MIT Kendall Square Initiative
NoMa Project

Volume I: Final Development Plan and Responses to Request for Additional Information

Final Development Plan Submission

Cambridge Planning Board #302

November 5, 2015

Submitted by:

Massachusetts Institute of Technology (MIT)

Owner/ Project Proponent

Massachusetts Institute of Technology (MIT)

Legal Counsel

Goulston & Storrs Gallucio & Watson, LLP

Project Management

Leggat McCall Properties Redgate

Building Design Architects

Elkus Manfredi Architects

Landscape Architects

Landworks Studio

Retail and Placemaking

Graffito SP

Civil Engineering

VHB

Transportation Engineering

VHB

Parking Consultant

Desman Associates

M/E/P Engineering

Vanderweil

Structural Engineering

McNamara Salvia, Inc.

GeoTechnical/GeoEnvironmental

McPhail Associates, LLC

Environmental Permitting Consultant

Epsilon Associates

Acoustical Engineering

Cavanaugh Tocci

Sustainability Consultant

Atelier Ten

District Energy Consultant

JB&B

Wind Consultant

RWDI Consulting Engineers

Surveyor

Feldman

PreConstruction Services

JMA

Communications

Solomon McCown & Company

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SECTION A: Introductory Letter

MIT ONE BROADWAY FEE OWNER LLC
c/o MIT Investment Management Company
238 Main Street
Cambridge, Massachusetts 02142

November 5, 2015

VIA HAND DELIVERY

City of Cambridge
Office of the Planning Board
City Hall Annex
344 Broadway
Cambridge, Massachusetts 02139

RE: Kendall Square Initiative/North of Main – Final Development Plan
Planning Board Case No. 302

Ladies and Gentlemen:

MIT One Broadway Fee Owner LLC ("**Owner**"), a wholly-owned affiliate of the Massachusetts Institute of Technology ("**MIT**"), is pleased to submit the enclosed Final Development Plan for the South of Main portion of its Kendall Square Initiative, to the Planning Board for its review and consideration. As you are aware, this Final Development Plan is the culmination of several years of hard work and collaboration by MIT, the City and the Cambridge community. This Final Development Plan is a continuation and refinement of the Development Proposal that MIT filed with the Planning Board on July 27, 2015, and responds to the comments and questions raised, and additional information requested, by the Planning Board in its Preliminary Determination dated September 8, 2015, in connection with Owner's Development Proposal, a copy of which is included as Appendix A to the Final Development Plan.

The Final Development Plan contains a refreshed graphic package that supersedes the graphics contained in the Development Proposal. It should be noted that the Final Development Plan supplements the materials submitted by Owner in connection with its pending application for an Article 19 Project Review Special Permit, and should be considered together with that prior submission, as a single, comprehensive application for a PUD Special Permit as well as a Project Review Special Permit. Please note that Owner has also included with the Final Development Plan a request for the issuance of a Flood Plain Overlay District Special Permit and has provided an updated Special Permit Application Cover Sheet with this filing, which shall replace the existing Cover Sheet.

Owner appreciates the time and consideration that the Planning Board, the Community Development Department, the City and the Cambridge community have given to this important project. Owner looks forward to the opportunity to present this exciting Final Development Plan to you and the general public in the near future.

Should you have any questions concerning the above or the enclosed, please contact me.

Thank you.

Sincerely,

Israel Ruiz
Executive Vice President & Treasurer
Massachusetts Institute of Technology,
as the manager of MIT One Broadway
Fee Owner LLC

Enclosures

SECTION B: Forms

CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

SPECIAL PERMIT APPLICATION • COVER SHEET

In accordance with the requirements of the City of Cambridge Zoning Ordinance, the undersigned hereby petitions the Planning Board for one or more Special Permits for the premises indicated below.

Location of Premises:	One Broadway
Zoning District:	Office 3A, PUD-3, PUD-5 and Flood Plain Overlay District
Applicant Name:	MIT One Broadway Fee Owner LLC
Applicant Address:	238 Main Street, Cambridge, MA 02142
Contact Information:	617-258-5634 mowu@mit.edu
	Telephone # Email Address Fax #

List all requested special permit(s) (with reference to zoning section numbers) below. *Note that the Applicant is responsible for seeking all necessary special permits for the project. A special permit cannot be granted if it is not specifically requested in the Application.*

Planned Unit Development Special Permit (Article 12.000 and Section 13.82)
Project Review Special Permit (Section 19.20)
Flood Plain Overlay District Special Permit (Section 20.70)

List all submitted materials (include document titles and volume numbers where applicable) below.

Planned Unit Development Special Permit Application
MIT Kendall Square Initiative – NoMa (North of Main) Project
Project Review Special Permit Application
MIT Kendall Square Initiative – NoMa (North of Main) Project
MIT Kendall Square Initiative – NoMa (North of Main) Graphics Package

Signature of Applicant:

For the Planning Board, this application has been received by the Community Development Department (CDD) on the date specified below:

Date Signature of CDD Staff

www.vhb.com

November 3, 2015

Ref: 10399.01

MIT One Broadway Fee Owner LLC
c/o MIT Investment Management Company
238 Main Street
Cambridge, MA 02142

Attention: Michael K. Owu

Re: One Broadway – Floodplain Location

Michael:

VHB has reviewed the FEMA Floodplain mapping included on FIRM map panel No. 25017C0577E to determine if areas contiguous to the floodplain shown on the FIRM map extend into the One Broadway site. The limits of the flood plan appear to be based on old mapping data and do not reflect the current conditions of the site. The map provides an elevation for the 100 year flood, or 1-percent-annual-chance flood event (Zone AE) which is 4.0 based on the NAVD88 datum. The site drawings were based on the Cambridge City Datum (CCB) which is approximately 11.64 feet below the NAVD88 datum. This means that the AE flood elevation provided by the FIRM map relates to an elevation of approximately 15.64 CCB.

Based on the site survey prepared by Feldman Land Surveyors dated December 24, 2014, the site elevations range from about 18 to 23 CCB. The closest location with an elevation at or below 15.64 CCB is at the Broad Canal sea wall approximately 112' east from the northeastern property corner.

Based on the forgoing, we find that the One Broadway site does not include any areas that are contiguous to, or a part of the FEMA Zone AE as defined by the elevation 4.0 NAVD88.

Sincerely,
VHB, Inc.

Mark Junghans, P.E.

Principal
mjunghans@vhb.com

99 High Street
10th Floor
Boston, Massachusetts 02110
P 617.728.7777
F 617.728.7782

OWNERSHIP CERTIFICATE

Project Address: One Broadway **Application Date:** July 27, 2015

This form is to be completed by the property owner, signed, and submitted with the Special Permit Application:

I hereby authorize the following Applicant: MIT One Broadway Fee Owner LLC

at the following address: One Broadway

to apply for a special permit for: A mixed-use residential project with retail and limited office

on premises located at: One Broadway

for which the record title stands in the name of: MIT One Broadway Fee Owner LLC

whose address is: 238 Main Street, Cambridge, MA 02142

by a deed duly recorded in the:

Registry of Deeds of County: Middlesex Book: 51973 Page: 539

OR Registry District of the Land Court, Certificate No.: Book: Page:

EKA

Signature of Land Owner (If authorized Trustee, Officer or Agent, so identify)

To be completed by Notary Public:

Commonwealth of Massachusetts, County of Middlesex

The above named Seth Alexander personally appeared before me,

on the month, day and year 7/23/15 and made oath that the above statement is true.

Notary: Christine A. Martignetti

My Commission expires:

CHRISTINE A. MARTIGNETTI
Notary Public
Massachusetts
Commission Expires Mar 5, 2021

Project Address: One Broadway **Application Date:** July 27, 2015

The Applicant must provide the full fee (by check or money order) with the Special Permit Application. Depending on the nature of the proposed project and the types of Special Permit being sought, the required fee is the larger of the following amounts:

- If the proposed project includes the creation of new or substantially rehabilitated floor area, or a change of use subject to Section 19.20, the fee is ten cents ($0.10) per square foot of total proposed Gross Floor Area.
- If a Flood Plain Special Permit is being sought as part of the Application, the fee is one thousand dollars ($1,000.00), unless the amount determined above is greater.
- In any case, the minimum fee is one hundred fifty dollars ($150.00).

Fee Calculation

New or Substantially Rehabilitated Gross Floor Area (SF): 395,000	× $0.10 =	$39,500
Flood Plain Special Permit	Enter $1,000.00 if applicable:	
Other Special Permit	Enter $150.00 if no other fee is applicable:	$150
TOTAL SPECIAL PERMIT FEE	**Enter Larger of the Above Amounts:**	$39,650

SECTION C: Copy of Planning Board Preliminary Determination

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

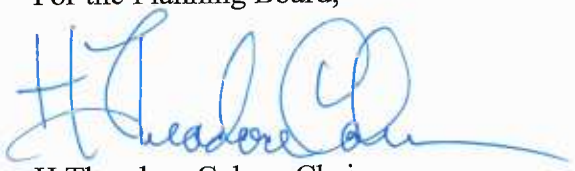
- Provide an operations and programming plan to ensure that open space and retail programs will cater to diverse age groups and visitors.

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.

SECTION D: Responses to Requests for Additional Information

Each request for modifications or additional information contained in the Planning Board's Notice of Preliminary Determination and staff memo is addressed below. Please refer to *MIT Kendall Square Initiative, Volume II Technical Studies and Information (SoMa Project and NoMa Project), (November 5, 2015)* for referenced Technical Studies and *MIT Kendall Square Initiative, NoMa Project, Volume III Graphic Materials* (November 5, 2015) for referenced Figures.

Several comments below are responded to in detail in the SoMa Final Development Plan (PB#303) which is undergoing simultaneous Cambridge Planning Board review. In the interest of limiting duplication, the document incorporates relevant graphics by reference as noted with "(PB#303)" after the figure numbers. These images can be found in *MIT Kendall Square Initiative, SoMa Project, Volume III Graphic Materials* (November 5, 2015).

I. Site Planning and Design

A. Preliminary Determination Comments

1. 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.

Integrating the project into the existing and planned Cambridge bike network and facilitating pedestrian and bicycle connections between NoMa and SoMa and from the project to the broader neighborhood has been a priority for the project team.

North-South connections across Main Street: The project is aligned with the new pedestrian crossing of Main Street between the Sloan School and the Red Cross Building. The project design enhances the value of the crossing on both sides of the street. On the north side, the crossing will integrate into a new 20 foot wide pedestrian walkway between the new Building 1 and the Red Cross Building that provides new connection from Main Street (and points south of it) to the Broad Canal waterfront, the restaurants and amenities along Broad Canal Way and the East Cambridge neighborhood beyond as shown in ***Figure 9 NoMa Proposed Pedestrian Connections***. To the south, the landscape at the Sloan School/Building 2 site is being redesigned to connect seamlessly and rationally from the new crosswalk around the exhaust vents from the Sloan garage, to connect points on the north side of Main Street to the Sloan School, the Wadsworth Street corridor to the River, the new open space at MIT's East Campus and Institute buildings beyond. Please see ***Figure B9 (PB#303) Sloan Pedestrian Connections Detail Plan*** for detail.

The proposed project also includes logical connections from Point Park to Wadsworth Street. The proponent has participated in the Connect Kendall initiative and will continue to work with the City and the owners of the land – the Cambridge Redevelopment Authority and Boston Properties – to ensure that the project is consistent with plans for Point Park that arise out of that initiative.

As part of the Kendall Square Initiative, MIT is investing in roadway improvements within the PUD that will facilitate pedestrian access between Main Street and the significant open space proposed. These include alternative paving on Carleton Street, Hayward Street and a

section of Wadsworth Street that privilege pedestrians and cyclists. The character of each of these streets as proposed is described below.

Wadsworth Street: Wadsworth Street is owned by the City of Cambridge. MIT will reconstruct Wadsworth Street to privilege pedestrians and create an improved link to the Charles River. The sidewalks on the west side of Wadsworth Street will be reconstructed to increase from 6.5 feet in width to 8 feet in width to accommodate tree plantings and appropriate width for comfortable walking along 238 Main Street and Building 3. On the east side, Building 2 is set back to allow for an 8 foot sidewalk plus over 18 feet of spill out space which combine to accommodate a double row of trees and outdoor seating spilling out of the retail that wraps the corner. In conjunction with the renovation of Building E52, MIT recently repaved the segment of Wadsworth Street south of Amherst Street. In this section, the profile of the street will be retained with a 6.5 foot sidewalk on the east side and 13 foot sidewalk on the west side. Alternative paving on a crosswalk just north of Amherst Street will serve to protect pedestrians and protect bicyclists as they cross from the East Campus open space to the Sloan building. MIT is testing the feasibility of raising this crosswalk for improved pedestrian safety. As discussed throughout the zoning process, Wadsworth Street has a high value as a pedestrian connection between East Cambridge and the Charles River and the street profile has been designed to provide wider sidewalks where possible. We anticipate that this will be a low volume road and have included sharrows in the street design. Please see *Figure B38 (PB#303) Wadsworth Street 1 Site Section H*, *Figure B39 (PB#303) Wadsworth Street 2 Site Section I*, and *B40 (PB#303) Wadsworth Street Improvements Detail Plan*.

Hayward Street: Hayward Street is owned by the City of Cambridge but is characterized as a "discontinued way." MIT intends to completely reconstruct this street. As shown on Figure X, the first segment off of Main Street includes the access to the below grade loading docks for the project and will be accessible to trucks. This segment will include pavers at the entrance to Hayward to signal the transition to the project area. South of the loading dock entry the pavement will be changed to pavers and no vehicular through access will be allowed through the open space (except for emergency vehicles). At the south end of Hayward Street two way loading access to the existing E40 building will also be retained. Please see *Figure B35 (PB#303) Hayward Street 1 Site Section F*, *B36 (PB#303) Hayward Street 2 Site Section G*, and *B37 (PB#303) Hayward Street Improvements Detail Plan*.

Carleton Street: Carleton Street is owned by the City of Cambridge but is characterized as a "discontinued way." MIT will reconstruct Carleton Street as a shared street. Vehicles (except emergency vehicles) will be prohibited from the northern segment at Main Street to provide a complete auto-free zone around the MBTA headhouse. Limited vehicular access will be maintained from Deacon Street to Amherst Street to accommodate activities related to MIT uses and the Kendall Hotel. Carleton Street will be treated with pavers to signal preference to pedestrians and slow vehicle movements. Please see *Figure B45 (PB#303) Carleton Street/Gateway Site Section E*. Views of the paving treatments on Carleton Street are included in *Open Space Proposed Renderings A and B (Figures B42 and B44 (PB#303)*).

Ames Street: MIT has an interest in the functionality of Ames Street between Main Street and Memorial Drive as it is traversed by a heavily used pedestrian connection from Main Campus to the existing East Campus Buildings (Media Lab, Medical, MBTA station) and the proposed PUD-5 buildings beyond. This segment of Ames Street also includes 65 heavily utilized on-

street parking spaces serving residents and visitors to MIT and other nearby companies, several loading zones and a bus stop, as well as a significant number of mature trees located fairly close to the right of way on its west side. The City has recognized Ames Street as an important bicycle connection between Main Street and Memorial Drive and MIT will continue to work with the City on the best way to accommodate bicycles while balancing pedestrian movements, on-street parking, street trees, and public realm needs.

The NoMa project will further accommodate bicyclists by adding 54 short term bicycle parking spaces distributed throughout the new public realm and 322 long term bicycle parking spaces in the parking garages.

The specifics of how the proposed pedestrian improvements will integrate with the existing pedestrian paths and crossings is shown on ***Figures B6 – B9 (PB#303).*** The specifics of how the on street bicycle improvements work with the existing and planned network are shown on ***Figure B10 (PB#303).***

2. *Provide clearer differentiation between public and private streets, and how each street will function, to understand effectiveness of proposed open space connectivity.*

   Figure 8, Street Ownership depicts the ownership of each of the streets directly abutting the NoMa district.

3. *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.*

   The proposed open space crosses Wadsworth Street to the Sloan School/Building 2 at a crosswalk making a direct, pedestrian privileged East-West Connection all of the way from E52 to Building 2 across Main to Building 1 and to East Cambridge beyond. NoMa pedestrian connections are shown on ***Figure 9 NoMa Proposed Pedestrian Connections*** and ***Figure 10 Landscape Plan***. A detailed plan showing the connections to the Sloan/Building 2 area from both Building 1 and Building 3 is shown on ***Figure B9 (PB#303) Sloan Pedestrian Connections Detail Plan***.

   The project is making improvements to Wadsworth Street to provide wide sidewalks and accommodate bicycles to strengthen the connection between Main Street and Memorial Drive. There is a signal coordinated crosswalk at Memorial Drive at Wadsworth that provides access to the median and to the Charles River.

   The existing and new pedestrian open space connections are shown on ***Figure 9 NoMa Proposed Pedestrian Connections***.

   Please see below for a discussion of connections with Point Park.

4. *Consider connections between Point Park and Wadsworth Street (recommended in Connect Kendall Square plan).*

   MIT's Development Plan achieves many of the connectivity goals of the Connect Kendall plan including strengthening connections to the Charles River by activating both sides of Broad Canal Way and incorporating a bio-retention feature at Site 1 and strengthening the pedestrian experience along Wadsworth Street. In addition the MIT plan connects the north and south sides of Main/Broadway by meeting the new crosswalk between Sloan and Red Cross with a robust pedestrian network on either side.

   MIT's proposed streetscape design is attentive to how the proposed Wadsworth Street sidewalks meet the existing crosswalks to Point Park. Nothing proposed in this Development Plan precludes implementation of improved connections between Point Park and Wadsworth Street through Connect Kendall or other initiatives and MIT looks forward to the continued community process associated with Point Park.

5. *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.*

   The location of the parking garage access and egress for pedestrians and bicyclists will contribute to the animation of the open space. The exits from the garage and building will spill on to the newly created or enhanced pedestrian pathways that connect to the East Cambridge area, MIT's campus to the south, and Main, Broadway and Third streets. With the new or repurposed retail spaces of Building 1, the exits from Building 1 are located to afford easy access providing the opportunity for year-round activation. Please see ***Figure 19 Ground Floor*** and ***Figure 40 NoMa Bike Parking***.

6. *Provide a long view of open space at back of buildings.*

   In addition to the single view of the open space shown at the September 8, 2015 Planning Board presentation, the Final Development Plan includes a number of images, including long views, that illustrate the open space at the north side of the building.

   These are ***Figures B41 – B48 (PB#303)***.

B. <u>Additional Comments from City of Cambridge Departments</u>

a. *Why is it necessary for the new parking facility at NoMa to be above grade instead of below grade?*

   The approved zoning for the PUD-5 district anticipates above grade parking at One Broadway. Locating the parking garage above grade enables MIT to avoid costly below grade construction in favor of applying resources to the aspects of the project that generate lower than required returns including 18% affordable housing and a single-story retail building to activate the south side of Broad Canal Way. The proposed parking structure as designed and programmed is consistent with the adjacent One Broadway garage and will relate to the

urban context. The proposed intricate screening of elegant perforated metal panel materials, which was developed after a number of studies by the design team, will screen cars from pedestrians and will provide a contextual visual interest. Please see elevations ***Figures 29 - 35*** and renderings ***Figures 36, 37 and 39***.

b. Are the two proposed NoMa 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?

Our analysis indicates that the subject docks are sufficient if staffed properly. We will employ a dock master and he or she will coordinate movements proactively including residential move-ins which normally occur at specific times during the year. The moves will be managed by on-site property management staff and moves will be scheduled by appointment. Please see ***Figure 19 Ground Floor Plan***.

c. In 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.

In our current design, we have relocated the F.C.C. room to the east, just below the residential building core. With this adjustment we have minimized the amount of frontage while still providing the necessary functionality. With a potential grocer located on Main Street, and the additional activation we are all seeking, the location for some of the required functional spaces were located appropriately.

d. Graphic materials for NoMa showing Main Street should reflect a final layout plan approved by the City.

The City has recently completed the construction of Broadway from Ames Street to Third Street with on-street bike lanes, and MIT understands that the Commonwealth has designed and is preparing to reconstruct the Longfellow Bridge and the section of Main Street from the bridge to Third Street with bike lanes at the street level. MIT supports and has incorporated this design which provides a uniform and continuous bike facility throughout the corridor.

II. Building Concept Design

A. Preliminary Determination Comments

1. *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.*

The urban design intent is to create a family of buildings that work harmoniously together while allowing for individual character and definition. This is achieved through the use of simple volumes for each building with chamfered bases where needed to create oblique visual connections but without compromising the legibility of the volumes

In elevation, the alignment of the historical building as a base is respected and extended into Building. All buildings have a base that is similar in height to the key historic buildings on Main Street and distinguished volumetrically from the top volume.

In elevation, the tops of the towers are aligned in groups in order to lock them to the skyline of both the campus and Kendall Square. The residential towers rise above the others with similar volumes and north-south orientations. The upper volumes of Buildings 2 and 3 work together with One Broadway to create a lower three-some within the bookends of Buildings 1 and 4, framing the important Main Street, Broadway, and Third Street intersection.

The existing street hierarchy is respected with a special emphasis on the connections to the river. By wrapping retail and active uses around the secondary street, the designs encourage pedestrian activity into the publicly-accessible open spaces within the development and to the Broad Canal and Charles River.

Up close, the individual character of each building becomes apparent. Although the facades of several of the buildings are glass and curtain wall, each building is quite unique in its use of color, texture, fins, type of glass (e.g., clear, fritted, or spandrel), and type of metal panel.

See ***Figures 29 - 33*** for details on the façade materials for each building. See ***Figures D36 – D80 (PB#303)*** showing each building's consistency with the K2C2 Design Guidelines.

2. *Consider the scale and design of new buildings in the context of existing buildings, including the historic American Red Cross building being preserved.*

The PUD-5 zoning anticipates the relationship between the proposed Building 1 and the Luke Building (current home of the Red Cross). The building design complies with the requested setbacks as described in Section 13.85.2 of the Ordinance and the design team has capitalized on opportunities to relate to the building even more. At grade, the 20-foot setback sets the stage for the creation of a new pedestrian path between the Luke Building and Building 1 that connects the new pedestrian crossing at Main Street to the Broad Canal, Broad Canal Way and East Cambridge beyond. The podium of the garage of building 1 roughly aligns with the facade of the Red Cross building, strengthening the streetwall on Main Street/Broadway. At the upper levels, the building complies with the 36-foot setback

from the Luke Building property line but also takes advantage of the opportunity to angle away from the property in plan and open up the sky view. The path and setbacks can be seen in ***Figure 30 South Elevation – Main Street*** and ***Figure 35 Main Street Looking West***.

