

March 5, 2021

VIA E-MAIL AND HAND DELIVERY

Chair Catherine Preston Connolly
and Members of the Cambridge Planning Board
344 Broadway
Cambridge, MA 02139
sjoseph@cambrigema.gov

Re: CambridgeSide 2.0 Project – 60 First Street Building Design Review

Dear Chair Connolly:

We (on behalf of NW Cambridge Property Owner LLC, the owner of the 60 First Street building) are pleased to submit the enclosed design review materials for the proposed redevelopment of the former Sears building, also known as 60 First Street, located at the corner of First Street and Thorndike Way. Construction of the 60 First Street building is to be completed as part of the Initial Phase of the redevelopment of the CambridgeSide site in Cambridge, Massachusetts (the “Site”) into a premier mixed-use development including a combination of residential, retail, office, laboratory and restaurant uses (the “CambridgeSide 2.0 Project”), which was approved by the Planning Board in the Special Permit Decision for PB #364 dated February 17, 2021 (the “Decision”). Consistent with the Decision, we propose a renovation of the existing three-story retail building located on the 60 First Street site that will result in a 5-story primarily office/laboratory building, with retail and lobby spaces on the ground floor as well as a new pedestrian connection from First Street into the core mall.

Over the last two and a half years of the Site’s rezoning and special permit process, we have met various times with City departments, including Community Development Department (CDD), Traffic Parking & Transportation, the Department of Public Works and the Water Department, in order to inform the design of the CambridgeSide 2.0 Project. Most recently, such meetings included informal meetings with CDD urban design staff to review detailed aspects of the 60 First Street building, such as general massing and façade articulation strategies. As demonstrated by the enclosed materials, we have designed the 60 First Street building to be consistent with the CambridgeSide 2.0 Final Development Plan, which is incorporated into the Decision. We have prepared the enclosed materials to be responsive to the design-related comments received from CDD urban design staff and Planning Board members during the special permit process.

In order to facilitate your review of the enclosed materials, we have included a response chart that summarizes where each of the Condition 4 design review requirements are satisfied within the enclosed narrative and graphic exhibits. As demonstrated by the attached chart, we have addressed the various submittal and design review standards set forth in Condition 4 with respect to the design of the 60 First Street building.

At this time, we are also seeking design review approval of the other Initial Phase building, which is to be located at 20 Cambridgeside Place and for which we are simultaneously submitting a complete package of design review materials.

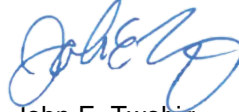
As detailed in the enclosed materials, the 60 First Street building has been designed to be consistent with the Decision and complies with the applicable design review criteria set forth in Condition

4 of the same. Accordingly, we respectfully request that the Planning Board schedule the 60 First Street building design review for the Board's earliest available meeting to review the same.

Thank you for your consideration of the enclosed design review materials. We look forward to presenting to the City of Cambridge Planning Board.

Very truly yours,

NEW ENGLAND DEVELOPMENT



John E. Twohig

Enclosures

60 First Street

Design Review – Condition Response Chart

The following chart identifies where within the enclosed package of materials each of the various Design Review submittal requirements are satisfied, which requirements are set forth in Condition 4 of the PB #364 Decision dated February 17, 2021.

Condition	Requirement	Location within Enclosed Package
4.a.i.	A dimensional form describing the Gross Floor Area, building height, setbacks, size of open space, and vehicular and bicycle parking spaces, as well as cumulative dimensional information for all development approved in this PUD, that has been previously constructed or has received final design review approval from the Planning Board.	See Table 1.
4.a.ii.	A description of all uses intended to be located within the new or renovated buildings.	See Narrative, Project Summary (page 1) and Ground Floor Uses and Activation (page 2) and Exhibits 5-9.
4.a.iii.	A Site Development Plan, revised as necessary, showing the proposed boundary lines for the subject building site and other building sites within the PUD.	See Exhibit 1.
4.a.iv.	A site plan (or plans) of the entire building site illustrating, in detail: <ul style="list-style-type: none">• Conceptual plans for all roadways or sidewalks adjacent to the building site, including any planned changes approved or to be approved in the future by City departments.• Circulation routes to, from and through the site for pedestrians, bicyclists, passenger vehicles and service or delivery vehicles.• The locations of all access and egress points for pedestrians, bicyclists, passenger vehicles and service or delivery vehicles	See Exhibits 4, 34-35 and 44-48 and Parking, Loading and Circulation (page 49).
4.a.v.	Scaled and dimensioned floor plans of each level of the proposed building.	See Exhibits 5-9.
4.a.vi.	A scaled and dimensioned roof plan, illustrating all features proposed to be located on the roof including the arrangement of any rooftop mechanical systems and enclosures, and any proposed lighting that will be visible from outside the building.	See Exhibits 10-12 and 38 and Narrative, Rooftop Penthouse (page 1).
4.a.vii.	Scaled and dimensioned elevations of each side of the proposed building with labels and descriptions of proposed	See Exhibits 13-28 and 31-32 and

	exterior façade materials, which shall include any visible rooftop mechanical equipment, screening devices, exterior vents, lighting fixtures and other appurtenances, as well as focused elevations of each of the ground floor façades.	Narrative, Building Massing and Building Character and Materiality (page 1).
4.a.viii.	A signage plan showing the general locations and areas of all signage visible from the public way, including the general design characteristics of any wayfinding signage intended to serve the PUD as a whole.	See Exhibit 37.
4.a.ix.	A plan showing the locations and describing the general characteristics of proposed art installations.	Consistent with the Final Development Plan, there are no art installations proposed on the 60 First Street building site.
4.a.x.	Perspective views of the building site from significant vantage points, including public streets from which the building will be visible at a distance, as well as pedestrian views from all sides of the building to illustrate how the building will relate to the adjacent public realm.	See Exhibits 29-32 and 40-43.
4.a.xi.	The Green Building Review materials required to certify compliance with Condition #11 of this Decision, as set forth in that Condition.	See Green Building Review (pages 55-58).
4.a.xii.	A Noise Mitigation narrative and acoustical report prepared by a professional acoustical engineer, addressing the requirements in Section 13.107.2 and Condition #9 of this Decision.	See Noise Mitigation Study (pages 59-63).
4.a.xiii.	A Light Mitigation narrative for any building containing laboratory use, addressing the requirements in Section 13.107.3 and Condition #9 of this Decision.	See Narrative, Lighting (page 2) and Exhibit 38.
4.b.	In addition to presenting design drawings and illustrations, the Permittee shall present the following materials to the Planning Board at the design review meeting: <ul style="list-style-type: none"> i. A physical, contextual scale massing model of the proposed building and surrounding buildings. ii. Samples of materials to be employed for major elements of the building façade. 	These materials will be presented to the Planning Board at the design review meeting.
4.c.	Publicly Beneficial Open Space located on a particular building site shall be reviewed and approved by the Planning Board as part of the design review process for each individual building site.	See Narrative, Publicly Beneficial Open Space (page 2) and Exhibit 33.
4.h.	City Department Review. <ul style="list-style-type: none"> i. Technical Standards. Design elements on a building site requiring technical review for compliance with City requirements or standards, such as parking 	See Narrative, Technical Standards and Public Improvement

	<p>facilities, bicycle parking facilities, loading facilities, bicycle and vehicular access and egress, public bicycle sharing stations, stormwater management systems and Green Building materials (per Section 22.20), shall be reviewed by applicable City departments (which may include CDD, TP&T, DPW, Electrical or Water Departments, or others) at a conceptual design stage prior to submission of materials for review by the Planning Board. Final plans shall be reviewed by City departments for compliance with applicable standards and requirements prior to issuance of a Building Permit.</p> <p>ii. Public Improvements. Before submitting a Design Review package to the Planning Board that includes the design of any public improvements, including but not limited to construction of public streets or infrastructure, the Permittee shall submit conceptual design drawings of such public improvements for review and comment by applicable City departments. Subsequent to Planning Board Design Review approval of a building site but prior to completing final construction drawings of any such public improvements, the Permittee shall prepare and submit 75% design drawings of such public improvements for review and comment by applicable City departments. All public improvements on City-owned property shall be subject to final approval by applicable City departments.</p>	Requirements (page 2).
4.d. – 4.g., 4.i., 4.j.	Such provisions of Condition 4 do not set forth applicable submittal requirements and, therefore, are not detailed on this chart or in the attached package of materials.	N/A



MARCH 2021



CambridgeSide 2.0

60 First Design Review Submittal

Submitted to:
City of Cambridge

Submitted by:

**NEW ENGLAND
DEVELOPMENT**

New England Development
75 Park Plaza, Boston, MA 02116

Prepared by:





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60 First Design Review Narrative

The following narrative and attached graphic materials and reports are provided in accordance with Condition 4 of the Special Permit Decision for PB #364 (CambridgeSide 2.0) dated February 17, 2021 (the "Decision"), which addresses the design review requirements for buildings developed pursuant to the Decision. As detailed throughout this narrative, the proposed 60 First Street building (60 First, formerly known as Sears) has been designed to be consistent with the Decision, which incorporates the approved Final Development Plan for the CambridgeSide 2.0 Project.

Over the last two and half years of the rezoning and special permit process, the development team has met various times with City departments, including CDD, TP&T, DPW and the Water Department. These meetings have also included informal meetings most recently with CDD design staff to review detailed aspects of the 60 First building design, particularly the general massing and proposed façade articulation strategies. Materials presented herein reflect CDD design staff input.

Project Summary

As described in the design review graphic materials herein, the 60 First Street building (60 First, formerly known as Sears) will be located at the corner of First Street and Thorndike Way and will renovate an existing three-story building, designed for single tenant retail use, situated above two levels of below-grade parking.

The existing three-story, former Sears anchor retail building will be renovated and expanded vertically with a new 2-story addition. The resulting 5-story office/laboratory building will provide ground floor retail and other Active Uses fronting on Canal Park, Thorndike Way First Street, and interior new pedestrian mall connector from First Street to the CambridgeSide core mall ("Arcade"). The modest lab/office lobby on First Street will provide access to the Lab/office space above and the Arcade will provide access to the existing core mall in CambridgeSide (commonly known as "the Mall"). Additional details regarding uses proposed at the building are provided on the Dimensional Form on page 3.

In conformance with the Decision, 60 First complies with the 85 foot height, and incorporates material changes above 65 feet as required, creating an attic story expression to complement the scale of surrounding buildings.

The existing Sears foundation and structure, up to the second floor slab, will be retained and reinforced to support the new 2 story steel-framed addition. Consistent with the approved Final Development Plan and as indicated on Exhibits 44- 46, parking layouts and circulation at the two below grade levels will remain. The existing elevator service connecting the Lower Garage to the first floor Arcade will provide public access to 60 First, the Arcade, the core mall, and to First Street.

The existing Sears electrical service will be replaced in its current location. The existing loading dock, which is shared with a portion of the existing core mall and nearby Best Buy building, will be renovated. The existing exterior façade will be removed and replaced with no change to the existing footprint, incorporating a new masonry frame and glazed infill aesthetic inspired by neighboring industrial and mercantile buildings.

Design Intent Overview

The proposed design is consistent with the goals and design standards set forth in the approved Final Development Plan and the Decision, which standards incorporate policy objectives identified in the earlier Eastern Cambridge design documents set forth in Section 13.107.5 of the Cambridge Zoning Ordinance (the "CZO"). The primary urban design goals include: a contextual massing and material approach that addresses multiple proximate neighborhood scales; material expression rooted in the site's architectural heritage and which simultaneously embraces contemporary conditions and uses; architectural celebration as a gateway to Lechmere Canal Park and the East Cambridge neighborhood; and incorporation of ground-floor Active Uses, including the Arcade connection to the core mall, and otherwise maximizing visual connection to support the creation of an active, engaging streetscape.

Building Massing

The building massing, as indicated on Exhibits 13-14 and 39, maintains the existing massing and materiality while visually relating the scale and height of buildings in the neighborhood through unique detailing at the base and through incorporation of a metal and glass attic story at the top. The building's base is composed of a series of articulated masonry piers framing storefronts, which may adopt the individual expression of the retail and active uses, the lab/office lobby and the Arcade to the core mall. The lab/office lobby and Arcade break the line between base and middle to suggest they are associated with the larger scale of the 60 First lab/office and core mall. The middle continues the masonry frame aesthetic, with the top of the building clad in the attic story mix of metal and glass. The building's maximum height of 85' is consistent with the approved Final Development Plan. Additionally, the mechanical penthouse screen steps back as required from the building façade, and is clad in materials consistent with the attic story.

Building Character and Materiality

The material expression of the building is rooted in the load bearing, brick masonry heritage of the industrial use buildings of East Cambridge. The building's base is firmly grounded in this history, with the brick masonry forming a single

story, articulated pier expression that follows the building's primary structural module. The brick masonry detailing in the horizontal spandrels includes a corbelling inspired by the masonry craft and tradition, providing shadow and visual interest at the pedestrian level. Glazed storefronts on the ground floor will be highly transparent and engaging as is appropriate for the street-level retail environment. The masonry piers are simplified in the middle portion of the building, with gridded glazing infilling between the corbelled spandrels. The top floor is treated as an attic story to mark the required transition of material and form above 65 feet, stepping back slightly and clad in a glass and metal frame that adopts the pattern of brick façade while contrasting in both material and architectural expression. A projecting metal brow completes the top of the building. Refer to Exhibits 15-18.

The entry to the 60 First lab/office lobby fronts on First Street, and is visually linked with the Arcade entry into a two-story recessed façade expression framed in metal. A metal shelf extends from the metal frame of the lab/office lobby to provide a location for the building address signage, while a metal canopy projects from the recessed Arcade entry to differentiate it from the adjacent lab/office entry location and provide weather protection. Refer to Exhibit 31 and 32.

The façade expression of the building's middle simplifies and reduces the brick masonry piers, consistent with the expression of historic masonry bearing structures that reduced the mass to reduce the weight of the upper floors. Full brick masonry piers remain marking primary structural column locations, their reduced width allowing more glazing to benefit the tenants on lab/office floors. Corbelled brick in the horizontal spandrel adds visual interest and consistency to the façade. Refer to Exhibits 19-22.

As shown in Exhibits 15-18, the building's top floor replaces the brick masonry with metal and glass in a contemporary attic story expression. This approach, which combines a small step back with a change in material, is consistent with the requirement to materially change the façade above 65 feet, and effectively reduces the building's visual weight and mass. The metal panel and glass detailing is intentionally simple and consistent, providing a quieter expression at the top of the building. A small brow at the top stops the eye and completes the composition.

The building's northeast corner maintains the existing curvature of the former Sears building as it fronts on Lechmere Canal Park. The arc is a series of faceted pier and glazing modules that are clad in a shingled metal panel with simplified glazing similar to the attic story. These faceted planes will create subtle shifts in light, shadow and reflectance, marking the building's waterside corner as different from the adjacent core mall building, but harmonious with its form. A modest reveal between 60 First and the core mall, and between the

arced façade and the brick-clad 60 First massing, allows for the transition between the buildings to be resolved. The 5th floor steps back, echoing the height of adjacent buildings including the core mall building and One Canal Park, and providing an amenity terrace overlooking the Canal. The Applicant will complete the upper-level exterior amenity terrace to be compliant with all building code requirements; any additional tenant work for the terraces will be limited (e.g., floor finishes) and completed as part of standard tenant fit out work, subject to receipt of a building permit for the same. Refer to Exhibit 28.

