

2.6 Ground Floor and Activation Plan

(Section 13.102.3(f))

PUD-8 Special Permit CambridgeSide Cambridge, MA

In compliance with Section 13.107.1 of the Ordinance and as shown on the Ground Floor and Activation Plan Exhibit AP.1, the ground floors of the 20 CambridgeSide, 110 First Street, 80 & 90 First Street and 60 First Street buildings fronting on First Street, CambridgeSide Place and Canal Park will increase activity along such frontages by introducing new and improved access to retail, restaurant, and other Active Uses (as defined in Section 13.107.1 of the Ordinance). Along First Street and Thorndike Way, existing anchor store buildings with minimal pedestrian access and limited visual access to display windows will be replaced with new transparent and engaging storefronts providing pedestrian access to and visual engagement with the new Active Uses. Similarly, the existing aboveground parking garage building on First Street, which today is nearly 300 linear feet of vehicular ramps, driveways and blank walls, will be replaced with new Active Uses and dynamic storefronts that create a more welcoming pedestrian environment.

The Project proposes approximately 240,000 sf of Ground Floor Active Uses. The Ground Floor and Activation Plan Exhibit AP.1 illustrate the conceptual locations and area of the proposed ground-floor Active Uses required by Section 13.107.1 of the Ordinance. In compliance with the Letter of Commitment (as defined in Section 13.107.6 of the Ordinance), the Applicant will establish an Open Space and Retail Advisory Committee, which includes members of the public and representatives from CDD, to help program the various Active Use areas throughout the Project site.

As shown on the Ground Floor and Activation Plan Exhibit AP.1, the ground floors of the Project's new buildings will also include lobbies to support the upper-level commercial and/or residential uses, as appropriate.

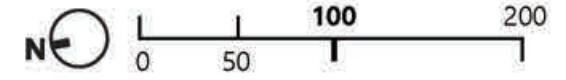
The exhibits that follow in this Section 2.6 supplement the information above and illustrate:

- The conceptual ground-floor arrangement of the Project and each of the buildings, including locations and anticipated sizes of Active Uses pursuant to Section 13.100; and
- The conceptual streetscape view of each of the buildings, which have been designed to create a dynamic and engaging pedestrian experience.

Ground Floor & Activation Plan Project Overview

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

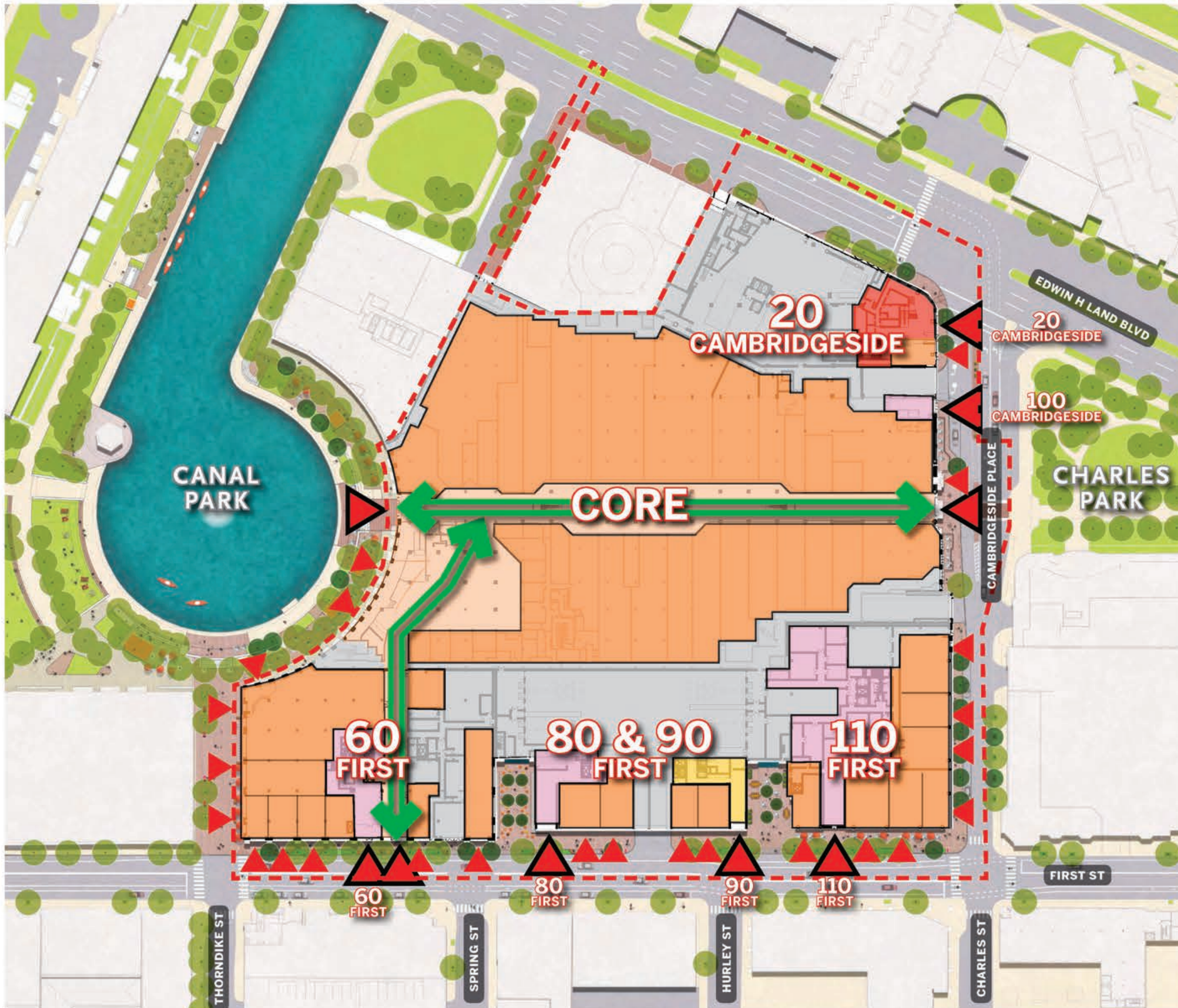
VOLUME II
EXHIBIT AP.1

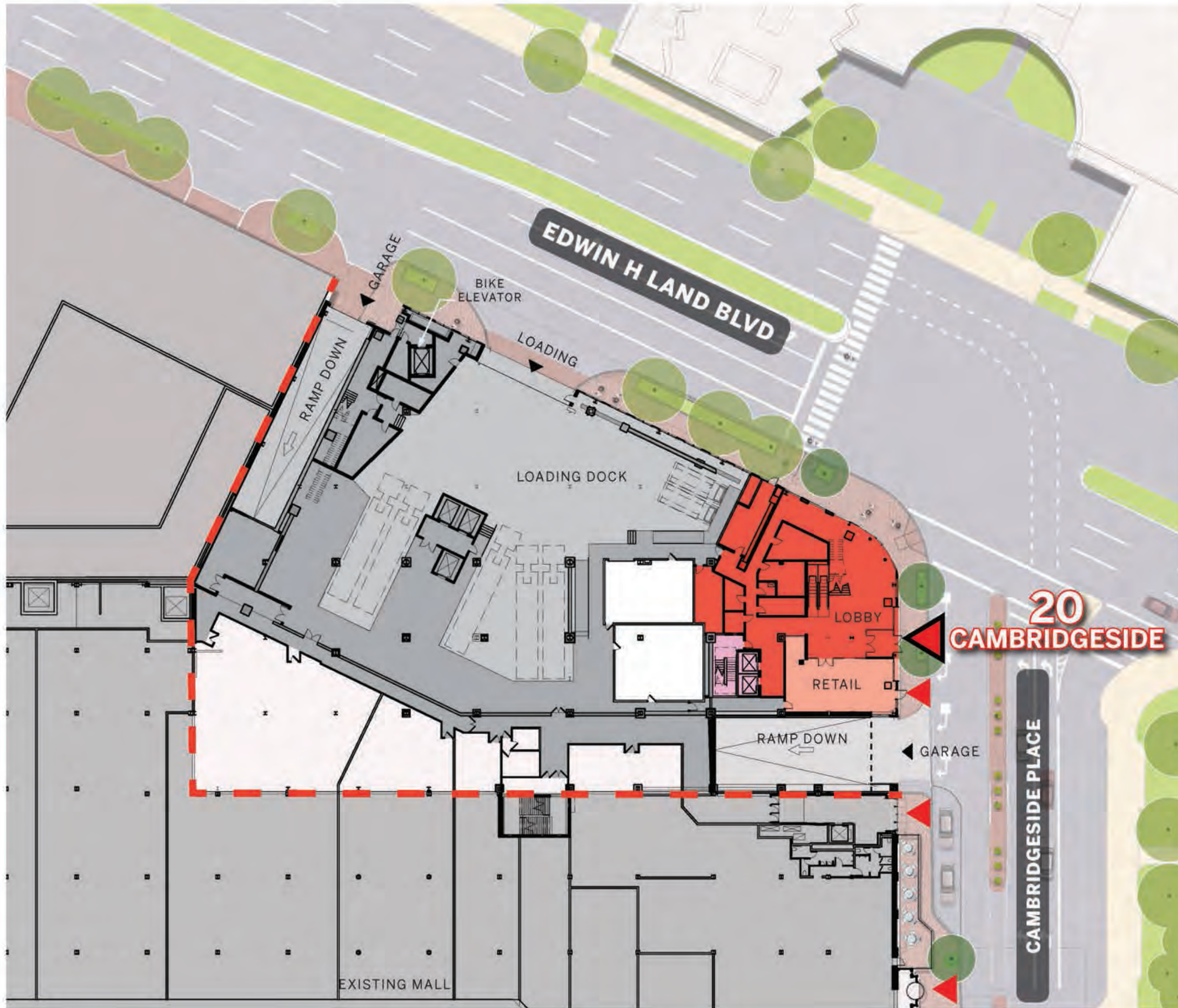


Legend

- PUD-8 DEVELOPMENT PARCEL
- RETAIL / ACTIVE USE
- LOBBY
- LOBBY / GATHERING
- RESIDENTIAL
- ▲ PEDESTRIAN ENTRY

RETAIL AND ACTIVE USE DEMISING AS SHOWN IN 60 FIRST, 80&90 FIRST, 110 FIRST AND 20 CAMBRIDGESIDE ARE FOR ILLUSTRATIVE PURPOSES AND SUBJECT TO CHANGE.



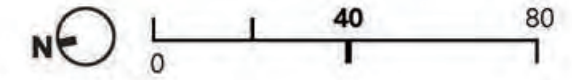


Ground Floor & Activation Plan Ground Floor Plan

20 CAMBRIDGESIDE

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT AP.2



Legend

- PROPERTY LINE
- RETAIL/ACTIVE STOREFRONT
- LOBBY / GATHERING
- BOH
- PARKING/LOADING

RETAIL AND ACTIVE USE DEMISING AS SHOWN IN 60 FIRST, 80&90 FIRST, 110 FIRST AND 20 CAMBRIDGESIDE ARE FOR ILLUSTRATIVE PURPOSES AND SUBJECT TO CHANGE.

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CS CAMBRIDGESIDE



A NEW GATEWAY TO CAMBRIDGE

**Ground Floor & Activation Plan
Streetscape View**

20 CAMBRIGESIDE

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

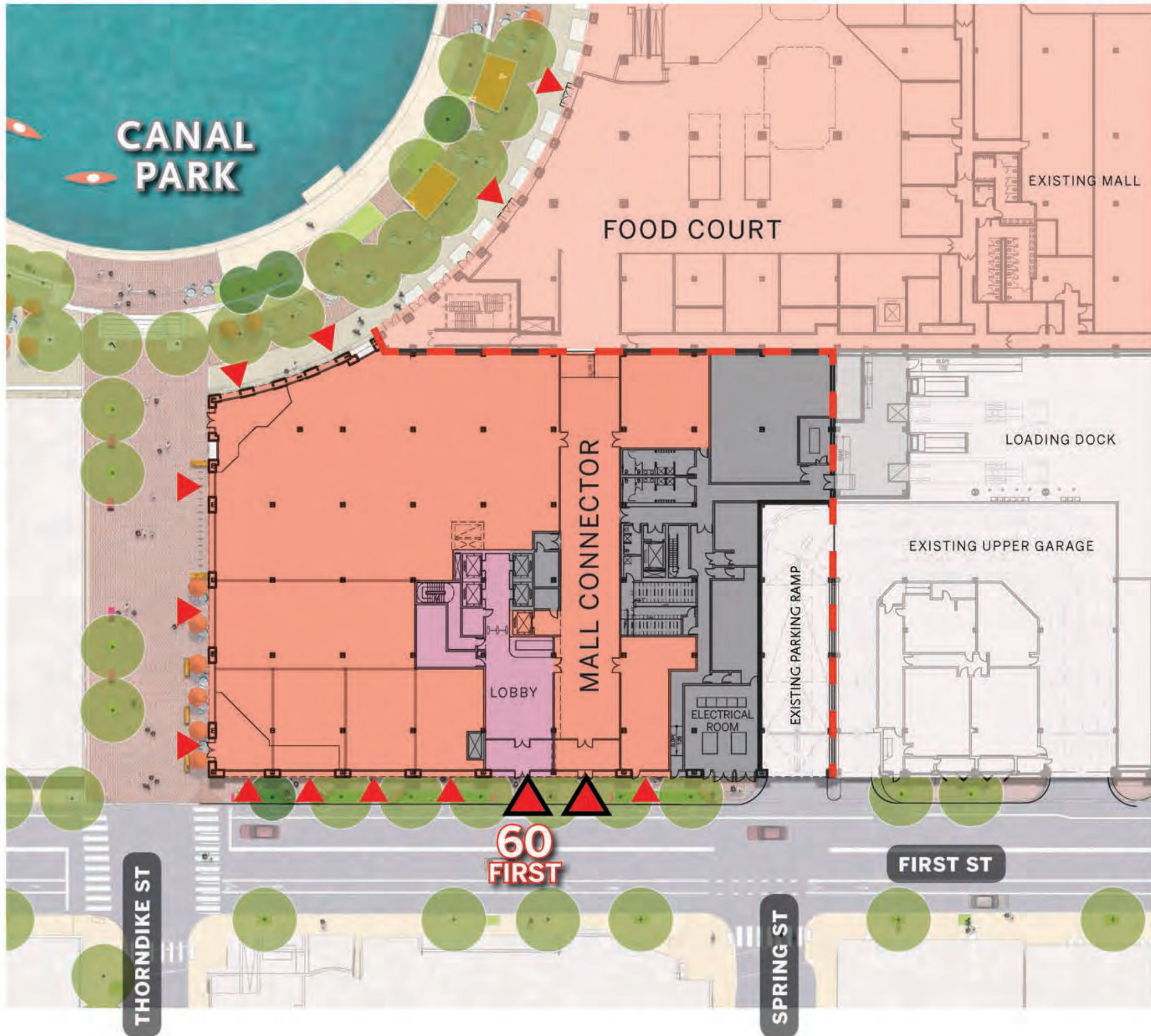
**VOLUME II
EXHIBIT AP.3**



EXISTING CAMBRIGESIDE PLACE



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CS



Ground Floor & Activation Plan Ground Floor Plan

60 FIRST STREET

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT AP.4



Legend

- PROPERTY LINE
- RETAIL/ACTIVE STOREFRONT
- LOBBY
- BOH
- PARKING/LOADING

RETAIL AND ACTIVE USE DEMISING AS SHOWN IN 60 FIRST, 80&90 FIRST, 110 FIRST AND 20 CAMBRIDGESIDE ARE FOR ILLUSTRATIVE PURPOSES AND SUBJECT TO CHANGE.

Keyplan





A NEW ENTRY ON FIRST STREET



EXISTING FIRST STREET



**Ground Floor & Activation Plan
Streetscape View**

60 FIRST STREET

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

**VOLUME II
EXHIBIT AP.5**



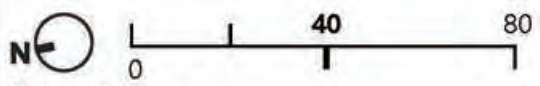
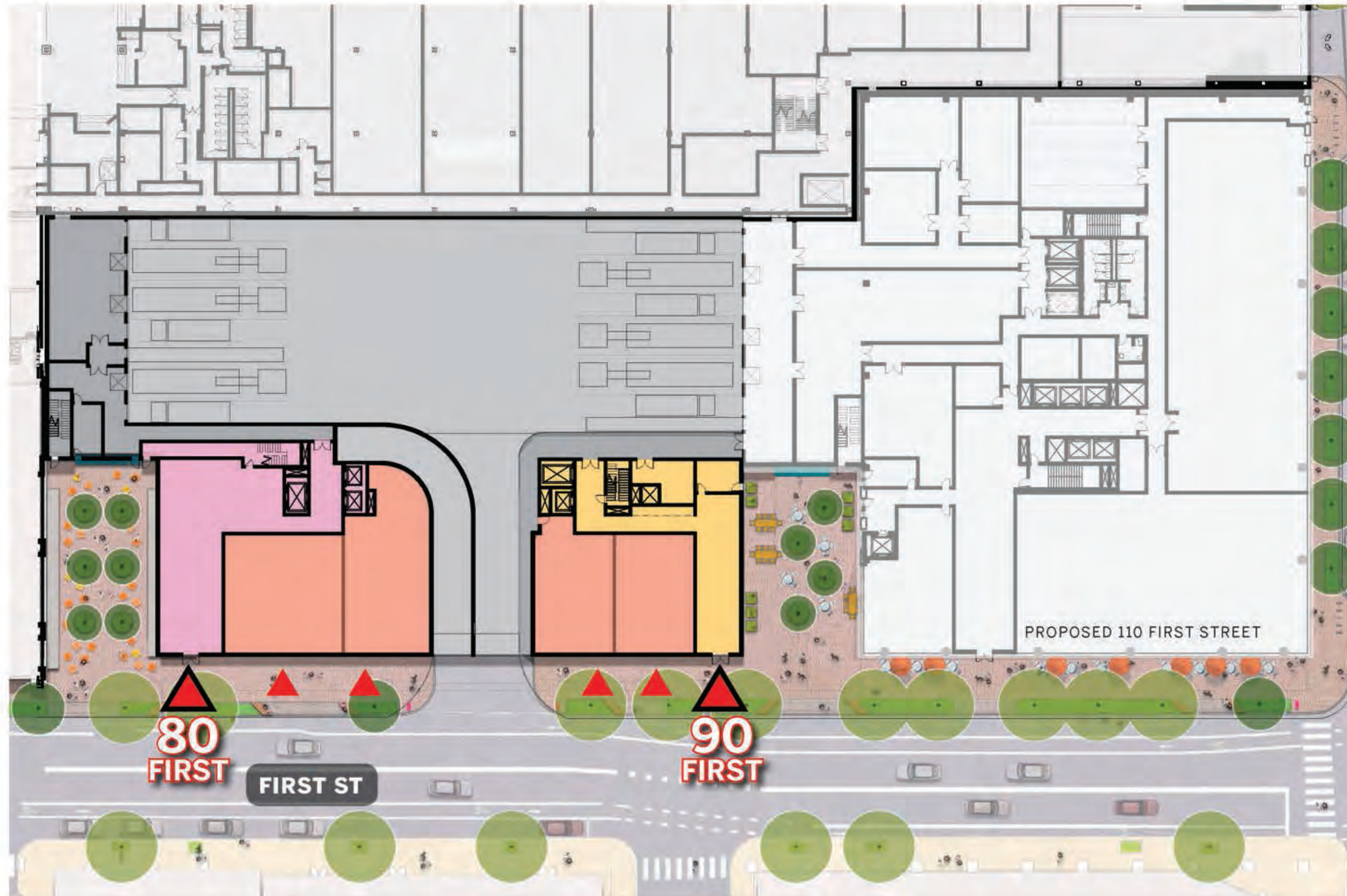
Ground Floor & Activation Plan

Ground Floor Plan

80 & 90 FIRST STREET

PUD-8 Special Permit
 CambridgeSide
 Cambridge, MA

VOLUME II
EXHIBIT AP.6



- Legend**
- RESIDENTIAL
 - RETAIL/ACTIVE STOREFRONT
 - LOBBY
 - BOH
 - PARKING/LOADING
 - OTHER

RETAIL AND ACTIVE USE DEMISING AS SHOWN IN 60 FIRST, 80&90 FIRST, 110 FIRST AND 20 CAMBRIDGESIDE ARE FOR ILLUSTRATIVE PURPOSES AND SUBJECT TO CHANGE.



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CS CAMBRIDGESIDE



ACTIVE STOREFRONTS AND POCKET PARKS



EXISTING FIRST STREET

**Ground Floor & Activation Plan
Streetscape View**

80 & 90 FIRST STREET

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

**VOLUME II
EXHIBIT AP.7**



CAMBRIDGESIDE

**80 & 90
FIRST**

FIRST STREET



**NEW ENGLAND
DEVELOPMENT**

**ELKUS | MANFREDI
ARCHITECTS**



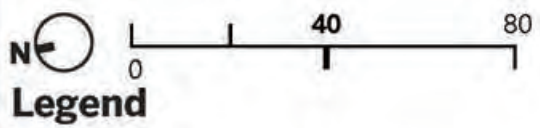
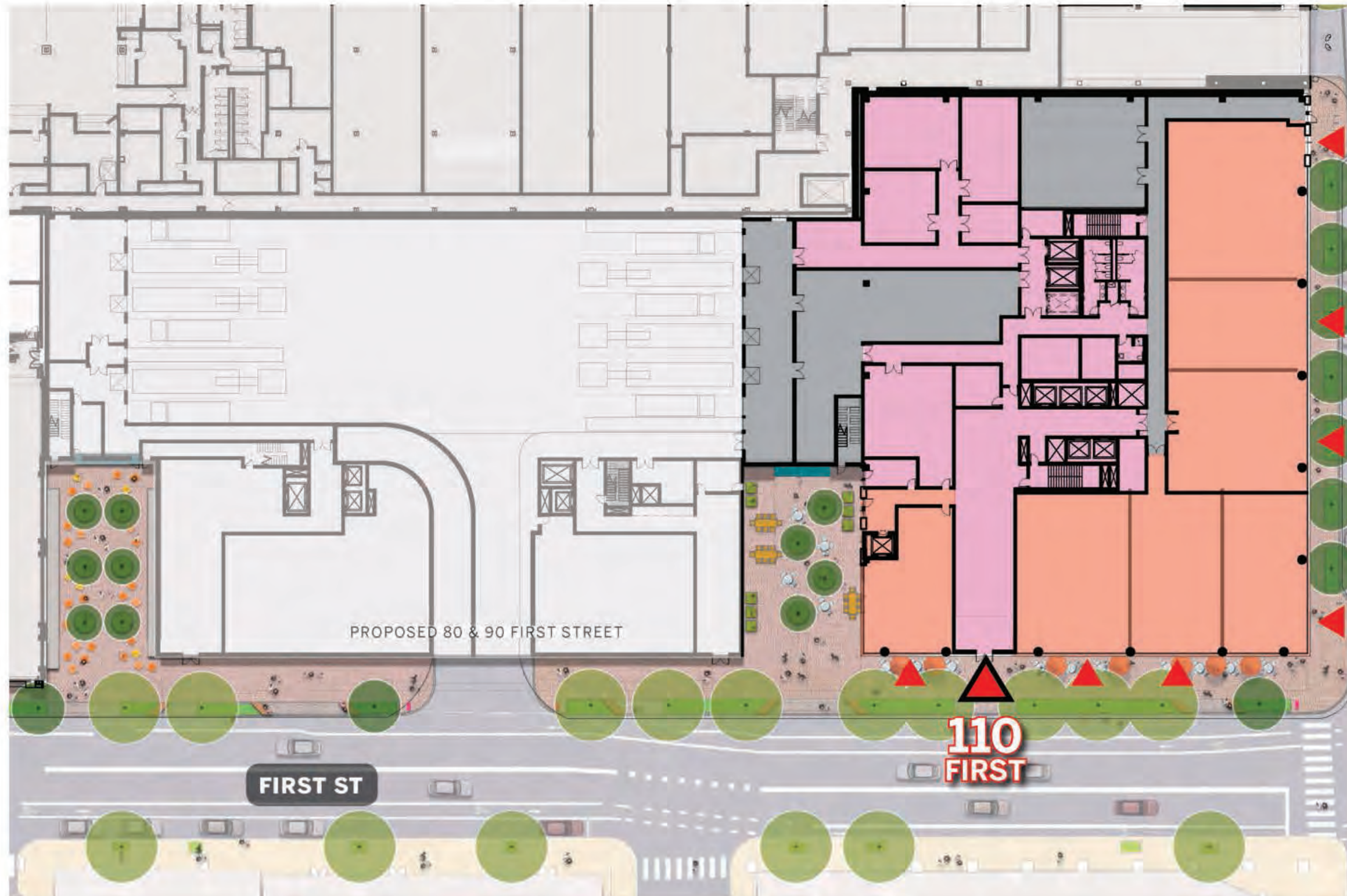
Ground Floor & Activation Plan

Ground Floor Plan

110 FIRST STREET

PUD-8 Special Permit
 CambridgeSide
 Cambridge, MA

VOLUME II
 EXHIBIT AP.8



- Legend**
- RETAIL/ACTIVE STOREFRONT
 - LOBBY
 - BOH
 - PARKING/LOADING
 - OTHER

RETAIL AND ACTIVE USE DEMISING AS SHOWN IN 60 FIRST, 80&90 FIRST, 110 FIRST AND 20 CAMBRIDGESIDE ARE FOR ILLUSTRATIVE PURPOSES AND SUBJECT TO CHANGE.



