

MEMORANDUM

TO: Community Development Department Staff
FROM: Timothy W. Sullivan and Jessica M. Caamano
DATE: May 6, 2019
SUBJECT: Response to Technical Comments on Zoning Petition from March 19, 2019
Planning Board Meeting

Attached hereto is a revised draft of the proposed zoning text for the Planned Unit Development 8 District (“PUD-8”), together with a redline showing changes to Sections 13.102.2, 13.102.5, 13.102.8, 13.102.10, Section 13.104.1, 13.105.1, 13.107.2 and 13.107.3(g), which were incorporated in response to technical comments raised at the Planning Board’s hearing on March 19, 2019.

In addition, we have summarized certain general questions/comments raised at the Planning Board’s hearing on March 19, 2019 and provides our responses to the same below.

General

- *How do the requirements of the existing PUD-4 and the PUD-4 special permit relate to a new special permit issued under the proposed PUD-8?*
 - Pursuant to Section 13.102.9, the rights granted pursuant to a PUD-8 Special Permit shall be in addition to any rights previously granted for a Development Parcel under a PUD-4 special permit. The previously issued PUD-4 special permit shall remain valid and in full force and effect for, and govern with respect to, any remaining land outside of the Development Parcel subject thereto. Additionally, to ensure that the PUD-8 is consistent with the underlying districts and any special permits granted thereunder, Section 13.102.10 provides that the PUD-8 provisions will govern in the event of a conflict.

Section 13.102.1

- *How and when does the Planning Board determine whether something is an eligible development parcel?*

- An applicant may seek a special permit for the Development Parcel located within the PUD-8 District which meets the following criteria at the time of application for a PUD-8 Special Permit, (i) contains at least 100,000 sf of retail and/or restaurant space on the ground-floor allowed pursuant to a valid special permit under the PUD-4 District, (ii) contains at least 7.5 acres in area and (iii) is within 600 feet of 3 acres of Public Open Space.

Section 13.104.1(d)

- *Is 20% the appropriate amount of inclusionary housing?*
 - The applicant is in the process of developing a zoning commitment letter, which will include a commitment to increase the percentage of residential Net New Gross Floor Area to be devoted to affordable housing.

Section 13.106

- *The City's Traffic, Parking and Transportation (TP&T) Department staff should review.*
 - The applicant has been in close contact with the TP&T Department and will continue to coordinate to address any comments they raise.

13.100 PLANNED UNIT DEVELOPMENT 8 DISTRICT

13.101 *Purpose.* The PUD-8 District is intended to provide for the creation of a vibrant mixed-use district of high quality general and technical office and lab use, active commercial use, including retail, fitness and restaurant, components of residential use and enhancement of open space to serve residents of the District and the surrounding neighborhoods, as well as workers, students and visitors. The PUD-8 District encourages strong connections between the neighborhoods of eastern Cambridge and new development in that area, particularly along First Street, the East Cambridge riverfront (focusing on Lechmere Canal) and the PUD-8 area. It also promotes retail- and service-oriented ground floors that will activate surrounding public streets and spaces, such as First Street and Lechmere Canal Park. The expectation is for the District to continue to be a recognizable center of activity and economic viability for East Cambridge and the surrounding neighborhoods in light of the changing landscape of brick and mortar retail. Development in the PUD-8 District is expected to meet standards for urban design, architectural design, environmental sustainability and open space design. To the extent reasonably practicable and subject to the provisions of Section 13.107.4 below, new buildings shall be generally consistent with the policy objectives set forth in the Eastern Cambridge Planning Study dated October 2001, the guidance provided in the Eastern Cambridge Design Guidelines dated October 15, 2001 and the Cambridge Riverfront Plan dated Spring 2011.

13.102 *PUD-8 Special Permit.*

13.102.1 Eligible Development Parcel. To further the purpose of this Section 13.100, an applicant may submit a Development Proposal and obtain a special permit from the Planning Board approving a Final Development Plan for the Development Parcel located within the PUD-8 District which, at the time of application for a PUD-8 Special Permit, (i) contains at least 100,000 sf of retail and/or restaurant space on the ground-floor allowed pursuant to a valid special permit under the PUD-4 District, (ii) contains at least 7.5 acres in area; and (iii) is within 600 feet of 3 acres of Public Open Space ~~and (iv) otherwise meets the requirements set forth in Section 13.102.4 below.~~ The Development Parcel within the PUD-8 District may contain contiguous or noncontiguous lots elsewhere in the PUD-8 District or within another PUD District that are situated within twelve hundred (1200) feet of the boundaries of the PUD-8 District.

13.102.2 PUD-8 Special Permit Approval. The Planning Board ~~shall~~may grant a PUD-8 Special Permit approving a Final Development Plan for the Development Parcel upon finding that the Final Development Plan is consistent with the criteria set forth below, all other criteria applicable to approval of any other special permits being sought, and upon consideration of the PUD-8 Guidelines and Principles (as hereinafter defined). Any modification to a Final Development Plan for the Development Parcel, the need for which arises for any reason, shall require a major or minor amendment in accordance with Section 12.37 of this Zoning Ordinance and the provisions of the PUD-8 Special Permit. ~~Modifications~~A PUD-8 Special Permit approving a Final Development Plan for the Development Parcel may specify that modifications that the

developer can demonstrate meet the following criteria ~~shall~~could be considered changes which do not alter the concept of the PUD in terms of density, land usage, height, provision of open space or the physical relationship of elements of the development, such that each shall be considered a minor amendment subject only to written approval of the Planning Board: changes to the Development Plan that (i) constitute a reallocation, reconfiguration or assignment of Gross Floor Area among uses in the Final Development Plan or otherwise allowed in the PUD-8 District, (ii) ~~constitute a reallocation or reconfiguration of height among buildings in the Final Development Plan or otherwise allowed in the PUD-8 District, subject always to compliance with the provisions of Section 13.104.3 below,~~ (iii) do not require a new type of zoning relief (other than the categories of relief previously granted for the proposed development, whether by existing PUD special permits or otherwise), and (iv)iii maintain the same percentage of Minimum Open Space as approved by the PUD-8 Special Permit.

13.102.3 PUD-8 Special Permit Requirements. Within the Development Parcel, the locations of streets and open spaces, the quantities of proposed land uses, and general PUD-8 lots, building envelopes, locations and heights shall be indicated in sufficient detail that the Planning Board can reasonably assess the impact of the PUD-8 Special Permit and its general consistency with the PUD-8 Special Permit Criteria set forth in Section 13.102.4 below. At a minimum, a Development Proposal and subsequent Final Development Plan for the Development Parcel must contain the following components:

(a) *Site Development Plan* — describing how the Development Parcel is divided into distinct PUD-8 lots, streets, and open spaces and their development characteristics, including potential uses and Gross Floor Area (“GFA”).

(b) *Site Massing Plan* — illustrating the height and massing of building volumes for each proposed building site, and including studies of anticipated shadow and wind impacts resulting from building mass.

(c) *Parking and Loading Plan* — identifying the locations of all parking facilities, bicycle parking facilities and facilities for loading or other vehicular service functions, and the number of spaces proposed at each location.

(d) *Connectivity Plan* — illustrating all pedestrian, bicycle and vehicular circulation routes within the Development Parcel, their connections to nearby public circulation routes and destinations outside the Development Parcel, and approximate locations of access and egress points on each building and parking facility within the Development Parcel.

(e) *Open Space Plan* — illustrating and quantifying the areas of all open space areas utilized by the project in satisfaction of Section 13.105, including, without limitation, pedestrian ways providing connectivity to the riverfront.

(f) *Ground Floor and Activation Plan* — illustrating the conceptual arrangement of functions such as retail establishments and other active uses, and residential and office lobbies at the ground floor of each building in the Development Parcel, as well as the locations and anticipated sizes of Active Uses that may be required by the specific provisions of this Section 13.100 and strategies for programming and activating those spaces.

(g) *Housing Plan* — providing the approximate number and mix of housing unit types proposed on the residential site, and identifying the anticipated location of dwelling units that may be required by specific provisions of this Section 13.100.

(h) *Phasing Plan* — describing the general sequence in which development is proposed to proceed.

(i) *Sustainability and Resiliency Plan* – describing: (1) how the sustainability requirements set forth in Section 13.107.3 below will be met; (2) how the proposed project will promote best practices for environmental sustainability and resiliency; (3) how the proposed project serves nearby East Cambridge community-wide needs for emergency refuge or shelter during heat or storm emergencies in coordination with the Cambridge Climate Vulnerability Assessment dated February 2017.