The entire building will employ high performance glazing with low emissivity coatings and low to moderate reflectivity for highest thermal and solar performance and visual clarity. Additional levels of thermal insulation will be included in both the brick masonry and metal panel clad opaque areas of the building facades.

60 First, in relationship to the nearby One Canal Park and other buildings on First Street, will maintain a contextual, considered urban design approach along First Street. The existing Upper Garage egress ramp, which aligns with Spring Street, will remain in the Initial Phase. The Upper Garage, which abuts 60 First's south façade but discharges from the southwest corner of 60 First, will remain in operation until the redevelopment of the Upper Garage site in a subsequent phase of CambridgeSide 2.0. The potential to renovate the ground floor bay of the 60 First building that is currently dedicated to the Upper Garage egress ramp will be reviewed when the Upper Garage is redeveloped in the future.

As indicated in the photographs included on Exhibit 39, a physical model of the proposed building, in its context, is available. The project team will make the model available for virtual viewing consistent with staff and Planning Board needs. Similarly, photographs of proposed building materials are incorporated within Exhibits 40-43.

Rooftop Penthouse

Significant design consideration has been given to the placement and design of building's penthouse. Consistent with the Final Development Plan, the penthouse, as shown in Exhibits 10 and 11, is stepped back on all sides by more than 15 feet. The massing and design of the penthouse is simplified to a rectangle clad with louvers, bracing and framing, harkening to an industrial past while remaining materially consistent with the attic story below, as indicated on Exhibit 28. The penthouse is sized and detailed to contain and screen both enclosed and exterior equipment. The louvers are consistently applied around the entirety of the penthouse to visually unify the penthouse facade, while the bracing and framing add depth, shadow and texture to the composition.

Ground Floor Uses and Activation

As indicated on Exhibit 5, the ground floor of the 60 First building will incorporate many Active Uses, including retail and a new Arcade connection to the core mall that will contribute to an active and engaging public realm.

The building's lab/office lobby will be prominently expressed on First Street. The entry will be a fully glazed element for maximum transparency and invitation. A connection from the lobby to the Arcade will allow lab/office tenants, guests and the public to move between the lab/office lobby, the publicly beneficial open space in the Arcade, and the core mall. Special consideration is given to the character of the brick masonry piers and spandrels through scale, relief, texture and rich brick detailing to frame the retail space. The retail, lobby and Arcade storefront treatment will be glazed in high performance, low iron, ultra-clear glazing to visually engage with pedestrians on First, Thorndike and in Canal Park.

The retail space may be subdivided into several smaller storefronts, providing unique identity and signage to bring variety to and enliven all three sides of the building. Outdoor dining and gathering opportunities may be explored along the Thorndike and Canal Park frontage.

The new Arcade will provide a long-desired entry to the Mall for the neighbors in East Cambridge. Adjacent to the 60 First lab/office lobby, the Arcade will lead guests from First Street and the Lower Garage parking levels to the existing core mall food court and on to the three-story skylit atrium. Together, the Arcade, food court and atrium provide the interior publicly beneficial open space of the CambridgeSide 2.0 project. The Arcade will be designed to be compatible with both the 60 First and core mall aesthetic as portrayed in Exhibit 33. Storefronts will line the Arcade and a small retail kiosk and seating area will provide the opportunity to pause along the journey between the urban activity of First Street and the retail activity in the core mall.

Construction of the 60 First building will involve improvements to the existing First Street streetscape, as shown in Exhibit 34. The existing street trees will be preserved and serve as the organizing element for the streetscape design. A furnishing zone will be constructed adjacent to the existing curb and around the existing trees which will be comprised of both planting areas and permeable unit pavers. The main pedestrian circulation along First Street will be a new continuous brick sidewalk connecting east to Thorndike Way and the existing streetscape to the west. The new mall and office/lab entries will be accented with an enhanced paver material. These improvements will provide universal accessibility across the First Street frontage. Along Thorndike Way and the Canal Walk, minor replacement and/or repair of the existing brick hardscape is anticipated.

Publicly Beneficial Open Space

As set forth in the approved Final Development Plan, the CambridgeSide 2.0 project proposes the addition of approximately 14,000 square feet of new on-site Publicly Beneficial Open Space at full buildout. Consistent with the approved Final Development Plan and Open Space Plan, the proposed Arcade within the 60 First building will comprise approximately 4,220 square feet of this new on-site Publicly Beneficial Open Space. Such Arcade is depicted on Exhibit 33 and will provide for a long-desired additional pedestrian connection from First Street into the core mall and food court, and through to the Canal.

Lighting

The façade lighting celebrates the building's prominent corner location while accentuating the contextual approach to the overall building design. The exterior lighting for 60 First Street will create a nighttime luminous environment with a welcoming and timeless elegance that is harmonious with the spirit of the surrounding neighborhood. Layers of light, ranging from human to urban scale will be utilized to set the building into the neighborhood as a welcoming neighbor and as an inviting destination. The placement, optics, and shielding of the luminaires will be carefully considered to mitigate unwanted impact on surrounding properties. Details on the proposed exterior lighting is shown on Exhibit 38 including additional narrative on the lighting approach.

Additionally, consistent with the Decision, the 60 First building will comply with light mitigation requirements for a building containing laboratory use set forth in Section 13.107.3 of the CZO and Condition #9 of the Special Permit. In order to ensure that such interior lighting requirements for laboratory areas will be incorporated into a future tenant's interior fit out project, the development team has produced written tenant standards requiring tenant compliance with these requirements.

Technical Standard and Public Improvement Requirements

Over the last two-and-a-half years, the development team has met numerous times with various City departments regarding the more technical standards (such as transportation and Green Building requirements) and proposed public infrastructure improvements (e.g., stormwater improvements) associated with the CambridgeSide 2.0 project.

The development team met, and had ongoing correspondence with, the Traffic, Parking & Transportation (TP&T) Department over the course of the last two years to review and determine appropriate transportation measures, as summarized in the certified TIS for the project and the transportation mitigation measures incorporated into the Decision. The approved Final Development Plan and Decision

establish the mutually agreed upon approach to a vehicular and bicycle parking across the PB-364 Development Parcel, as well as transportation mitigation measures that were reviewed at a conceptual stage. The development team is committed to continuing to coordinate with TP&T to finalize the specific design and implementation of the proposed transportation measures over the course of the project.

The development team has also worked with the Department of Public Works (DPW) and the Water Department to identify appropriate infrastructure upgrades to be implemented by the Applicant in order to meet the project's I/I requirement. In May of 2019, the Applicant proposed an interceptor drain concept that will intercept the existing City drains in a new infiltration collection treatment and redirect their flows from the MWRA Marginal Conduit to the existing CAM 017 outfall on the downstream side of the Binney Street regulator. This interceptor drain concept has been approved by DPW and is carrying forward. The Land Boulevard I/I Project is intended to be completed in the Fall of 2022. In accordance with the DPW standards incorporated into the Decision, the development team will continue to follow other DPW and Water Department requirements for utility and site improvements as construction of the project, including the 60 First building, commences.

Since February 2020, the development team has coordinated with Community Development Department (CDD) staff to incorporate Article 22 Green Building requirements into the overall CambridgeSide 2.0 Project, as well as into the Initial Phase buildings. The overall CambridgeSide 2.0 Green Building Report was certified by CDD on August 12, 2020, and a building specific Green Building Report for 60 First was certified by CDD on November 6, 2020 (Included on page 59). With respect to the 60 First building, the development team will comply with the City's ongoing requirements for Green Building compliance as the building progresses to the building permit and certificate of occupancy stages of development.

Dimensional Form

Please see following Table 1: Dimensional Form.

Conclusion

As detailed throughout this application and demonstrated by the graphics included within the same, the 60 First building has been designed to conform to the applicable design review standards set forth in Condition 4 of the Decision, including with respect to the following criteria:

- The architectural design of building facades, with special attention to the ground level.
- The placement of rooftop mechanical equipment, along with the design of penthouses and other features meant to screen such equipment, and any other exterior features within or surrounding the building site.

- The configuration and design of pedestrian, bicycle and vehicular modes of access and egress.
- The design of landscape elements, and modifications to abutting street or sidewalk rights of way, with attention to pedestrian and bicycle circulation and comfort and management of potential conflicts between pedestrian and bicycle paths of travel.
- Any potential impacts of the proposed design on the public realm or on properties outside of the PUD, including but not limited to visual impacts, noise impacts, wind impacts, and effects on the safety and comfort of pedestrians, bicyclists and motorists in the area, and measures that are being taken to mitigate such impacts.
- The measures being implemented to promote highly sustainable design and development reflecting the goals and objectives established by the City.

Accordingly, we respectfully request that the Planning Board approve the proposed design of the 60 First building as described throughout this application.



Table 1: Dimensional Form

60 First Street Development Program	Gross Floor Area (sq ft)		Net New GFA (sq ft) Calculation for 60 First Street
	Final Development Plan	Design Review*	
Gross Floor Area			
Office (sq ft) (Zoning Article 4.34 (a-e))	0	0	Total Proposed GFA: 210,000
Office and Laboratory (sq ft) (Zoning Article 4.34 (f))	175,000	175,000	Total Existing GFA: 124,000
Retail (sq ft)	35,000	35,000	Net New GFA Proposed: 86,000
Residential (sq ft)	N/A	N/A	Net New GFA Available for Development: 489,000 ^{1, 2}
Total Gross Floor Area (sq ft)	210,000	210,000	

PUD-8 Final Development Plan Shared Program ³			
	Final	Existing	Design Review
Open Space (sq ft)	244,600 ⁴	230,600	234,820
Off-Street Parking Spaces	1,695	2,490	2,490 ⁵
Long-Term Bicycle Parking Spaces	450	46	82
Short-Term Bicycle Parking Spaces	146	85	85
Loading Bays	12-20	15	14

* As the design of the 60 First Street building progresses to the construction drawing and building permit stages of development, the proposed Gross Floor Area (GFA) will be further refined to account for allowable exemptions from the calculation of GFA.

¹ The Net New GFA Available for Development does not account for the 235,000 sf of Net New GFA allocated to the other Initial Phase building, 20 CambridgeSide, for which a Design Review application is being simultaneously submitted. A total of 254,000 sf of Net New GFA will be available for development following completion of both Initial Phase buildings.

² No more than 575,000 sf of Net New GFA may be constructed pursuant to Section 13.104.1 of the CZO. Net New GFA may be allocated to development in either of the Project's Phases in accordance with PB #364.

³ Consistent with PB #364 and the Final Development Plan, requirements for Open Space, parking, bicycle parking and loading may be met across the PUD-8 Development Parcel, intended to serve the interconnected mixes proposed as part of the CambridgeSide 2.0 project, at full buildout. The numbers identified here do not account for any improvements to be constructed as part of the 20 CambridgeSide building. Following completion of both Initial Phase buildings, there will be a total of 234,820 sf of Open Space, 2,490 off-street parking spaces (subject to footnote 5 below), 143 long-term bicycle parking spaces, 87 short-term bicycle parking spaces and 14 loading bays to serve the uses on the PUD-8 Development Parcel.

⁴ Per Section 13.105 of the CZO applicable to the PUD-8 District, Open Space includes (i) the off-site Public Open Space at Charles Park and Canal Park and (ii) the on-site Publicly Beneficial Open Space, to be comprised of the publicly accessible mall atrium space, the public easement for CambridgeSide Place and the new Mall connector in the 60 First Street building, new setbacks and new pocket parks on First Street as generally depicted in the approved PB #364 Open Space Plan. Construction of the new Mall connector within the 60 First Street building will result in the addition of 4,220 sf of on-site Publicly Beneficial Open Space.

⁵ Consistent with PB #364 and the Final Development Plan, the total number of parking spaces on the PUD-8 Development Parcel will be reduced from 2,490 to approximately 1,695 at the time of demolishing the existing above-grade structured parking garage. The total number of parking spaces may be marginally reduced as a result of construction of the 60 First Street building due to site or structural support requirements, to be determined as the building is constructed. All parking is subject to maximum ratios by use set forth in Section 13.106.4 of the CZO, and in no event shall less than 1,695 parking spaces exist on the PUD-8 Development Parcel.

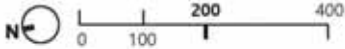
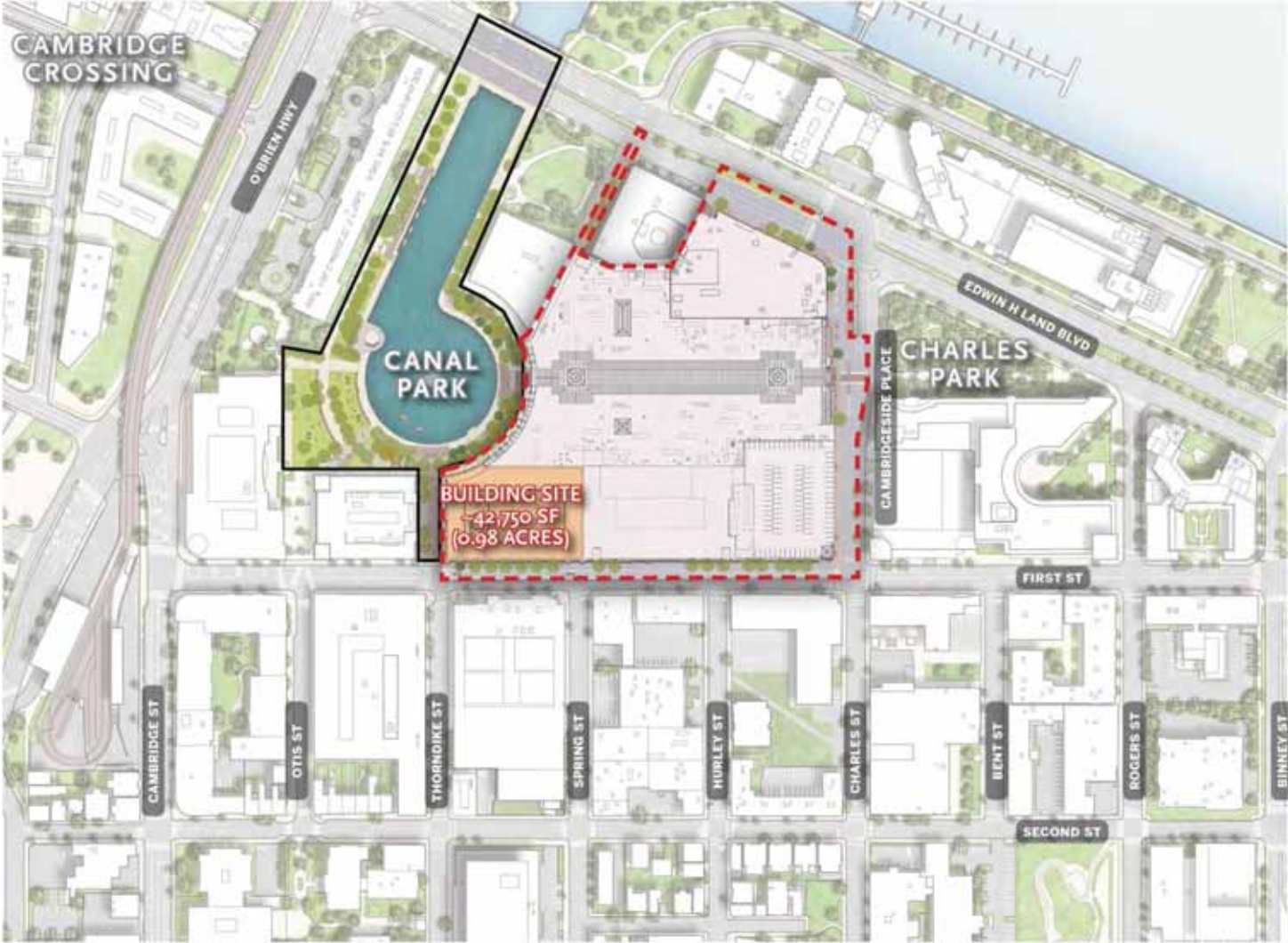
60 First Street