3. *Consider use of color in building designs.*

Each building incorporates color in key locations in the design. Specifically, in Building 1, the design includes wood façade elements to add a warmer finish at the base and help define the retail/public realm.
The metal panels cladding the garage offer additional opportunities to add color to the building.

See Figures 29 - 39 for details on how color is being applied.

4. *Provide a view of buildings from the Longfellow Bridge.*

An additional view from the Longfellow Bridge is shown on ***Figures D7 and D8 PB#303***.

5. *Provide additional cross-sectional views of buildings along Main Street to provide a sense of scale.*

The Final Development Plan includes a number of cross sectional views along Main Street to provide a sense of scale. These include Figures 35 and 36.

6. *Provide a rendering showing skyline changes from Boston.*

Long views showing skyline changes from Boston are shown as Figure D3 – D4 from Main Street near Lafayette Square, Figure D5-D6 from Third Street, Figure D7 – D8 from the Longfellow Bridge, and Figure D9 - D10 from the Esplanade/Storrow Lagoon.

7. *Show tops of buildings (including mechanical systems and screening) in images and renderings. Consider strategies to minimize exposure of mechanical systems.*

All building materials in the Final Development Plan show tops of buildings as applicable and Building 1 does not have mechanicals visible.

B. Additional Comments from City of Cambridge Departments

a. *The folded facades of Buildings 1 and 5 help mitigate bulk, but perhaps could be further exaggerated to help break up the long facades. Consider further fragmenting the massing, enhancing the nature of angled planes, and more strongly expressing the different functions of the buildings through detailed design.*

The "shaved" portions of the tower façade reduce the visual length/ bulk of the tower without sacrificing rentable square footage to large set-backs. (If large set backs are added to the program, the building would become longer to replace the program). The curtain wall at the tower is broken down to 2'-8" modules that reflect the human scale. In addition, each apartment unit has at least 2 operable windows in them that are visible on the façade to further break down scale. Please see ***Figures 35 – 39*** for renderings of Building 1.

b. 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.

A pedestrian level wind study has been performed for the project and is included in **Volume II, Section C**. Overall the wind conditions at Building 1 are predicted to be comfortable for the intended usage. Wind conditions on the sidewalks are expected to be comfortable for standing or strolling in general. Higher wind activity may occur at Broad Canal Way, especially at the northeast corner of Building 1 due to the acceleration of winds at that corner. As the design develops the design team will explore the opportunities to create canopies to mitigate the wind at building entrances as well as coniferous trees, planters and windscreens (in addition to street trees and landscaping) along sidewalks, outdoor seating and open spaces to reduce wind impacts at those locations.

Design team wind mitigation measures include:
- vertical screen on Third Street between the One Broadway parking entrance and the new northwest retail space in order to mitigate a dangerous wind gust condition in fall, winter, and spring.
- a canopy at the northeast corner of the site
- a recessed ground level at the southwest corner of the site (the garage levels above provide an overhang, and the new form provides better access to the new crosswalk on Main St.)

c. The exposed parking on Floor 4 of NoMa Building should also be covered to avoid being visible from buildings above.

The proposed intricate screening of elegant perforated metal panel materials, which was developed after a number of studies by the design team, will screen cars from pedestrians. The project team has explored options for covering parking in order to limit visibility from above but access to the transformer vault requires clear head room which would be limited by a trellis or other structure. Ultimately those from above will experience and improved condition from what is visible today. Please see ***Figure 22 Floor 4 Roof Plan*** and ***Figures 37 – 39*** for renderings of the Building 1 facades.

Further renovations and additions to existing One Broadway will include expanding the retail space at grade level on the southwest and south portions of the building, relocating the office lobby and façade renovations replacing the precast concealing the parking podium that faces Broadway. Please see ***Figure 36*** for existing and proposed renderings of the One Broadway garage along Main Street.

III. Transportation

A. Preliminary Determination Comments

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

MIT is pleased to have advanced the collective understanding of the Red Line operations through a detailed transit study as part of the Kendall Square TIS. It is clear that the Red Line is in need of a detailed analysis and MIT has worked with the Kendall Square Association in advocating for improvements. The detailed analysis showed that observed overcapacity on specific trains was caused by fewer trains operating during the PM peak hour due to system issues. Based on ridership observations, existing and new PM Project riders would be accommodated if the MBTA operated the scheduled number of peak hour trains on a regular schedule. In addition, MIT is prepared to consider in-kind contributions and financial support to advance studies related to Red Line improvements. MIT is also interested in studying Kendall Square commuters who may be better served by improved shuttle connections to the nearby Green and Orange lines.

IV. Sustainability

A. Preliminary Determination Comments

1. *Review how the proposal will respond to Net Zero efforts that will soon be implemented by the city. Discuss 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.*

The City's Net Zero target for energy performance for new construction references a 22% improvement on the current baseline (i.e. LEED v3). The Kendall Square development is pursuing a more stringent version of LEED, LEED v4, and will achieve an equivalent 25-35% improvement on the current baseline.
A complete sustainability discussion is included as ***Section VIII*** of this Final Development Plan.

2. *Discuss how energy performance goals will be met with such a large use of glass in building facades.*

Reductions in energy consumption can be achieved in different ways, depending on building program and loads and respective major drivers of energy consumption.

Sustainable buildings must weigh factors such as daylight availability, reduced electric lighting consumption, and preservation of views and connection to the outdoors for occupant health with building solar gains or heat losses through the façade. Likewise, not all buildings are driven primarily by façade performance. All buildings in the Kendall Square development will be specifying high performance glazing, including but not limited to low-e coatings, frit

coverage, and well insulated double or triple pane glazing, in conjunction with shading devices, operable windows for natural ventilation, and opaque wall areas. All buildings will utilize numerous cutting-edge sustainable practices and technology in building design and operation.

In addition, buildings will achieve the most significant energy reductions through efficient HVAC equipment and conditioning systems utilizing heat recovery and heat exchange, installed equipment power density reductions (such as office and lab equipment reductions and/or efficient residential appliances), advanced lighting and controls, and possible district energy connections. High performance design for energy efficiency in Kendall Square takes a holistic look at each building's specific needs to determine the most effective energy efficiency measures while meeting other programmatic or sustainability goals.

V. Open Space and Retail Programming/ Active Uses & Innovation Space Programming

A. Preliminary Determination Comments

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

MIT has made the commitment to hire a new Director of Open Space Programming whose primary responsibilities will be 1) to develop and implement a plan for the publicly-accessible open space and 2) to ensure that the space is actively programmed to meet the diverse needs of the MIT and Cambridge communities.

Recognizing the importance of the retail programs in achieving truly vibrant neighborhood, MIT is also committing to hiring a new Associate Director of Retail Development to focus exclusively on the development and execution of all retail-related activities in the district.

Both jobs have been and MIT is actively accepting applications for these important positions.

Planning for programming will also be guided by the recommendations of the retail consultant that MIT engaged for the Kendall Square project during the rezoning process and who has continually advised the team through project planning. The consultant recommendations are included as Volume II, Section C of the Final Development Plan.

B. Additional Comments from City of Cambridge Departments

a. 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.

The Cambridge Innovation Center (CIC) provides co-working space to innovation and service companies typically ranging in size from 1-30 employees. There are no leases and spaces are typically smaller than what could be rented in a standard office format. CIC provides

shared infrastructure including conference rooms, Internet, printing & copying, phones, high-end furniture, operational & technical support and concierge.

MIT is very proud of its long-standing relationship with the Cambridge Innovation Center. MIT has supported CIC's growth from 18,000 square feet to its current 150,000 square foot presence at One Broadway. Over the years, CIC has been home to hundreds of start-up companies that have positively impacted the Cambridge innovation culture.

No less than 60,000 sf of CIC space meets the specific requirements as described in Section 13.89 of the PUD-5 zoning. The lease agreement between MIT and the CIC requires that CIC maintain the space to ensure that MIT can safeguard the existence of the space for years to come. However, if CIC cannot fulfill the terms of its lease, MIT would ensure that the function is continued in the building by hiring an alternative operator or bringing the management function in-house within the Institute.

VI. Housing

A. Preliminary Determination Comments

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

The project includes a commitment that 18% of the units in Building 1 will be classified as affordable per Section 11.200 of the Cambridge Zoning Ordinance, the highest percentage requirement in the City. This is equivalent to 53 units that will be available households with incomes up to $45,000 for a single person household and $65,000 for a household of four persons, based on current income limits. The goal of the City's affordable housing requirement is to provide housing for residents with working incomes who do not qualify for public housing but struggle to afford market rents. The zoning requirement – along with the diversity of unit sizes planned for Building 1 -- will bring significant income diversity to the building.

Similar to the other new housing developed in Kendall Square over the last decade, it is anticipated that the 290 units in Building 1 will be attractive to employees of the companies located in Kendall Square. The spectrum of rents anticipated in Building 1 are aligned with the array of employment incomes in the area. In addition, the building's proximity to this robust employment center, public transit and a mature bike and pedestrian network will appeal to the demographic of employees that prefer alternative means of getting to work and/or choose not to invest in automobiles.

The zoning allows for Building 1 to go to 300 feet which would require some "moderate" income housing as well as the 18 percent "affordable" required throughout the building. The current proposal balances design considerations, cost and feasibility. We are confident we can deliver the proposed building that will provide economic and household diversity throughout the building.

2. *Consider including three-bedroom units.*

   Building 1 includes 13 three-bedroom units, which is equivalent to 5% of the building.

VII. Bicycle Improvements

B. Additional Comments from City of Cambridge Departments

   a. *Hubway Station planning should be occurring at this stage so that it is well integrated with the site planning and access. Hubway has become an important piece of the public realm especially in Kendall Square. 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.*

      Hubway stations are very well utilized in Kendall Square. There are currently 4 Hubway stations within the PUD-5 boundary or in close proximity. The project will add two additional MIT-sponsored Hubway stations, one on Broad Canal Way, as requested by the City, and the other adjacent to Building 2. Please see ***Figure 40 NoMa Bike Parking***.

SECTION E: Final Development Plan

MIT Kendall Square Initiative
NoMa Project

NoMa Final Development Plan

Final Development Plan Submission

Cambridge Planning Board #302

November 5, 2015

Submitted by:

Massachusetts Institute of Technology (MIT)

Owner/ Project Proponent

Massachusetts Institute of Technology (MIT)

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Transportation Engineering

VHB

Parking Consultant

Desman Associates

M/E/P Engineering

Vanderweil

Structural Engineering

McNamara Salvia, Inc.

GeoTechnical/GeoEnvironmental

McPhail Associates, LLC

Environmental Permitting Consultant

Epsilon Associates

Acoustical Engineering

Cavanaugh Tocci

Sustainability Consultant

Atelier Ten

District Energy Consultant

JB&B

Wind Consultant

RWDI Consulting Engineers

Surveyor

Feldman

PreConstruction Services

JMA

Communications

Solomon McCown & Company

SUBMITTED MATERIALS

MIT is requesting a Planned Unit Development Special Permit pursuant to Article 12 of the Zoning Ordinance. Special Permit Application Forms including Cover Sheet, Dimensional Form (as modified for this project), Ownership Certificate and Fee Schedule are included in this Planned Unit Development Special Permit Application immediately following this page. Certifications of Receipt of Plans are included in the Appendix of this Application.

This Application includes the submission requirements specified in Section 12.34.3. This application also addresses the requirements of Section 13.80 Planned Unit Development 5 District as appropriate.

A separate NoMa Project Graphics Materials package has been submitted under separate cover to accompany this Application. The graphics package includes Existing Conditions and Site Context Maps and Photographs as well as Proposed Site Plans, Floor Plans, Landscape Plans, Elevations and Perspectives.

MIT is also requesting a Project Review Special Permit pursuant to Article 19 of the Zoning Ordinance. As required by Section 19.24 of the Zoning Ordinance this Application includes an Urban Design Objectives Narrative, a Sewer Service Infrastructure Narrative, a Water Service Narrative and a Noise Mitigation Narrative. A Wind Study, Shadow Study and Acoustical Study are included as Appendices to this Application.

The proponent submitted a Traffic Impact Study for this project on June 22, 2015 and City of Cambridge Traffic, Parking and Transportation Department (TPT) certified the study on July 21, 2015. Due to the size of the study it is not included as an Appendix to this document but is available upon request of the proponent or the TPT.

The proponent has met with the City Arborist and has submitted a preliminary Tree Study demonstrating how the project can meet the requirements of the Tree Protection Ordinance, Chapter 8.66 of the Cambridge Municipal Code. A final Tree Study will be provided in the Final Development Plan following review of the landscape plans by the Planning Board.

As required by Article 22 of the Ordinance, MIT has included in this application a LEED Project for Building 1 as well as a Sustainability Narrative describing how the project will be designed to meet the applicable requirements.

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SECTION I: Introduction

SECTION I: Introduction

MIT's Kendall Square Initiative North of Main ("NoMa") Project (the "NoMa Project") will transform the One Broadway parking lot owned by MIT's affiliate ("MIT") into a new, fully urban, residential mixed-use project in the heart of Kendall Square that will include:

- Approximately 290 residential units, including over 50 (18%) affordable units, proximate to public transit
- Improved streetscape along Main Street, Broad Canal Way, Third Street and Broadway
- Opening a currently closed off vacant site to provide a pedestrian connection from Main Street to the Charles River and East Cambridge
- Ground floor retail space to activate the NoMa site and the pedestrian way along Broad Canal Way, and add to the activation of Kendall Square
- Protected short term and long term bicycle parking and carsharing spaces
- A LEED Gold designed building

The NoMa Project is proposed as a mixed-use development, predominantly residential, with retail and parking and includes one new building ("Building 1") and additions to existing One Broadway. A 250' tall residential building will occupy the existing surface parking area that fronts Main Street and Broad Canal Way and abuts One Broadway and the Luke Building (currently owned and occupied by the American Red Cross). In addition, new construction will provide a one story retail building along the northerly face of the existing One Broadway parking garage, fronting on Broad Canal Way with retail at grade. Further renovations and additions to existing One Broadway will include expanding the retail space at grade level on the southwest and south portions of the building, relocating the office lobby and façade renovations replacing the precast concealing the parking podium that faces Broadway.

The NoMa site consists of approximately 2.67 acres in Kendall Square. It is bounded by Main Street, Broad Canal Way and Third Street. The western edge of the residential site abuts One Broadway, an existing office building, and a small portion of the site extends to Third Street. The northern portion of the site runs along Broad Canal Way. Building 1's eastern edge runs along an existing open green space to the northeast and the Luke Building to the southeast. The site's southern edge is directly across from MIT's campus and Sloan School of Management, along Main Street.

As envisioned by the Kendall Square Initiative planning process, the NoMa Project features enhanced streetscapes and important new pedestrian connections through and around the site. It will contribute significant ground floor retail. The current state of the site is a void in the urban fabric which the Project will fill and enrich to the benefit of the entire East Cambridge community.

Figures depicting existing and proposed conditions at the NoMa site are included in ***MIT Kendall Square Initiative, NoMa Project, Volume III: Graphic Materials, November 5, 2015*** being submitted as part of the Final Development Plan.

SECTION II: Existing Conditions

SECTION II: Existing Conditions

The proposed NoMa Development area is referred to as "NoMa Development Parcel A." Concurrent with this filing, MIT is providing a separate SoMa (South of Main Street) Development Plan comprised of two Development Parcels referred to as "SoMa Development Parcel B" (including Building Parcel 2) and "SoMa Development Parcel C" (including Building Parcels 3-6). The parcel organization is shown on Figures A1 and A2 in the accompanying Volume III: *MIT Kendall Square Initiative NoMa Project Graphics Material, dated November 5, 2015* and described below.

The NoMa Development Parcel A is located in Kendall Square and is bounded by Main Street to the south, Broad Canal Way to the north and Third Street to the west. The Parcel's eastern edge fronts along an existing open green space to the northeast and the Luke Building at 135-145 Main Street (occupied by American Red Cross) to the southeast. The Parcel's southern edge is directly across from MIT's campus, including the MIT Sloan School of Management, along Main Street. The project site is currently used as a 114-space surface parking lot and external service functions, such as a location for dumpster and mechanical units associated with the operation of the existing building at One Broadway.

The Development Parcel also includes One Broadway, a 16-story, approximately 297,000 sf office building. Built in the late 1960's, the building includes:

- A lower basement floor containing mechanical, parking and various storage spaces
- Retail along Broadway on the ground floor with an office lobby at the southwest corner of the block
- A 16 story building on the west side of the Parcel, along Third Street, containing office space, notably the Cambridge Innovation Center (CIC)
- Ground floor parking, accessed through Third Street, extending up the western podium portion of the building, allowing for four above grade levels of parking

The architectural style of One Broadway can be described as Brutalism, a style often used in civic buildings from the 1950s to the 1970s. These buildings are typically concrete. The southern part of the ground floor of One Broadway is lined with retail with the main office lobby occupying the south west corner.

In 2001 office extensions created an additional office floor above the garage of One Broadway. In 2008, façade renovations created more transparency for the building at floors one through five, achieving a friendlier streetscape.

NoMa Existing Conditions Program (sf)			
	One Broadway	Building 1 Site	Total
Residential	-	-	-
Upper Level Office/Innovation	282,569	-	282,569
Office Lobby	4,420	-	4,420
Ground Floor Retail	10,080	-	10,080
TOTAL	297,069	-	297,069
Parking Spaces	316	114	430

SECTION III: Statement of Development Concept/Project Description

SECTION III: Statement of Development Concept/Project Description

A. Project Description

i. Buildings

The NoMa Project is proposed as a mixed-use development, predominantly residential, with retail and parking and includes one new building ("Building 1") and additions to existing One Broadway. A 250' tall residential building will occupy the existing surface parking area that fronts Main Street and Broad Canal Way and abuts One Broadway and the Luke Building (currently owned and occupied by the American Red Cross). In addition, new construction will provide a one story retail building along the northerly face of the existing One Broadway parking garage, fronting on Broad Canal Way with retail at grade. Further renovations and additions to existing One Broadway will include expanding the retail space at grade level on the southwest and south portions of the building, relocating the office lobby and façade renovations replacing the precast concealing the parking podium that faces Broadway.

The first component comprises renovations of and additions to the existing One Broadway building as well as an addition along Broad Canal Way that consists of a one story retail building connected to One Broadway along the north edge ("Broad Canal Way (BCW) Liner").

One Broadway Additions: The retail space at grade level on the southwest and south portions of One Broadway will be expanded, the office lobby will be relocated further east and expanded, and façade renovations replacing existing precast will conceal the parking podium that faces Broadway. The southwest and south renovations and additions to One Broadway result an addition of approximately 10,000 sf of retail for a total of approximately 20,300 sf at One Broadway at full build. The additions have been designed to include a single retail space of 12,700 sf (at ground level and support below grade) along Main Street to accommodate a neighborhood grocer or similar type retail. The southwest retail expansion involves relocating the office lobby to make way for a more active retail space on the corner of Broadway and Third Street.

BCW Liner: The northwest retail component seeks to activate the edge that is currently lined with building utilities with a base of approximately 7,000 sf of new retail. The retail along the northern edge of this liner building is anticipated to be restaurant spaces that compliments the

active uses on the north side of Broad Canal Way, could spill out onto the wide sidewalk and provide convenient pedestrian access to Broad Canal.

The second component is an approximately 250' tall residential building with an above grade parking podium that will occupy the existing surface parking area that fronts Main Street, Broad Canal Way and is adjacent to the Luke Building. The residential component will be located on the larger part of the site which is currently occupied by surface parking. The proposal includes an active retail base with approximately 9,000 sf of retail. This retail fronts Broad Canal Way, the Luke Building and Main Street. The newly established pedestrian path where MASSDOT has proposed a new cross walk that connects the MIT campus and Charles River with East Cambridge. The proposed residential lobby is situated along Main Street, between retail spaces on the ground floor.

Above the ground floor retail, the podium will contain three floors of above grade parking at approximately 83,000 sf. Parking will be accessed from Main Street. The parking in the podium will be mechanically ventilated and wrapped in a building envelope consistent with the quality of envelope of the building above.

The podium of the residential project lines up approximately with the height of the Luke Building. The roof of the podium allows for outdoor terraces that will serve as residential amenity spaces. The building accommodates approximately 290 residential units in approximately 285,000 sf. It will include a mix of unit sizes and market rate, affordable and innovation housing.

NoMa Proposed Program* (sf)

	One Broadway + BCW Liner	Building 1	Total
Residential	-	285,000	285,000
Upper Level Office/Innovation	282,569	-	282,569
Office Lobby	6,400	-	6,400
Ground Floor/B1 Retail	27,350	9,450	36,800
One Broadway	*20,300*	-	
BCW Retail Liner	*7,050*	-	
Building 1	-	*9,450*	
TOTAL	316,319	294,450	610,769
Parking Spaces	316	175	491

ii. Vehicular and Bicycle Parking and Loading

On-site parking will be provided above grade within the building podium that is accessed on Main Street. On-site parking will accommodate approximately 175 vehicles and is designed primarily for the residential occupants. Residents will be charged market rates for parking.

Loading and delivery is accessed from Main Street as well. Two interior loading bays are included in the current design for the residential component. The service drive/ loading area will also provide loading access to the potential grocery store in the southeast corner of One Broadway. This existing loading area will serve the northwest retail addition and the existing One Broadway office. The small southwest retail spaces in One Broadway cannot be directly connected to the loading area inside One Broadway and will continue to use the street loading zone on Third Street in the southwest corner.

iii. Open Space

The design of the public realm is a collective attempt in both architecture and landscape architecture to create seamless interior and exterior open space. The open space consists of two public streetscapes and a pedestrian corridor. Collectively, these areas will serve to activate the building and integrate the site with the surrounding neighborhood. The sidewalks are part of the larger pedestrian network, facilitating direct and comfortable circulation. The pedestrian way along the eastern edge of the building will be lined with active retail spaces to provide connectivity to and from MIT and East Cambridge.

The Broadway streetscape will respond to the redevelopment and rehabilitation of the Longfellow Bridge. Pedestrian crossings and bicycle lanes will be emphasized for ease and safety. Pedestrian and bicycle amenities will be extended throughout Building 1, accented by safe lighting that is cognizant of the surrounding building use and “night sky” objectives. Additionally, the Broadway streetscape reinforces the urban vocabulary with street trees, bicycle racks, and lighting in keeping with the City of Cambridge while referencing this site and the greater MIT campus. The front door streetscape provides signature appeal, working with the new façade to announce the entrances to the buildings.

A flexible system of paving, seating, bicycle parking, lighting and planting strengthens the pedestrian streetscape, and flexible sidewalk seating produces a vibrant public realm. Multiple and unique opportunities to gather allow many users to congregate for dining, seating, and public interaction along Broad Canal Way. Wood benches and decks make direct reference to the boardwalk at the canal while steel grates, bicycle racks and lighting reference the appealing urban qualities of the surrounding area.