FIRST ST

**110
 FIRST**

PROPOSED 80 & 90 FIRST STREET



RECOGNIZABLE, ACTIVE AND TRANSPARENT BASE



EXISTING FIRST STREET

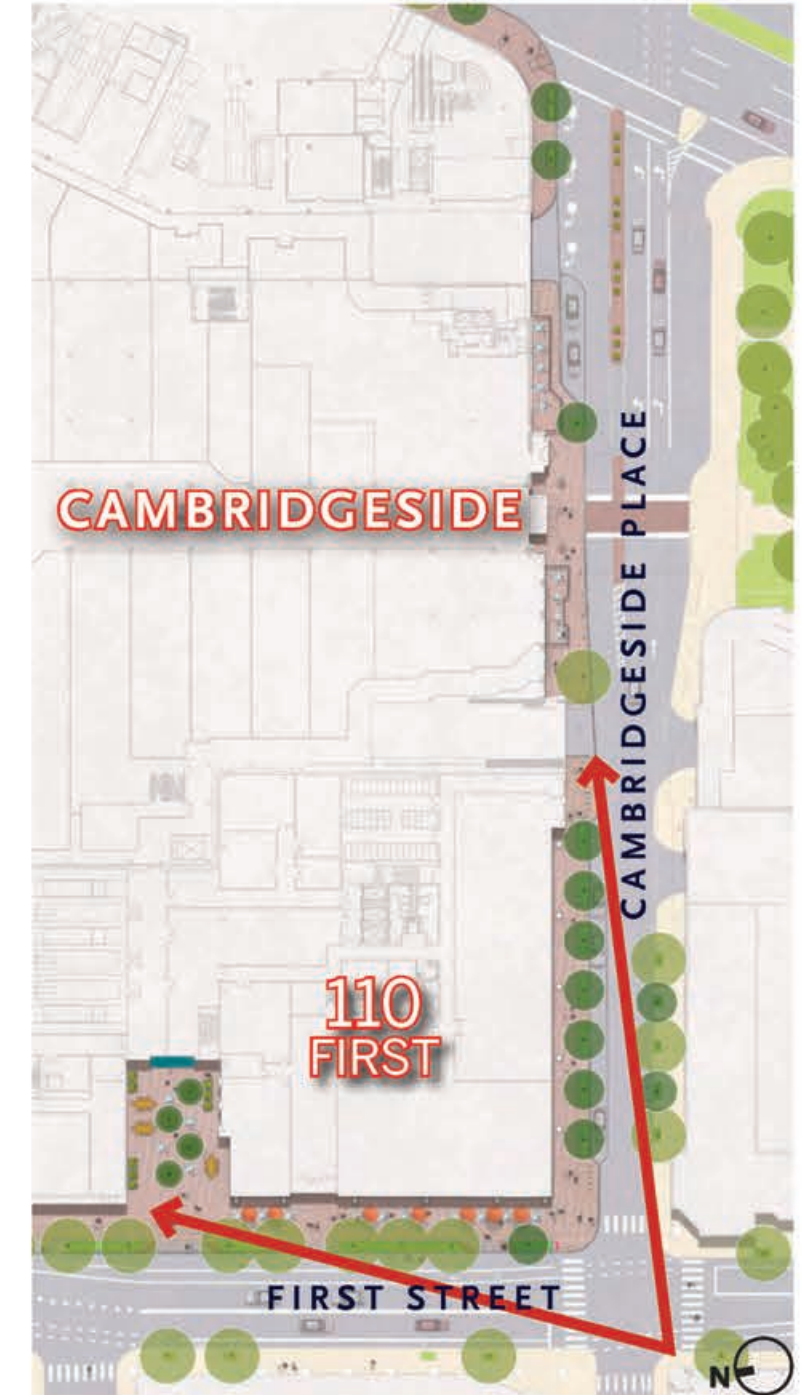


**Ground Floor & Activation Plan
Streetscape View**

110 FIRST STREET

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

**VOLUME II
EXHIBIT AP.9**



2.7 Housing Plan



(Section 13.102.3(g))

**PUD-8 Special Permit
CambridgeSide
Cambridge, MA**

The Project is anticipated to provide approximately 200 dwelling units within 175,000 square feet of Net New GFA in the new 80 & 90 First Street mixed-use building, which is currently anticipated to result in a total Dwelling Unit Net Floor Area of approximately 130,000 square feet.

In response to the City’s dire need for affordable housing options, the Applicant committed to devoting an unprecedented 65% of the Dwelling Unit Net Floor Area to affordable housing – i.e., 30% devoted to Affordable Dwelling Units created through Inclusionary Housing (as defined in Section 11.200 of the City of Cambridge Zoning Ordinance) and an additional 35% devoted to Middle Income Units (as defined in Section 13.104.1(d)(3) of the Ordinance). All 20 Family-Sized Dwelling Units at the Project will be subject to affordability restrictions in compliance with Section 13.104.1(d)(4) of the Ordinance. While the Applicant will generally aim to provide a similar mix of affordable and market rate units in compliance with Article 11.200, the Applicant will consult with the City’s Housing Department closer to construction of the housing component to identify appropriate allocation of such units in response to the City’s needs – for example, the provision of a disproportionate number of larger bedroom Inclusionary and Middle Income Units may be pursued.

The Applicant deliberately located the residential component near the East Cambridge neighborhood on the newly revitalized First Street, which will allow residents to benefit from convenient access to transit, jobs, shopping and outdoor amenities, including new pocket parks and a widened sidewalk associated with development of the new First Street buildings, and to enable residents to assimilate into the East Cambridge neighborhood.

As shown on Housing Plan Exhibits HP.1 and HP.2, the units will range from micro/studio units to three-bedroom Family-Sized Dwelling Units. Of the estimated 200 units, it is currently anticipated that 85 will be micro or studio units ranging in size from 400-550 square feet, 63 will be one-bedroom units ranging in size from 550-800 square feet, 32 will be two-bedroom units ranging in size from 800-1,100 square feet, and 20 will be three-bedroom Family-Sized Dwelling Units ranging in size from 1,100-1,200 square feet.

Projected affordable and market rent levels by unit size are as follows:

Table 1-3 Rental Rate Chart

	Affordable Dwelling Unit	Middle Income Unit	Market Rate Unit
Micro/Studio	\$840 to \$1,000	\$1,200 to \$1,400	\$2,200 to \$2,400
1-Bedroom	\$980 to \$1,100	\$1,400 to \$1,600	\$2,570 to \$3,000
2-Bedroom	\$1,100 to \$1,300	\$1,600 to \$1,800	\$3,600 to \$3,700
3-Bedroom (Family-Sized Dwelling Unit)	\$1,240 to \$1,400	\$1,800 to \$2,100	N/A

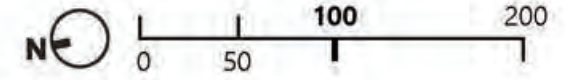
The exhibits that follow in this Section 2.7 supplement the information above and provide:

- The proposed location of the dwelling units within the PUD-8 Development Parcel;
- The currently anticipated unit mix;
- Conceptual residential floor plans; and
- A conceptual ground-level view of the proposed residential building.

Housing Plan Conceptual Housing Summary

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT HP.1



Legend

- RESIDENTIAL
- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- MECHANICAL
- AMENITIES
- TERRACE



13th Floor Plan



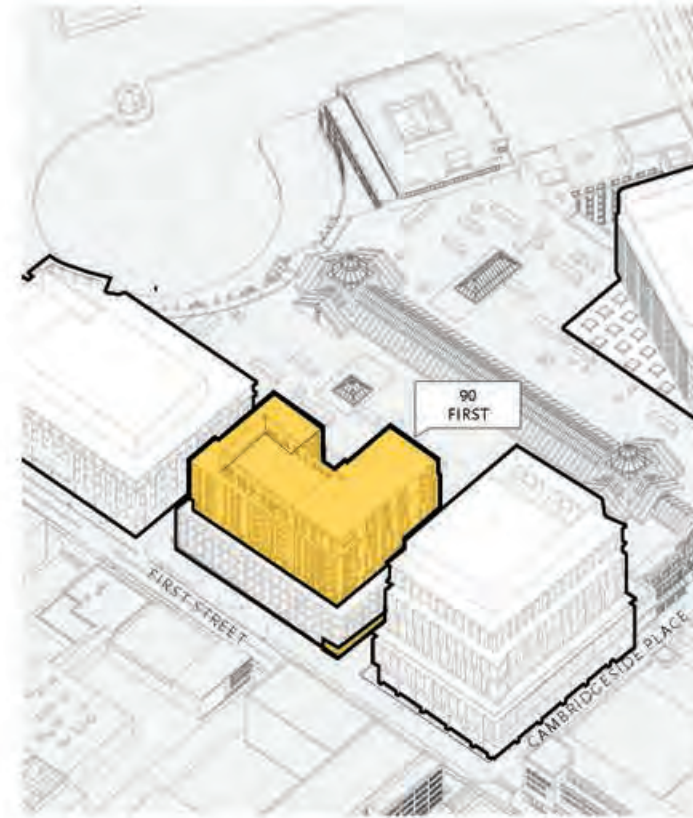
12th Floor Plan



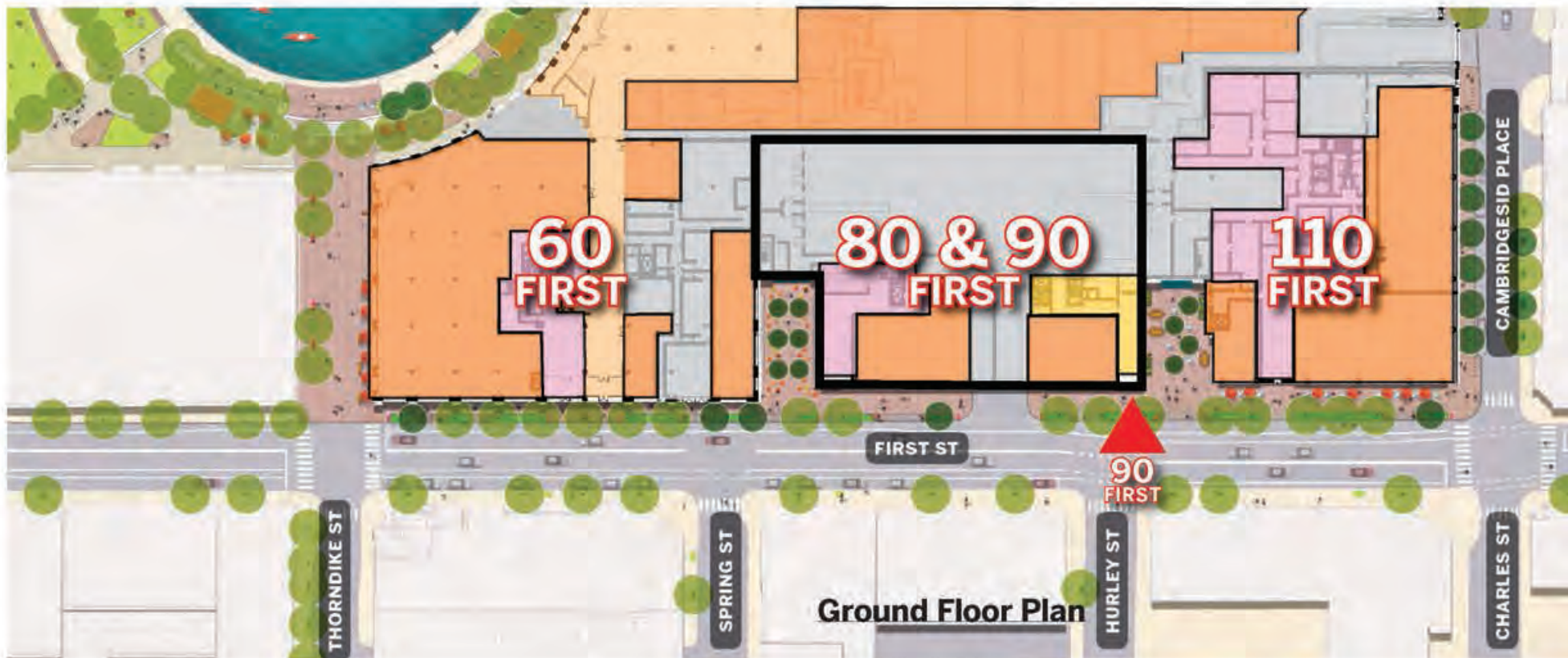
Typ Floor Plan 6-11



5th Floor Plan



Location Plan



Ground Floor Plan

Dwelling Unit Table

Level	M	S	J	1	2	3	Total
	Micro 400-475sf	Studio 475-550 sf	Jr. 1Br 550-625 sf	1Br 625-800 sf	2Br 800-1100 sf	3Br 1100-1200	
13	1	2	0	2	1	2	8
12	5	3	2	4	1	4	19
11	5	6	4	4	4	2	25
10	5	6	4	4	4	2	25
9	5	6	4	4	4	2	25
8	5	6	4	4	5	2	26
7	5	6	4	4	5	2	26
6	5	6	4	5	4	2	26
5	2	6	3	3	4	2	20
	38	47	29	34	32	20	200

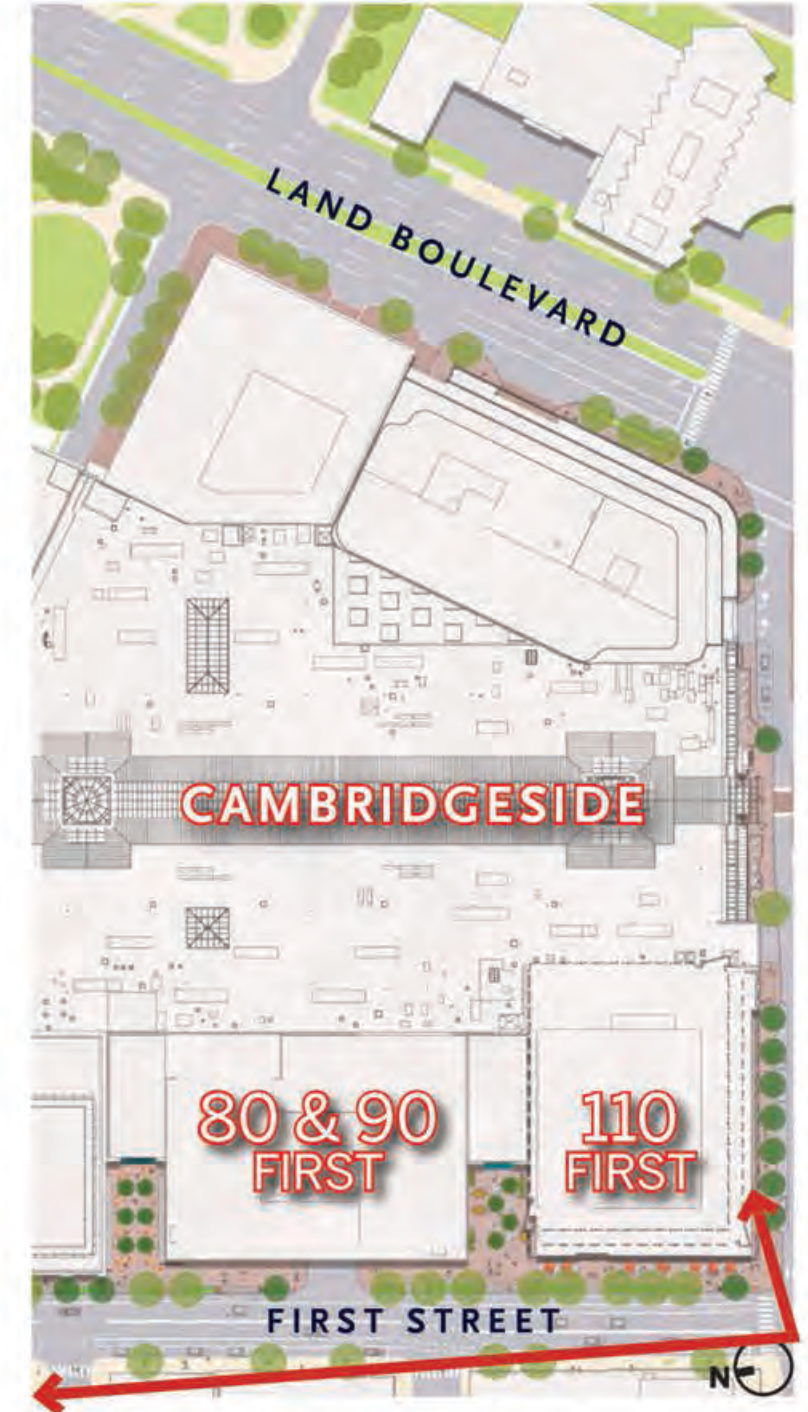


Housing Plan Conceptual View

90 FIRST STREET

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT HP.2



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CAMBRIDGESIDE

2.8 Phasing Plan

(Section 13.102.3(h))

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

The Applicant currently anticipates developing the Project in phases over a multi-year period, commencing with the 20 CambridgeSide and 60 First Street buildings and associated landscape and streetscape improvements, as well as improvements to Thorndike Way and Canal Park, beginning once all required permits and approvals are obtained in late 2020. The 80 & 90 First Street and 110 First Street buildings will be constructed, along with associated landscape and streetscape improvements, following completion of the first two buildings. The Phasing Plan illustrates the proposed building and landscape phasing for the Project.

Given the anticipated phasing and as demonstrated in Volume III, the Applicant is providing extensive design details on the 20 CambridgeSide and 60 First Street buildings as it currently anticipates those will be the first buildings to come forward for construction. The Applicant is seeking approval of conceptual design for the 80 & 90 and 110 First Street buildings and has provided associated imagery in this section; the Applicant will return to the Planning Board for final design review of these buildings closer to their proposed construction in accordance with any applicable terms of the PUD-8 Special Permit.

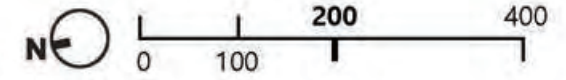
The exhibits that follow in this Section 2.8 supplement the information above and illustrate:

- The proposed building and associated landscape and streetscape improvement phasing; and
- The phasing for all mitigation required by the Project, which is detailed further in Section 1.2 of this Volume II.

Phasing Plan Diagram

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT PhP.1



Legend

- PUD-8 DEVELOPMENT PARCEL
- INITIAL PHASE LANDSCAPE
- INITIAL PHASE BUILDINGS
- SUBSEQUENT PHASE LANDSCAPE
- SUBSEQUENT PHASE BUILDINGS

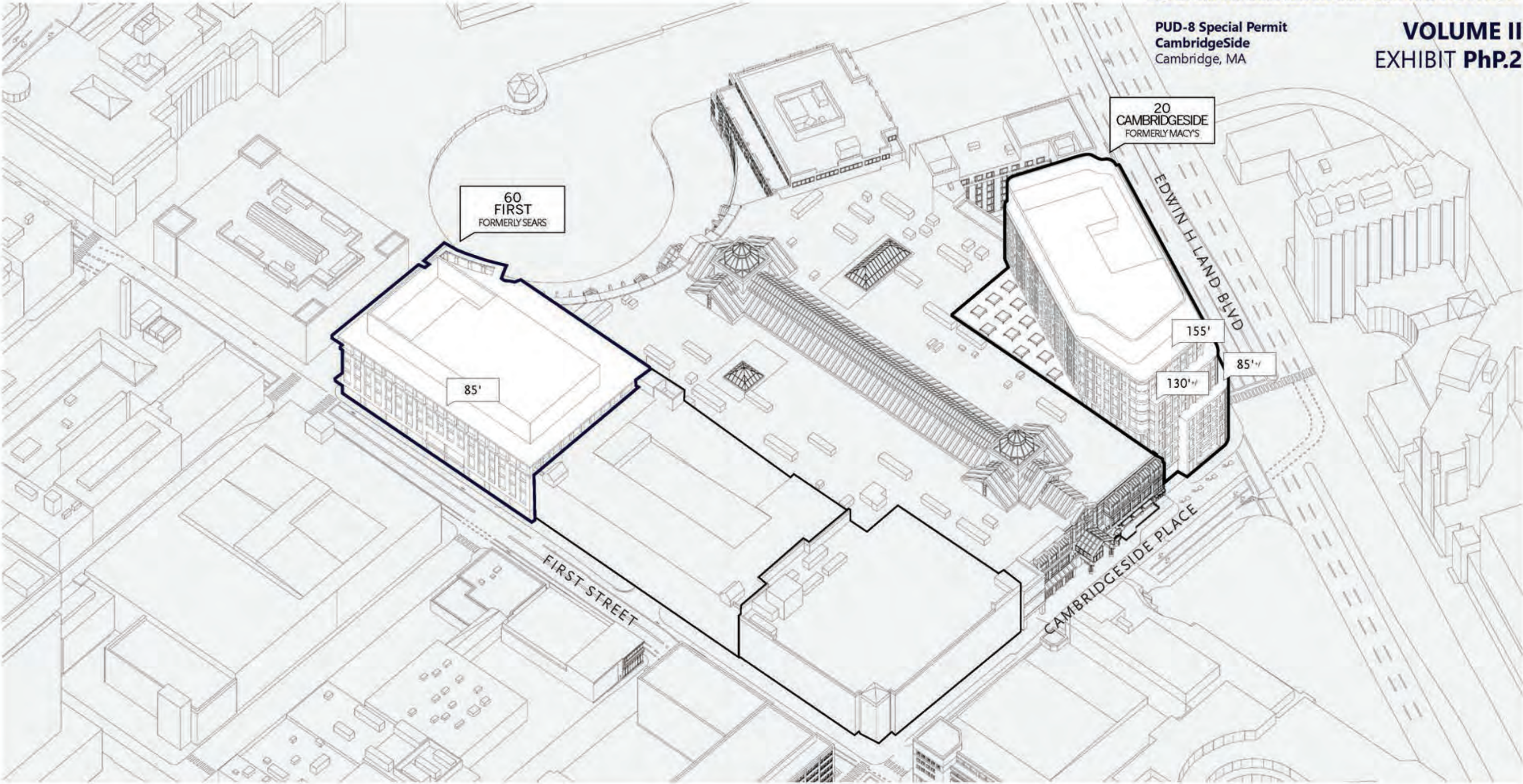


Phasing Plan Initial Buildings

20 CAMBRIGESIDE AND 60 FIRST STREET

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT PhP.2

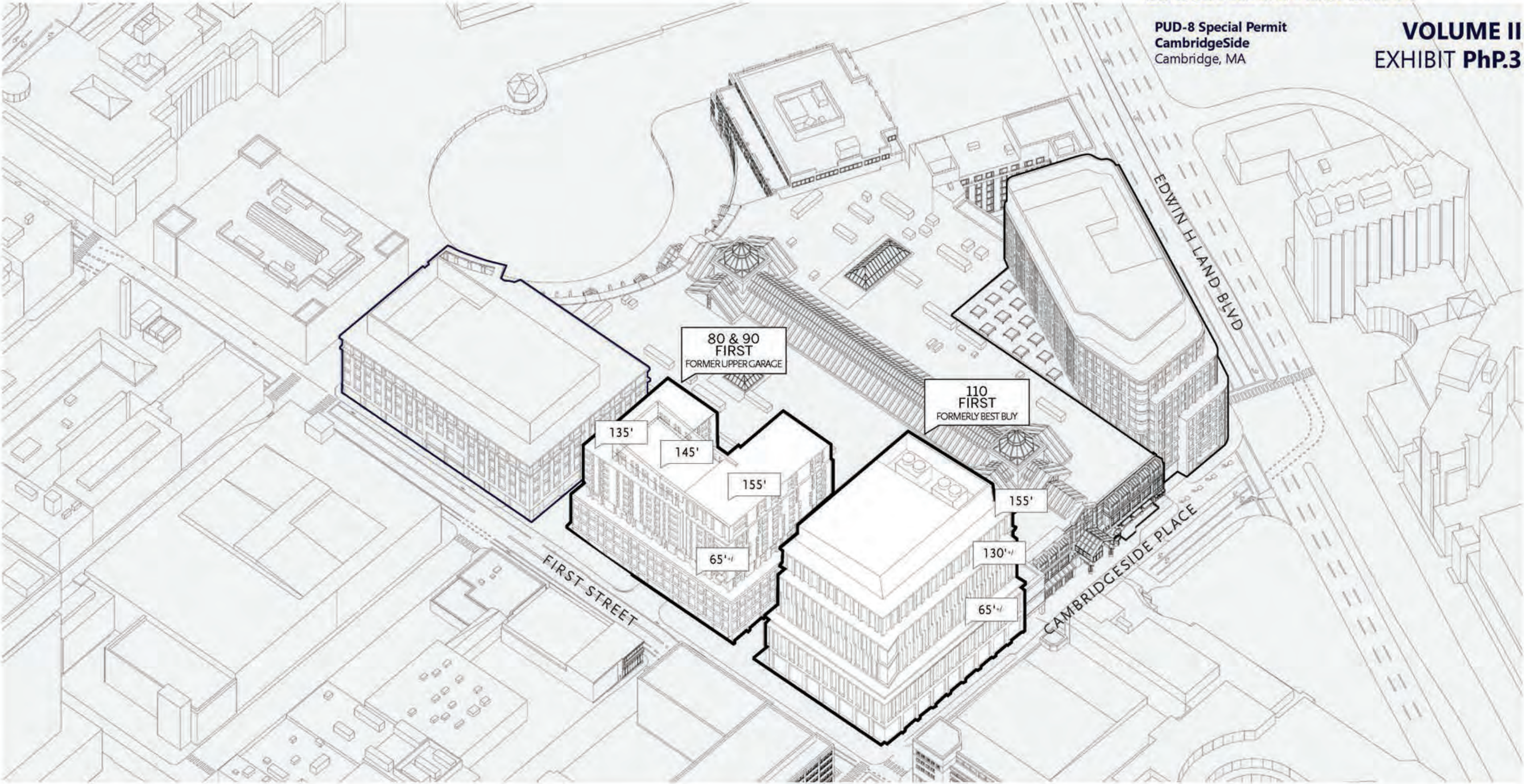


Phasing Plan Subsequent Buildings

80 & 90 AND 110 FIRST STREET

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT PhP.3



Phasing Plan Mitigation Matrix

INITIAL PHASE

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT PhP.4

The following matrix summarizes the extensive mitigation package to be provided in connection with the Project as well as general timing for when each of the commitments must be implemented.