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CS

60 First Street DEVELOPMENT PLAN

EXHIBIT 1



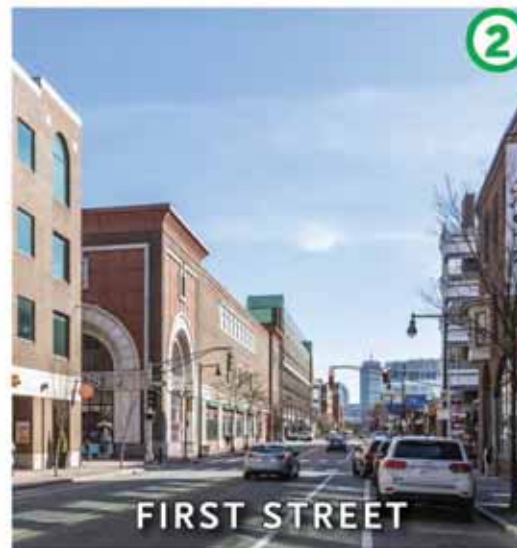
Legend

 PUD-8 DEVELOPMENT PARCEL



60 First Street EXISTING CONDITIONS

EXHIBIT 2



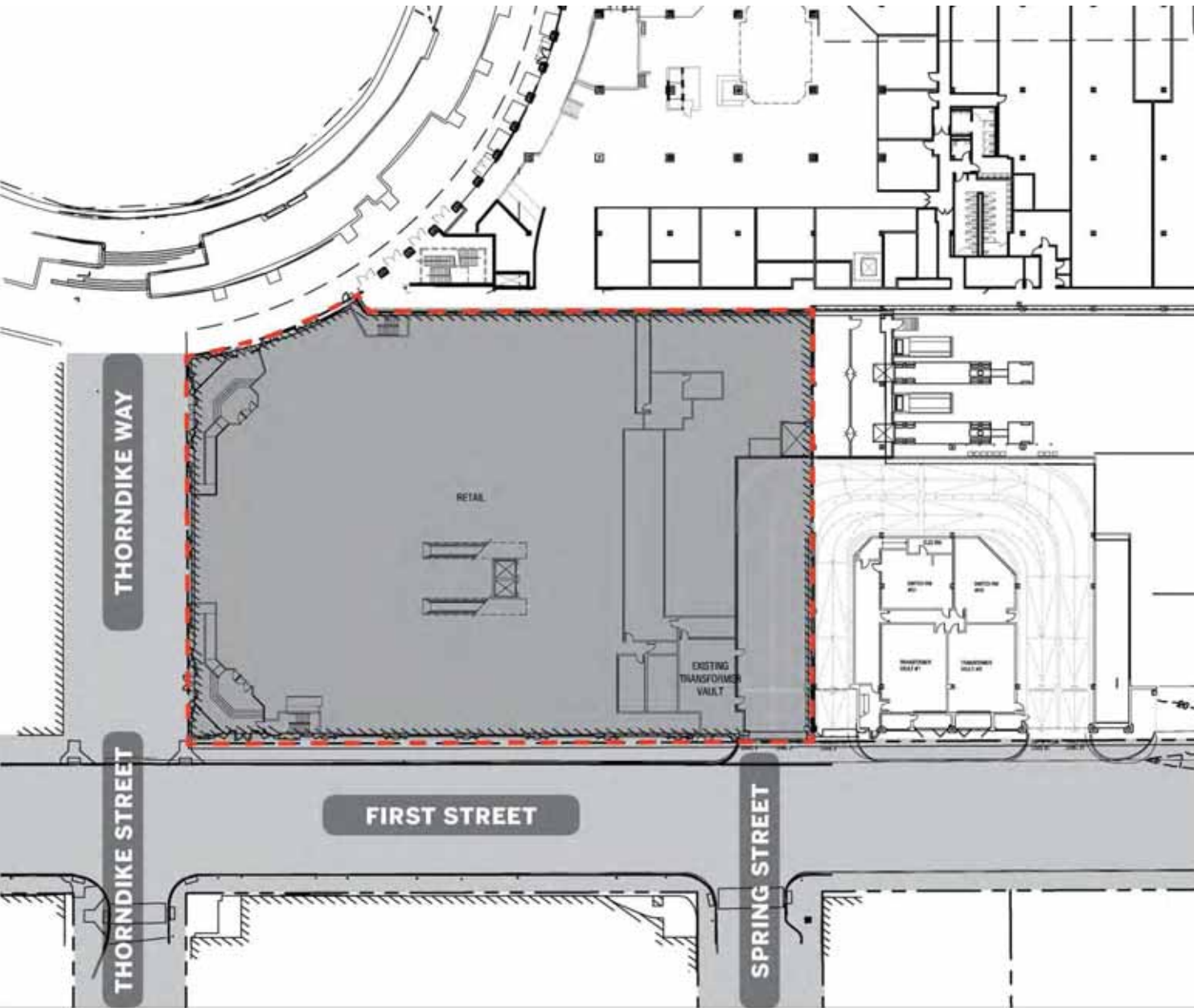
60 First Street EXISTING CONDITIONS

EXHIBIT 3



Legend

- BUILDING SITE
- PROJECT SITE
- ROADWAY AND SIDEWALK



Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |

60 First Street SITE PLAN

EXHIBIT 4



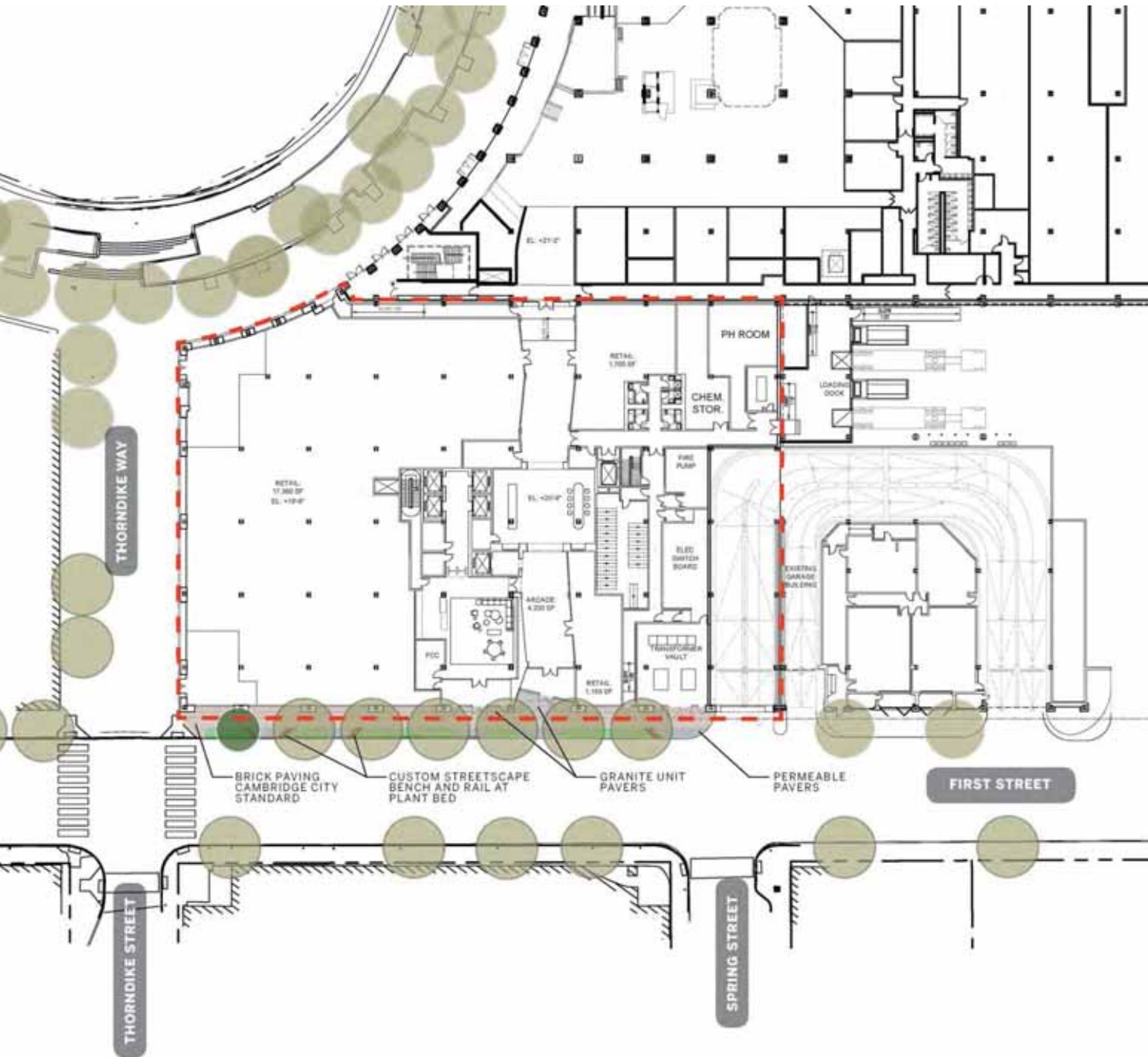
Legend

- BUILDING SITE
- BRICK PAVING
- GRANITE UNIT PAVER
- PERMEABLE PAVER
- NEW TREE
- EXISTING TREE

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |

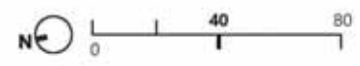




60 First Street

2nd FLOOR PLAN

EXHIBIT 6



Legend

- BUILDING SITE
- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHERS
- TERRACE

Keyplan



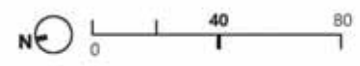
NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



60 First Street

3rd FLOOR PLAN

EXHIBIT 7



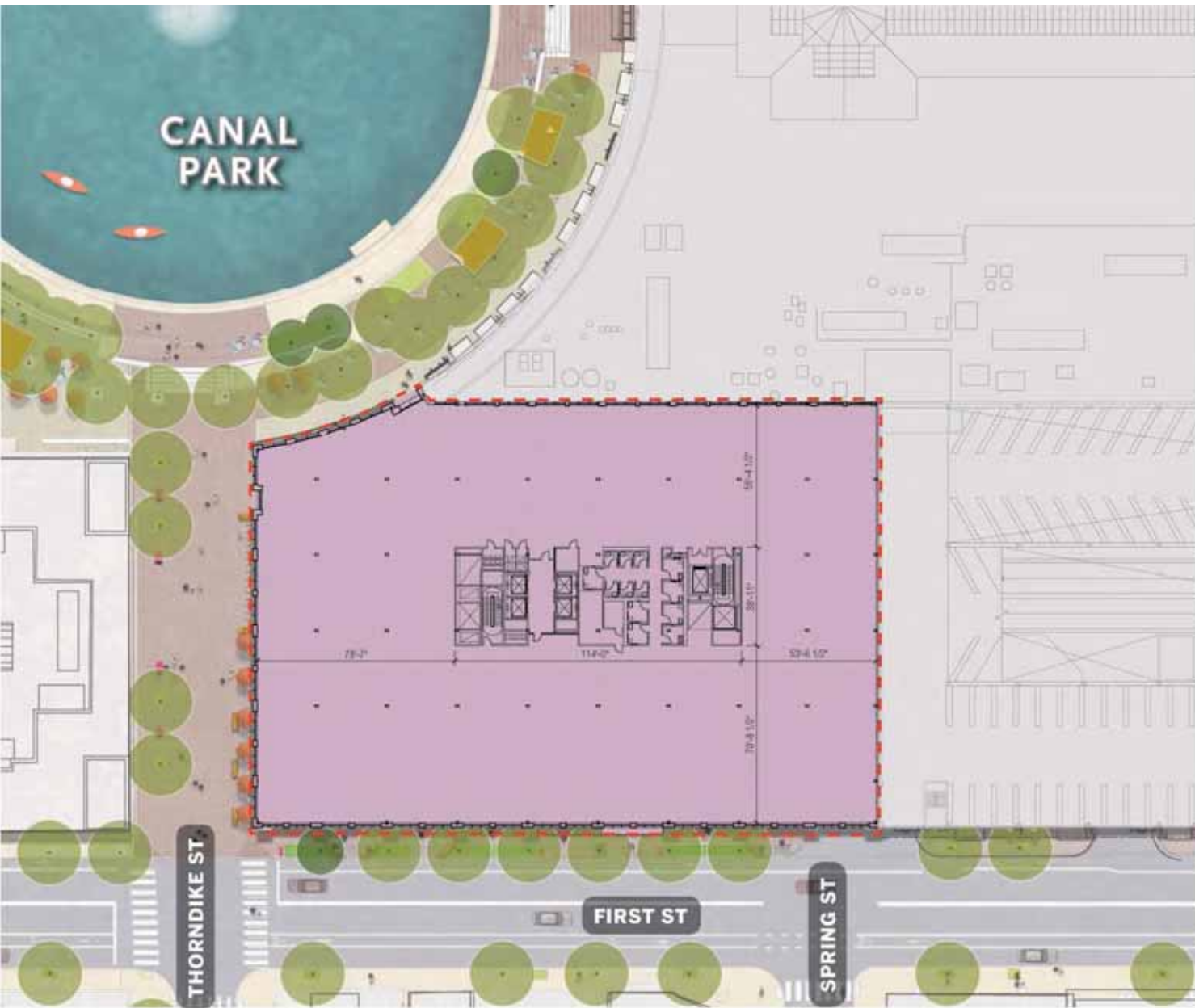
Legend

- BUILDING SITE
- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHERS
- TERRACE

Keyplan



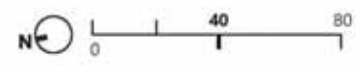
NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



60 First Street

4th FLOOR PLAN

EXHIBIT 8



Legend

- BUILDING SITE
- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHERS
- TERRACE

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



60 First Street

5th FLOOR PLAN

EXHIBIT 9



Legend

- BUILDING SITE
- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHERS
- TERRACE

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



60 First Street

MECHANICAL LEVEL 1 FLOOR PLAN

EXHIBIT 10



Legend

- BUILDING SITE
- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHERS
- TERRACE

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



60 First Street MECHANICAL LEVEL 2 FLOOR PLAN

EXHIBIT 11



Legend

- BUILDING SITE
- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHERS
- TERRACE

Keyplan

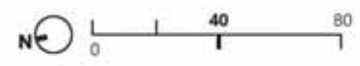


NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



60 First Street ROOF PLAN

EXHIBIT 12



Legend
 BUILDING SITE

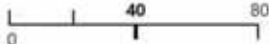
Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |

60 First Street EAST/WEST SECTION

EXHIBIT 13



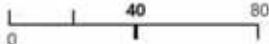
Legend

- BUILDING SITE
- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING

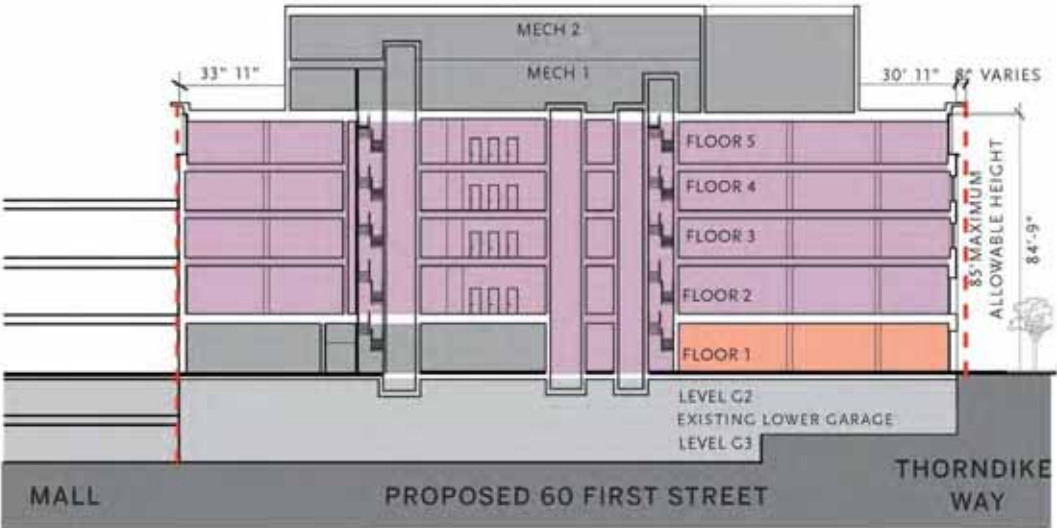


60 First Street NORTH/SOUTH SECTION

EXHIBIT 14

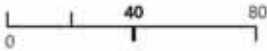


- Legend**
- BUILDING SITE
 - RETAIL/ACTIVE STOREFRONT
 - OFFICE/LAB
 - BOH
 - PARKING/LOADING



60 First Street WEST ELEVATION

EXHIBIT 15



METAL LOUVER

METAL PANEL WITH FRAMING AND SCREEN INFILL - MP-2

METAL PANEL WALL PLATE - MP-1

GLAZING - GL-2

BRICK - BR-1

BRICK SPANDREL WITH REVEALS - BR-1 & BR-2

GLAZING - GL-2

METAL PANEL LINTEL- MP-1

THORNDIKE WAY

PROPOSED 60 FIRST STREET

RAMP FROM UPPER GARAGE

EXISTING UPPER GARAGE

STONE - ST-1

METAL LOUVERS

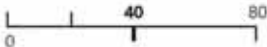
GLAZING - GL-1

METAL CANOPY



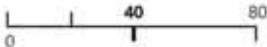
60 First Street NORTH ELEVATION

EXHIBIT 16



60 First Street EAST ELEVATION

EXHIBIT 17



METAL PANEL WITH FRAMING AND SCREEN INFILL - MP-2

METAL PANEL WALL PLATE - MP-1

GLAZING - GL-2

METAL PANEL WALL PLATE SPANDEL - MP-1

ZINC PANEL WALL PLATE - MP-3

GLAZING - GL-2

GLAZING - GL-1

STONE BASE -ST-1

EXISTING MALL

PROPOSED 60 FIRST STREET

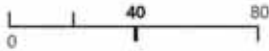
THORNDIKE WAY

1 CANAL PARK



60 First Street SOUTH ELEVATION

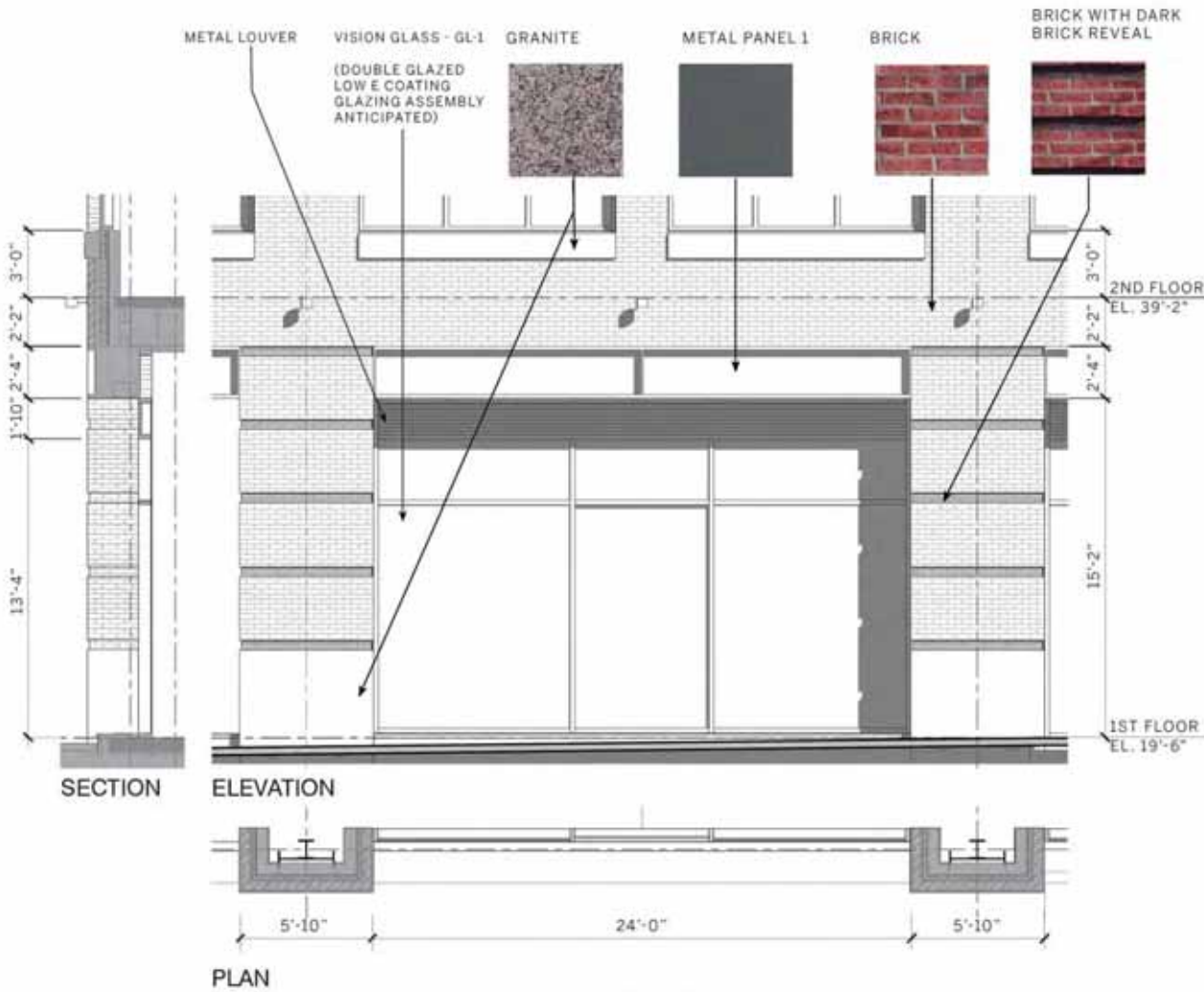
EXHIBIT 18



60 First Street

RETAIL FACADE

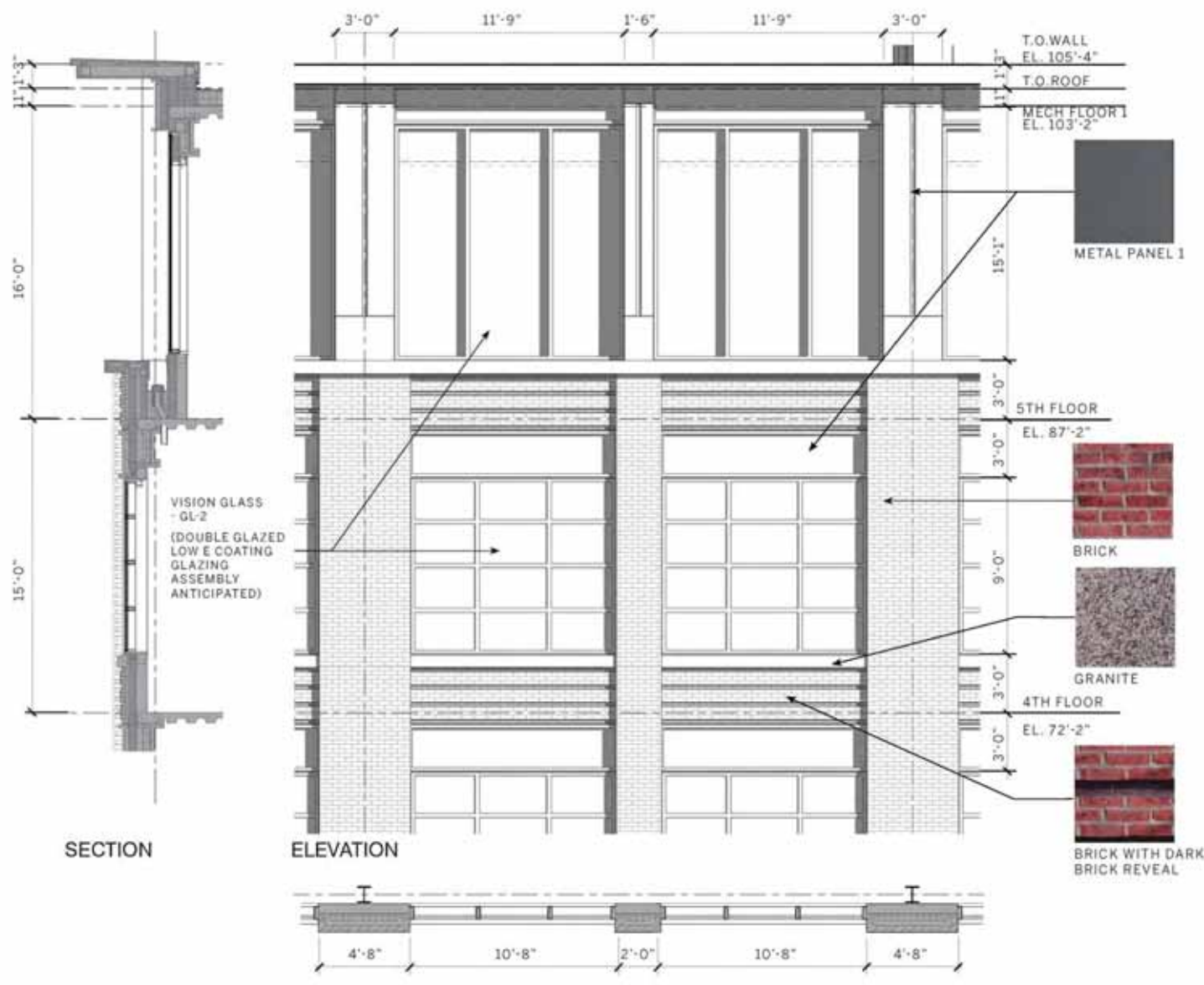
EXHIBIT 19



WINDOW TO WALL RATIO: 30%
 R-VALUE OPAQUE WALL: R-18 ANTICIPATED
 U-VALUE GLAZING ASSEMBLY: U-0.29 ANTICIPATED



DETAIL VIEW



60 First Street

BRICK FACADE

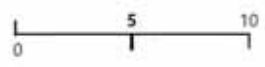
EXHIBIT 20



DETAIL VIEW

PLAN

WINDOW TO WALL RATIO: 30%
 R-VALUE OPAQUE WALL: R-18 ANTICIPATED
 U-VALUE GLAZING ASSEMBLY: U-0.29 ANTICIPATED



60 First Street

BRICK FACADE 3RD & 4TH FLOOR
EXHIBIT 21



60 First Street

BRICK FACADE 4TH & 5TH FLOOR
EXHIBIT 22



60 First Street

NORTHWEST CORNER VIEW

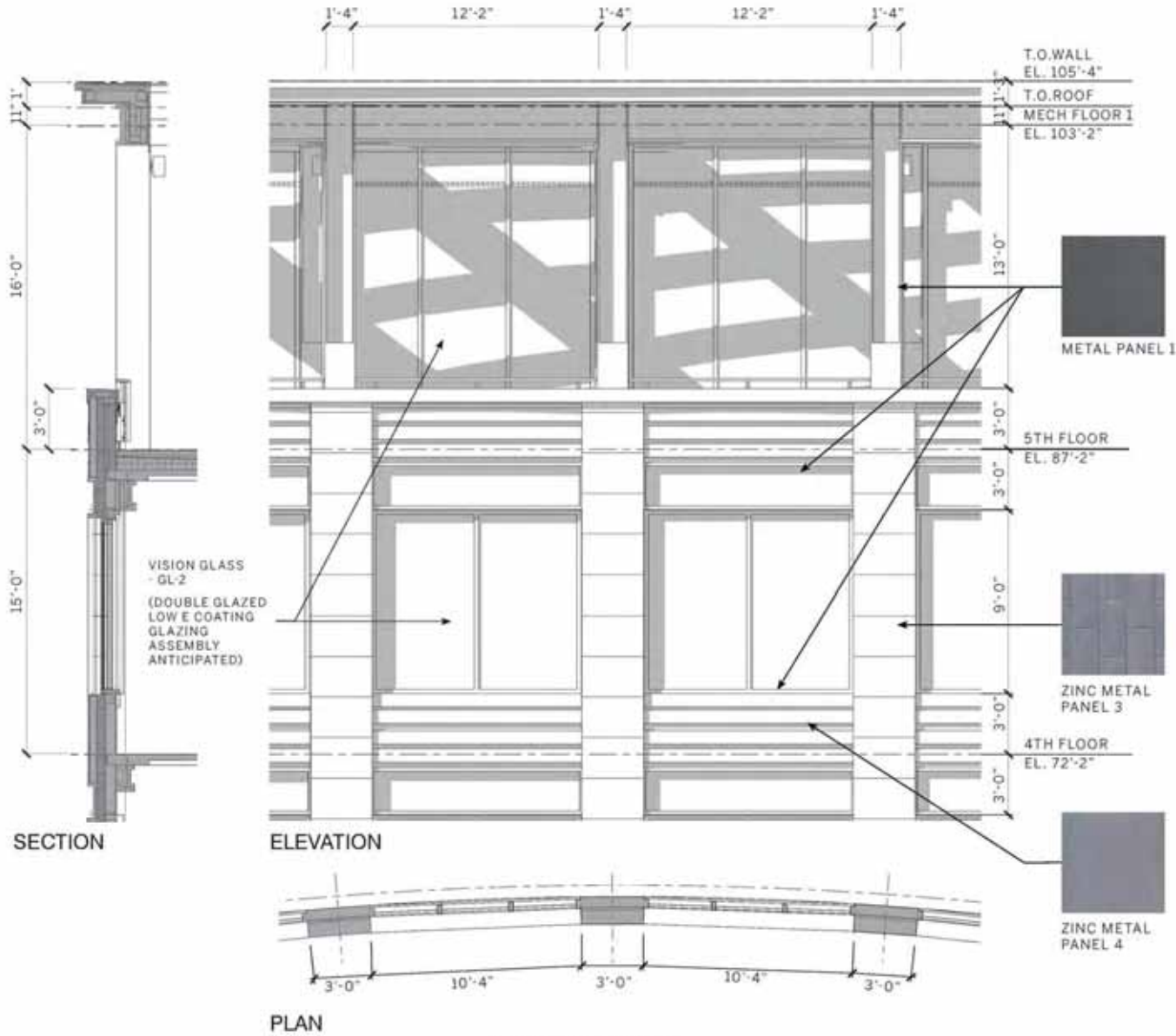
EXHIBIT 23



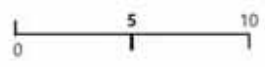