(j) *Transportation Plan* – incorporating: (1) a Transportation Impact Study required by Section 19.20 of this Ordinance; (2) a Shared Parking Study required by Section 13.106.5 below; (3) a study of the impacts of increased demand on public transportation services in the East Cambridge area; (4) a description of the development's relationship to future regional rail, bus, pedestrian/bicycle and other transportation system connections in the area; and (5) a Transportation Demand Management and Mitigation program describing measures to offset or mitigate the project's impacts on transportation systems. Such studies shall account for the proposed scale and phasing of development and the limitations on system capacity to accommodate new vehicle, transit, and other trips.

(k) *Environmental Comfort Plan* – describing or showing screening, building elements, or other site improvements designed to reduce impacts from wind and shadows, provide adequate lighting for safe use while minimizing excessive light, mitigating urban heat island effect, and controlling noise generated by mechanical systems and by truck traffic, particularly on First Street.

(l) *Architectural Character Plan* – describing general approaches to the design of buildings, landscaped areas, streets, and pathways, identifying the type of visual character that the development will aim to achieve, with the expectation that specific designs of individual buildings and spaces will be reviewed in further detail as they are developed.

(m) *Comprehensive Signage Plan* – providing the approximate number, type and characteristics of signage to be installed within the District, which upon approval of the PUD-8 Special Permit by the Planning Board, shall control for all purposes.

13.102.4 PUD-8 Special Permit Criteria. In approving a Final Development Plan for the Development Parcel, the Planning Board shall consider the following objectives with respect to any Net New GFA (as defined below) or construction of a new building:

(a) Providing a mix of commercial, including research and technology, and residential uses, with particular emphasis on ground-floor retail along First Street, to encourage activity throughout the day and evening.

(b) For residential uses, incorporating a diversity of dwelling unit sizes that are appealing and accessible to a variety of users, including families with children and households from a variety of socioeconomic backgrounds.

(c) Improving the network of connections that integrate the PUD-8 District with the surrounding urban fabric of the East Cambridge neighborhood and the activity surrounding the East Cambridge Riverfront.

(d) Enhancing the existing network of high-quality streets and open spaces, including significant space for public gathering and recreation, that serves the surrounding communities as well as the development on the site by encouraging and fostering a sense of community, civic engagement, social interaction, economic development, and environmental sustainability.

(e) Integrating development with open space physically and functionally by means of building orientation, active frontages, location of building entrances, pedestrian linkages between major activity centers, and similar techniques.

(f) Providing a strong street edge and active ground floors that animate streets and open spaces, including through the presence of Active Uses (defined below) on the first-floor fronting on First Street and Cambridgeside Place.

(g) Enhancing the architectural diversity and aesthetic qualities of the PUD-8 District to harness the spirit of growth and change in East Cambridge and reinforce a Cambridge sense of place.

(h) To the maximum extent practicable, promoting best practices for environmental sustainability in establishing design objectives for individual buildings and sites, in accordance with the City's ongoing planning efforts and current Massachusetts Department of Environmental Protection standards.

(i) Demonstrating a commitment to implementing a Transportation Demand Management and Mitigation Program.

(j) Activating First Street by incorporating Active Uses on the ground floor and strengthening pedestrian access from First Street to retail establishments and the Riverfront.

(k) Demonstrating a commitment to implement programming for proximate Public Open Space.

- 13.102.5 PUD-8 Lot. A lot within the PUD-8 District is a parcel of land that may be in more than one ownership, provided that the developer thereof has control over the entirety of the parcel, whether via fee ownership, long-term lease or enforceable easement rights, which parcel is bounded by other lots or by streets, and which is designated by the developer thereof to be used, developed or built upon as a unit.
- 13.102.6 Condominium Property Regime. Nothing in this Section 13.100 shall prevent a developer from submitting a building(s) subject to a PUD-8 Special Permit to a condominium property regime. The violation of the conditions of a PUD-8 Special Permit by one owner or occupant of a condominium unit within a development shall not be deemed to be a violation by any other owner or occupant within the development, but shall be deemed to be a violation by the owner or occupant of the condominium unit(s)/premises violating the conditions of the PUD-8 Special Permit. Nothing herein shall limit the rights of a condominium association against a violating owner or occupant.
- 13.102.7 Applicability of Requirements to Development Parcel. The requirements of this Section 13.100 may be satisfied for the entire Development Parcel on any lot(s) located within the limits of such Development Parcel or, with respect to Section 13.105 (Open Space), on other land within 1,000 feet of the PUD-8 District; provided, however, the requirements of this Section 13.100 shall not be applied to individual PUD-8 lots or ownership units comprising such Development Parcel, but shall be applied as if such Development Parcel were a single conforming PUD-8 lot whether or not such Development Parcel is in single or multiple ownership. A violation, with respect to a lot or ownership unit or leased premises within the Development Parcel, of any provision of this Section 13.100 shall not constitute a violation with respect to any other lot or ownership unit or leased premises within the Development Parcel.
- 13.102.8 Phasing Plan and Lapse. Any development within the Development Parcel ~~may~~ shall commence and, to the extent built in multiple phases over a period of time, be constructed in accordance with the ~~terms of the special permit~~ time limits set forth in the Final Development Plan. Any changes to the Phasing Plan after issuance of the PUD-8 Special Permit are subject only to written approval by the Planning Board.

~~In the event that the Planning Board approves a PUD-8 Special Permit application, such a special permit shall be deemed to have been (i) exercised with respect to the entire Development Parcel upon the submission to the City of an application for a building permit for all or any portion of the development approved under such PUD-8 Special Permit; and (ii) shall not lapse or expire, for any purpose, with respect to any portion of the Development Parcel, once construction under such a PUD-8 Special Permit has begun for any portion of the development approved under such PUD-8 Special Permit. In no event shall any portion of the development approved by a PUD-8 Special Permit for which a building permit has been issued (i) be deemed to be in violation of this Section 13.100 or such Special Permit or (ii) be deemed to have lapsed due to the fact that any phase of the approved development has not been commenced or completed.~~

13.102.9 Relationship to PUD-4 Special Permit. With respect to the Development Parcel, the rights granted pursuant to a PUD-8 Special Permit shall be in addition to any rights previously granted under a PUD-4 special permit and the PUD-8 Special Permit shall govern with respect to such additional rights. The previously issued PUD-4 special permit shall remain valid and in full force and effect for, and govern with respect to, any remaining land outside of the Development Parcel subject thereto, provided that the terms of such PUD-4 special permit shall be applied to such remaining land without regard to any rights granted to the Development Parcel pursuant to the PUD-8 Special Permit.

13.102.10 Conflict Consistency. To the extent the Development Parcel is subject to the provisions of one or more special permit(s), site plan approval(s) and/or variance(s) issued prior to the issuance date of a PUD-8 Special Permit granted hereunder and the provisions of such existing approval(s) conflict or are inconsistent with the PUD-8 Special Permit, the provisions of the PUD-8 Special Permit shall govern.

To the extent that the provisions of this Section 13.100 conflict with any other provisions of this Zoning Ordinance ~~or any other City of Cambridge ordinance or regulation~~, this Section 13.100 shall govern.

13.102.11 Pre-Application Conference. In the course of preparing a Development Proposal for the Development Parcel, the developer shall be required to participate in at least one PUD Pre-Application Conference as established in Section 12.33 of this Zoning Ordinance and a similar conference with the full City Council or Ordinance Committee. The purpose of the conference will be to discuss the conceptual alternatives for site arrangement, building massing, circulation systems and public space arrangement, as well as general approaches to architectural and landscape design, and for the developer to receive informal feedback from the Planning Board prior to preparing the materials required by Section 13.102.3 above. As set forth in Section 12.33.2, any statement made by the Planning Board or the developer at the Pre-Application Conference shall not be legally binding. Notwithstanding Section 12.33.3, the developer shall present graphic and written materials as needed to illustrate and describe conceptual development alternatives.

13.103 ***Uses Allowed in a PUD-8 District.*** The uses listed in this Section 13.103, alone or in combination with each other, shall be allowed, provided that the amount and extent of uses may be further regulated and limited as set forth elsewhere in this Section 13.100. This Section 13.103 shall refer to uses as they are listed in Article 4.000 and otherwise defined in this Zoning Ordinance as of the effective date of the enactment of this Section 13.100.

(a) Residential Uses. All uses listed in Section 4.31 a-h, and i.2.

(b) Transportation, Communication and Utility Uses. All uses listed in Section 4.32, which are allowed or conditionally allowed in the base zoning district.

- (c) Institutional Uses. All uses listed in Section 4.33, which are allowed or conditionally allowed in the applicable base zoning district.
- (d) Office and Laboratory Uses. All uses listed in Section 4.34.
- (e) Retail Business and Consumer Service Establishments. All uses listed in Section 4.35.
- (f) Open Air or Drive in Retail & Services.
 - i. Sales place for flowers, garden supplies, agricultural produce conducted partly or wholly outdoors; commercial greenhouse or warehouse;
 - ii. Open air place of entertainment;
 - iii. Automobile service station where no major repairs are made provided that all lubrication and repairs are carried out within the building and further provided the service station will be located within or attached to a parking garage or other structure as an accessory use.
- (g) Light Industry, Wholesale Business and Storage. All uses listed in Section 4.37.
- (h) Other Uses. Any use not listed in subsections 13.103(a) through 13.103(g) above, otherwise allowed in a Business A District, may be allowed by the Planning Board upon written determination by the Board that such use is consistent with the objectives of the PUD-8 District and is consistent with the predominant uses in the PUD-8 District.

