewhat general at this time because there are some details about the development plan that have not been fully resolved. Staff expects to continue discussing the plan's details until a future continued hearing, at which the Board can make specific findings on the special permit criteria and arrive at an appropriate set of conditions that would authorize and regulate the development as it proceeds over time.

Topic Area	Issues Raised in Prior Hearing (Broadly Summarized)
Site Design, Circulation, Open Space	• Pedestrian and bicycle connections, particularly between NoMa and SoMa, to/from parking areas, to/from surrounding public spaces such as Point Park and Charles River. • Design and function of private vs. public streets, more detail on "shared street" approaches. • More detail on proposed MBTA headhouse reconstruction, consider improvements to other headhouses. • Patterns of vehicular circulation, parking and loading. • More perspective views of streetscape and open space from different vantage points. • More detail on landscape elements/amenities including lighting, tree canopy, plant species, water management, heat island mitigation, public art, wayfinding, bicycle parking and Hubway.
Building Design	• Discuss overall urban design approach and how it contributes to the quality, character and vitality of Kendall Square. • Detail elevations and façade materials, particularly at ground floors. • More perspective views from different vantage points, cross-sectional views, skyline views of building massing and design. • Consider ways to better articulate building massing. • Show tops of buildings, views impacted by mechanical equipment or exposed parking. • Provide studies of shadow and wind impacts.
Transportation Impacts & Mitigation	• Red Line capacity/reliability issues are a major concern. • Rationale for amount of parking proposed, including relocated parking. • Response to suggested transportation demand management (TDM), mitigation and infrastructure measures (from TPTD report).
Sustainability	• Response to Net Zero Action Plan objectives. • Further discussion of district energy. • Impact of glass façade design approach on sustainability goals.
Housing	• Housing affordability mix, including potential for middle-income units. • Mix of unit sizes and types, with particular focus on 3-bedroom units.
Active Uses & Innovation Space Programming	• Plan for the operation and programming of open space and retail, with focus on attracting visitors of all ages. • Provide retail consultant recommendation (per zoning). • Provide more explanation of Cambridge Innovation Center operation and how it meets the Innovation Space requirements.

Site Design, Circulation, Open Space

The Final Development Plans expand upon many of the positive features of the site design approach, including the following (which are discussed further in the prior CDD memo):

- Strengthening the urban presence in Kendall Square with buildings and activity, replacing existing surface parking and providing parking and other vehicular access below grade.
- Establishing Main Street as a central activity spine, while retaining and enhancing the historic urban streetwall.
- Activating ground floors with retail and other active uses wrapping around to side streets and open space.
- Creating a welcoming, permeable and vibrant public realm through open space improvements and connections to Main Street and the Broad Canal.

The Final Development Plans provide further information regarding proposed improvements to existing streets, pedestrian and bicycle circulation, and open space design. Some minor changes have been made since the September hearing based on the Planning Board's comments and the Preliminary Determination.

Circulation

A change to the pedestrian connection in front of the Sloan School is proposed to create a more desirable pedestrian connection across Main Street in response to the Board's comments. While the school's ventilation shafts are an obstruction, ensuring more direct physical and visual access would be beneficial, including pushing the corner further east and ensuring that any plantings along that edge are low-lying.

Some aspects of the circulation plan will require more detailed attention. The width of some of the new sidewalks, particularly on Hayward and Wadsworth Streets, is quite narrow for a commercial area. Because these streets provide public access, City departments will need to work closely with MIT in order to resolve the design of each of the streets, including the appropriate allocation of space between different modes and users. Options for widening the sidewalks, narrowing streets or additional building setbacks should be considered.

Another element requiring further attention is pedestrian and bicycle circulation through the open space in the center of the SoMa site. The landscaping elements in the current plan create obstacles that could lead to discomfort and conflicts among pedestrians, bicyclists and other users. Alternative arrangements of landscaping and street furnishing elements could clarify which spaces are meant for moving through and which are meant for "staying" activities. In particular, desired paths for bicyclists moving to, from and through the site should be identified in the plan, along with convenient and desirable locations for bicycle parking that will minimize conflicts with pedestrian movement.

Further details of the proposed MBTA headhouse reconstruction have been provided, with two attractive views between Buildings 4 and 5 submitted. Staff is very supportive of the proposed highly transparent and dynamic canopy form, as well as the use of art and media installations to activate the station. The headhouse location being set back some 50 feet into the SoMa site should be further

studied in terms of visibility and sense of publicness. Additional materials regarding the proposed internal circulation in and around the headhouse will be needed to ensure that pedestrian access is logical and convenient to users from all directions, not just the MIT campus, and particularly for visitors who are not familiar with the area. There also appears to be limited provision of bicycle parking proximate to the T, which should be factored into the plan and reviewed for convenience and visibility.

Additionally, the Final Development Plans illustrate a wayfinding and signage system that appears to be focused on MIT campus information. However, some campus signs are proposed in locations that should have a public emphasis, such as in front of the new T headhouse and the NoMa site. The signage system should be reviewed at an appropriate time to make sure it is designed to promote wayfinding throughout Kendall Square and the surrounding area, not just on the MIT campus. Also, while signage is helpful, connections should be as intuitive as possible without overreliance on signage as the only way for people to find their way to key locations on the site.

Open Space

The open space design has been further developed and more detail provided, including a plantings palette, and lighting and wayfinding strategies. There are still elements of the open space plan that require additional thinking, namely further definition of the public realm, the extent of hard surfaces and programming strategies, as well as minimizing conflicts with pedestrian and bicycle circulation through the plaza (see above). Staff looks forward to working with the project's landscape architect to further develop the open space plan and define more distinctive spaces and experiences throughout the campus.

The proposed introduction of the linear paving treatment in and around Buildings 2 and 5 is problematic, as it appears to privatize part of the Main Street public realm. Continuity of sidewalk design is an important factor in demarcating the public realm, and the City's standard should be continued on Main Street and perhaps expanded to incorporate the new T headhouse. This will be discussed further with City departments along with other proposed improvements to public connections.

Building Design

Massing Approach

Staff has appreciated meeting with the MIT project team, faculty and the design architects for each of the buildings. These meetings have helped staff gain a greater understanding of the overarching design goals for the campus, and insight into the design of each of the buildings. The design strategies employed by each architect and the submittal of additional precedent images, particularly those of cantilevered buildings, has enabled staff to fully comprehend the level of transformation proposed for the site.

The NoMa and SoMa massing strategy is crafted as a collection of volumes manipulated along Main Street to provide light and air, demarcate important thresholds and maintain or enhance noteworthy views. Building height is allocated to the edge of the campus and an open plaza space is maintained within the center. This approach successfully creates a strong built form and reduces the impact of the

new development on the open space, but does unfortunately create some challenges for Main Street and other public spaces in terms of shadows and dominant built form. While the zoning allows buildings at a large scale, more scrutiny is needed to avoid overwhelming Main Street or existing public places such as Point Park. For example, alternative tower placement and massing step backs may provide higher levels of sunlight, and limit the visual and physical presence of built form from the public realm.

While the *Kendall Square Design Guidelines* are not intended to be strict limitations on building form or style, and creative interpretation is often encouraged, there are specific elements of the guidelines that should be given close consideration. Specifically, the focus on sensitively managing the height and bulk of new buildings is most important. Several of the proposed buildings present as bulky volumes with few modifications to the massing that would break down the scale as perceived at street level. There are instances where the façade lengths of all buildings, except Building 6, exceed what is suggested in the design guidelines. The maximum dimension recommended in the guidelines is 175 feet for building heights greater than 125 feet. The intent is to create tall slender proportions, and limit the visual impact of tall buildings at street level and from surrounding areas. While the long north-south elevations proposed for Buildings 1 and 4 have benefits in terms of their immediate streetscape impact and midday shadow impacts, oblique views of these buildings will be prominent from several vantage points throughout Kendall Square.

Another element of the design guidelines that aims to break down the scale and massing of long facades and bulky floor plates is the vertical articulation requirement. The measure is to provide a major vertical break of a depth of at least 8 feet for every 100 feet of facade length, or to create two distinct massing elements. Canted facades are proposed for Buildings 1, 4 and 5; however, this desired shift in massing is not overtly apparent and several of the buildings feel quite uniform. The following approaches, which are suggested in the guidelines to avoid a monolithic appearance, emphasize slender vertically-oriented proportions and create architectural diversity, should be studied:

- Using variations in height to create interest and varied rooflines
- Avoiding broad slab volumes that make buildings appear bulky
- Using architectural elements such as changes in material and color, fenestration, parapets, cornices, shading devices, and illumination

Some of the cantilevered forms appear to exaggerate these massing concerns and the sense of height at street level. Carefully considering the extent and design of building overhangs, particularly on the south side of Main Street and within the proposed open space network, should be considered as the design for each building develops. In some of the submitted views, the treatment of rooftop mechanicals also tends to accentuate the scale of buildings and presents as a heavy image. The potential to make the rooftop mechanicals into visually interesting and positive elements of each design should be further explored.

Opportunities to explore changes in massing would also help to avoid possible wind impacts, rather than relying on the introduction of canopies and screening where landscaping is preferred. Additionally, carefully shaping buildings to minimize shadows on the north side of Main Street, Point Park, Broad Canal and the South plaza would also help mitigate environmental impacts as noted in the design guidelines.

Architectural Design

There is a degree of design coherence amongst the ensemble of proposed buildings. All buildings provide a strong expression of a podium, which is consistent with the *Kendall Square Design Guidelines* and is a good contextual response to the existing building fabric. The massing then transforms into simple volumetric tower forms above with understated demarcation of rooftops. Overall, there is an emphasis on curtainwalls, and a combination of glass and metal, which creates contrast with the surrounding masonry buildings and is an approach that is encouraged in the design guidelines. The curtainwall detailing will provide a subtle expression of bay widths, and a play of light and shadow across each facade, which also adds rhythm and variation to the facades.

Staff is also very supportive of the direction of some of the recent design changes that have been integrated into the Final Development Plan materials. The introduction of warmer color tones, diverse materials, and the use of further articulation to start to create dynamism across the facades, visual interest and detail, and a thinning-out of building proportions, is commended. Staff would like to encourage further exploration of such creative approaches to the design of each building.

The ground floor retail activation remains a strong component of the PUDs and staff is very supportive of this aspect of the project, particularly including the new changes to the One Broadway building, which transforms a currently underutilized sidewalk area and rectifies an unsuccessful arcade condition. Further opportunities to engage ground floor active uses with open space and sidewalks, such as through the use of interactive media and art, operable walls, canopies and awnings, should continue to be explored as design development occurs and retail tenants are secured. In addition, the Buildings 2 and 5 Main Street podiums seem horizontal and flat, and perhaps could incorporate reference to a two-story bay, as utilized in the adjoining historical buildings, or other architectural elements that would create more visual interest and vertical expression.

The structured parking proposed for the NoMa building remains a concern. This is specifically discouraged in the citywide urban design guidelines, particularly where a building faces the public realm. A better urban design outcome would be to line the building with active uses to create a positive relationship with the surroundings.

Transportation Impacts & Mitigation

Since the preliminary hearing, the Applicant has had productive discussions with the Traffic, Parking and Transportation Department (TPT) and CDD to address transportation issues related to the proposed development. Overall, the City supports the Applicant's goal of creating a vibrant, mixed use area that will encourage travel by walking, bicycling and public transportation rather than automobile use.

The comments below have been prepared collaboratively by TPT and CDD. Additionally, comments have been communicated to the Board by the City's Pedestrian and Bicycle Committees. The project is advancing in a positive direction, and the following comments highlight the particular issues that will need to be studied further in finalizing the details of the PUD plan and recommending a set of phased mitigation measures that could be included in a future special permit.

Parking Supply and Management

- TPT has been discussing the proposed final number of parking spaces and parking/loading management plans for both the NoMa and SoMa areas.
- **NoMa:** TPT is supportive of the number of parking spaces and management plan to only accommodate parking for residents and their visitors in the new parking garage, and office and retail parking in the existing One Broadway garage.
- **SoMa:** TPT is continuing to work with the Applicant on a final number of spaces, with the goal of eliminating unnecessary parking as appropriate. While the number of spaces is not likely to change significantly, there are some remaining questions regarding the relocation of existing spaces that are not fully utilized at present. TPT hopes to come to consensus with the Applicant on a "right-sized" garage.

Transportation Demand Management (TDM)

- Because the project will create new parking for non-residential uses, it will be subject to the requirements of the Parking and Transportation Demand Management (PTDM) Ordinance. The Applicant is required to have a final PTDM plan approved by the City prior to issuance of a special permit. The City received the final PTDM plan in December, and review and approval are currently pending.
- Most of the NoMa project is residential and therefore not subject to the PTDM Ordinance, so TDM measures should be incorporated into any approval for the residential use. These will be discussed further with the Applicant, but the recently approved 88 Ames Street residential project provides an example of the types of measures that would be incorporated.

