EXPANDED PROJECT NOTIFICATION FORM

37 North Beacon Street

PROPONENT
37-43 North Beacon, LLC
c/o The Mount Vernon Company, Inc.

SUBMITTED TO
The Boston Planning and
Development Agency

SUBMITTED BY
vhb

IN ASSOCIATION WITH
Prellwitz Chilinski Associates, Inc.
Smith Duggan Buell & Rufo LLP
Solomon McCown & Company
RBLA Design
New Ecology, Inc.
Sanborn, Head & Associates Inc.
WSP

MOUNT VERNON
COMPANY

March 7, 2018

Mr. Brian P. Golden
Director
Boston Planning and Development Agency
Boston City Hall, Ninth Floor
Boston, Massachusetts 02201

Re: Cover Letter for the Expanded Project Notification Form
Article 80 – Large Project Review
37 North Beacon Street, Allston MA

Dear Director Golden:

On behalf of 37 -43 North Beacon Street, LLC, managed by the Mount Vernon Company ("the Proponent"), and in accordance with the Executive Order relative to the provision of mitigation by development projects in Boston, we are pleased to submit this Expanded Project Notification Form ("EPNF") for Large Project Review under Article 80B of the Boston Zoning Code for the redevelopment of existing deteriorating buildings into a new multi-family residential project located at 37-43 North Beacon Street; 1-3 Sinclair Road; and 2 Sinclair Road in the Allston-Brighton neighborhood of Boston, Massachusetts (the "Project").

The Project will consist of a five-story building at the corner of North Beacon Street and Everett Street containing 74 rental apartments ("Rental Building") as well as a separate four-story building on Sinclair Road consisting of nine for sale condominiums ("Condo Building"). The Project will provide active ground floor programming through the use of local art to enliven the pedestrian experience and create a vibrant public realm. The design and programing objective is to fully activate the ground floor, front-facing portion of the building that runs along North Beacon Street.

The Project will capitalize on its urban setting by providing a series of amenities to encourage the use of alternative methods of transportation, including; covered and secure bike storage in excess of BTD guidelines, a transit screen in the lobby providing schedules for local transit options, and on-site ride sharing service. These measures are intended to encourage smart growth in Allston and Boston, and to reduce automobile dependency for residents. Reducing the need for car ownership aims to alleviate congestion on surrounding roadways and allows residents the opportunity to avoid costs associated with car ownership.

The enclosed EPNF presents details about the Project and provides an analysis of its potential impacts, including transportation/traffic, environmental, infrastructure, and historic. Based on the comprehensive approach to addressing potential impacts and mitigation similar to the level of

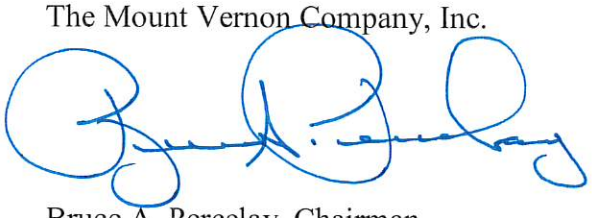
information typically presented in a Draft Project Impact Report, it is the desire of the Proponent that the BPDA, after reviewing public and agency comments as well as any further responses to comments made by the Proponent, will issue a Scoping Determination Waiving Further Review pursuant to the Article 80B process.

We look forward to working collaboratively with you and your staff, and other city agencies and members of the community to develop the best redevelopment plan for this location. We anticipate that the BPDA will publish public notice of the receipt of this EPNF within five days, as required by Section 80A-2(3). Requests for copies of the EPNF should be directed to Seth Lattrell at (617) 607-2973 or via email at slattrell@vhb.com.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

The Mount Vernon Company, Inc.



Bruce A. Percelay, Chairman

cc: Lance Campbell, BPDA

37 North Beacon Street

Boston, Massachusetts

SUBMITTED TO **Boston Planning & Development Agency**
One City Hall Square
Boston, MA 02201

PROPONENT **37-43 North Beacon, LLC**
c/o The Mount Vernon Company, Inc.
1200 Soldiers Field Road, Suite 102
Boston, MA 02116

PREPARED BY **VHB**
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Boston, MA 02110

In association with:
Prellwitz Chilinski Associates, Inc.
Smith Duggan Buell & Rufo LLP
Solomon McCown & Company
RBLA Design
New Ecology, Inc.
Sanborn, Head & Associates Inc.
WSP

March 7, 2018

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Appendices

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1

Project Description

37-43 North Beacon Street, LLC, managed by the Mount Vernon Company ("the Proponent"), submits this Expanded Project Notification Form ("EPNF") to initiate review by the Boston Redevelopment Authority, d/b/a Boston Planning & Development Agency (the "BPDA") under Article 80 of the Boston Zoning Code (the "Code") for the redevelopment of existing deteriorating buildings into a new multi-family residential project located at 37-43 North Beacon Street; 1-3 Sinclair Road; and 2 Sinclair Road in the Allston-Brighton neighborhood of Boston, Massachusetts (the "Project").

This EPNF presents details about the Project and provides a comprehensive analysis of traffic/transportation and other potential environmental impacts, as well as infrastructure needs to inform reviewing agencies and the community about the Project, its potential impacts, and the mitigation measures proposed to address those potential impacts.

1.1 Site Context and Existing Conditions

The Project Site is situated at the edge of Union Square on North Beacon Street in Allston. It abuts other multifamily dwellings located on Everett Street and North Beacon Street. The adjacent parcel along North Beacon Street is a multi-family and commercial property and on the other side a new multi-family five-story development is currently under construction. Across North Beacon Street is a KFC restaurant and two multi-family apartment buildings. Refer to Figure 1.1 for a site location map and Figure 1.2a-b for site context

The Project Site contains approximately 0.7 acres of land and is currently comprised of four existing structures that will be razed; a vacant two-family residence formerly used as a rooming house; two 2.5 story four-family dwellings; and a small car dealership. Refer to Figure 1.3 for the existing conditions site plan and Figure 1.4 for photographs of the existing Project Site.