60 First Street

ZINC PANEL FACADE

EXHIBIT 24



DETAIL VIEW



WINDOW TO WALL RATIO: 30%
 R-VALUE OPAQUE WALL: R-18 ANTICIPATED
 U-VALUE GLAZING ASSEMBLY: U-0.29 ANTICIPATED

60 First Street

ZINC PANEL FACADE
GROUND & 2ND FLOOR

EXHIBIT 25



60 First Street

ZINC PANEL FACADE

2ND, 3RD & 4TH FLOOR

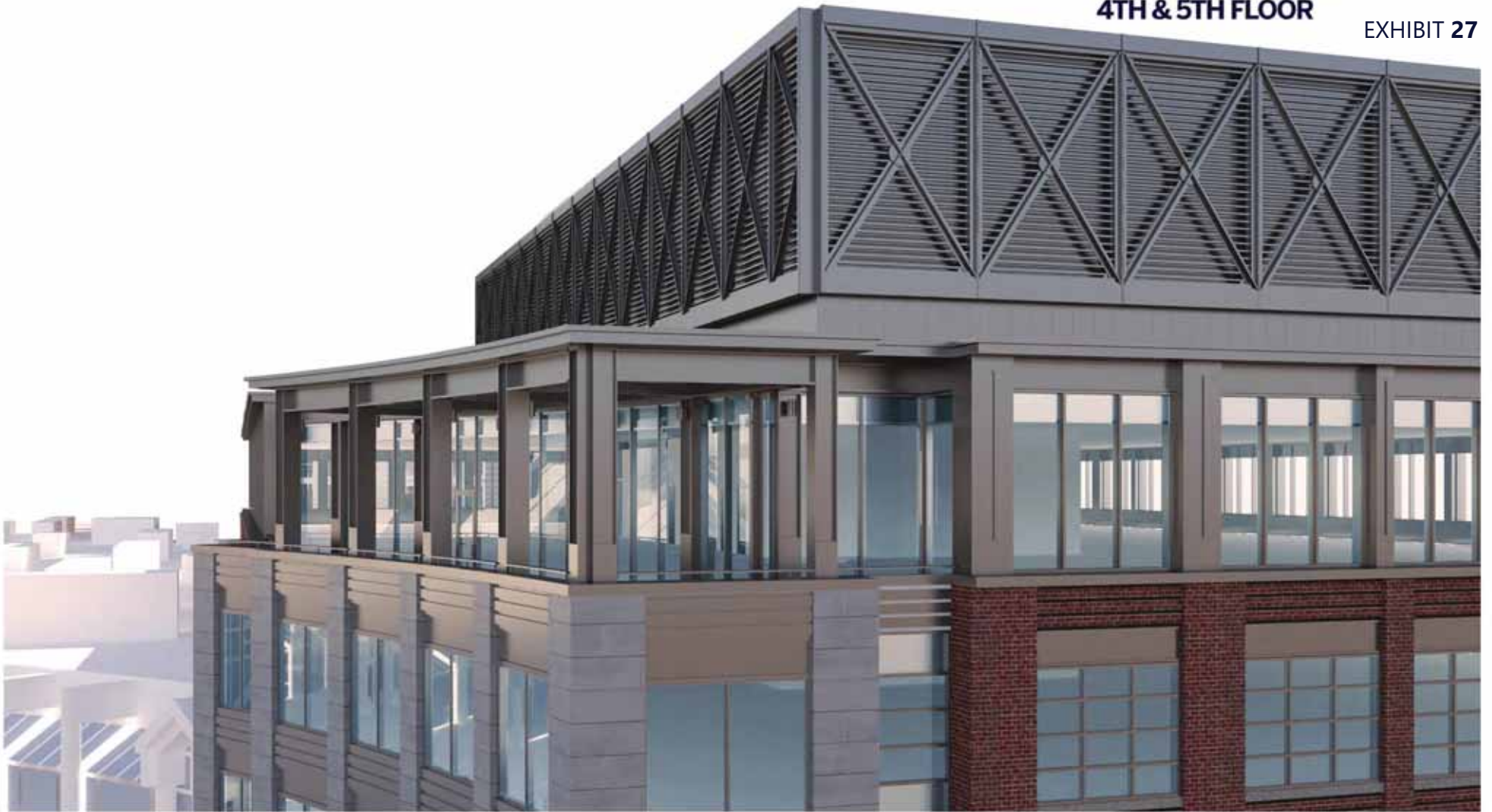
EXHIBIT 26



60 First Street

ZINC PANEL FACADE
4TH & 5TH FLOOR

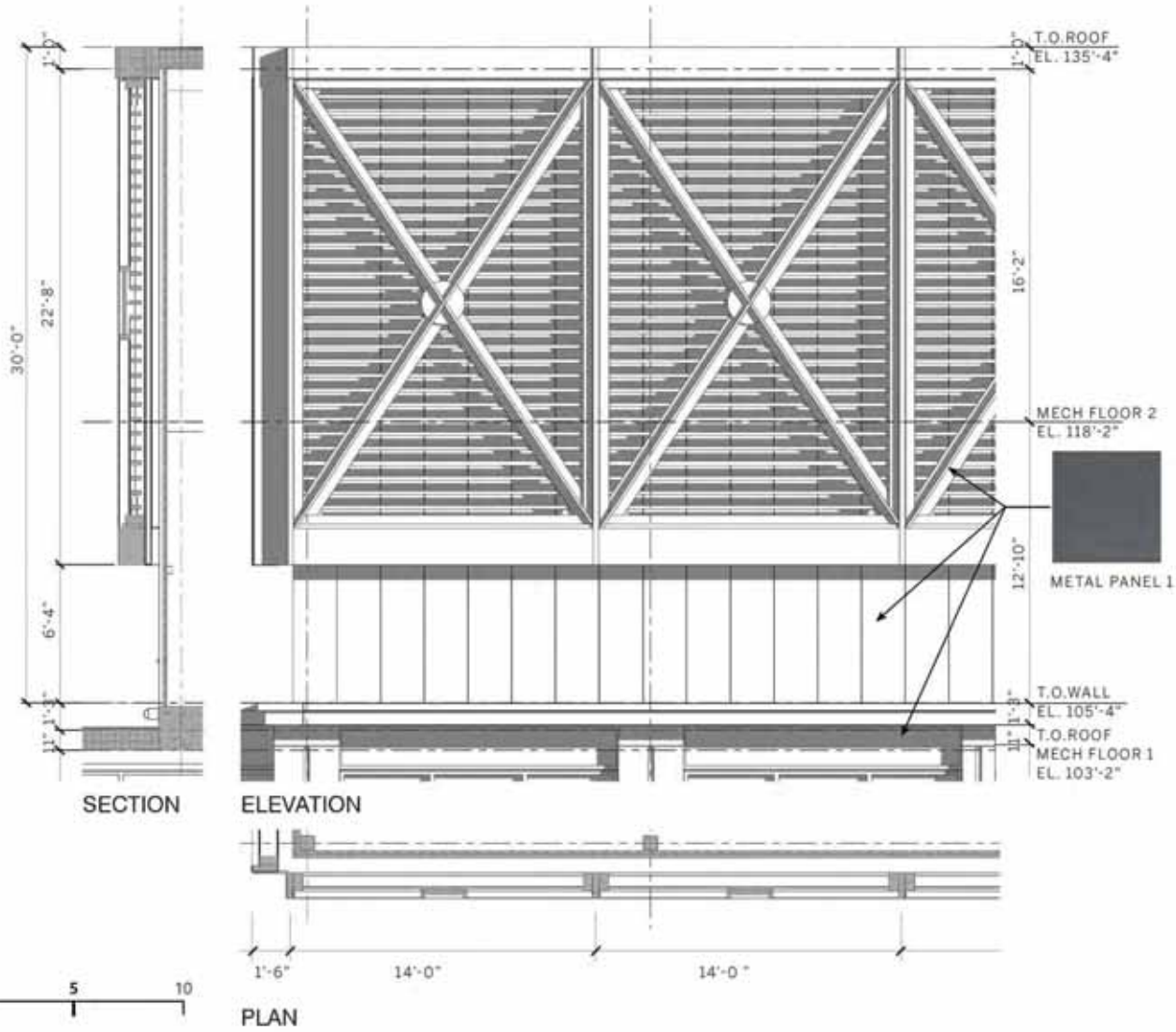
EXHIBIT 27



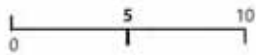
60 First Street

MECHANICAL LEVEL PANELS

EXHIBIT 28



DETAIL VIEW





60 First Street

FIRST STREET VIEW

EXHIBIT 29



60 First Street CANAL VIEW

EXHIBIT 30



60 First Street

FIRST STREET ENTRANCES

EXHIBIT 31



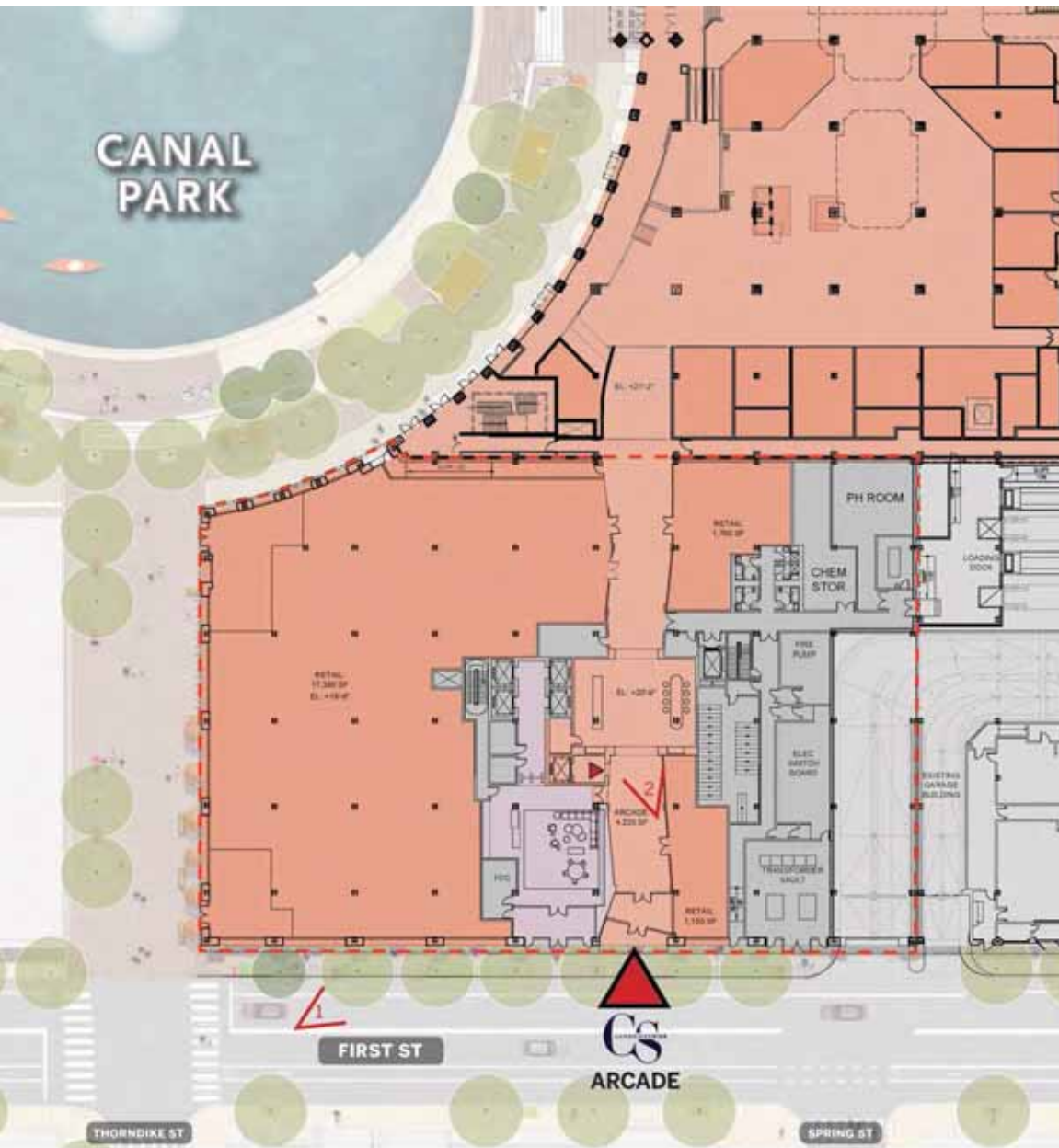
60 First Street

FIRST STREET ENTRANCES

EXHIBIT 32



CANAL PARK



60 First Street CONCEPTUAL ARCADE PLAN

EXHIBIT 33

1 | Proposed First Street Arcade Entry



2 | Conceptual Arcade looking toward Food Court



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CS

60 First Street LANDSCAPE MATERIAL PLAN

EXHIBIT 34



CAMBRIDGE CITY
STANDARD BRICK PAVING



GRANITE ENTRANCE
PAVING



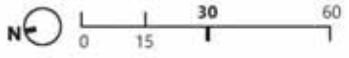
SEATING



OUTDOOR SEATING

60 First Street LANDSCAPE MATERIAL PLAN

EXHIBIT 35





60 First Street Streetscape Bench Concept

EXHIBIT 36



STREETSCAPE BENCH 3D VIEW

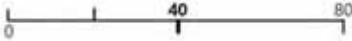


STREETSCAPE BENCH 3D VIEW

60 First

**BUILDING ADDRESS AND
PARKING WAYFINDING SIGNAGE**

EXHIBIT 37



Legend
PROPOSED SIGNAGE LOCATIONS



THORNDIKE WAY

PROPOSED 60 FIRST STREET

RAMP FROM
UPPER GARAGE

EXISTING UPPER GARAGE





60 First Street

EXTERIOR LIGHTING

EXHIBIT 38

THE BUILDING IS LOCATED ON A LIVELY CORNER OF THE MALL DEVELOPMENT WITH BOTH PEDESTRIAN AND VEHICULAR ACTIVITY. THE LIGHTING APPROACH FOR THE BUILDING IS TO GIVE IT A PRESENCE ON THE STREETScape AND KEEP THE PEDESTRIAN EXPERIENCE WELCOMING. A LAYERED APPROACH TO THE FAÇADE LIGHTING WITH VARYING BRIGHTNESS LEVELS WILL DRAW PEOPLE'S EYES WITHOUT BEING DISTRACTING.