Street Improvements

- Staff supports the overall concept of making improvements to streets including Wadsworth Street, Hayward Street, Carleton Street, Ames Street and Amherst Street. Key street elements will include improved connections to the Charles River and Broad Canal Way, enhanced conditions for bicycles and pedestrians, and safe access to off-street parking and loading areas. Details of the street designs will be reviewed further, both during the PUD approval process and through continuing review by TPT, CDD and DPW.
- A particularly important connection is Ames Street between Main Street and Memorial Drive, which staff supports redesigning to accommodate a two-way cycle track that will connect to the northerly section of Ames Street where a two-way cycle track will be constructed as part of the 88 Ames Street project.
- Another important connection to the area is the planned Grand Junction Rail-With-Trail pathway. As noted in the Final Development Plans, MIT conducted a feasibility study of the Grand Junction pathway as a commitment associated with the PUD-5 zoning. MIT also committed to funding a section of the pathway, which is currently being constructed by the Cambridge Redevelopment Authority. The Applicant should further describe the implications of the feasibility study for the

NoMa and SoMa projects, both to support improved pedestrian and bicycle connections to the sites and to identify improvements that will support constructing portions of the path as part of the development plan.

- Raising the planned protected bicycle facility to sidewalk level on the north side of Main Street in the area in front of the NoMa building will better manage conflicts between cyclists and building delivery activities. The details of building and maintaining that facility will continue to be discussed.
- The safety and convenience of pedestrian and bicycle crossings at Memorial Drive are ongoing issues, and MIT should work with the City and the Department of Conservation and Recreation to develop improved crossings, with the understanding that any future changes would be subject to state jurisdiction.
- Improvements to traffic signal equipment will also be investigated further as part of the potential mitigation for transportation impacts at key intersections.

Transit

- At the initial hearing, the Planning Board noted that the future availability and capacity of the public transit system will be critical to future growth in Kendall Square. The MBTA system faces challenges that are well known, and while those challenges cannot be resolved by this project or Cambridge's efforts alone, opportunities for the project to support the transit system should be fully explored. The proposal currently includes reconstruction of one of the Red Line headhouses (discussed above), a significant investment that should be planned in a way that provides long-term benefits to the system. The City should be involved in reviewing the details of the headhouse reconstruction along with the MBTA. Other options to support future Red Line operation, capacity and reliability will be discussed, including further defining the scopes for the additional transit studies that MIT has indicated a willingness to undertake.
- In addition to the Red Line, the Final Development Plans suggest improved bus and shuttle connections to the Green Line and Orange Line. These should be looked at as part of a comprehensive strategy that also accounts for the EZRide shuttle and MBTA bus routes.
- The inclusion of Hubway stations is a positive step that will supplement other walking, bicycling and transit options. The plans will be reviewed in further detail to confirm or, if necessary, modify the proposed station locations.

Sustainability

Green Building Standards

Consistent with the PUD-5 zoning requirements, both the NoMa and SoMa projects have been designed to achieve a LEED Gold rating under the latest LEED rating system, Version 4 (v4). They will be registered as an overall LEED Master Site with USGBC to earn combined credits for site, landscape, and transportation strategies, and each individual building will achieve the remaining credits required for a

Gold rating under LEED v4 for Core and Shell (Buildings 2, 3, and 5) or LEED v4 for New Construction (Buildings 1, 4, and 6).

At the preliminary Planning Board hearing, a concern was raised on how energy performance goals would be met with such a large use of glass on the facades of the buildings. The buildings will employ a variety of methods to address this concern including, but not limited to: high performance glazing (featuring low-e coatings, well insulated double or triple pane glazing, and shading devices), efficient HVAC equipment and conditioning systems utilizing heat recovery and heat exchange, installed equipment power density reductions, and advanced lighting and controls.

There are some aspects of sustainable design to which staff will continue to devote attention. These include the following:

- The Net Zero Action Plan recommended standards for energy performance in new construction above the minimum requirements of the LEED rating system and the Stretch Energy Code. Based on this recommendation, staff is developing a proposed amendment to the Green Building Requirements in the Zoning Ordinance. MIT has been involved in the process, and the project will be evaluated for consistency with any adjusted requirements when they are detailed.
- The Net Zero Action Plan also recommended enhanced commissioning be required for new buildings subject to Green Building Review, which is also being incorporated into the proposed zoning amendment mentioned above.
- Neither of the PUD proposals includes on-site capacity for renewable energy generation. It would be preferable for buildings to include capacity for solar energy generation to the extent feasible, or at a minimum, be designed "solar ready" so that solar energy systems could be accommodated in the future. Another possibility is to consider opportunities for battery storage, perhaps as a pilot project.
- Similarly, consideration should be given to whether the designs are flexible enough to convert to all electric systems based on renewable supply in the future. Meeting the City's future Net Zero goals will be much more difficult or impossible if buildings are not able to adapt to renewable energy sources as they become available.

Climate Change Resiliency

Climate change is a serious concern, as evidenced in the City's recent Climate Change Vulnerability Assessment (CCVA), and building resiliency as a result is a high priority. The NoMa and SoMa building designs address this issue through measures such as elevating critical building systems off the ground level in office, lab and residential buildings. The Final Development Plan materials also note that a goal of the site and landscape design is to create a sense of community, so that in the event of a crisis, there would be opportunities for building occupants to communicate and share resources. As the overall plan and detailed building designs are refined further, resiliency measures should continue to be explored and should account for the most recent CCVA analysis. Special consideration should be given to the design of the proposed new MBTA headhouse, to mitigate future flooding risk to the station.

District Energy

Prior commentary on sustainability initiatives in this project recommended greater attention be paid to opportunities for on-site and district energy, such as steam connections. The Final Development Plans note that there are currently no direct steam connections to the NoMa or SoMa parcels; however, the NoMa parcel is proximate to the Veolia cogeneration plant and the SoMa parcel is proximate to the steam network serving the MIT campus. A steam feasibility study should be provided by the Applicant as per zoning in order to further determine what services might be possible in the future.

Since the Applicant is a large institution with many buildings in the area, the Final Development Plans suggest that district energy solutions may be better achieved through mini/local district connections with existing buildings or through connections within the site. These measures are furthered detailed in the project's Final Development Plans. The Final Development Plans also note that MIT has been involved in the Kendall Ecodistrict, a partnership formed to promote districtwide sustainability, and is involved in the preparation of an energy study and stormwater study.

Housing

The NoMa Final Development Plan, which is the component that includes the housing required for development in the PUD-5 District, includes some responses about the mix of unit types and affordability. As previously described in the Development Proposal, the plan includes 285,000 square feet of residential use, which exceeds the minimum required by zoning.

Unit Mix

The Final Development Plan notes that the unit mix includes 5% three-bedroom units, which is positive. It would be helpful to have a more thorough summary of the approximate mix of unit types and sizes, in order to better understand the household types that will be served. From the plans, it appears that each floor of the building contains studio, one-bedroom and two-bedroom units, with three-bedroom units on most but not all floors. Because housing for families is a priority for the City in general and in Kendall Square in particular, it is helpful to have a sense of how typical two-bedroom and three-bedroom units will be arranged to accommodate adults and children and not just cohabitating adults.

Although it is not contained in the zoning, in its Letter of Agreement with the City, MIT commits to the provision of some "Innovation Units," which are smaller units (300-550 square feet) with the potential for shared living/working space. While some of the studio units might qualify as these units, there should be some more information on how Innovation Units will be incorporated into the building and what distinguishing features they will have.

Affordability

The Final Development Plan responds to Planning Board questions about what households will be eligible for the affordable units in the building. The chart below details the income limits that currently apply to the City's Inclusionary Housing program, which serves households between 50% and 80% of area median income (or lower income households, supplemented by a Housing Choice Voucher). These

limits are subject to revision on an annual basis, and the most current income limits would apply at the time an affordable unit is leased.

Household Size	Minimum Income (w/out rental voucher)	Maximum Income
1 person	$34,500	$55,200
2 persons	$39,400	$63,040
3 persons	$44,350	$70,960
4 persons	$49,250	$78,800
5 persons	$53,200	$85,120

NOTE: Income limits are calculated by HUD for the Boston-Cambridge-Quincy, MA-NH Metro FMR Area, with the exception of the City 80% of median income limits which are set by the Cambridge Affordable Housing Trust for certain City programs (e.g. Inclusionary Housing Program). All income limits are subject to change.

The PUD-5 zoning requires that 18% of the units must meet the Inclusionary Housing affordability standards above. The application of the requirements, along with the selection of units, will occur at the building permit phase. Nonetheless, there are some broader issues that might be considered at the special permit phase. For instance, in recent years the City has found it more difficult to market affordable studio units than units with bedrooms under the inclusionary housing program. Because the pricing of affordable units is based on household income rather than market demand, studio and one-bedroom units are priced the same for a given household. Therefore, studio apartments tend to be less desirable options for inclusionary housing tenants, and there is a greater supply and lesser demand for those units. It may be worth considering options, within the limitations of the ordinance, to allow for mutually agreeable solutions that support the City's housing goals without compromising the economics of the project. Some ideas might include providing fewer studios and more bedroom units in exchange for some flexibility in the location of units within the building, or alternative pricing options for affordable studios.

The Planning Board also raised questions about middle-income units. The zoning provides an incentive to encourage middle-income housing by allowing heights above 250 feet, up to 300 feet, if an amount of middle-income housing is provided equivalent to 25% of the space above 250 feet. MIT has indicated that it would not pursue this option, given the full range of economic considerations for the project. While middle-income housing remains an objective for the City, it is still unknown whether the provision of middle-income rental units through an "inclusionary-like" program is an effective way to meet that goal. As shown in materials previously provided to the Board, initial experience with marketing middle-income rental units in Kendall Square has not revealed a very strong demand for those units, especially compared to the demand for affordable units at low-moderate income levels.

Active Uses & Innovation Space Programming

Retail and Ground Floor Activation

As required in the PUD-5 zoning, the Final Development Plan submissions included a report with recommendations from a retail consultant, Graffito SP, a Boston-based firm that has been engaged in retail marketing and place-making in Kendall Square for many years. Staff is very supportive of the recommendations provided in that report and would suggest that those recommendations be incorporated into future special permit requirements as appropriate. Staff believes that the following recommendations are especially positive:

- Promoting appropriate storefront design, such as maximum frontage along Main Street, signage, and bringing premises to grade on Main Street.
- Providing retail tenants with in-kind architectural services before lease signing.
- Providing tenant improvement allowances and waiving base rent at construction periods.
- Hiring a retail specialist to oversee retail and place-making activity in MIT buildings throughout the area, including retail master planning and marketing.

An interesting recommendation that would benefit from further discussion is the following: "Offering leasing options of varying durations: short-term leases to facilitate experimentation and long-term leases for tenants investing major resources into buildouts." In addition to permanent retailers, staff is strongly supportive of unique ground floor activation uses such as pop-up retail, seasonal activities, art spaces (such as PROXY in San Francisco), community "maker spaces," indoor parks (such as ParkHere in New York) or other innovative concepts. Publicly accessible meeting/co-working spaces could also be considered (see further below). Because these unique uses may not fall within the strict zoning definitions for retail, it may be important to discuss these at the special permit phase so that they are clearly authorized in a final decision, possibly subject to future Planning Board review.

While it is important to set clear expectations at the special permit phase, the future success of retail and ground floor activation will depend on MIT's continuing efforts during and after the construction of buildings. MIT should discuss retail marketing efforts with the City's Economic Development Division (EDD) staff at the stage when spaces are being marketed but before potential tenants are selected, in order to understand who MIT has reached out to and to provide information about potential business owners and other resources that would help to ensure a good ground floor mix. EDD staff can also assist with permitting or licensing issues. It is anticipated that the Associate Director for Retail Development position, which MIT is in the process of hiring, would be a point of contact for the EDD staff.

Another topic for future discussion is how the phasing of development will impact current retailers. There are not many retailers currently along Main Street, and so the whole retail fabric of the area might be disrupted for long periods of time if they are displaced while development is underway. Phasing strategies should consider options for relocating current tenants during construction, either temporarily or permanently, and ways to support retailers that remain open while construction is occurring nearby.

Innovation Space

The Development Proposal noted that the requirement for Innovation Space in the PUD-5 District would be met on the NoMa Development Parcel with the space currently occupied by the Cambridge Innovation Center (CIC), an independent co-working environment started in 1999 that caters to start-up businesses. The Final Development Plan summarizes some of the characteristics of the CIC and notes that if the CIC were to leave that space, MIT would hire an alternative operator or would operate its own facility in accordance with the zoning. Nonetheless, it would be helpful to provide a distinct Innovation Space Plan that responds more specifically to how the CIC meets each of the Innovation Space objectives in the zoning requirements, and what limitations would apply if a new operator used the space in the future. The plans should also clearly depict what space within the building is designated to meet the minimum 60,000 square-foot requirement.