The Project Site is well served by existing infrastructure and walkable neighborhood services as evidenced by its Walk score of "94", as calculated by Walk Score, an industry expert on the walkability of neighborhoods. Additionally, the Project Site's Bike Score is "81." The Project Site is in close proximity to public transit, including multiple bus lines that stop along its frontage on North Beacon Street and along nearby Cambridge Street. The Project Site is also approximately one-half mile from the Boston Landing MBTA Commuter Rail Station on the Framingham/Worcester line as well as the Green Line stops along Commonwealth Avenue. Additionally, the Project Site is close to some of Boston's largest employers.

1.2 Project Description

The Project will consist of a five-story building at the corner of North Beacon Street and Everett Street containing 74 rental apartments ("Rental Building") as well as a separate four-story building on Sinclair Road consisting of nine for sale condominiums ("Condo Building"). The Rental Building consists of four floors of mixed income housing above an at-grade lobby and flexible gallery/amenity space along North Beacon Street. Parking will be partially below grade built into the sloping site and will be hidden from view, accessed from Harvester Street. The Condo Building features garage parking accessed from Sinclair Road.

The Project will provide active ground floor programming and art to enliven the pedestrian experience and create a vibrant public realm. The Project will capitalize on its urban setting by providing a series of amenities to encourage the use of alternative methods of transportation, including:

- Covered and secure bike storage for each unit;
- A transit screen in the lobby providing schedules for local transit options; and
- On site ride sharing service.

These measures are intended to encourage smart growth in Allston and Boston, and to reduce automobile dependency for residents. Reducing the need for car ownership aims to alleviate congestion on surrounding roadways and allows residents the opportunity to avoid costs associated with car ownership.

1.2.1 Development Program

Table 1-1 summarizes the proposed development program for the Project. Refer to Figure 1.5 for the Proposed Site Plan and Figure 1.6a-e for Project renderings.

1.2.2 Project Schedule and Phasing

It is anticipated that the Project construction will commence in late winter 2019. The entire construction schedule is anticipated to be approximately 12-14 months with completion scheduled by summer 2020.

1.3 Summary of Public Benefits

The Project will substantially revitalize the underutilized Project Site and enhance the surrounding neighborhood through the creation of a vibrant appropriately-scaled development. The Project will deliver numerous public benefits, including considerable urban design and streetscape improvements.

Table 1-1 Proposed Development Program Summary

Use/Element	Size/Quantity
Rental Building	
Lot Area	24,385 SF
Building Gross Square Footage	76,292 SF (excludes garage)
Building Height	69'-11" (5 stories, ~60' above North Beacon Street)
Residential	74 units
3 Bedroom	*2 units*
2 Bedroom	*10 units*
1 Bedroom	*21 units*
Studio	*40 units*
Live/Work	*1 unit*
Parking	38 spaces (.5 per unit)
Bicycles	80 spaces (>1 per unit)
Condo Building	
Lot Area	5,165 SF
Building Gross Square Footage	11,192 SF (excluding parking)
Building Height	53’ 0” (4 stories)
Residential	9 units
2 Bedroom Townhouse	*2 units*
1 Bedroom Loft	*2 units*
1 Bedroom	*4 units*
Studio	*1 unit*
Parking	4 spaces (.44 per unit)
Bicycles	10 spaces (>1 per unit)
Project Total	**87,484 SF** **83 Units** **42 Parking Spaces**

1 To top of last occupied floor; does not include mechanical penthouse.

Additional public benefits for the surrounding neighborhoods and the City of Boston are summarized in the following subsections and described in detail in the chapters that follow.

Public Realm/Open Space Activation

› Create a new plaza along North Beacon Street featuring an artful landscape design inclusive of plantings and street furniture.

› Enliven the public realm with generous sidewalks and an active ground floor featuring a first of its kind flexible gallery/amenity space in Allston. The space will host periodic art receptions that will be open to the community.

- Create opportunities to display art around the perimeter of the Project Site, celebrating the local artisan culture and history of Allston. Installations are designed to showcase art at no cost to the artist.
- Promote alternative transportation options through an emphasis on bicycles, ride share programs and a Transportation Demand Management plan.

Transportation

- A nine (AM) and 13 (PM) vehicle increase to peak hour traffic volumes compared to the existing conditions which will not adversely impact area traffic generation.
- Avoidance of excess on-site parking to encourage use of alternative modes of transportation such as walking, biking, and public transportation.
- Removal of the existing used car dealer surface parking lot adjacent to the sidewalk along North Beacon Street, creating a more inviting environment for pedestrians.

Environment/Sustainability

- Complies with Article 37, Green Buildings of the Code by demonstrating compliance with the LEEDv4 program at a Silver certifiable level.
- Meets the Massachusetts Stretch Energy Code requirements to be 10 percent better than ASHRAE 90.1-2013.
- Building design will include high-efficiency building systems (mechanical, plumbing and electrical), and a high-performance building envelope.
- Sustainable design measures such as LED lighting within common areas and units, low flush and flow plumbing fixtures, building energy management systems, and healthy interior environments are a few of the features that are being considered for inclusion in the Project.

Socioeconomic

- The addition of new housing stock to assist in Mayor Walsh's challenge of adding 53,000 housing units by 2030 (*Housing a Changing City: Boston 2030*).
- The creation of approximately four to five permanent jobs relating to the maintenance and property management, as well as 70 construction jobs in a variety of trades.