13.104 ***Dimensional Regulations.***

13.104.1 Permitted Gross Floor Area (GFA). The following GFA shall be permitted within the ~~Development Parcel~~PUD-8 District:

- (a) *Existing GFA*. The GFA that exists on a lot(s) to be covered by a PUD-8 Special Permit on the date of application for such PUD-8 Special Permit, which shall be calculated in accordance with the definition of Gross Floor Area, excluding exemptions under Section 5.25.3 pursuant to subsection (g) of such definition, under the Zoning Ordinance in effect at the time of adoption of this Section 13.100.
- (b) *Net New GFA*. A maximum of 625,000 square feet of Net New GFA shall be permitted within the Development Parcel. For purposes of this Section 13.100, Net New GFA shall be calculated as the total Gross Floor Area proposed within the Development Parcel, less the Existing GFA pursuant to Section 13.104.1(a) above.
- (c) *Assignment of GFA to PUD-8 Lots*. A Development Proposal for the PUD-8 Development Parcel including all PUD-8 lots within such PUD-8 Development Parcel shall describe how all of the permitted GFA will be assigned to PUD-8 lots

within such PUD-8 Development Parcel. However, with the exception of the 100,000 square feet that comprises the core retail component of the PUD-8 District, all permitted GFA shall be assignable among PUD-8 lots within such PUD-8 Development Parcel, subject to approval by the Planning Board.

(d) *Required Residential Development.* A Development Proposal for the PUD-8 Development Parcel shall be required to provide a plan for the provision of at least twenty percent (20%) of its Net New GFA as residential development, subject to the following provisions.

1. Such residential component may be provided on any portion of such Development Parcel and may be provided during any phase of a multi-phase development.
2. GFA assigned to residential use shall be subject to the Inclusionary Housing Provisions of Section 11.203 of this Zoning Ordinance, i.e., at least twenty percent (20%) of the total Dwelling Unit Net Floor Area constructed shall be devoted to Affordable Dwelling Units.

(e) *Housing Contribution.* To the extent that a development proposed within the PUD-8 District is considered an Incentive Project, it shall comply with the requirements of Section 11.202 of this Ordinance, provided however, in the PUD-8 District, the applicable Housing Contribution shall be calculated based on the square feet of Net New GFA devoted to the uses that qualify the development as an Incentive Project.

13.104.2 Residential Density. There shall be no required minimum Lot Area Per Dwelling Unit in the PUD-8 District.

13.104.3 Maximum Building Height.

(a) As shown on the attached Building Height Map for the PUD-8 District, Map 13.101, the maximum height of buildings permitted in the PUD-8 District shall be eighty-five (85) feet (the “Base Height”), provided, however, that the Base Height for buildings or portions of buildings may be increased as follows by issuance of a PUD-8 Special Permit by the Planning Board upon a finding that all of the criteria in Section 13.102.4 and the applicable Canal Setback requirements below have been satisfied:

1. *Mid Zone:* The height of a building or any portion thereof, which is setback from the nearest boundary of the PUD-8 Development Parcel to the Lechmere Canal (a “Canal Setback”) by greater than one hundred sixty (160) feet and less than three hundred forty (340) feet may be up to fifty (50) feet in excess of the allowed Base Height (the “Mid Zone Height”).
2. *Exterior Zone:* The height of a building or any portion thereof with a Canal Setback greater than three hundred forty (340) feet may be up to

fifty (50) feet in excess of the allowed Mid Zone Height (the “Exterior Zone Height”).

13.104.4 Other Dimensional Requirements. There shall be no minimum lot area for PUD-8 lots located within the PUD-8 Development Parcel. There shall be no minimum width for the PUD-8 Development Parcel and no minimum width for PUD-8 lots located within such Development Parcel. There shall be no minimum required front, rear and side yard requirements for the PUD-8 Development Parcel or for PUD-8 lots located within such Development Parcel. There shall be no minimum required distance between buildings on the PUD-8 Development Parcel and no minimum required distance between buildings situated on the same PUD-8 lot within such Development Parcel. The Planning Board shall approve all such PUD-8 lot sizes and building setbacks.

13.105 ***Open Space.***

13.105.1 Subject to the provisions of ~~13.IV.b~~ [13.105.2](#) below, at a minimum, twenty percent (20%) of the land area within the PUD-8 Development Parcel shall be Public Open Space or Publicly Beneficial Open Space, which may be located in the PUD-8 District and/or within 1,000 feet of the PUD-8 District, subject to the further standards set forth below (the “Minimum Open Space”).

13.105.2 To the extent that the Minimum Open Space requirement is to be satisfied, in whole or in part, with Public Open Space or Publicly Beneficial Open Space that is located outside of the PUD-8 District, the developer shall demonstrate that the developer (or its affiliates) has historically contributed to, or is committed to contributing to, the creation of such Open Space (e.g., through a financial contribution to, or development of, such Open Space).

13.106 ***Parking and Loading.*** Development in the PUD-8 District shall conform to the off-street Parking and Loading Requirements set forth in Article 6.000, and in the Schedule of Parking and Loading Requirements applicable to the Residence C-3, Office 3, Business B and Industry B districts, except as modified by this Section 13.106 below.

13.106.1 With regard to uses contained within new commercial buildings, provided that the requirements of Section 6.23 of the Ordinance are met, the parking requirements of this Section 13.106 may be satisfied (a) anywhere in the PUD-8 District or, if located outside of the PUD-8 District, within 2,000 feet of the use being served, notwithstanding anything to the contrary contained in Article 6.000; and (b) in total or in part by a lease agreement, occupancy agreement, license or other comparable legal instrument between the developer and the City, other public entity or private owner or consortium for use of parking spaces in the public or pooled private parking facilities within said area.

13.106.2 To the extent that accessory parking is provided within the PUD-8 District, all such parking provided within an approved PUD-8 Final Development Plan shall be

considered collectively accessory to all approved uses within such PUD and the PUD-8 District. Notwithstanding anything to the contrary in Article 6.000, this Ordinance shall not restrict the management and assignment of parking spaces in a way that will most efficiently utilize the existing and proposed parking spaces to serve all approved uses.

13.106.3 Minimum Parking. Minimum parking for a PUD-8 shall be determined by applying the rates set forth below to each use within the PUD-8 and taking the summation of the result for all uses. For any use not listed below, the minimum parking ratio set forth in Article 6.000 shall apply.

(a) Minimum of 1.0 space per 1,125 square feet of retail, consumer service and restaurant use on the ground floor.

(b) Minimum of 1.0 space per 1,800 square feet of retail, consumer service and restaurant use above the ground floor.

(c) Minimum of 0.5 spaces per 1,000 square feet of GFA for office use.

(d) Minimum of 0.4 spaces per 1,000 square feet of GFA for laboratory use.

(e) Minimum of 0.25 spaces per residential dwelling unit.

In approving a Final Development Plan for the PUD-8 Development Parcel, the Planning Board may waive any minimum parking requirements applicable in the PUD-8 District and the underlying Zoning District. The Planning Board may approve arrangements for shared parking of residential parking spaces with commercial spaces. Notwithstanding the foregoing, the Planning Board may, upon the developer's submission of an updated Transportation Impact Study and other relevant information on parking demand, further reduce and/or waive the minimum parking requirements in the event that parking demand decreases following submission and/or approval of any PUD-8 Final Development Plan.

13.106.4 Maximum Parking. Maximum allowed parking for a PUD-8 shall be limited by applying the rates set forth below to each use within the PUD-8 and taking the summation of the result for all uses. For any use not listed below, the maximum parking ratio set forth in Article 6.000 shall apply.

(a) Maximum of 5.0 spaces per 1,000 square feet of retail, consumer service and restaurant use.

(b) Maximum of 0.9 spaces per 1,000 square feet of GFA for office use.

(c) Maximum of 0.8 spaces per 1,000 square feet of GFA for laboratory use

(d) Maximum of 1.0 space per residential dwelling unit.

In approving a Final Development Plan for the PUD-8 Development Parcel, the Planning Board may waive any maximum parking requirements applicable in the PUD-8 District and the underlying Zoning District.