AT THE PEDESTRIAN LEVEL, THE BRIGHTEST LAYER OF LIGHT INCLUDES INGROUND UPLIGHTS SHALL GRAZE THE FRONT FACE OF THE STONE PLINTHS, AS WELL AS RECESSED DOWNLIGHTS.

THE SECOND LAYER SHALL BE SURFACE MOUNTED FLOOD LIGHTS GRAZING UP THE FAÇADE OF LEVELS 2 THROUGH 4, EMPHASIZING THE BRICKWORK MATERIAL.

THE LAST LAYER SHALL BE LOCATED AT LEVEL 5, UPLIGHTING THE OVERHANG, PROVIDING A GLOWING CROWN EFFECT TO BE SEEN FROM THE DISTANCE.

THE LIGHTING ON THE FAÇADE SHALL BE DIMMABLE TO BALANCE BRIGHTNESS IF NEEDED TO RESPECT NEIGHBORHOOD CONCERNS AND ALLOW FOR DIFFERENT LIGHT LEVELS THROUGHOUT THE NIGHT.

60 First Street

PHYSICAL MODEL

EXHIBIT 39



LOOKING SOUTHEAST



LOOKING NORTHEAST



LOOKING NORTHWEST



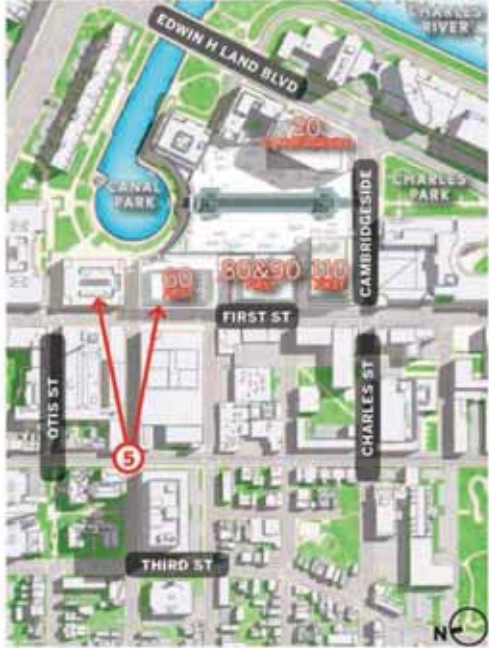
LOOKING SOUTHWEST



Thorndike Street

SECOND LOOKING EAST

EXHIBIT 40





First Street

OTIS LOOKING SOUTH

EXHIBIT 41





Spring Street

SECOND LOOKING EAST

EXHIBIT 42

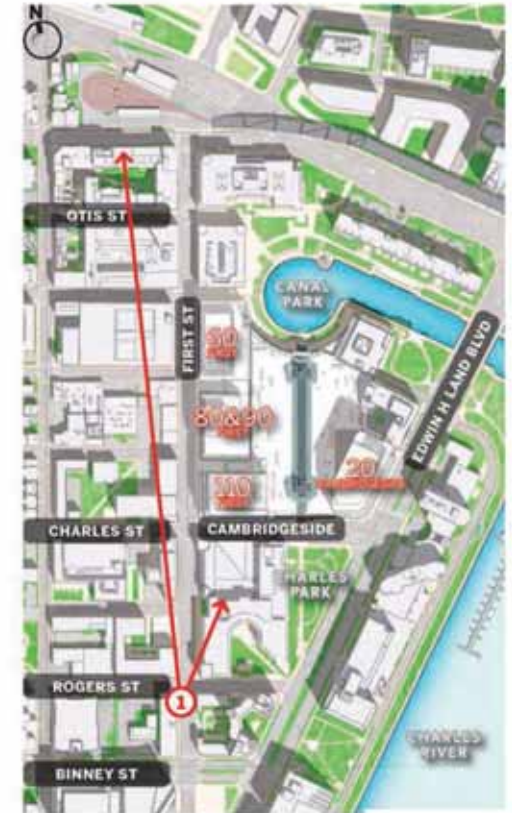




First Street

ROGERS LOOKING NORTH

EXHIBIT 43



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | Cs



Parking, Loading and Circulation

Parking

As in indicated on Exhibits 44 and 45, the project will have no impact on the existing access to or egress from either the Lower or Upper Garages. The proposed renovations include limited structural reinforcing required for the new lab/office above grade structure. The existing Upper Garage egress ramp which exits through the 60 First building onto First Street will be retained until the Upper Garage is permanently closed. A new public elevator will provide access to the Arcade from the Lower Garage within the footprint of an existing elevator shaft that served Sears.

Consistent with the Decision, all approved uses on the PB-364 Development Parcel (including those within the 60 First building) will be served by existing parking spaces on site, which will be reduced over project buildout from the existing 2,490 spaces to approximately 1,695 parking spaces.

Bicycle Parking

The Decision provides that the required number of bicycle parking spaces for the entire PB-364 Development Parcel at full buildout shall be 450 long-term spaces and 146 short-term spaces. Long-term bicycle parking spaces may be provided anywhere on the site and are permitted to serve all approved uses in the PUD. Upon completion of the 60 First building project, a total of 82 long-term bicycle parking spaces will be available on the PB-364 Development Parcel. The long-term bicycle spaces located within the 60 First building, as indicated on Exhibit 48 will be accessed at grade on First Street via a corridor leading to nearby changing rooms. Upon completion of the 60 First building project, a total of 85 short-term bicycle parking spaces will be available on the PB-364 Development Parcel. Following the completion of both Initial Phase buildings, there will be a total of 143 long-term bicycle parking spaces and 87 short-term bicycle parking spaces on the PB-364 Development Parcel.

Loading/Service

Consistent with the Decision, loading facilities will be shared across the buildings and uses on the entire PB-364 Development Parcel, including the 60 First building site, in order to serve the interconnected mix of uses at the site. Upon completion of the Initial Phase buildings, a total of 14 loading bays will exist across the PB-364 Development Parcel, which is consistent with the approved range of loading bays for the site under the Decision (including the Phasing Timeline included on Appendix A of the Decision).

As part of the 60 First project, the existing 60 First loading dock, which is accessed from an existing curb cut on First Street, will be renovated. The renovated loading dock will maintain off-street loading for the building. Truck maneuvering for entry and exit will continue to be accommodated

within the enclosed loading dock area, including truck sizes up to a WB-50. The renovated loading dock adjacent to 60 First will service the lab/office and retail uses of the 60 First project. Additionally, dedicated garbage and recycling services are provided for the 60 First project. The remaining bays of the service yard that are adjacent to the Best Buy building and are shared by the core mall and the retail tenants in the Best Buy building will continue to be actively managed.