1.4 Community Outreach

The Proponent has initiated a public engagement process which will continue through the permitting and construction of the Project to ensure that community concerns are heard and responded to as the Project advances. The Proponent has held individual meetings with the Allston Civic Association and the Brighton Allston Improvement Association, as well as various meetings with direct abutters. In addition to working with the Impact Advisory Group ("IAG"), the Proponent will continue to meet with local elected officials, community organizations, residents, and interested parties as the Project moves forward.

1.5 Regulatory Context

As described further below, the Project will require Large Project Review pursuant to Article 80B of the Code. This EPNF includes the required analysis of potential impacts under Large Project Review.

Brighton Guest Street Area Planning Study

The Project is located along the southern limit of the Guest Street Planning Study. The Guest Street Planning Study included a 100-acre area extending one-mile along the Turnpike. The Guest Street Planning Study resulted from coordinated efforts of multiple stakeholders and was approved by the BPDA in March 2012.

The long-term vision of the Guest Street Planning Study is to create an urban mixed-use district featuring vibrant community uses and residential development resulting in an area that will become a transit-oriented mixed-use destination with a blend of workplaces, homes, and neighborhood amenities.

The Project is consistent with the goals of the Guest Street Planning Study in that it provides new, appropriately scaled residential development, which promotes a healthy active lifestyle through new bike and pedestrian accommodations.

City of Boston Zoning Controls

The Project Site is located in a 3F-4000 zoning subdistrict in the Allston-Brighton Neighborhood District as established under the Boston Zoning Code (Article 51) and as shown on Maps 7A-7D (Allston-Brighton Neighborhood District). Three Dwelling Units are the maximum number of units allowed in a single building in the 3F-4000 zoning subdistrict. Multi-family Dwelling Units will require relief.

There are no overlays applicable to this subdistrict.

Proposed Uses and Dimensional Requirements

A breakdown of the various use and dimensional zoning requirements is provided in Tables 1-2 and 1-3 below. The Project Site is adjacent to Guest Street Local Industrial (LI-2) and Harvard Avenue Community Commercial (CC-1) zoning subdistricts. A mix of both commercial and residential buildings of various sizes occupy the adjacent and nearby streets. The Project will require variances relating to use, floor area ratio ("FAR"), height, lot area, open space, front yard setback, side yard setback, and rear yard setback.

Table 1-2 Project vs. Zoning Requirements Comparison Table (Rental Building)

Applicable Requirement	3F-4000 District	Project
Use (Multi-family Dwelling)	Forbidden	Multi-family Dwelling (74 Units)
Maximum Floor Area Ratio (FAR)	0.8	3.02
Maximum Building Height	35′ – Three Stories	69′- 11″ – Five Stories[1]
Minimum Lot Size	None	24,385 SF
Minimum Lot Area Per Dwelling Unit	4,000 SF (1-2 Units), 2,000 SF (Per Additional)	329.53 SF
Minimum Usable Open Space – SF per Dwelling Unit	650 SF per Unit 48,100 SF (74 Units)	107.01 SF per Unit 7,919 SF[2] (74 Units)
Minimum Lot Width	45′	68′ (at the pinch point)
Minimum Lot Frontage	45′	127.08′
Minimum Front Yard Setback	20′	10′
Minimum Side Yard Setback	5′ from lot line, 10′ from abutter structure, 15′ aggregate	10′ lot line, 20′ aggregate
Minimum Rear Yard Setback	30′	20′
Off-Street Parking Spaces	Large Project Review; Section 51-56	0.5 Spaces per unit

Article 37

Article 37 of the Code requires that proposed projects subject to Large Project Review meet standards for certification under the US Green Building Council Leadership in Energy and Environmental Design ("LEED") program. A LEED Checklist and a Climate Change Preparedness and Resiliency Checklist will be submitted to the Interagency Green Building Committee as part of Large Project Review. A draft of this checklist is included in Appendix C. Additional details are provided in Chapter 3, *Sustainability/Green Building and Climate Change Resiliency*.

Article 85

Article 85 of the Code requires that existing structures that were constructed 50 or more years ago must undergo review by the Boston Landmarks Commission prior to demolition and may be subject to a demolition delay. The Proponent will submit Article 85 applications to the Boston Landmarks Commission for review and approval prior to commencement of demolition of the existing on-site buildings that are 50 years or older, as further described in Section 5.11 of Chapter 5, *Environmental Protection and Historic Resources*.

1 Above North Beacon Street.

2 Roof deck comprises 1,681 SF.

Table 1-3 Project vs. Zoning Requirements Comparison Table (Condo Building)

Applicable Requirement	3F-4000 District	Project
Use (Multi-family Dwelling)	Forbidden	Multi-family Dwelling (9 Units)
Maximum Floor Area Ratio (FAR)	0.8	2.11
Maximum Building Height	35 FT – Three Stories	53 FT – Four Stories
Minimum Lot Size	None	5,165 SF
Minimum Lot Area Per Dwelling Unit	4,000 SF (1-2 Units), 2,000 SF (Per Additional)	573.89 SF
Minimum Usable Open Space – SF per Dwelling Unit	650 SF per Unit 5,850 SF (9 Units)	161.89 SF per Unit 1,457 SF (9 Units)
Minimum Lot Width	45 FT	76 FT
Minimum Lot Frontage	45 FT	76 FT
Minimum Front Yard Setback	20 FT	10 FT
Minimum Side Yard Setback	5 FT from lot line, 10 FT from abutter structure, 15 FT aggregate	0 FT, 10 FT aggregate
Minimum Rear Yard Setback	30 FT	10 FT
Off-Street Parking Spaces	Large Project Review; Section 51-56	0.4 Spaces per unit

Massachusetts Environmental Policy Act

The Project is not subject to environmental review by the Secretary of the Executive Office of Energy and Environmental Affairs, as the Project will not exceed any of the MEPA review thresholds set forth in 301 CMR 11.03.