The pedestrian way, located between the new architecture, the existing Luke Building, and green space adjacent to the Broad Canal, provides an active north-south connection to Broad Canal, with its very popular kayak rental, and beyond. The insertion of urban furnishings, including precast benches and paving, and its own bio-retention system, enhances the retail, circulation, gathering and urban ecology experience.

Best Management Practices will be implemented for the control of runoff and improved water quality. Details along the street, integrated into sidewalks and all of the roof designs will assure that water is collected, reused, treated and detained as best suited.

The public realm is designed to offer a diversity of destinations and program opportunities for a broad range of anticipated users: residents, neighbors, workers, visitors and students. It will serve as a gathering space for the community and include programming.

Ample and distributed exterior locations for short term bike storage integrate this project into the greater bike infrastructure of Cambridge. Significantly expanded long-term bike storage in the garages complement the approximately 54 short-term bike spaces distributed across the open space.

Consistent with the Commitment Letter, MIT will establish an advisory committee that will meet annually to ensure that the community is involved in the programming of activities for the open space and the retail. This committee will include representatives from the Community Development Department, adjacent neighborhoods and MIT.

iv. Ground Floor Activation and Retail Uses

Section 13.810.1 of the PUD-5 zoning requires that development plans shall enhance the public pedestrian usage of the sidewalks and create a sense of neighborhood continuity by providing an interesting, lively and active presence at street level. To ensure this, the zoning further calls for active uses at 75% of the first floors (to a depth of 20 feet from the principal front wall plane of the building) abutting Main Street, Broadway and Broad Canal Way.

At full build, the NoMa Project will include 36,800 gsf of new and repositioned ground floor space available for retail and other active uses. MIT has engaged the services of a retail consultant who has expertise in Kendall Square and Cambridge and in placing local and independent retailers. MIT is committed to ensuring the presence of small and local retailers in Kendall Square and has a track record of implementing strategies to enable these retailers to thrive in Kendall Square and Central

Square. MIT has committed that 50% of the retailers will be local and independent so we will use similar techniques in the PUD-5 district to meet this commitment. ***Recommendations from the Retail Consultant*** are included as ***Volume II, Section D***.

Included in the experience is proven and public placemaking with creative and flexible spaces provided for all. MIT has worked with this retail consultant to develop an initial retail vision for the ground floor spaces in the PUD-5 area. Although this submission is primarily focused on NoMa, the retail strategy is best understood through discussions of the PUD-5 District in its entirety.

The retail strategy for the PUD-5 District consists of four zones that complement existing uses in proximate buildings in order to establish a seamlessly integrated pattern of robust retail and active uses. The design of the ground floor spaces and the open space will work together to encourage spill out of ground floor building activity into the landscape, providing flexible zones along the building faces. Multiple doors and windows at the ground floor will emphasize the connection to the public realm and create a feeling of transparency between inside and outside. Temporary events or activities can spill out from the buildings into the open space. The overarching objective is to blur the distinction between inside and outside by maximizing clear glass and operable glazing and taking advantage of opportunities to occupy both the ground floor and immediate exterior space as part of a diverse range of active uses.

Broad Canal Zone: As shown on Figure 34, the infill building at the south side of Broad Canal Way presents an opportunity to complement the successful uses along the north side and create a two-sided retail corridor. The existing uses on the north side are primarily neighborhood restaurants and an upscale wine/beverage store. Complementary uses on the south side could add additional neighborhood restaurants as well as a market with prepared foods.

The NoMa Project is located at a critical juncture in the Charles River pedestrian and recreation system. The Broad Canal accommodates put-in for kayaks while runners and bicyclists travel in multiple directions throughout Kendall Square, creating opportunities for more active retail such as a bike shop, a yoga studio or an outdoor supply store.

The new pathway connecting Main Street to Broad Canal Way is an ideal location for a retailer or other family-friendly activities that complement the active lifestyle of Kendall Square's residents, workers and visitors. The planned 20'wide pedestrian corridor will enhance the experience both during the day

and at night with a safe, convenient, and active pathway to and from the Canal. The NoMa Project retail and active uses will be complemented by a robust activation strategy south of Main Street with three additional retail zones proposed as part of the SoMa Project:

"Main Street" Retail Zone: Retail on the south side of Main Street is currently interrupted by a loading dock at Building Parcel 6 and the parking lot at Building Parcel 2. The retail environment for the existing retailers that are present is suboptimal due to the fact that the first floors of the Hammett and Suffolk Engraving Buildings are situated approximately 3 feet above grade. The proposed SoMa Project provides the opportunity to program retail and active uses from Ames Street to the Sloan School on the south side of Main Street. The retail at the ground floors of the existing buildings along Main Street will be repositioned as part of the strategy. The ground floors will be dropped to the street level so as to make the retail more accessible and interactive with the public realm, while preserving the historic ensemble and bringing new life to these buildings. Retail on both sides of Main Street will create a critical mass along this corridor and also provide a new context for the expanded retail at the existing One Broadway building situated in the NoMa Development Parcel.

The strategy for retailers along the Main Street zone is to meet the needs of various communities through the types of neighborhood retail that supports students, faculty, residents and workers. In Kendall Square, this will include the practical and accessible retailers the community has called for such as a pharmacy, a grocer, grab and go food service, and soft goods retailers including the MIT Press Bookstore and sit-down restaurants. Care will be taken to tenant key corners to facilitate interaction with the streetscape, sidewalk, pedestrians and landscaping at those edges.

"Gathering" Zone: The area around the MBTA station where Main Street and Carleton Street connect is the crossroads of Kendall Square – the nexus where business, academic, community and visitors connect. The plaza area is anchored by an architecturally enhanced MBTA station and the new MIT Museum in Building 5. It is also a prime connector between the MIT campus, the new public open space, links to the river, and Main Street. As with the Main Street side, the ground floor of E38 on the west side will be dropped to grade to foster accessibility and permeability and to bring new life and activity into the historic structure.

Ground floor active uses that occur here will foster interaction between all users of the

adjacent spaces, be complementary to the MIT Museum and be conducive to activities that spill out onto the open space during the majority of the year in order to foster life beyond the work day. This is the prime location to create an extended hours environment in Kendall Square throughout the week and weekends.

Neighborhood and Campus Services Zone: The ground floors of Buildings 2, 3 and 4 have been designed to provide active ground floor uses on their south side as they open onto the open space. By activating both sides of the new buildings, we are creating a porous and unique environment that allows students, faculty, workers and neighborhood residents to enjoy the retail from both the hustle and bustle of Main Street as well as the relaxing open space on the south side of the buildings. Ground floor active uses could incorporate and integrate with activities in the open space allowing residents, students, visitors and workers to experience the practical retail and MIT-focused uses along with the restaurants and extended-hours retail.

Kendall Square is home to some of the most groundbreaking technological advancements in the world. Incorporating that spirit into ground floor spaces – whether the MIT Museum, maker space or similar programming -- will recognize and celebrate the creative genius that is Kendall Square.

The ground floors will be subdivided into small spaces except where a larger format use such as a grocer, pharmacy or entertainment space is contemplated. Although zoning includes incentive for retail spaces under 5,000 square feet, MIT envisions that most of the retailers will be significantly smaller than that, fostering more doors on the street, and increased and varied offerings.

B. Project Commitments and Community Benefits

The NoMa Project proposal incorporates a number of benefits including the addition of approximately 290 market-rate and affordable housing and activation of Broad Canal Way. In addition, MIT has agreed to a number of other benefits related to the zoning and Commitment Letter for the PUD-5 District. Due to the interrelationship of the SoMa and NoMa Development Proposals, particularly as it relates to the public realm, the public benefits are best understood when described together.

i. Housing Creation

a. Market Rate Housing

The NoMa Project will add approximately 240 units of market rate housing to Kendall Square. This housing contributes to the regional goal of additional housing units and will add to the support of the Kendall Square retail environment.

b. Affordable Housing

The NoMa Project will also add over 50 affordable housing units to the affordable housing program in Cambridge. This represents 18% of the project units which is significantly higher than the 11.5% - 15% included in typical multifamily residential projects in Cambridge.

c. Innovation Housing

Consistent with the Commitment Letter, approximately 8% of the GFA of the residential component will be devoted to units measuring 300 – 550 square feet in size. These units will be designed to include features that enhance affordability and communication among residents.

ii. Transportation Improvements

a. Public Transportation Improvements: MIT is in discussions with the MBTA to create a new MBTA headhouse that would reflect the uniqueness of Kendall Square and Cambridge. The new headhouse will be subject to the MBTA's approval.

b. Pedestrian Improvements: The porous design of the NoMa and SoMa Projects allows the community to access the open space and the newly activated retail from a number of different directions, and provides a clear path from Third Street to the

river. The new development will create a clear path starting at Parcel A in the NoMa Project between Building 1 and the Red Cross, crossing Main Street on the proposed new crosswalk and entering Parcel B that will activate Wadsworth Street and continue the new path all the way to the river. We are making sure pathways to the river, through the open space, are enhanced for pedestrians and bikers visiting, working and living in Kendall Square and the surrounding neighborhoods.

c. Bicycle Accommodations: Walking and bicycling will be encouraged through an enhanced connection between NoMa Development Parcel A and the Red Cross building on Main Street that will provide a connection to existing bicycle lanes on Broadway/Main Street and Third Street, and over the Longfellow Bridge. In addition, we will be adding both short-term and long-term bicycle storage in the residential building and additional bicycle parking throughout Kendall Square.

iii. Open Space Network

MIT committed to providing a minimum of 15% of the land as accessible and welcoming open space for all in the community to enjoy so MIT will transform more than two acres of existing parking lots into accessible open space. To ensure the public has ample access to the open space, MIT has created a porous plan that draws the public into the open space at a number of access points and provides a clear path to the river. There will be activities that bring everyone in and it is envisioned as a nexus for business, MIT and the community to meet, socialize, converse and relax.

iv. Neighborhood Retail/Amenities

MIT will bring a new vitality to Kendall Square with practical ground floor retail—such as an urban grocer and a pharmacy; connected gathering and open spaces; and year-round programmable activities that draw people in. MIT is working with a retail consultant and is carefully curating the retail to meet the community's needs, including child and family-friendly retail and spaces and practical retail for residents that exists beyond the traditional workday. The MIT Museum will be a strong draw that will anchor activity in the area and create an extended hours environment.

v. Labor and Workforce Development

a. Union Labor: It is anticipated that the SoMa Project combined with the NoMa Project will generate approximately 1,300 construction jobs and 2,500 permanent new jobs. MIT will

use or cause its contractors to use union labor for all building trades.

b. Apprentice Program: Career development and education are engrained in both Kendall Square and MIT's fabric. MIT will contribute up to $20,000 annually for a period of 10 years, commencing upon the Building Trade Council's creation of an apprentice Pathways Program for Cambridge residents. This will create approximately 15 new apprentice opportunities for Cambridge residents.

c. Workforce Development: MIT has been and will continue to include in new leases of commercial space in the PUD-5 District a covenant requiring that tenants notify the City of Cambridge Office of Workforce Development of all new job opportunities as they become available.

vi. Cherry Street Lot

MIT has committed land situated at 35 Cherry Street (Assessor's Lot #75-118) to the City of Cambridge or a third party designated by the City - for uses that directly benefit the Area IV community. The appraised value of the lot is $845,000.

vii. Grand Junction Bicycle and Pedestrian Facilities

MIT, jointly with the City, completed a study of all parcels it owns adjacent to the portion of the Grand Junction railroad branch between Main Street and Memorial Drive in order to consider the feasibility of granting the City of Cambridge easements for the construction of off-road bicycle and pedestrian facilities adjacent to the railroad line. MIT is also contributing $500,000 to the Cambridge Redevelopment Authority to construct a section of the path from Main Street to Broadway. Construction is underway on this project, and is scheduled to be completed in the spring of 2016.

viii. Innovation Space

The PUD-5 zoning requires that 5% of the proposed office space in the PUD be devoted to innovation uses number. As configured today, the PUD-5 District contains in excess of the requirement in the existing building at One Broadway, which contains the Cambridge Innovation Center ("CIC"). The space within CIC complies with the requirements and limitations of Section

13.89.3. The Lease Agreement between the Owner of One Broadway and CIC requires that CIC

maintain space that complies with the requirements of Section 13.89.3 so as to ensure that the Owner of One Broadway has the ability to ensure the existence of the Innovation Office Space for many years to come.

In addition to the innovation space included in PUD-5, MIT will provide an area equal to 5% of the gross floor area approved in the Development Plan for office use for innovation space for tenants not greater than 5,000 sf within 1.25 miles of PUD-5. MIT takes great pride in being a world leader in innovation and has helped create Kendall Square and the surrounding area into an Innovation and Academic District. Even though it has not yet begun to construct new buildings, MIT has already begun to expand the innovation area by working with Lab|Central to establish space for start-up tenants requiring laboratory facilities. Lab|Central is expected to expand in early 2016 when space becomes available and will occupy nearly 70,000 square feet. MIT has also historically used One Broadway to house Cambridge Innovation Center (CIC) and expects that relationship to continue and grow where possible.

ix. Community Contributions

a. Community Benefit Organization: MIT shall make a contribution to the City of Cambridge in an amount equal to $4 multiplied by the number of square feet of new gross floor area of commercial uses. This contribution will be used to establish a fund that provides financial support to non-profit charitable community benefit organizations serving the residents of the City of Cambridge. The applicable GFA for the Kendall Square Initiative SoMa and NoMa projects combined is approximately 879,400 GFA, resulting in a total contribution of approximately $3.5 million. MIT has paid $1 million of this contribution.

b. Community Fund Contribution: MIT shall make a contribution to the City of Cambridge in an amount equal to $10 multiplied by the number of square feet of new gross floor area of commercial uses to a Community Fund established by the City Manager. The applicable GFA for the Kendall Square Initiative SoMa and NoMa projects combined is approximately 879,400 GFA, resulting in a total contribution of approximately $8.8 million. MIT has paid $2.5 million of this contribution. It is wholly at the City's discretion as to how the funding will be used, but it could be allocated to things like open space, transit services, and workforce development, which were discussed in the City's Kendall Square Central Square (K2C2) Planning Study.

x. Real Estate Taxes

When stabilized, it is anticipated that the buildings in the Final Development Plan will contribute approximately $10 million annually in real estate taxes to the City of Cambridge.

C. Development Schedule and Phasing

While MIT intends to move forward immediately following receipt of permits, the exact timing will be determined based on market conditions. Open space and public realm improvements immediately adjacent to buildings will be constructed in conjunction with the construction of the buildings.
Section 13.89.2 of the Ordinance requires that construction of 240,000 of new Gross Floor Area of residential uses has commenced prior to the issuance of a building permit allowing construction of more than 600,000 sf of commercial uses in the aggregate in PUD-5 District.

D. Future Ownership

MIT intends to develop the Building 1 and hold ownership interest for the long term while leasing significant portions of the developed space to residential and retail occupants.

E. Financing Plan

To date, MIT has funded all predevelopment costs. Predevelopment costs include the entitlement process, master planning, architectural, engineering, marketing and administrative expenditures.

MIT plans to develop the Project in phases according to market conditions, and may fund project construction through a combination of equity, debt, construction financing, infrastructure financing, and joint venture capital. MIT intends to fund the construction costs on a phase-by-phase basis.

MIT may place permanent financing on each completed phase of the Project.

The total budget amount for the predevelopment and construction periods is approximately $1.2 billion.

F. Discussion of Transportation Impacts of NoMa Changes Since Development Proposal

The MIT Kendall Square Initiative TIS was certified by TP&T on July 21, 2015. Since the certification, MIT has amended a small portion of the land use and square footage on NoMa Parcel. The changes to the proposed program include the removal of 15,000 GSF of office from the liner building on NoMa and the addition of a space suitable for a small grocery store in the existing One Broadway Building totaling 12,500 GSF.

One Broadway currently contains 10,080 sf of ground floor retail space that was part of the existing conditions analysis. The possible grocery store space will replace a small portion of the existing retail use resulting in a net addition of approximately 10,000 sf ground floor retail. Of the approximate total 20,000 sf of retail on One Broadway, approximately 12,500 sf is assumed for analytical purposes as a grocery store and the remainder will be for re-positioned general retail. The retail and residential program in Building 1 will remain as proposed in the TIS.

The removal of 15,000 GSF of office space and the addition of a small 12,500 GSF grocery store is conservatively estimated to result in a net addition of 4 morning and 27 evening peak hour vehicle trips as compared to the TIS trip generation analysis. Due to the small number of vehicle trip associated with the existing retail to be replaced by the grocery store, no trip credit has been taken as part of this analysis.

Project Program Modification

The changes to the proposed program include the removal of 15,000 GSF of office from the liner building on NoMa and the addition of a small grocery store in the existing One Broadway Building totaling 12,500 GSF as shown in Table 1. This grocery store replaces 4,130 GSF of the existing 10,080 GSF of retail therefore resulting in a net increase of 8,370 GSF of retail. The retail and residential program in Building 1 will remain as proposed in the TIS.

Table 1 Comparison of TIS NoMa Parcel A and Revised Program by Land Use

Land Use	TIS NoMa Parcel A	Revised NoMa Parcel A	Net Change
Office(GSF)	15,000	0	-15,000
Retail(GSF)	16,000	16,000	0
Residential(GSF/Units)	285,000 / 300	285,000 / 300	0
Grocery (GSF)	0	12,500	+12,500
Total	316,000	313,500	-2,500

Trip Generation Analysis

The trip generation analysis presented in *Section 3 Project Traffic* of the TIS, has been modified to reflect the program changes in Table 1. Since the grocery store was not previously analyzed as part of

the development, assumptions have been made to estimate the number of trips expected to be generated by the proposed grocery store. Mode share data for a grocery store land use is not specifically included in the K2C2 study therefore, the retail mode share has been assumed at 31 percent auto for the additional grocery store square footage.

In order to determine if this is an appropriate assumption, nearby mode share data for the Star market in Central Square, Cambridge was considered. As part of the Traffic Mitigation Agreement for University Park, the patrons of the Central Square Start market were surveyed to determine existing mode share splits. The results of the 2013 survey indicated that only 12% of patrons use vehicles to visit the grocery store. Therefore, assuming a 31 percent auto mode share for a grocery store in Kendall Square is a conservative assumption considering the 12% auto mode share found in the University Park Star Market survey, the grocery's small size and location across from the Kendall Square T station. Table 2 presents a comparison for the resulting grocery store vehicle trip generation based on the range of auto mode shares described above.

Table 2 Grocery Store Vehicle Trip Generation Summary Comparison

	Daily			AM Peak			PM Peak		
Auto mode Share	**Entering**	**Exiting**	**Total**	**Entering**	**Exiting**	**Total**	**Entering**	**Exiting**	**Total**
12% (Central Sq Star Market)	77	77	154	3	2	5	7	7	14
31% (K2C2 Retail)	198	198	396	8	5	13	19	18	37

Assuming an auto mode share of 31%, the trip generation for NoMa Parcel A has been revised as presented in Table 3 based on the proposed program.

Table 3 Comparison of TIS NoMa Parcel A and Revised Program Vehicle Trip Generation

	Daily			AM Peak			PM Peak		
TIS	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting	Total
Retail	106	106	212	3	2	5	9	10	19
Residential	319	319	638	10	39	49	39	21	60
Office	34	34	68	8	1	9	2	8	10
Total	459	459	918	21	42	63	50	39	89
Revised Program									

Retail	106	106	212	3	2	5	9	10	19
Residential	319	319	638	10	39	49	39	21	60
Grocery	198	198	396	8	5	13	19	18	37
Total	623	623	1,246	21	46	67	67	49	116
Net Change	*+164*	*+164*	*+328*	*0*	*+4*	*+4*	*+17*	*+10*	*+27*

The change in program of removing the office space and the addition of a 12,500 GSF grocery store will result in an additional 4 morning and 27 evening peak hour inbound and outbound vehicle trips. Again, due to the small number of vehicle trip associated with the existing retail to be replaced by the grocery store, no trip credit has been taken as part of this analysis.

SECTION IV: Consistency with Specific Special Permit Criteria

SECTION IV: Consistency with Specific Special Permit Criteria

A. Compliance with 13.80

The Final Development Plan complies with the requirements and limitations of Section 13.80 of the Ordinance. Conformity with such requirements and limitations are discussed in turn below and are reviewed in sequential order.

13.81. - Project Purpose

The plan proposed in NoMa is wholly consistent with the purpose of the PUD-5 district as described in Section 13.81 of the Ordinance:

> "The PUD-5 District is intended to provide for Kendall Square's continued prominence as a world-renowned center of innovation and a vibrant neighborhood through the creation of a mixed-use district of high quality general and technical office and laboratory uses with significant retail activity proximate to the MBTA station. The PUD-5 District helps organize placement of commercial and institutional buildings and establishes an additional mixed-use development containing a significant residential component to support the burgeoning residential corridor along Third Street and the strong links to existing neighborhoods and the riverfront. The PUD-5 District allows for continued support of the academic mission at MIT and encourages connective links, physical and otherwise, between the Institute and adjacent neighborhoods.
>
> The PUD-5 District responds to the Kendall Square planning process and is intended to be a smart-growth, transit-oriented district and therefore allows for replacing surface parking lots with larger scale development in Kendall Square and the major public transit services located there. The PUD-5 District encourages low parking ratios, shared parking strategies, the use of public transportation and improved pedestrian and bicycle environments. The PUD-5 District furthers the City's goals for sustainable development through buildings and sites that are planned, designed and constructed in a sustainable way so as to minimize adverse environmental impacts as they are initially constructed and as they are occupied and operated over the course of their useful lives.
>
> The PUD-5 District promotes the creation of a strong retail corridor along Main Street and the enhancement of Broad Canal Way. Combined, this new public crossroads will have broad appeal as a desirable destination during and beyond the traditional workday by providing a

critical mass of diverse restaurants, shops, entertainment and programming.

The ground floor space will engage pedestrians and provide a variety of indoor and outdoor gathering spaces, including retail that can address the needs and reflect the creativity of the local community."

13.82. - Uses Allowed in the PUD-5 District

The uses of the Development Parcel are allowed in the PUD-5 District. As indicated above, the Project will contain multi-family residential, general office, restaurant and retail uses, consistent with the uses set forth in Sections 4.31, 4.33, 4.34 and 4.35 of the Ordinance. In addition, the Existing Building, which is also contained within the Development Parcel contains office, research laboratory and technical office, retail and restaurant uses, all of which are consistent with Sections 4.33, 4.34 and 4.35 of the Ordinance.