COMMITMENT	DESCRIPTION
<u>INITIAL PHASE¹</u>	
Activation	<u>Active Uses on the ground floor</u> along First Street, Cambridgeside Place, Thorndike Way and Canal Park, as more particularly described in Section 13.107.1.
Stepbacks	Pursuant to the provisions of Section 13.107.5(a)(ii), any new or renovated buildings within the PUD-8 District that exceed 85 feet in height will incorporate (i) a <u>10-foot stepback</u> of the building façade <u>at an elevation of approximately 65 feet in height</u> and (ii) a <u>10-foot stepback</u> of the building façade <u>at an elevation of approximately 135 feet in height (if applicable)</u> . New or renovated buildings within the PUD-8 District that do not exceed 85 feet in height are encouraged to provide a distinct horizontal articulation at a datum height of approximately 65 feet.
Noise and Light Mitigation Measures	<u>Noise and light mitigation strategies</u> for buildings containing laboratory use pursuant to Sections 13.107.2 and 13.107.3.
Subsidy for Innovation/Start-Up or Non-Profit Office Space	<u>Up to 2,500 square feet of office space at a reduced rate</u> (equal to a reduction of 30% below the rent charged for comparable market rate space) to serve as an <u>incubator for small businesses or non-profits in East Cambridge</u> . A lease agreement for such space shall not require a tenant to pay for any share of landlord's costs attributable to any of common area maintenance, insurance or real estate taxes.
Local Retail Subsidy	<u>Approximately 2,500 square feet of space at a reduced rate</u> (equal to a reduction of 30% below the rent charged for comparable market rate space) to <u>local retailers</u> . A lease agreement for such space shall not require a tenant to pay any for share of landlord's costs attributable to any of common area maintenance, insurance or real estate taxes.
Affordable Childcare Space	<u>Up to 2,500 square feet of space at a reduced rate</u> (equal to a reduction of 30% below the rent charged for comparable market rate space) <u>for a daycare facility</u> to rent to the extent operating such a facility is permitted by all applicable federal, state and local laws and regulations. A lease agreement for such space shall not require a tenant to pay for any share of landlord's costs attributable to any of common area maintenance, insurance or real estate taxes. A lease agreement for such space shall also obligate the operator to offer its services at a reduced rate to its users. NED agrees to use good faith efforts to lease such space to a community-based daycare facility.
East End House (First Cash Contribution)	<u>Cash contribution to the East End House</u> in the amount of <u>\$4,000,000</u> for capital improvements.
Improvements to Existing Open Space²	<u>Additional plantings, trees and landscaping</u> at existing open spaces within the PUD-8 District, <u>including Canal Park and the area under the Land Boulevard Bridge</u> .

¹ For the purposes of this matrix, "Initial Phase" means construction of the 20 CambridgeSide building (i.e., new building to replace the former Macy's building) and the 60 First Street building (i.e., addition to the former Sears building) and the associated landscape and streetscape improvements. The specific timing threshold for each of the Initial Phase commitments described in this matrix are as set forth in the Letter of Commitment and PUD-8 District zoning, as applicable. While the specific timing threshold varies for each of the commitments, all commitments identified under the Initial Phase heading will be implemented prior to issuance of the final certificate of occupancy for the first new building except as set forth in the table above. For the purposes of this matrix, "new building" means the ground-up construction of a structure that did not previously exist within the PUD-8 District.

² Any references in this matrix to proposed improvements and/or installations on land owned by the City of Cambridge or the Commonwealth of Massachusetts (including associated agencies and departments in each case) shall be subject to obtaining all necessary federal, state and local permits and approvals, including from the City or the Commonwealth as owner and/or as a permit-granting authority (as applicable).

Phasing Plan Mitigation Matrix

INITIAL PHASE

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT PhP.5

COMMITMENT	DESCRIPTION
<u>INITIAL PHASE¹</u>	
City's Tree Replacement Fund (First Cash Contribution)	<u>Cash contribution to the City's Tree Replacement Fund in the amount of \$500,000.</u>
East Cambridge Scholarship Fund	<u>Contribution of approximately \$1,300,000 (payable in annual installments over a 30-year period, as detailed below) to the East Cambridge Scholarship Fund. In years 1 through 10, the annual installment payments shall be \$33,333. In years 11 through 20, the annual installment payments shall be \$43,333. Finally, in years 21 through 30, the annual installment payments shall be \$53,333.</u>
Community Space	<u>Community meeting space at no charge to local residents, community groups and small businesses, subject to reasonable rules and regulations. The community space shall be able to accommodate up to 40 people and include an area for displays regarding the history of the City of Cambridge, which will be created in coordination with the Historical Commission and other community members.</u>
Arts Community Support ²	<u>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 Canal Park (e.g., funding the installation of art within the Park or CambridgeSide and/or the expansion of the electronic display space within CambridgeSide). Such system will include coordination with a reputable community arts program, such as the Lemelson-MIT program, to promote and host STEM and arts events at or within the vicinity of the Project.</u>
Contribution to the Arts	<u>Cash contribution in the amount of \$500,000 to the Cambridge Arts Initiative, or such other local arts fund or program identified by the City Council.</u>
Open Space and Retail Advisory Committee	<u>Establishment of an advisory committee to provide input on the programming of retail and open spaces, which committee shall meet bi-annually and include representatives from the Community Development Department, the East Cambridge neighborhood and three (3) representatives designated by NED.</u>
Community and Open Space Event Programming ²	<u>Host, in connection with the Open Space and Retail Advisory Committee, community engagement events in or within the vicinity of the PUD-8 District on a regular basis, which events shall be held at such time(s) and location(s) as NED, in consultation with the Open Space and Retail Advisory Committee, may determine and shall be open to members of the general public. Such events may include a seasonal farmer's market, installation of winter garden(s) or the provision of space (e.g., shipping containers or kiosks) for small pop-up retail incubators within Canal Park.</u>
Snow Emergency Parking	<u>Continue to make parking at the Project available to East Cambridge residents during snow emergencies.</u>
Cambridge Public Schools Charles River Project	<u>Development of a curriculum-based program, in coordination with the City of Cambridge Public School Department, which includes the opportunity for each third grader to experience the Charles River, as well as covering the cost of a boat ride to help the students understand the historical maritime significance and ecological value of the Charles River to the surrounding communities and working with the School Department to arrange transportation to get the students to and from the River.</u>

¹ For the purposes of this matrix, "Initial Phase" means construction of the 20 CambridgeSide building (i.e., new building to replace the former Macy's building) and the 60 First Street building (i.e., addition to the former Sears building) and the associated landscape and streetscape improvements. The specific timing threshold for each of the Initial Phase commitments described in this matrix are as set forth in the Letter of Commitment and PUD-8 District zoning, as applicable. While the specific timing threshold varies for each of the commitments, all commitments identified under the Initial Phase heading will be implemented prior to issuance of the final certificate of occupancy for the first new building except as set forth in the table above. For the purposes of this matrix, "new building" means the ground-up construction of a structure that did not previously exist within the PUD-8 District.

² Any references in this matrix to proposed improvements and/or installations on land owned by the City of Cambridge or the Commonwealth of Massachusetts (including associated agencies and departments in each case) shall be subject to obtaining all necessary federal, state and local permits and approvals, including from the City or the Commonwealth as owner and/or as a permit-granting authority (as applicable).

Phasing Plan Mitigation Matrix

INITIAL PHASE

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT PhP.6

COMMITMENT	DESCRIPTION
<u>INITIAL PHASE¹</u>	
Boat Ride for Seniors	Development of evolving ways to connect Cambridge Seniors to the Charles River in coordination with established senior services in the City. From May through September, NED will sponsor, for Seniors, free weekly rides on the Charles River with lunches and activities.
Shelter During Extreme Weather Events	Development of a plan, in coordination with City officials, to act as a “cooling oasis” and to provide shelter for the surrounding neighborhood during extreme weather events. By its implementation of the commitments set forth in this letter and to further the ability of CambridgeSide to serve as a “cooling oasis,” NED has agreed to improve (i) the water’s edge tree canopy (which contributes to temperature reduction), (ii) the area below the Land Boulevard Bridge (which provides deep shade shelter) and (iii) public access to the water where temperatures can be 20 degrees Fahrenheit below the urban ambient temperature.
Sustainability	Pursuant to the provisions of Section 13.107.4 of the Ordinance, new buildings within the PUD-8 District will incorporate best practices for meeting sustainability goals in areas such as energy, emissions, water, materials, urban site reuse and landscaping. NED proposes a comprehensive design approach to meet such goals, including through implementation of the following measures: <ul style="list-style-type: none"> i. Adoption of energy conservation strategies. For example, core and shell of newly constructed office and lab buildings within the PUD-8 District will meet the LEED framework requirements at the Gold level or better, with an emphasis on overall energy (including fossil fuels) and water reduction; ii. Reduction of carbon emissions by eliminating fossil fuel fired equipment as is feasible and reducing total energy required, including through the incorporation of the following to the maximum extent practicable: high efficiency building systems for new or renovated commercial buildings; improved building envelopes with reduced air infiltration; and lighting reduction through usage of LED and smart lighting controls; iii. Support of the City’s Net Zero Action Plan, to the extent feasible, and/or integration of features that facilitate CambridgeSide’s ability to transition to Net Zero in the future (Net Zero Ready) by installing renewables on-site as is feasible and purchasing off-sets as needed.
Transportation	Expenditure of a total of approximately \$6,900,000 (the “Transportation Funds”) on hard and soft costs related to transportation- and traffic-related measures (whether or not associated with the Project and the local/state approval process therefor) including, but not limited to, studies, construction, funding contributions or commitments, Transportation Demand Management measures and design and construction of roadway, intersection and equipment improvements in connection with the Project (the “Transportation Measures”). In the event that NED has not expended, committed to expend or caused to be expended by tenants or others located within the Project all of the Transportation Funds on Transportation Measures at the completion of construction of 575,000 sf of Net New Gross Floor Area within the PUD-8 District, then NED shall contribute the remaining Transportation Funds to the City of Cambridge to be utilized for transportation improvements that benefit the East Cambridge neighborhood.
Minority- and Women-Owned Businesses	Submission to the City of Cambridge Economic Development Department of a plan outlining how diligent efforts will be made to contact and recruit minority- and women-owned business enterprises as tenants of the Project.

¹ For the purposes of this matrix, “Initial Phase” means construction of the 20 CambridgeSide building (i.e., new building to replace the former Macy’s building) and the 60 First Street building (i.e., addition to the former Sears building) and the associated landscape and streetscape improvements. The specific timing threshold for each of the Initial Phase commitments described in this matrix are as set forth in the Letter of Commitment and PUD-8 District zoning, as applicable. While the specific timing threshold varies for each of the commitments, all commitments identified under the Initial Phase heading will be implemented prior to issuance of the final certificate of occupancy for the first new building except as set forth in the table above. For the purposes of this matrix, “new building” means the ground-up construction of a structure that did not previously exist within the PUD-8 District.

² Any references in this matrix to proposed improvements and/or installations on land owned by the City of Cambridge or the Commonwealth of Massachusetts (including associated agencies and departments in each case) shall be subject to obtaining all necessary federal, state and local permits and approvals, including from the City or the Commonwealth as owner and/or as a permit-granting authority (as applicable).

Phasing Plan Mitigation Matrix

SUBSEQUENT PHASE

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT PhP.7

<u>SUBSEQUENT PHASES³</u>	
Setbacks	Pursuant to the provisions of Section 13.107.5(a)(i), <u>any new buildings fronting on First Street will incorporate a setback of at least 10 feet from the property line.</u>
Delivery of Residential Component	<u>Construction of the Project's residential component shall commence in accordance with the time frame set forth in Section 13.104.1(d)(1).</u>
Affordable and Middle Income Housing	Pursuant to Section 13.104.1(d), <u>at least thirty percent (30%) of the Net New GFA proposed under a Development Plan in the PUD-8 District must be devoted to residential use, i.e., at least 175,000 sf assuming a Development Plan that proposes the full 575,000 sf of allowed Net New GFA.</u> <u>A total of sixty-five percent (65%) of the Project's residential Net New Gross Floor Area shall be affordable pursuant to Section 13.104.1(d)(2)-(3).</u>
Affordable Family-Sized Dwelling Units	<u>All Family-Sized Dwelling Units (as defined in the Zoning Ordinance) in the Project shall be affordable pursuant to Section 13.104.1(d)(4), and the distribution of such units to Inclusionary or Middle Income Housing shall be as set forth in such Section. NED agrees that it will provide no less than 20 affordable Family-Sized Dwelling Units.</u>
Passive House for Residential Use	<u>No access to fossil fuels (i.e. no gas or fuel oil lines) within the living area of the residential component of any building and, to the extent reasonably practicable, incorporation of additional passive building standards, such as those promoted by the Passive House Institute US (PHIUS) or similar certifying entities, into the residential component of any building constructed within the PUD-8 District.</u>
City's Tree Replacement Fund (Second Cash Contribution)	<u>Cash contribution in the amount of \$250,000 to the City's Tree Replacement Fund.</u>
East End House (Second Cash Contribution)	<u>Cash contribution to the East End House in the amount of \$5,000,000 for capital improvements.</u>
City's Tree Replacement Fund (Third Cash Contribution)	<u>Cash contribution in the amount of \$250,000 to the City's Tree Replacement Fund.</u>
First Street Promenade²	<u>Coordination with neighbors and City officials to establish a pedestrian-only area between Cambridgeside Place and Thorndike Way on Sunday afternoons between Memorial Day and Labor Day, as well as programming and activities to take place within such area.</u>

³ For the purposes of this matrix, "Subsequent Phases" means construction of the 80 & 90 First Street building (i.e., new building to replace the Upper Garage building) and the 110 First Street building (i.e., new building to replace the former Best Buy building) and the associated landscape and streetscape improvements. The specific timing threshold for each of the Subsequent Phase commitments described in this matrix are as set forth in the Letter of Commitment and PUD-8 District zoning, as applicable. While the specific timing threshold varies for each of the commitments, all commitments identified under the Subsequent Phases heading will be implemented prior to issuance of the final certificate of occupancy for the third new building.

2.9 Sustainability Plan

(Section 13.102.3(i))

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The proposed Project employs a comprehensive design approach to align with the sustainability and resiliency initiatives of the City – which involves leadership and best practices in establishing a vibrant, urban sustainable development. In accordance with Section 13.107.4 of the Ordinance, new buildings in the Project will comply with the provisions of Section 22.20 of the Ordinance.

As described throughout this narrative and as shown on the Site Development Plan, attached as Exhibit SDP.15 in Section 2.1 of this Volume II, the Project consists of the redevelopment of the four building sites. An integrative process is currently being utilized on the design of the first two buildings expected to be constructed (i.e. the 60 First Street and 20 Cambridgeside buildings) which brings together the stake-holders and technical experts who are actively engaged in creating a state-of-the-art project.

The Article 22 Green Building Report, attached as Appendix B in Volume II, addresses the criteria in the PUD-8 sustainability requirements set forth in Section 13.107.4, including:

Energy and Emissions

- An “integrative” design process is being utilized, drawing out the best sustainability practices to apply to each of the buildings and to the overall project. Early (and often) energy modeling is providing real feedback on decision-making.
- The 60 First Street and 20 Cambridgeside building projects are already linked to the MassSave energy-efficiency incentive program, and have both performed their MassSave energy-efficiency charrettes. These two buildings will be among the first generation of projects in Cambridge designed under the latest (stricter) issuance of the energy code, and whose higher energy performance will in part be achieved by a reduced window-to-wall ratio and high-performance glazing.
- Energy efficiency will also be achieved with high performance HVAC equipment, including the use of energy-recovery ventilation (ERV) systems. EPA ENERGY STAR rated appliances will be utilized for their energy-efficiency. High-efficiency LED lighting, and high-performance controls will be used to achieve a lighting power density (LPD) that is lower than the code requirement. Fundamental and Enhanced commissioning of the energy systems is being utilized to help achieve, confirm, and maintain the energy-efficiency goals of the project.
- Guidance will be provided to future tenants in order that their fit-outs are in alignment with the sustainability goals of the overall project.

- All of the energy-saving factors resulting from this planned, comprehensive approach results in less emissions – both at the Cambridge site and at the location of the electric power plant.

Urban Site and Landscaping; Water Management

- Outdoor and indoor water usage will be minimized by using high efficiency cooling tower equipment and practices, utilizing indigenous (non-irrigated) plantings where feasible, and specifying low-flow EPA WaterSense rated fixtures.

Cool Roofs and Heat Islands

- Rooftop heat island effect will be reduced by the use of high-albedo/low-emissivity (“white”) roof membranes.
- Some rooftop areas will also be structurally reinforced to be solar-ready and green roof-ready – to accept the increased weight load of a future rooftop system that would also act to reduce rooftop heat.
- In addition, new street tree plantings – each providing additional sun shading – will add to heat reduction at the sidewalk level.

Monitoring

- The Applicant will conform to the requirements of the Cambridge Building Energy Use Disclosure Ordinance, as required by Chapter 8.67 of the Municipal Code, to annually measure and disclose energy usage to the city. In addition, LEED certification, which all four buildings will be pursuing, requires similar reporting to the EPA.

Healthy Living and Working

- The project’s design team recognizes the components that help guide the design of a healthy interior environment, (based upon “The Nine Foundations of a Healthy Building”, Harvard School of Public Health, 2016) which includes ventilation, air quality, thermal health, moisture, dust and pests, safety and security, water quality, noise, lighting and views.
- The four buildings that compose the project share the same site-related attributes of immediate adjacencies to outdoor spaces, parks, and activities; and direct connections to bicycle and pedestrian networks.
- All four buildings will have a high level of thermal comfort, due in part to the code-required, high-performing building envelope and the relatively low window-to-wall ratio. They also all share in having long and direct views to outdoor

spaces. Only two of the four buildings, 60 First Street and 20 Cambridgeside Place, are in development beyond the master-plan, conceptual level and are “core and shell” projects, inherently providing less opportunity to implement actions related to healthy interiors than during the fit-out of the tenant space. Suggestion will be made to future tenants to utilize healthy guiding principles or certification programs such as Fitwel and WELL.

- Nevertheless, the common spaces of the “core and shell” buildings will have good ventilation, air-quality, and dust-control due to following the LEED credits for Indoor Air Quality Performance and Enhanced Indoor Air Quality Strategies; and will have access to good views due to following the LEED Views credit. There will be enhanced HVAC filtration and limited VOC’s in indoor materials. Drinking water will be easily accessible on each occupiable floor. Each toilet room at 20 Cambridgeside Place will be a gender-neutral, single-use room with its own lavatory. There will be a wide, visible, inviting stairway at the ground level entry communicating people to the second floor – promoting passive exercise.
- Interior materials and finishes will be chosen for their healthy characteristics, including those that have low or no volatile organic compounds (VOC’s), and no added urea-formaldehydes (NAUF’s).
- Daylighting will be maximized to promote a comfortable workplace. Light pollution will be reduced or eliminated by limiting the light trespass from the façade and up-lighting from the site lights.
- Interior bicycle storage facilities are being provided to simplify and promote their use by the occupants.

Transportation

- Refer to the separate “Transportation Plan”.

Flood Resiliency

- Refer to the separate “Flood and Resiliency Plan”.

Site Cooling Strategies

- Refer to the summary for “Cool Roofs and Heat Islands” listed above, and to the separate “Flood and Resiliency Plan”.

Passive House Standard

- The Project has analyzed the Passive House standard for the future residential building. Since this building is likely being designed after 2023, the Applicant intends to evaluate using the Passive House Standard at the time of implementation – given that there will be several more years of technological advancements, and further adoption by the building industry construction trades.

Demonstrating LEED v4 Gold “certifiability”

- Each of the four buildings will independently pursue LEED v4 Gold certification. The scope of work of each building will determine which specific LEED Rating System will be used to demonstrate Article 22 compliance. The commercial core and shell development projects will use the LEED for Core and Shell (LEED-CS) v4 rating system while the residential development will use the LEED for New Construction (LEED-NC) v4 rating system.

Green Building Report

The Applicant has attached a full Article 22 Green Building Report as Appendix B, which includes the following:

- Project Description
- Cambridge Green Building Professional Affidavit
- Cambridge Green Building Checklist
- LEED Credit Summary
- LEED Credit Narrative
- LEED Scorecards
- Pathway to Net Zero Ready Study
- Solar Photovoltaic Feasibility Study

The Article 22 Green Building Report was submitted to the City, with comments reviewed and incorporated by the Applicant. As demonstrated by the comprehensive Article 22 Green Building Report attached hereto, the Applicant is committed to adopting the next generation of sustainable development and mitigating any potential impacts of the Project on the environment.

2.10 Resiliency Plan

(Section 13.102.3(i))

**PUD-8 Special Permit
CambridgeSide**
Cambridge, MA

2.10.1 Alignment with Cambridge Climate Vulnerability Assessment (CCVA)

The Applicant has been working with the City of Cambridge over the past two years to align the Project with the goals of the City of Cambridge Climate Vulnerability Assessment (CCVA) and Climate Change Preparedness & Resilience (CCPR) Plan. To establish a technical foundation for the CCPR, Cambridge conducted a rigorous climate change vulnerability assessment, focusing on the risks from increasing temperatures, precipitation and sea level. The assessment sought to identify Cambridge's key physical and social vulnerabilities.