As an additional suggestion, there is an increasing demand for spaces in Kendall Square and Cambridge in general that serve as meeting, co-working or other activity spaces that are open and accessible to the public rather than being exclusively membership-based. District Hall in Boston's Seaport area is an example of that type of function. Staff would highly recommend considering this concept as part of the NoMa and/or SoMa developments. One potential benefit is that it could meet the objectives of both the Innovation Space and Active Ground Floors components of the zoning. However, as with the unique short-term uses described above, it may be important to provide some detail in the special permit decision to make sure that such uses are authorized.

Summary of Continuing Issues

The following list summarizes the issues noted in the discussion above that will be reviewed and discussed with the Applicant in further refining the development plan.

Site Design, Circulation, Open Space

- Pedestrian and bicycle circulation through site, particularly avoiding potential conflicts within the plaza design to minimize movement conflicts for pedestrians and bicycles.
- MBTA headhouse relocation and redesign, focusing on ease of access for pedestrians and bicyclists from all directions.
- Public street and pathway improvements, with particular attention to sidewalk widths, spaces demarcated for different travel modes, and paving materials (also see Transportation below).
- Landscape details and features.
- Design of proposed signage and wayfinding system.

Building Design

- Mitigating the appearance of broad, monolithic building forms through greater articulation of massing, introduction of architectural elements, or other measures.
- Impacts of shadow and wind, particularly along Main Street and other existing public spaces.
- Impacts of cantilevered forms and building overhangs.
- Review of rooftop mechanicals.
- Introduction of more visual interest along facades, particularly along ground-floor retail edges.
- Visual impacts of above-grade structured parking on NoMa site.

Transportation

- Finalizing details related to parking supply and parking/loading management.
- Final approval of PTDM plan and recommended residential TDM measures.
- Planning and ongoing design process for reconstruction of streets within the development parcel (Wadsworth, Hayden, Carleton, Amherst).
- Other public improvements including cycle tracks on Ames Street, raised bicycle facilities on Main Street adjacent to NoMa project, improvements to Memorial Drive crossings, improvements to traffic signal equipment at key intersections.
- Implications of the Grand Junction Pathway feasibility study as it relates to the proposed development and opportunities for future implementation of the pathway.
- Further discussion of options to support future transit operations including Red Line, bus and shuttles, including future coordination on proposed MBTA headhouse reconstruction.
- Siting and operation of Hubway stations.

Sustainability

- Consideration of Net Zero Action Plan recommendations, including: increased energy performance, enhanced commissioning, incorporation of solar energy or "solar-ready" design, future adaptation of energy systems to renewable sources.
- Consideration of resiliency measures to account for City's recent Climate Change Vulnerability Assessment (CCVA), in building and site design as well as the proposed MBTA headhouse reconstruction.
- Review of steam feasibility assessment report.
- Relationship of potential mini/local district sustainability measures to Kendall Ecodistrict efforts.

Housing

- Additional information about the housing program on the NoMa site, including approximate unit sizes and mix, design approaches that will accommodate families with children in 2-bedroom and 3-bedroom units, and characteristics of "innovation units."
- Potential flexibility (within the limitations of the Zoning Ordinance) to provide larger affordable units and fewer affordable studio units.

Retail and Innovation Space Programming

- Incorporate unique, non-permanent active uses into ground floor space planning. Describe the range of active uses that would be authorized in an approved development plan.
- Outreach to City's Economic Development Division (EDD) at the time of marketing ground floor spaces, prior to identifying tenants and negotiating leases.
- Phasing for ground floor tenanting/relocation to ensure continued viability during construction.
- Identify the space being used to fulfill the Innovation Space requirement and provide an Innovation Space Plan describing how the CIC meets the specific zoning objectives.
- Consider incorporating meeting/co-working spaces that have greater public access (e.g., District Hall in Boston).

CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

NOTICE OF PRELIMINARY DETERMINATION
PLANNED UNIT DEVELOPMENT PROPOSAL

Case Number:	302
Location of Premises:	One Broadway
Zoning:	Office 3A, PUD-5 Overlay District, Flood Plain Overlay District, PUD-3 Overlay District (requirements not applicable).
Applicant:	MIT One Broadway Fee Owner LLC 238 Main Street, Cambridge, MA, 02142
Owner:	MIT One Broadway Fee Owner LLC
Application Date:	July 28, 2015
Date of Public Hearing:	September 8, 2015
Date of Determination:	September 8, 2015
Summary of Proposal:	Development Proposal for Planned Unit Development (PUD) to construct a new building of approximately 416,000 square feet containing residential, office, retail and above-grade structured parking on a parking lot attached to the existing office and retail building at One Broadway. Existing GFA at One Broadway is proposed to meet the Innovation Space requirements in the PUD-5 district. This application for North of Main ("NoMa") development is made in conjunction with an application for South of Main ("SoMa") development, case PB #303.
Determination:	**APPROVED, with conditions and requests for modification.**

Copies of this Preliminary Determination and plans, if applicable, are on file with the Community Development Department and the City Clerk.

Authorized Representative of the Planning Board: Jeffrey C. Roberts

For further information concerning this Preliminary Determination, please contact Liza Paden at 617-349-4647, or lpaden@cambridgema.gov.

DOCUMENTS SUBMITTED

Application Documents and Supporting Material

1. Special Permit Application dated July 27, 2015 (received by the City on July 28, 2015) containing the following volumes: Planned Unit Development Special Permit Application (Development Proposal); Article 19 Project Review Special Permit Application; Graphics Package.

2. Slides from Presentation to Planning Board on September 8, 2015.

Other Documents

3. Letter to the Planning Board from East Cambridge Planning Team, dated June 16, 2015.

4. Memo to the Planning Board from Katherine F. Watkins, City Engineer, dated September 1, 2015.

5. Memo to the Planning Board from Community Development Department Staff, dated September 2, 2015.

6. Memo to the Planning Board from Joseph E. Barr, Director of Traffic, Parking and Transportation, dated September 2, 2015.

7. Memo to the Planning Board from Charles Sullivan, Executive Director, Cambridge Historical Commission, dated September 3, 2015.

8. Letter to the Planning Board from Nicholas Fandetti, dated September 7, 2015.

APPLICATION SUMMARY

The "NoMa" PUD application proposes construction of a new building on a parking lot attached to the existing office and retail building at One Broadway. This is identified as Site "1" within a conceptual master planned development of six sites in Kendall Square. Sites "2" through "6" are included in a separate "SoMa" PUD application that has been assigned case PB #303.

The proposed new building will contain approximately 416,000 square feet of Gross Floor Area (GFA), of which 285,000 square feet is for residential use, and the remainder is for office and retail uses, with some GFA devoted to above-grade structured parking. Existing GFA at One Broadway is proposed to meet the Innovation Space requirements in the PUD-5 district. 30,000 square feet of innovation space and 8,000 square feet of retail space would be exempt from district GFA limitations. Parking would be provided in above-grade structured parking that would be built adjacent to existing above-grade structured parking at One Broadway.

The proposal would include improvements around the perimeter of the site, including pedestrian access along Broad Canal Way and a new public connection on the eastern edge of the site between the proposed new building and the historic building at 139-143 Main Street (currently owned and used by the Red Cross).

FINDINGS

Based on a review of submitted Application materials and testimony given at the public hearing, the Board makes the following findings with reference to the criteria for preliminary approval of a Planned Unit Development Proposal as set forth in Article 12.000 of the Zoning Ordinance.

(1) The Development Proposal conforms with the General Development Controls set forth in Section 12.50, and the development controls set forth in the specific PUD district in which the project is located.

The Board finds that the Development Proposal is in conformance with the General Development Controls set forth in Section 12.50 and the development controls of the PUD-5 zoning district contained in Section 13.80 of the Zoning Ordinance. The Application Documents demonstrate compliance with the particular requirements set forth in the PUD-5 zoning adopted in 2013.

(2) The Development Proposal conforms with adopted policy plans or development guidelines for the portion of the city in which the PUD district is located.

The zoning for the PUD-5 district was developed in response to the recommendations of the Kendall Square Study, which establishes goals and objectives for future redevelopment as well as a set of Kendall Square Design Guidelines to inform the review of new projects. The Board finds that the Development Proposal builds upon the work that occurred through the planning and rezoning process taking place from 2010 to 2013. The Board also finds that the proposal is generally consistent with the development guidelines established for the area, with the understanding that details will be fleshed out as the review process continues.

(3) The Development Proposal provides benefits to the city that outweigh its adverse effects.

The Board finds that, on the whole, the proposed PUD will benefit the City by enabling redevelopment of an underutilized parcel in the heart of a major economic, academic and creative center for Cambridge and the region, while also providing specific benefits to the City as outlined in the Kendall Square Study and incorporated into the PUD-5 zoning.

In making this determination the Planning Board shall consider the following:

(a) The quality of the site design, including integration of a variety of land uses, building types, and densities; preservation of natural features; compatibility with adjacent

land uses; provision and type of open space; provision of other amenities designed to benefit the general public

The Development Proposal includes a positive arrangement of uses on the site, particularly the inclusion of a significant amount of housing exceeding the requirements of the PUD-5 zoning. The proposal will also include retail and office space to activate the ground floors of the proposed new building and the existing building at One Broadway.

(b) Traffic flow and safety

The Development Proposal includes a thorough transportation analysis that looks comprehensively at all forms of transportation. The project is subject to requirements that will limit or mitigate traffic impacts and the project is designed to provide safe access, egress and circulation meeting City standards. However, the Board acknowledges that the impact of new development on public transportation, the MBTA Red Line in particular, are a major concern that will need to be discussed further when reviewing transportation impacts pursuant to Article 19.000.

(c) Adequacy of utilities and other public works

The Application Documents, testimony at the public hearing and memorandum from the City Engineer indicate that City requirements related to infrastructure are understood and will be met in the proposed new development.

(d) Impact on existing public facilities within the city

The Development Proposal is not expected to result in any negative impact on existing public facilities. The proposal includes reconstruction of the MBTA headhouse and improvements along Main Street, the details of which will be investigated in further detail through the review process.

(e) Potential fiscal impacts

The Development Proposal is expected to result in positive fiscal impacts for the City, including increased tax revenue and contributions to public improvements and mitigation as required in the zoning for the district.

DETERMINATION

Section 12.35.2 of the Zoning Ordinance requires that the Planning Board make a preliminary determination on a Development Proposal prior to holding a hearing to consider granting a special permit for a PUD Final Development Plan. The Planning Board may make a preliminary approval, potentially with conditions and subject to additional review and final approval of a special permit at a subsequent public hearing, or deny the application.

It is the Planning Board's Determination to **APPROVE** the Development Proposal and to authorize the Applicant to prepare a Final Development Plan to be submitted to the Board and reviewed at a future public hearing for possible granting of a special permit.

The Final Development Plan must respond to the specific comments set forth in memoranda provided to the Planning Board by the Community Development Department, Traffic, Parking and Transportation Department, Department of Public Works and Historical Commission, attached to this Preliminary Determination. The Board offers its comments on the following topics in addition to the comments set forth by City staff.

The comments provided in this Preliminary Determination are shared with those in the Board's Preliminary Determination regarding the "SoMa" PUD Proposal (PB #303).

Site Planning and Design

- Develop a more coordinated pedestrian and bicycle circulation plan between "SoMa" and "NoMa" and with the broader Kendall Square neighborhood. Consider a more direct connection from "SoMa" to "NoMa" area.
- Provide clearer differentiation between public and private streets, and how each street will function, to understand effectiveness of proposed open space connectivity.
- Explore opportunities to extend or connect the public realm and open space to existing open space areas such as the open space around the Sloan School.
- Discuss how pedestrian circulation will occur from parking and bicycle parking facilities into building entrances. Consider how flows of people could animate the open space.
- Provide a long view of open space at back of buildings.

Building Concept Design

- The proposal's architectural character, building massing, and relationship to the public realm was a concern to several Board members. Consider how the proposed urban design approach responds to the urban context and creates a high-quality urban environment, and contributes to the character and vitality of Kendall Square.
- Consider the scale and design of new buildings in the context of existing buildings, including the historic American Red Cross building being preserved.
- Consider use of color in building designs.
- Provide a view of buildings from the Longfellow Bridge.

- Provide additional cross-sectional views of buildings along Main Street to provide a sense of scale.
- Provide a rendering showing skyline changes from Boston.
- Show tops of buildings (including mechanical systems and screening) in images and renderings. Consider strategies to minimize exposure of mechanical systems.

Transportation

- Red Line issues are a concern for several Board members. Discuss further in the Final Development Plan and Project Review phase.

Sustainability

- Review how the proposal will respond to Net Zero efforts that will soon be implemented by the city.
- Discuss how energy performance goals will be met with such a large use of glass in building facades.

Open Space and Retail Programming

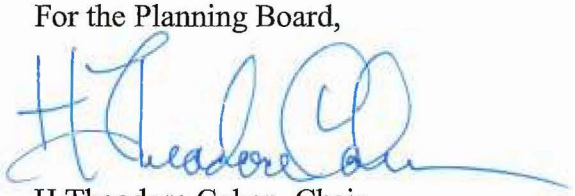
- Provide an operations and programming plan to ensure that open space and retail programs will cater to diverse age groups and visitors.