13.83. - Floor Area Ratio; Gross Floor Area

The Proposed Buildings, once constructed, will not cause the FAR in PUD-5 to exceed 3.9. Under current conditions, the FAR for the entirety of the PUD-5 District equals 2.21 with the current GFA of 2,540,839. The land area of the PUD-5 District is 1,149,765 square feet.

As set forth more particularly on the attached Dimensional Form, the Proposed Buildings will contain a total of 396,700 square feet of new GFA. Per Section 13.83.2(a) of the zoning ordinance, an exemption of 50% (or 18,400 GFA) is taken for the 36,800 GFA of retail uses included in the buildings above that are of a qualifying average size (generally below 5,000 sf or 10,000 sf if a grocery, market or pharmacy) as described in the ordinance. The exact retail uses and locations are not finalized. Therefore, this exemption represents an allowance consistent with the commitment that 50% of the retailers will be local and independent. The resulting proposed GFA for the NoMa Project equals 378,300

.

The new improvements planned for the parcels contained in SoMa Project, which is the subject of a separate PUD Special Permit Application currently being considered by the Planning Board (the "SoMa PUD Filing"), measure approximately 1,376,000 square feet of GFA, with an exemption of 50% of its 99,000 GFA of retail Per Section 13.83.2(c) of the zoning ordinance, and an exemption of 166,267 GFA of institutional dormitory use constructed in Building 4 that exceeds the amount of GFA devoted to such uses in the PUD as of January 1, 2013. The resulting proposed GFA for the SoMa Project equals 1,160,233.

The build-out of the Final Development Plan will include the removal of a number of existing buildings within the PUD-5, which include 322-326 Main Street (Cambridge Trust Bank) situated at the corner of Dock Street and Main Street, three buildings on the east side of Carleton Street across from the MIT Medical Building and the MIT Eastgate graduate student housing. These buildings total 242,414 GFA to be removed.

With the removal of the above buildings when taken together with the other exclusions from GFA contained in the Ordinance and Section 13.83 results in a total GFA in the PUD-5 district of 3,836,958 and an FAR of 3.34.

13.83.3 - Gross Floor Area Limitations

13.83.3(b) - Plan Requirements

This filing constitutes a Final Development Plan for the Development Parcel A in the Third Street Transition Subdistrict for the PUD-5. A companion filing for a Final Development Plan for two development parcels in the Main Street and Transitional Height Sub-District (SoMa) enumerates new uses in that District.

The Dimensional Table provided in Section VII of this document presents the PUD-5 status of metrics such as FAR and open space that are calculated across the PUD and to place the Development Proposal in context with existing and potential future development.

13.83.3(c) - Commercial Limitation

As set forth above, the new Buildings will contain up to 36,800 square feet of Retail Uses. When taken together with the proposed new commercial and retail uses identified in the SoMa PUD Filing, the total new GFA for such uses will not exceed the 980,000 square foot maximum contained in Section 13.83.3(b) of the Ordinance.

13.84. - Parcel and Lot Requirements

As noted above, each of the Development Parcels have lot areas in excess of 25,000 square feet. Subject to final design review and building siting, the proponent will likely subdivide the land contained within Development Parcel A to create two separate building sites: with one containing the existing One Broadway Building and the portion of the one-level retail to be constructed along Broad Canal Way immediately abutting said Building and one containing the Residential Building.

13.85. – Setbacks

As indicated on the attached Dimensional Form and the graphics contained in Figure A-25, the Residential Building will observe the Limited Boundary Setback. As indicated on the Survey attached hereto as Figure C-6 it is worth noting that the Existing Building observes the required setbacks set forth in 13.85.1, as the portions of the Existing Building exceeding eighty-five (85) feet in height (which is limited to the existing office tower situated at the corner of Third Street and Broadway) is set back a minimum of twenty-six and six-tenths (26.6) feet from the northerly Street Line of Broadway and a minimum of twenty-five and nine-tenths (29.9) feet from the easterly Street Line of Third Street.

13.86. – Height

As indicated on the attached elevations and the Dimensional Form, the Buildings will not exceed 250 feet.

13.87. - Open Space

13.87.1 - Minimum Open Space

As depicted on the enclosed the Dimensional Form, the PUD-5 will have Publicly Beneficial Open Space that totals approximately thirty-eight percent (38%) of the total land area of the PUD-5, upon completion of the Project, which is far in excess of the requirements of Section 13.87 of the Ordinance.

13.87.2 - Conceptual Open Space Plan

As this Application, when taken together with the SoMa PUD Filing, constitutes a filing for all of the Development Parcels in the Main Street and Transitional Height Sub-Districts, and includes a robust Open Space Plan for all of said area, there is no need for a separate Conceptual Open Space Plan

13.88. - Parking and Loading Requirements

The Final Development Plan includes 179 parking spaces in an above grade structure. The Final Development Plan proposal meets the requirement for residential parking (.5 - .75/unit) at the low end. There is no minimum parking requirement for the Office and Retail uses proposed in the Final Development Plan. The parking allocated to proposed uses in the Final Development Plan will not exceed the maximum parking allowed in this section of the Ordinance. The proponent submitted a Traffic Impact Study for this project on June 22, 2015 and City of Cambridge Traffic, Parking and

Transportation Department (TPT) certified the study on July 21, 2015. Due to the size of the study it is not included as an Appendix to this document but is available upon request of the proponent or the TPT.

Loading for Building will be contained within the Building footprint. Long term and short term bicycle parking, and its quantity, design and location, is provided per Article 6 and other relevant City guidelines.

The proponent, as part of its analysis, considered whether it could make use of shared parking within the NoMa Project. Development Parcel A will contain two separate garages, the existing One Broadway Garage, which will be used for office, research laboratory and retail uses, and the above grade garage to be constructed as part of Building 1A, which will be used for the multi-family uses contained therein. Given the limited amount of parking spaces in the new parking garage, a shared parking use between the retail and residential components of the new Buildings was not feasible. As a result, the proponent has limited the use of the garage to the residential tenants of the Residential Building and retail tenants and patrons will utilize the existing garage at One Broadway.

13.89. - Special Requirements, Conditions and Standards Applicable to Certain Development Authorized by the Planning Board in the PUD-5 District

13.89.1 - Rooftop Mechanical Equipment Noise Mitigation

The buildings and the rooftop mechanical equipment used in connection with the use and operation of the Buildings will be sized, installed and operated utilizing best available and feasible practices, and the noise or vibration emanating from the equipment situated on the rooftops of Building 1 will comply with the standards set forth in the City of Cambridge Noise Ordinance as well as the provisions of Section 13.89 of the Ordinance, as applicable.

13.89.2 - Required Housing

This Final Development Plan exceeds the 240,000 square foot requirement contained in Section 13.89.2. Eighteen percent (18%) of the units contained in the Residential Building constitute Affordable Units, as defined by Section 11.201 of the Zoning Ordinance. In addition, consistent with Paragraph I of the Commitment Letter dated April 8, 2013, executed by MIT, 8% of the residential GFA of the Residential Building will be comprised of Innovation Housing, which is defined as Housing Units having a square footage of between three hundred (300) and five hundred fifty (550) square feet of GFA. The commencement of construction of the Main Street Residences will satisfy the

requirements of Section 13.89.2.

The new GFA contained in the Office/Retail Building as well as the first floor retail space planned for the Residential Building will comply with the requirements of Section 11.203.1 with regard to the payment of the Housing Contribution, which will be paid in accordance with the provisions of said Section. Based on the proposed square footages identified above for the Office/Retail Building and the retail component of the Residential Building, such Incentive Zoning Payments generated by the Final Development Plan will total approximately $12.1 million.

13.89.3 - Innovation Space

The Final Development Plan complies with the requirements of Section 13.89.3.1 because the land within the PUD-5 District contains Innovation Office Space in excess of what is required by the Ordinance. More specifically, the Final Development Plan calls for the creation of approximately 3,635 GFA of new Office Use to be counted toward the Innovation Office Space requirement. Together with the SoMa Project, a total of 606,635 sf of which 5% of that number (30,332 square feet) must be dedicated to Innovation Office Space in the PUD-5 District. As configured today, the PUD-5 District contains in excess of the requirement in the existing building at One Broadway, which contains the Cambridge Innovation Center ("CIC"). The space within CIC complies with the requirements and limitations of Section 13.89.3. The Lease Agreement between the Owner of One Broadway and CIC requires that CIC maintain space that complies with the requirements of Section 13.89.3 so as to ensure that the Owner of One Broadway has the ability to ensure the existence of the Innovation Office Space for many years to come.

13.89.4 – Sustainability

New buildings in the NoMa Project will comply with the provisions of Section 22.20 of the Ordinance. The proposed project employs a comprehensive approach to achieve sustainability that involves international best practices in establishing a new benchmark in urban sustainable development, community, and innovative solutions to local and regional environmental design issues.

The proponent is committed to adopting the next generation of sustainable building benchmarking. The new Buildings are commiteed to achieving LEED Gold rating under the latest, and more stringent LEED version 4 system. Detailed analysis and description of the ways the proposed project is meeting the goals related to Energy and Emissions, Urban Site and Landscaping, Healthy Living and Working,

Transportation and Sustainability awareness has been submitted as part of the article 19 Special Permit Application for this project.

MIT is exploring providing green roofs at this project. Functional Green Roofs, high-albedo “white roofs” or a functionally equivalent roof system will be employed. MIT will comply with the monitoring requirements in specified in 13.89.4(g) of the ordinance

13.810. - Other Provisions

13.810.1 - Active Uses and Pedestrian Activity

As indicated by the first floor plans for each of the Commercial Buildings attached to this Final Development Plan as Figure A-12, the first floors of each of the Commercial Buildings will contain the required Activation Uses along Main Street, Broadway and Broad Canal Way. As further indicated by the first floor plans, each of these Activation Uses will have at least one direct entrance from the sidewalk or plaza immediately abutting the Activation Use.

13.810.2 - Contribution to Community Fund

In compliance with the provisions of 13.810.2, the Applicant paid the $2,500,000.00 payment to the City in July 2013, within ninety (90) days of the adoption by the City Council of Section 13.80. The Applicant will comply with the provisions for future payments under Section 13.810.2

B. Compliance with 12.00

12.36.4

Pursuant to Section 12.36.4, the Planning Board shall grant a PUD Special Permit upon determination by the Planning Board that the Final Development Plan meets the evaluation criteria set forth in Section 12.35.3 and contains any revisions to the Development Proposal required by the Planning Board. As indicated in the Preliminary Determination issued by the Planning Board on September 8, 2015, a copy of which is attached hereto as Exhibit _, the Planning Board made the required findings that the Development Proposal satisfied the requirements for granting a PUD Special Permit set forth in Section 12.35.3(1) – (3), This final Development Plan is a continuation of the Development Proposal and continues to satisfy the above-referenced evaluation criteria, as more specifically set forth below.

12.35.3

Approval of the [Final Development Plan] shall be granted only upon a determination by the Planning Board that the [Final Development Plan]:

(1) Conforms with the General Development Controls set forth in Section 12.50, and the development controls set forth for the specific PUD district in which the project is located. The Project conforms to the General Development Controls set forth in Section 12.50 and the provisions of Section 13.80 of the Ordinance.

12.51 – Applicability and Conformance with Existing Policy Plans.

The Project is consistent with the policy objectives set forth in the Kendall Square Central Square Planning Study issued by the City of Cambridge Community Development Department in 2013 (the "K2 Study"). As indicated by the K2 Study, the Final Development Plan creates a transit-oriented mixed use environment that further bolsters the growing innovation economy in Kendall Square while creating open space amenities and retail and restaurants, thereby further creating a new, lively environment in Kendall Square.

12.52 - Minimum Development Parcel size.

As indicated by the plans attached hereto as Figures A1-A2, the overall area in this Development Parcel A Special Permit Application will contain 116,272 square feet, which exceeds the minimum parcel size of 25,000 set forth in Section 13.8.

12.53 - Standards for Construction of Roadways.

The Project does not include construction of any new roadways.

12.54 – Standards for Construction of Utilities and Public Works.

The proposed buildings and the other improvements identified in the Final Development Plan that include the installation of utilities, lighting, sewers, and other public works will be constructed in accordance with the requirements of applicable City Departments. Additional information on utilities and infrastructure for each of the Development Parcels can be found in Section V of this Final Development Plan.

12.55 – Landscaping

As indicated by the landscaping plans attached hereto in Figures A-6 to A-10, in compliance with the provisions of Section 13.87 of the Ordinance, all portions of the PUD-5 District not devoted to the location of the proposed buildings, other vertical improvements and driveways shall be suitably landscaped. The Final Development Plan includes .75 acres of open space and together with the SoMa Project, the Kendall Square Initiative will create a series of large inviting open spaces that will occupy approximately thirty-eight percent (38%) of the land area situated within the PUD-5 District. The creation of this open space and the significant landscaping contained therein will be a substantial positive change from the series of at-grade parking lots that they will replace and, as discussed above, will provide the community with an inviting and dynamic gathering place in the center of Kendall Square.

12.56 – Environmental Performance Standards

The NoMa Project and the uses will conform to all applicable federal, state and local laws and regulations regarding the environment including laws and regulations applicable to air quality and water quality. As indicated below, all new commercial and residential buildings have been designed to meet the LEED Gold Standard. In addition, the Office/Retail Building will comply with the noise limitations and requirements contained in Section 13.89.1.

(2) Conforms with the adopted policy plans or development guidelines for the portion of the city in which the PUD district is located;

The NoMa Project is located in the PUD-5 District. Development Controls applicable to the PUD-5 District are set forth in Section 13.80. The proposed changes to the NoMa Project conform to the specific Development controls set forth in Section 13.80 as shown on the Dimensional Form submitted with this application. The Applicant's ongoing encouragement of pedestrian, bicycle and public transportation will contribute to the planning goals of emphasizing alternative modes of transportation in the area. The buildings will be designed to create active edges along Broad Canal Way, Main Street and Broadway, as well as open space amenities. The Proposed Project has received the enthusiastic support from the East Cambridge Planning Team ("ECPT").

(3) Provides benefits to the City which outweigh its adverse effects; in making this determination, the Planning Board shall consider the following:

The proposed changes to the property implicated by the SoMa Project provide benefits to the City which substantially outweigh its adverse effects as detailed in the paragraphs below.

a. Quality of 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 Project will include substantial residential component as well as retail uses along Broad Canal Way, Main Street and Broadway on a parcel historically used for a commercial parking lot.

b. Traffic flow and safety;

The proponent has prepared and the City of Cambridge has certified a very detailed Transportation Impact Study that addresses issues of traffic flow and safety. In addition, as indicated in this Final Development Plan, the proponent has agreed to undertake certain additional traffic-related improvements in and around the PUD-5 area to further promote traffic flow and safety.

c. Adequacy of utilities and other public works;

City utilities are generally adequate to support the proposed development. Specific infrastructure improvements and services associated with the proposed project are described in Section V of this Final Development Plan.

d. Impact on existing public facilities within the City;

It is not anticipated that the proposed project will have a significant impact on City services. The proposed buildings contained in the NoMa Project will be constructed from newer materials and will meet the life/safety codes in effect at the time of building construction, including sprinkler systems and other life/safety enhancements as appropriate.

e. Potential fiscal impact.

The Project is expected to have a significant positive fiscal impact. The Project will change the existing condition of the site from at-grade parking lots to a mixed use building with first floor retail space along Broad Canal Way, the potential for increased retail along Broadway and multifamily residential uses in the Residential Building on the north side of Main Street and Broadway at the base of the Third Street corridor. These improvements will create new, productive uses along Main Street, Broadway, Third Street and Broad Canal Way and will substantially increase the value of the Property, thereby substantially increasing the taxable value of the Property to the City and the taxes paid to the City. It is expected that the construction of these new improvements, when taken together with the improvements that are the subject of the SoMa PUD Filing, will create approximately 1,300 construction jobs and 2,500 new, permanent jobs in the City of Cambridge. Additionally, the new buildings and the uses therein will attract new workers and residents to Cambridge who will shop in the City and take advantage of the nearby cultural opportunities. The development of a significant number of new residential units will contain a limited number of two and three bedroom units and, therefore, will not have a significant impact on the City's school system.

In addition to the above, the Final Development Plan contains responses to the questions and comments raised by the Planning Board in its Preliminary Determination, which responses are contained herein.

C. Compliance with General Special Permit Criteria

10.43 Criteria Special Permits will normally be granted where specific provisions of this Ordinance are met, except when particulars of the location or use, not generally true of the district or the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:

(a) it appears that the requirements of this Ordinance cannot or will not be met

The Project identified in this Application and for which the Special Permit is sought will meet all the requirements of the Ordinance.

(b) traffic generated or patterns of access or egress would cause congestion, hazard or substantial change in established neighborhood character

The proponent has prepared and the City of Cambridge has certified a very detailed Transportation Impact Study that addresses issues of traffic generation and patterns. Generally the trip generation and patterns associated with the project are consistent with those assumed as part of the planning and rezoning for the Kendall Square area.

(c) the continued operation of or the development of adjacent uses as permitted in the Zoning Ordinance would be adversely affected by the nature of the proposed use

The Final Development Plan will not adversely affect the continued operation or future development of adjacent uses. The land uses within the immediate vicinity of the Development Parcel are institutional, commercial or multi-family residential uses, all of which are consistent with the proposed uses of the Development Parcel. To the east of the Project area are office buildings: one owned by The American National Red Cross and one owned by RREEF American REIT II Corp. PPP. To the north, on the opposite side of Broad Canal Way, are hotel and multi-family residential buildings with first floor restaurant and retail uses. To the west and across Third Street is land that is owned by the United

States Department of Transportation, which is the site of Volpe, The National Transportation Systems Center (the "Volpe Center"). The site of the Volpe Center is currently the subject of a zoning amendment petition that, if adopted, would permit the substantial reuse of the approximately 14-acre parcel for mixed use development not unlike that which is proposed for the Development Parcel. To the south, across Main Street and Broadway, are Kendall Center, a mixed use retail, office and laboratory development owned by affiliates of Boston Properties, and MIT's East Campus that comprises the balance of the land situated with the PUD-5 District.

The Project will provide for a substantial increase in the multi-family housing stock in Kendall Square and the greater East Cambridge Community, by providing approximately 290 units of housing, over 50 units of which will be Affordable Units (as defined in the Ordinance) (i.e., 18% of the total residential units contained within the Building). The construction of these housing units will not only provide additional affordable housing options in the City, but will further activate the open space and retail amenities in the vicinity of the Development Parcel.

The Project will also include the creation of retail space that along Broad Canal Way and Main Street that will create active edges along the southerly side of Broad Canal Way and the northerly side of Main Street, which will further activate the area and provide a connection from the burgeoning retail corridor on Third Street with the existing and planned retail along both sides of Main Street as well as provide pedestrian connections between Third Street, Broad Canal Way, the MIT Campus and Memorial Drive and the Charles River. Construction of the project will be a dramatic improvement over the existing condition of a portion of the Development Parcel, which is an at-grade parking lot and, consistent with the goals of the PUD-5 Zoning contained in Article 13.80 of the Code, will help to create a vibrant neighborhood through the creation of a mixed-use district of multi-family residential and high quality general and technical office and laboratory uses with significant retail activity proximate to the existing MBTA transit facilities.

(d) nuisance of hazard would be created to the detriment of the health, safety or welfare of the occupant of the proposed use or the citizens of the City

The Project will not create any nuisance or hazard to the detriment of the health, safety and/or welfare of the occupants of the proposed uses within the Project or the City. In fact, the Project, when taken together with the projects proposed in the SoMa PUD Filing, will result in approximately 1,300 construction jobs, 2,500 new permanent jobs and approximately 290 residential housing units. The

additional residents, employees, workers and visitors to the Project will further activate the retail and commercial uses in both the Project as well as the retail on the north and south sides of Main Street and the burgeoning retail corridor on Third Street. The open space located throughout the Project will provide connections to other open spaces abutting or adjacent to the Project. The retail, restaurants and other publicly accessible spaces located on the first floors of the new buildings will be an amenity to the users of the Project and members of the community and will further activate the open space.

(e) for other reasons, the proposed use would impair the integrity of the district or adjoining district, or otherwise derogate from the intent and purpose of the Ordinance, and

The Project will not impair the integrity of the district of any adjoining district, or otherwise derogate from the intent of the Ordinance. The Project is located within a Office 3A, PUD-3 Overlay District and the PUD-5 Overlay District.1 The Development Parcel has long been improved, in part, by a mixed use office and research laboratory, and retail building with an above-grade structured parking garage and first floor retail and restaurant uses known commonly as One Broadway (the "Existing Building"). The Project is being planned for a portion of the Development Parcel that currently contains an at-grade commercial parking lot as well as additions to the existing first-floor retail along Broadway and Third Street as well as an addition to the office lobby of the Existing Building.

This Development Parcel is located entirety within the PUD-5 Overlay District (the "PUD District"), which is "intended to provide for Kendall Square's continued prominence as a world-renowned center of innovation and a vibrant neighborhood through the creation of a mixed-use district of high quality general and technical office and laboratory uses with significant retail activity proximate to the MBTA station. The PUD-5 District helps organize placement of commercial and institutional buildings and establishes an additional mixed-use development containing a significant residential component to support the burgeoning residential corridor along Third Street and the strong links to existing neighborhoods and the riverfront". This Final Development Plan contains significant housing as well as a first-floor retail component, all of which is in line with the intent and purpose of the PUD-5 Zoning.

(f) the new use or building construction is inconsistent with the Urban Design Objectives set forth in Section 19.30.

With regard to the consistency of the Project with the Urban Design Objectives contained in Section 19.30, please see the Article 19 Special Permit Application materials filed with the Planning Board on July 27, 2015, as part of Special Permit Application No. 302. In addition, it should be noted that the Final Development Plan satisfies the requirements of Section 19.25 of the Ordinance, as well, as more specifically set forth below.

19.25 Traffic Impact Findings. Pursuant to Section 19.25.1, the Planning Board shall grant a special permit only if it finds that the project will have no substantial adverse impacts on city traffic within the study area as analyzed in the TIS. Substantial adverse impact is measured based on the following indicators, which are set forth in Section 19.25.11: "(1) Project vehicle trip generation on weekdays and weekends for a twenty-four hour period and A.M. and P.M. vehicle trips generated; (2) Change in level of service at identified signalized intersections; (3) increased volume of trips on residential streets; (4) Increase of length of vehicle queues at identified signalized intersections; and (5) Lack of sufficient pedestrian and bicycle facilities".

When one or more of the indicators is exceeded, it will be indicative of a project's potentially substantial adverse impact on city traffic. Notwithstanding such exceedances, the Planning Board can still make a finding that the project will not have a substantial adverse impact on city traffic based on the proposed mitigation efforts offered by the applicant and other supplemental information that identifies circumstances or actions that will reduce such adverse impacts.