- 13.106.5 Shared Parking Study. A Development Proposal for development in the PUD-8 District shall include an analysis of anticipated parking demand for all uses in the development throughout the course of a typical day and week. This analysis may identify opportunities for reducing the total amount of parking required to serve all uses through the sharing of parking spaces by multiple uses. Based on this analysis, the Planning Board may approve a reduced minimum or maximum parking requirement upon finding that the approved amount of parking will be sufficient to serve all permitted uses.
- 13.106.6 Loading. The Planning Board, in its approval of a Final Development Plan, may waive any requirements for the amount, location and design of loading facilities within the PUD-8 Development Parcel, and may permit loading facilities to be shared across various uses and PUD-8 lots within the PUD-8 District or adjacent PUD-4 Districts.
- 13.106.7 Bicycle Parking. Bicycle parking shall be provided in accordance with Section 6.100 of this Zoning Ordinance.
- 13.107 ***Special Requirements, Conditions and Standards Applicable to Certain Development Authorized by the Planning Board in East Cambridge.***
- 13.107.1 Active Uses. Final 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. Accordingly, the portion of ground floors of new buildings in the PUD-8 District immediately fronting on First Street (excluding those areas of such ground floors utilized for lobbies and entrances to parking and/or loading areas) shall be planned, designed, and constructed to contain Active Uses as required below.
- (a) *Definition of Active Uses*. For purposes of this Section 13.100, “Active Uses” means:
1. Any use listed in Sections 4.35 and 4.36; and
 2. Any other use which the Planning Board determines meets the goals of this Section 13.107.1(a).
- 13.107.2 Rooftop Mechanical Equipment Noise Mitigation. Sound emanating from rooftop mechanical equipment on all new or substantially altered structures in an approved Final Development Plan shall be minimized by the adoption of best available and feasible practices regarding the location and sizing of equipment, the selection of equipment and sound attenuation measures. At a minimum, any noise or vibration emanating from new commercial or substantially altered commercial buildings shall not be normally perceptible without instruments at a distance of one hundred (100)

feet from the source lot line and shall comply with the provisions of the City of Cambridge Noise Ordinance applicable to Commercial Areas (as such term is defined in the Noise Ordinance). In order to enforce these requirements, the developer shall provide, in addition to a Noise Mitigation narrative required as part of Article 19.000 review, acoustical reports prepared by a professional acoustical engineer as described below:

(a) Prior to and as a condition of the issuance of the first certificate of occupancy for a new or substantially altered commercial building, an acoustical report, including field measurements, demonstrating compliance of such building with all applicable noise requirements; and

(b) Prior to obtaining any building permit to add any new equipment having a capacity greater than five (5) horsepower to the rooftop, a narrative report demonstrating that there will be continued compliance with all applicable noise requirements after such addition, and upon completion of such addition and as a condition thereof, an acoustical report, including field measurements, demonstrating such compliance.

[Additionally, appropriate screening for any rooftop mechanical equipment shall be provided to the fullest extent permitted by law.](#)

13.107.3 Sustainability. New buildings constructed within the PUD-8 District shall comply with the provisions of Section 22.20 of the Zoning Ordinance. For the core and shell of newly constructed office and lab buildings, compliance with LEED standards at the Gold level or better is required to the maximum extent practicable.

New buildings in the PUD-8 District must incorporate an integrated design approach and incorporate the best practices for meeting sustainability in the following seven (7) areas:

(a) *Energy and Emissions*. Each new building must conserve building energy and, to the extent practicable, reduce carbon/GHG emissions. The developer, with each new building within the PUD-8 District, will evaluate the potential for on-site energy generation or the construction of co-generation facilities within the PUD-8 District in the context of ownership, economic viability and phasing constraints.

(b) *Urban Site and Landscaping; Water Management*. The Developer, for each new building, must explore opportunities for potable water use reductions and the ability to enhance indigenous plantings in and around the project site.

(c) *Cool Roofs*. All new buildings approved in the PUD-8 District must employ Functional Green Roofs (as such term is defined in Article 22.000 of this Zoning Ordinance), high-albedo “white” roofs, or a functionally equivalent roofing system.

(d) *Monitoring*. All new buildings in the PUD-8 District shall be required to conform to the requirements of the Cambridge Building Energy Use Disclosure Ordinance, Chapter 8.67 of the Municipal Code.

(e) *Healthy Living and Working.* All new buildings in the PUD-8 District shall provide people with access to daylight and enhance the visual and thermal comfort of people living within the PUD-8 District.

(f) *Transportation.* Final Development Plans within the PUD-8 District shall encourage multimodal transportation, provide facilities for cyclists and provide an infrastructure to support alternative energy vehicles.

~~(g) — In connection with the approval of a Final Development Plan or in connection with the granting of a PUD or other special permit pursuant to this Zoning Ordinance, the Planning Board may grant dimensional and other zoning relief in order to permit the construction of a co-generation facility or other energy systems that allow developments to develop shared solutions to minimize energy usage.~~

13.107.4 PUD-8 Guidelines and Principles.

(a) To the extent reasonably practicable, new buildings constructed within the PUD-8 District shall be generally consistent with: (i) the policy objectives set forth in the Eastern Cambridge Planning Study dated October 2001; (ii) the guidance provided in the Eastern Cambridge Design Guidelines dated October 15, 2001; and (iii) the East Cambridge Riverfront Plan dated Spring 2011 (collectively, the “PUD-8 Guidelines and Principles”); provided however that new buildings constructed within the PUD-8 District shall be generally consistent with the following provisions in lieu of the provisions pertaining to height, setback, stepbacks and materials in the PUD-8 Guidelines and Principles:

- i. *Height:* A diversity of height and massing as permitted in Section 13.104.3 is encouraged to create a rich and varied skyline along streets abutting the Development Parcel.
 1. Buildings fronting on First Street are encouraged to establish a recognizable base, activated by commercial, residential, retail, dining and entertainment uses, of a scale and proportion to support an active, pedestrian-oriented public realm.
 2. Buildings along First Street are encouraged to maintain the prevailing street wall, except where the opportunity to enhance the public realm by setting back the ground floor up to 10 feet is beneficial to the use, enjoyment and safety of the area.
 3. Buildings along First Street are encouraged, when possible, to create separation between buildings and to adopt massing strategies within the building facades to create visual interest on the street.
 4. Mechanical penthouses, attic stories and other architectural treatments may be utilized to create tops to the buildings that will contribute to a varied skyline and unique reading of each building.

- ii. *Stepbacks*: New buildings along major public streets (which, for the purposes of the PUD-8 District, shall mean First Street) shall not be subject to any mandatory setback requirements provided such buildings utilize bays, balconies, setbacks as in Section 13.107.4(a)(i)(1), tapers, cornices, and other architectural devices to establish scale compatible with the neighboring structures, and to modulate the massing of the buildings so that they are read as distinct and individual buildings.
- iii. *Materials*: A diversity of materials is encouraged to further contribute to the reading of individual buildings along First Street, Cambridgeside Place and Land Boulevard.
 - 1. Exterior finishes may include high quality and durable materials such as, but not limited to, brick, terra cotta, natural and cast stone, high performance concrete panels and cast shapes, flat and patterned metals, and curtain wall.

(b) In its approval of a Final Development Plan, the Planning Board may make a determination that one or more provisions of the PUD-8 Guidelines and Principles are inapplicable to new buildings to be constructed within the PUD-8 District.

13.107.5 Letter of Commitment. The Letter of Commitment dated _____ by _____ is incorporated herein by reference and made part of the Cambridge Zoning Ordinance and shall be binding upon _____ and its successors and assigns.

Document comparison by Workshare 9 on Monday, May 6, 2019 4:04:34 PM

Input:	
Document 1 ID	netdocuments://4820-8510-1934/17
Description	CambridgeSide 2.0 - Zoning Text Outline (Revised as of 05.03.19 - Amendments Post-Filing)
Document 2 ID	C:\Users\caam2621\ND Office Echo\VAULT-XFNJK5S5\CambridgeSide 2.0 - Zoning Text Outline (Revised as of 05.03.19 - Amendments Post-Filing) 4820-8510-1934 v.18.docx
Description	C:\Users\caam2621\ND Office Echo\VAULT-XFNJK5S5\CambridgeSide 2.0 - Zoning Text Outline (Revised as of 05.03.19 - Amendments Post-Filing) 4820-8510-1934 v.18.docx
Rendering set	Standard

Legend:	
<u>Insertion</u>	
Deletion	
Moved from	
<u>Moved to</u>	
Style change	
Format change	
Moved deletion	
Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	15
Deletions	16
Moved from	0
Moved to	0
Style change	0

Format changed	0
Total changes	31

Comment and Response Matrix

[Updated as of May 6, 2019]