The CCVA utilizes citywide stormwater modeling and precipitation-based flooding, modeling of the potential impacts of urban heat island, and the results of the MassDOT coastal modelling entitled "MassDOT FHWA Climate Resilience Pilot Project," whereby local extreme weather is analyzed. The Boston Harbor Flood Risk Model simulates the effects of storm surges, tide, wind, waves, wave set up, sea level rise and future climate changes. The Project planning incorporates all the necessary objectives to protect it from future predicted flood conditions in East Cambridge and to provide cooling oasis features to protect it from future heat island effects in the neighborhood, as outlined in the following sections on Flooding, Sea Level Rise, and Urban Heat Island.

2.1.10.2 Flooding

The Federal Emergency Management Agency (FEMA) mapped flood zone is defined as the 100-year flood event which represents a flood event that has a 1% probability of occurring in any given year. According to the FEMA Flood Insurance Rate Map (FIRM) number 25017C0577E, effective date June 4, 2010, the Charles River will rise to elevation of 4.0 feet NAVD88, which is equivalent to 15.65 feet Cambridge City Base (CCB) during the 100-year event. The extent of the flood zone is shown as a blue shaded area on Exhibit RP.1. The extent of the 100-year flood elevation is confined to the perimeter of the Lechmere Canal. Accordingly, none of the existing or proposed Project is flooded.

2.1.10.3 Future Potential Precipitation and Sea Level Rise/Storm Surge Flooding

The Applicant has reviewed the CCVA Report and identified potential locations to address the potential future flood elevations and have taken a conservative approach to reflect the projected 2070 100-year precipitation flood depth (elevation 20.3) for the Core and Macy's Parcel, and the 2070 100-year SLR/Storm Surge flood depth

(elevation 20.4) for the Lechmere Parcel. The Applicant continues to coordinate with the City and review updates to the City's flood viewer over the past two years, and will continue as flood mapping continues to be updated in the future. The following table outlines the potential future flood elevations for different scenarios.

Table 2-1 Future Potential 2070 Flood Scenarios

Flood Scenario	Elevations in Feet (Cambridge City Base)		
	60 First Parcel (map lot 8-86)	110 First Parcel (map lot 8-87)	Core/20 CS Parcel (map lot 8-89)
2070 - 100 year - SLR/SS	19.2	20.4	18.7
2070 - 100 year - Precipitation	18.9	20.3	20.3
2070 - 10 year - SLR/SS	N/A	N/A	N/A
2070 - 10 year - Precipitation	17.8	N/A	N/A

The existing first-floor elevation of CambridgeSide is approximately at elevation 21.3, and as shown in Table 2-1 and Exhibits RP.2 and RP.3, will not be impacted by the projected 2070 flood depths. However, there are potential locations which could be improved, including the service entrances, the Land Boulevard garage entrance, and doorways along Thorndike Way and the Lechmere Canal, which will be addressed during project construction. The doorways along the Canal are set to the park elevations but immediately rise with interior stairs and ramps to the 21.3 elevation.

To protect the Project from the projected 2070 100-year precipitation flood depth, the Applicant is considering the following resilience measures for the redevelopment:

- Raising the existing grade at the First Street service entrance;
- For the 60 First Building, the fire pump, emergency electrical equipment, transformer vault, and emergency fuel tank are located above the height of the projected 2070 100-year flood depth (elevation 20.3'). Entrances/egresses along Thorndike Way and Lechmere Canal will bulkhead the entrances/egress locations.
- For the 20 CambridgeSide Building, the transformer vault and electrical equipment is on the 2nd floor; and the emergency generator is on the roof. The fuel pump panel room and the gas service are at the first floor level – which is above the projected 2070 100-year flood depth (elevation 20.3'). 20 CambridgeSide will employ a removable gate closure structure at the Land Boulevard garage entrance and raise the existing grade at the Land Boulevard service entrance by approximately two inches. The fuel tank room is in garage level G2.5, (el minus 4.3'), the lowest level of the building per code; and the fuel pump equipment is elevated off the floor in garage level G1.5, (el 5.2').

2.1.10.4 Urban Heat Island

Through our process with the City of Cambridge, the Applicant has coordinated on additional priorities of the CCVA and CCPR related to the impacts of urban heat island in the East Cambridge neighborhood. The CCVA estimates that by 2070 there could be nearly two full summer months with days above 90 degrees F (68 days over 90 degrees and 16 days over 100 degrees; currently 12 and 2 days each, respectively). The East Cambridge community ranked 4 (out of 5) for a heat vulnerable population. The Applicant has introduced several Project initiatives that provide the benefit of helping mitigate the impacts of urban heat island on the East Cambridge neighborhood.

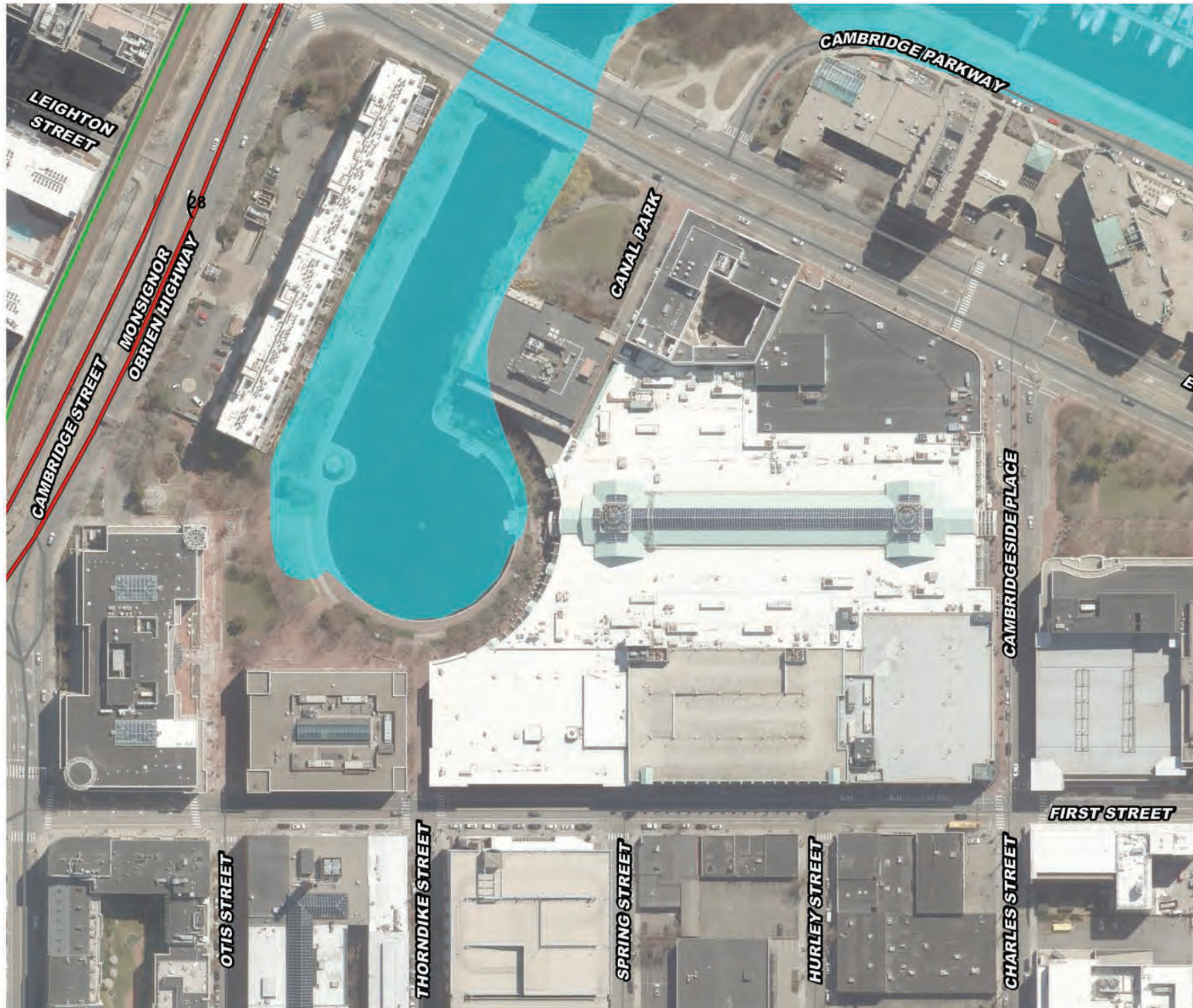
The existing core Mall and atrium serves as an interior public space linking Charles Park and Canal Park; the atrium is part of the open space system of the Lechmere Triangle and 1978 East Cambridge Plan. The first floor and food court function as a cooling refuge that has welcomed the neighborhood for 30 years. Maintaining this role and keeping the core Mall and atrium open as part of the development is one of the key elements of support with the East Cambridge neighborhood and City and helped shape the redevelopment of the anchor buildings and upper garage. Additional features of the Project to provide cooling include the following:

- The proposed Project provides in its interior (and exterior) heat island refuge spaces by incorporating resilient cooling in the core public areas. The property is open to the public from 6 am - 10 pm every day, providing an opportunity for people to come inside and use the property's facilities, including seating, restrooms, water fountains, charging stations, shops and restaurants, and enjoy heat or cooling throughout the year. The property owner is happy to coordinate with the City to discuss further extension of those hours in certain cases of inclement weather and/or providing additional charging stations, seating or other amenities as necessary to accommodate additional visitors seeking refuge during extreme events.
- The core Mall facility operations personnel will coordinate with City health and emergency services personnel to make the public aware of the cooling features and coordinate heat emergency relief to the East Cambridge neighborhood during extreme heat periods. Information on the facilitation of snow emergency parking is provided below. We suggest for heat emergencies that a similar process be established, which would be tied to the City's declaration of a heat emergency.
- Separate from heat emergencies but a similar extreme temperature event, during snow emergencies, East Cambridge residents have been allowed to park for free in the CambridgeSide Garage from the time a snow emergency is declared until two hours after the emergency is lifted. Parking tickets are validated in the parking office, or after hours, in the Security Base in the pavilion on Level G3, where residents only need to provide proof of East Cambridge residency for validation. This will be continued in the future.

- The Applicant will follow the City of Cambridge Article 22 requirements for green building standards through Project development. The Applicant is intending the use of high-albedo 'white' roofs. The Applicant is making the roof for 20 CS PV/Solar ready and the team is continuing to evaluate economics for solar/PV. The roof will be a cool roof with a white roof, but we are not planning a green roof at this time.
- The Applicant created the park system around Lechmere Canal with the original development in 1990 and will continue to maintain and operate the park in the future. Temperatures on or adjacent to the water can be 20 degrees Fahrenheit below the urban ambient temperature and functions as a river-side/canal-side, blue-green cooling oasis. The current Project will provide enhancements to the Park, incorporating additional shade through tree plantings and structural shade, and cooling water features in exterior spaces. Enhancements to the tree canopy can contribute an 8 to 10 degrees Fahrenheit reduction from neighborhood ambient temperature. Twenty-three trees are proposed to be planted with the phased renovations of the Project, and no trees are planned to be removed. The Applicant will establish an Open Space and Retail Advisory Committee, which includes members of the public and representatives from CDD, to help program the Active Use areas around the Project, which will evaluate the final design of pavement and planting materials in Canal Park. The Applicant is willing to use pavement materials with a higher Solar Reflectance Index (SRI), but this will ultimately be a result of the final design with input from CDD and the Open Space and Retail Advisory Committee.
- As part of the improvements around Lechmere Canal, the Applicant will enhance the space below the Land Boulevard Bridge to make it a more welcoming space, which provides deep shade shelter for the public adjacent to the water.
- The Applicant is setting back new buildings along First Street to increase the sidewalk width for new tree plantings that will provide additional shade.



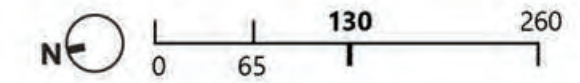
The existing core Mall and atrium serves as a cooling refuge during extreme heat days that welcomes the neighborhood and will continue in the future as part of the redevelopment




Resiliency Plan FEMA Flood Map

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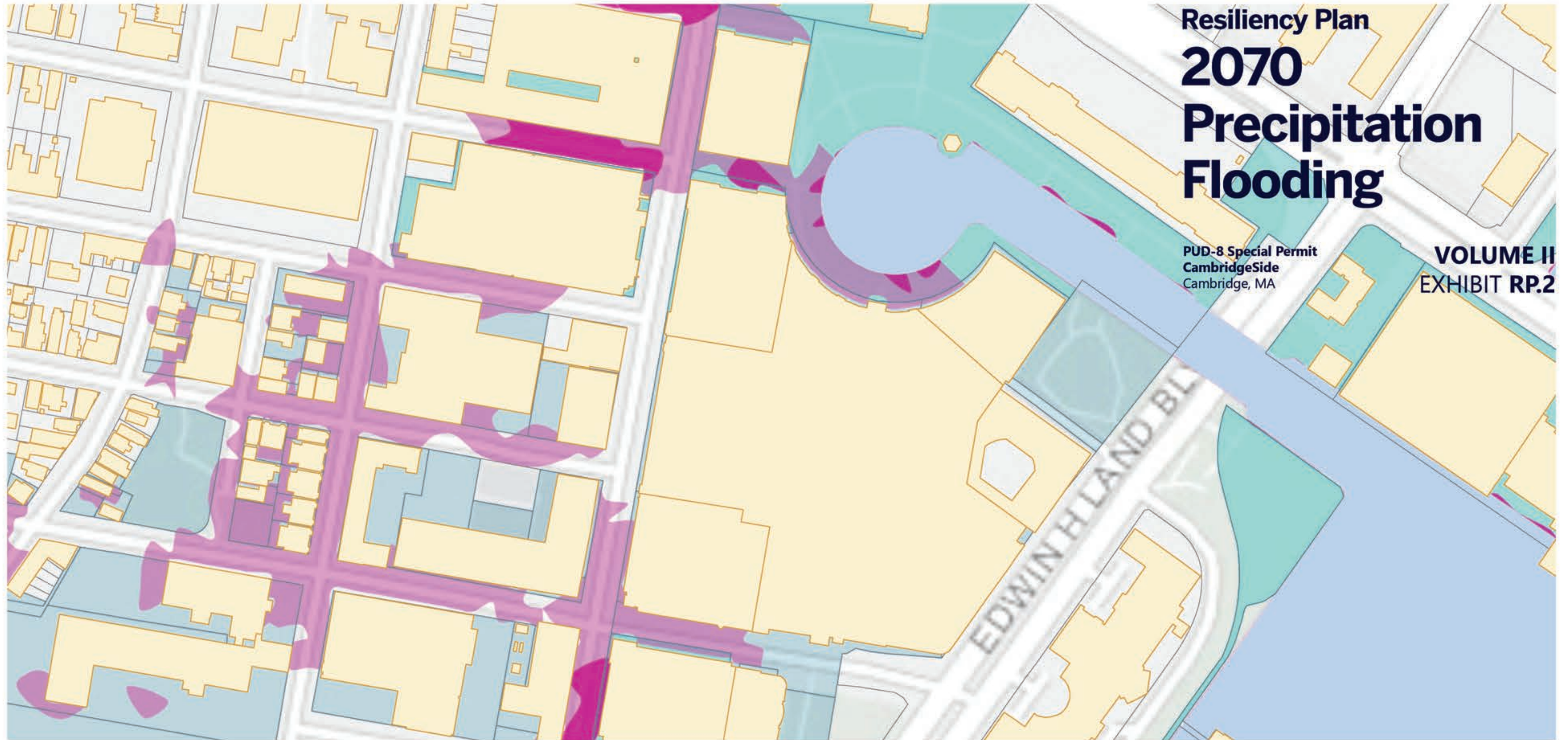
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 AE: 1% ANNUAL CHANCE OF FLOODING,
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Resiliency Plan 2070 Precipitation Flooding

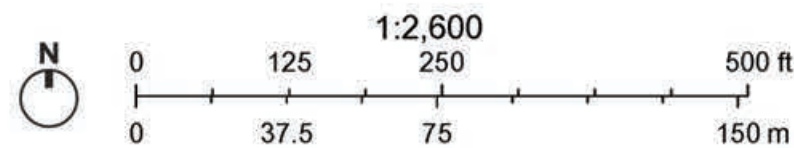
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VOLUME II
EXHIBIT RP.2



Legend

CAMBRIDGE BUILDINGS
 CAMBRIDGE PARCELS WITH DATA



FLOOD MAP TAKEN FROM
CAMBRIDGE FLOODVIEWER

Precipitation Flooding

- 2070 100-YEAR STORM
 60 FIRST STREET ELEVATION 18.9 CAMBRIDGE CITY BASE
 80 & 90 FIRST STREET, 20 CAMBRIDGESIDE PLACE, AND 100 CAMBRIDGESIDE PLACE ELEVATION 20.3 CAMBRIDGE CITY BASE
- 2070 10-YEAR STORM
 60 FIRST STREET ELEVATION 17.8 CAMBRIDGE CITY BASE
 80 & 90 FIRST STREET, 20 CAMBRIDGESIDE PLACE, AND 100 CAMBRIDGESIDE PLACE ELEVATION N/A

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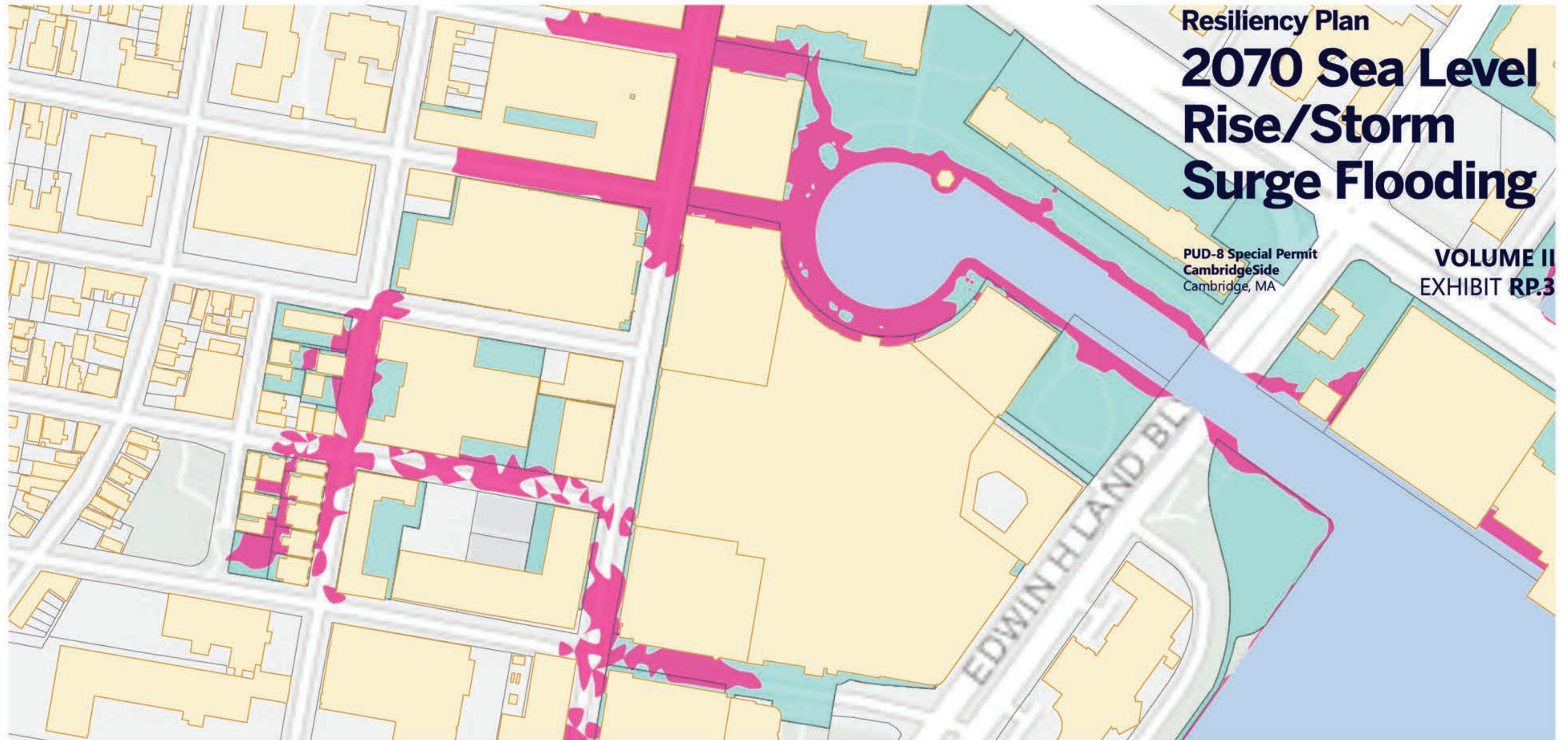
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Resiliency Plan 2070 Sea Level Rise/ Storm Surge Flooding

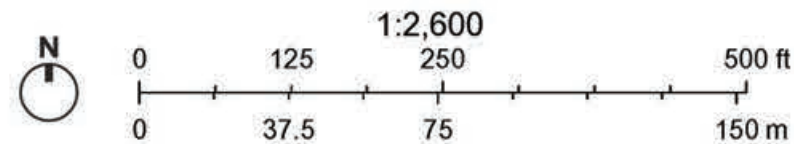
PUD-8 Special Permit
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VOLUME II
EXHIBIT RP.3



Legend

- CAMBRIDGE BUILDINGS
- CAMBRIDGE PARCELS WITH DATA



FLOOD MAP TAKEN FROM
CITY FLOOD VIEWER

Sea Level Rise/Storm Surge Flooding

- 2070 100-YEAR STORM
- 80 & 90 FIRST STREET, 20 CAMBRIDGESIDE PLACE, AND 100 CAMBRIDGESIDE PLACE ELEVATION 18.7 CAMBRIDGE CITY BASE
- 60 FIRST STREET ELEVATION 19.2 CAMBRIDGE CITY BASE
- 110 FIRST STREET ELEVATION 20.4 CAMBRIDGE CITY BASE

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2.11 Net Zero Plan

(Section 13.102.3(j))

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Cambridge, MA

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ARCHITECTS



The Article 22 Green Building Report, attached as Appendix B, includes the full Pathway to Net Zero Study. The following Section E summary provides an overview of measures the Project is incorporating as a potential pathway to “net zero emissions”. “Net zero emissions ready” is understood to be a building that has a low site energy consumption and uses no fossil fuels. In preparation of the Section E summary included here, incorporation of the following items at the Project was considered: enhanced commissioning for newly constructed or renovated office and lab buildings, opportunities for ground source and air source heat pumps, solar photovoltaics, solar hot water, bio-fuel emergency power fuel, battery storage, facilities electrification, airtightness and additional methods to eliminate fossil fuel usage, including in the context of relevant energy initiatives implemented through the City of Cambridge, and exploring participation, if available, in any program sponsored by the City of Cambridge for community renewable energy purchase.

As a result, the current design for the proposed buildings in the Project creates low site energy buildings. Future advances in lighting and control technology, and the use of air source heat pumps, could allow the buildings to be converted to all electric in the future. In addition, solar-ready space is being provided on new roofs that provide the opportunity for onsite solar to be incorporated in the future, although not enough by itself to bring the buildings to net zero onsite.

More specifically, to increase the energy efficiency in the project, the following energy conservation measures were considered in the design:

- Using higher efficiency than Code roof insulation and window elements;
- Installing cool roofs covered with high-albedo material;
- Using cold-climate Air Source Heat Pumps with VRF in the Residential Building;
- Using higher efficiency than Code equipment for space heating and cooling;
- Using Energy Recovery Ventilation (ERV) systems in all buildings;
- Using higher efficiency than Code domestic/non-domestic hot water systems;
- Interior and exterior lighting systems with a lower light power density than Code;

- Sealing, insulating, and testing HVAC supply ducts;
- Energy management systems;
- Using ENERGY STAR electric appliances;
- Enhance commissioning for newly constructed or renovated buildings;
- Working with Eversource on energy conservation programs as part of MassSave
- Providing solar-ready roof space on some of the new roofs for a possible PV system.

The current design of the Project results in a low energy building, and future advances in technology will further reduce consumption, as demonstrated in the energy models provided in the Article 22 Green Building Report in Appendix B. The future conversion to heat pump technology would allow the building to be “net zero energy ready”.