With regard to the Project, the TIS identifies exceedances in each category of the Criteria, which exceedances are more specifically set forth on Volume II, Section A attached hereto. While there are a number of exceedances, the proponent has been in a continuous dialogue with the City's Traffic, Parking and Transportation Department concerning on-site and off-site mitigation measures that the proponent will employ in order to reduce the exceedances caused by the SoMa Project. These measures may include:

i. **Traffic Signal Upgrades**. Update outdated traffic signal equipment (controllers, conduits, mast arms, signal heads, etc.) at the Main Street and Ames Street intersection and at the Main Street and Vassar Street intersection.
ii. **Ames Street Redesign.** The proponent will work with the City with regard to the City's proposed redesign of the portion of Ames Street between Main Street and Memorial Drive, in order to accommodate bicycles on Ames Street while

balancing pedestrian movements, motor vehicle traffic and public realm needs in general.

iii. **Pedestrian and Bicycle Access to Charles River**. MIT will continue discussions with the City and the State Division of Conservation and Recreation to understand the role of Memorial Drive Phase II improvement project in order to improve pedestrian and bicycle connections from the Charles River over Memorial Drive to Wadsworth and Ames Streets.

iv. **New Hubway Stations.** The Project will include the installation of two (2) additional Hubway Stations to the Kendall Square area: one along Broad Canal Way, as requested by the City, and one adjacent to Building 2, all as shown on Figure 40 to this Final Development Plan.

v. **Bicycle Facilities**. As part of the NoMa Project, MIT will construct 54 short-term and 322 long-term bicycle spaces. Additionally, MIT will construct showers to serve building tenants and users of the buildings within the Project within the new buildings. MIT will also construct two (2) publicly accessible fix-it stations in key locations to be determined within the SoMa and NoMa project areas. MIT will continue to discuss what elements the City is interest in accommodating in a public bike station to assess strategies for integrating these amenities into the Project.

vi. **Wadsworth Street**. MIT will reconstruct Wadsworth Street to privilege pedestrian and create an improved link to the Charles River, which will include, among other things, the increase in the width of sidewalks to 8 feet from Main Street to Amherst Street, planting of new street trees, installation of new crosswalks, and the possible raising of the crosswalk that MIT proposes to install just north of Amherst Street. These improvements will strengthen the connection between Main Street and Memorial Drive.

vii. **Hayward and Carleton Streets**. MIT will reconstruct Hayward and Carleton Streets to create a more pedestrian-friendly environment at the center of the SoMa district. Portions of the two streets will be closed to general vehicular

traffic and a significant portion of Hayward Street will be limited to pedestrian access only.

viii. **MBTA Headhouse Relocation**. MIT intends to reconstruct the MBTA Red Line Headhouse situated to the South of Main Street in between Buildings Parcels 4 and 5, to the location depicted in this Final Development Plan. MIT's relocation is dependent upon the consent of the MBTA, and MIT is continuing active negotiations with the MBTA on this matter.

The above mitigation measures take holistic approach to the entire PUD-5 District and, therefore, improvements being made in the NoMa and SoMa Project areas, are addressed together. Additionally, the above mitigation measures are discussed in greater detail in the responses to the Preliminary Determination questions.

In addition to the above mitigation measures, the proponent will support a program of transportation demand management (TDM) actions to reduce automobile trips generated by the Project. The goal of the NoMa Project's TDM Plan is to reduce the use of single occupant vehicles by encouraging carpooling and vanpooling, bicycling, walking, and increased use of the area's public transportation system by employees and visitors. In an effort to reduce the number of cars traveling to Kendall Square, the NoMa Project has been developed as a transit-oriented, mixed-use land development, with a constrained parking supply, supportive urban design and a comprehensive transportation demand management plan. MIT is committed to supporting a balanced multimodal transportation system to serve its commuters and visitors and providing a balanced mixed-use development that reduces dependency on the private automobile.

To that end, the proponent has filed two (2) separate draft Parking Transportation Demand Management Plans for the SoMa Project: one for each of Development Parcel B (Building 2) and Development Parcel C (Buildings 3, 4, 5 and 6). The PTDM Plans propose the following TDM measures:

1. **The Designation of an Employee Transportation Coordinator (ETC**), who will manage the implementation of the PTDM programs and monitoring. For the NoMa Project, the ETC will be an employee of MIT, its property management company or an independent provider of such services. The ETC will market and promote transportation alternatives, and be available to assist tenant employees with their commuting needs. The ETC will develop and implement the PTDM programs making best efforts to meet the PTDM target

mode share goals. In addition, the ETC will be the liaison between the employees and transportation organizations including, but not limited to, the CRTMA, MBTA and the City of Cambridge. The ETC will also participate in any PTDM or Transportation Coordinator training offered by the CRTMA or the City of Cambridge. The ETC will also compile and provide to all tenants up-to-date transportation information explaining all commute options for distribution to all existing employees and new employees as part of their orientation.

The ETC will provide and maintain a transportation website which will be available to employees of the Project. The website will have deep links to the key services serving the Kendall Square area. Information to be posted will include, but not be limited to, the following:

a. Links to MBTA Services, Rideshare providers, Car-sharing services, City's website – CitySmart, CharlesRiver TMA, Hubway;
b. MBTA maps, schedules and fares;
c. EZRide shuttle maps and schedules;
d. Bicycle parking locations and routes;
e. Pedestrian routes; and
f. Newsletters and announcements of TDM programs and services.

The ETC will hold an annual employee transportation information event, which may be combined with other events such as health fairs, appreciation days, or benefits fairs. The event may also be held in conjunction with similar events at nearby MIT properties or be coordinated with the Charles River TMA. The ETC will promote the City's GreenStreets Initiative and events.

The proponent will market the availability of non-SOV modes of access to Kendall Square through the provision of transportation kiosk, signage, a website and events. Specifics regarding the possibility to provide a real-time transportation information screen rather than a transportation kiosk will be determined during design review.

2. **Charles River TMA.** The proponent is an active member of the Charles River Transportation Management Association (CRTMA) which works with property owners to help ensure the effective implementation of the PTDM measures. As part of their lease, Tenants will be required to join the Charles River TMA and provide their employees and patrons access to

the TMA's programs and EZ Ride fare free. In the case that CRTMA membership is not feasible for a tenant, the proponent will extend TMA benefits to their employees and patrons.

a. **Ride Matching/Car Pool/Vanpool**. The proponent will market MassRIDES programs and ride matching services to all employees who are eligible to park in the project's parking facility through the ride-matching assistance in the area provided by the CRTMA to assist employees with contacts for appropriate carpool/vanpool partners. The CRTMA assists employees to form or participate in existing vanpools through MassRides, the state rideshare agency. Vanpools are typically an attractive option, due to costs, for employees who commute at least 25 to 30 miles each way. There are several vanpools that currently serve Cambridge and companies in Kendall Square from locations in New Hampshire, the Cape, and west 495 Corridor communities.
b. **Emergency Ride Home**. An Emergency Ride Home (ERH) program will be provided through the CRTMA. Tenants will be required to offer an ERH for all employees who commute by non-SOV mode at least three days a week and who are eligible to park in the project's parking facility.
c. **Car-sharing Program**. The CRTMA has partnered with ZipCar to provide discounted car-share rates for employees of CRTMA member companies. The ETC will promote employee participation in this program and others as car-sharing service options expand.
d. **EZRide Shuttle Service**. The EZRide Shuttle service is provided by the CRTMA and currently stops on MIT Kendall Square. Tenants will provide EZRide Shuttle service, or equivalent shuttle service, to all employees fare free. Bus schedules and services will be marketed and available for tenant employees, retail patrons and visitors to the NoMa Project.

Subsidy Option Program. The proponent will include language in leases requiring tenants to allow employees to set-side pre-tax funds as allowable under the Commuter Choice provision of the Federal Tax Code. The proponent has developed three Subsidy Options. All tenants will be required as part of their lease, to choose one of the three Subsidy Options and implement it with their employees. As the Project and new innovative approaches

1. **Subsidy Option Program.** The proponent will include language in leases requiring tenants to allow employees to set-side pre-tax funds as allowable under the Commuter Choice provision

of the Federal Tax Code. The proponent has developed three Subsidy Options. All tenants will be required as part of their lease, to choose one of the three Subsidy Options and implement it with their employees. As the Project and new innovative approaches develop, The proponent and tenants will be allowed to develop additional subsidy options to either replace or supplement the Subsidy options described, with the approval of the PTDM Officer. The Subsidy options are presented in the table below:

Subsidy Program	**Subsidy Option 1**	**Subsidy Option 2**	**Subsidy Option 3**
Parking Charge to Employee:	Tenant to charge employees market rate for parking	Employees park for free or subsidized	Employees park for free or subsidized
Parking Cash-Out Program:	No parking Cash-Out Program required	Tenant to provide a $70/month Parking Cash-Out Program to all non-SOV full-time employees (amount to rise with MBTA fare increases)	No parking Cash-Out Program required
Transit Subsidy:	Tenant to provide 60% Transit Subsidy to full-time employees	No Transit Subsidy required	Tenant to provide 100% Transit Subsidy to full-time employees
Hubway	No Hubway membership required	No Hubway membership required	Tenant to provide Hubway Silver level membership to full-time employees

Subsidy Option 1:

As presented in Table 6 above, Subsidy Option 1 requites tenants, regardless of leased square footage, to provide a 60 percent subsidy for monthly transit passes, up to the Federal limit (set at $130 for year 2015) to all full-time employees. In addition, all employees that chose to drive and park on-site will be charged the market rate parking fee.

Subsidy Option 2:

Tenants that chose Subsidy Option 2 will be required to offer a parking cash-out program to their full-time employees. Parking Cash-out is a commuter benefit in which an employer offers employees the option to accept cash income instead of a free or subsidized parking space at work. The parking cash-out under Option 2 is capped at the cost of an unlimited MBTA bus/subway pass. The cost of this pass is currently $70, and this cap will increase with each fare increase initiated by the MBTA, to ensure that this benefit will always allow employees to purchase an unlimited bus/subway pass each month. Employees will have the option to spend the parking cash-out monies in any way they prefer – on transit fares, bicycle maintenance, gas for carpools, vanpool fees, walking shoes, etc. Employees who drive to work and receive free or subsidized parking will not be eligible to receive this benefit. If drive alone employees pay market rate for on-site parking, they will become eligible to receive a monthly transportation benefit equal to the benefit received by non-SOV employees.

Subsidy Option 3:

Tenants selecting Subsidy Option 3 will be required to provide a 100 percent subsidy for monthly transit passes, up to the Federal limit (set at $130 for year 2015) to all full-time employees. In addition, tenants will be required to offer an annual corporate membership to Hubway at a minimum of a Silver level.

3. Bicycle and Pedestrian Programs. Information on bicycle and walking options will be included in the dissemination of all transportation alternatives information. The elevator serving the new above-grade garage within the NoMa Project will be large enough to comfortably accommodate up to 2 bicycles placed horizontally on the floor of the elevator. All bicycle parking will be designed in full conformance with Article 6 of the Cambridge Zoning Ordinance and the City's Bicycle Parking Guidelines. All tenant employees who walk or bike to work will be provided with access to showers and changing rooms to help facilitate their non-motorized commute. Bicycle repair equipment will be provided.

4. Flexible Work Schedules. Tenants will be encouraged to allow flexible work schedules within the typical work hours, for employees to reduce the peak impacts of commuting, particularly by SOV. Staggered and flexible work hours facilitate employee ability to rideshare thru carpools and vanpools. It also allows employees to commute on transit on the shoulders of the peak

hours, where more capacity for riders maybe available. Providing flexible work hours enhances employee's ability to balance their work and family responsibilities, enabling them to have more choice in their commuting options.

5. **Wayfinding**. The proponent will provide clear wayfinding to transit, biking, car-share, and walking options as part of the overall streetscape. The NoMa Project will provide supportive infrastructure, such as, sidewalks, shade trees, benches, and other street furniture elements for a comfortable pedestrian environment.

6. **Parking Supply Management.** As stated previously in the Final Development Plan, the NoMa Project will comply with parking ratios established in the zoning for the PUD-5. A maximum of 0.9 spaces per 1,000 sf for office, 0.8 spaces per 1,000 sf for R&D , a maximum of 0.5 spaces per dwelling unit for multi-family residential use and a maximum of 0.5 spaces per 1,000 sf of retail land use will be provided for the NoMa Project. This will limit the amount of parking on-site encouraging the use of alternate modes of transportation for commuters. Initially, seven (7) percent of office/R&D employee parking spaces in the new above-grade garage will be allocated for registered carpools/vanpools (2 spaces), sited near elevators, and clearly marked with signage. These spaces will be marked for a rideshare vehicle that arrives before 10:00 AM and will be available to other vehicles after 10:00 AM. The ETC will allocate additional registered carpool/vanpool spaces to meet demand as it is identified. Subject to interest by a car-sharing company two car-share spaces will be reserved for car-sharing vehicles at a rate negotiated with the car-sharing company in each garage. Pooling of the required car-share spaces into a central location within the NoMa Project or an adjacent garage will be permitted.

7. **Parking Rates for Retail Patrons.** The proponent will charge patrons similar parking fees as charged by other retailers in the Kendall Square area of Cambridge. The proponent will develop a retail parking rate structure that will provide discounted validated parking for customers. Patrons submitting non-validated parking tickets will be charged the market rate with no discount.

8. **Office of Workforce Development.** To promote the use of alternative transportation, he proponent will strongly encourage tenants to work with the Cambridge Office of Workforce Development to expand employment opportunities for Cambridge residents

9. **Monitoring and Reporting Plan.** To ensure compliance with the City of Cambridge Trip Reduction Ordinance as well as utilization of the TDM programs, an annual monitoring program will be conducted with the results forwarded to the Cambridge PTDM officer. Where appropriate, TDM measures will be in place before an occupancy permit is obtained. In addition, the proponent will implement a transportation-monitoring program to assist in determining the need for additional PTDM programs that would encourage alternative mode use among the employees to achieve the PTDM SOV goal. This information will help the proponent to refine approaches to implement and promote PTDM activities and to determine which measures will have the greatest likelihood of success. This survey will also provide the proponent with more exact information regarding commuting patterns. The proponent will use this data as a tool to assist in measuring reduction in SOV trips and related mode shifts.The proponent is close to finalizing its PTDM Plan for the NoMa Project, and anticipates finalizing the PTDM Plan in the coming weeks.In addition to the above traffic-related improvements and TDM measures, the TIS also included a detailed study of the operation of the Red Line. As indicated in the response to the issues set forth in the Preliminary Determination, the proponent is willing to consider future financial or in-kind contributions to advance studies associated with improving the operation of the Red Line.

D. Consistency with Specific Special Permit Criteria (Flood Plain Overlay District) – Section 20.70

Section 20.73 requires that the Planning Board issue a Special Permit prior to the construction or expansion of a structure or a building within the Flood Plain Overlay District (the "FPOD"). Section 20.72 defines the FPOD as the area that includes all special flood areas designated as Zone A and AE on the Middlesex County Flood Insurance Rate Maps (FIRMs) issued by the Federal Emergency Management Agency (FEMA), with the exact boundaries of the District being defined by the special flood hazard area, which is the areas subject to flooding by the 1% annual chance flood, also known as the "100-year flood" or "base flood".

According to FIRM Panel No. 25017C0577E, a portion of the Development Parcel is located in Zone AE, thereby requiring a Special Permit from the Planning Board under Section 20.74. Notwithstanding its inclusion on the above-referenced FIRM Panel, all portions of the Development Parcel, have a Base Flood Elevation of at least 18 feet, which is more than 2.46 feet above the Base Flood Elevation for Zone AE. The proponent has included with this application, as Exhibit a certification from a Massachusetts registered professional engineer stating that no portion of the Development Parcels have an elevation that would result in their inclusion in either Zone AE.[1] Because there are no wetlands or any other resources areas on the Development Parcel, the proponent has not, as of the date of the filing of the Final Development Plan, made any filings with the City of Cambridge Conservation Commission. The proponent does intend on filing an Abbreviated Notice of Resource Area Delineation or other appropriate filing with the Conservation Commission, demonstrating that no wetlands or other resource areas, including, without limitation, land subject to flooding, are present on the Development Parcel.

Recognizing that the inclusion on a FIRM triggers the requirement for a Special Permit from the Planning Board, and that FIRMs are difficult to have revised, the proponent is also requesting that the Planning Board issue a Special Permit under the FPOD based on the proponent's satisfaction of the criteria set forth in Section 20.75.

[1] According to the certificate Zone AE would have an elevation of 15.54 feet Cambridge City Base ("**CCB**")(which is 11.64' NAVD88, the elevation used by FEMA). The Site, at its lowest point is 18' CCB and is as high as 23' CCB.

Pursuant to Section 20.75 of the Ordinance, the Planning Board shall grant a Special Permit for development in the Flood Plain Overlay District if the Board finds that such development has met the following criteria in addition to other criteria specified in Section 10.40:

1) No filling or other encroachment shall be allowed in Zone A areas or in the floodway which would impair the ability of these special flood hazard areas to carry and discharge flood waters, except where such activity is fully offset by stream improvements such as, but not limited to, flood water retention systems as allowed by applicable law.

   The Development Parcel is not located in Zone A and according to the Engineer's Certificate included with this Final Development Plan, no filling or other encroachment will occur with any floodway as no floodways are present on the Development Parcel.

2) Displacement of water retention capacity at one location shall be replaced in equal volume at another location on the same lot, on an abutting lot in the same ownership, on a noncontiguous lot in the same ownership, or in accordance with the following requirements.

   As indicated in the Engineer's Certificate, the Development Parcel does not contain any floodways and is not land that is subject to flooding during a 100-year flood. As a result, no water retention capacity will be displaced by the NoMa Project and there will not be the need to construct or provide for any replacement retention.

3) All flood water retention systems shall be suitably designed and located so as not to cause any nuisance, hazard, or detriment to the occupants of the site or abutters. The Planning Board may require screening, or landscaping of flood water retention systems to create a safe, healthful, and pleasing environment.

   As flood waters do not actually impact the Development Parcel, the NoMa Project does not include any flood water retention systems at the Project. The NoMa project does otherwise address storm water impacts on the Projects and will handle storm water retention and discharge in compliance with all applicable requirements.

4) The proposed use shall comply in all respects with the provisions of the underlying zoning district, provisions of the State Building Code, Wetlands Protection Act, and any other applicable laws.

As described in this narrative, the Project will comply with all applicable provisions of underlying zoning. Given the lack of resource areas on the Development Parcel, the Project does not implicate the Wetlands Protection Act. The Project also will comply with the State Building Code and any other applicable laws.

5) The requirement of Section 20.74(3) has been met.

The Engineers Certificate indicates that the Development Parcel does not contain any floodways. As a result, the NoMa Project will not result in an encroachment of a floodway and therefore will not cause any increase in flood levels during the occurrence of the 100-year flood.

SECTION V: Infrastructure and Utilities Narrative

SECTION V: Utilities Narrative

Introduction

This section describes the existing infrastructure systems within and surrounding the Project Site ("Site 1"), and discusses Project capacity needs and potential impacts on utilities. The following utilities are evaluated: sanitary sewer, water, stormwater management, natural gas, electricity, and telecommunications. Figure 41 shows the existing utilities that serve the Project Site, and Figure 42 shows the schematic design for proposed infrastructure.

The Project will connect to existing city and utility company systems in the adjacent public streets. Based on initial investigations and consultations with the appropriate agencies and utility companies, all existing infrastructure systems are adequately sized to accept the incremental increase in demand associated with the development and operation of the Project. As design progresses, all required engineering analyses will be conducted and the final design will adhere to all applicable protocols and design standards ensuring that the proposed building is properly supported by and properly uses city infrastructure. Detailed design of the Project's utility systems will proceed in conjunction with the design of the building and interior mechanical systems.

The systems discussed herein include those owned or managed by the Cambridge Department of Public Works (CDPW), Cambridge Water Department (CWD), private utility companies, and on-site infrastructure systems.

Sanitary Sewer

The Project will connect to sewer infrastructure in Main Street at the site frontage for Building 1, and if required, in Third Street for the One Broadway Liner Building. The One Broadway expansion will be serviced through existing infrastructure.

The City provides separate sanitary and stormwater sewer collection systems in the Project area. For the current design, sanitary flows from Building 1 will be discharged through a proposed 10-inch service into an existing 16-inch sewer main in Main Street. The One Broadway Liner Building will be discharged through a proposed 10-inch service into an existing 10-inch sewer main in Third Street. The One Broadway expansion will be serviced through the existing 8-inch sewer lateral discharging into an adjacent sewer manhole within Third Street. All services exit the buildings below the foundation slabs.

To comply with the Cambridge Sewer design standards, the sanitary sewer system for Building 1 will include an onsite retention tank to hold up to 8 hours of peak flow, thus protecting the existing sanitary sewer infrastructure in the area.

The Project is reviewing the alternatives of blackwater and/or greywater re-use for the purposes of toilet flushing, irrigation, and/or cooling tower make-up water for Building 1. Re-use of both black and grey water is beneficial as it will contribute to the reduction of peak sanitary flows, thus potentially reducing the required on site sanitary retention. The feasibility of this alternative will be vetted out during design development.

The Project's wastewater generation rate was estimated using design sewage flow rates obtained from 310 CMR 15.000 - The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-Site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage. The following flow criteria will be used for Building 1, the One Broadway Liner Building, and the One Broadway expansion to project the anticipated gallons per day (GPD) of sanitary sewer usage:

- 75 GPD per 1,000 SF for office;
- 50 GPD per 1,000 SF for retail;
- 110 GPD per bedroom for residents; and
- 35 GPD per seat for restaurants.

The total average daily flow generated by the Building 1 is estimated to be 46,685 GPD, the One Broadway Liner Building is estimated to be 10,150 GPD, and the One Broadway Expansion is estimated to be 1,460 GPD; totaling an estimated Project total of approximately 58,295 GPD.

Water Supply

The Project will make connections for fire protection and domestic use to available water infrastructure in Main Street at the site frontage for Building 1, and if required, in Third Street for the One Broadway Liner Building and One Broadway expansion. It is anticipated at this time that the water demand for the One Broadway Liner, and the One Broadway expansion can be attained from the existing One Broadway building supply. The existing One Broadway building is serviced along Broadway adjacent to the existing hydrant towards the southwest corner of the site, through an existing 4-inch domestic water, and two six-inch fire protection services.