CANAL PARK

FIRST ST

60 First Street LOWER GARAGE LEVEL G3

EXHIBIT 44



Legend

 BUILDING SITE

Keyplan



CANAL PARK

60 First Street LOWER GARAGE LEVEL G2

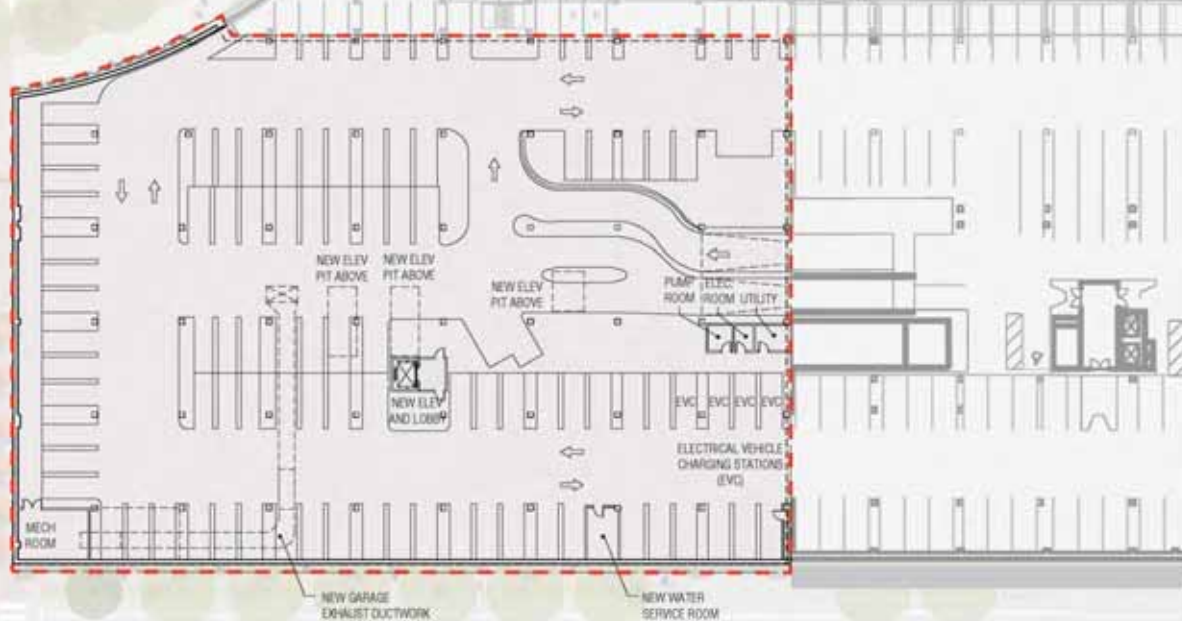
EXHIBIT 45



Legend

- BUILDING SITE
- OTHERS

Keyplan



FIRST ST

CANAL PARK

60 First Street GROUND FLOOR ENTRANCES

EXHIBIT 46



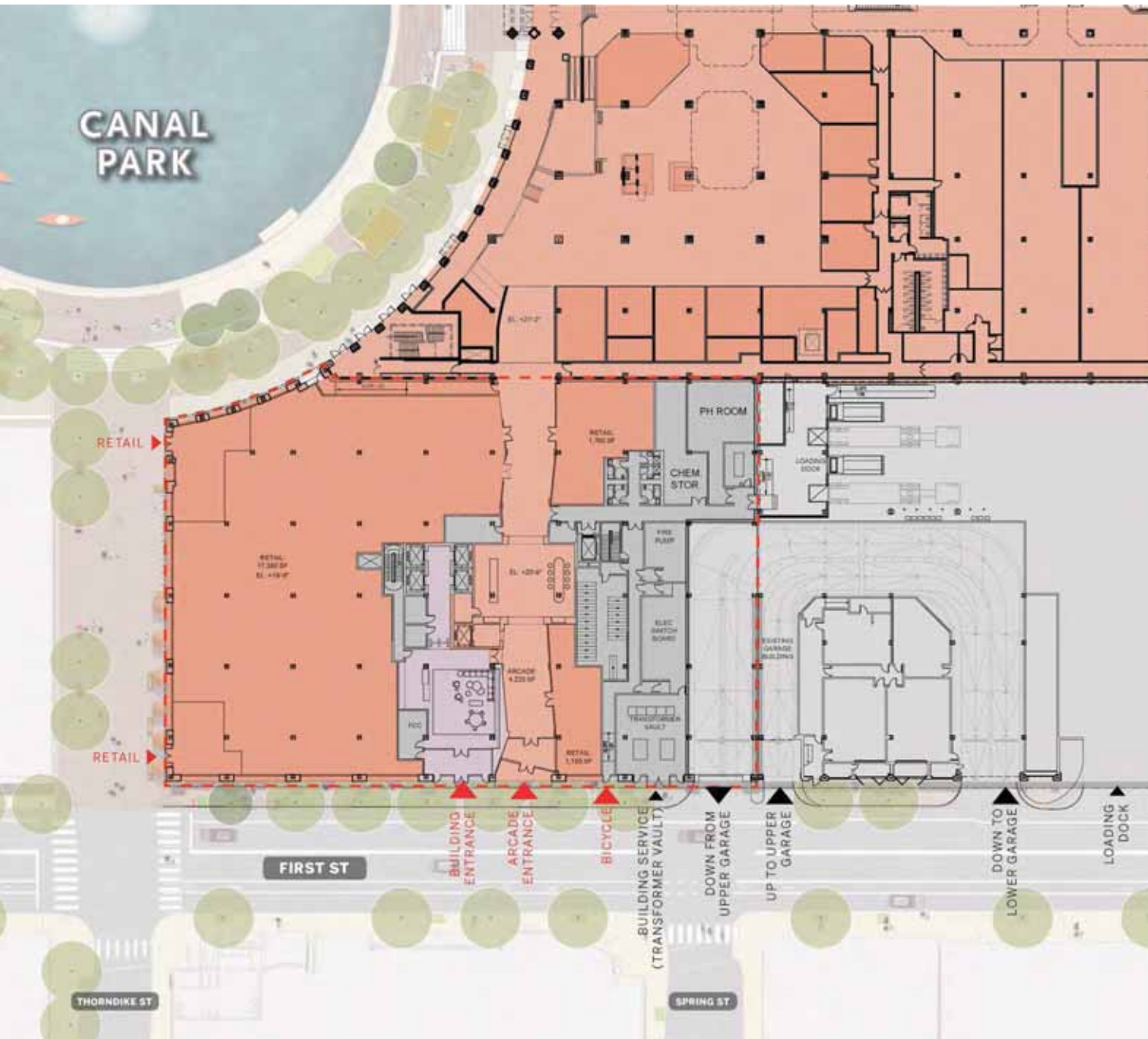
Legend

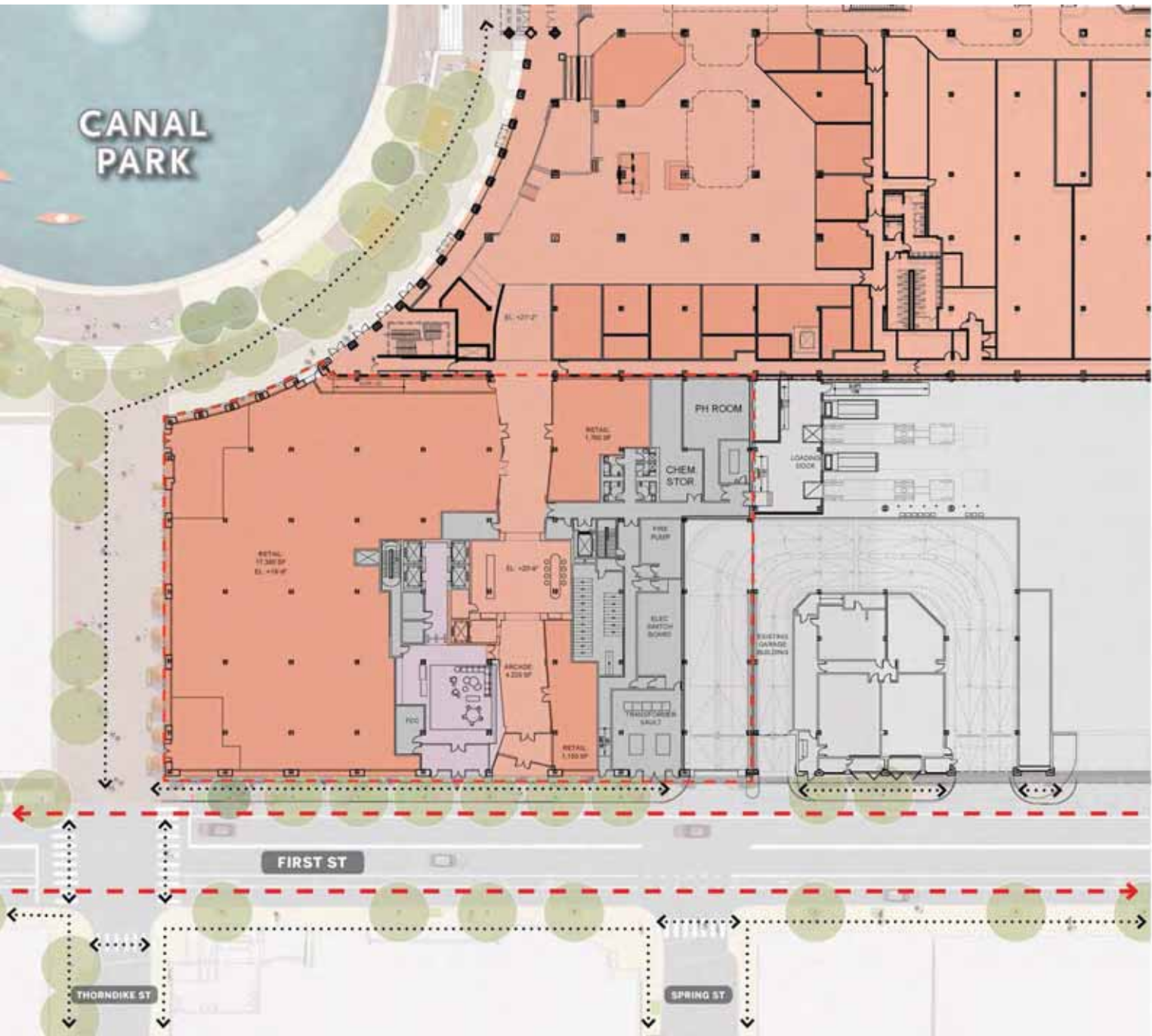
- BUILDING SITE
- BUILDING ENTRY
- RETAIL ENTRY
- PARKING ENTRY
- SERVICE ENTRY

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |





60 First Street

PEDESTRIAN/BICYCLE CIRCULATION DIAGRAM

EXHIBIT 47



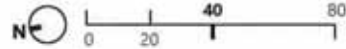
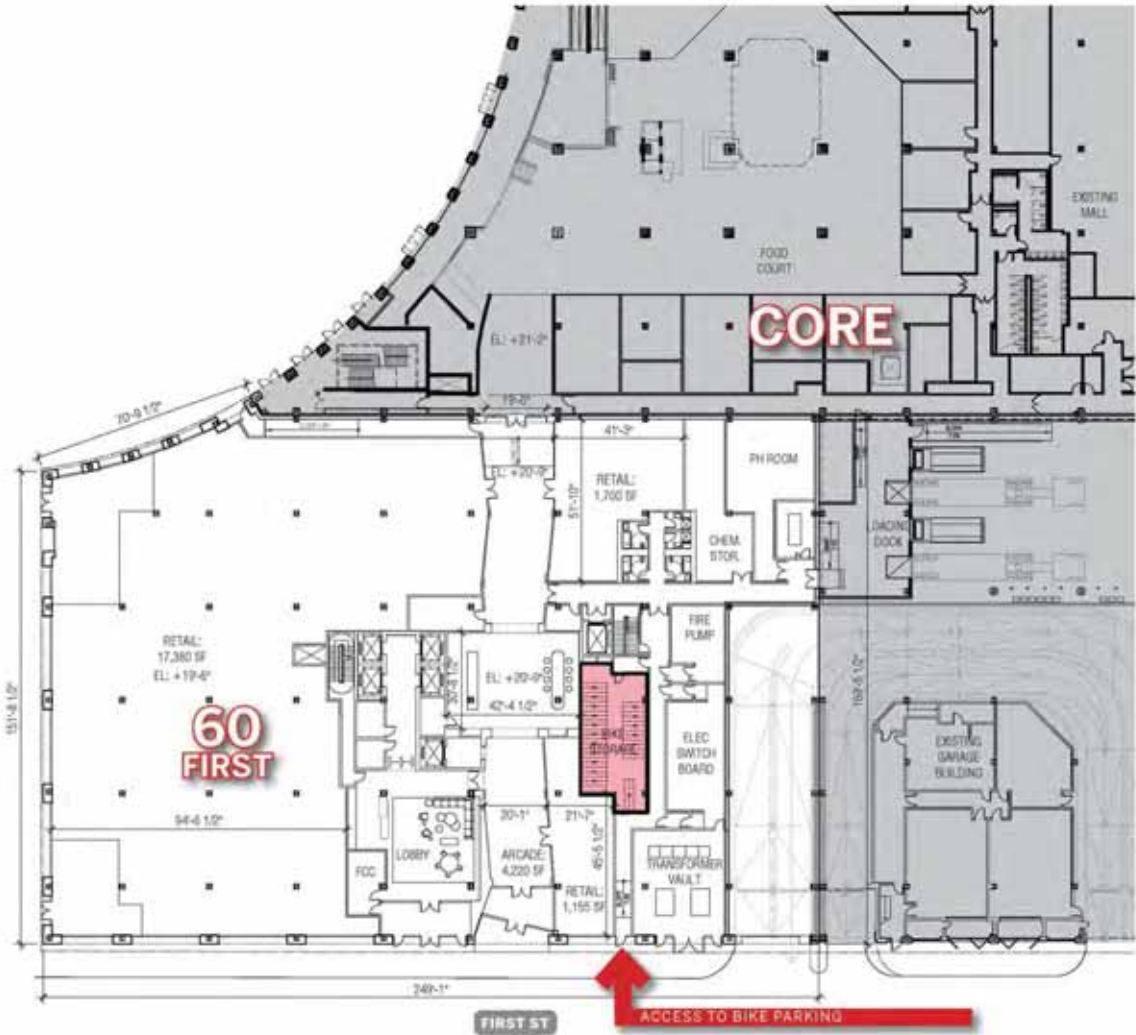
- Legend**
- ▭ BUILDING SITE
 - ↔ PEDESTRIAN CIRCULATION
 - ↔ BICYCLE CIRCULATION



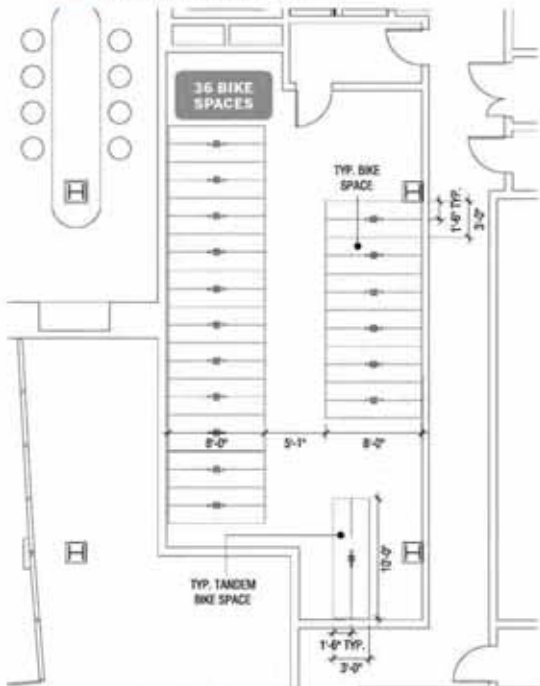
NEW ENGLAND DEVELOPMENT | **ELKUS** | **MANFREDI** | **CS**
ARCHITECTS

60 First Street BIKE PARKING PLAN

EXHIBIT 48



Legend
 LONG TERM BIKE PARKING



31 BIKE PARKING SPACES REQUIRED PER ARTICLE 6.100
 36 BIKE SPACES PROVIDED



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



Green Building Review

Condition 11 Compliance

Building Sustainability

The building has been designed to meet the requirements of Section 22.20 of the CZO and has been registered with the United States Green Building Council under the LEED for Core and Shell Development version 4 rating system. The building is targeting 66 out of a possible 110 credit points with an additional 19 credit points still undergoing evaluation to determine feasibility of achievement. By targeting 66 credit points, the building anticipates meeting the City of Cambridge requirement to be LEED v4 Gold 'certifiable'. Additionally, in accordance with Section 13.107.4 and as detailed further in the attached Green Building Report, the following best practices have been incorporated into the 60 First building:

Energy and Emissions:

The building is designed to meet IECC 2015/ASHRAE 90.1-2013 energy efficiency requirements to comply with the requirements of the Massachusetts Stretch Energy Code. Based on current modeling, it is expected that the building will achieve at least a 15.7% annual energy cost savings when compared to the ASHRAE 90.1-2010 baseline. Using the LEED Alternative Compliance Path for Alternative Energy Performance Metric, the building demonstrates an average 30.6% reduction in greenhouse gas emissions and site energy consumption reduction compared to the LEEDv4 baseline.

Urban Site and Landscaping; Water Management:

Through the use of native/adaptive plant species selection, the building site's landscape water requirement (as calculated by the EPA WaterSense Water Budget Tool) will be reduced by at least 30% from the calculated baseline for the site's peak watering month. The landscape design will include softscape areas that will be planted with a diverse palette of materials that are native, adaptive, low-maintenance, and no irrigation requirements beyond establishment and have year-round aesthetic appeal. The 60 First Project will meet the Cambridge DPW Stormwater Management Standards to the maximum extent practicable. Under the existing conditions, the Project site is entirely impervious. Stormwater runoff is currently collected through roof drains that discharge to the municipal system in First Street that ultimately discharges to the Lechmere Canal. Under the proposed conditions stormwater runoff and volume will essentially remain the same as there will be no increase in impervious area. However, stormwater water quality conditions will improve by implementing best management practices (BMP's) such as permeable pavers and tree grates to provide additional water quality treatment measures and promote stormwater infiltration and groundwater recharge to the maximum extent practicable.

Cool Roofs & Site Cooling Strategies:

The roof and non-roof hardscape materials of the building will include light-colored surfaces to reduce the overall heat

island effect impact on the building site. The roof membrane will be a high albedo roof product with an initial SRI value of 82 minimum.

Monitoring:

The building will conform to the requirements of the Cambridge Building Energy Use Disclosure Ordinance as required by Chapter 8.67 of the Municipal Code.

Healthy Living and Working:

The Project will specify and install interior finishes that are low-emitting to ensure a healthy indoor air quality for occupants. Additionally, materials with ingredient disclosure documents such as Health Product Declarations, Declare Labels, and/or Cradle to Cradle certification will be selected when possible to limit the amount of hazardous ingredients throughout the building. Lastly, plenty of fresh air will be provided to occupants as the Project's ventilation rates will exceed the minimum requirements of ASHRAE 62.1-2010 by more than 30%.

Transportation:

The building's location within East Cambridge provides various transportation options. The Project is located within ½ mile walking distance of the Lechmere T station, which provides users of the site with access to 424 weekday rides and 264 weekend rides via the MBTA Green B, C, D, and E lines, and MBTA bus lines 69, 80, 87, and 88. As described earlier in this application, exterior short-term and covered long-term bicycle storage is also planned for visitors and regular occupants of the building. The immediate neighborhood provides a direct connection to a local bicycle network that links to a variety of services with pedestrian and cyclist access. 5 shower rooms are provided throughout the building that can be accessed by building occupants in order to support cycling to and from the site.

Flood Resiliency:

The existing first-floor elevation of the 60 First Street building is approximately at elevation 19.5' and will not be impacted by the projected 2070 flood depths (el. 18.9'). There are some locations along the northeast Canal side with an approximate elevation 18.0' that can be addressed by employing a deployable barrier or raising the floor elevation subject to leasing documents to protect the Project from the projected 2070 100-year precipitation flood depth.

In accordance with Conditions 4 and 11 of the Decision, the Applicant obtained from CDD a certified Green Building Report for the 60 First building on November 6, 2020, which is included with this submission on page 57.

60 First Street Green Building Report
CDD Comments on Special Permit Submission

Green Building Requirements

60 First Street Green Building Report – Comments on Special Permit Stage

Status: The Community Development Department (CDD) received the final update of the Green Building Report (GBR) for the Design Review stage of 60 First Street, per Section 22.25.1 of the Zoning Ordinance, on 10/30/2020. The project includes renovation of the existing three-story building as well as addition of two more floors to accommodate office and laboratory uses in addition to retail use and a pedestrian arcade passage to the adjacent mall in the ground floor with a total gross floor area (GFA) of 196,142 SF. This building is part of the CambridgeSide Planned Unit Development (PB-364). CDD staff have reviewed the project's GBR report and offer the following Determination, Summary of Compliance and Advisory Comments on its green building and net zero attributes.

CDD Determination: 60 First Street is part of a Planned Unit Development (PUD) for which the Applicant has already submitted documents demonstrating compliance with the Green Building Requirements at the special permit stage. The documentation provided would be sufficient to demonstrate compliance with the Green Building Requirements of Section 22.24 for this component of the project. Since a special permit approving the Final Development Plan has not yet been granted, approval of this submission is contingent on approval of the Final Development Plan, which may contain additional conditions or guidelines related to green building, sustainability and resilience per Section 13.100.

A revised GBR submission with additional documentation will also be required prior to application for building permit and granting of certificate of occupancy.

LEED Project Summary: This project is subject to the City's Green Building Requirements (Section 22.20, Zoning Ordinance). The Project is currently meeting the minimum Green Building Requirements, targeting LEED Gold, under LEED v4 BD+C. Additional 19 credit points have been designated as possible points to be pursued. The Green Building Report for this project is anticipated to be complete and meets Article 22 requirements pending approval of the Final Development Plan.

LEED Rating System: LEED v4 BD+C – Core and Shell Development

Summary of Compliance and Comments:

Green Building Professional Affidavit Certification

- Christopher Schaffner of The Green Engineer has been identified as the Green Building Professional for the project. The affidavit states that this professional has reviewed all relevant documents for this project and confirm to the best of his/her knowledge that those documents indicate that the project is being designed to achieve the requirements of Section 22.24 under Article 22.20 of the Cambridge Zoning Ordinance.
- A copy of the professional's credential from Green Building Rating Program has been provided.

Rating System Checklist, Rating System Narrative, and Net Zero Narrative

- The project is pursuing Integrative Process credit.
- The project is pursuing Enhanced Commissioning using Path 1 in Option 1, which includes commissioning process for various building systems and assemblies.

November 6, 2020

1

60 First Street Green Building Report
CDD Comments on Special Permit Submission

- The project is targeting a 30.6% improvement in energy cost savings over the baseline using the Alternative Compliance Path of Alternative Energy Performance Metric in pursuing Optimize Energy Performance credit. The proposed building source energy use intensity (EUI) will be approximately 292 kBtu/sf-yr.
- The project is pursuing Innovation credit using Option 3, which includes Integrative Analysis of Building Materials as pilot performance strategy, Heat Island Reduction and Reduced Parking Footprint as exemplary strategies, and purchasing low or no mercury lamps as innovation strategy. The project team is yet to determine the selection of one Innovation credit.
- LEED-credit points summary:
 - Integrative Process – 1 point
 - Location and Transportation – 19 points
 - Sustainable Sites – 6 points
 - Water Efficiency – 8 points
 - Energy and Atmosphere – 17 points
 - Materials and Resources – 3 points
 - Indoor Environmental Quality – 4 points
 - Innovation – 6 points
 - Regional Priority – 2 points
- Anticipated building envelope performance including roof, foundation, walls and window assemblies, and window-to-wall ratio:
 - Building envelope performance comparison between latest edition Massachusetts Stretch Energy Code baseline and proposed design indicates the proposed design performance is on par with regard to window and wall assemblies and roof system.
- Anticipated energy loads, baseline energy simulation tool assumptions, and proposed energy targets as currently modelled in this design phase:
 - Proposed site energy use Intensity (EUI) will be 37% below baseline with a targeted EUI of approximately 120 kBtu/sf-yr. The targeted source EUI is 292 kBtu/sf-yr.
 - Proposed GHG emissions will be 31% reduction from baseline with targeted GHG emission of 1849 MT CO_{2e}.
- Description of building energy performance integrated into the project's planning, design, and engineering, massing, envelope systems, building mechanical systems, on-site and off-site renewable energy systems, and district-wide energy systems:
 - High performing envelope with continuous envelope insulation on walls and roofs.
 - Low Window to Wall Ratio at 30%.
 - High efficiency heat recovery equipment and high efficiency chiller and boiler plants.
 - High efficiency plumbing system to reduce water and energy use.
 - LED lighting.
 - Low flow plumbing fixtures.