Section E



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Memo

Project: CambridgeSide 2.0
Re: PATHWAY TO NET ZERO READY
Date Issued: July 14, 2020

Executive Summary

The purpose of this study is to outline a potential pathway to “net zero emissions” for the proposed redevelopment of CambridgeSide mall into a mixed-use development including retail, office, laboratory, restaurant and residential uses (the “Project”), as described further below. “Net zero emissions ready” is understood to be a building that has a low site energy consumption and uses no fossil fuels. The current design for the proposed building typologies in the Project creates low site energy buildings but relies on natural gas for building heating or service water heating. Future advances in lighting and control technology, and the use of air source heat pumps, could allow the buildings to be converted to all electric in the future. In addition, there may be opportunity for onsite solar to be incorporated, but not enough to bring the buildings to net zero onsite. Additional off-site renewable energy will be required to bring the buildings to net zero.

The Project will provide approximately 875,000 sf of commercial space (office, laboratories), ground floor retail and approximately 175,000 sf of residential space (with 200 dwelling units). These spaces would be designed in place of the existing anchor retail stores - Sears, Macy’s, and Best Buy, as well as the Upper Garage. Each proposed building is utilizing an integrative design methodology, and is incorporating early energy modeling for whole building analysis at multiple stages of design to advise the appropriate thermal properties of specific building envelope assemblies, and to further explore opportunities for energy reduction on mechanical systems, improve energy efficiency, and reduce greenhouse gas emissions. The following energy conservation measures (ECMs), customized for each building will be evaluated during design. Please refer to Appendix A of this report for details of each ECM.

1. Better performing building envelope.
2. Installing cool roofs covered with high albedo material.
3. Air Source Heat Pumps with VRF in the residential building.
4. High efficiency (better than Code requirement) equipment for space heating and cooling.
5. Energy Recovery Ventilation (ERV) systems in all buildings.
6. High efficiency service hot water systems and low flow plumbing fixtures.
7. Reduced lighting power density.
8. Using Energy STAR rated appliances in residential units.
9. Providing solar-ready roof space on some of the new roofs for a possible PV system.

Buildings	Basecase EUI (kBtu/SF)	Design Case EUI (kBtu/SF)	Net Zero Option EUI (kBtu/SF)
80 & 90 First Street (Residential and Office)	52.5	32.1	23.1
60 First Street (Laboratory)	193.6	120.4	78.9
110 First Street (Office and Laboratory)	159.7	101.1	67.3
20 CambridgeSide (Laboratory)	230.0	136.8	80.5

Buildings	Basecase GHG (MTCO2e)	Design Case GHG (MTCO2e)	Net Zero Option GHG (MTCO2e)
80 & 90 First Street (Residential and Office)	955	660	474
60 First Street (Laboratory)	2511	1728	1202
110 First Street (Office and Laboratory)	3048	2130	1509
20 CambridgeSide (Laboratory)	5480	3532	2327

Summary of Current Model Results

Early energy studies were used to estimate site Energy Use Intensities (EUI) and greenhouse gas (GHG) emissions for the four buildings in the development. The energy modeling details have been updated and results refined in response to comments received from the Community Development Department (CDD) during the pre-filing review and to reflect the ongoing development of the design. The current set of results are based on building typology specific modeling and incorporate detailed inputs as it pertains to thermal envelope, internal loads, and HVAC system selections. Three alternatives per building were evaluated: Baseline MA energy code, Proposed per design and Net Zero Energy option.

Two of the four buildings, 60 First Street and 20 CambridgeSide, are in Schematic Design phase and are Core and Shell speculative laboratory building typology (60/40 laboratory/office space split) with ground floor retail. For these buildings, project specific energy analysis was performed to identify ECMs and estimate building site EUI and GHG emissions.

For the other two buildings which the Applicant does not anticipate constructing until after 60 First Street and 20 CambridgeSide are completed, 80 & 90 First Street and 110 First Street, detailed prototypical models were used. The 80 & 90 First Street building is a residential typology and assumes 200 residential units, with a ground floor retail, office floors, and other amenity spaces like gymnasium, office, etc. Energy use of a residential building is dependent on number of bedrooms per unit and may change as design progresses. 110 First Street building is assumed to be a Core and Shell with office tenant floors and laboratory (60/40 laboratory/office space split) tenant floors. It also includes ground floor retail. Details of inputs for each building typology can be found in the appendix A of this report.

As the individual buildings design progresses, integrative analysis will remain part of the design strategy to implement effective and feasible mitigation measures to optimize Project's energy performance and reduce GHG emissions.

Tables 3, 4, 5 and 6 provide details of energy use by fuel type, site EUI and GHG emissions for the Project.

Energy Source	Unit	Baseline (ASHRAE 90.1-2013)	Proposed (As-Designed)	Net Zero Option w/ PV
Natural Gas	Therm	57,817		
Electricity	kWh	2,540,782	2,589,530	1,859,662
Total Building Site EUI (kBtu/SF-yr)		52.5	32.1	23.1
% Site Energy Savings Over Code Baseline			38.9%	56.1%
Total Building GHG emissions (MTCO2e)		954.7	680.0	474.0
% GHG Savings Over Code Baseline			30.9%	50.4%

Energy Source	Unit	Baseline (ASHRAE 90.1-2013)	Proposed (As-Designed)	Net Zero Option w/PV
Natural Gas	Therm	210,237	53,606	
Electricity	kWh	5,470,324	5,662,028	4,717,520
Total Building Site EUI (kBtu/SF-yr)		193.6	120.4	78.5
% Site Energy Savings Over Code Baseline			37.8%	59.4%
Total Building GHG emissions (MTCO2e)		2510.8	1727.8	1202.4
% GHG Savings Over Code Baseline			31.2%	52.1%

Energy Source	Unit	Baseline (ASHRAE 90.1-2013)	Proposed (As-Designed)	Net Zero Option w/PV
Natural Gas	Therm	246,131	62,757	
Electricity	kWh	6,828,124	7,049,578	5,918,913
Total Building Site EUI (kBtu/SF-yr)		159.7	101.1	67.8
% Site Energy Savings Over Code Baseline			36.7%	57.8%
Total Building GHG emissions (MTCO2e)		3047.5	2130.1	1508.6
% GHG Savings Over Code Baseline			30.1%	50.5%

Energy Source	Unit	Baseline (ASHRAE 90.1-2013)	Proposed (As-Designed)	Net Zero Option w/ PV
Natural Gas	Therm	541,298	196,066	
Electricity	kWh	10,220,941	9,773,038	9,130,597
Total Building Site EUI (kBtu/SF-yr)		230.0	138.8	80.6
% Site Energy Savings Over Code Baseline			40.5%	65.0%
Total Building GHG emissions (MTCO2e)		6479.0	4557.7	3227.0
% GHG Savings Over Code Baseline			29.5%	57.5%

Getting to Net Zero Energy Use in the future

Five opportunities for future improvement of the Project have been identified that are included in the Net Zero Option energy results provided in tables 3 to 6.

- 1) In a Core and Shell project, space lighting design is driven by the tenant design. Although beyond the Applicant's scope of work, it is assumed that the tenants will design their spaces to be at least 20% below new code allowable lighting power density (LPD) for the core and shell buildings. It is important to acknowledge that the new Massachusetts Building Energy code has stringent LPD thresholds and the Applicant will be engaging in dialogue with the tenants to go beyond the code thresholds. This LPD reduction in tenant spaces may be required through tenant lease and sale agreements on individual buildings.
- 2) Lighting technology continues to improve, as LED technology and automatic lighting controls become commonplace. We anticipate that over time, future lighting improvements will reduce both interior lighting and exterior lighting by about 50%. This would also have the effect of reducing cooling loads while increasing heating loads.
- 3) Receptacle loads represent the significant energy end use in the proposed buildings, due to the high numbers of lab equipment, computers, monitors, printers, etc. expected in the building. Currently plug loads are growing and continue to grow, as phones, tablets, etc. proliferate, along with the phantom loads their chargers create. We anticipate that this trend will reverse with improvement in equipment technology over time and estimate a future plug load savings at 25%. This would also have the effect of reducing cooling loads while increasing heating loads.
- 4) While not currently economically feasible, the commercial projects that are proposed to use natural gas heating could eventually be converted to all electric service. We would expect this to occur at the end of life of the original HVAC systems. There are a few options potentially available. The actual methodology will depend on innovations in technology over the next several decades.

Our analysis assumes that some sort of air source heat pump technology would be used. In this option the boilers and chillers would be replaced with modular air-cooled heat pumps that could provide chilled and hot water as needed. These are split units - the indoor portion would replace the existing chillers and boilers, while the outdoor portion would be located on the roof, potentially augmenting, or replacing the cooling towers.

Potential difficulties include the hot water temperatures the heat pumps can generate. Current technology struggles to heat beyond 130 deg F. It is possible that future heat pump technology can generate higher temperatures, but it should also be noted that the proposed HVAC systems will use lower temperatures to maximize boiler efficiency.

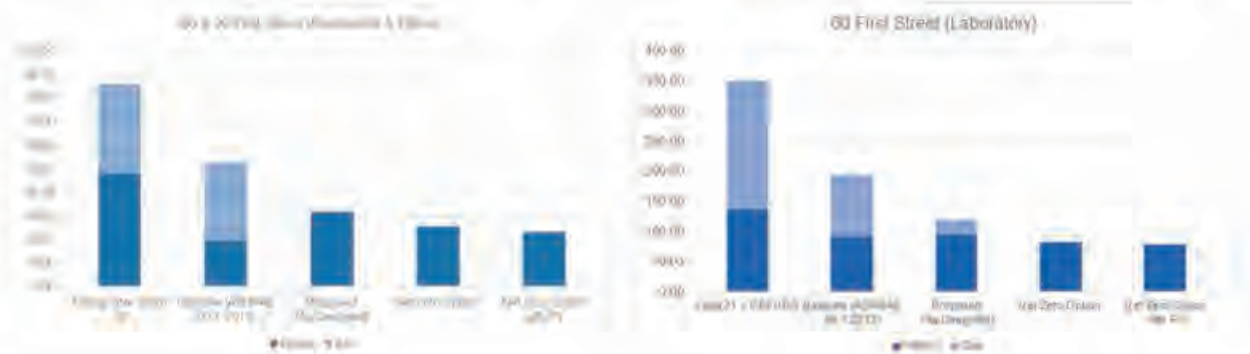
The modular nature of the future systems would allow relatively easy installation - equipment could be brought in through service elevators. Another alternative would be to use electric boilers, or a hybrid heat pump with electric boiler back-up/booster.

- 5) The residential typology currently proposes Air Source Heat Pump (ASHP) for building heating and service water heating. To lower the energy use in the future, at the end of life of the original equipment it is possible to convert to a higher efficiency heat pump systems of the future, along with further reductions in installed lighting, in-unit appliances, and plug loads.

In addition, there may be opportunity for some onsite solar PV based on the preliminary feasibility study (refer to the PV analysis report for details). The study indicates that about 485 kW capacity may be available for all the top tier roofs combined. This estimate is dependent on the final layout of the rooftop penthouses and equipment and the actual numbers will change as individual buildings progress. For the Project, there is considerable area that needs to be dedicated to primary HVAC equipment and mechanical penthouses. That area has not been included in the PV feasibility study report. Of the remaining roof area with good solar access only 85% could be available for PV arrays and be deemed solar ready. This area is being referred to as "Net Available Roof Area" in the PV analysis report. The 15% area deduction accounts for setbacks from equipment, space for various vent pipes, shafts, fire access, etc.

Any further carbon emission reductions would have to come through greening of grid electricity, offsite renewables, and/or carbon offsets.

In context we find that the current proposed design for the residential building typology is low energy, compared to a residential building with an Energy Star score of 75. Similarly, we also find that the current proposed design for the commercial building typologies is low energy, compared to an average performing building in the Labs21 dataset and Cambridge Building Energy Use Disclosure Ordinance dataset.



Conclusions

The current design of the Project results in low energy buildings, as seen through the early energy analysis summarized above. We anticipate that advances in technology will further reduce consumption. The future conversion to heat pump technology would allow the buildings to be "net zero energy ready". While there are some opportunities for onsite renewables, it is not expected to be sufficient to meet all the Project's future energy needs. Based on the analysis performed for the net zero energy option with potential PV on site for each of the buildings, there is need to offset remainder of the on-site energy use. To achieve net carbon neutrality, the greening of grid electricity, offsite renewables and/or the purchase of carbon offsets would have to occur for the Project.

See Appendix A on the following pages for further energy analysis details.

2.12 Transportation Plan

(Section 13.102.3(k))

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VAI prepared the Transportation Impact Study (TIS), attached as Appendix G, in response to the submittal requirements set forth in Section 13.102.3(k) of the Ordinance, summarized below.

Existing transportation and parking information were reviewed for the preparation of the TIS, including data from City PTDM reports and actual parking counts from the site. This data was used to determine project-related traffic-volume increases external to the study area relative to 2020 Existing conditions. These increases are anticipated to range from approximately 0.8% to 3.6% on the periphery of the study area reviewed for the TIS during the weekday morning and weekday evening peak hours.

2.12.1 TIS required by Section 19.20 of the Ordinance

The TIS prepared by VAI, attached hereto as Appendix G, reviewed potential transportation impacts and parking demands, site access conditions, and mitigation measures necessary to accommodate the Project. The TIS was completed in accordance with the requirements of Section 19.20 and the City's guidelines and followed the scoping determination issued by the Cambridge TPT Department, dated March 30, 2020. The TIS was certified as "Complete and Reliable" by the Traffic, Parking & Transportation Department on August 4, 2020.

2.12.2 Shared Parking Study required by Section 13.106.5 of the Ordinance

The attached TIS includes a Shared Parking Study that analyzes the existing and proposed parking demand for the Project and ultimately finds that, given the variety of uses at the site with varying peak demand times, the Lower Garage will provide ample parking for the Project at full buildout while also accommodating existing long-term leases expected to remain in place. The shared parking analysis indicated a 10 percent reduction in overall peak hour Project parking demand as compared with individual land use parking demands.

2.12.3 Study of the impacts of increased demand on public transportation services in the East Cambridge area

The attached TIS includes a study on the anticipated demand from the Project on nearby public transportation services, which finds that after accounting for proposed upgrades to the Green Line and the Red Line, the peak-hour directional loading from the Project can be accommodated within the future capacity of the various services. This analysis was conducted assuming both that improvements identified by the MBTA and Governor's office were

implemented according to schedule and also if these improvements were not implemented. The Project increase in ridership directed towards these services was found to be within acceptable parameters. Additional expansion of the Project shuttle bus route and frequency is also proposed to encourage the use of transit by the future employees and residents of the Project. Finally, the Applicant has also met with the Charles River TMA regarding the potential for consolidation and expansion of the EZRide shuttle bus system to provide service that better addresses the needs of the Project. This would provide additional transit capacity for the Project and additional users along First Street between Cambridge Crossing and Kendall Square.

2.12.4 Description of the development's relationship to future regional rail, bus, pedestrian/bicycle and other transportation system connections in the area

As shown on Exhibits CP.1 through CP.5 in Section 2.4 of this Volume II, the Project site is very well-situated with respect to existing street, sidewalk and public transit networks. There are a number of potential future regional transit services for the area, including the proposed Grand Junction multi-use path, the proposed CT4 bus, a dedicated Lechmere-Kendall shuttle, and more frequent EZRide buses. The transit systems generally originate with connections to Sullivan Square or North Station to the north and Kendall Square to the south. Since three of these four services are likely to use First Street, visitors to the Project site would be able to utilize any of these future transit systems to connect with regional transit services. The Grand Junction multi-use path is proposed to include a rail connection with a multi-use trail and would be located within one mile of the Project site, allowing future connections to Somerville, Sullivan Square, and North Station to the north, with other connections to the south. The transit analyses demonstrate that sufficient capacity exists on the bus routes and subway lines to accommodate the expected ridership increases due to the Project, including new riders from a potential switch of non-tenant monthly parkers to transit. Increases in volume-to-capacity (v/c) ratios pertaining to line volume are between 0.0 and 0.11 for all affected bus routes, the Green Line, and the Red Line subway systems.

2.12.5 Transportation Demand Management (TDM) and Mitigation program

In addition to the new TDM measures to be incorporated in connection with the Project (detailed in the TIS attached hereto), the Applicant will also continue the TDM measures it currently participates in, including the following:

- Continue to provide free shuttle bus service through both the CambridgeSide Shuttle bus and participation in the Charles River TMA EZ Ride Shuttle. Enhancements will include providing details of the shuttle bus system including routes, schedules, frequency and capacity serving the development, other developments and the East Cambridge transit stations.

- Continue to provide rideshare information to tenants and employees to encourage the use of carpooling.
- Work with the MBTA to provide on-site sale of passes.
- Encourage tenants' employees to obtain a Charlie Card and register it for bike parking, allowing employees the ability to use the bike cages at area MBTA stations and other areas free of charge.
- Make available public transportation schedules, posted in a centralized location for employees.
- Provide information on available pedestrian and bicycle facilities in the vicinity of the Project site in a central location for employees.
- Charge for parking at market rates but offer discounted parking for dedicated High Occupancy Vehicles (HOVs).
- Provide information about transportation options available to employees at orientations and on a company website.
- Encourage employers to work with the Cambridge Office of Workforce Development, as studies have shown Cambridge residents are less likely to drive alone in a personal automobile to work.

As additional mitigation for the Project, the Applicant anticipates expenditure of approximately \$6,900,000 on transportation-related measures by the Applicant and/or Project tenants, such as:

- Funding the study of proposed local transit improvements, which could include First Street and Second Street.
- Installation of new traffic signal equipment including Americans with Disability Act (ADA) compliant pedestrian crossing equipment and vehicle detection equipment at Land Boulevard at CambridgeSide Place.
- Expansion of CambridgeSide's participation in the BLUEbikes program to provide Gold-level corporate membership in BLUEbikes for a 10-year period for all new commercial tenants.
- Monetary contribution to the City of Cambridge intended as an initial funding level to be used for funding the review of local transit improvements, which may include a study to review the feasibility of adding Bus Priority Lanes on First Street for EZ Ride Shuttles and any future MBTA bus service that may use the corridor.
- Requirement that commercial tenants provide Transit Subsidies to their employees for use towards transit passes (MBTA and EZRide), BLUEbikes programs, and parking charges at Park & Ride lots.
- Expansion of the CambridgeSide Shuttle to include routes between New Lechmere Station, Kendall Square Station and the site.
- Provision of 450 long-term (covered) and 175 short-term bike spaces for employees and residents of the Project.

The TIS also incorporates supplementary mitigation tied to a traffic monitoring plan, as indicated in Section 13.102.3 (k) including:

- Expansion of the Traffic Monitoring Plan currently in place at CambridgeSide. This plan will be expanded and used to gauge success of the TDM program. This includes the following data that will continue to be collected after completion of the Project:
 - » Survey of customers and employees (including tenants) to determine travel modes, times of arrival and departure, home location, and preferences for ride sharing among other information.
 - » Provide garage and parking counts for a one-week period on an annual basis.
 - » Provide updates of tenants, leased building area, employee totals, and year-to-year mode split comparison, including the calculation of the Employee and Patron SOV rate.
 - » Provide updates of required TDM measures including status of Emergency Ride Home (ERH), loaner bikes for Hotel Marlowe, and Electric Vehicle (EV) charging stations on site.

The monitoring program will apply to all tenants on an annual basis and shall commence one year after the issuance of a Certificate of Occupancy. If, after a period of two years following the later to occur of the issuance of a final Certificate of Occupancy for the second new buildings or the issuance of a final Certificate of Occupancy for more than 325,000 square feet of net new gross floor area (Sears/60 First Street and Macy's/20 CambridgeSide or Best Buy/110 First Street) the Project materially fails to meet (SOV) mode split percentages as identified in the traffic assessment, it is recommended that the following additional improvements be considered:

- SIGNAL CORRIDOR TIMING STUDY. As part of the transportation mitigation commitment for the Project, the Applicant will escrow up to \$60,000 for a Signal Corridor Timing Study (SCTS) for the Route 28 Corridor between Third Street and Museum Way and for the Land Boulevard Corridor between O'Brien Highway and Binney Street. These funds will be placed into an escrow account which can be drawn on by the Applicant to fund a study of the effects of modified timing or phasing of traffic signals on these corridors to improve traffic flow, recognizing that improvements to signal equipment and detection are proposed to be implemented by others prior to CambridgeSide's proposed completion. The SCTS can also review the applicability of Adaptive Signal Control Technology (ASCT) to these corridors, after the improvements by others have been constructed and all transportation changes in the area have been implemented. It is recommended that the SCTS review operations during a weekday morning time period (6:30 AM to 9:30 AM), a weekday afternoon/evening time period (3:00 PM to 7:00 PM), and a Saturday midday time period (11:00 AM to 3:00 PM).

2.12 Transportation Plan

(Section 13.102.3(k))

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- SIGNAL TIMING OPTIMIZATION/ADAPTIVE SIGNAL CONTROL TECHNOLOGY INSTALLATION. As part of the transportation mitigation commitment for the Project, the Applicant will escrow up to \$360,000 for implementation of signal timing modifications for the same corridors identified above, if the results of the SCTS indicate that current signal timing/phasing designs requires modification. These funds will include amounts for design, implementation, and installation of ASCT at these locations, if the SCTS indicates doing so will improve traffic operations.

The escrow funds will be returned to the Applicant for other potential improvements within the study area network or other purposes contemplated by local approvals if funds remain at the earlier to occur of two (2) years after the completion of the Project or ten (10) years following issuance of the building permit for the first new building in the Project.

As summarized above and detailed in the Transportation Impact Study attached as Appendix G hereto, the Project complies with the transportation and parking requirements of the PUD-8 zoning.

2.13 Environmental Comfort Plan

(Section 13.102.3(I))

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In connection with establishing the development plan for the Project, the Applicant analyzed environmental conditions in the vicinity of the Project site and the potential impacts of the Project, as well as how to mitigate any such impacts. **The Applicant's environmental analysis focused on wind, shadow, lighting and noise impacts, and resulted in the following studies and plans attached hereto:**

- Wind Comfort Study, included in Appendix C
- Shadow Study, included in Appendix E
- Lighting Plan, included in Exhibit OSP.14 in this Section 2.13
- Acoustic Report, included in Appendix D

The following sub-sections summarize the findings, and suggested mitigation measures (e.g., screening, building elements or other site improvements), resulting from these various environmental analyses. As further explained below, the potential impacts of the Project are consistent with conditions that are typical in an urban environment and are minimal in comparison to the public benefits attributable to the Project.

2.13.1 Wind

A Pedestrian Wind Study assessment was prepared for the Project and is attached in full as Appendix C. The potential wind conditions were assessed based on actual wind tunnel testing of a constructed scale model of the Project, within a 1,600-foot radius of the site, with three different scenarios: “No Build”, “Build” and “Full Build” configurations. “No Build” is the existing buildings on the existing site with the existing surrounding buildings; “Build” is the proposed Project buildings with the existing surrounding buildings; and “Full Build” is the proposed Project buildings with the existing surrounding buildings *and* other proposed buildings in surrounding projects such as Cambridge Crossing. The testing, based upon local wind records, is compared to appropriate criteria for gauging wind comfort and safety in pedestrian areas.

The Pedestrian Wind Study analysis will be used during the design process to help guide the comfort of pedestrians along the street and around building access points. The key findings from the report are summarized below:

Mean Speed

- For the three scenarios assessed, relatively low mean speeds around the Project site are observed on an annual basis, with slightly higher wind activity to the south of the Project site.

- No dangerous mean wind speeds are predicted in any of the scenarios.
- With the addition of the proposed developments, in the “Build” and “Full Build” configurations, mean wind speeds on an annual basis along the streets bounding the Project site are predicted to remain relatively similar to the “No Build” configuration.
- At three specific points along First Street, CambridgeSide Place, and Edwin H. Land Boulevard, (points 22, 95, and 105 as shown on the attached Pedestrian Wind Study) the mean wind speeds are predicted to be higher than desired during some specific times of the year, by exceeding the criterion for “comfort for walking” by 2 mph in the “Build” and “Full Build” configurations. Potential mitigation measures are summarized below.