<u>Summary of Comments Received</u>	<u>Response</u>
<p>Density and Height: The petitioner needs to explain how it arrived at the proposed Net New Gross Floor Area height.</p>	<p>The petitioner has drafted a detailed summary that explains the reasoning behind the proposed density and height in light of characteristics unique to CambridgeSide, such as its existing building footprint, constructability and phasing issues and the surrounding neighborhood. See Attachment 1, Summary Re: Height and Density.</p>
<p>Height: 185 feet is too tall in the context of the surrounding neighborhood.</p>	<p>The petitioner is evaluating the 185-foot height band.</p>
<p>Public Benefits: The petitioner needs to commit to providing more public benefits in connection with the proposed redevelopment project.</p>	<p>The petitioner has incorporated the concept of a commitment letter into the proposed zoning amendment text, which letter it is working with the City Council on and anticipates will include a number of the items mentioned below (the “Commitment Letter”).</p>
<p>First Street: First Street needs to be activated.</p>	<p>The redevelopment project will incorporate Active Uses, including dynamic retail and restaurants, on the ground floor abutting First Street to create a more streetscape. The redevelopment also allows the opportunity for a 10-foot setback of the building line along First Street, allowing for active spillover uses and enhanced pedestrian experience.</p>
<p>Local Retail and Innovation Office Space: Local retail and start-up or innovation office space should be provided at a reduced rental rate.</p>	<p>The petitioner anticipates that the Commitment Letter will include an obligation to provide smaller spaces within the project for short-term leases to small businesses (both office and retail). The petitioner also anticipates committing to form an Open Space and Retail Advisory Committee to ensure that the petitioner has community input on the type of local retail uses they would like to see.</p>
<p>Non-Profit Space: Non-profit office space should be provided at a reduced rental rate.</p>	<p>The Commitment Letter will include an obligation to work with any future office tenants, e.g., a co-working space (if applicable), to provide a subsidized rate for Cambridge based non-profit users.</p>
<p>Minority-Owned Businesses: The redevelopment project should support local minority-owned businesses.</p>	<p>The Commitment Letter will include an obligation to work with the City of Cambridge Economic Development Department to determine a program to support local minority-owned businesses.</p>
<p>Laboratory Use: There should be restrictions imposed on the amount, location and/or type of laboratory use that could be included in the redevelopment project.</p>	<p>The petitioner anticipates that the Commitment Letter will include an obligation to incorporate the mitigation measures outlined in Attachment 2, Summary re: Laboratory Use.</p>

<p>Timing of the Residential Component: The neighborhood has a great need for housing, and therefore, construction of the residential Gross Floor Area should not be left until the last phase of the redevelopment.</p>	<p>The petitioner anticipates that the Commitment Letter will preclude issuance of a final certificate of occupancy for a threshold amount of non-residential Gross Floor Area before the residential component is constructed.</p>
<p>Affordable Housing: The amount of affordable housing required for the redevelopment project should exceed the baseline 20% required by the Inclusionary Housing regulations. There should be a greater number of Family-Sized Affordable Dwelling Units Provided.</p>	<p>The petitioner will agree in the Commitment Letter to provide an increased percentage of the housing component as affordable, including through the provision of middle-income units to serve the workforce population and an increased number of Family-Sized Affordable Dwelling Units.</p>
<p>Arts Community: The local Arts Community should be integrated into the proposed redevelopment project.</p>	<p>The Commitment Letter will include an obligation to develop a more comprehensive system that simplifies coordination with the local Arts Community and gives local artists opportunities to perform, display and/or sell their work at or within the vicinity of the Project, including Lechmere Canal Park.</p>
<p>Community and Open Space Event Programming: The redevelopment project should include establishment of regularly-scheduled community-based programming events to take place at or within the vicinity of the project.</p>	<p>The petitioner anticipates that the Commitment Letter will include an obligation to host community engagement events in or within the vicinity of the PUD-8 District on a regular basis, e.g., seasonal farmer’s market, free boat rides for seniors on the Charles River and educational program to allow Cambridge Public School students to experience the Charles River (including a boat ride).</p> <p>The petitioner also anticipates that the Commitment Letter will include obligations:</p> <ul style="list-style-type: none"> - to provide community space (e.g., a conference center or a community room) for the benefit of local groups and residents; and - to form an Open Space and Retail Advisory Committee to ensure that programming meets expressed local needs.
<p>Transportation and Parking: The petitioner should demonstrate, by providing a study in connection with the rezoning, how the parking and traffic will be accommodated for the new project, as well as where existing CambridgeSide parking will be displaced to.</p>	<p>The petitioner has continued coordinating with the Traffic, Parking & Transportation Department and has produced data and studies that demonstrate how parking and traffic will be accommodated, both with respect to the proposed redevelopment and the current uses at CambridgeSide. The petitioner will also continue to allow East Cambridge residents to utilize parking at the project during a snow emergency.</p>
<p>Resiliency: The petitioner should explain how the redevelopment project is designed to</p>	<p>The petitioner’s consultants have studied the resiliency of the redevelopment project, and particularly the</p>

<p>accommodate sea level rise, particularly with respect to potential flooding in the garage and how to protect the residential development and related utilities.</p>	<p>underground garage, and have determined that the project’s design is resilient under the 2070 flood conditions.</p>
<p>Improvements to Existing Open Space: Open space should be an important consideration for the redevelopment project.</p>	<p>Subject to obtaining all necessary permits and approvals, the petitioner will install additional plantings, trees and landscaping at existing open spaces at and within the vicinity of CambridgeSide, including Lechmere Canal Park, Charles Park and Gate House Park.</p>
<p>Pedestrian Connection under Land Boulevard Bridge: The petitioner should consider improving pedestrian connectivity around the redevelopment project, including the extension of existing pathways to allow for enhanced pedestrian circulation from the project towards Boston.</p>	<p>Subject to obtaining all necessary permits and approvals, the petitioner will improve the existing pathway along Lechmere Canal (e.g., additional plantings and lighting) and construct pathways on either side of Lechmere Canal Park that would extend under the Land Boulevard Bridge to the DCR-owned Boathouse and towards Boston.</p>
<p>Boathouse Restoration and Reuse: In addition to providing an improved connection from the redevelopment project to the Boathouse, the petitioner should consider restoring and reusing the Boathouse building.</p>	<p>Subject to obtaining all necessary permits and approvals, the petitioner will work with the City and the Department of Conservation and Recreation (DCR) to reconstruct the Boathouse, which is owned by DCR, including provision of a dock for use by the public and related landscaping improvements.</p>

DRAFT

ATTACHMENT 1

Summary Re: Height and Density

PUD-8 District Zoning Petition

Summary Re: Height and Density

During the PUD-8 rezoning process, there have been a number of questions raised regarding how the proposed maximum Net New Gross Floor Area (i.e., approximately 625,000 sf) and maximum building height (i.e., up to 185 feet in certain areas) were developed. Construction at CambridgeSide is uniquely complicated and expensive. This complexity stems, in part, from the need to keep the property operating during construction, constraints unique to reconstruction on a site near the riverfront and the need to allow a multiplicity of uses to exist all while keeping the connecting atrium open. The summary bullet points below and detailed narrative attached behind are intended to outline how these density and dimensional parameters were determined.

- Redevelopment of CambridgeSide into a vibrant mixed-use center is necessary to respond to **changed market conditions** and to ensure future viability.
 - o Demolition and/or substantial reconstruction of the failed corner anchor stores and the above-ground parking garage are necessary because their existing layouts are incompatible for reuse by desirable commercial tenants and there is no longer a demand to justify maintaining the garage.
- We established the amount of Net New Gross Floor Area by considering the total additional Gross Floor Area that could be achieved under current zoning parameters within the existing building footprint, i.e., if the entire building footprint on the site was built to an 85-foot height.
 - o However, we determined a number of negative community impacts associated with this redevelopment approach, such as needing to close the mall for years and permanent loss of the critical atrium open space connection.
- Given the negative community impacts and design constraints associated with the building configuration available under current zoning, **we created height bands that are able to accommodate the new Gross Floor Area needed to justify the extraordinary costs of redevelopment at CambridgeSide, while also allowing for scaling of height away from Lechmere Canal.** We determined that 625,000 sf is the minimum needed to support the cost and complexity factors unique to redevelopment at CambridgeSide, which include:
 - o The increased labor, set-up, and premium time operation costs resulting from its location on former filled tidelands, construction of the entire building footprint over a connected garage, and the need to keep the core retail mall open during reconstruction;
 - o The premium foundation costs associated with its location on filled former tidelands, which requires foundations to be carried, and reinforced, through the underground garage to the deep mat foundation floating on the softer soils underlying such tidelands;
 - o The costs associated with maintaining a core retail presence, despite retail rental rates yielding undesirable profit margins in recent years;
 - o The costs associated with retaining and maintaining the approximately 200,000 square foot atrium (e.g., approximately \$25 per square foot in taxes, maintenance and other charges, which results in a \$3/sf margin on recent rental rates of approximately \$28/sf);
 - o The cost of preserving and improving the community's experience at Lechmere Canal by scaling height away from the Canal and improving the adjacent open space;
 - o The cost of providing an amount of affordable housing beyond the baseline Inclusionary Housing requirements in response to City and neighborhood desires; and
 - o The cost to implement the opportunity to enliven First Street through the introduction of dynamic retail/restaurant users and a stepback of the building line to activate the sidewalk.
- Through our analysis, we determined that retention and expansion of community benefits and achievement of an aesthetic design that complements the surrounding neighborhood are critical parameters for any redevelopment at CambridgeSide. However, we also ultimately determined that **625,000 sf of Net New Gross Floor Area allocated**

among taller height bands that scale away from the Canal is the minimum density and design necessary to provide such benefits given the unique cost factors associated with redevelopment of the site, which are summarized above.