1.5.1 List of Anticipated Permits and Approvals

Table 1-4 presents a preliminary list of permits and approvals from governmental agencies that are expected to be required for the Project, based on currently available information. It is possible that only some of these permits or actions will be required, or that additional permits or actions may be required.

Table 1-4 Anticipated Project Permits and Approvals

Agency/Department	Permit/Approval/Action
Federal	
Federal Aviation Administration	Determination of no hazard to air navigation (buildings and crane – *as applicable*)
State	
Massachusetts Department of Environmental Protection (MassDEP), Division of Air Quality	Emergency Generator Self-Certification
MassDEP, Bureau of Waste Prevention	Notice of Construction or Demolition
Massachusetts Architectural Access Board (MAAB)	Variances *(as needed/required)*
City	
Boston Fire Department	Approval of Fire Safety Equipment Fuel Oil Storage Permit Place of Assembly Permit(s) - (Amenity space egress drawing review; Place of Assembly compliance walk-through).
Boston Inspectional Services Department	Demolition Permits Building Permits Parking Garage Permit / Flammable Storage License Certificates of Occupancy
Boston Landmarks Commission (BLC)	Article 85 Demolition Delay Determination
Boston Planning and Development Agency	Article 80B Large Project Review
Boston Public Improvement Commission	Approvals for sidewalk and/or curb reconstruction or temporary construction encroachments
Boston Public Safety Commission Committee on Licenses	Garage License
Boston Public Works Department	Street Opening Permit Curb Cut Permit (*if required*) Sidewalk Occupancy Permit
Boston Transportation Department	Construction Management Plan (CMP) Transportation Access Plan Agreement (TAPA)
Boston Water and Sewer Commission	Site Plan Review/General Service Application Construction Dewatering Permit Cross-Connection Backflow Approval

1.6 Development Team

The following lists the key members of the development team for the Project (the "Project Team"):

Proponent	The Mount Vernon Company 1200 Soldiers Field Road, Suite 102 Boston, MA 02116 617-267-0006 Morgan Pierson: mpierson@mvernon.com
Legal Counsel	Smith Duggan Buell & Rufo LLP 101 Federal Street, Suite 1405 Boston, MA 02110-1817 Paul Rufo: prufo@smithduggan.com
Community Outreach	Solomon McCown & Company 177 Milk Street, Suite 610 Boston, MA 02109 617-695-9555 Dan Cence: dcence@solomonmccown.com
Project Architect	Prellwitz Chilinski Associates, Inc. 221 Hampshire Street Cambridge, MA 02139 617-547-8120 David Snell: dsnell@prellchil.com
Landscape Architecture	RBLA Design 781-686-4486 Rebecca Bachand: Rebecca.Bachand@rbladesign.com
Permitting, Transportation, Site/Civil Engineer, Cultural Resources, Air/Noise Consultant	VHB 99 High Street, 10th Floor Boston, MA 02110 617-728-7777 Seth Lattrell (Permitting): slattrell@vhb.com Sean Manning (Transportation): smanning@vhb.com Mark Jackson (Site/Civil): mjackson@vhb.com Maureen Cavanaugh (Cultural Resources): mcavanaugh@vhb.com Heidi Richards (Air Quality/GHG): hrichards@vhb.com Quan Tat (Noise): qtat@vhb.com

Sustainability Consultant	New Ecology, Inc. 15 Court Square #420 Boston, MA 02108 617-557-1700 Maciej Konieczny: konieczny@newecology.org Michael Brod: brod@newecology.com
Geotechnical Engineer	Sanborn, Head & Associates Inc. 239 Causeway Street, Suite 105 Boston, MA 02114 857-327-9730 Stan Sadkowski: ssadkowski@sanbornhead.com
Mechanical/Electrical/ Plumbing Services	WSP 88 Black Falcon Ave Suite 210 Boston, MA 02210 Fernand M. Tomaz: Fernand.Tomaz@wsp.com

1.7 Required Legal Information

1.7.1 Legal Judgments Adverse to the Project

The Proponent is not aware of any legal judgments in effect or legal actions pending that are adverse to the Project.

1.7.2 History of Tax Arrears on Property

The Proponent is not in tax arrears on any property owned within the City of Boston.