Housing

- Discuss affordability of the proposed residential units and consider including middle income residential units to serve a diverse population and workforce needs.
- Consider including three-bedroom units.

Voting in the affirmative to approve the Development Proposal were Planning Board Members Louis Bacci, Jr., H Theodore Cohen, Steven Cohen, Mary Flynn, Hugh Russell, and Associate Members Ahmed Nur and Thacher Tiffany, constituting at least two thirds of the members of the Board.

For the Planning Board,



H Theodore Cohen, Chair.

A copy of this Preliminary Determination PB #302 shall be filed with the Office of the City Clerk.

CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

NOTICE OF PRELIMINARY DETERMINATION
PLANNED UNIT DEVELOPMENT PROPOSAL

Case Number:	303
Location of Premises:	84 Wadsworth Street; 36 Memorial Drive; 226-254 Main Street; 65 Wadsworth Street; 16 Hayward Street; Hayward Street; 264 Main Street; 292 Main Street; 1 Hayward Street; 8, 26, 28, 34, 42 and 46 Carleton Street; Carleton Street; 310, 322 and 336 Main Street; 65 Carleton Street; 5 and 21 Deacon Street; 40 Ames Street.
Zoning:	Residence C-3B, PUD-5 Overlay District, Mixed Use Residential (MXR) Overlay District.
Applicant:	Massachusetts Institute of Technology 238 Main Street, Cambridge, MA, 02142
Owner:	Massachusetts Institute of Technology
Application Date:	July 28, 2015
Date of Public Hearing:	September 8, 2015
Date of Determination:	September 8, 2015
Summary of Proposal:	Development Proposal for Planned Unit Development (PUD) on five building sites. Includes demolition of one existing building and construction of approximately 1,376,000 square feet of Gross Floor Area for a combination of commercial office/laboratory, retail, dormitory and academic uses, including a below-grade accessory parking facility for existing and new development, new publicly accessible open space, and associated public improvements. This application for South of Main ("SoMa") development is made in conjunction with an application for North of Main ("NoMa") development, case PB #302.
Determination:	**APPROVED, with conditions and requests for modification.**

Copies of this Preliminary Determination and plans, if applicable, are on file with the Community Development Department and the City Clerk.

Authorized Representative of the Planning Board: Jeffrey C. Roberts

For further information concerning this Preliminary Determination, please contact Liza Paden at 617-349-4647, or lpaden@cambridgema.gov.

DOCUMENTS SUBMITTED

Application Documents and Supporting Material

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7. Memo to the Planning Board from Charles Sullivan, Executive Director, Cambridge Historical Commission, dated September 3, 2015.

8. Letter to the Planning Board from Nicholas Fandetti, dated September 7, 2015.

APPLICATION SUMMARY

The "SoMa" PUD application proposes redevelopment of five sites on the southern side of Main Street in Kendall Square. The sites are identified as "2" through "6" from east to west. Site "1" is included in a separate "NoMa" PUD application that has been assigned case PB #302.

- Site "2" proposes demolition of the existing Eastgate graduate student residential dormitory and construction of a new 200-foot tall building containing approximately 300,000 square feet of office uses and approximately 18,000 square feet of ground floor retail and active uses.

- Site "3" proposes construction of a 200-foot tall building on existing surface parking lots behind and attached to the existing Kendall ("Clocktower") Building at 238 Main Street containing approximately 280,000 square feet of research, laboratory and technical office space (R&D) use and approximately 27,000 square feet of new and repositioned retail and

active uses. Approximately 69,219 square feet of office space currently located in the Kendall Building will be retained.

- Site "4" proposes construction of a 300-foot tall building on existing surface parking lots behind and adjacent to the existing buildings at 264-292 Main Street, involving the demolition of some existing smaller-scale buildings on Carleton Street. The new building will contain approximately 330,000 square feet of graduate student dormitory housing (replacing and enlarging the Eastgate tower to be demolished) and a 9,000 square-foot child care facility as well as 28,000 square feet of new retail or repositioned retail and active uses in adjacent existing buildings. The adjacent existing buildings to be retained also include approximately 96,640 square feet of academic uses.

- Site "5" proposes construction of a 250-foot tall building on existing surface parking lots at 310-336 Main Street, involving the demolition of some smaller-scale buildings. The new building will contain approximately 360,000 square feet of office space, approximately 20,000 square feet of retail on the ground floor, and approximately 65,000 square feet of institutional space devoted to the MIT Museum.

- Site "6" proposes construction of a 43-foot tall, approximately 6,600 square-foot office building on an existing paved area in front of existing loading bays for MIT academic facilities.

Each new building would contain ground-floor retail and active uses on the Main Street building frontages in accordance with the PUD-5 requirements. Main building entrances are also located on Main Street. Some active ground-floor frontages and building entrances are also proposed on the southern sides of each building.

New publicly accessible open space of over two acres is proposed to be added to the existing eight acres of publicly accessible open space in the PUD-5 district. The majority of the new open space will be within a single contiguous space on the southern side of building sites 3 and 4, connected by a pedestrian path that also connects behind site 2 to Main Street.

Parking for all new development (809 net new spaces) and replacement parking for the surface lots being redeveloped (685 replacement spaces), along with loading facilities, are proposed to be provided in a combination of below-grade garages, one located beneath site 2 and another connected facility located beneath sites 3, 4 and 5.

The proposal also includes reconstruction of the MBTA Red Line headhouse on the south side of Main Street, aligned with Carlton Street.

FINDINGS

Based on a review of submitted Application materials and testimony given at the public hearing, the Board makes the following findings with reference to the criteria for preliminary approval of a Planned Unit Development Proposal as set forth in Article 12.000 of the Zoning Ordinance.

(1) The Development Proposal conforms with the General Development Controls set forth in Section 12.50, and the development controls set forth in the specific PUD district in which the project is located.

The Board finds that the Development Proposal is in conformance with the General Development Controls set forth in Section 12.50 and the development controls of the PUD-5 zoning district contained in Section 13.80 of the Zoning Ordinance. The Application Documents demonstrate compliance with the particular requirements set forth in the PUD-5 zoning adopted in 2013.

(2) The Development Proposal conforms with adopted policy plans or development guidelines for the portion of the city in which the PUD district is located.

The zoning for the PUD-5 district was developed in response to the recommendations of the Kendall Square Study, which establishes goals and objectives for future redevelopment as well as a set of Kendall Square Design Guidelines to inform the review of new projects. The Board finds that the Development Proposal builds upon the work that occurred through the planning and rezoning process taking place from 2010 to 2013. The Board also finds that the proposal is generally consistent with the development guidelines established for the area, with the understanding that details will be fleshed out as the review process continues.

(3) The Development Proposal provides benefits to the city that outweigh its adverse effects.

The Board finds that, on the whole, the proposed PUD will benefit the City by enabling redevelopment of underutilized parcels in the heart of a major economic, academic and creative center for Cambridge and the region, while also providing specific benefits to the City as outlined in the Kendall Square Study and incorporated into the PUD-5 zoning.

In making this determination the Planning Board shall consider the following:

(a) The quality of the site design, including integration of a variety of land uses, building types, and densities; preservation of natural features; compatibility with adjacent land uses; provision and type of open space; provision of other amenities designed to benefit the general public

The Development Proposal includes a positive arrangement of uses on the site, with a commercial zone and academic zone tied together with publicly accessible open space as the basic design and structuring element, as well as retail and cultural space to activate the ground floors, and parking and loading located below grade.

(b) Traffic flow and safety

The Development Proposal includes a thorough transportation analysis that looks comprehensively at all forms of transportation. The project is subject to requirements that will limit or mitigate traffic impacts and the project is designed to provide safe access, egress and circulation meeting City standards. However, the Board acknowledges that the impact of new development on public transportation, the MBTA Red Line in particular, are a major concern that will need to be discussed further when reviewing transportation impacts pursuant to Article 19.000.

(c) Adequacy of utilities and other public works

The Application Documents, testimony at the public hearing and memorandum from the City Engineer indicate that City requirements related to infrastructure are understood and will be met in the proposed new development.

(d) Impact on existing public facilities within the city

The Development Proposal is not expected to result in any negative impact on existing public facilities. The proposal includes reconstruction of the MBTA headhouse and improvements along Main Street, the details of which will be investigated in further detail through the review process.

(e) Potential fiscal impacts

The Development Proposal is expected to result in positive fiscal impacts for the City, including increased tax revenue and contributions to public improvements and mitigation as required in the zoning for the district.

DETERMINATION

Section 12.35.2 of the Zoning Ordinance requires that the Planning Board make a preliminary determination on a Development Proposal prior to holding a hearing to consider granting a special permit for a PUD Final Development Plan. The Planning Board may make a preliminary approval, potentially with conditions and subject to additional review and final approval of a special permit at a subsequent public hearing, or deny the application.

It is the Planning Board's Determination to **APPROVE** the Development Proposal and to authorize the Applicant to prepare a Final Development Plan to be submitted to the Board and reviewed at a future public hearing for possible granting of a special permit.

The Final Development Plan must respond to the specific comments set forth in memoranda provided to the Planning Board by the Community Development Department, Traffic, Parking and Transportation Department, Department of Public Works and Historical Commission, attached to this Preliminary Determination. The Board offers its comments on the following topics in addition to the comments set forth by City staff.

The comments provided in this Preliminary Determination are shared with those in the Board's Preliminary Determination regarding the "NoMa" PUD Proposal (PB #302).

Site Planning and Design

- Develop a more coordinated pedestrian and bicycle circulation plan between "SoMa" and "NoMa" and with the broader Kendall Square neighborhood. Consider a more direct connection from "SoMa" to "NoMa" area.
- Provide clearer differentiation between public and private streets, and how each street will function, to understand effectiveness of proposed open space connectivity.
- Explore opportunities to extend or connect the public realm and open space to existing open space areas such as Memorial Drive (including the median and river side), Point Park, and the open space around the Sloan School.
- Consider connections between Point Park and Wadsworth Street (recommended in Connect Kendall Square plan).
- Provide detail on the design of Wadsworth Street, which is an important pedestrian/bicycle connection, but also provides double-sided loading/service access in the development proposal.
- Provide detail on the separation between Building Site 2 and E53, which seems to create a "pinch point."
- Provide additional details on underground garage layout and connections between buildings, with a particular focus on how the single loading ramp will service "SoMa" buildings 3, 4, and 5. Discuss in context of other nearby MIT facilities, including "NoMa" proposal.
- Discuss how pedestrian circulation will occur from parking and bicycle parking facilities into building entrances. Consider how flows of people could animate the open space.
- Provide a long view of open space at back of buildings.

Building Concept Design

- The proposal's architectural character, building massing, and relationship to the public realm was a concern to several Board members. Consider how the proposed urban design approach responds to the urban context and creates a high-quality urban environment, and contributes to the character and vitality of Kendall Square.
- Cantilevered spaces are a concern. Spaces with building overhangs are often unpleasant, and it would be helpful to provide examples of successful spaces.
- Discuss ways in which the buildings are trying to look different and ways in which they are similar.
- Consider the scale and design of new buildings in the context of existing buildings, including the historic buildings being preserved and the former fire station (Kendall Hotel).
- Consider use of color in building designs.
- Provide a view of buildings from the Longfellow Bridge.
- Provide additional cross-sectional views of buildings along Main Street to provide a sense of scale.
- Provide a rendering showing skyline changes from Boston.
- Show tops of buildings (including mechanical systems and screening) in images and renderings. Consider strategies to minimize exposure of mechanical systems.

Transportation

- Red Line issues are a concern for several Board members. Discuss further in the Final Development Plan and Project Review phase.
- Provide additional details for the proposed T head-house relocation with a realistic depiction of what improvements are proposed.
- Consider improvements to other T head-houses and access on Main St.

Sustainability

- Review how the proposal will respond to Net Zero efforts that will soon be implemented by the city.
- Discuss how energy performance goals will be met with such a large use of glass in building facades.

Open Space and Retail Programming

- Provide an operations and programming plan to ensure that open space and retail programs will cater to diverse age groups and visitors.

Housing

- Discuss affordability of the proposed residential units and consider including middle income residential units to serve a diverse population and workforce needs.
- Consider including three-bedroom units.

Voting in the affirmative to approve the Development Proposal were Planning Board Members Louis Bacci, Jr., H Theodore Cohen, Steven Cohen, Mary Flynn, Hugh Russell, and Associate Members Ahmed Nur and Thacher Tiffany, constituting at least two thirds of the members of the Board.

For the Planning Board,

H Theodore Cohen, Chair.

A copy of this Preliminary Determination PB #303 shall be filed with the Office of the City Clerk.

CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT

IRAM FAROOQ
Acting Assistant City Manager for Community Development

To: Planning Board

From: CDD Staff

Date: September 2, 2015

Re: **PB #302 ("NoMa") and #303 ("SoMa") – MIT Kendall Square**

Overview

MIT's proposal for redevelopment of its "East Campus" area is the latest step in an ongoing process to reshape the future of Kendall Square. This particular development was discussed publicly as early as 2010, and MIT put forth an initial rezoning proposal for the area in 2011. That led to intensive public discussions through the Kendall Square component of the City's "K2C2" Planning Study, leading to a set of recommendations that would allow for future economic growth while leveraging that growth to provide additional housing, open space, retail and other public amenities.

The resulting zoning for MIT's land in Kendall Square was adopted by the City Council in 2013. The current development proposals fit within the established zoning parameters and advances the ideas that were put forward during that planning and zoning process.

This memo, along with comments from The Traffic, Parking and Transportation Department and Department of Public Works, discusses various aspects of the development proposals. However, it is important to first summarize what the approval process will entail and what actions are required by the Planning Board at this stage.

PUD Review Process

MIT's proposal seeks permits for two separate Planned Unit Development (PUD) areas, referred to as "NoMa" (North of Main, including the One Broadway site abutting the Broad Canal) and "SoMa" (South of Main, including properties along the Main Street edge of the MIT campus). The PUD review and approval process is more rigorous than for other special permits, given their size, complexity and longer timeframe.

The first step in the process is the submission of a Development Proposal, which describes the overall development plan and demonstrates how it will meet the zoning requirements and other planning for the area. Following a public hearing, if the Planning Board finds that the Development Proposal is in general conformance with those requirements and meets the City's stated goals for the district, then the Board would make a positive Preliminary Determination authorizing the Applicant to proceed with the submission of a Final Development Plan. As part of the preliminary determination, the Planning Board may (and typically does) request additional information, further refinements or changes to be incorporated into the Final Development Plan.

The Preliminary Determination findings are summarized on the following page.

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Requested Action	**Summarized Findings** (see appendix for zoning text excerpts)
Preliminary Approval of a PUD Development Proposal (Section 12.35.3)	The PUD Development Proposal: • Conforms with general PUD development controls and district development controls • Conforms with adopted policy plans or development guidelines for that portion of the city • Provides benefits to the city which outweigh its adverse effects, considering: o quality of site design o traffic flow and safety o adequacy of utilities and other public works o impact on existing public facilities o potential fiscal impact

According to the zoning in Article 12.000, the Planning Board must issue a Preliminary Determination on the Development Proposal within 21 days. A positive preliminary determination does not guarantee ultimate approval of the project, but a negative preliminary determination amounts to a denial of the special permit application.

If a positive Preliminary Determination is made, the Applicant would submit a Final Development Plan that describes the development plan in more detail and incorporates the suggestions made by the Planning Board. When the Final Development Plan is submitted, the Planning Board holds a second public hearing, after which the Planning Board can make a final special permit decision. The decision would include detailed conditions to govern how the development would proceed over time, since PUD projects are typically constructed in phases.

Each PUD application is also accompanied by a Project Review Special Permit application. This is because a PUD project is governed both by the procedural requirements of Article 12.000 and by the Project Review requirements of Article 19.000, which requires the Planning Board to make traffic impact and urban design findings. Because all of the required Planning Board special permits will be decided at the same time, the Planning Board does not need to make the Project Review findings until the Final Development Plan phase. However, the development proposal phase is a good opportunity for the Board to pose questions and requests related to the traffic impact and urban design aspects of the proposal.

While there are technically two applications being heard, they are being heard jointly because it makes the most sense to do so in this case, given that many of the district development controls apply broadly to the entire district. However, the Planning Board will need to make separate findings for each application, and if approved, two separate special permits would be issued, one governing "NoMa" and the other governing "SoMa".

Overview of Area Zoning and Planning

Planning and urban development in Kendall Square has evolved over many decades. After about a century as a predominantly industrial district, the "urban renewal" era of the 1950s and 1960s brought about the notion that as older uses were phased out of Kendall, they would be replaced by more modern industries such as high-tech offices and labs. Many such businesses were associated with MIT or benefitted from their proximity to MIT. On the site of this development proposal in particular, the decline of traditional industry and related uses also allowed MIT to acquire land for future expansion. Much of the urban development that occurred through the 1980s and 1990s followed the general pattern of replacing buildings that were more industrial in character with new offices, labs, academic uses, and (to a lesser extent) housing and hotels. The proposed Development Parcels largely contain land that has been retained as surface parking by MIT in anticipation of future development.

Toward a Sustainable Future, ECaPS and Citywide Rezoning

By the time of the Eastern Cambridge Planning Study (ECaPS) and the most recent Citywide Rezoning initiative (both completed in 2001), the City had begun to incorporate a more urbanistic planning approach that encouraged mixed-use areas and walkable communities, as reflected in the 1993 Citywide Growth Policy document *Toward a Sustainable Future*. In evolving commercial areas such as Kendall Square, policies urged the development of housing, neighborhood-serving retail and amenities, public space, and an approach to urban design that put less emphasis on automobiles and more on people engaging with the city at the ground level. After 2001, these principles were reflected in newer developments like the 303 Third Street housing and the "Cambridge Research Park" complex that includes the Broad Canal boat launch and skating rink along with housing, offices, labs and restaurants.

"K2" Planning

The Kendall Square (or "K2") planning process was undertaken in 2011-2012, largely in response to plans by MIT and other property owners to develop sites in Kendall Square. The K2 study marked a further evolution of prior planning principles by acknowledging Kendall Square's status as a "world class innovation center" that should be preserved and allowed to grow (including commercial, research and academic functions), while continuing to introduce new housing, retail, open space and other community amenities that would transform Kendall into a great urban place that attracts a diverse range of people.

The K2 study also prioritized increased sustainability in planning and design, including reduced car dependence and support for walking, bicycling and transit. Other priorities included retaining space for smaller companies to thrive in an increasingly competitive real estate market, and promoting workforce readiness programs to help residents from all backgrounds participate in Kendall's growing economy.

The specific zoning recommendations of the K2 study were incorporated into the requirements of the "PUD-5" district, adopted in 2013, and summarized on the following pages. In addition, a set of *Kendall Square Design Guidelines* were established to guide future projects and inform the Planning Board's review of development proposals. Those are discussed in the Urban Design section further below.

Summary of PUD-5 Zoning – Section 13.80

The development controls for a PUD overlay district are applied in place of the base zoning subject to the Planning Board's approval of a Final Development Plan. Therefore, the following controls are allowed if the Board determines that the development plan, as a whole, meets the intent and objectives of the zoning and planning for the area.

Major Development Controls

- **Density.** The total Floor Area Ratio (FAR) is limited to 3.9 across the district, although the FAR of an individual parcel may exceed 3.9. There is no minimum lot area per dwelling unit for residential uses.
- **Commercial.** Net new commercial development is limited to 980,000 square feet in the district, in addition to the gross floor area of any commercial uses that exist in the district as of 2013.
- **Housing.** At least 240,000 square feet of net new residential development in the district is required, for which construction must commence before commercial development can exceed 600,000 square feet. Inclusionary housing requirements must be met, with the required affordable housing percentage increased to 18%. (MIT additionally committed to have at least 8% of housing be "innovation" housing, with units of 300-550 square feet).
- **Innovation Space.** At least 5% of office/lab development must be space serving smaller companies on shorter lease terms, such as small business incubators, small research labs, office space for investors and entrepreneurs, facilities for teaching, product development and testing and prototype fabrication or production of experimental products. (MIT additionally committed to providing an equal amount of Innovation Space outside the district.)
- **Active Ground Floors.** New buildings must contain active spaces (including retail and cultural spaces, but not office or residential lobbies) for the equivalent of 75% of the ground floor frontage along Main Street, Broadway and the Broad Canal. A consultant must be engaged at the special permit phase to provide recommendations on ground-floor active space planning.
- **Open Space.** At least 15% of the district area must be publicly beneficial open space.

Dimensional Requirements

- **Height.** Allowed heights range from 150 feet near Memorial Drive to 250 feet along Main Street. Additional heights to 300 feet are allowed for residential or dormitory buildings, provided that in residential buildings, middle-income units must be provided that occupy an amount of floor area equivalent to 25% of the floor area above 250 feet.
- **Setbacks.** Few strict setbacks are required, except at a height of 85 feet along Main Street, Third Street and Broadway, there is a required 16-foot step-back from the street edge; however, this can be waived for up to one-third of the cumulative façade length along the street. Also, a setback of at least 20 feet and a height step-back of at least 36 feet are required where the proposed One Broadway expansion abuts 137-145 Main Street (the Red Cross building).

Parking Requirements

- Parking must be below-grade, with some specific exceptions like disabled parking, short-term loading, food trucks and temporary lots on future development sites, and in the "north of Main" area above-grade structured parking is allowed if it is found to be consistent with the existing structured parking at One Broadway.
- For new commercial development, parking is limited to the following ratios for the following uses:
    - Office: Maximum 0.9 spaces per 1,000 square feet of Gross Floor Area
    - Lab: Maximum 0.8 spaces per 1,000 square feet of Gross Floor Area
    - Retail: Maximum 0.5 spaces per 1,000 square feet of Gross Floor Area
    - Hotel: Maximum of 1 space per 4 sleeping rooms
- For new residential development, parking is restricted to a minimum of 0.5 spaces per unit and a maximum of 0.75 spaces per unit.
- A "shared parking" study is required showing peak demand times for different uses; parking may be further reduced if shared parking can serve combined peak demands.
- The replacement of existing parking spaces serving pre-existing commercial uses may be approved by the Planning Board, so long as the spaces were legally permitted and the Board finds that replacing those spaces will not cause an increase in traffic.
- Loading requirements may be modified by the Planning Board in approving a PUD.
- Bicycle parking must be provided per citywide requirements (Section 6.100).

Sustainability and Environmental Requirements

- New buildings must meet LEED Gold design standards and submit a Statement of Energy Design Intent.
- New buildings must evaluate on-site energy, cogeneration and use of district steam.
- New buildings must meet City stormwater management standards and must explore stormwater management practices using open space, vegetation and potable water use reductions.
- New buildings must employ "cool roofs" – either green roofs or high-albedo materials.
- New buildings must incorporate features that demonstrate other sustainability strategies.
- Noise from rooftop mechanicals must be mitigated using best practices. In addition to the Noise Ordinance requirements, no perceptible noise may be created at 100 feet from the development site, and acoustical reports must be completed prior to occupancy of a building.

Incentives

- Net new residential and dormitory development south of Main Street is exempt from zoning limitations related to floor area (FAR or GFA). This was a provision recommended by the Planning

Board when the zoning was adopted, in order to encourage additional housing and/or student housing beyond the amount that is required.

- Ground-floor and basement areas devoted to retail uses are exempt from floor area limitations, provided the average size of establishments is less than 5,000 square feet (except for grocery, market or pharmacy uses).
- Half of Innovation Space is exempt from floor area limitations, to encourage space exceeding the minimum amount.

Fund Contributions

- Contributions to a City-controlled Community Fund are required at rate of $10 per square foot of new commercial office and lab development.
- A "deposit" of $2,500,000 was paid by MIT to the City after adoption of the zoning in 2013. An additional $2,500,000 payment is required either in April 2016 or upon occupancy of the first new commercial building, whichever occurs sooner.
- Further contributions to satisfy the $10 per square foot requirement are made after occupancy of new commercial development exceeding 500,000 square feet.

Additional Commitments

While these are not reflected in the zoning, MIT agreed to certain commitments upon the City Council's adoption of the PUD-5 zoning (set forth in a Letter of Commitment), summarized below (in addition to those provisions already mentioned above):

- A study and fund contribution to further implementation of the Grand Junction Multi-Use Pathway.
- Transfer to the City of an MIT-owned lot at Cherry and School Streets.
- Union labor for new buildings and contributions to an apprentice Pathways Program.
- At least half of retail space devoted to independent businesses with less than five locations in Massachusetts.
- Creation of an Open Space and Retail Advisory Committee.
- A "phase-out" taxation plan in the event that any commercial building is converted to academic use in the future.
- An additional $4,000,000 in contributions to support non-profit charitable community benefit organizations, of which a $1,000,000 contribution has been made thus far.

Proposed Development Concept

The SoMa and NoMa projects represent the culmination of several years of planning and design work undertaken by MIT along with participants in the K2 Study process and the broader community. As previously noted, the City and the community have planned and advocated for housing and a livelier neighborhood in Kendall Square for many years, and the section of Main Street between Third Street and Ames Street has remained relatively dormant thus far. Now, MIT proposes an extraordinary transformation of both the north and south sides of Main Street, including an intensive mixed-use program and a series of iconic buildings, which achieves many of the goals of the K2 Study.

In most ways, the development proposals (considered as a whole) reflect the development concept that was discussed when the PUD-5 zoning was adopted in 2013. At that time, the desired assemblage of commercial, residential, academic, retail, innovation and open space uses were extensively discussed and ultimately approved by the City Council, with the support of the Planning Board. The current proposal adheres to that established mix of uses, buildings and spaces. However, some elements have been incorporated into the current proposals that were not specifically discussed in the rezoning process. Generally speaking, the new elements help to enhance and further the goals of the district.