Effective Gust

- For all tested scenarios, wind speeds at all locations on an annual basis are predicted to be acceptable and to meet the effective gust criterion used to evaluate pedestrian wind safety.
- Seasonally, wind speeds during part of the winter, (between December and February), at one sidewalk location (point 19 as shown on the attached Pedestrian Wind Study) along Edwin H. Land Boulevard on a sidewalk adjacent to an open park, are predicted to exceed the effective gust criterion for “comfort” by 1 mph for the “Build” and “Full Build” configurations. Potential mitigation measures are summarized below.

Mitigation

Resolution of the limited number of exceedances indicated in the report will be addressed by employing suggested design modifications, which may include relocating or eliminating entries from these locations, or the addition of canopies or other wind-screening measures as described in the full report attached as Appendix D.

2.13.2 Shadow

A shadow study was undertaken to assess potential seasonal shadow impacts of the Project on the surrounding neighborhood and open space. Shadow impacts were analyzed resulting both from existing conditions and the proposed Project design for March/September 21, June 21, and December 21 – at 9:00 AM, 12:00 PM, 3:00 PM and 6:00 PM. For reference, the shadow study diagrams are included in Appendix E.

The scale and layout of the proposed Project buildings were designed to provide an environment that is compatible with the neighborhood, pedestrians, and for users of the water-dependent facilities on adjacent properties. The proposed buildings are stepped on their eastern, western and southern faces to lessen the impact of new shadows on the adjacent neighborhood and open spaces. Furthermore, both the 60 First Street and 80 & 90 First Street buildings step back on their northern face to further reduce impacts on Canal Park. New shadows generally fall on developed

parcels, including the existing Mall, or on paved surfaces. New late day shadows in March, September and December fill in small areas in the existing, dense shadow map, primarily in areas where the pedestrian level is already shaded by trees.

2.13.3 Lighting

Pedestrian and vehicular site lighting at CambridgeSide is accommodated today, primarily, by the existing pole mounted fixtures within Canal Park, and along each of the three streets surrounding the property: First Street, CambridgeSide Place, and Land Boulevard. The fixtures are pendant style, supporting dark sky requirements. Existing fixtures in Canal Park and under the Land Boulevard Bridge will be supplemented with additional matching fixtures to ensure public safety at night. Existing and new fixtures will be converted and/or provided with LED lamps to improve energy efficiency and performance.

As shown on the Site Lighting Plan, attached as Exhibit OSP.14 in this Section 2.13, the Project also proposes the addition of accent lighting at key locations within Canal Park for added bike and pedestrian safety. This includes the addition of new lighting beneath the Land Boulevard Bridge, and the pathways along the Canal. The Project proposes to suspend low-level LED string lighting between the beams of the bridge that would improve safety but also serve as an art installation. To improve safety along the Canal, the Lighting Plan proposes the addition of flush-mounted pathway lights to define the Canal's edge. Near the buildings and retail spaces, tree-mounted, “moon lighting” is proposed to enhance light levels and support evening dining and activities.

All exterior lighting will comply with the requirements of the proposed City of Cambridge Lighting Ordinance, which stipulates that projects in Lighting Zone 3 (LZ3) achieve LEED Light Pollution Reduction.

Additionally, in accordance with Section 13.107.3 of the Ordinance, any new commercial or substantially altered commercial building in the Project that will contain laboratory use will install a Building Automation Service that is programmed to dim or turn lights off and to lower shades after 9:30 p.m. to reduce any light impacts on surrounding neighborhoods.

2.13.4 Noise Mitigation

Pursuant to Section 13.107.2 of the Ordinance, an acoustic modeling analysis and report was conducted for the Project's proposed rooftop mechanical equipment to demonstrate that sound emanating from the rooftop equipment (i) will not be normally perceptible without instruments at a distance of 100 feet from the source lot line and (ii) will comply with the City of Cambridge Noise Ordinance for Commercial Areas (as such term is defined in the Noise Ordinance). Such acoustic modeling analysis and report, which also addresses the Article 19 requirements for a Noise Mitigation narrative, is attached in full as Appendix D.

Acoustic modeling was performed using the Cadna-A computer model, in accordance with International Standard ISO 9613.2

“Acoustics - Attenuation of Sound During Propagation Outdoors”. Cadna-A is a sophisticated 3-dimensional model that accounts for sound attenuation due to building structures, atmospheric absorption and ground effects. Cadna-A simulates all relevant acoustic effects involving sound propagation, reflection and attenuation.

The predicted sound level impacts were compared to City of Cambridge Noise Ordinance broadband and octave band sound limits for commercial areas, as well as incremental change in sound over the assumed ambient level. The acoustic modeling was based on the Project's incorporation of the Best Available Noise Control Technology (BANCT) specified in Section 13.107.2(b) of the Ordinance. The predicted sound levels ranged from 47 to 56 dBA. These sound levels comply with the City of Cambridge Noise Ordinance for Commercial Areas and the Section 13.107.2 requirement that sound levels not be normally perceptible without instruments at a distance of 100 feet from the source lot line.

As described in Appendix D, the acoustic modeling analysis included evaluating the sizing and selection of equipment, its placement on the roof, the use of effective sound attenuation design elements, and the following sound mitigation measures:

- Fans with variable speed drives
- Cooling towers that include large diameter slow speed fans
- Air cooled chillers with variable speed compressors and fans
- Mechanical penthouses treated with acoustic louvers
- Emergency generators enclosed in acoustic-treated housing with exhaust silencers

As summarized above and detailed in Appendix D, the Project includes adequate mitigation measures to mitigate any noise impacts from the Project.

2.13.5 Urban Heat Island Effect Mitigation

The Section 2.10 Resiliency Plan (Section 13.102.3(ii)) includes Project elements being incorporated to address Urban Heat Island as well as other Climate Resilience initiatives in alignment with the City of Cambridge Climate Vulnerability Assessment (CCVA) and Climate Change Preparedness & Resilience (CCPR) Plan.

CambridgeSide is unique in that the Project provides in its interior (and exterior) heat island refuge spaces by incorporating resilient cooling in the core public areas. The property is open to the public from 6 am - 10 pm every day, providing an opportunity for people to come inside and use the property's facilities, including seating, restrooms, water fountains, charging stations, shops and restaurants, and enjoy heat or cooling throughout the year. Similarly, The Applicant created the park system around Lechmere Canal with the original development in 1990 and will continue to maintain and operate the park in the future. Temperatures on or adjacent to the water can be 20 degrees Fahrenheit below the urban ambient temperature and functions as a river-side/canal-side, blue-green cooling oasis.

2.14 Architectural Character Plan

(Section 13.102.3(m))

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2.14.1 Project-Wide Architectural Character and Urban Design

The Project has been designed to comply with the PUD-8 Design Guidelines and Principles set forth in Section 13.107.5 of the Ordinance. Accordingly, it is generally consistent with the various policy plans and development guidelines applicable to the site, including those set forth in the Eastern Cambridge Planning Study dated October 2001, the guidance provided in the Eastern Cambridge Design Guidelines dated October 15, 2001, the East Cambridge Riverfront Plan dated May 1978, the East Cambridge Development Review Process and Guidelines dated June, 1985 and the Cambridge Riverfront Plan dated Spring 2011, which support the development of beneficial and complementary uses throughout the City.

Building on these various urban design studies and guidelines, the Project will acknowledge its place in the historic fabric of East Cambridge through thoughtful use of authentic and contextual materials, details and scale. It will enhance the public realm with a design that embraces pedestrian-oriented uses, opening new doors to the streets that surround it, and inviting community engagement with the arts and events on its streets, along the Canal and on to the Charles River.

The Project builds on the East Cambridge Riverfront Plan dated May 1978 by providing expanded shopping facilities, general office space and new housing, and by stressing commercial uses. It improves the strong and inviting pedestrian environment around the canal. It builds upon the diverse and active urban focus of the original development, which reclaimed the Canal and the River and was the catalyst for additional development. The Project respects and enhances the existing development around the Canal, which is colorful in details and rich in open space amenities.

The Project proposes a mix of uses, with an emphasis on First Street ground floor retail and activation. It also activates surrounding streets, including Land Boulevard, Cambridgeside Place, First Street and Lechmere Canal Park, by incorporating Active Uses on the ground floor of all new and renovated buildings. It provides housing with a diversity of dwelling unit sizes, to attract a variety of residents including families and households from a variety of socio-economic backgrounds.

The Project provides significant open space benefits, subject to receipt of necessary permits and approvals, including the enhancement of the existing network of streets, landscaping and open spaces for public gathering and recreation. It is integrated with the open space physically and functionally through its commitment to creating active frontages, and by providing multiple new building

and retail or active use entrances, including a major new passage to access the Mall from First Street. The Project commits to implementing programming and other active public engagement opportunities in the existing and newly constructed buildings, on its improved streetscape and in nearby public open spaces.

By providing these open space improvements and introducing a mix of uses to CambridgeSide, the Project improves access to 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. It maintains existing ground level pedestrian connections between Charles Park and Lechmere Canal Park through the core retail atrium. It provides a new and long sought connection from First Street to the Mall through a public entry in the 60 First building, which will include dynamic retail uses.

The Project design enhances the architectural richness, diversity and aesthetic qualities of the PUD-8 District to complement and strengthen the architectural character of the district as it has evolved historically. It provides a strong street edge and active ground floors that animate streets and open spaces, including through the presence of active uses.

2.14.2 Building-Specific Architectural Character

As shown in the Architectural Character Plan Exhibits ACP.1 through ACP.8, and as exhibited in the individual building proposals included in Volume III, the Project buildings will provide the required setbacks and setbacks as described in PUD-8 Design Guidelines and Principles. The Project proposes massing which steps away from the streets and open spaces, façade and fenestration patterns that complement the neighboring buildings while providing significant transparency at ground level, and materials and details that are consistent with, and complementary to, the surrounding architecture, the PUD-8 Design Guidelines and Principles and the guidance contained in the East Cambridge Development Review Process and Guidelines dated June, 1985.

As mentioned earlier in this application, the Applicant is providing extensive design details on the proposed redevelopment of the former Sears and existing Macy's buildings as it currently anticipates those will be the first buildings to come forward for construction. The Applicant is also providing some imagery on the buildings that will ultimately replace the existing Best Buy and Upper Garage buildings, realizing that those buildings will need to be reviewed again by the Planning Board closer to their proposed construction when the designs of the same are more refined.

20 CambridgeSide (See Exhibits 20CS Series in Volume III)

Inspiration for the design of 20 CambridgeSide is rooted in the City of Cambridge's rich history of brick masonry architecture, especially as accented with painted steel and iron structures and appurtenances of the early industrial era. There are many surviving examples in the neighborhoods surrounding the Project site such as East Cambridge and Kendall Square. The influence of this history is evident in the overall design, in the details and in the materials

of the building. Red brick in pier and spandrel rhythms is modulated to accommodate modern laboratory and office uses, infilled with generous glazing, and articulated in its detailing, recalling the richness and ingenuity of the mason's craft. Bronze toned window frames and upper story panels and sun-shades bring scale, texture and depth, while complementing and accenting the brick.

Incremental setbacks at the façade along Land Boulevard and Cambridgeside Place are intended to situate the building carefully into its context. The first ten-foot setback at the sixth floor corresponds with the height of the Hotel Marlowe directly adjacent to the north. The second setback at the ninth floor corresponds with buildings across Land Boulevard, while the building's overall height generally aligns with heights of buildings in the immediate neighborhood to the north. Both setbacks create generous terraces along the length of Land Boulevard and Cambridgeside Place, currently designed to be lined with plantings to soften the building's edges and to generate a green cornice.

60 First Street Building (See Exhibits 60F Series in Volume III)

Inspiration for the design of the renovated 60 First Street building is rooted in New England's history of industrial architecture. There are many surviving examples of mill buildings and factories from the 19th and early 20th centuries across New England, including the neighborhoods surrounding the Project site such as East Cambridge and Kendall Square. The influence of these buildings is evident in the overall design as well as some of the details and materials of this Project.

At a fundamental level, the façade exhibits a traditional tripartite organization consisting of a rugged base with broad openings for retail, a middle with repetitive windows reflecting the structure and building module, and a visually lighter top with generous windows. Each of these three components has a distinct material expression. The granite and metal lintels at the base are an expression of strength. A change of materials at the second floor defines the retail base and provides a transition to the middle floors. The middle is comprised of red brick piers, diminishing in width as they rise, and industrial windows, with granite sills and dark metal lintels. At the top, the piers are once again made narrower and are clad in dark metal instead of brick, to clearly distinguish the uppermost level. A generous cornice provides a strong finish to the tri-partite façade.

110 First Street Building

Like the 80 & 90 First Street building, the 110 First Street building is set back to provide ample room for sidewalk and streetscape improvements. Transparent levels at the first, second and fifth floors reveal the building structure and create horizontal seams that allow the terracotta clad façades to read as distinct volumes, further breaking down the scale of the building. At the street level, the transparency opens the retail, restaurants, and building entry to activity on the sidewalks. At the fifth floor, visual and physical access to the terrace is enhanced by the transparent perimeter. The incremental setbacks at the façade are intended to weave the

110 First Street building carefully into its context. The first ten-foot setback at the fifth floor corresponds generally to the heights of many buildings in the vicinity, and to its immediate neighbors – the core Mall building and the proposed residential/office building on the 80 & 90 First Street site. The second setback at the tenth floor aligns with the proposed 80 & 90 First Street building and neighboring buildings on Land Boulevard. Both setbacks create generous terraces along the length of First Street and Cambridgeside Place, currently designed to be lined with plantings to soften the building's edges and to generate a green cornice. The warm material palette, selected for its relationship with the surrounding context, complements the massing of the building. The vertical terracotta panels that wrap the building have an obvious rapport with the brick that is so abundant in the surrounding neighborhood. The wood lining the soffits of the street level canopy and the overhang at the approximately fifth-story setback blend well with the terracotta and bring further warmth to the building. The metal highlights throughout the façades are a consistent, soft zinc-metal color.

80 & 90 First Street Building

Set back to provide ample sidewalk and streetscape improvements, the 80 & 90 First Street building is articulated with three main components that have setbacks and façade treatments to emphasize the scale and urban richness of First Street. The first component, its podium, is made up of three, predominantly red brick punched window floors, inspired by the building's context, resting on a transparent first floor that helps to activate the public realm. The height of the podium reinforces a datum line on the street matching its immediate neighbors, 60 and 110 First Street, and nearby buildings along the length of First Street.

The seven-story middle component adopts an architectural language appropriate for its residential use. The first two floors of the seven-story middle provide a visual break of warm, medium-gray brick to transition from the red brick podium to the remaining five floors of residential. Clad in a warm, light-gray brick, and punctuated by vertically stacked balconies, these next five floors balance the massing of the podium below.

The upper-most component steps back from First Street and Canal Park. Clad in a warm, medium-gray metal to match the warm, medium-gray brick below, the final two residential floors are capped by a sloping mechanical screen, adding visual interest on the skyline.

The exhibits that follow in this Section 2.14 supplement the information above and identify the type of visual character that the Project will aim to achieve, as well as conceptual materials, details and elevations. Specific design proposals for 60 First Street and 20 CambridgeSide are presented in Volume III of this application. The Applicant anticipates returning to the Planning Board for design review and approval of the subsequent phase buildings closer to their proposed construction.

Architectural Character Plan Guidelines and Principles

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT ACP.1



SETBACK

NEW BUILDINGS
TO PROVIDE MORE
SIDEWALK ACTIVITY

ACKNOWLEDGE THE
PREVAILING HEIGHTS
OF NEIGHBORING
BUILDINGS THROUGH
**MATERIAL CHANGE
AND STEPBACKS**

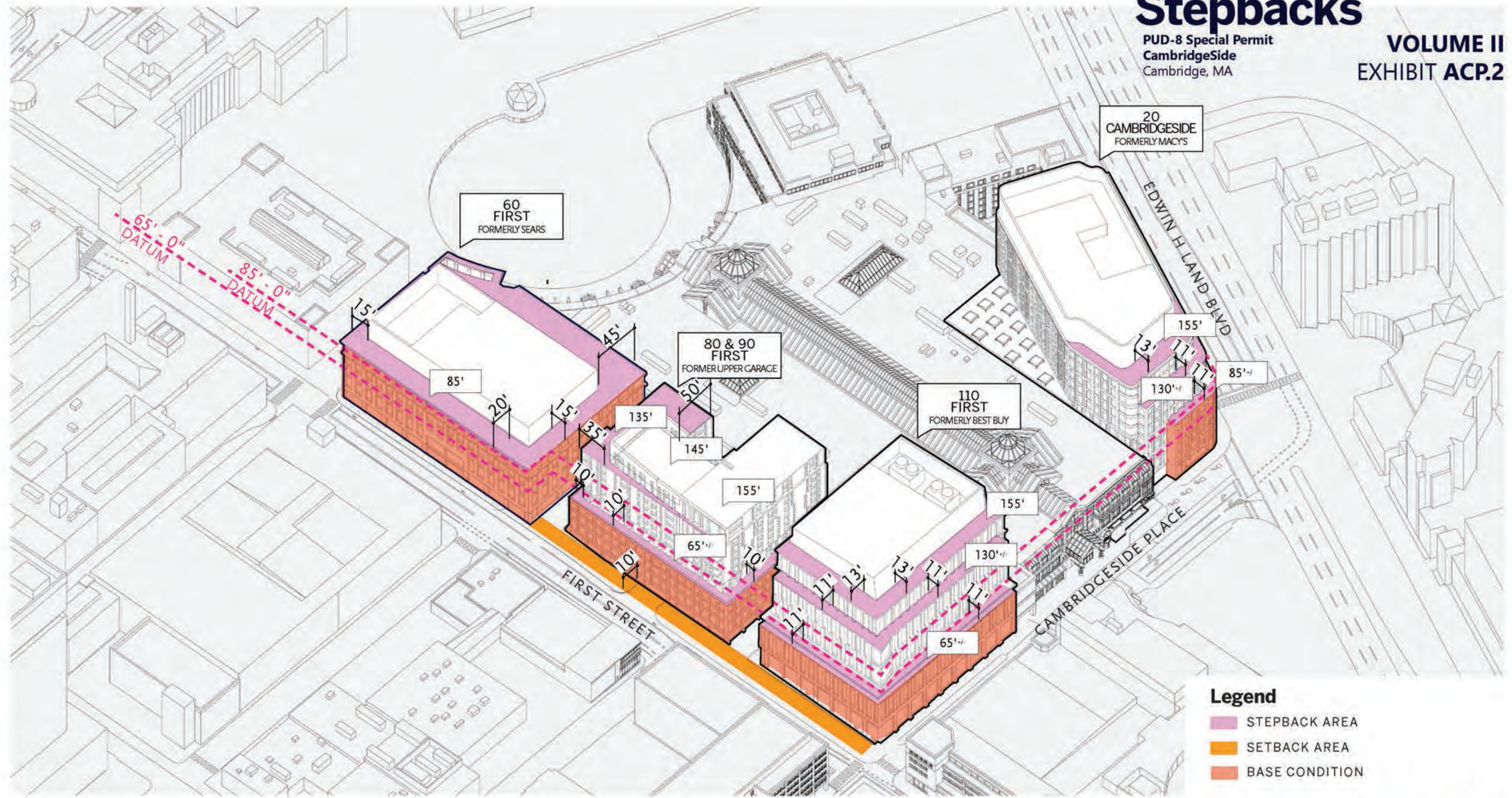
ON FIRST STREET,
CAMBRIDGESIDE PLACE,
AND LAND BOULEVARD

USE MATERIALS THAT
COMPLEMENT
**THE HISTORIC
INDUSTRIAL FABRIC**
OF THE NEIGHBORHOOD

Architectural Character Plan Setbacks and Stepbacks

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT ACP.2

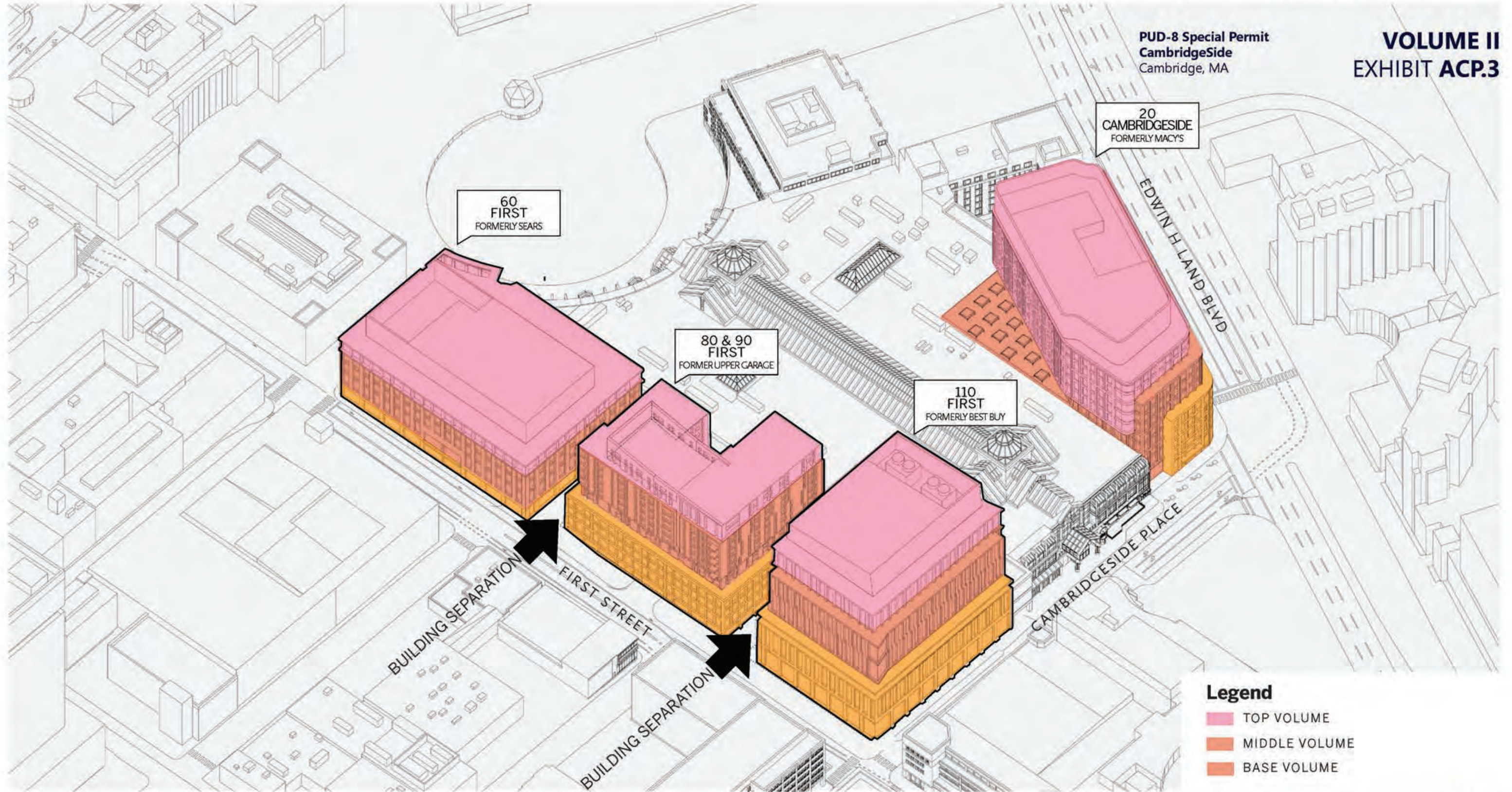


- Legend**
- STEPBACK AREA
 - SETBACK AREA
 - BASE CONDITION

Architectural Character Plan Visual Interest

VOLUME II
EXHIBIT ACP.3

PUD-8 Special Permit
CambridgeSide
Cambridge, MA



Architectural Character Plan
Materials and Massing

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

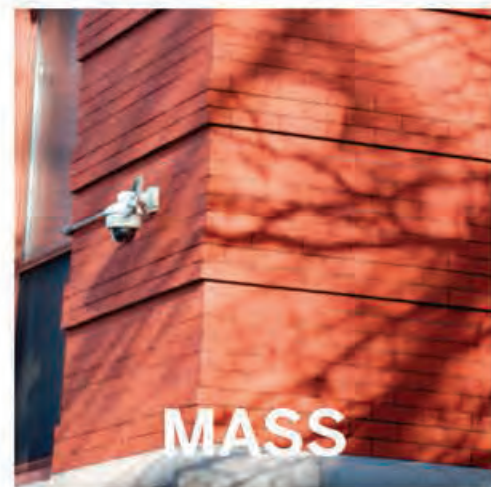
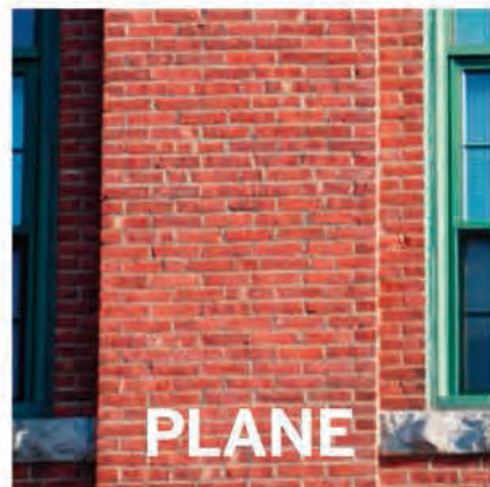
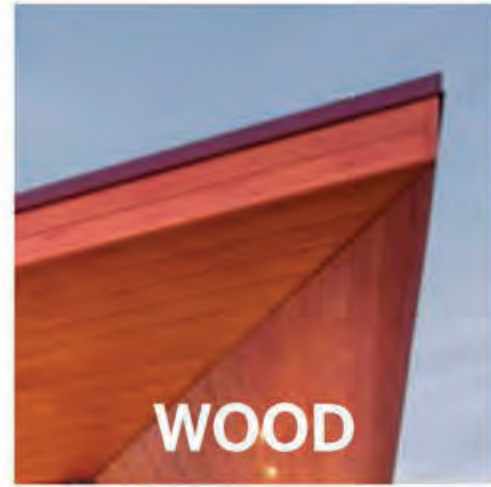
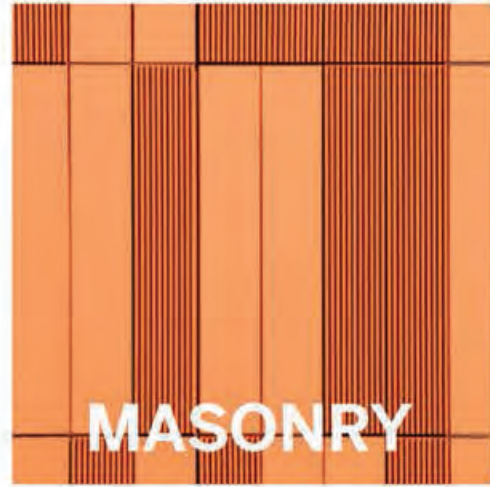
VOLUME II
EXHIBIT ACP.4