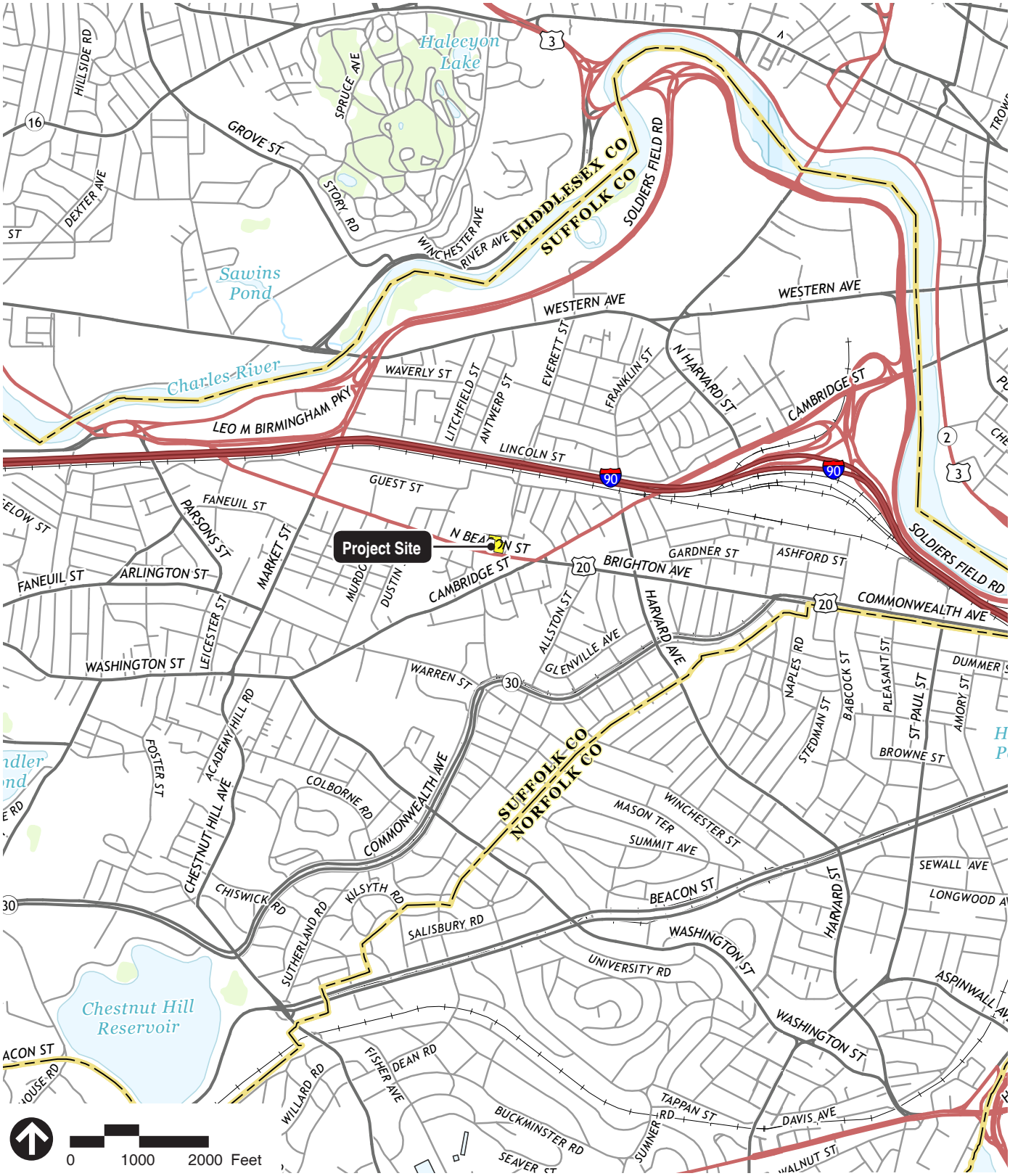
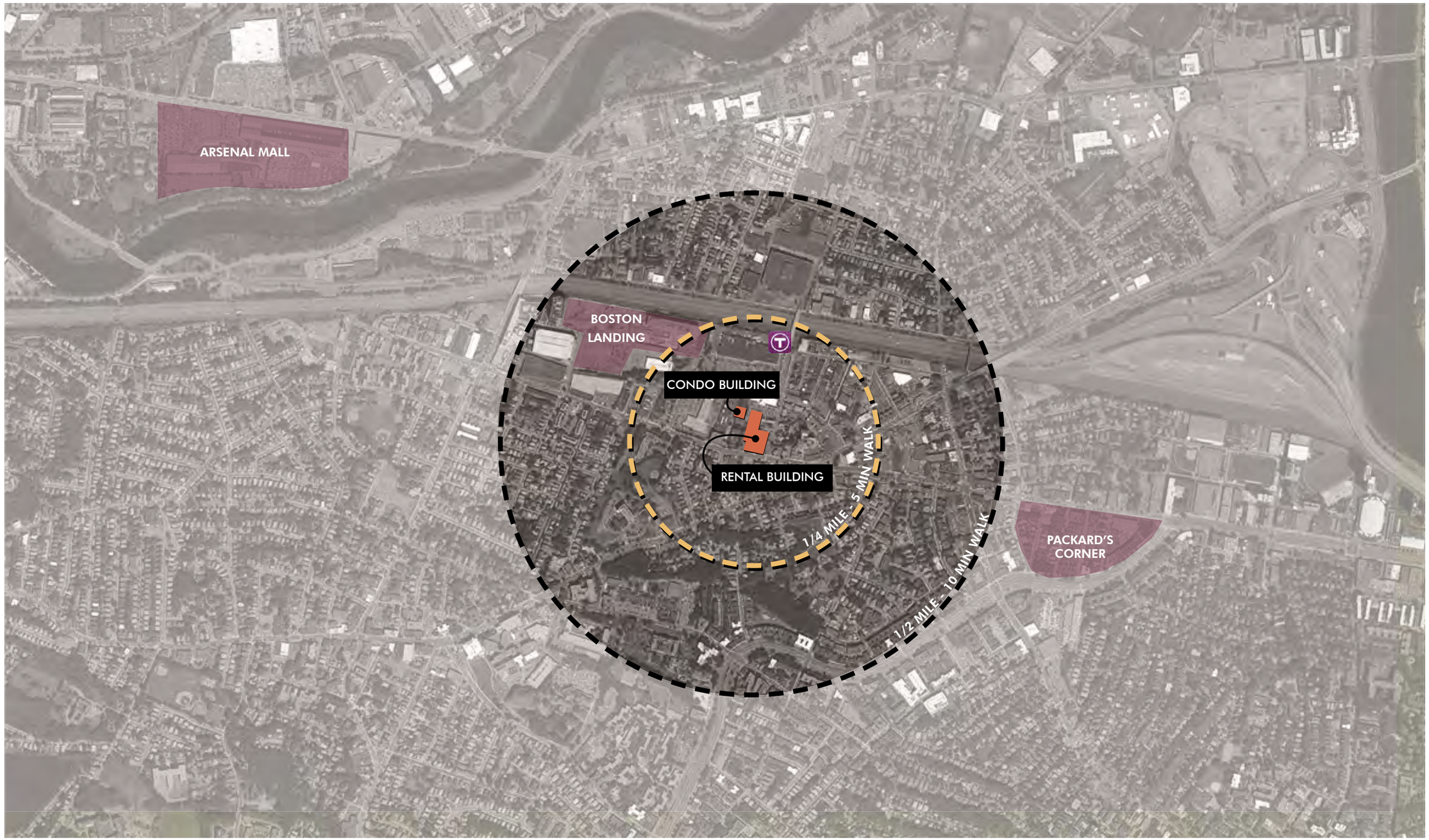