- Student Housing: The strongest addition is the introduction of graduate student housing, which was discussed in the rezoning process but was not made a requirement, though (at the Planning Board's suggestion) incentives were included in the final zoning. While the new housing will replace an older existing building, it will result in a significant net increase in MIT's capacity to house students on campus. Also, the proposed location of the housing as a central part of the development plan will help to bring greater life and diversity of uses into the core of Kendall Square.
- Museum: Another positive addition is the relocation of the MIT Museum to Kendall Square, which will even further enhance the diversity of uses in the heart of the area. It will provide an attraction for a wide range of visitors from within Cambridge and beyond, and will establish a base for educational and cultural programming that can reach out into the community.
- Historic Buildings: At the time of the zoning, the question of whether the existing row of buildings between Carleton and Wadsworth Streets would remain, or if some would be demolished or altered with the new development, was unanswered. The Historical Commission had expressed a keen interest in preserving the row of three buildings as a rare remaining example of the area's character before Urban Renewal. In the proposed plans, these buildings are retained and sensitively incorporated into the development scheme. Some other buildings are proposed to be removed, including the Eastgate student housing tower (to be replaced by the larger graduate student housing building mentioned above), which would be subject to consideration by the Cambridge Historical Commission before its demolition could be authorized.
- Housing: 285,000 square feet of net new residential Gross Floor Area is proposed, nearly 20% more than the 240,000 square-foot minimum zoning requirement (and in addition to the student housing mentioned above). It is located adjacent to One Broadway, where it was envisioned during the rezoning discussions, and will meet the elevated inclusionary housing requirement to provide 18% of units as affordable to low and moderate income households. The provision in the zoning that

provides greater building height in exchange for the provision of middle-income units is not being utilized in this proposal. The Final Development Plan should include some discussion of the anticipated mix of unit types in the proposed residential building.

- Open Space: Another positive outcome is the provision of a large central open space far in excess of the zoning requirement to provide as publicly beneficial open space equivalent to 15% of the district area. The development plans also reflect MIT's commitment to establish an open space and retail advisory committee to provide oversight, which was a commitment made by MIT at the time the zoning was adopted. Some additional discussion of the design and programming of the open space should be provided in the Final Development Plan. For instance, it would be helpful to further describe what "spillage activity" is envisioned to occur from the buildings to outdoor areas, and whether the audience for that activity is meant to be primarily the MIT community or the broader public. Other issues are noted in the urban design section below.

- Retail: The proposal meets the PUD zoning requirements to provide active uses (primarily retail) along the ground floors of major streets, which is a significant achievement. The proposal also identifies a retail consultant to develop a strategy for tenant outreach and leasing, are required in the zoning. In the Final Development Plan, it would be helpful to provide more explanation of the future retail strategy and to provide the Planning Board with the consultant's recommendations, as indicated in Section 13.810.1 of the zoning. Some of the issues that might be considered include strategies to recruit and cultivate smaller retail tenants and independent operators, which can be a challenge in new buildings. Other considerations include the non-retail active uses such as public event spaces and recreational uses. The inclusion of the MIT Museum is an example that could perhaps anchor and catalyze a wider range of activities to serve the community.

- Innovation Space: In the proposals, the space occupied by the Cambridge Innovation Center (CIC) at One Broadway will meet the zoning requirement for Innovation Space, which is appropriate given that the CIC was a clear example of the type of space envisioned when the Innovation Space requirements were established. However, the Final Development Plan should describe the activities of the CIC in more detail and explain how it meets the requirements and the overall goals of the district, and provide assurances that if the operational model of the CIC changes over time (or if a different entity takes over the space) then it would continue to meet those requirements.

- Sustainability: This was an important component of the K2 Study, and the particular requirements will be met in the proposed development using a range of different strategies. The SoMA and NoMA projects are designed to achieve a LEED Gold rating under the latest LEED version 4 (v4) rating system. They will be registered as an overall LEED Master Site with USGBC to earn combined credits for site, landscape, and transportation strategies, and each individual building will achieve the remaining credits required for a Gold rating under LEED v4 for Core and Shell (Buildings 2, 3, and 5) or LEED v4 for New Construction (Buildings 1, 4, and 6). The project will also meet energy reporting requirements (through the city's Building Energy Use Disclosure Ordinance), employ cool roofs, and meet the City's stormwater management standards, discussed in the accompanying DPW comments. The Final Development Plan should include more discussion of opportunities for on-site and district energy, such as steam connections (as described in Section 13.89.4 of the PUD-5 zoning).

Staff also recommends discussing whether the buildings will meet the Net Zero Action Plan objective that new buildings target a 22 percent energy performance improvement over ASHRAE 90.1-2010.

Urban Design

For a PUD project, urban design considerations are relevant from the conceptual to the detailed level. At this stage of review, the primary focus is on the development concept as a whole, and some key considerations include overall site layout, circulation, public space, and building scale and massing. More detailed review of the design of spaces and buildings will occur at the Final Development Plan stage (when the Project Review Special Permit criteria will also be reviewed) and through ongoing review of the various buildings and other components within the plan.

Design Guidelines

Guidance for urban design review is primarily provided in the *Kendall Square Design Guidelines (2013)*, developed during the K2 study process to inform property owners, business owners, developers, and the general public about the desired form and character of development in Kendall Square. The Design Guidelines are to be used by the Planning Board in their review of all projects requiring approval in the Kendall Square area, including PUD-5.

The key objectives in these design guidelines are to:

- Create a positive mixed-use district where tall buildings with large floor plates can be good neighbors to public spaces, smaller existing buildings, and adjacent residential neighborhoods.
- Create high-quality public environments, and ensure development contributes to the character and vitality of the surrounding community.
- Sensitively manage the impacts of bulk and height and animate the major streets and public spaces through encouraging active ground floor.

While the guidelines are detailed and establish clear urban design expectations, they are not intended to impose strict controls on building form and style. At the discretion of the Planning Board, the guidelines provide flexibility to consider creative design solutions, innovative design approaches, and unforeseen circumstances.

Site Planning and Design

Overall, the replacement of extensive surface parking lots with infill development that establishes Main Street as a central activity spine and strengthens connections to the Broad Canal results in a very positive urban design outcome. The benefits of the proposal include a strengthened urban presence in Kendall Square, continuation of ground floor activity (which is currently sporadic) and continuous retail edges. Such an approach also complements the continued evolution of Kendall Square into a more urban setting. The retention and adaptive reuse of three historic buildings on Main Street is also a fundamental component of the successful urban design strategy. This provides opportunities for the SoMa project to capture and expand upon Kendall Square's unique built form identity.

Ground floor retail

Ground floor activation appears to have been handled exceptionally well, and exceeds the requirements of the zoning in terms of how retail wraps around to side streets and open space. The proposed mix of uses and the strong ground floor retail components are very successful, particularly given that all buildings have at least three or four public faces. The creation of two-sided retail is also an important element of the retail strategy.

Generous ground floor heights of between 16 and 20 feet further enhance the ground floor experience of each of the buildings. The types of retail activities shown in the application materials are small-scale, have small frontages, and very unique storefront designs. The Final Development Plan could provide more information on how such uses will be accommodated and given an individual identity within the strong architecture of each of the buildings.

Open space and public realm

Another positive urban design move is the high quality and dynamic improvements to the open space network, which will have the effect of creating a welcoming and vibrant public realm. Most notably, both SoMa and NoMa emphasize open space connections through the site connecting to Main Street and the Broad Canal, creating a much more permeable framework of spaces. The possibility of programming and placemaking opportunities within this network, which sweeps behind the Main Street buildings and branches out to connect with other destinations, is also very successful.

The generous expansion of the plaza around the MBTA headhouse, between Buildings 4 and 5, will add greatly to wayfinding in Kendall Square and connecting the community to the campus. The angled building facades invite people into the space, rather than closing off the campus, which will be very welcoming compared to current conditions. Development of a more transparent and contemporary MBTA headhouse is also an improvement, although setting back the structure into the MIT site as proposed may reduce its visibility when walking down Main Street. Repositioning the headhouse to be closer to the sidewalk, while still allowing for some space for people to congregate, should be considered. The interface between the academic housing and outdoor space (Building 4) and the plaza requires further review regarding the type of screening/enclosure proposed along this important edge.

Much care and thought should be given to the detailed design of these spaces, and the interface between the proposed buildings and these new public spaces is worthy of careful attention by the Board. The Final Development Plan should discuss the inclusion of public art, wayfinding, and lighting as integral components of the open space network that might aid legibility and movement. Furthermore, the extent of tree canopy, and the proportion of hardscape and softscape, should be discussed to ensure the extent of paving is minimized and the environment is softened. Using water to define and announce connections with Broad Canal and the Charles River could also be further explored.

Pedestrian and bicycle connections

The enhanced pedestrian environment will dramatically improve upon car-oriented perceptions of much of the site. Respect for the north-south urban grid maintains site permeability and ensures a highly connective network of streets and public spaces. Providing for a substantial pedestrian connection

between Main Street and the Broad Canal is also a good urban design outcome. Even internally, the direct ground floor pedestrian connections through several of the proposed buildings enhances the permeability of the campus, and the sense of connection and openness. The proposed pedestrianization of streets on the south side of Main Street is also a positive strategy. Conceivably, more could be done to enable the shared street design to intersect with Main Street, so that the pedestrian connections are not perceived to be primarily loading or parking access roads. As the project evolves, the proposed street and sidewalk improvements should also be coordinated with the redesign process that the City will be undertaking for Point Park.

Another consideration (intersecting with the Traffic, Parking and Transportation comments) is locating Hubway stations, which have become an important piece of the public realm especially in Kendall Square. Recent experience has shown that given the various considerations required to site Hubway stations (including solar access, circulation, and distribution of demand), their siting should be considered early in the site planning process.

Loading and parking

The location of the majority of loading areas off Main Street is also consistent with the Design Guidelines. In the case of the NoMa project, the width of the loading dock, combined with the F.C.C. room, should be minimized to the greatest extent possible along its Main Street interface. Special attention should be paid to the location of parking entrances, exits and vents in relation to surface uses and activities, and the depth above the central parking structure that is needed to accommodate trees and plantings. It is noted that access to the below grade parking off of Amherst Street could be better integrated into the design of open space, and better screened or buffered where appropriate.

Built Form

With regard to architectural design, the approach of utilizing different architects for each of the buildings is a worthy strategy and consistent with the Design Guidelines. The emphasis on a distinct identify for each building, while still retaining some similarities, is also a reasonable approach. Contemporary design is also very much favored in this location, as well as an approach that conveys the district's spirit of innovation through high levels of transparency and distinctive architectural form.

Scale and Massing

The project will deliver taller built form to Kendall Square in a location where more intensive urban uses and densification are anticipated. Quite a bold massing approach is proposed across the SoMa and NoMa buildings. All of the buildings, apart from Building 6, are broken into two volumes with the notion of a podium provided in several forms, and then a dominant tower component. The emphasis on a strong horizontal datum creates a visual language that fits with the surrounding context. The podium proposed for the NoMa Building aligns with the Red Cross building, which makes sense from a streetscape perspective. However, the structured parking on levels 2-4 creates an inactive zone and an uninviting presence in the backdrop of the Broad Canal. While the proposed screening is attractive and interesting, the preferred urban design outcome would be to wrap the parking floors in a "sleeve" of

active uses. The exposed parking on Floor 4 should also be covered to avoid being visible from buildings above.

The north-south orientation of the Building 1 and Building 4 towers is beneficial because it reduces their visual presence on Main Street and minimizes shadow impacts on public spaces and sidewalks. However, there are specific locations where the scale and bulk of the primarily glass and steel-framed volumes of Buildings 1-5 may have an overwhelming presence at the pedestrian level, particularly where tower elements are cantilevered over the public realm. In this regard, the proposed massing approach varies from the specific design guidelines, which aim to limit the sense of height at street level and avoid broad slab volumes and monolithic appearances. The folded façades of Buildings 1 and 5 help mitigate bulk, but perhaps could be further exaggerated to help break up the long façades. The grouping of floors in Buildings 4 and 5 also reduces the apparent scale of the buildings. Other design solutions to consider include further fragmenting the massing, enhancing the nature of angled planes, and more strongly expressing the different functions of buildings through detailed design. Along Main Street, there should perhaps be more of an emphasis on creating a strong pedestrian-scaled street wall, which limits the sense of height at street level. To this end, at the Final Development Plan stage it would be worthwhile to review a long streetscape elevation, which shows the entire collection of SoMa buildings in context, as well as a longitudinal site section, to gain a better understanding of the relationship between buildings.