FIRST STREET



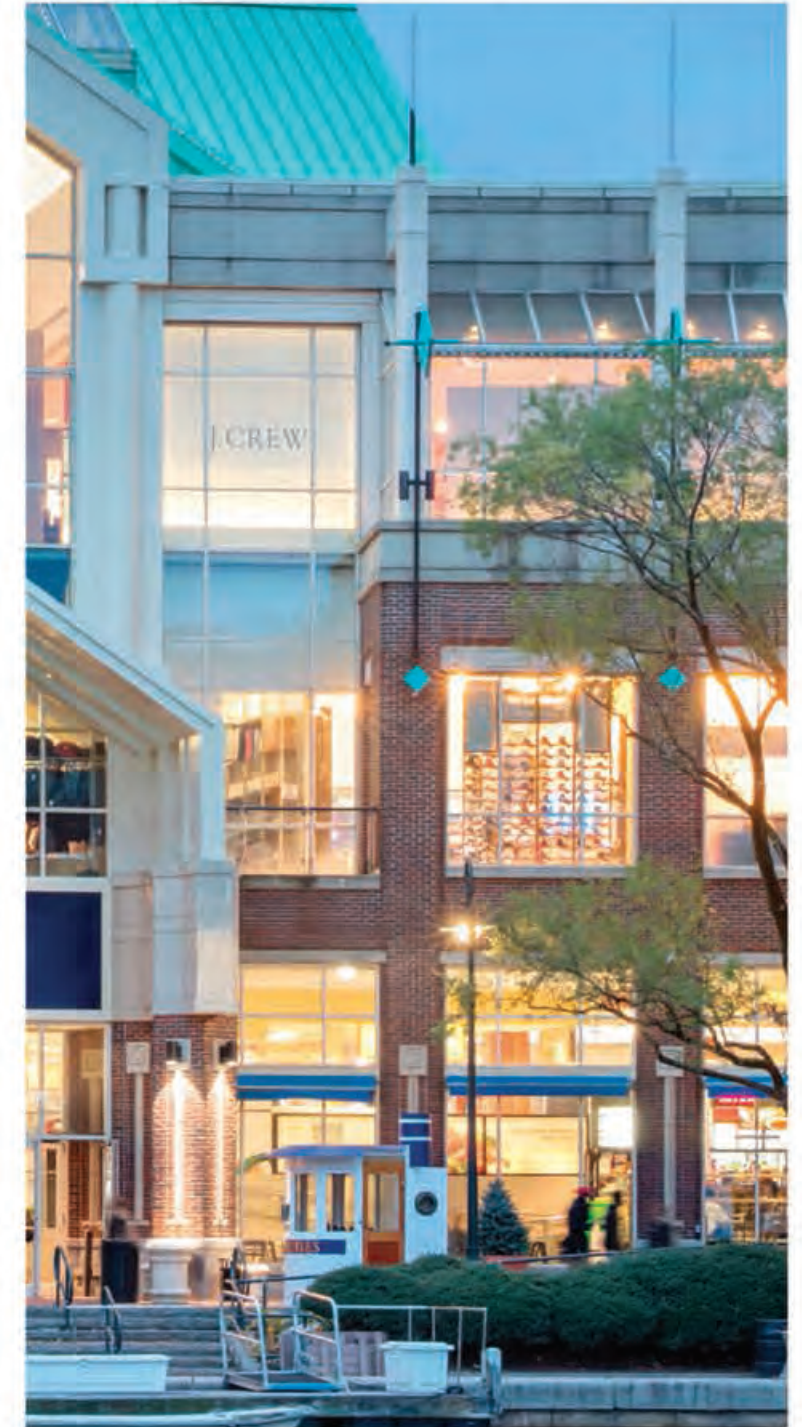
LAND BOULEVARD



Architectural Character Plan Conceptual Materials and Details

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT ACP.5

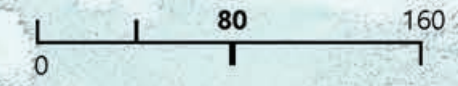


Architectural Character Plan Conceptual Elevation

FIRST STREET

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

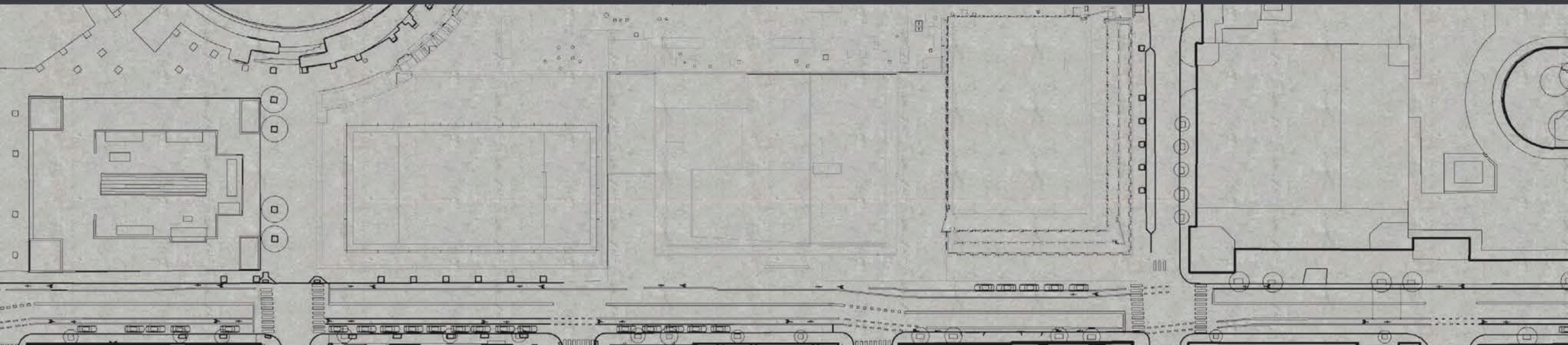
VOLUME II
EXHIBIT ACP.6



60 FIRST ST

80 & 90 FIRST ST

110 FIRST ST

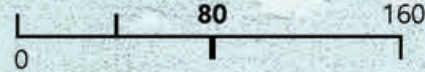


Architectural Character Plan Conceptual Elevation

CAMBRIDGESIDE PLACE

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

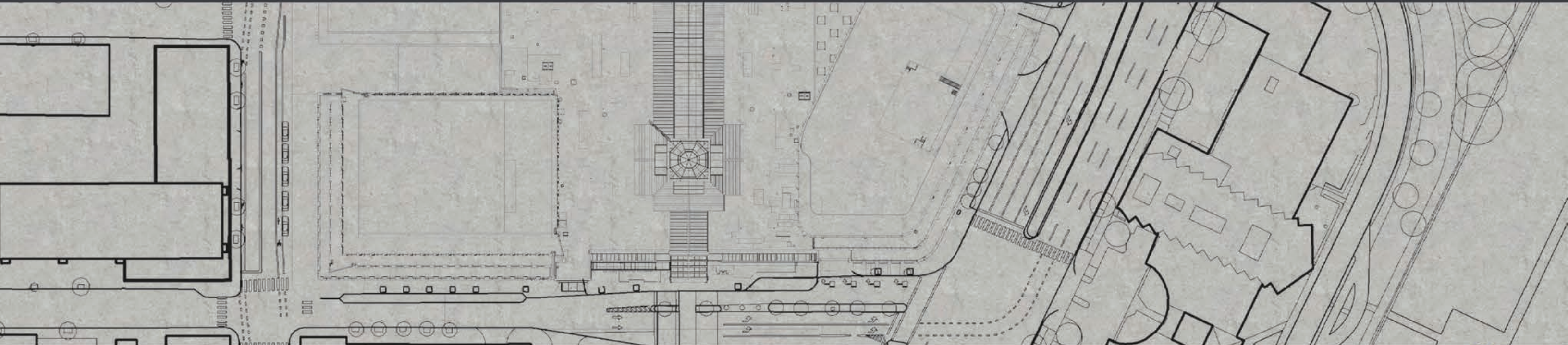
VOLUME II
EXHIBIT ACP.7



110 FIRST ST

MALL

20 CAMBRIDGESIDE



NEW ENGLAND
DEVELOPMENT

ELKUS | MANFREDI
ARCHITECTS

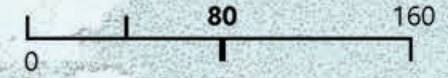


Architectural Character Plan Conceptual Elevation

LAND BOULEVARD

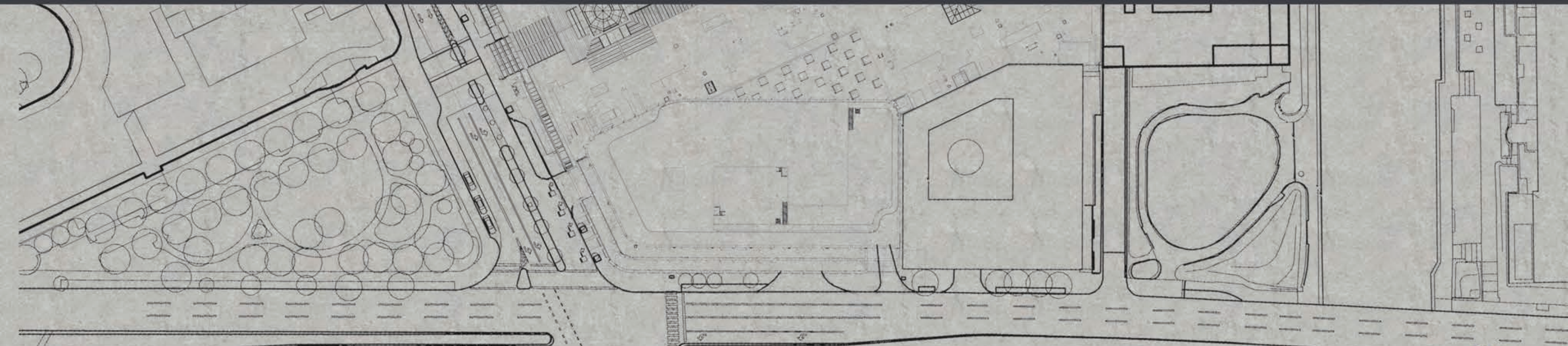
PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT ACP.8



110 FIRST ST

20 CAMBRIDGESIDE



NEW ENGLAND
DEVELOPMENT

ELKUS | MANFREDI
ARCHITECTS



2.15 Comprehensive Signage Plan

(Section 13.102.3(n))

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

The Applicant anticipates the installation of wall, projecting and free standing Project signage and has prepared plans that show the approximate locations of such signage. **The Applicant has also provided conceptual design characteristics of the proposed Project signage, which plans and conceptual details are provided in Exhibits CSP.1 through CSP.8.** The Applicant will continue to refine the signage design as development of the Project progresses and will return to the Planning Board with any proposed changes, as well as obtain any necessary relief from the City of Cambridge Signage Ordinance, prior to installation.

Anticipated Wall/Projecting Signage Area

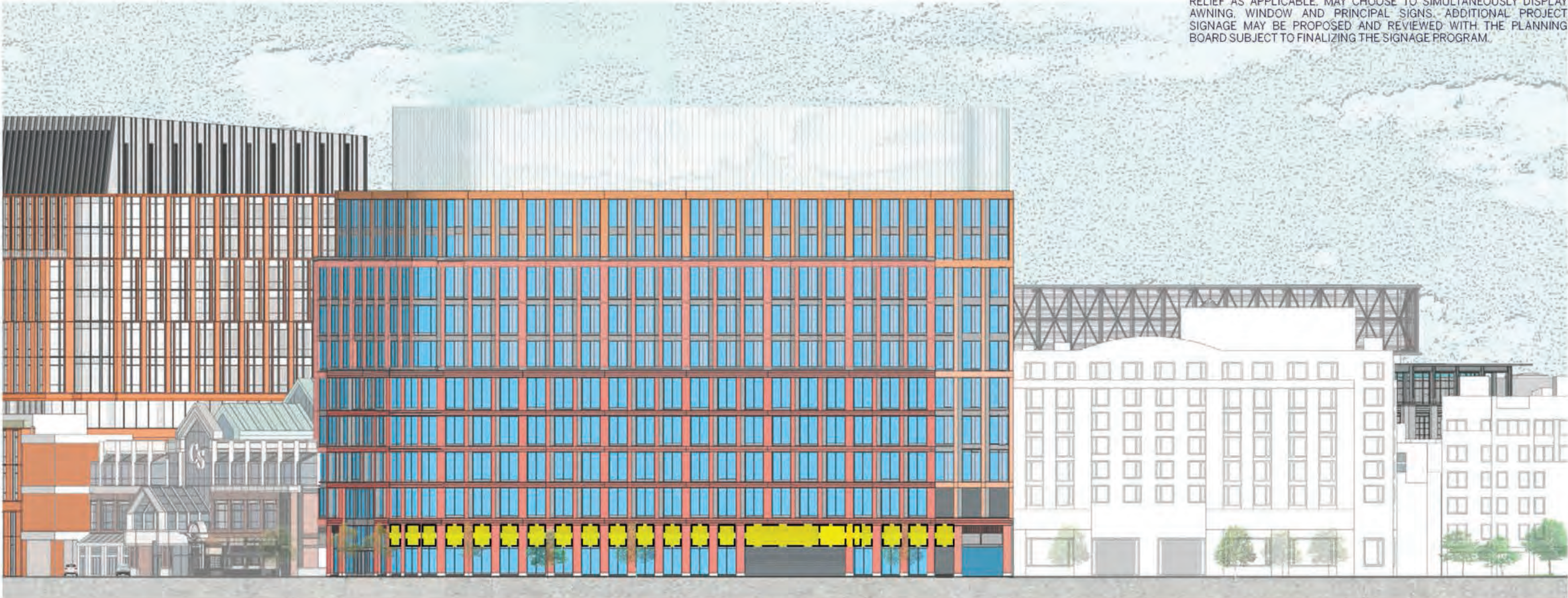
Comprehensive Signage Plan Anticipated Wall / Projecting Signage Area

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT CSP.1

ANTICIPATED SIGNAGE AREA

SIGNAGE LOCATIONS, ALLOCATIONS, SIZES, QUANTITY AND DESIGN WILL BE FURTHER DEVELOPED AND REVIEWED WITH THE PLANNING BOARD AND ALL NECESSARY RELIEF WILL BE OBTAINED PRIOR TO INSTALLATION. EACH INDIVIDUAL TENANT, SUBJECT TO COMPLIANCE WITH THE CITY OF CAMBRIDGE SIGNAGE ORDINANCE AND OBTAINING ANY NECESSARY RELIEF AS APPLICABLE, MAY CHOOSE TO SIMULTANEOUSLY DISPLAY AWNING, WINDOW AND PRINCIPAL SIGNS. ADDITIONAL PROJECT SIGNAGE MAY BE PROPOSED AND REVIEWED WITH THE PLANNING BOARD SUBJECT TO FINALIZING THE SIGNAGE PROGRAM.



LAND BLVD ELEVATION

Comprehensive Signage Plan Anticipated Wall / Projecting Signage Area

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT CSP.2

ANTICIPATED SIGNAGE AREA

SIGNAGE LOCATIONS, ALLOCATIONS, SIZES, QUANTITY AND DESIGN WILL BE FURTHER DEVELOPED AND REVIEWED WITH THE PLANNING BOARD AND ALL NECESSARY RELIEF WILL BE OBTAINED PRIOR TO INSTALLATION. EACH INDIVIDUAL TENANT, SUBJECT TO COMPLIANCE WITH THE CITY OF CAMBRIDGE SIGNAGE ORDINANCE AND OBTAINING ANY NECESSARY RELIEF AS APPLICABLE, MAY CHOOSE TO SIMULTANEOUSLY DISPLAY AWNING, WINDOW AND PRINCIPAL SIGNS. ADDITIONAL PROJECT SIGNAGE MAY BE PROPOSED AND REVIEWED WITH THE PLANNING BOARD SUBJECT TO FINALIZING THE SIGNAGE PROGRAM.



CAMBRIDGESIDE PLACE ELEVATION

Comprehensive Signage Plan Anticipated Wall / Projecting Signage Area

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT CSP.3

ANTICIPATED SIGNAGE AREA

SIGNAGE LOCATIONS, ALLOCATIONS, SIZES, QUANTITY AND DESIGN WILL BE FURTHER DEVELOPED AND REVIEWED WITH THE PLANNING BOARD AND ALL NECESSARY RELIEF WILL BE OBTAINED PRIOR TO INSTALLATION. EACH INDIVIDUAL TENANT, SUBJECT TO COMPLIANCE WITH THE CITY OF CAMBRIDGE SIGNAGE ORDINANCE AND OBTAINING ANY NECESSARY RELIEF AS APPLICABLE, MAY CHOOSE TO SIMULTANEOUSLY DISPLAY AWNING, WINDOW AND PRINCIPAL SIGNS. ADDITIONAL PROJECT SIGNAGE MAY BE PROPOSED AND REVIEWED WITH THE PLANNING BOARD SUBJECT TO FINALIZING THE SIGNAGE PROGRAM.



FIRST STREET ELEVATION



FIRST STREET ELEVATION

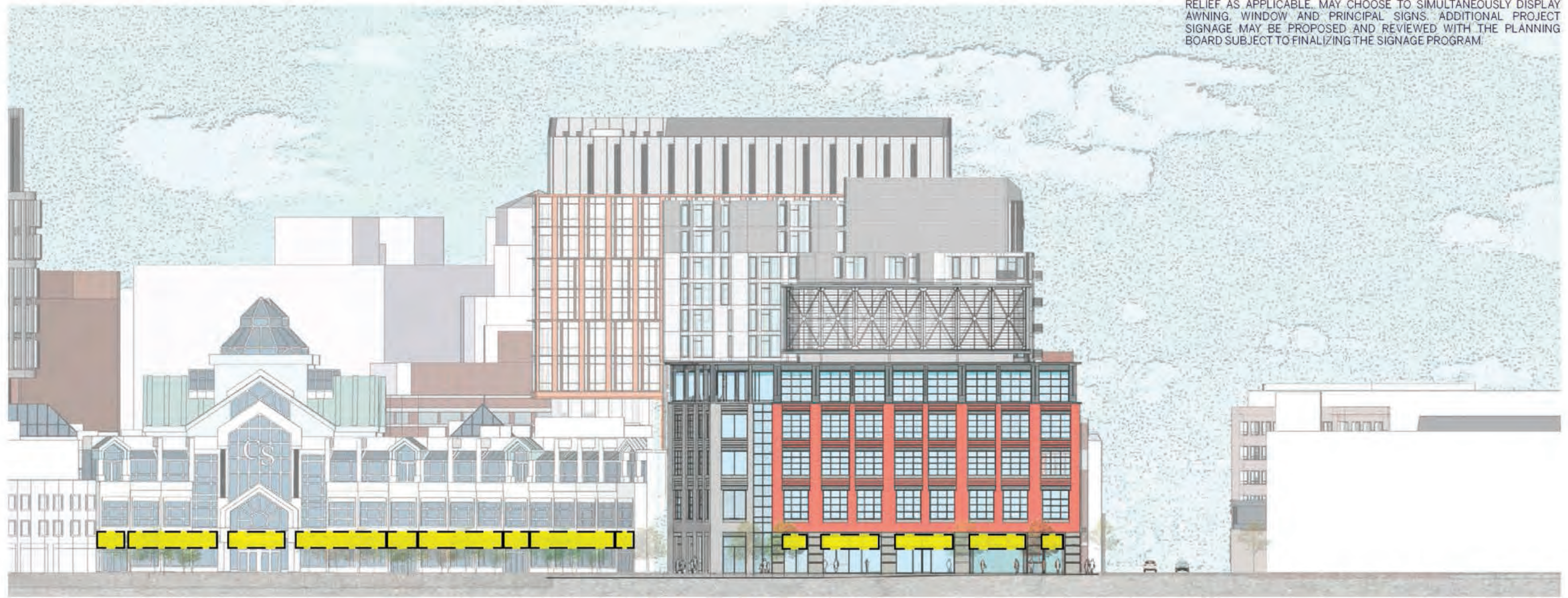
Comprehensive Signage Plan Anticipated Wall / Projecting Signage Area

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT CSP.4

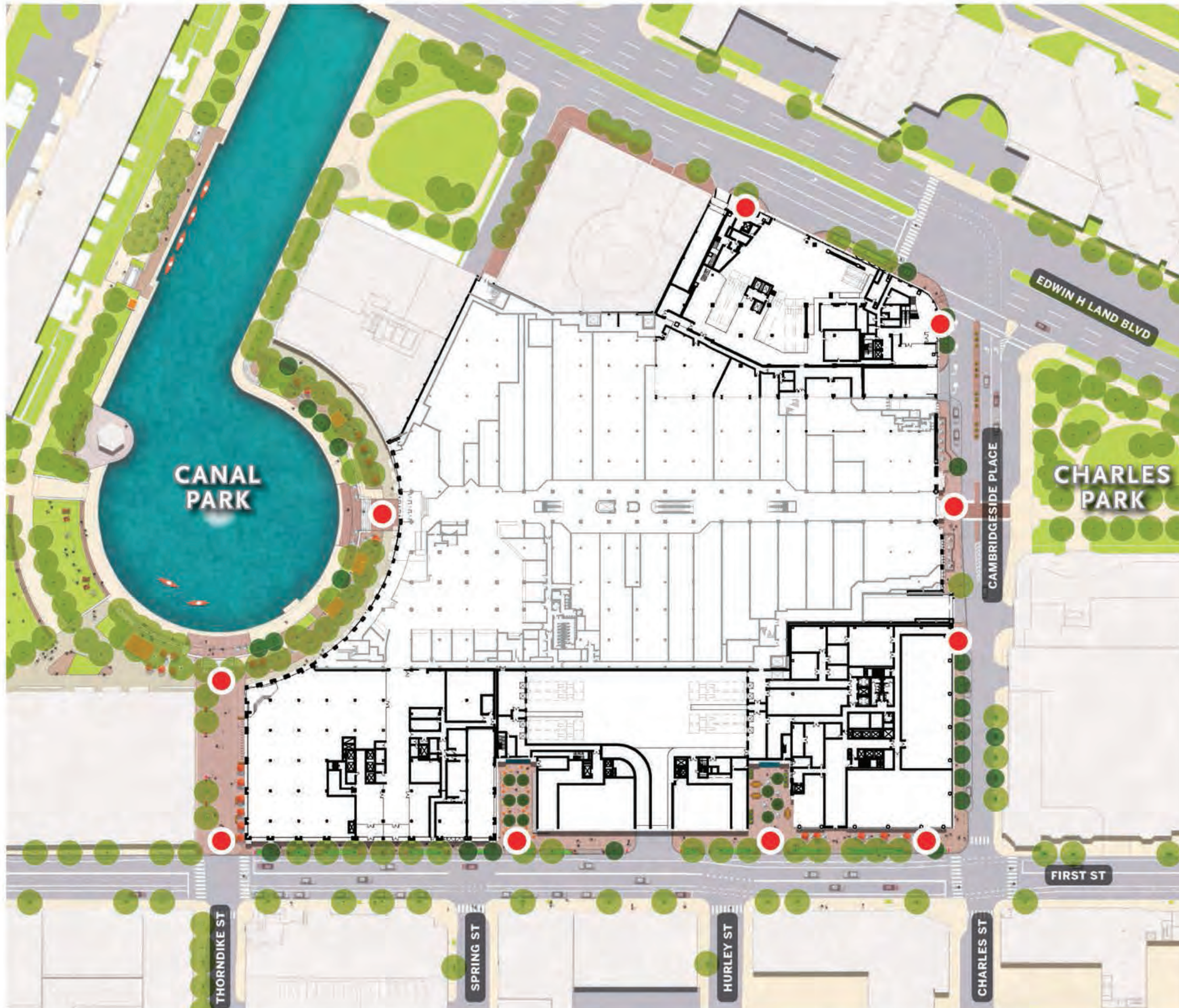
ANTICIPATED SIGNAGE AREA

SIGNAGE LOCATIONS, ALLOCATIONS, SIZES, QUANTITY AND DESIGN WILL BE FURTHER DEVELOPED AND REVIEWED WITH THE PLANNING BOARD AND ALL NECESSARY RELIEF WILL BE OBTAINED PRIOR TO INSTALLATION. EACH INDIVIDUAL TENANT, SUBJECT TO COMPLIANCE WITH THE CITY OF CAMBRIDGE SIGNAGE ORDINANCE AND OBTAINING ANY NECESSARY RELIEF AS APPLICABLE, MAY CHOOSE TO SIMULTANEOUSLY DISPLAY AWNING, WINDOW AND PRINCIPAL SIGNS. ADDITIONAL PROJECT SIGNAGE MAY BE PROPOSED AND REVIEWED WITH THE PLANNING BOARD SUBJECT TO FINALIZING THE SIGNAGE PROGRAM.