Figure 1.1

USGS Locus Map

37 North Beacon Street
Boston, Massachusetts

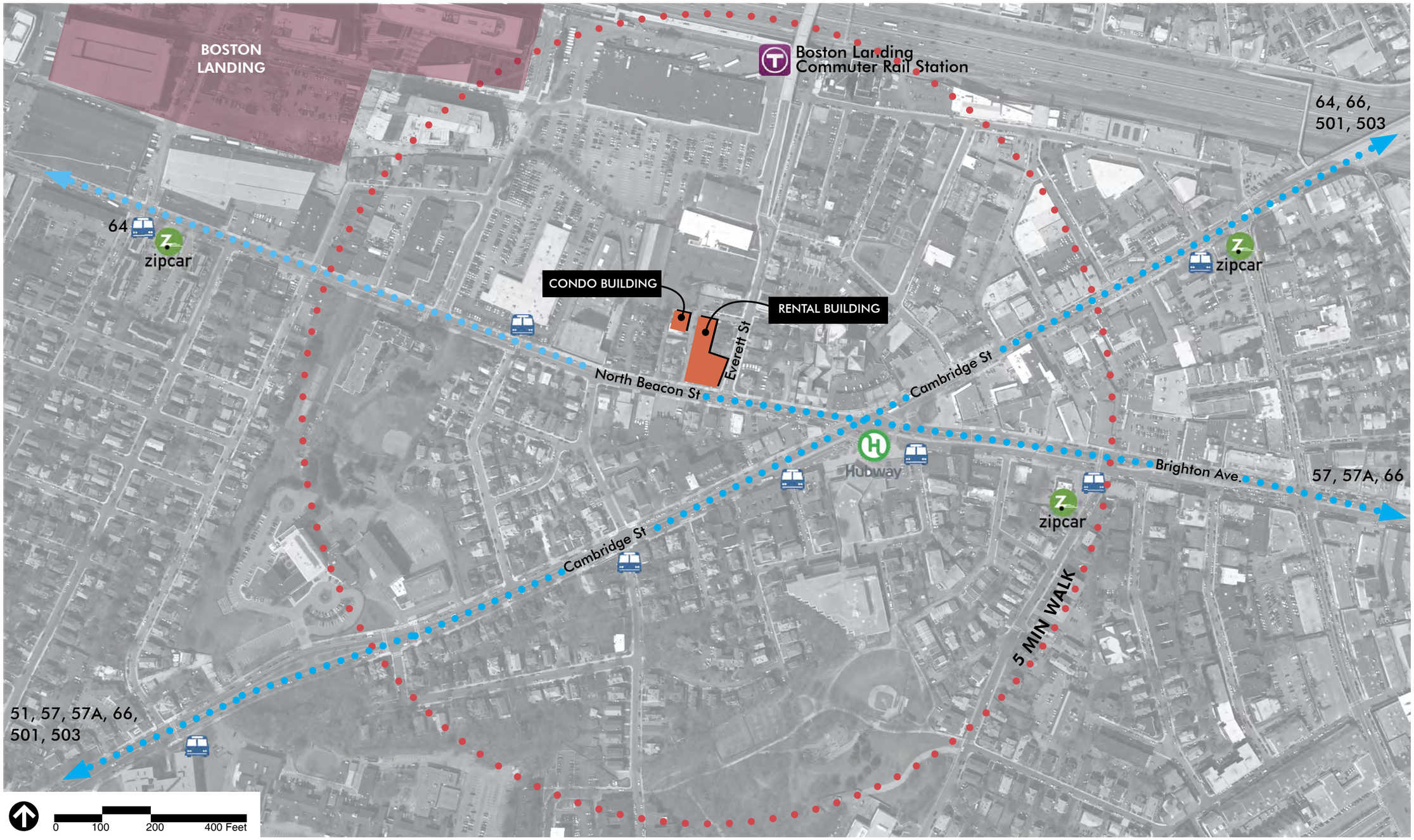


PCA

Context Plan
Scale: NTS

37 North Beacon Street
Boston, Massachusetts

Figure 1.2a

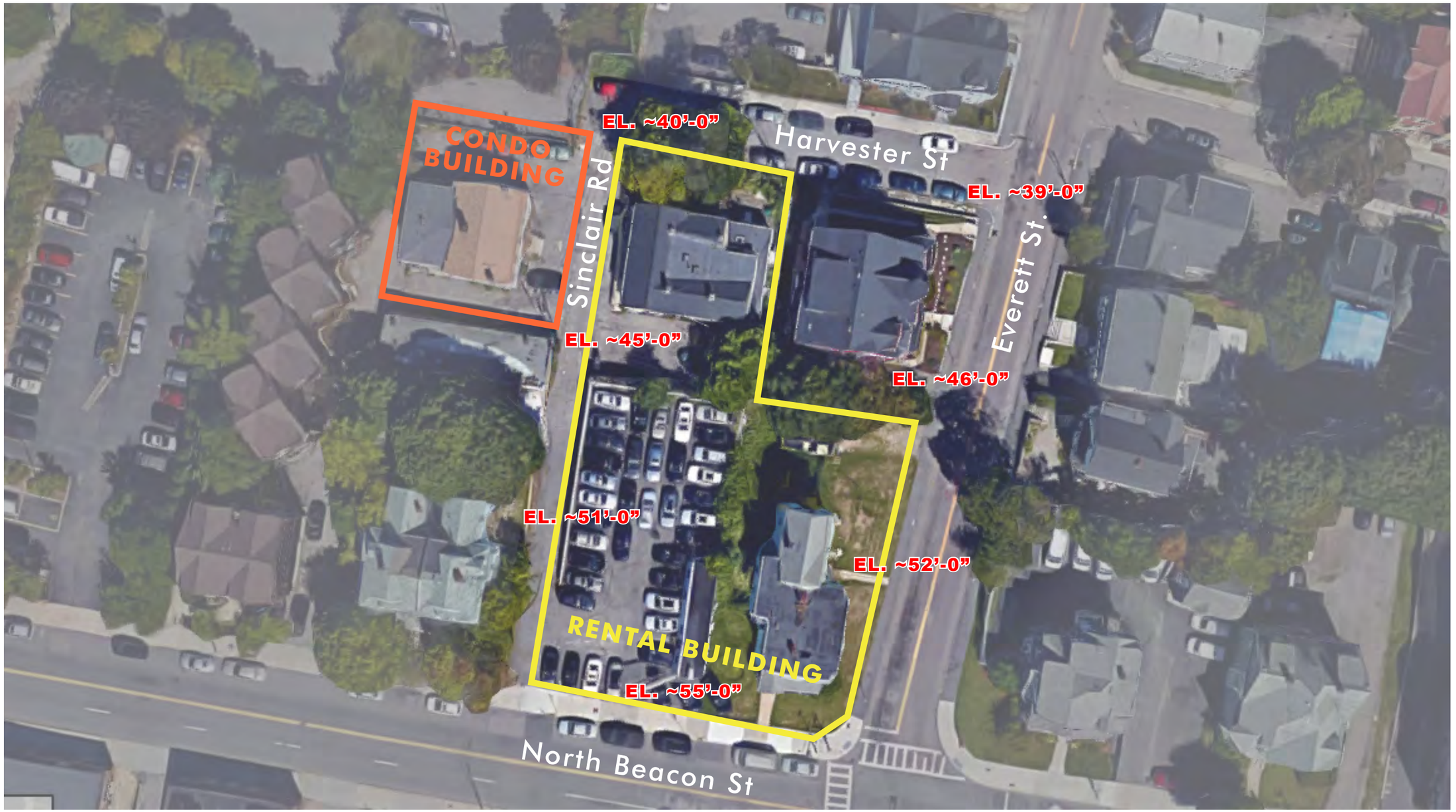


Transportation Context
Scale: 1" = 400'-0"

37 North Beacon Street
Boston, Massachusetts

PCA

Figure 1.2b



PCA

Existing Condition Site Plan **Figure 1.3**