Building 1 is estimated to require 51,355 GPD, the One Broadway Liner Building is estimated to require 11,165 GPD, and the One Broadway expansion is estimated to require 1,605 GPD; totaling an estimated Project total of approximately 64,125 GPD of water demand.

A redundant domestic water supply will be provided for this Project. It is anticipated that Building 1 will require two 6-inch domestic water services, and one 8-inch fire protection service from the 12-inch or 24-inch water main in Main Street. All services will enter the proposed Building 1 to the east side below the foundation slab, with bends provided at the building face to allow for water meter access.

The Applicant will work with the CDPW and CWD on the development of the project design and submit plans for formal approval prior to the issuance of the Building Permit for the Project.

Stormwater Management

The Project Site currently contains relatively little pervious areas, as it is predominated by building roof area and existing surface parking. The existing One Broadway building is drained via a closed pipe drainage system discharging to the existing City of Cambridge stormwater system in Third Street, while the existing surface lot is drained via a closed pipe drainage system discharging directly into the Broad Canal.

An existing 54-inch diameter storm drain exists to the north of the Site, adjacent to Broad Canal Way. This pipeline was constructed in the 1980's during the filling of the Broad Canal. The pipe was laid flat and discharges directly into the current Broad Canal to the East. The condition of the existing pipeline is unknown as it currently flows approximately 85% surcharged due to a regular tailwater elevation in the Broad Canal. The limits of the 54-inch storm drain within the Project Site will be relocated as part to this project. The relocation will not affect the capacity of the existing drainage system.

Since the Project Site is already mostly impervious, the Project will not produce significant changes in either the pattern of, or rate of, stormwater runoff. Stormwater management controls will be established in compliance with the CDPW standards. The Project will not result in the introduction of any peak flows, pollutants, or sediments that would potentially impact the receiving waters of the local municipal stormwater drainage system.

The use of detention and infiltration as part of the Project's stormwater management system will reduce site peak flows, replenish groundwater and provide quality treatment for building roof runoff. The onsite detention/infiltration system design complies with the City of Cambridge's Low Impact Development Guidelines. The existing site conditions do not allow for infiltration at the One Broadway

building expansion. Final connections to this system will be reviewed and approved by the Cambridge Public Works Department prior to construction.

The entire Site is previously altered and mostly developed. The Project will result in a net increase in onsite pervious surfaces (0.027 acres); which is inclusive of a portion of the Site being dedicated to new public open space containing paved walkways, and public seating. Additional offsite improvements will be completed to the east of site, which is reflected in the landscape plans. The Project will provide stormwater Best Management Practices (BMPs) in conformance with DEP's Stormwater Management Standards.

The Project is reviewing the alternative of stormwater re-use for the purposes of irrigation and/or cooling tower make-up water. Re-use of stormwater is beneficial as it will contribute to the reduction of peak storm flows, and the reduction of potable water use from the City's water system. The feasibility of this alternative will be vetted out during design development.

The final design will incorporate facilities to reduce phosphorus on site by 65% compared to the existing conditions, in compliance with CDPW standards.

The Project's construction documents will include measures and specifications regarding erosion and sediment controls and barriers (e.g. silt fence, silt sacks). Construction dewatering discharges will be appropriately controlled and discharged in accordance with National Pollutant Discharge Elimination System (NPDES) and state and local dewatering standards.

Other Utilities

The Project will also require electrical, natural gas, and telecommunications services all of which are immediately available within the Main Street right-of-way and Third Street right-of-way. The project team will work with the respective private utility authorities on sizing and configuration of services. The design of these utilities will be included on the CDPW and CWD submission drawings to ensure that the work is coordinated as part of the public review process.

SECTION VI: Consistency with Urban Design Objectives

SECTION VI: Consistency with Urban Design Objectives

A. Introduction

The Kendall Square project has been designed to be wholly consistent with the City Of Cambridge Citywide Urban Design objectives (Section 19.30) as well as the dimensional requirements and goals established in the zoning for PUD-5, Eastern Cambridge Plan, the Eastern Cambridge Design Guidelines and the Kendall Square Design Guidelines (June 2013) developed as part of the K2C2 study.

The narrative below broadly follows the structure of the Kendall Square Design Guidelines (June 2013), addressing key components of other relevant guidelines within as appropriate. Please reference the accompanying ***MIT Kendall Square Initiative NoMa Project, Volume III: Graphic Materials, November 5, 2015*** for additional detail. Consistency with the guidelines for all MIT Kendall Square Initiative buildings is shown on Figures D36 – D80 of ***MIT Kendall Square Initiative SoMa Project, Volume III: Graphic Materials, November 5, 2015*** submitted as part of PB#303 undergoing simultaneous Planning Board review.

B. Walkability/ Open Space/ Universal Access/ Ground Floor

The design of the buildings, open space and streetscape in the NoMa project has been coordinated with the express intent to enhance pedestrian environmental and connections and break down the barriers between inside and outside of the buildings to create a dynamic and integrated public realm. The building components are sited such that they enable pedestrian connection from Main Street to Broad Canal in a way that is not presently possible. The site will be landscaped and lighted to encourage pedestrian usage throughout the day. Likewise the building massing activates the street edge of Board Canal Way resulting in a double sided street with ground floor uses and an improved path to the Broad Canal from Third Street.

Building heights and setbacks, including setbacks from the Luke Building, are consistent with the requirements of the PUD-5 zoning.

- The proposed plan includes new trees. Proposed trees are designed to include a range of species, to contribute to the biodiversity of the urban canopy of Cambridge. Street trees will begin with the preferred street tree list for Cambridge. All plant selections for the public realm are native or adaptive species, minimizing irrigation and maintenance needs.

- As a new, active urban destination in Cambridge, the public realm will include appropriate vehicular and pedestrian lighting to ensure a safe, public environment 24-hours a day. Lighting levels will achieve the standards required for safety and comfort, while remaining below levels that will contribute to light pollution for adjacent properties or users. Feature lighting throughout the public open space will also contribute to wayfinding, district identity, and public realm activation.

- The open space will be programmed for activities to serve the wide variety of community members anticipated to use the space. This includes a variety of ages, abilities, interests and incomes.

- The pedestrian and bicycle improvements will increase the porosity and legibility of the Kendall Square area south of Main Street. Enhanced and improved wayfinding will be an important component of the project.

- The NoMa project has been designed to encourage active use at the ground floors. Over 75% of the street frontage along Main Street and Broad Canal Way will contain retail uses and building lobbies are minimized in favor of active uses at the ground level. The expanded retail at the southwest and south portion of One Broadway further enhances the active use around the block and along Third Street.

- Multiple doors and windows at the ground floor emphasize the connection to the public realm and a transparency between inside and outside. Temporary events or activities can spill out from buildings into the open space. The over-arching objective is to blur the distinction between in and out, by maximizing clear glass and operable glazing, maximizing opportunities to occupy both ground floor and immediate exterior space as part of a diverse range of district destination attractors.

- The retail spaces are designed to facilitate small retailers and have many doors on the street. At least 50% of the ground floor space will be leased to small retailers.

- The ground floors have been designed to be flexible in order to accommodate larger retail spaces in order to accommodate larger format retailers that are consistent with articulated neighborhood needs.

- Ground level floor to floor heights of the buildings proposed for NoMa will measure at least 15'.

C. Built Form and Architectural Intent

Development Parcel A, Building 1

The building is designed to reduce perceived mass, by tapering gradually so that the upper portions of the building have a slightly reduced volume. Balconies, tucked into the south and north facades, lessen pedestrian wind impacts and provide visual interest and diversity on the facade. The sculpted massing along the north/south axis will generate a fractured perception of the articulated glass envelope.

The residential units will push existing housing typologies, to serve the city's diverse population and demographics. The architecture and interior spaces encourage innovation, collaboration and interdisciplinary interaction. Spaces such as the ground floor lobby /coffee shop and the various residential amenities on the fifth floor encourage engagement between residents that come from diverse backgrounds, fostering a sense of community and place.

The project has been designed to be sensitive to the adjacent Luke Building while also reinforcing and enhancing the complex urban aspects of Cambridge as it has historically developed. The Luke Building, currently surrounded by surface parking, will again be part of an active urban landscape as the vacant lots are replaced with active uses.

The residential building is set back from Main Street and is oriented north-south to minimize visual and shadow impacts. The podium of the new building responds to the height of the Luke Building and maintains a pedestrian scale along Main Street. The new building is set back at the Luke Building, separated by a 20-foot wide pedestrian passage, consistent with zoning for the site and urban design objectives. The setback between the two buildings allows for an eclectic historic combination of a smaller scale historic structure and a larger scale contemporary residential building to coexist harmoniously along the same pedestrian passage. Ground floor active use on all sides of the building will help extend a vibrant and active streetscape.

The various retail additions to One Broadway seek to enhance the streetscape. Materiality, including wood, is intended to provide warmth to the retail liner and the potential grocery addition while also concealing the mechanical equipment on the roof.

D. Environmental Quality

Shadow

Building 1 is sited to activate existing parking lots and service areas and is consistent with the shadow impacts associated with two sided urban streets. In general shadow is mitigated to the north by the massing of the residential building in the north-south direction. MIT has conducted shadow studies to evaluate the shadow impacts of the proposed buildings on the public realm including the sidewalks on in front of One Broadway, the sidewalks on both sides of Broad Canal Way and the edges of the Broad Canal as well as on the Luke Building. These studies included as Volume II: Technical Studies and Information, Section B and summarized below:

- On September 21 and March 21:
  - 9:00 am Building 1 casts net new shadow toward the intersection of Third Street and Broad Canal Way.
  - At noon, the shadow from the residential component is cast due north in a sliver directly in front of residential component.
  - At 3:00 pm, the residential component casts shadow toward the open space at the canal and on the Luke Building.
- On June 21, the impact of the shadows is minimal.
  - At 9:00 am, net new shadow is cast on the sidewalks on the north side of Broadway in front of the One Broadway building.
  - At noon, the shadow from the residential component is cast due north in a sliver directly in front of residential component.
  - At 3:00 pm the residential component casts shadow toward the open space at the canal and on the Luke Building.
- On December 21, the shadows are long in the Kendall area and the proposed buildings do not cause significant additional shadow to public spaces in the area.
  - At 9:00 am, Building 1 casts net new shadow toward the intersection of Third Street and Broad Canal Way, including to the sidewalks on the west side of Third Street.
  - At noon, due to the north-south orientation of the residential building, net new shadow is cast in a sliver across Broad Canal Way.

- At 3:00 pm. Building 1 casts net new shadow toward the open space at Broad Canal

Wind

MIT conducted a pedestrian wind assessment to assess wind comfort conditions on and around the development and recommend mitigation measures if necessary. The complete report is included in Volume II, Section C and summarized below. The buildings are sited and massed to minimize wind impacts but are in schematic design. As design develops additional strategies to reduce wind impact – both those recommended in the report and those representing industry best practices – such as canopies, windscreens and landscaping will be incorporated to further reduce impacts.

Overall the wind conditions at Building 1 are predicted to be comfortable for the intended usage. Wind conditions on the sidewalks are expected to be comfortable for standing or strolling in general. Higher wind activity may occur at Broad Canal Way, especially at the northeast corner of Building 1 due to the acceleration of winds at that corner. As the design develops the design team will explore the opportunities to create canopies to mitigate the wind at building entrances as well as coniferous trees, planters and windscreens (in addition to street trees and landscaping) along sidewalks, outdoor seating and open spaces to reduce wind impacts at those locations.

Design team wind mitigation measures include:

- vertical screen on Third Street between the One Broadway parking entrance and the new northwest retail space in order to mitigate a dangerous wind gust condition in fall, winter, and spring.
- a canopy at the northeast corner of the site
- a recessed ground level at the southwest corner of the site (the garage levels above provide an overhang, and the new form provides better access to the new crosswalk on Main St.)

SECTION VII: Market Analysis

SECTION VII: Multifamily Market Analysis

a. Overview

The residential portion of the Project located in the PUD-5 district is located North of Main (NoMa) on Site 1. The market for multi-family rental housing is responsive to a demographic demand for easily accessible public transit, adjacencies to retail and entertainment, sustainable environments, innovation, and proximity to the urban core. A vibrant neighborhood with a diverse population is also driving demand for this Kendall Square locale.

Demand for rental housing in the greater Boston and Cambridge market has been strong in the last few years in response to continued population growth bolstered by low unemployment. First class multi-family rental products in well placed locations such as Kendall Square have achieved quick and sustainable occupancies, with strong demand coming from millennials and baby boomers that desire to live in urban neighborhoods.

The NoMa housing Project will deliver approximately 290 units, of which 18%, or 53 units, will be affordable (< 80% of median income). The pricing of the market rate units will be determined in accordance with the market conditions at the time of delivery.

b. Existing Market Conditions

The current rental housing demand in the Cambridge and Boston area remains strong, with growth in the metro area expected to continue in the near future. Supply has not kept pace in certain desirable areas such as Kendall Square, in part due to the high cost of constructing high-rise multi- family housing in the urban core.

c. Feasibility

The planned residential building on Site 1 is positioned to respond to a growing population in East Cambridge and a strong demand to be located near amenities and easy access to business, retail, MIT, and the greater Boston network. Recently completed nearby projects, including Watermark East, Watermark West, and Third Square are all experiencing little or no vacancy. The market forecast for the foreseeable future remains bright especially given the fundamentals of the Kendall Square area.

SECTION VIII: Sustainability Narrative

SECTION VIII: Sustainability Narrative

MIT's proposed NoMa Project employs a comprehensive approach to achieve sustainability that involves international best practices in establishing a new benchmark in urban sustainable development, community, and innovative solutions to local and regional environmental design issues. Combined with the proposed SoMa Project, this will be one of the largest LEED developments in the Cambridge and Boston areas.

Consistency with City of Cambridge Zoning and Sustainability Initiatives

The NoMa Project is designed to be consistent with the City of Cambridge's zoning requirements with respect to sustainability broadly in Article 22 of the Ordinance and more specifically in Section 13.89.4 of the PUD-5 zoning. In addition, the City of Cambridge has ongoing initiatives that expand its leadership role in sustainability. MIT has participated with the City in these initiatives and the NoMa Project's approach to energy, stormwater management, transportation, etc. is consistent with the goals and objectives of these two City initiatives as follows.

MIT participated in the City's "Getting to Net Zero" public process which culminated in a City Council-adopted Net Zero Action Plan for the City of Cambridge. Net zero is a target for carbon-neutral building operations and is defined as a community of buildings for which, on an annual basis, all greenhouse gas emissions produced through building operations are offset by carbon-free energy production. Cambridge was one of the first municipalities to adopt the Commonwealth's Stretch Energy Code, and in recent years the City has become more energy efficient, earning an official designation as a Green Community. During the net zero process, MIT provided expertise, shared best practices and knowledge, and assisted in shaping the recommendations, along with residents, sustainability professionals, and other property owners.

MIT was invited by the City to participate in the planning of a proposed Kendall Square EcoDistrict. An EcoDistrict is a neighborhood committed to sustainability that links green buildings, smart infrastructure and behavior to meet ambitious sustainability goals over time. Staff attended a training workshop at the Portland Sustainability Institute in Portland, Oregon, and then joined a City-led working group with other Kendall Square stakeholders. The group is exploring strategies and actions aimed at creating a more sustainable district in Kendall Square, and is working with consultant teams to prepare an energy study and a stormwater study. MIT is providing expertise, knowledge, and is helping to frame the next steps.

Environmental Design Targets

MIT is committed to adopting the next generation of sustainable building benchmarking. Building 1 is committed to achieving a LEED Gold rating, under the latest, and more stringent LEED version 4 system. (See the LEED narrative and affidavit for LEED compliance commitment).

Building 1 also strives to achieve a social sustainability in its context that helps support a thriving community of students, workers, residents, and visitors. By providing connections and amenities, this development will create a destination that will perpetually enhance Kendall Square, serving as an educational and regional model of how sustainability can integrate into urban existing contexts.

- The development will create a public educational program for green initiatives to foster innovation.
- The development will target 10-20% energy cost when compared to the more stringent LEED v4 code compliant baseline building, which is already 17% more efficient than the baseline referenced in LEED v3.
- Building design and tenant guidelines will encourage a 20-40% reduction in energy consumption for lighting and equipment
- Building 1 will target 30-40% potable water use reduction across the board for fixtures and process/equipment water uses.
- Building 1 will aim to collect and reuse runoff from the 95th percentile storm event, and increased landscaping and porous pavement will improve stormwater runoff from existing paved parking conditions.
- Building 1 will embrace climate resilient strategies including elevating mission-critical equipment and residential units above elevation 26 ft, incorporating stormwater mitigation strategies, and providing back-up systems for vital operations.

The proposed project plans to achieve its sustainability goals and meet the designated targets by employing the following strategies.

Cutting-Edge Technology

Educational and cutting edge technologies will be implemented in order to be at the forefront of environmental principles as advancements in strategies and technologies are developed, included as a public educational program for green initiatives to foster innovation. This can include renewable energy demonstrations, energy storage, water management systems, and other sustainability initiatives including the topics below.

Water

- Stormwater Management – Building 1 is being designed to collect and store stormwater for reuse within the buildings to minimize potable water consumption. This will reduce site runoff and improve water quality to City drainage systems while reducing potable water demands on public supplies by using reclaimed water from non-potable uses such as cooling towers, fixtures and irrigation.
- Water Savings - LEED v4 takes a holistic look at building water consumption, including not just building fixtures but also process water which was not previously included in LEED v3. Therefore, Building 1 will target 30-40% potable water use reduction across the board for fixtures and equipment water uses.

Energy

- Energy Savings – Building 1 will be designed to a higher performance than is mandated by code, thereby going beyond best practice and local standards to reduce energy consumption, greenhouse gas emission, and the buildings' impact on the grid. Building 1 will target 10-20% energy savings when compared to the more stringent LEED v4 code compliant baseline building, which is already 17% more efficient than the baseline referenced in LEED v3.

- The City's Net Zero target for energy performance for new construction references a 22% improvement on the current baseline (i.e. LEED v3). The Kendall Square development is pursuing a more stringent version of LEED, LEED v4, and will achieve an equivalent 25-35% improvement on the current baseline.

- Efficiency Improvements - As equipment efficiency and controls are continuously improving, we can expect to see a reduction in energy use of the future fitout beyond even today's best performing buildings. Buildings will encourage a 10-20% reduction in energy consumption for equipment, based on using more innovative controls and efficient equipment selection and strategies.

- Reductions in energy consumption can be achieved in different ways, depending on building program and loads and respective major drivers of energy consumption. Sustainable buildings must weigh factors such as daylight availability, reduced electric lighting consumption, and preservation of views and connection to the outdoors for occupant health with building solar gains or heat losses through the façade. Likewise, not all buildings are driven primarily by façade performance. All buildings in the Kendall Square development will be specifying high performance glazing, including but not limited to low-e coatings, frit coverage, and well

insulated double or triple pane glazing, in conjunction with shading devices, operable windows for natural ventilation, and opaque wall areas. All buildings will utilize numerous cutting-edge sustainable practices and technology in building design and operation.

In addition, buildings will achieve the most significant energy reductions through efficient HVAC equipment and conditioning systems utilizing heat recovery and heat exchange, installed equipment power density reductions (such as office and lab equipment reductions and/or efficient residential appliances), advanced lighting and controls, and possible district energy connections. High performance design for energy efficiency in Kendall Square takes a holistic look at each building's specific needs to determine the most effective energy efficiency measures while meeting other programmatic or sustainability goals.

Site and Transportation

- Landscape The landscape plan includes boosting softscape, tree cover and utilizing 100% native or adapted species to create a more vibrant and engaging urban landscape and canopy. This will help create comfortable microclimates and shaded spaces to encourage outdoor activities throughout the seasons.

- Transportation - Site infrastructure will be provided to encourage multimodal transportation, including connections to public transit buses, the Kendall MBTA station, and enhancing existing bicycle networks. Building parking areas will include electric charging stations and preferred parking for low-emitting vehicles and carpools to reduce the emissions from vehicles on the road.

Healthy Buildings

Healthy buildings will be encouraged by material palette and promotion of active design for occupant health. Building 1 will examine materials for their content to ensure products are being specified that create healthy indoor environments. Materials will be low- emitting, avoiding hazardous chemicals too often found in building materials, and selected based on their reduced embodied emissions as they make their way to be installed on-site. Lastly, active movement through buildings and the open spaces will be encouraged through good design of stairways and circulation to increase appeal of physical activity for some occupants while still providing accessibility for all, to enhance live, work, learn and play opportunities.

LEED

MIT has made sustainability an integral part of the Kendall Square development project's design process. As required under the PUD-5 Zoning, Building 1 shall achieve a minimum of Leadership in Energy and Environmental Design (LEED) Gold. The MIT team's efforts in developing buildings that are sustainably designed, energy efficient, environmentally conscious, and healthy for the occupants, visitors, and community and committed to earn the buildings at least 60 credit points under the LEED v4 system, for LEED Gold ratings.

The Kendall Square Development projects will be registered with the USGBC and target several credits which span the nine LEED version 4 categories (Integrative Process, Location & Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation in Design Process and the additional Regional Priority Credits) to enable the project to meet the zoning requirements. LEED version 4 is more stringent than the previous version of LEED, LEED v3 (2009).

All points below are being pursued unless noted as a maybe/possible credit, if it is determined that some of the credits under consideration will not be attainable.

All LEED Minimum Program Requirements and Prerequisites will be met.

Building 1 LEED Credits

Due to Building 1's location across Main Street, the project will not connect to the SoMa project buildings. Therefore, all LEED credit requirements and commitments will be met within the boundaries of the Building 1 site.

59 points targeted, +23 medium probability points to be studied further for at least 60 points

Integrative Process

The design team is conducting a preliminary energy model and water budget before the completion of SD and both will be documented in the Owner's Project Requirements (OPR) & Basis of Design (BOD).

Location and Transportation

The project site is located on a previously developed site in urban Cambridge, close to several public transportation services including a Massachusetts Bay Transportation Authority subway stop, and public bus services. Residents shall have access to bicycle racks and showers, as well as preferred parking for hybrid and/or low-emitting vehicles. Preferred parking will also be provided for low-emitting vehicles for Retail and visitor occupants.

Credit 1 LEED for Neighborhood Development Location *NOT POSSIBLE*

The site is not part of a LEED for Neighborhood development, so this credit is not possible.

Credit 2 Sensitive Land Protection

The project site is located on a previously developed urban site in Cambridge.

Credit 3 High Priority Site

Cleanup work will be required on site before construction to remediate the open site area. A site environmental survey will be required to confirm soil classification. Team to determine if any contamination exists on site, and to remediate if found.