DRAFT

Detailed Summary Re: Height and Density

I. Changed Economy and the Need to Evolve

When CambridgeSide was first developed in 1989, there was a demand for large shopping centers with regional and national anchor stores and plenty of parking to accommodate the crowds traveling to visit such centers. Brick and mortar retail has since evolved dramatically, in large part due to the growth of e-commerce. In order to respond to the changed retail economy, we invested over \$30 million in interior and exterior upgrades between 2017 and 2018, but CambridgeSide has continued to face high tenant turnover and stagnant retail rental rates with low returns.

For example: (i) Lechmere closed decades ago; (ii) Sears closed in December 2018; and (iii) Macy's has reduced its footprint within the mall. Given the current market conditions, retail is not an economically viable use to infill the large vacant space resulting from these closures. With respect to parking, CambridgeSide now has a surplus of over 900 parking spaces on an average weekday and over 1,300 spaces on an average weekend day. Based on the data we have tracked at CambridgeSide for more than 20 years and the general patterns in transportation, we expect the parking demand to continue its decline. In light of these factors, CambridgeSide must develop a viable plan for re-using the empty anchor spaces and the above-ground parking garage.

Developing a plan to keep CambridgeSide viable requires balancing multiple factors. First, we considered whether we could repurpose the existing anchor store buildings and above-ground parking garage to incorporate a dynamic mix of uses that would allow for the future viability of CambridgeSide. As compared to the other structures, the Sears building is unique because of its proximity to Lechmere Canal. In light of additional constructability and regulatory constraints, namely Chapter 91, and an interest in scaling height away from the Canal, the petition proposes a building configuration that maintains the existing Sears building, and allows for the opportunity to incorporate an additional two floors for a total height of approximately 85 feet (which would currently be allowed under zoning). On the other hand, the Macy's building, the former Lechmere building and the above-ground parking garage need to be demolished and/or substantially reconstructed in order to create the opportunity for a viable reuse of the existing building footprint that can accommodate a sustainable mix of uses. The Macy's and former Lechmere buildings were designed and constructed to be compatible with retail use. While these design parameters once appealed to retail tenants at CambridgeSide, these same characteristics cannot easily be converted to serve another use. For example, each of the existing anchor store buildings can accommodate approximately 100,000 square feet of leasable space. While sufficient for typical retail anchor stores, the existing buildings are insufficient to satisfy the demands of premier commercial tenants. As a result, the existing buildings would not be able to economically accommodate desirable commercial tenants to re-use the space created by anchor tenant vacancies. As mentioned above, there is no longer a demand to justify maintaining the entire above-ground garage, and the intricate ramp and column field within the existing structure makes it impossible to convert such a structure to a new use. Accordingly, these portions of CambridgeSide need to be demolished and/or substantially reconstructed in order to accommodate a mix of uses that will maintain project viability into the future.

II. Net New Gross Floor Area

The need to increase density at CambridgeSide as part of the proposed redevelopment is undeniable given the square footage demands of desirable office tenants, the premium costs of labor associated with keeping the mall open during renovation and the need to subsidize retail, housing and open space.

To determine the parameters of the new project, we began by analyzing the project under the current PUD-4 zoning parameters, which allow for an 85-foot maximum building height. If the existing CambridgeSide footprint, including the atrium, was built out to a height of 85 feet, we could achieve approximately 625,000 square feet of additional Gross Floor Area. However, we also identified a number of negative effects that would result from achieving this new square footage by adding height to the entire existing building footprint. For example, this redevelopment approach would require shutting down the mall for a number of years during construction and would result in loss of the critical atrium open space. Further, the approximately 1,500 employees at CambridgeSide would lose their jobs and the neighborhood would lose its access to the parking at CambridgeSide for the entire construction period (including during snow emergencies). Finally, the massing needs associated with this approach would not allow for scaling of height, resulting in a less desirable CambridgeSide from the perspective of aesthetic design.

Accordingly, to avoid the loss of community shared benefits (e.g., parking, retail accessibility and the atrium) and economic impacts of multi-year closure of the mall during the complete rebuild, we explored the viability of accommodating the 625,000 square feet of additional Gross Floor Area within a design that better serves the community.

Specifically, we considered the most appropriate layout for 625,000 square feet of “net new” space in light of the following considerations:

- a. Appropriate location of height given the surrounding area and adjacent development (e.g., Lechmere Canal, East Cambridge neighborhood, Kendall Square and Cambridge Crossing);
- b. Constructability and phasing issues associated with redevelopment of a functioning shopping center;
- c. Opportunity to create a vibrant and active First Street;
- d. Neighborhood desire for a continued core retail presence;
- e. Maintenance and improvement of open spaces at or within CambridgeSide, including the atrium; and
- f. City desire for an increased amount of affordable housing.

The sections below detail how we drafted the PUD-8 zoning petition to allow for development of a viable CambridgeSide that reflects current market and neighborhood needs while also acknowledging the practical complexities associated with such a redevelopment project.

III. Location of Height and Constructability

As noted above, portions of CambridgeSide need to be demolished in order to accommodate a mix of uses that will maintain project viability into the future. The PUD-8 zoning petition proposes a

stepback in height from the Lechmere Canal, with emphasis on maintaining lower heights in close proximity to the Canal and the open space that surrounds it. The proposed height stepback preserves the atrium's view to the sky and associated natural light. The atrium is a core pedestrian connection within the East Cambridge neighborhood that we are dedicated to maintaining. We also considered redevelopment of CambridgeSide in relation to adjacent developed heights along Land Boulevard between Kendall Square and Cambridge Crossing, seeing this project as an opportunity to serve as a connection between these two developed areas. Accordingly, the proposed height bands offer a transition in height and scaling between these two areas, providing a more central connection through the City.

Foundation costs are a significant consideration with respect to any reconstruction at CambridgeSide because it is constructed on filled former tidelands on a deep mat foundation floating on the softer soils underlying such tidelands. The building foundations are ultimately carried through the common underground garage to that mat, resulting in a maze of columns within the underground garage that support the building loads above. The existing columns dodge ramps, create aisles for circulation, and create shafts for ventilation, elevators, stairwells and the core elevator/escalator lobbies. All of these columns must be reinforced and supplemented through the garage to the deep mat. As a result, the foundation costs for an 85-foot building are comparable to the foundation costs for taller buildings. For example, if the proposed commercial building were to be redeveloped to the 85-foot height allowed by the current zoning, it would have almost the same foundation costs as if the building were built to the proposed 185-foot height. The labor, set-up, and premium time operation costs of reinforcing the existing columns in the garage are relatively the same to support a new building that is 85 feet versus 185 feet. While a taller building does have greater structural costs, the difference in cost is marginal in light of the large difference in economic return and ability to produce more affordable housing in connection with construction of a taller building.

Additionally, the buildings that comprise CambridgeSide share, and are constructed over, a common garage, and each building's separate operations share common loading and service areas, utilities and common core amenities. This interconnectedness and interdependence ultimately create construction and phasing costs unique to CambridgeSide. For example, the two service areas that support the loading, receiving and solid waste handling for all of the buildings that comprise CambridgeSide and the adjacent hotel reside within the street level of existing buildings and sit over the common underground garage. The Land Boulevard service area is located within the Macy's footprint and serves Macy's, the east side of the mall and the abutting hotel. The First Street service area is located within the above-ground garage footprint and serves the former Lechmere building, the Sears building and the west side of the mall. During redevelopment, at least one of each service area must be operational at all times to ensure that the core mall retail remains open and inviting. E.g., it would be impossible from the perspective of construction operations and life safety regulations to keep the Land Boulevard service area functioning while the existing Macy's building is demolished and a new building is constructed in its place, and therefore, the First Street service area would need to be operational during the construction of the new building at the existing Macy's site.

The 625,000 square feet of "net new" space must bear the significant costs associated with the substantial foundation work and the many unique CambridgeSide characteristics described herein that increase complexity of constructing the redevelopment while maintaining an operating mall.