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- Description of technical framework for transitioning project to net zero emission in the future, including future net zero emission options for building envelope, HVAC systems, domestic hot water, interior lighting, and on-site and off-site renewable energy sources:
 - Lighting design targeted at 20% below code allowance and future lighting upgrades.
 - Conversion of domestic hot water heating source to a heat pump.
 - Plug loads lowered 25% to reduce cooling loads.
 - Replacement of boilers and chillers with modular air-cooled heat pumps.
- Description of programs offered by local utility companies that are being considered to improve building performance:
 - Mass Save Integrated Design Path for Large Buildings
 - EV make-ready program

Advisory Comments by CDD Staff:

The City's goal is to promote environmentally sustainable and energy-efficient design and development practices in new construction and renovation of existing buildings. Recommended practices include the reuse of existing buildings and materials, the conservation of natural resources and reduction of toxins in building materials and construction methods, and the reduction in energy use in construction and daily operations. Other design strategies that would foster pedestrian, bicycle, and public transit use in the city include compact arrangement of buildings and permitted mix of land uses. CDD staff would encourage the Project Team to pursue the highest level of sustainable and energy-efficient design possible and recommend pursuing the following:

- Additional (2) points for Indoor Water Use Reduction credit in Water Efficiency category.
- Additional points, (3) for Optimize Energy Performance credit, (1) for Advanced Energy Metering credit, (1) for Renewable Energy Production credit, and (2) for Green Power and Carbon Offsets credit in Energy and Atmosphere category.
- Additional points, (4) for Building Life-Cycle Impact Reduction credit, (1) for BPDO-Sourcing of Raw Materials credit, and (1) for Construction and Demolition Waste Management credit in Materials and Resources category.
- Additional points, (1) for Enhanced Indoor Air Quality Strategies credit and (1) for Low-Emitting Materials credit in Indoor Environmental Quality category.
- Additional points, (1) for Indoor Water Use Reduction and (1) for Building Life-Cycle Impact Reduction in Regional Priority category.
- Consider pursuing Envelope Commissioning.

Staff urge the design team to keep pursuing additional points especially from impactful categories such as energy and atmosphere, indoor environmental quality and materials and resources. Since 60 First Street involves the existing Sears building, staff recommend exploring Building Life-Cycle Impact Reduction credit points. It would be helpful to know more about information on product and materials on some of the LEED credits by the time of applying for certificate of occupancy. Some of these credits include, but not limited to, credit 2, Building Product Disclosure & Optimizations (BPDO): EPDs, credit 4, BPDO: Material Ingredients, and Credit 2, IEQ Low Emitting Materials. In addition, it would be informative for staff to know comments issued by USGBC during their review phases for the project.

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The project will be subject to further review prior to receiving its Building Permit and Certificate of Occupancy. CDD Staff is available to work with the Applicant through continuing design review and looks forward to receiving updates on the project's Net Zero Narrative and modeled energy savings as the design moves forward.

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Noise Mitigation Study

Section 13.107.2 Compliance

Noise Mitigation

As demonstrated by the immediately following Environmental Sound Analysis, the 60 First building will conform to the requirements of the City of Cambridge Municipal Noise Ordinance and the Decision, which incorporates Section 13.107.2 of the CZO, for noise or vibration emanating from the building. Refer to the memo on the following pages for a summary of noise analysis and confirmation of compliance with City of Cambridge requirements.



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Octave Band Center Frequency of Measurement (Hz)	Residential Use, Daytime* (dB)	Residential Use, All Other Times (dB)	Commercial/Business, Anytime (dB)
31.5	76	68	79
63	75	67	78
125	69	61	73
250	62	52	68
500	56	46	62
1000	50	40	56
2000	45	33	51
4000	40	28	47
8000	38	26	44
Single Number Equivalent	60 dBA	50 dBA	65 dBA

*Daytime is defined as the period between 7AM and 6PM daily except Sundays and holidays.

Table 1: City of Cambridge Maximum Allowable Octave Band Sound Pressure Levels

PROJECT SITE AND SURROUNDING NEIGHBORHOOD

Figure 1, below, shows the CambridgeSide Redevelopment project in the context of the surrounding Cambridge neighborhood; the 60 First Street portion of the overall redevelopment project is highlighted. The identification tags indicate the locations of nearby noise-sensitive receivers, as identified by the Master Plan team.



Figure 1: Project Site and Nearby Noise-Sensitive Receivers

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ROOFTOP MECHANICAL EQUIPMENT

A list of outdoor rooftop mechanical equipment most likely to affect community sound levels in the area surrounding the 60 First Street project site is presented below:

- Four air handling units (AHUs), 50,000 cfm each, similar to Hakkon Industries, each with six supply fans (22" centrifugal plenum fans) drawing outside air through Kinetics Model KCAL-1-12 acoustical louvers located on west face of sound-insulated penthouse; units enclosed in penthouse.
- Four exhaust air handling units (EAHUs), 50,000 cfm each, similar to Hakkon Industries, each with six exhaust fans (22" centrifugal plug fans); each fan exhaust stack equipped with tubular exhaust silencer similar to Vibro-Acoustics Model 48-CD-AR; unit housings located in a sound-insulated penthouse.
- One three-cell cooling tower, similar to a Marley NC Steel tower, Model NC8409PCN3, with Ultra Quiet Fans on VFDs. The cooling towers are surrounded by sound absorptive screen walls.
- Eight Specialty Lab Exhaust fans, 2,000 cfm each, similar to Greenheck Model Vektor H-18
- One airtail single-width centrifugal garage exhaust fan, 45,000 cfm, similar to Greenheck Model CSW-54-AF.
- One backward-inclined single-width centrifugal garage exhaust fan, 25,300 cfm, similar to Greenheck Model USF-344-BI.
- Two 750 kW Caterpillar C27 Diesel Generator with Level 2 sound enclosure, with Miratech Model RCS2-4234 exhaust muffler.

Figures 2 and 3, below, present layout plans of the two-level mechanical equipment penthouse and outdoor equipment pen located on the roof of the 60 First Street building. The heavy blue line shows the outline of the enclosed mechanical equipment penthouse, and the magenta line indicates the location of the appearance screen / noise barrier wall around the outdoor equipment sitting on the lower roof.

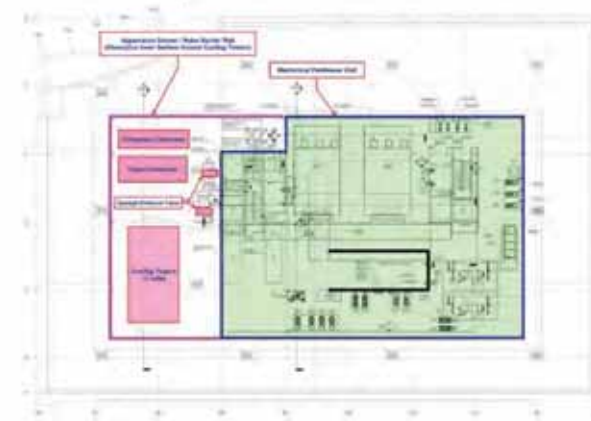


Figure 2 - Outdoor Rooftop Mechanical Equipment - Lower Level

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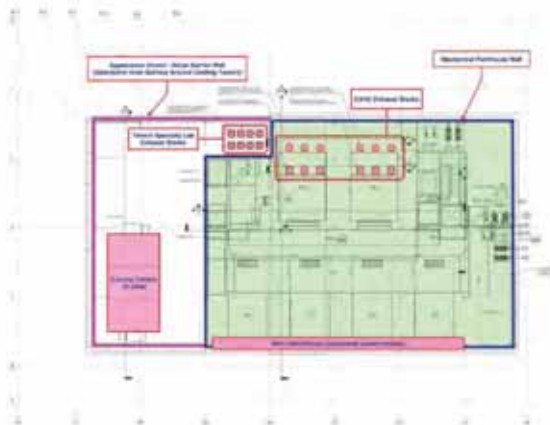


Figure 3 – Outdoor Rooftop Mechanical Equipment – Upper Level

Sound Attenuating Features

A number of sound-attenuating features have been incorporated into the architectural and mechanical design of the project to mitigate noise emissions to the surrounding community, including:

- A 2-story appearance screen / noise barrier wall will be erected around the outdoor mechanical equipment on the lower mechanical level, shielding the neighboring area from noise emitted by the cooling towers, the two generator sets, the two garage exhaust fans, and the lower portion of the specialty lab exhaust fan stacks. The portion of the screen-wall/noise barrier that surrounds the cooling towers will be sound-absorptive.
- The three cells of the cooling tower will all be equipped with the manufacturer's "Ultra Quiet" fans and variable-frequency drives.
- The specialty lab exhaust fans will be equipped with sound attenuators on the exhaust stacks
- The exhaust stacks for the fans in the exhaust air handling units will be equipped with tubular sound attenuators.
- The main air handling units will draw outside air through a set of acoustical louvers in the west face of the mechanical penthouse.
- The two emergency generators will each be enclosed in the manufacturer's "Level 2" sound enclosures, and the diesel exhaust noise will be reduced through controlled by 10-foot long exhaust mufflers.

PREDICTED EQUIPMENT SOUND LEVELS

The physical locations and acoustical performance data (supplied by the project's mechanical engineer) for each of the major noise sources were entered into the computer noise model, CadnaA, along with a 3-D

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representation of the project building and those in the surrounding community. CadnaA uses industry-standard acoustical propagation calculations to estimate the resultant sound levels at various positions around the site. Figure 3, below, presents a "bird's eye" view of the building geometry used by the model to estimate the sound levels produced by the daytime and nighttime operation of the rooftop mechanical equipment at 60 First Street. Emergency generators are assumed to be tested only during daytime hours.



Figure 4 – "Bird's-Eye" view of CadnaA model geometry

Table 2, below, presents the results of the CadnaA estimates at the positions indicated by the location tags shown in Figure 1:

ID	Address	Daytime (dBA)	Nighttime (dBA)
R1	106-108 Second St	42	33
R2	43-57 Cambridge Pkwy	36	26
R3	23 Cambridge Pkwy	28	15
R4	17 Otis St #403	43	35
R5	4 Canal Pk #506	40	32
R6	2-12 Canal Park	44	32
R7	One Canal Park	40	32
R8	21 Thordike St	47	37
R9	51-69 First St	51	43
R10	75 First St	44	35
R11	14-24 Spring St	44	36
R12	18 Hurley St	44	36
R13	113-115 First St	38	29
R14	150 First St	31	18
R15	10 Canal Park	42	35
R16	10 Rogers St	37	26
R17	25-27 Land Blvd	40	32
R18	107 First St	41	33
R19	159 First St	34	27

Table 2: Projected daytime and nighttime project sound levels (nighttime excludes emergency generators)

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NOISE BUDGETS

The Master Plan team used a similar CadnaA noise model of the whole CambridgeSide Redevelopment project to help ensure that the overall project would comply with the requirements of the Cambridge Noise Ordinance. To take into account the entirety of all the noise-producing equipment and components in the redevelopment, each of the "sub-projects" in the redevelopment (e.g., 60 First Street, 10 CambridgeSide, etc.) was assigned a "noise budget," or some fraction of the total noise emissions of the redevelopment that would result in sound level limits throughout the community being met with all noise sources in the redevelopment in simultaneous operation. Noise level budgets for both daytime and nighttime ("all other times" in terms of the Cambridge Noise Ordinance) were set for each sub-project.

The table below compares the "budget" established for 60 First Street project by the Master Plan team with the results of our CadnaA model's specific estimates of off-site operational sound levels produced by the equipment planned for 60 First Street. As can be seen, the CadnaA model predicts levels well below those set for the project by the Master Plan team. In fact, the CadnaA model also shows that the nighttime noise levels generated by the project will at all locations fall below the 45 dBA limit set in the Cambridge Noise Ordinance for residential receptors. Only at one location, R9, is daytime operation of all 60 First Street equipment – including simultaneous operation of the two rooftop generator sets – expected to produce levels above Cambridge's nighttime limits; compliance with the City's 60 dBA daytime residential noise level limit is predicted everywhere.

ID	Address	Daytime (7 AM - 6 PM Daily, Except Sundays and Holidays)		All Other Times (Nighttime)	
		Project Team Budget (dBA)	60 First St CadnaA predictions (dBA)	Project Team Budget (dBA)	60 First St CadnaA predictions (dBA)
R1	106-108 Second St	54	42	47	33
R2	43-57 Cambridge Pkwy	53	36	46	26
R3	23 Cambridge Pkwy	47	28	43	15
R4	17 Olds St #403	54	43	48	35
R5	4 Canal Pk #506	54	40	49	32
R6	2-12 Canal Park	64	44	65	32
R7	One Canal Park	61	40	64	32
R8	21 Thorndike St	64	47	65	38
R9	51-69 First St	64	51	64	44
R10	75 First St	62	44	63	34
R11	14-24 Spring St	62	44	63	36
R12	18 Hurley St	58	44	49	36
R13	113-115 First St	58	37	60	29
R14	150 First St	61	33	64	18
R15	10 Canal Park	60	42	64	35
R16	10 Rogers Street	43	37	42	25
R17	25 Edwin H Land Blvd	45	40	43	33
R18	107 First St	55	41	46	33
R19	150 First St	55	33	47	26

Table 3: Comparison of Master Plan "Noise Budget" allowances with Estimated Daytime and Nighttime Project Sound Levels (nighttime excludes emergency generators)

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Pure Tone Evaluation

Based on the equipment sound data and the predicted sound levels to the closest receivers, we do not anticipate the equipment to emit tonal sound as defined by MassDEP.

CONCLUSION

The A-weighted sound levels predicted offsite from the operation of the rooftop mechanical equipment planned for the 60 First Street project will everywhere comply with the property-line sound level limits set in the Cambridge Noise Ordinance, both during the daytime and at "all other times." In addition, project noise emissions are expected to comply with the MassDEP's "10 dB over background" limits and will not result in a "pure tone" condition. Finally, predicted levels from the 60 First Street equipment are well below the levels set by the Master Plan team at all offsite locations evaluated.

* * * * *

I trust this letter provides the information that you need at this time. If you have questions, please call me on my direct line at 617-499-8028, or e-mail me at rberens@acentech.com.

Sincerely,

Robert Berens
Principal Consultant