Scale: NTS
37 North Beacon Street
Boston, Massachusetts

B - N. Beacon St. & Everett St.

A - Everett St.

E - Sinclair Rd

D - 31 N. Beacon St.

C - N. Beacon St.

PCA

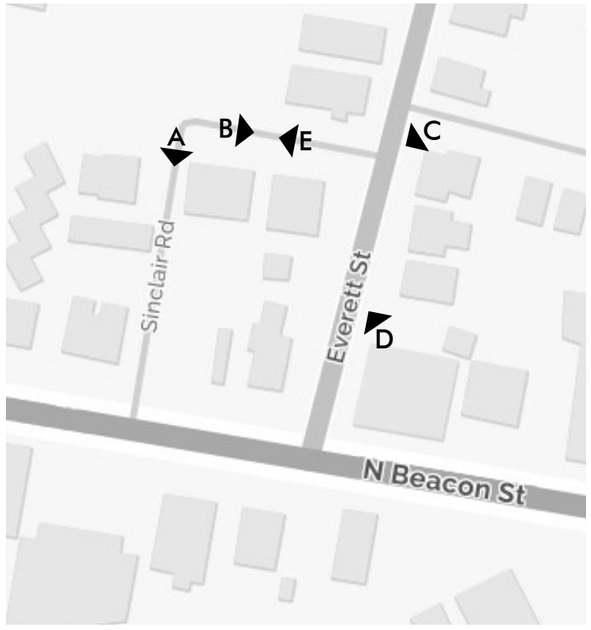
Existing Site Photos
Scale: N/A

37 North Beacon Street
Boston, Massachusetts

Figure 1.4A

B - Harvester St.

A - Sinclair Rd



E - Harvester St.

D - Everett St.