IV. First Street, Core Retail, Open Spaces and Affordable Housing Requirements

Demolition and reconstruction of the former Lechmere and above-ground garage buildings provides a unique opportunity to further activate the First Street corridor in East Cambridge. In recent years, as properties have turned over, there has been increased interest in creating a more vibrant streetscape. Reconstruction of these structures allows us to setback the building line on First Street and provide a wider, active sidewalk for pedestrian enjoyment. In connection with activating First Street, the petition contemplates bringing retail use onto First Street to support the enlivened streetscape and create a welcoming pedestrian environment. However, such movement of retail to First Street will be costly both from a layout and efficiency standpoint and, as such, it must be supported by the “net new” space.

While the need to introduce a mix of uses beyond retail is necessary, the petition acknowledges, and intends to preserve, the core retail function that CambridgeSide has served in East Cambridge since it opened in 1990. However, in light of the changed retail economy, renting to retail tenants is barely profitable and requires subsidization. For example, the operating budget for CambridgeSide includes maintenance of the atrium, i.e., approximately 200,000 square feet of atrium public space, connecting the public parks and the Canal, which forms the “public street”, originally designed as part of the Mall. This was a critical design feature desired by the community and, today, is an important extension of the experience of Cambridge, specifically in East Cambridge, and is important to maintain.

Given the costs of maintenance and taxes, on a gross basis, the annual cost to support this public atrium space, is approximately \$5M per year (\$25 per square foot in taxes, maintenance and other charges). In recent years, even after the 2017 and 2018 interior and exterior upgrades, we have been achieving rental rates of approximately \$28/sf, i.e., a \$3/sf margin. The “net new” space must continue to subsidize these elements of CambridgeSide. Even if the opportunity to increase the gross square footage by the proposed 625,000 square feet is achieved, almost \$10.00 of every rentable square foot (approximately 20% of the net rent) needs to go to support the costs of this public atrium space, before even considering what it costs to build, lease or manage such new space.

In addition to satisfying the base Inclusionary Housing requirement that 20% of the residential Gross Floor Area be restricted for the provision of affordable units, the petitioner is also committing to designate an additional percentage of residential Gross Floor Area as affordable middle-income units to help meet the need for workforce and affordable housing within East Cambridge. The inclusion of any level of affordable housing within a development requires subsidization because the rental rates for such units are insufficient to cover the associated costs of construction and operation. Any increase in the amount of square footage restricted for affordable housing increases the need for subsidization, e.g., by way of additional square footage at profitable rental rates. Accordingly, the overall development must subsidize the lower rental rates associated with this increased ratio of affordable housing within the project.

Therefore, the 625,000 square feet of “net new” space is needed, among other reasons, to subsidize the (i) public open space (atrium); (ii) reduced retail rents (maintaining 300,000+ square feet of retail at challenged rents); and (iii) providing affordable housing units. The provision for height up to 185 feet in certain areas allows for providing such needed “net new” space while also incorporating design elements that benefit the neighborhood, such as stepping back the building line on First Street

and improving the pedestrian experience and scaling height away from Lechmere Canal to reduce any shadow impacts on this critical community open space.

V. Conclusion

Redevelopment of CambridgeSide into a vibrant mixed-use center is necessary to respond to changed market conditions and to ensure future viability. Such a redevelopment requires large-scale demolition and redevelopment of failed corner anchor stores as a result of the existing design and layout of such buildings, which while ideal for former anchor retail tenants, is incompatible for reuse by desirable commercial tenants. Demolition and reconstruction of the above-ground parking garage is also necessary because there is no longer a demand to justify maintaining such garage and the existing ramp and column field make it impossible to convert the garage to a new use.

As noted above, the need to increase density at CambridgeSide as part of the proposed redevelopment is undeniable given the square footage demands of desirable office tenants, the premium costs of labor associated with keeping the mall open during renovation and the need to subsidize retail, housing and open space. We established the amount of new density proposed under the petition by considering the total additional Gross Floor Area that could be achieved under current zoning parameters within the existing building footprint, i.e., approximately 625,000 square feet if the entire building footprint was built to an 85-foot height. However, this same analysis also led us to determine a number of negative impacts to the community associated with allocation of such additional Gross Floor Area evenly across the existing building at 85 feet. For example, the mall would need to be closed for years resulting in the loss of retail accessibility for the East Cambridge neighborhood and thousands of jobs, as well as permanent loss of the critical atrium open space. Further, the massing needs associated with this approach would not allow for scaling of height, resulting in a less desirable CambridgeSide from the perspective of aesthetic design. In light of the negative community impacts and design constraints associated with this approach, we created height bands that are able to accommodate the new Gross Floor Area needed to justify the extraordinary costs of redevelopment at CambridgeSide detailed herein, while also allowing for scaling of height away from Lechmere Canal in a way that creates a natural transition through the City from Kendall Square to Cambridge Crossing.

The proposed 625,000 square feet of “net new” space and height bands that allow buildings up to 185 feet are justified in light of several characteristics that are unique to CambridgeSide, such as: (i) the increased labor, set-up, and premium time operation costs resulting from its location on former filled tidelands, construction of the entire building footprint over a connected garage, which shares amenities and utilities, and the need to keep the core retail mall open during the term of construction of the redevelopment project; (ii) the costs associated with maintaining a core retail presence and the introduction of additional retail and/or restaurant uses on First Street, despite retail rental rates yielding undesirable profit margins in recent years; (iii) the high carrying costs associated with continued operation and maintenance of the approximately 200,000 square foot atrium that provides a public connection from CambridgeSide Place and adjacent open spaces through CambridgeSide to Lechmere Canal Park; (iv) the provision of an amount of affordable housing beyond the baseline Inclusionary Housing requirements as a result of the need and expressed desire for such housing within the East Cambridge neighborhood; and (v) the opportunity to enliven First Street through the introduction of dynamic retail/restaurant users and a stepback of the building line to activate the sidewalk, as well as to

preserve and improve the community's experience at Lechmere Canal by scaling height away from the Canal and improving the adjacent open space.

As detailed above, absent subsidization of the retail, affordable housing and open space uses by a sufficient amount of other commercial uses (e.g., office and laboratory) and implementation of taller height bands to accommodate such additional density, we are unable to justify undertaking redevelopment of CambridgeSide while still providing the same community support and public benefits that we have, and would like to continue, providing to the neighborhood and the City overall. Accordingly, the PUD-8 rezoning petition is necessary for redevelopment of the failed anchor corners and for the reuse of the surplus parking that exists within the above-ground garage, allowing CambridgeSide to evolve in line with current market demands and remain a viable component of the East Cambridge neighborhood in the future.

DRAFT

ATTACHMENT 2

Summary Re: Laboratory Use

PUD-8 District Zoning Petition

Summary Re: Laboratory Use

During the PUD-8 rezoning process, there have been a number of questions raised regarding how the proposed laboratory use will be compatible with the surrounding East Cambridge neighborhood. The summary bullet points below and detailed narrative attached behind are intended to outline how the proposed laboratory use will integrate with and be a complement to the mix of uses in the East Cambridge neighborhood.

- The current market for life science research facilities shows a **greater percentage of floor space being dedicated to “desk” research**, such as computer modeling, product development and marketing, as opposed to research using chemistry and physical experiments.
- The **mechanical equipment to support this research is often specialized, and customized**, to meet both the need of the tenants and the requirements of the community in which they work.
- While it is not known exactly what the future tenants at CambridgeSide will require, **the noise and nighttime lights in these buildings can be mitigated or avoided by careful specification and installation of appropriate mechanical systems and light controls**.
- The way that laboratory buildings accommodate their need for additional heating, ventilation and air conditioning (HVAC) units has changed over time.
 - o At the outset of growth in the life sciences, new labs used HVAC equipment designed for standard office buildings and either increased the number of such units on the roof, or had the manufacturers increase fan speed in the air handling units, to meet higher airflow requirements.
 - o **More recently, there are new equipment designs and controls that allow for delivery of a quiet laboratory that does not create light pollution.** In order to incorporate such design measures, **the CambridgeSide redevelopment project will implement the following noise and light mitigation strategies:**
 - In order to reduce the number and size of rooftop mechanical equipment, the HVAC design will adopt Best Available Noise Control Technology (BANCT) in the sizing and selection of equipment, its placement on the roof, and the use of effective sound attenuation design elements, including through the following measures:
 - Fans will be provided with variable speed drives to conserve energy when airflow is not needed to condition the space, and sound attenuators will be installed in the ductwork;
 - Cooling towers will be provided with large diameter, slow speed whisper quiet fans and variable speed drives for capacity control and energy conservation, and such towers will be located within a sound absorbent screen wall;
 - Air cooled chillers will use variable-speed compressors, variable-speed fans and integrated compressor mufflers; and
 - Air handling units will be in a sound-insulated penthouse that is ventilated through acoustical louvers.
 - A Building Automation System (BAS) will be installed that is programmed to dim or turn lights off, and to lower shades after 9:30 pm to reduce light pollution to the surrounding neighborhoods.
- **Accordingly, compliance with the Cambridge Noise Ordinance and utilizing rooftop mechanical equipment based on the best available practices will alleviate any concerns about noise levels and incorporation of lighting controls will mitigate any light pollution concerns.**

An earlier generation of lab buildings did create noise and other problems. Lab buildings properly constructed today can ameliorate all of the concerns attendant with those older facilities. Below we will demonstrate that lab buildings today are equivalent in impact to office buildings.