Another possible outcome of the massing approach is potential wind impact at the pedestrian level. The wind study submitted with the application found that potentially higher than desired wind speeds may occur as a result of the NoMa and SoMa tall towers. The study recommends that wind tunnel testing be undertaken to evaluate the effectiveness of mitigation strategies. Strategically Introducing some articulation into building massing (*e.g.*, setbacks and/or cutouts) might also assist with some wind impacts, particularly along the north and east facades of the NoMa building.

Rooftop mechanicals all appear well handled and are integrated into the architecture of the building, except for Building 3, which includes some exposed stacks. The results of this tactic are crisp rooflines, and little differentiation of the tops of buildings. The tower volumes also appear to accommodate additional bulk.

Relationship to historic buildings

The Building 2 setback from Main Street successfully enables views to the Kendall Building clock tower, and the lower podium volume ties in well with this historic building, as demonstrated in Figure D-15. Building 3 provides an appropriate curtilage to the Kendall Building, and seems at a reasonable scale in relation to the building. The atrium provides a nice connection between the two structures, and its detailing will be most important as design development occurs. The tower above does completely overhang this space though, so perhaps if it were set back further, more access to light and sky views from inside the atrium would be possible.

Architectural character

Much of the visual interest and articulation of the SoMa and NoMa buildings is achieved through curtain wall detailing, which is mostly clean and uniform across each of the facades. There are strong vertical and horizontal striations, and the expression of structure is noticeable as a defining element of all the architecture. The Building 4 residential tower is a notable exception, with a façade of panels framing the window openings. A restrained color palette is employed, which helps to unify the buildings. The combination of glass curtain walls and modern materials creates a contrast against the foreground of masonry buildings. The two residential buildings do little to display their residential character, though some evidence of domesticity will be realized through the small, notched balconies provided in the NoMa building. There is an opportunity for these balconies to be expanded to further break down the length of the long east elevation.

Additional Requests

Staff recommends that the following additional design materials be included in the Final Development Plan:

- More perspective views travelling across Longfellow Bridge on Main Street.
- Results of wind tunnel testing for all recommended buildings and any associated wind mitigation measures.
- More detailed elevations with all external materials annotated, with special attention to the ground floor facades, the proposed retail experience, and the street presence of the museum.
- Longitudinal site sections and a Main Street elevation.
- More detailed landscape plans, including opportunities for public art, wayfinding, and lighting, creative and sustainable management of storm water, and species selection to maximize urban heat island mitigation and softscapes.
- Additional perspective views of the open spaces from different vantage points.

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Joseph Barr, Director
Brad Gerratt, Assistant Director for Parking Management

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MEMORANDUM

To: Cambridge Planning Board

From: Joseph E. Barr, Director

Date: September 2, 2015

Re: MIT Kendall Square Redevelopment (PB#302 and #303)

The MIT Kendall Square Redevelopment Planned Unit Development (PUD) and Project Review Special Permit Application consists of redevelopment of six parcels in Kendall Square into six buildings totaling 1,759,600 gross square feet (GSF), and 1,673 parking spaces (179 spaces North of Main Street and 1,494 spaces South of Main Street). Overall, the Project will create 1,074 net new parking spaces in Kendall Square. The Project will provide 827 long-term and 197 short-term bicycle parking spaces to meet zoning.

MIT is seeking permits for two separate PUD areas, referred to as "NoMa" (North of Main) and "SoMa" (South of Main). Nonetheless, a single Traffic Impact Study (TIS) for the full Project was completed by Vanasse Hangen Brustlin, Inc. on behalf of MIT. The TIS evaluated the existing vehicular, bicycle, transit and pedestrian conditions, the proposed MIT Kendall Square Redevelopment project transportation impacts, and the cumulative traffic impacts for the study area by taking into account other approved or under construction projects.

The TIS was completed and certified by the Cambridge Traffic, Parking and Transportation Department (TP&T) on July 21, 2015. The TIS indicated that there were 65 Planning Board Special Permit transportation exceedances (out of 500 data points evaluated), and the Project will generate the following trips:

- 5,858 daily vehicle trips, including 643 AM and 708 PM peak hour vehicle trips;
- 7,508 daily transit trips (761AM/893 PM peak hour transit trips);
- 3,524 daily pedestrian trips (201 AM/359 PM peak hour pedestrian trips); and,
- 1,922 daily bicycle trips (190 AM/227 PM peak hour bicycle trips).

The TIS summary sheets are attached and the TIS is available on the City's web site located at http://www.cambridgema.gov/CDD/zoninganddevelopment/specialpermits/specialpermits.aspx. The TIS reported the following key transportation impacts:

- Weekday Daily, AM and PM peak hour vehicle trips exceeded the Planning Board Special Permit criteria thresholds.
- The Project will degrade the Vehicle level of service (VLOS) at 8 intersections.

- The Project exceeded the Planning Board Special Permit criteria thresholds for increased traffic volume on residential streets on segments of Broadway, Memorial Drive, Third Street, O'Brien Highway, and Amherst Street based on 1/3 or more residential uses on first floor frontage.
- The Project exceeded the vehicle lane queue criteria at the Land Boulevard/Binney Street and Third Street/ Broadway intersections.
- The Pedestrian Level of Service (PLOS) criteria threshold was exceeded at Binney Street/First Street, Binney Street/Third Street, and Binney Street/Galileo Galilei Way/Fulkerson Street intersections (note that these exceedances are due to signal timing changes for the Binney Street reconstruction project and not directly because of the MIT Project).
- The TIS reported a lack of bicycle facilities on Wadsworth Street, Amherst Street, Hayward Street and Carleton Street (note that protected bicycle lane is proposed by the City for Ames Street between Main Street and Memorial Drive).
- The Project will add new daily and peak hour transit trips to the MBTA Red Line and will cause the MBTA bus routes #CT2 and #85 to be over capacity during peak hours.

The TP&T Department has been working with MIT and has reviewed the PUD and Project Review Special Permit Application. Overall, TP&T believes that the MIT Kendall Square Redevelopment Project is in many ways consistent with City goals for mixed-use development, including residential, retail, office uses, and open space. The TP&T Department offers the following initial comments to the Planning Board for consideration in your Preliminary Determination, which typically asks for additional information, further refinement or changes to be incorporated into a Final Development Plan.

NoMa Project

The NoMa (North of Main) Project proposes to construct a 290-300 unit residential building with 15,000 GSF office space, and 16,000 GSF ground floor retail space. The building will replace a 114 space surface parking lot with a 179 space above-grade parking garage, which will provide 157 residential spaces (0.52 space/unit), 14 office parking spaces (0.9 space/1,000 s.f.), and 8 retail parking spaces (0.5 space/1,000 s.f.). The existing One Broadway building, which uses a 316 space parking garage and the 114 parking space surface lot today will be able to meet its parking needs by shifting parkers from the surface parking lot into the One Broadway garage, which has a peak occupancy of 64%.

Access to the parking garage will be from Main Street and include two loading docks that can accommodate single unit 30 foot trucks (SU-30). The proposed NoMa parking plan is summarized below.

NoMA Parking Facilities	Spaces	Notes
Building 1 Garage	179	157 residential, 14 office, 8 retail spaces
One Broadway Garage	316	No Change from existing
Total	**495**	

The TP&T Department believes that NoMa is a positive project because it will create additional residential housing units, including 50 affordable units, ground floor retail space, and an improved pedestrian/bicycle connection between Main Street and Broad Canal Way. The Planning Board may want to consider asking the Applicant for more information on the following questions:

- How will parking at the NoMa Garage be managed to not exceed the maximum 0.9 space/1,000 s.f. Office parking ratio and maximum 0.5 space/1,000 s.f. Retail parking ratio?

- Are the two proposed SU-30 loading docks sufficient in size and number to accommodate the building's service needs and how will resident move-in/move-out be accommodated?
- Why is it necessary for the new parking facility to be above-grade instead of below-grade?
- The graphic materials showing Main Street should reflect a final layout plan approved by the City.
- The Transportation Impact Study (TIS) discussed examples of Transportation Demand Management (TDM) programs, but the PUD and Special Permit Applications for NoMa provided no definitive TDM commitments. Residential TDM commitments should be included in the Final Development Plan for NoMa.

SoMa Project

The SoMa (South of Main) Project proposes to turn five surface parking lots into 5 buildings consisting of office, research and development, retail, museum, graduate housing (470 units to replace the existing 201 unit Eastgate graduate housing building), and child care space. The SoMa Project will total 1.4 million gross square feet. The full Project is expected to be constructed in 7-10 years.

The SoMa area currently contains 990 parking spaces (874 academic and 116 office/retail parking spaces). The SoMa Project proposes 1,999 total parking spaces (1,009 net new parking spaces) including; a 1,156 space below-grade parking garage (SoMa garage), 278 space below-grade parking garage (Building 2 garage), a new 60 space surface parking lot, and no changes to the existing 60 space Amherst Street parking lot, 419 space East Campus parking garage, and 26 space Hermann parking garage. A summary of the proposed SoMa parking facilities and allocation of spaces is shown below.

SoMA Parking Facilities	Academic	Non-Academic	Total	Notes
SoMa Garage	509	647	1156	* see below
Building 2 Garage	0	278	278	269 office, 9 retail spaces
Site R Parking Lot	60	0	60	Replacement of existing spaces
Subtotal	*569*	*925*	*1,494*	
East Campus Garage	419	0	419	No Change from existing
Amherst Street Lot	60	0	60	No Change from existing
Hermann Garage	26	0	26	No Change from existing
Total	**1074**	**925**	**1,999**	

* SoMa garage:

Academic spaces - 260 replacement of existing academic spaces, 49 replacement graduate housing spaces, 200 MIT academic spaces shifted from elsewhere on campus.

Non Academic spaces - 275 office spaces, 216 R&D spaces, 40 Retail spaces, and 116 replacement spaces of existing commercial land use spaces.

The SoMa Project will provide 504 long-term bicycle parking spaces and 123 short-term bicycle parking spaces, as required by zoning,

Eleven Loading bays will be provided below-grade in the SoMa garage with access from Hayward Street off of Main Street. Trucks up to 50 feet long (WB-50) will be accommodated in the below-grade parking garage. Loading for Building 6 is proposed at-grade behind the building on the existing surface parking lot. Loading for Building 2 will take place at-grade off Wadsworth Street and contain 3 loading bays; two that could accommodate a 55 foot truck (WB-55).

TP&T believes that the SoMa Project is an exciting opportunity to transform Kendall Square into a more vibrant urban, mixed use district. The development program for additional graduate housing, open space,

ground floor retail, and office/R&D space is a very positive change from the existing surface parking lots. The trade-off is that the project will create traffic impacts. However, because it is located in a transit-oriented development area, containing the MBTA Kendall Square Red Line Station, the Project will create more transit trips than vehicle trips which reduces the roadway impacts.

The existing Red Line and bus capacity and their ability to accommodate new transit trips is a concern. The Project also proposes over 1,000 new parking spaces, which can be contrary to the City's transportation and sustainability goals to discourage automobile usage and encourage transit, bicycling and walking.

The Planning Board will need to determine if the benefits of the project outweigh its adverse impacts and if the investment in a large parking garage outweigh needed investments in transit improvements, while recognizing that one Project cannot solve the MBTA Red Line and bus capacity issues on its own. The Planning Board may want to consider asking the Applicant for more information on the following aspects of the SoMa Project:

- Are the proposed number of parking spaces the right amount?
  - Why does 100% of the 485 existing surface parking spaces (369 academic and 116 non-academic spaces) need to be replaced given that according to the TIS, only 75 percent are occupied at one time today?
  - Why relocate 200 parking spaces to Kendall Square from elsewhere on campus, given that transit, bicycling and walking is preferred for Kendall Square?
- The TP&T Department is concerned about how we will be able to monitor the proposed 1,156 parking space SoMa garage with regards to the final approved parking ratios and PTDM plan, commercial parking regulations, and MIT's academic parking space inventory (i.e. maximum 0.8 space/1,000 sf for R&D use, maximum 0.9 space/1,000 sf for office use, maximum 0.5 space/1,000 sf for retail use, and MIT's parking inventory cap of 4,359 spaces).
  - The TIS stated that the SoMa garage will be managed with state of the art card access technology, including a fixed number of permits for academic and commercial users. Why would a fixed number of permits be the best method to manage the parking? Separate parking facilities for academic and commercial spaces may be a simpler way to manage and monitor parking spaces. A more detailed parking management plan is needed, including parking best practices and how the TP&T Department will monitor the use of the parking spaces. In developing this parking management plan, MIT should also consider how the parking can be used in the most flexible possible way, so that commuters can make decisions on a daily basis as to how they commute, rather than being locked into traveling by car because they have prepaid for a parking pass/permit.
  - Parking programs such as, universal transportation passes, peak parking demand pricing, and other innovative parking management measures that allow people to drive on days when they need to drive but also provide incentives to use transit, bicycling or other non-single occupancy modes on other days should be implemented.
- The Graphic Materials for SoMa shows new paving material on Wadsworth Street, between Amherst Street and Main Street. Additional information should be provided to explain what is proposed.
- Provide additional information on the expected new truck trips and consider design options for Hayward Street, such as a shared street, for all users including trucks, pedestrians, and cyclists.
- Further detailed review of the locations for short-term bicycle parking will be needed.