Credit 4 Surrounding Density and Diverse Uses

The Development Parcel is located at the center of Kendall Square in urban Cambridge, Massachusetts. The surrounding community is replete with housing, restaurants, shops, grocery stores, educational and religious institutions, performance venues and other community amenities. In addition, the project itself will add residential, office, retail and services to the community.

Credit 5 Access to Quality Transit

The building is located close to the MBTA Kendall Square T-station. In addition, local bus routes connect the location to other areas of the community and Boston. Finally, campus shuttle services will continue to serve the MIT community in Kendall Square, linking to other regions of MIT's campus and student community, and is a short walk from the building.

Credit 6 Bicycle Facilities *NOT LIKELY*

Short term and long term bicycle parking will be provided for resident, retail workers, and visitors. Residential buildings will include secure storage as needed. The district will host a Hubway bike share hub, which is the current bike-share system of Cambridge and the City of Boston. Site and roadway access will be provided to enhance the bicycle network already so prevalent in the city of Cambridge.

Credit 7 Reduced Parking Footprint

The garage will provide preferred parking for carpools for 5% of all parking spaces provided in the new garage. After zoning for special permit is established, requirements for this credit will be recalculated and included in design.

Credit 8 Green Vehicles

The new garage will include parking spaces for fuel-efficient vehicles and the above grade infrastructure will provide charging stations. The project will endeavor to meet the LEED requirements of 5% of parking spaces and 2% of parking spaces, respectively, but due to this being a predominately residential use it may not be possible to achieve this LEED credit.

Sustainable Sites

The team is taking a comprehensive approach to site, landscape, habitat creation, stormwater management, and human use.

Prerequisite 1 Construction Activity Pollution Prevention

The contractor shall follow best practice construction methods and submit and implement an Erosion and Sedimentation Control (ESC) Plan for construction activities related to the construction of the new building specific to this project. The ESC Plan shall conform to the erosion and sedimentation requirements of the 2003 EPA Construction General Permit and specific municipal requirements for the City of Cambridge.

Credit 1 Site Assessment

The civil and landscape teams will conduct a comprehensive site survey to study topography, hydrology, climate, vegetation, soils, human use, and human health effects to achieve credit requirements.

Credit 2 Site Development, Protect or Restore Habitat *NOT POSSIBLE*

The team is investigating opportunities for restoring landscape in what is currently a primarily hardscaped surface site. This credit is not currently anticipated. The design team is evaluating design options that to specify native or adapted vegetation for trees and other plant material to meet credit requirements and limit turf grass.

Credit 3 Open Space *MAYBE*

This development acts as an urban infill project that will enhance the landscape while providing significant services and thriving community to the sometimes deserted Kendall Square area. Maintaining pedestrian oriented open space that is inviting and engaging is a top priority for this project for the amount of open space that will be provided. Credit compliance to be calculated in later phases.

Credit 4 Rainwater Management

Stormwater will be captured from roof and site area and directed into subsurface stormwater trenches. The intent will be to design the system such that the stormwater strategy and landscape design meets the more stringent LEED v4 requirements as well as local watershed requirements. The stormwater treatment

strategy will include treatment of a majority of stormwater falling on site, including collection from roof and site/landscape runoff strategies, for 80% reduction in total suspended solids (TSS).

Credit 5 Heat Island Reduction

All roofs will be designed with high-albedo materials to reflect heat and mitigate the urban heat island effects. In addition, all parking on site will be above grade in a garage under cover of the tower above. All garage roof areas not under the tower will use high Solar Reflectance Index (SRI) materials. The design will include high SRI and permeable pavers, which would comply with the requirements for this credit. Trees and shading elements are being explored to further reduce heat island effects on hard scape areas.

Credit 6 Light Pollution Reduction

This credit will be pursued under dark-sky lighting strategies. Credit compliance will be fully evaluated in the next phase. Efforts will be made to design the site with night sky friendly fixtures, while maintaining safety and security with the adjacency to the MIT campus.

Credit 7 Tenant Design and Construction Guidelines (For Core and Shell Retail)

Design requirements for tenant fitouts will be utilized for Core and Shell projects to commit future tenants to the principles pursued by the projects as a whole for sustainability.

Water Efficiency

Outdoor and process water use reduction will be a primary driver on the project. The project will specify low-flow and low-flush plumbing fixtures to achieve Water Efficiency. The team shall also consider other water strategies to reduce potable water use.

Prerequisite 1 Outdoor Water Use Reduction, 30% Reduction

Through the use of native and adapted vegetation and efficient irrigation systems, the project will reduce the demand for irrigation by 30%.

Prerequisite 2 Indoor Water Use Reduction, 20% Reduction

Through specifying efficient fixtures and equipment, the project will achieve a 20% reduction in potable water use inside the building.

Prerequisite 3 Building Level Water Metering

New in LEED v4, the project will install meters for building and site grounds to measure and ongoing reevaluate water consumption for each building.

Credit 1 Outdoor Water Use Reduction, 50%/No Potable Water

The project will target a minimum of 50% reduction through efficient irrigation and/or stormwater reuse for irrigation. Full elimination of potable water for irrigation is not anticipated at this point in the design. To meet the credit requirements of 50% or 100% reduction in potable water use for irrigation, potable water use for irrigation will be limited and reuse strategies feasible for irrigation will be explored, including stormwater, reverse osmosis, or other reuse water available for irrigation AND/OR use of native, drought resistant vegetation. Current design includes conservation strategies and no reuse.

Credit 2 Water Use Reduction 25/30/35/40/45/50%

The project will install efficient flow and flush fixtures as well as compliant equipment to reduce building potable water consumption. Each building's water reduction target is a 40% reduction.

Through the use of low-flow and low-flush plumbing fixtures in the building, as outlined in the project basis of design, the project shall implement water use reduction strategies that use at least 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting Energy Policy Act of 1992 fixture performance requirements.

Credit 3 Cooling Tower Water Use *MAYBE*

The mechanical engineers will conduct a water analysis to optimize cooling tower cycles, to achieve at least >10 cycles, or 20% non-potable water use to maximize points for this credit.

Credit 4 Water Metering *MAYBE*

Beyond the whole building and site water metering, the projects will study installing permanent water meters for two or more water subsystems each. This credit is under consideration but not yet anticipated.

Energy and Atmosphere

The building systems of Building 1 shall be designed to optimize energy performance and will not use refrigerants that are harmful to the environment. The owner has engaged a third party Commissioning Agent to confirm the building systems are installed and function as intended and designed.

Prerequisite 1 Fundamental Commissioning and Verification

Building will engage a commissioning agent and develop and perform fundamental commissioning.

Prerequisite 2 Minimum Energy Performance

The current design should meet this prerequisite. The next model will measure energy cost savings against LEED Baseline. Further study and energy modeling in subsequent project phases will confirm compliance.

Prerequisite 3 Building-Level Energy Metering

Meters must be installed to provide data on total energy consumption. This LEED requirement is in line with City of Cambridge energy data reporting guidelines.

Prerequisite 4 Fundamental Refrigerant Management

The specifications for refrigerants used in the building HVAC systems will not use CFC based refrigerants.

Credit 1 Enhanced Commissioning

The Commissioning agent will perform a review of the CD documents and provide any comments to the team for design revision. In addition, the Commissioning agent will perform post-occupancy reviews

and draft a recommissioning manual and develop monitoring procedures for ongoing operations and maintenance.

Credit 2 Optimize Energy Performance (6%-50%, up to 18 points

The design is targeting at least a 20% savings through the design of an efficient building envelope, high performance lighting and energy-saving HVAC systems.

Credit 3 Advanced Energy Metering

The projects will install energy metering for whole building energy and individual energy end uses representing 10% or more of total consumption.

Credit 4 Demand Response *MAYBE*

Credit requires designing building and equipment for participation in demand response programs through load shedding or shifting. This credit is not likely pursued.

Credit 5 Renewable Energy Production (1%, 5%, 10%) *MAYBE*

Currently, the team is exploring opportunities to incorporate renewables in the projects. The density of the development and potential for renewables may only achieve the 1% threshold if pursued. Credit is not likely.

Credit 6 Enhanced Refrigerant Management

Equipment with refrigerant over 0.5 lbs should be selected for low Lifecycle Direct Global Warming Potential (LCGWP) and Lifecycle Ozone Depletion Potential (LCODP).

Credit 7 Green Power and Carbon Offsets *MAYBE*

A primary strategy for this project will be reduction in energy consumption. The teams will discuss green power purchasing if other LEED credits are necessary to achieve the target certification rating. Green-e certified power contracts would be written into tenant guidelines as required.

Materials and Resources

Throughout the construction phase of the project, the contractor shall endeavor to divert construction and demolition waste from area landfills and procure materials that have recycled content and/or are manufactured locally.

Prerequisite 1 Storage and Collection of Recyclables

Storage of collected recyclables shall be accommodated throughout the buildings. An aggregate of at least 500 square feet has been allocated for recycling storage in addition to area for ground level collection, sorting, and bundling for pick-up. A recycling plan will be developed.

Prerequisite 2 Construction and Demolition Waste Management Planning

Projects will follow construction and demolition waste management best practices. The construction manager will draft Construction and Demo Waste Management Plans to maximize waste diverted from landfill.

Credit 1 Building Life-Cycle Impact Reduction *MAYBE*

Project will conduct a life-cycle assessment that demonstrates a minimum of 10% reduction in at least three of the six impact measures.

- Global warming potential (greenhouse gasses), in CO2e
- Depletion of the stratospheric ozone layer, in kg CFC-11
- Acidification of land and water sources, in moles H+ or kg SO2
- Eutrophication, in kg nitrogen or kg phosphate
- Formation of tropospheric ozone, in kg NO2 or kg ethane
- Depletion of nonrenewable energy resources, in MJ

Credit 2 Building Product Disclosure & Optimization: Enviro. Product Declarations *MAYBE*

Team will specify 20 products sourced from five different manufacturers that meet the disclosure criteria and use products that exhibit optimized performance on those disclosures for 50% by cost.

Credit 3 Building Product Disclosure & Optimization: Sourcing of Raw Materials *MAYBE*

Team will use 20 products sourced from five different manufacturers that have publicly released a report from their raw material suppliers and those reports demonstrate products meet responsible extraction criteria (25% material cost).

Credit 4 Building Product Disclosure & Optimization: Material Ingredients *MAYBE*

Team will use 20 products sourced from five different manufacturers that demonstrate the chemical inventory of the products and document their material ingredient optimization (25% by material cost).

Credit 5 Construction & Demolition Waste Management (50/75%)

The project will pursue optimized waste diversion from landfill to achieve 75% reduction in 4 material streams OR generate less than 2.5 lbs of waste/sf.

Indoor Environmental Quality

The air quality shall be monitored during the construction phase of the project and likely prior to occupancy. Low emitting materials will be used throughout construction to maintain and improve air quality. The building occupants will be able to maintain a comfortable environment through access to thermal and lighting controls.

Prerequisite 1 Minimum IAQ Performance

The building mechanical systems will be designed to meet or exceed the requirements of ASHRAE Standard 62.1-2010 sections 4 through 7 and/or applicable building codes.

Prerequisite 2 Environmental Tobacco Smoke (ETS) Control

Smoking will be prohibited inside the building and within 25 feet of the building, especially any entryways or air intakes.

Credit 1 Enhanced Air Quality Strategies

Project will provide entryway systems to avoid contamination from exterior particulates and prevent interior cross contamination. In addition, MERV 13 filters will be specified. In addition, project will either provide increased ventilation or monitor CO2, depending on the program type for which compliance path is most energy efficient.

Credit 2 Low-Emitting Materials

The team will target achieving threshold level of compliance for VOC content in at least 4 categories. Enhanced performance will target 5 categories.

- Interior paints and coatings
- Interior adhesives and sealants applied on-site (including flooring)
- Flooring
- Composite wood
- Ceilings, walls, thermal, and acoustic insulation
- (Furniture not applicable)

Credit 3 Construction IAQ Management Plan

A Construction IAQ Management Plan will be drafted and implemented on all projects during construction and pre-occupancy according to the SMACNA Guidelines.

Credit 4 Indoor Air Quality Assessment

In addition to managing air quality during construction and pre-occupancy, a building flush-out or air quality testing will be performed before each building is occupied.

Credit 5 Daylight (55%/75%) *MAYBE*

Project will design for adequate daylighting and visual comfort where possible. Building enclosures will be designed to mitigate heat gains and temper interior daylighting levels. In addition, daylight dimming will be studied for perimeter building zones. This credit will be calculated in later design phases.

Credit 6 Quality Views *MAYBE*

Direct views will be provided to the outside for 75% of regularly occupied spaces, which meet 2 of 4 LEED criteria.

- Multiple lines of sight to vision glazing in different directions at least 90 degrees apart
- Views that include at least 2 of the following (1) flora, fauna, or sky; (2) movement; and (3) objects at least 25 feet from the exterior of the glazing
- Unobstructed views located within the distance of three times the head height of the vision glazing
- Views with a view factor of 3 or greater, as defined in:"windows and Offices, A Study of Office Worker Performance and the Indoor Environment"

Innovation and Design Processes

The project team has identified several possible ID credits which are listed below, limited to 5 ID credits total. Throughout the design process these along with other potential innovation and design process credits will be evaluated.

Credit 1.1 Green Building Education – under consideration

Green building education is a recommended best practice. MIT is considering educational building dashboards and shall pursue an informational website, building tours, or signage for sustainable features for residents and visitors.

Credit 1.2 Green Housekeeping – under consideration *MAYBE*

Green housekeeping is a recommended best practice. The team will discuss developing and implementing a plan for occupants.

Credit 1.3 Exemplary Performance, Low Mercury Lighting *MAYBE*

This innovation credit can be earned by specifying low-mercury lighting which reduces the toxicity of waste streams.

Credit 1.4 Innovation in Design, Organic Landscape Management

Site may choose to pursue organic landscape management, to enhance the quality of the site and reduce chemicals and pesticides used on site areas. This will improve the quality of stormwater runoff and green spaces that occupants and visitors may come in contact with.

Credit 1.5 Innovation in Design, Integrated Pest Management

Team will explore alternative ID credits; however, an integrated pest management approach that meets LEED EBOM standards will help improve indoor air quality for occupants, and can be included as a requirement in the Tenant Guidelines.

Credit 2 LEED Accredited Professional

Atelier Ten, a group of LEED accredited professionals, is overseeing the overall sustainability of the Kendall Square development. They are also serving as the sustainability lead on the Building 1 design team. In addition, many other design team members have LEED accredited professionals working on the projects.

Regional Priority Credits

Regional Priority Credits (RPC) are established LEED credits designated by the USGBC to have priority for a particular area of the country. When a project team achieves one of the designated RPCs, an additional credit is awarded to the project. Up to four RPCs can be achieved on a project. The following RPCs are applicable to the Kendall Square Development area in LEED v4:

Credits to be Pursued

Optimize Energy Performance (8 pts required, up to 18 points)

High Priority Site (2 pts required, 2 possible)

Rainwater Management (2 pts required, up to 3 points)

Indoor Water Use Reduction (4 pts required, up to 6 points)

Credits Not Pursued

Renewable Energy Production (5% required, up to 3 points)

Energy Efficiency and District Energy

After exploring opportunities for building level efficiency improvements, the team performed a comprehensive energy study that evaluated several district energy options against multiple criteria, including physical, regulatory, market, and financial criteria. The options included energy sourced from onsite generation, MIT's central utility plant, district steam, building by building, and variations of different options. While elements of the study, such as further evaluation of the provision of steam by the local district steam provider, will continue during the iterative design phase, the current results of the study show that the comprehensive building and system design in a building by building approach combined with a hybrid approach to district energy connection for MIT academic buildings results in the optimum performance and meets all criteria including greenhouse gas emissions measurement.

MIT is committed to implementing best practice and meeting or exceeding local standards in incorporating a whole system, integrated approach and to continually revise and reevaluate design strategies to stay at the forefront of adoption of environmental principles. In Kendall Square, sustainability takes an expanded view at the intersection of environmental, economic, and social issues to ensure that all are properly examined and aligned to meet the projects objectives throughout all phases of development. Energy efficiency and resource conservation are at the heart of the sustainability framework developed for Kendall Square, and will remain a focus for the team as the NoMa and SoMa Projects develop.

The iterative process and the analysis to date indicates the following hybrid district energy strategy should be pursued in PUD-5:

- Three buildings Site 4, E38 and E39 will connect to the MIT Central Plant for chilled water, steam, and electricity.
- Site 3 and 238 Main Street will develop a local district energy plant for cooling and heating, powered by gas and electricity sourced from the local utility.

- Sites 1, 2, 5 and 6 will develop building level energy plants for cooling and heating, powered by gas and electricity sourced from the local utility. These plants will be optimized in response to the building load profile and might include local co-generation if it matches the load profile and improves efficiency. Building-level energy efficiency measures can provide significant energy and emissions savings.
- Site 1 continues to explore opportunities for local/Veolia steam connections to provide heat.
- To the extent Veolia service is extended across Main Street, the commercial buildings (Sites 2, 3, 5, 6) will further investigate opportunities for steam connections.

Energy Efficiency and District Energy

The topic of resiliency covers a broad range of issues and concerns for response and preparation for climactic or disastrous events. Likewise, different building types will need to provide unique support during such potential occurrences. Office and lab buildings, while not likely a shelter-in-place location, have been designed so that mission critical systems are elevated significantly above the ground floor to ensure building power and conditioning system continuity during significant events. Backup systems will provide critical continuity for tenants during outage situations.

More critically, the residential buildings are being designed to allow for more passive façade design to resist temperature changes and provide user controllability during significant regional outages. Similarly, water, electricity, and building systems have been elevated and designed to maintain connectivity and continuity during major events.

Most importantly, the Kendall Square development intends to help create a sense of community through site, landscape, and urban design that can foster relationships and connectivity among residents, employees, students and faculty, visitors and community members, that when in times of crisis, can share resources and come together to strengthen support for one another.

SECTION IX: Noise Mitigation Narrative

SECTION IX: Noise Mitigation Narrative

The City and the MassDEP have noise requirements that protect residents from excessive sound. N o M a Building 1 will comply with Section 13.89.1 Rooftop Mechanical Equipment Noise Mitigation and Section 8.16, Noise Control of the Ordinance as well as meet MassDEP Noise Guidelines. All mechanical equipment components for the building listed in this report will meet specifications outlined in Section 8.16 of the Ordinance. This includes cooling towers, air handling units, exhaust fans, and all mechanical room louver openings.

During the permitting phase it is necessary to determine the degree of sound reduction required. This is based upon estimates of the sound that will propagate from the facility and the sound level criteria appropriate for the neighborhood. The sound criteria for this project will address the following factors:

- Ambient or background sound levels during the quieter times
- Type of neighborhood – residential, business, or industrial
- Character of sound generated by proposed facility – sound level and spectrum

Consistent with Section 13.89.1 of the PUD-5 zoning in the Ordinance, prior to the issuance of the certificate of occupancy for Building 1 MIT will submit an acoustical report, including field measurements, demonstrating compliance of such building with all applicable noise requirements.

Emergency Generators

Emergency generator noise emissions from Building 1 does not need to be included as part of the noise emissions study. Depending on the major equipment and noise control selected for a project, a typical emergency generator facility can emit tonal and/or broadband sounds, low frequency sound, and steady and/or intermittent sounds that are noticeable in the community. However, the emergency generators for this project are exempt from the Cambridge Ordinance, as long as they are tested during the daytime hours.

Building 1 will include appropriate generator noise control measures to meet the MassDEP Noise Guidelines. The Commonwealth of Massachusetts has enacted regulations for the control of air pollution (310 CMR 7.10). To enforce these regulations, MassDEP has issued guidelines that limit the level of industrial noise in inhabited areas as follows: a) not to increase the residual ambient sound

level by more than 10 dBA and b) not to produce a pure tone condition where the sound pressure level in one octave band exceeds the levels in the two adjacent octave bands by 3 dB or more. The residual ambient sound level may be defined for the purpose of these guidelines as the measurement of the L90 level over the time period of concern or by other means acceptable to MassDEP. In addition, MassDEP typically applies these guidelines both at the property line and at the nearest inhabited residences, with most concern at the residence.

Based on the MassDEP guidelines and the results of our ambient sound survey, we suggest the following sound goals for the emergency generators:

- No Significant tonal sounds at community residences; and
- 60 dBA – maximum sound level at community residences

Loading Dock Noise

A preliminary study has been conducted by the design team regarding the location of the Building 1 loading dock locations and truck paths. The loading docks are shown in gray for each building on Figure 6 attached. Most of the loading dock areas are partially enclosed within the respective buildings, reducing the likelihood of noise impact to the residences. When the trucks are idle, they will be required to shut off their engine for loading and unloading. All deliveries will occur between 9AM and 9PM as agreed under the City of Cambridge Noise Ordinance, limiting truck noise during the nighttime hours.

Rooftop Mechanical Equipment

Based on the equipment layout shown in Figure I-S1, abatement methods to be employed to control the sound of Building 1 will include the following:

- Solid acoustical barrier around the cooling towers
- Visual screen around the emergency generator as required by Article 19
- Acoustical enclosure around the emergency generator to meet the MassDEP noise limit
- Generator exhaust pipe will be outfitted with 'critical hospital' grade muffler
- Mechanical penthouses will enclose the major mechanical equipment, with louvers and roof openings outfitted with sound attenuators where needed to mitigate sound to the exterior
- All lower level mechanical rooms, if any, will be provided with sound attenuators at the louvers
- Garage exhaust fans, if any, will be provided with sound attenuators

The sound emissions from emergency generators for Building 1 will be specified to address compliance with the MassDEP noise guidelines and City of Cambridge Noise Standards. Table 3 presents the initial sound estimates for the project-only equipment only at representative community locations, which include both residential and commercial areas. These estimates are based on information provided us on the equipment that will operate continuously (24/7 operation) and on the recommended noise specification values. Table 4 presents similar information as Table 3, but the estimated total sound levels include the contributions of both the project equipment sound and the average ambient sound that we measured on the quieter second night in the community across Locations 1 – 10. The estimates, which are based on current project information, address compliance with the applicable noise requirements.