Laboratory Buildings

The advancement of digital technology that is impacting the retail world is also having an effect on life science research facilities. More research is being conducted with computer modeling, which is faster and more accurate than “physical experiments” conducted in labs. The footprint dedicated to research using chemistry and physical experiments has been diminishing as the way science is done has shifted, with a greater percentage of the floor dedicated to desks rather than benches. Like many other fields, life science research has moved to a collaborative model that benefits from more informal opportunities to meet and work together, leading to buildings that are more open and adaptable.

The tenants of the new buildings at CambridgeSide will dictate the type of use, and therefore place varying requirements on the building support infrastructure. While there is still a need for labs with physical testing, uses could include nanotech, robotics, computer, product development and marketing.

The mechanical equipment to support this research is often specialized, and customized, to meet both the need of the tenants and the requirements of the community in which they work. While it is not known exactly what these tenants will require, the noise and nighttime lights in these buildings can be mitigated or avoided by careful specification and installation of appropriate mechanical systems and light controls.

Why are Laboratories Considered a Potential Noise Problem?

Over the past two decades, urban redevelopment in sections of Boston and Cambridge has brought multi-story medical office and laboratory buildings into close proximity to existing low-rise residential neighborhoods. The difference in scale tends to sensitize people to certain aspects of their new neighbor (e.g. light, traffic, noise). It is natural for people to be less accepting of the inconveniences accompanying urban life when a new development is dissimilar from their own space.

Larger buildings necessarily have more mechanical equipment for heating, ventilation and air conditioning (HVAC) than small ones, and this equipment typically includes compressors, fans, pumps, air-handling units and chillers, all of which are mounted on the roof for access to the open air. Thus, any office building can create, in a nearby neighborhood, an audible noise from mechanical equipment if the devices are improperly sized, designed, or located. In addition, research and laboratory spaces have unique requirements for clean, conditioned air that can inadvertently increase the chance for such noise impacts.

International standard ISO-14644¹ dictates a set of requirements for “cleanrooms” in which bench-scale research on, and subsequent commercial-scale production of, life-saving drugs is done. Filtration of urban air contaminants, including Particulate Matter (PM), requires equipment with a higher static pressure because the supply air must be forced through numerous banks of HEPA filters and other air-cleaning devices. It takes an incredible amount of technology to achieve, and continuously maintain, strict cleanliness guidelines inside the cleanrooms, and at the core is an HVAC system that provides specific airflow streams, pressurization of rooms (to prevent outside air contamination), temperature, humidity and filtration to remove PM found in urban air. Specifically, pressurizing cleanrooms and preventing PM from settling on room surfaces requires relatively large airflows. For example, in a typical office space, comfort air conditioning requires about 0.5 to 2 air changes per hour (ACPH). By contrast, a standard (ISO 7 rated) cleanroom needs 60 to 90 ACPH, and the most-clean (ISO 1 rated) cleanrooms must have 600 ACPH.² Thus, research and laboratory spaces require higher-capacity HVAC equipment.

How have Laboratories Handled the Need for More HVAC Capacity in the Past?

At the outset of growth in the life sciences, new laboratories used HVAC equipment designed for standard office buildings and either increased the number of such units on the roof, or had the manufacturers increase fan speed in the air handling units, to meet the higher airflow requirements. No consideration was made of energy efficiency that might have allowed the reduction in the number and size of HVAC equipment. Since the sound emissions from a fan are proportional to the fifth-power of the blade rotational speed, increasing fan speed, while a cost-effective approach to producing more airflow, significantly increased the potential for noise from rooftop equipment. If new research and laboratory space is built in industrial parks, well separated by distance from nearby residential areas, increased sound emissions are not a concern. In the redeveloped sections of Boston and Cambridge where such buildings appeared in the past, such was not the case and the potential for noise impacts was created.

New Equipment Designs and Controls now deliver Quiet Laboratories

The new attention to energy efficiency in HVAC equipment design means that the number and size of rooftop units can be reduced, as compared to laboratory designs of 10-20 years ago. In addition, a number of the higher-quality equipment manufacturers (e.g., Trane, Stulz) have brought to market low-noise equipment for buildings with special requirements. Simply stated, today’s labs employ fewer, smaller, and more efficient systems tailored to the specific needs of research.

These improvements ensure that a new research and laboratory building will not create a noise nuisance when coupled with the application of code-compliant design and best practices. For a building in the City of Cambridge, the total set of rooftop equipment must target the City’s Noise Standards³ for both broad-band and tonal sound, for residential areas at night regardless of the underlying zoning of the parcel. This ensures the mechanical design is held to the highest sound performance standards. To meet these standards, the HVAC design will adopt Best Available Noise Control Technology (BANCT) in the sizing and selection of equipment, its placement on the roof, and the use of effective sound attenuation design elements, e.g. lower-speed fans, acoustical enclosures for pumps and compressors,

¹ International Organization for Standardization (ISO), “International Standards for Cleanrooms and associated controlled environments,” ISO 14644 – Part 1: Classification of air cleanliness, 2015.

² Terra Universal, “FS209E and ISO Cleanroom Standards,” 2019.

³ City of Cambridge, Noise Control Ordinance, Zoning Code Chapter 8.16-Noise, 1991.

lagging of fluid piping, acoustical louvers for mechanical penthouses, and well-designed sound screen walls. The attention to these design elements will enable a laboratory to be one of the quietest commercial buildings in a community.

In order to incorporate the foregoing mitigation measures, the CambridgeSide redevelopment project will implement the following noise mitigation strategies for laboratory rooftop equipment:

- Fans will be provided with variable speed drives to conserve energy when airflow is not needed to condition the space. Sound attenuators will be installed in the ductwork. Should additional sound reduction be required, fans will be placed behind sound screen walls, which will be designed to reduce and absorb sound.
- Cooling towers will be provided with large diameter, slow speed whisper quiet fans and variable speed drives for capacity control and energy conservation. These fans will be provided with discharge attenuation if additional noise mitigation is needed to comply with the City's noise ordinance. Cooling towers will be located within a sound absorbent screen wall.
- Air cooled chillers will use variable-speed compressors, variable-speed fans and integrated compressor mufflers. Should additional sound reduction be required, chillers will be placed behind sound screen walls.
- Air handling units will be in a sound-insulated penthouse that is ventilated through acoustical louvers.
- Sound screen walls are an important part of low-noise rooftop equipment design. Sound reduction by such barriers operates on the principle of sound wave diffraction, which is enhanced when the screen wall is at a higher elevation than the receiver (i.e., the residence in a nearby neighborhood). Thus, a taller building actually provides increased effectiveness to sound screen walls, and the proposed roof heights of 85 to 185 feet for the corner parcels of the CambridgeSide redevelopment represent an opportunity for using highly effective sound screen walls to attenuate equipment sound.

Compliance with the Cambridge Noise Ordinance and utilizing rooftop mechanical equipment based on the best available practices will alleviate any concerns about noise levels. The availability of new energy-efficient, low-noise HVAC equipment, in conjunction with the use of BANCT in the sizing and selection of equipment, its placement on the roof, and the use of effective sound attenuation design elements now allows the construction of quiet research and laboratory buildings near existing residential areas. Noise and vibration from mechanicals will not normally be perceptible at ground level without instruments at a distance of 100 feet from the lot line.

New Building Controls can reduce Light Pollution from Laboratories

Light pollution from labs, that may require research to run 24/7, has been a problem in the older generation of lab buildings. These effects can be addressed in the current generation of research and

laboratory buildings through both the design of the exterior envelope and by using lighting controls to mitigate the effect of lights on nearby neighbors.

The current energy codes require a greater amount of opaqueness on the building façade, leading to a roughly 50/50 mix of masonry or other opaque building material to transparent glazing. Less glass translates to less light trespass.

Newer research and laboratory buildings make use of the available access to daylight by placing office, conference and collaborative spaces on the perimeter, so researchers may use the building in much the same way as a standard office building. The CambridgeSide redevelopment project will implement a Building Automation System (BAS) that will be programmed to dim or turn lights off, and to lower shades after 9:30 pm to reduce light pollution to the surrounding neighborhoods.

Laboratories can be Good Neighbors

By employing best practices in the design and specification of building systems, the building envelope, and lighting systems, a research and laboratory building can be a quiet and responsible addition to a thriving mixed-use neighborhood.