NORTH ELEVATION

Conceptual Wayfinding Signage Plan



Comprehensive Signage Plan
Conceptual Wayfinding
Signage Plan

PUD-8 Special Permit
 CambridgeSide
 Cambridge, MA

VOLUME II
EXHIBIT CSP.5

● CONCEPTUAL LOCATION
 OF WAYFINDING SIGNAGE

Examples of Conceptual Signage



Comprehensive Signage Plan
**Examples of
 Conceptual Signage**
 PUD-8 Special Permit
 CambridgeSide
 Cambridge, MA
VOLUME II
EXHIBIT CSP.6

Free Standing
SITE, WAYFINDING,
AND DIRECTORY



Comprehensive Signage Plan
**Examples of
Conceptual Signage**
PUD-8 Special Permit
CambridgeSide
Cambridge, MA
VOLUME II
EXHIBIT CSP.7
Projecting
MARQUEE, CANOPY, AWNING



Comprehensive Signage Plan
**Examples of
Conceptual Signage**
PUD-8 Special Permit
CambridgeSide
Cambridge, MA
VOLUME II
EXHIBIT CSP.8

Wall
**WALL MOUNTED, ON GLASS,
BEHIND GLASS, PAINTED**

2.16 Utilities Plan

(Section 13.102.3(o))

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

2.16.1 General

The detailed Utilities Report including supporting calculations is found in Appendix F. Because of the on-site and off-site utilities infrastructure which was installed 30 years ago with the construction of the original CambridgeSide project and subsequent systems improvements, the general finding of the Utilities Report is that existing utility systems are adequate to support existing and future buildout infrastructure demands. Even with those basic system adequacies, as described below, the Applicant is proposing work off-site to separate current I/I connections between the City stormwater system and the MWRA marginal conduit, a combined sewer, and drainage improvements in Canal Park, both of which will improve water quality in the Charles River. The individual systems descriptions, the Project demands and system adequacies are described more briefly below and extensively in Appendix F and Exhibits UP.1 through UP.3.

2.16.2 Wastewater

The existing and proposed Project is served by public sewers, a 24-inch diameter in Land Boulevard and 12-inch diameter in First Street, which both flow southerly to a large 25-inch X 29-inch trunk sewer in Binney Street. These sewers have many times the capacity of the Project demand and there have not been reported capacity problems or evidence of system surcharging. The current Macy's and mall building sewers discharge to the Land Boulevard 24-inch sewer and the First Street buildings discharge to the 12-inch sewer in First Street. Existing and proposed wastewater demands are 71,572 gpd and 176,342 gpd respectively. As a yardstick, the sewers to which the Project discharges have combined capacities of several million gallons per day.

2.16.3 Water

The existing and proposed Project are served by an extensive 12-inch water loop in the abutting streets and a 12-inch connection between First Street and Land Boulevard through Canal Park. In addition to the 12-inch water main in Land Boulevard there is an additional 8-inch interconnected water main. The estimated water demand for the Project is approximately 194,000 gpd. From our discussions with the Water Department there is adequate capacity in the existing system to meet that demand and there are no reported pressure problems in this part of the system. Each of the existing buildings have both separate domestic water and fire system connections with booster fire pump rooms. These internal systems will be upgraded as needed for the Project's life safety and redundancy requirements.

2.16.4 Stormwater

The proposed Project is confined to the footprint of the existing project; thus, as shown in the supporting calculations, there is no change in the runoff and subsequent discharges to the City drainage system. Further, because the runoff from the Site is primarily from roofs it tends to be cleaner than the discharges from the streets. However, to coincide with the initial project components, there will be a significant drainage I/I separation project in Land Boulevard creating a new infiltrative drain to intercept the City's drain lines which now connect to the MWRA marginal conduit (a combined sewer). This new drain will remove about 400,000 gallons annually from the combined sewer and potential overflows to the Charles River or Boston Harbor. The new drain is designed to infiltrate low (first flush) flows and the initial components of larger storm flows in order to reduce soluble phosphorus load in the stormwater discharges to the Charles River. The new drain will discharge larger storm flow components, not infiltrated into the substrate filters, into the existing outfall downstream of the City's large Binney Street separation structure. The Project also includes drainage improvements in Canal Park to make the pedestrian/bike pathways more all-weather friendly and to incorporate infiltrative phosphorus removal drainage systems to improve water quality in the Charles River. As part of the construction of the buildings on First Street and the pocket park construction scupper drains, deeper tree boxes, interconnected infiltration drains will be implemented to further reduce runoff on First Street.

2.16.5 Public Utilities

The existing and proposed Project are served by existing gas, electric and telecom in Land Boulevard and First Street. These public utilities feed on-site transformers, switchgear, meters and distribution networks serving the CambridgeSide tenants. Most of this equipment along with the fire pump rooms are located in or just off the service court areas and loading docks on First Street and Land Boulevard. From discussions with these agencies the Applicant has concluded that, while new more energy efficient and sustainable building systems will be incorporated into the Proposed Project, the public utilities networks will be adequate to serve the future project as they have the existing for the last 30 years.

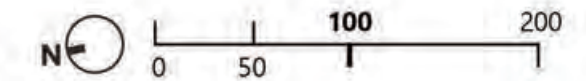
The exhibits that follow in this Section 2.16 supplement the information above and identify:

- Existing and proposed water infrastructure;
- Existing and proposed stormwater and sanitary sewer infrastructure; and
- Existing and proposed electric, gas and telecom infrastructure.

Utilities Plan Water Infrastructure

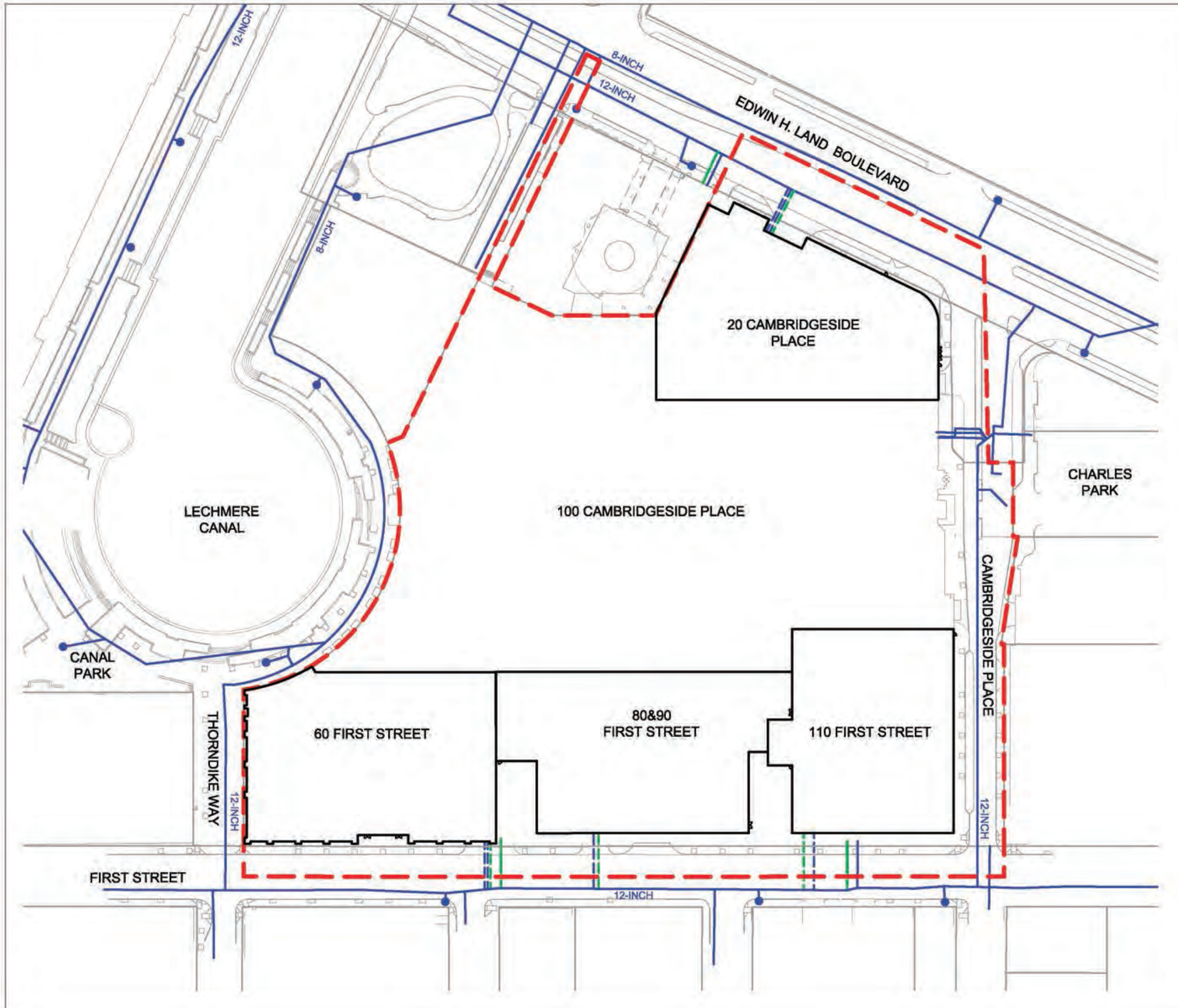
PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT UP.1



Legend

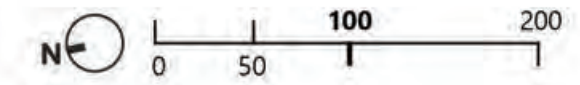
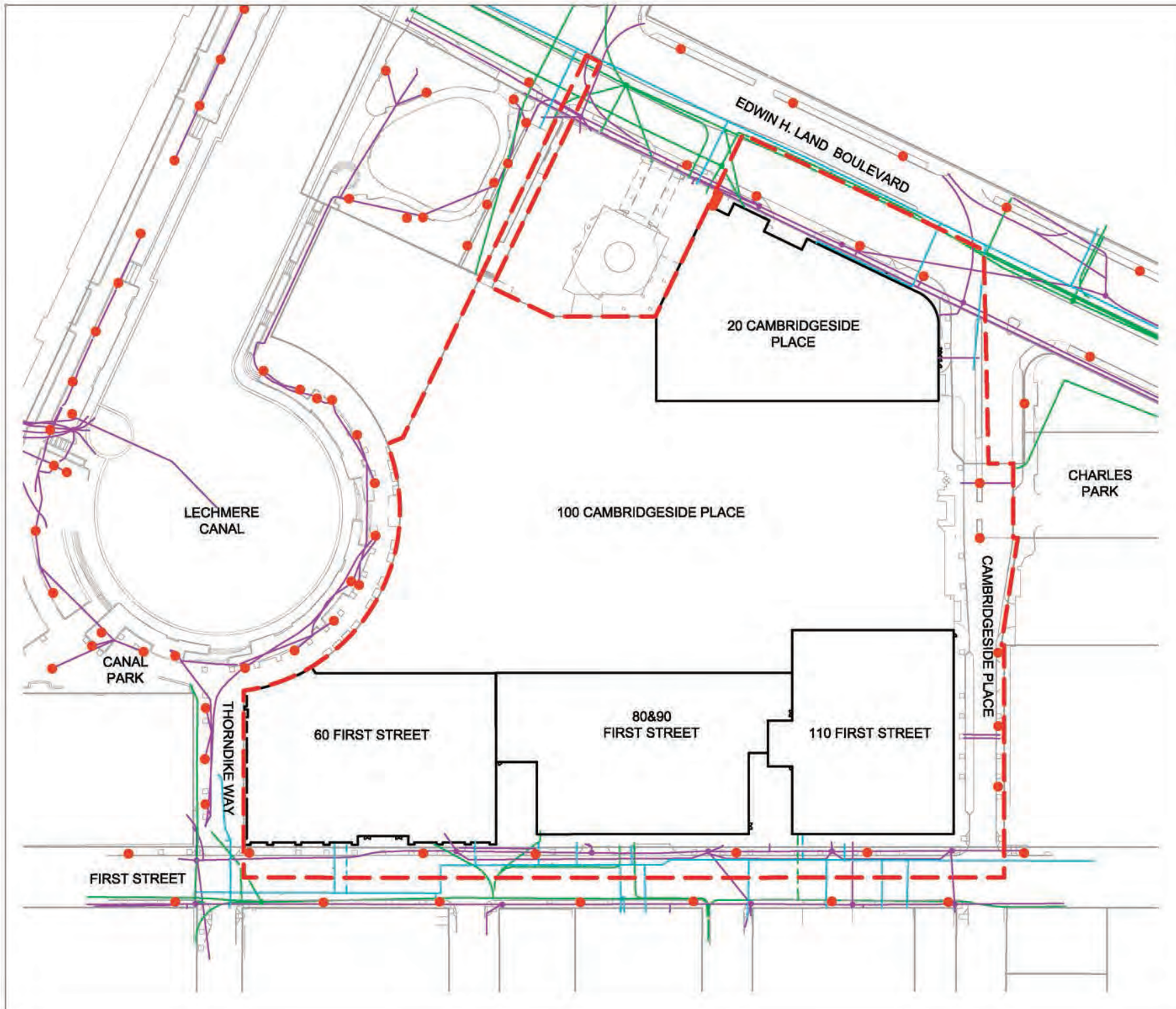
- - - PUD-8 DEVELOPMENT PARCEL
- EXISTING WATER MAIN
- EXISTING FIRE SERVICE
- EXISTING HYDRANTS
- - - PROPOSED DOMESTIC WATER SERVICE
- - - PROPOSED FIRE SERVICE



Utilities Plan Electric, Gas and Telecom Infrastructure

PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT UP.2



Legend

- PUD-8 DEVELOPMENT PARCEL
- EXISTING ELECTRIC
- EXISTING GAS
- EXISTING TELECOM
- EXISTING LIGHT POLES
- PROPOSED ELECTRIC
- PROPOSED GAS
- PROPOSED TELECOM

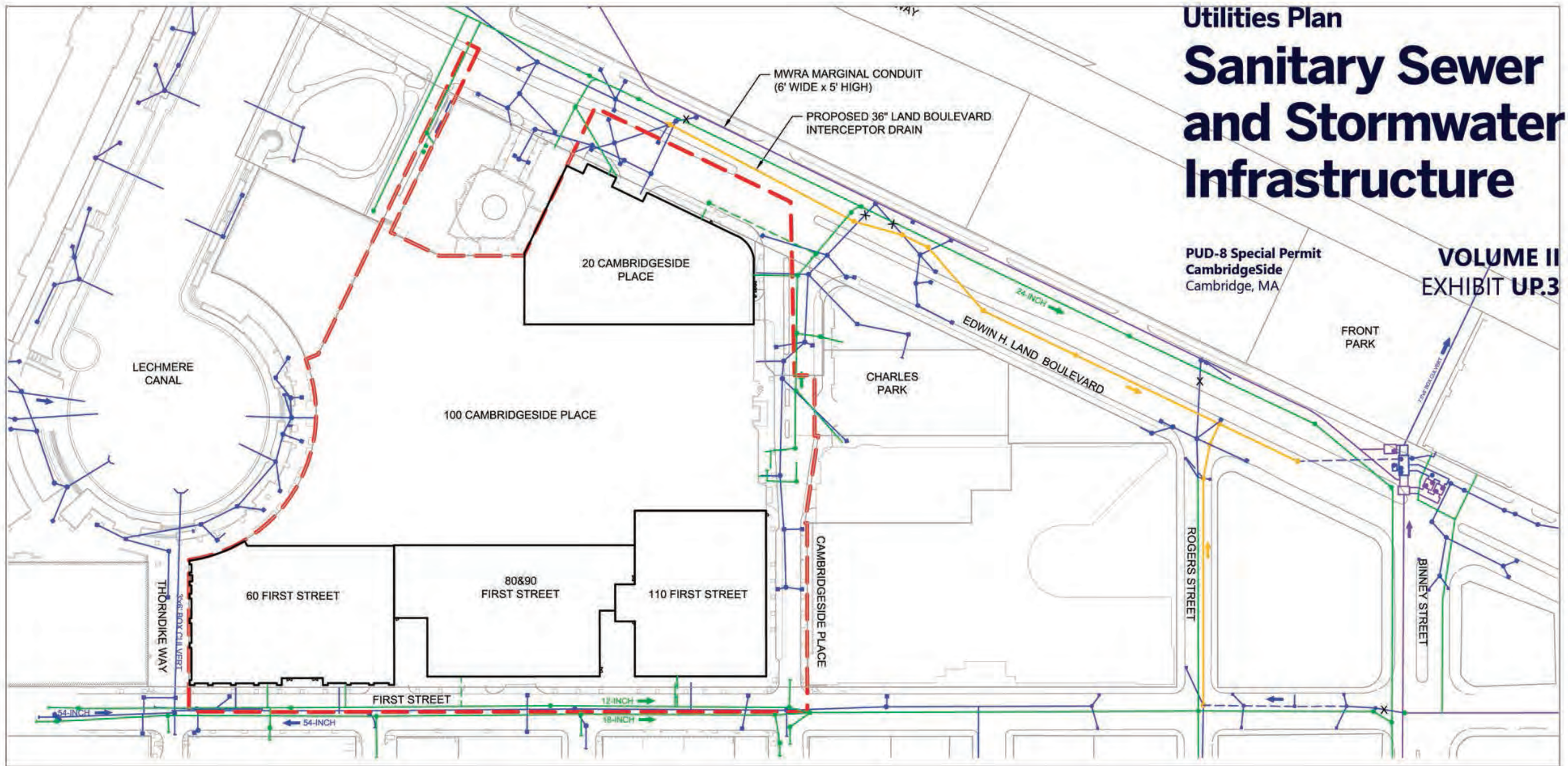
NEW ENGLAND
DEVELOPMENT

TETRA TECH

Utilities Plan Sanitary Sewer and Stormwater Infrastructure

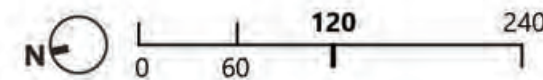
PUD-8 Special Permit
CambridgeSide
Cambridge, MA

VOLUME II
EXHIBIT UP.3



Legend

- - - PUD-8 DEVELOPMENT PARCEL
- EXISTING COMBINED SEWER
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- - - PROPOSED SANITARY SEWER
- - - PROPOSED STORM DRAIN
- PROPOSED PERFORATED STORM DRAIN
- X DISCONNECT EXISTING STORM DRAIN



Conclusion



PUD-8 Special Permit CambridgeSide Cambridge, MA

The proposed redevelopment of CambridgeSide fulfills the goals of decades of planning by the City of Cambridge and the property owners by creating a greater mix of uses and re-examining the ways in which CambridgeSide serves as an attraction for residents, visitors and tourists alike. The Project brings with it significant public benefits ranging from the creation of much needed affordable and work-force housing, transportation and other infrastructure improvements, and public realm and open space upgrades, as well as financial commitments to support City of Cambridge and East Cambridge non-profit organizations and community groups. Further, it will ensure the retention of jobs for the community, as well as the retail offerings CambridgeSide provides for the neighborhood, a key element of discussions with the City and neighborhood over the past two years.

As summarized below, the Project provides an extraordinary package of public benefits, including:

- **Affordable Housing.** Provision of an unprecedented amount of on-site affordable and workforce housing – i.e., 65%, with 30% as Inclusionary Housing and 35% as Middle Income Units.
- **Public Realm.** Improvements to the existing on-site open spaces, including Canal Park, as well as activation of the public realm through wider sidewalks, the incorporation of active ground-floor uses and enhanced plantings, trees and landscaping.
- **Engagement with the Arts.** Support of the local Arts Community by providing opportunities for artists to perform and/or display their work at the Project and making a monetary contribution to the Cambridge Arts Initiative.
- **Community Meeting Space.** Provision of a new, multi-purpose meeting space, which will be able to accommodate up to 40 people at no charge to local residents, community groups and small businesses and which will serve to welcome and engage the public with the Project.
- **Subsidized Incubator, Retail and Daycare Spaces.** Opportunities for local retailers, local small businesses or non-profit organizations and a community daycare facility to rent space within the Project at a reduced rate (equal to 30% below comparable market rent).
- **Jobs.** Preservation of approximately 1,200 existing jobs in the core Mall, along with the creation of approximately 5,000 temporary construction jobs and over 3,000 permanent jobs.

- **Sustainability and Resiliency.** The Project will meet LEED Gold Core and Shell, provide no access to fossil fuels within the living area of the residential component of any building, and evaluate how to be Net Zero Ready for the future.
- **Infrastructure.** Approximately 400,000 gallons of stormwater runoff will be removed from the MWRA combined sewer in Land Boulevard.
- **Transportation.** Anticipated expenditure of approximately \$6,900,000 on transportation-and traffic-related measures in connection with the Project.

As detailed herein, the Project complies with all submittal requirements and approval criteria for granting the requested special permits. The Project is appropriate to the site and surroundings and will mitigate any potential impacts to the East Cambridge neighborhood, such that the Project has a net positive impact on the City. Additionally, the Project has been designed to be consistent with the PUD-8 Design Guidelines and Principles and the Citywide Urban Design Objectives, thereby complementing nearby land uses and buildings and enhancing the vast open space network that exists in and around the site. Accordingly, for the reasons set forth herein, the Applicant respectfully requests that a PUD-8 Special Permit and Project Review Special Permit be granted and the existing PUD-4 Special Permit (PB #66) be amended to allow for redevelopment of the existing retail center into the dynamic mixed-use Project described throughout this application and supporting materials.