SECTION X: Quantitative Data

SECTION X: Quantitative Data

Land Uses and Development – Aggregate for PUD-5

	Required	**Existing**	**Proposed Removal**	**Proposed Project**	**PUD - 5**
Land Area	As exists	1,149,765	N/A	1,149,765	1,149,765
Total Non-Exempt GFA	**4,484,084 max**	**2,540,839**	**256,914**	**1,553,033**	**3,836,958**
Residential	Min. 240,000 net new	282,816	0	285,000	567,816
Commercial	Max. 980,000 net new	407,176	59,634	947,300	1,294,842
Office (not incl. Innov.)	*N/A*	*338,932*	*21,390*	*609,400*	*926,942*
Lab (not incl. Innov.)	*N/A*	*0*	*0*	*270,000*	*270,000*
Non-Exempt Innovation	*See Note 1*	*30,000*	*0*	*0*	*30,000*
Non-Exempt Retail	*N/A*	*38,244*	*38,244*	*67,900*	*67,900*
Academic (all types)	N/A	1,625,677	33,547	74,000	1,666,130
Non-Exempt Dormitory	N/A	225,170	163,733	163,733	225,170
Structured Parking	N/A	0	0	83,000	83,000
Total Non-Exempt FAR	**Max. 3.9**	**2.21**	**.22**	**1.35**	**3.34**
Total Exempt GFA	**N/A**	**30,000**	**0**	**234,167**	**264,167**
Ground-Floor Retail	N/A	0	0	67,900	67,900
Public Transportation	N/A	0	0	0	0
Residential/Dormitory	(net new S. of Main)	0	0	166,267	166,267
Innovation	See Note 1	30,000	0	0	30,000
Total Dwelling Units	No max. or min.	262	0	290-300	552-562
Market Rate Units		262	0	237-246	499-508
Affordable Units	[Total D.U. * 18% new]	0	0	53-54	53-54
Dormitory Beds/Units	No max. or min.	347	201	450	596
Publicly Beneficial Open Space	**3.96 acres (15%)**	**8.24 acres (31.2%)**	**0**	**1.89 acres**	**10.13 acres (38.35%)**

Parking – Aggregate for PUD-5

	Required	Existing	Removed	Proposed Project	PUD – 5
Total New Parking	**1,050 (max.)**	**N/A**	**N/A**	**984**	**984**
Res. @ 0.5-0.75/unit	145-218 spaces	N/A	N/A	175	175
Office @ 0.9/KSF max.	549 (max.)	N/A	N/A	544	544
Lab @ 0.8/KSF max.	216 (max.)	N/A	N/A	216	216
Retail @ 0.5/KSF max.	67 (max.)	N/A	N/A	49	49
Academic (per zoning)	See Note 2	N/A	N/A	0	0
Dormitory (per zoning)	See Note 2	N/A	N/A	0	0
Total Replacement Parking	**Per PB approval**	**1,420**	**599**	**685**	**1,506**
Residential (note sites)		0	0	0	
Commercial (One Broadway Garage and Surface; SoMa Lots)		546	230 (114 at One Broadway surface and 116 at SoMa surface)	116	432
Academic (SoMa Lots)		874	369	369	874
Dormitory		0	0	0	0
Other (academic replacement)		0	0	200	200
Net Parking	**Per PB approval**	**1,420**	**599**	**1,669**	**2,490**

New Bicycle Parking – Aggregate for PUD-5

	Required	Proposed
Total Long-Term	**816**	**826**
Res. @ 1.00-1.05/unit	306	316
Office @ 0.3/KSF min.	184	184
Lab @ 0.22/KSF min.	60	60
Retail @ 0.1/KSF min.	20	20
Academic @ 0.2/KSF	10	10
Dormitory @ 0.5/bed	236	236
Total Short-Term	**208**	**208**
Res. @ 0.1/unit min.	30	30
Office @ 0.06/KSF min.	39	39
Lab @ 0.06/KSF min.	17	17
Retail @ 0.6/KSF min.	87	87
Academic @ 0.4/KSF	10	10
Dormitory @ 0.05/bed	25	25

Land Uses and Development – SoMa PUD

	Required	Existing	Removed	Proposed Project	SoMa PUD Total
Land Area	1,033,493	1,033,493	N/A	1,033,493	1,033,493
Total Non-Exempt GFA		**2,273,770**	**242,414**	**1,160,233**	**3,191,589**
Residential		282,816	0	0	282,816
Commercial		140,107	45,134	922,500	1,017,473
Office (not incl. Innov.)	*N/A*	*111,943*	*16,970*	*603,000*	*697,973*
Lab (not incl. Innov.)	*N/A*	*0*	*0*	*270,000*	*270,000*
Non-Exempt Innovation	*See Note 1*	*0*	*0*	*0*	*0*
Non-Exempt Retail	*N/A*	*28,164*	*28,164*	*49,500*	*49,500*
Academic (all types)	N/A	1,625,677	33,547	74,000	1,666,130
Non-Exempt Dormitory	N/A	225,170	163,733	163,733	225,170
Structured Parking	N/A	0	0	0	0
Total Non-Exempt FAR		**2.20**	**.23**	**1.12**	**3.09**
Total Exempt GFA	**N/A**	**0**	**0**	**215,767**	**215,767**
Ground-Floor Retail	N/A	0	0	49,500	49,500
Public Transportation	N/A	0	0	0	0
Residential/Dormitory	(net new S. of Main)	0	0	166,267	166,267
Innovation	See Note 1	0	0	0	0
Total Dwelling Units		262	0	0	262
Market Rate Units	No max. or min.	262	0	0	262
Affordable Units	18% of new d.u.	0	0	0	0
Dormitory Beds/Units	No max. or min.	347	201	450	596
Publicly Beneficial Open Space	**15% in PUD-5 total**	**7.82 acres (29.6%)**	**0**	**1.58**	**9.4 acres (35.6%)**

Parking – SoMa PUD

	Required	Existing	Removed	Proposed Project	SoMa PUD - 5 total
Total New Parking	**809**	**N/A**	**N/A**	**809**	**809**
Res. @ 0.5-0.75/unit	0	N/A	N/A	0	0
Office @ 0.9/KSF max.	544	N/A	N/A	544	544
Lab @ 0.8/KSF max.	216	N/A	N/A	216	216
Retail @ 0.5/KSF max.	49	N/A	N/A	49	49
Academic (per zoning)	See Note 2	N/A	N/A	0	0
Dormitory (per zoning)	See Note 2	N/A	N/A	0	0
Total Replacement Parking	**Per PB approval**	**990**	**485**	**685**	**1,190**
Residential (note sites)			0	0	0
Commercial (SoMa Lots)		116	116	116	116
Academic (SoMa Lots)		874	369	369	874
Dormitory		0	0	0	0
Other (academic replacement)		0	0	200	200
Net Parking	**Per PB approval**	**990**	**485**	**1,494**	**1,999**

Bicycle parking – SoMa PUD

	Required	Proposed
Total Long-Term	**504**	**504**
Res. @ 1.00-1.05/unit	0	0
Office @ 0.3/KSF min.	182	182
Lab @ 0.22/KSF min.	60	60
Retail @ 0.1/KSF min.	16	16
Academic @ 0.2/KSF	10	10
Dormitory @ 0.5/bed	236	236
Total Short-Term	**154**	**154**
Res. @ 0.1/unit min.	0	0
Office @ 0.06/KSF min.	38	38
Lab @ 0.06/KSF min.	17	17
Retail @ 0.6/KSF min.	64	64
Academic @ 0.4/KSF	10	10
Dormitory @ 0.05/bed	25	25

Land Uses and Development – NoMa PUD

	Required	Existing	Removed	Proposed	NoMa PUD Total
Land Area	116,272	116,272	N/A	116,272	116,272
Total Non-Exempt GFA		**267,069**	**14,500**	**392,800**	**645,369**
Residential		0	0	285,000	285,000
Commercial		267,069	14,500	24,800	277,369
Office (not incl. Innov.)	*N/A*	*226,989*	*4,420*	*6,400*	*228,969*
Lab (not incl. Innov.)	*N/A*	*0*	*0*	*0*	
Non-Exempt Innovation	*See Note 1*	*30,000*	*0*	*0*	*30,000*
Non-Exempt Retail	*N/A*	*10,080*	*10,080*	*18,400*	*18,400*
Academic (all types)	N/A	0	0	0	0
Non-Exempt Dormitory	N/A	0	0	0	0
Structured Parking	N/A	0	0	83,000	83,000
Total Non-Exempt FAR		2.3	0	3.38	5.55
Total Exempt GFA	**N/A**	**30,000**	**0**	**18,400**	**48,400**
Ground-Floor Retail	N/A	0	0	18,400	18,400
Public Transportation	N/A	0	0	0	0
Residential/Dormitory	(net new S. of Main)	0	0	0	0
Innovation	See Note 1	30,000	0	0	30,000
Total Dwelling Units	No max. or min.	0	0	290-300	290-300
Market Rate Units	No max. or min.	0	0	237-246	237-246
Affordable Units	53-54	0	0	53-54	53-54
Publicly Beneficial Open Space	**15% in PUD-5 total**	**.42 acre**		**.31 acre**	**.73 acre**

Parking – NoMa PUD

	Required	Existing	Removed	Proposed Project	NoMa PUD-5 Total
Total New Parking	**169- 241**	**0**	**0**	**175**	**175**
Res. @ 0.5-0.75/unit	146 – 218 spaces	0	0	175	175
Office @ 0.9/KSF max.	5 (max.)	0	0	0	
Retail @ 0.5/KSF max.	18 (max.)	0	0	0	
Replacement Parking	**Per PB approval**	**430**	**114**	**0**	**316**
Residential (note sites)	0	0	0	0	0
Commercial (note sites)	One Broadway	430	114	0	316
Net Parking	**Per PB approval**	**430**	**114**	**175**	**491**

Bicycle Parking – NoMa PUD

	Required	Proposed
Total Long-Term	**312**	**322**
Res. @ 1.00-1.05/unit	306	316
Office @ 0.3/KSF min.	2	2
Retail @ 0.1/KSF min.	4	4
Total Short-Term	**54**	**54**
Res. @ 0.1/unit min.	30	30
Office @ 0.06/KSF min.	1	1
Retail @ 0.6/KSF min.	23	23

Building by Building Proposed GFA – SoMa

	Proposed GFA in SF – at full build-out (including exempt)						Exemptions		Proposed at full build-out		
Building	**Total**	**Office/Lab**	**Retail**	**Res.**	**Academic**	**Dormitory**	**Retail**	**Other**	**Parking**	**L-T Bike**	**S-T Bike**
B-2	316,000	298,000	18,000	0	0	0	9,000	0	278	93	31
C-3	297,000	270,000	27,000	0	0	0	13,500	30,000	230	64	34
C-4	367,000	0	28,000	0	9,000	330,000	14,000	166,000	14	242	44
C-5	390,000	305,000	20,000	0	65,000	0	10,000	0	284	103	40
C-6	6,000	0	6,000	0	0	0	3,000	0	3	2	5
TOTAL	**1,376,000**	**873,000**	**99,000**	**0**	**74,000**	**330,000**	**49,500**	**196,000**	**809**	**504**	**154**

Building by Building Proposed GFA – NoMa

	Proposed GFA in SF – at full build-out						Exemptions	Proposed at full build-out		
Building	**Total**	**Office/Lab**	**Retail**	**Res.**	**Academic**	**Parking**	**Exempt Retail**	**Parking**	**L-T Bike**	**S-T Bike**
A-1	377,450	0	9,450	285,000	0	83,000	4,725	175	317	36
A-2 (OBW+)	33,750	6,400	27,350	0	0	0	13,675	316	5	18
TOTAL	**411,200**	**6,400**	**36,800**	**285,000**	**0**	**83,000**	**18,400**	**491**	**322**	**54**

Notes:

Note 1: Requirement for Innovation is 5% of the New Gross Floor Area approved in the final development plan for Office uses.

Note 2: Parking for Existing and Proposed Academic and Dormitory uses is included in MIT's pooled parking supply. Therefore, there is no specific requirement for the uses proposed in the Project.

SECTION XI: Appendices

SECTION XI: Appendices

A. Legal Descriptions

B. Certifications of Receipt of Plans

Kendall Square Initiative – Legal Description of Development Parcels

Development Parcel A

A certain parcel of land situated in the City of Cambridge, Middlesex County, Commonwealth of Massachusetts, bounded and described as follows:

Beginning at a point being the intersection of the northerly sideline of Main Street and the northeasterly sideline of Broadway;

Thence running N 60°31'05" W by the sideline of Broadway, a distance of 274.06 feet to a point of curvature on the sideline of Third Street;

Thence, along a curve to the right with a radius of 15.00 feet and an arc length of 23.60 feet to a point of tangency;

Thence turning and running N 29°37'15" E, a distance of 235.59 feet to a point on the sideline of a private way known as Broad Canal Way, the previous two courses by the sideline of Third Street;

Thence turning and running S 72°30'35" E by the sideline of a private way known as Broad Canal Way, a distance of 365.41 feet to a point;

Thence turning and running S 15°50'14" W, a distance of 46.32 feet to a point, the previous two courses by land now or formerly of RREEF American Reit II Corp., PPP;

Thence turning and running S 05°35'50" W in part by land of RREEF American Reit II Corp., PPP and in part by land now or formerly of The American National Red Cross, a distance of 224.70 feet to a point on the sideline of Main Street;

Thence turning and running N 84°31'09" W by the sideline of Main Street, a distance of 187.03 feet to the point of beginning.

Containing an area of 116,272 square feet, more or less, shown as Development Parcel A on a plan entitled “Development Parcel Plan, Massachusetts Institute of Technology, Kendall Square Project, Cambridge, Mass.” dated July 20, 2015, prepared by Feldman Land Surveyors.

Development Parcel B

A certain parcel of land situated in the City of Cambridge, Middlesex County, Commonwealth of Massachusetts, bounded and described as follows:

Beginning at a point being the intersection of the southerly sideline of Main Street and the easterly sideline of Wadsworth Street;

Thence running S 76°52'17" E, a distance of 150.82 feet to a point of curvature;

Thence along a curve to the left with a radius of 1000.00 feet, an arc length of 133.10 feet to a point of tangency;

Thence turning and running S 84°29'51" E, a distance of 86.31 feet to a point, the previous three courses by the sideline of Main Street;

Thence turning and running S 13°47'51" W, a distance of 141.17 feet to a point;

Thence turning and running N 84°29'51" W, a distance of 94.28 feet to a point;

Thence turning and running S 65°25'23" W, a distance of 192.25 feet to a point;

Thence turning and running N 84°29'51" W, a distance of 87.49 feet to a point on the sideline of Wadsworth Street, the previous four courses over land now or formerly of Massachusetts Institute of Technology;

Thence turning and running N 05°30'09" E by the sideline of Wadsworth Street, a distance of 264.91 feet to the point of beginning.

Containing an area of 69,711 square feet, more or less, shown as Development Parcel B on a plan entitled "Development Parcel Plan, Massachusetts Institute of Technology, Kendall Square Project, Cambridge, Mass." dated July 20, 2015, prepared by Feldman Land Surveyors.

Development Parcel C

A certain parcel of land situated in the City of Cambridge, Middlesex County, Commonwealth of Massachusetts, bounded and described as follows:

Beginning at a point being the intersection of the southerly sideline of Main Street and the westerly sideline of Wadsworth Street;

Thence turning and running S 05°30'09" W by the sideline of Wadsworth Street, a distance of 279.34 feet to a point;

Thence turning and running N 84°29'51" W over land of Massachusetts Institute of Technology, a distance of 215.91 feet to a point on the sideline of a private way known as Hayward Street;

Thence turning and running S 05°30'09" W, a distance of 176.49 feet to a point;

Thence along a curve to the left with a radius of 15.00 feet, an arc length of 31.43 feet, a chord bearing of S 54°31'06" E and a chord length of 25.99 feet to a point on the sideline of Amherst Street, the previous two courses by the sideline of a private way known as Hayward Street;

Thence turning and running S 65°27'39" W by the sideline of Amherst Street, a distance of 390.15 feet to a point on the sideline of a private way known as Carleton Street;

Thence along a curve to the left with a radius of 25.00 feet, an arc length of 26.16 feet, a chord bearing of N 35°28'54" E and a chord length of 24.98 feet to a point of tangency;

Thence turning and running N 05°30'09" E by the sideline of a private way known as Carleton Street, a distance of 456.76 feet to a point;

Thence turning and running N 84°29'51" W, a distance of 251.00 feet to a point;

Thence turning and running N 05°30'09" E, a distance of 62.00 feet to a point;

Thence turning and running N 84°29'51" W, a distance of 69.24 feet to a point;

Thence turning and running N 05°11'21" E, a distance of 71.66 feet to a point;

Thence turning and running S 85°07'36" W, a distance of 63.72 feet to a point;

Thence turning and running N 04°52'24" W, a distance of 77.07 feet to a point on the sideline of Main Street, the previous six courses over land now or formerly or Massachusetts Institute of Technology;

Thence turning and running S 84°29'51" E by the sideline of Main Street, a distance of 77.21 feet to a point;

Thence turning and running S 05°11'21" W, a distance of 135.00 feet to a point;

Thence turning and running S 84°29'51" E, a distance of 69.25 feet to a point on the sideline of a private way known as Dock Street;

Thence turning and running S 05°30'09" W, a distance of 62.00 feet to a point on the sideline of a private way known as Deacon Street;

Thence turning and running S 84°29'51" E by the sideline of a private way known as Deacon Street, a distance of 250.00 feet to a point on the sideline of a private way known as Carleton Street, the previous four courses by land now or formerly of Firehouse Inn, LLC;

Thence turning and running N 05°30'09" E by the sideline of a private way known as Carleton Street, a distance of 30.00 feet to a point on the sideline of a private way known as Deacon Street;

Thence turning and running N 84°29'51" W by the sideline of a private way known as Deacon Street, a distance of 220.00 feet to a point on the sideline of a private way known as Dock Street;

Thence turning and running N 05°30'09" E by the sideline of a private way known as Dock Street, a distance of 167.00 feet to a point on the sideline of Main Street;

Thence turning and running S 84°29'51" E by the sideline of Main Street, a distance of 202.00 feet to a point;

Thence turning and running S 05°30'09" W by land now or formerly of Massachusetts Bay Transit Authority, a distance of 86.00 feet to a point on the centerline of 12 foot wide private way;

Thence turning and running S 84°29'51" E by the centerline of a 12 foot wide private way, a distance of 28.00 feet to a point on the sideline of a private way known as Carleton Street;

Thence turning and running N 05°30'09" E the sideline of a private way known as Carleton Street, a distance of 6.00 feet to a point on the southerly terminus of the remaining portion of Carleton Street;

Thence turning and running S 84°29'51" E by the southerly terminus of the remaining portion of Carleton Street, a distance of 40.00 feet to a point on the sideline of the remaining portion of Carleton Street;

Thence turning and running N 05°30'09" E by the sideline of the remaining portion of Carleton Street, a distance of 74.50 feet to a point on the sideline of Main Street;

Thence turning and running S 84°29'51" E, a distance of 159.35 feet to a point of curvature;

Thence along a curve to the right with a radius of 500.00 feet, an arc length of 41.89 feet to a point of reverse curvature;

Thence along a reverse curve to the left with a radius of 500.00 feet, an arc length of 11.58 feet, a chord bearing of S 80°21'38" E and a chord length of 11.58 feet to a point of non tangency;

Thence turning and running S 83°11'31" E, a distance of 40.01 feet to a point;

Thence turning and running S 84°29'51" E, a distance of 158.80 feet to a point;

Thence along a curve turning to the right with a radius of 500.00 feet, an arc length of 57.23 feet, a chord bearing of S 81°13'06" E and a chord length of 57.20 feet to the point of beginning, the previous six courses by the sideline of Main Street;

Containing a total area of 272,224 square feet, more or less, and an area of 224,097 square feet excluding the private ways, more or less, shown as Development Parcel C on a plan entitled “Development Parcel Plan, Massachusetts Institute of Technology, Kendall Square Project, Cambridge, Mass.” dated July 20, 2015, prepared by Feldman Land Surveyors.

CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

CERTIFICATION OF RECEIPT OF PLANS
BY CITY OF CAMBRIDGE TRAFFIC, PARKING & TRANSPORTATION

City Department/Office:

Project Address:

Applicant Name:

For the purpose of fulfilling the requirements of Section 19.20 and/or 6.35.1 and/or 5.28.2 of the Cambridge Zoning Ordinance, this is to certify that this Department is in receipt of the application documents submitted to the Planning Board for approval of a Project Review Special Permit for the above referenced development project: (a) an application narrative, (b) small format application plans at 11" x 17" or the equivalent and (c) Certified Traffic Study. The Department understands that the receipt of these documents does not obligate it to take any action related thereto.

Signature of City Department/Office Representative **Date**

CERTIFICATION OF RECEIPT OF PLANS BY CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

City Department/Office:

Project Address:

Applicant Name:

For the purpose of fulfilling the requirements of Section 19.20 of the Cambridge Zoning Ordinance, this is to certify that this Department is in receipt of the application documents submitted to the Planning Board for approval of a Project Review Special Permit for the above referenced development project: (a) an application narrative and (b) small format application plans at 11" x 17" or the equivalent. The Department understands that the receipt of these documents does not obligate it to take any action related thereto.

Signature of City Department/Office Representative **Date**

CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

CERTIFICATION OF RECEIPT OF PLANS BY CITY OF CAMBRIDGE TREE ARBORIST

City Department/Office:

Project Address:

Applicant Name:

For the purpose of fulfilling the requirements of Section 4.26, 19.20 or 11.10 of the Cambridge Zoning Ordinance, this is to certify that this Department is in receipt of the application documents submitted to the Planning Board for approval of a MultiFamily, Project Review or Townhouse Special Permit for the above referenced development project: a Tree Study which shall include (a) Tree Survey, (b) Tree Protection Plan and if applicable, (c) Mitigation Plan, twenty one days before the Special Permit application to Community Development.

Signature of City Department/Office Representative **Date**

CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

CERTIFICATION OF RECEIPT OF PLANS
BY CITY OF CAMBRIDGE WATER DEPARTMENT

City Department/Office:

Project Address:

Applicant Name:

For the purpose of fulfilling the requirements of Section 19.20 of the Cambridge Zoning Ordinance, this is to certify that this Department is in receipt of the application documents submitted to the Planning Board for approval of a Project Review Special Permit for the above referenced development project: (a) an application narrative and (b) small format application plans at 11" x 17" or the equivalent. The Department understands that the receipt of these documents does not obligate it to take any action related thereto.

Signature of City Department/Office Representative **Date**

CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

CERTIFICATION OF RECEIPT OF PLANS BY CITY OF CAMBRIDGE LEED SPECIALIST

City Department/Office:

Project Address:

Applicant Name:

For the purpose of fulfilling the requirements of Section 22.20 of the Cambridge Zoning Ordinance, this is to certify that this Department is in receipt of the application documents submitted to the Planning Board for approval of a Special Permit for the above referenced development project: (a) an application narrative, (b) small format application plans at 11" x 17" or the equivalent and (c) completed LEED Project Checklist for the appropriate LEED building standard, accompanying narrative and affidavit. The Department understands that the receipt of these documents does not obligate it to take any action related thereto.

Signature of City Department/Office Representative **Date**