- Although the TIS provided examples of TDM measures, the PUD and Special Permit Application provided no specific commitments. The Project will need a very robust PTDM and TDM program in order to achieve the mode shares assumed in the TIS (i.e. 33% office employee SOV rate). What is the status of the Project's required Parking and Transportation Demand Management Plan (PTDM Plan)?

Overall Transportation Impacts and Mitigation

The TP&T Department believes that the MIT Kendall Square Redevelopment Project has many positive aspects, and recognizes that MIT has made commitments through the zoning process as discussed in the PUD and Special Permit Application including:

- Community Fund Contribution up to $8.8 million,
- Non-profit Community Benefits fund contribution up to $3.5 million,
- 35 Cherry Street land contribution to the City,
- $20,000 over 10 years for building trade apprenticeship path program, and
- The Project will create public open space and create new tax revenue.

However, the Project will have transportation impacts and will create significant new demands on the local and regional transportation networks, and yet no substantial commitments have been made. The TP&T Department will work with MIT on transportation mitigation including when the conditions will need to be completed. A final transportation mitigation package should be established as part of the Final Development Plan. The TP&T Department will work with MIT to develop a range of appropriate transportation mitigation elements in the areas described below.

- **Transit improvements.**
  - TP&T appreciates that MIT is participating in the Kendall Square Mobility Task Force, which is looking to identify short-, medium and long-term transit improvement projects in Kendall Square. The study will not be completed for another 6-9 months, but the Planning Board may want to consider asking MIT to indicate what financial commitments MIT will provide for the final recommendations. Some potential commitments could be:
    - Transit contributions based on a dollar amount per square feet of new development.
    - Daily or yearly parking surcharges that are allocated to transit improvements.
    - Financial or in-kind contributions to advancing a feasibility study of communication-based-train-control (CBTC) for the Red Line, which could significantly improve Red Line Capacity by allowing trains to run closer together (i.e. shorter headways).
  - The MIT Kendall Square Redevelopment PUD and Special Permit Applications stated that MIT has had discussions with the MBTA and is exploring the opportunity to relocate and update the MBTA Red Line Headhouse. The Planning Board may want to consider asking MIT to provide more information, including MIT's commitments. One item to consider is how much the Headhouse should be setback from Main Street without reducing visibility and wayfinding on Main Street? Also, do the other Headhouses in Kendall Square need restoration (i.e. do stairways and bricks need cleaning or straightening, do the metal handrails need restoration, is the wayfinding signage and lighting sufficient?).
  - According to the TIS, the MBTA Bus routes #CT2 and #85 will be over capacity because of new riders generated by the MIT Project. There is also currently no weekend bus service

from the EZ Ride and CT2 bus. How will these issues be mitigated (i.e. new buses and operating costs)?

- **Infrastructure improvements**
  - Design and reconstruct Ames Street, from Main Street to Memorial Drive to the Paul Dudley White Multiuse Path. This work should include extending the existing two-way cycle track on Ames Street to the River as part of the bicycle network.
  - Design and reconstruct Wadsworth Street between Main to Memorial Drive, including intersections.
  - Design and construct improvements to Vassar Street/Massachusetts Avenue and Vassar Street/ Main Street intersections, with particular attention to bike accommodation and the cycle track transitions.
  - Update outdated traffic signal equipment (i.e. controllers, conduit, mast arms, signal heads) at Ames Street/Main Street, Broadway/Ames Street, and Vassar/Main/Galileo Galilei Way.
  - Possibly design and reconstruct Galileo Galilei Way, from Broadway to Main (unless undertaken by Cambridge Redevelopment Authority).

- **Bicycle Improvements**
  - The TIS indicated that there was insufficient bicycle parking in Kendall Square (250 bike spaces and as many as 321 bikes counted). Although the Project will provide bicycle parking to meet zoning, TP&T does not consider meeting zoning a transportation mitigation unless the commitments are above and beyond what zoning requires. The Planning Board may want to consider asking MIT to demonstrate why the proposed bicycle parking plan will be sufficient to meet the growing need for bicycle parking in Kendall Square.
  - Hubway Station planning should be occurring at this stage so that it is well integrated with the site planning and access. The TIS found that all Hubway bikes were used at 6:00 pm at Binney/Sixth and Kendall Street. A minimum of one new Hubway Station at the Broad Canal and another large station or two in other areas are needed.
  - If the MBTA Headhouse is reconstructed, a public bicycle station should be included in the design. Another potential location for a public bicycle station can be at Building 6.
  - MIT should evaluate the option of raising the cycle track on Main Street between the Longfellow Bridge and Third Street.
  - More information about the Memorial Drive Phase II improvements should be provided and any contributions that MIT might be able to provide.

Cc: Adam Shulman, TPT; Iram Farooq, Jeff Roberts, Liza Paden, Susanne Rasmussen, Stuart Dash, Cara Seiderman, Suzannah Bigolin, Stephanie Groll, CDD; Michael Owu, MIT.

City of Cambridge
Department of Public Works

Owen O'Riordan, Commissioner

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September 1, 2015

TO: Planning Board

FROM: Katherine F. Watkins, PE
City Engineer

RE: MIT Kendall Square Initiative NOMA Project: PUD Special Permit Application

We are in receipt of the Planned Unit Development Special Permit Application materials for the above mentioned project, dated July 27, 2015. We have reviewed the materials and have presented below some comments related to the interests of the Department of Public Works.

The DPW has met with the Applicant, MIT, and their consultants on numerous occasions to review the proposal for the work proposed north of Main Street. MIT and their consultant team have demonstrated an understanding our Department's requirements for new developments and have continuously expressed willingness to work with the DPW to meet the requirements and to address our concerns. The documents submitted for the first phase of this PUD Special Permit Application are consistent with the discussions that we have had with the MIT Team.

As the project is further developed under the PUD Special Permit process and continuing through the Building Permit Application and review processes the DPW looks forward to working with the Applicant on the details of the development design. At this first review of the PUD Application materials, please find outlined below items related to the DPW's interests that are worth noting at this time.

Public Infrastructure:

- The DPW is currently engaging a consultant team to evaluate the Kendall Square area infrastructure as it relates to the future build out of the area. As the design progresses, the DPW will continue to incorporate the Applicants proposal into the study to evaluate the impacts of the development on the utility infrastructure and the potential mitigation requirements to support the development.

- As the development progresses through the PUD process and eventually the building permit process, we will review the site and utility design related to DPW standards and requirements. The DPW reserves the right to establish appropriate mitigation measures, related to impacts to public utility infrastructure and the public right of way (streets and sidewalks), throughout the process as the design presents the full scope of these impacts.

- The Applicant shall coordinate all water services and connections with the Cambridge Water Department.

Stormwater Management:

- Under the City Land Disturbance Regulations, the Applicant will need to obtain a Stormwater Control Permit from the Department of Public Works, prior to the start of construction. The permit 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. The permit requirements also include the standard to mitigate the stormwater runoff from the site from the proposed 25-year storm to a rate below the pre-redevelopment 2-year storm event.

- The project is located within the Charles River Watershed for which a Total Maximum Daily Load (TMDL) has been established for Phosphorous, the pollutant of concern. In response to the TMDL the City requires that projects within the watershed treat stormwater to reduce the Phosphorous load by 65% from the existing condition. The Applicant has acknowledged this requirement in the submission materials.

- The Applicant indicates that in addition to low impact development techniques they are reviewing potential of stormwater reuse for purposes of irrigation and/or cooling tower make-up water. The DPW applauds the implementation of LID practices and encourages the continued investigation of stormwater re-use to meet the above outline requirements.

Sanitary Sewer:

- The Applicant presents an estimated sewer flow generation of 56,835 gallons per day from the development. In order to understand the impact that the added flow will have on the capacity of the City infrastructure, the Applicant should anticipate undertaking a capacity study, which includes a metering program, to evaluate current flow conditions in the system. The DPW will work with the Applicant to determine the scope of the study and the specific information that should be evaluated.

- The proposed sewer flow is tributary to the City's combined sewer system and therefore will be required to provide mitigation for the additional flow by reducing the inflow and infiltration (I&I) into the system at rate of 4:1. The DPW will work with the Applicant to evaluate opportunities to address this mitigation requirement.

- The project is proposing a sewer connection to a combined system that is prone to surcharging. To provide building occupants with uninterrupted sewer service in instances of a surcharged system the City requires that a storage tank be provided with the capacity to detain the peak 8 hours of flow from the site. The Applicant acknowledges this requirement in the submission materials. The DPW will work with the applicant on the design and operating procedures for this piece of infrastructure.

We look forward to working with MIT 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

City of Cambridge
Department of Public Works

Owen O'Riordan, Commissioner

147 Hampshire Street
Cambridge, MA 02139
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Voice: 617 349 4800
TDD: 617 499 9924

September 1, 2015

TO: Planning Board

FROM: Katherine F. Watkins, PE
City Engineer

RE: MIT Kendall Square Initiative SOMA Project: PUD Special Permit Application

We are in receipt of the Planned Unit Development Special Permit Application materials for the above mentioned project, dated July 27, 2015. We have reviewed the materials and have presented below some comments related to the interests of the Department of Public Works.

The DPW has met with the Applicant, MIT, and their consultant team to review the proposal for the work proposed South of Main Street. MIT and their consultant team have demonstrated an understanding our Department's requirements for new developments and have continuously expressed willingness to work with the DPW to meet the requirements and to address our concerns. The documents submitted for the first phase of this PUD Special Permit Application are consistent with the discussions that we have had with the MIT Team.

As the project is further developed under the PUD Special Permit process and continuing through the Building Permit Application and review processes the DPW looks forward to working with the Applicant on the details of the development design. At this first review of the PUD Application materials, please find outlined below items related to the DPW's interests that are worth noting at this time.

Project Phasing:

The DPW recognizes that the SOMA Development consists of multiple parcels and planned building structures that are reviewed at this stage as a single development. The DPW is encouraged by the potential for creative and sustainable infrastructure and planning opportunities that are created by the PUD process. The DPW also recognizes that the Applicant has begun to outline the phasing and timing of the development build-out in the application package.

We respectfully request that as the timing, sequencing and phasing of the project is further vetted that the Applicant consider the infrastructure planning as integral to the plan. We will require a plan that clearly demonstrates that all DPW permit requirements and mitigation measures be met at each stage of the phased development.

Public Infrastructure:

- The DPW is currently engaging a consultant team to evaluate the Kendall Square area infrastructure as it relates to the future build out of the area. As the design progresses, the DPW will continue to incorporate the Applicants proposal into the study to evaluate the impacts of the development on the utility infrastructure and the potential mitigation requirements to support the development.

- As the development progresses through the PUD process and eventually the building permit process, we will review the site and utility design related to DPW standards and requirements. The DPW reserves the right to establish appropriate mitigation measures, related to impacts to public utility infrastructure and the public right of way (streets and sidewalks), throughout the process as the design presents the full scope of these impacts.

- The Applicant shall coordinate all water services and connections with the Cambridge Water Department.

Stormwater Management:

- Under the City Land Disturbance Regulations, the Applicant will need to obtain a Stormwater Control Permit from the Department of Public Works, prior to the start of construction. The permit 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. The permit requirements also include the standard to mitigate the stormwater runoff from the site from the proposed 25-year storm to a rate below the pre-redevelopment 2-year storm event.

- The project is located within the Charles River Watershed for which a Total Maximum Daily Load (TMDL) has been established for Phosphorous, the pollutant of concern. In response to the TMDL the City requires that projects within the watershed treat stormwater to reduce the Phosphorous load by 65% from the existing condition. The Applicant has acknowledged this requirement in the submission materials.

- The Applicant indicates that the stormwater management system will be designed to consider the SOMA Project as a whole as opposed as individual building parcels. The DPW supports this approach as it allows for innovative and sustainable mitigation techniques to meet the above requirements. The Application materials indicate that stormwater collection and re-use for non-potable uses is proposed for the development. The DPW supports the proposal for stormwater re-use but notes as indicated above, that phasing of the implementation of any shared systems will be important for us to understand as the design progresses.

Sanitary Sewer:

- The Applicant presents an estimated sewer flow generation of 220,968 gallons per day from the development, an increase of 160,873 gallons per day over the existing sewer flows from the development parcels. In order to understand the impact that the added flow will have on the capacity of the City infrastructure, the Applicant should anticipate undertaking a capacity study, which includes a metering program, to evaluate current flow conditions in the system. The DPW will work with the Applicant to determine the scope of the study and the specific information that should be evaluated.

- The proposed sewer flow is tributary to the City's combined sewer system and therefore will be required to provide mitigation for the additional flow by reducing the inflow and infiltration (I&I) into the system at rate of 4:1. The Applicant acknowledges this requirement in the submitted materials and commits to working with the DPW to meet this requirement.

We look forward to working with MIT 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