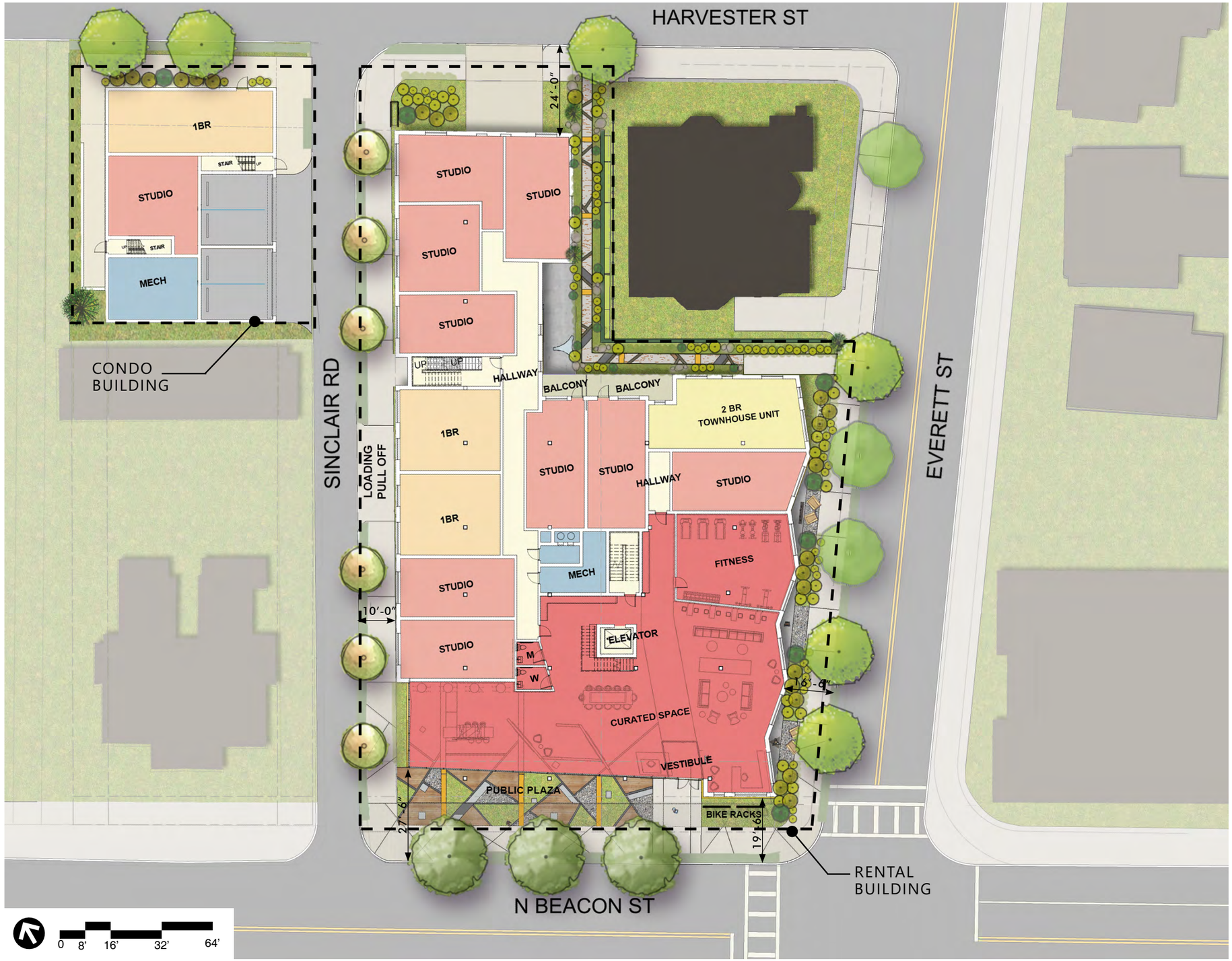
C - Everett St.

PCA

Existing Site Photos
Scale: N/A

37 North Beacon Street
Boston, Massachusetts

Figure 1.4B



Proposed Site Plan
Scale: NTS

37 North Beacon Street
Boston, Massachusetts

Figure 1.5

PCA

Perspective - Rental Building
Scale: N/A

37 North Beacon Street
Boston, Massachusetts

Figure 1.6a

PCA

Perspective - Rental Building
Scale: N/A

37 North Beacon Street
Boston, Massachusetts

Figure 1.6b

PCA

Perspective - Harvester St.
Scale: N/A

37 North Beacon Street
Boston, Massachusetts

Figure 1.6c

PCA

Perspective - Harvester St.
Scale: N/A

37 North Beacon Street
Boston, Massachusetts

Figure 1.6d

Perspective - N. Beacon St.
Scale: N/A

37 North Beacon Street
Boston, Massachusetts

PCA

Figure 1.6e

2

Urban Design

This chapter describes the existing urban context of the Project Site, and discusses the planning principles and design goals for the Project, including the proposed urban design characteristics (i.e., height and massing) and public realm improvements.

2.1 Summary of Key Findings and Benefits

The key findings and benefits of the Project related to urban design include:

- The Project is designed and scaled to enhance the surrounding neighborhood by complementing the variety of contextual scales that exist, stepping down from an urban scale along North Beacon Street to a smaller residential scale including the Condo Building on Harvester Street.
- The Project will create a new plaza along North Beacon Street featuring an artful landscape design inclusive of plantings and street furniture.
- The Project will enliven the public realm with generous sidewalks and an active ground floor featuring a first of its kind flexible gallery/amenity space in Allston. The space will host periodic art receptions that will be open to the community.
- The Project will create opportunities to display art around the perimeter of the Project Site, celebrating the local artisan culture and history of Allston. Installations are designed to showcase art at no cost to the artist.
- The Project will promote alternative transportation options through an emphasis on bicycles, ride share programs and a Transportation Demand Management plan.
- The Project screens all parking from view in garages in both buildings. The larger garage is built into the slope of the site and is not visible along the North Beacon Street facade.

2.2 Neighborhood Context

The Project Site is a collection of four parcels located at the intersection of North Beacon Street and Everett Street just outside of Allston's Union Square. The site is also bounded by Harvester Street, currently a dead end, and Sinclair Road, a private way. The site features approximately one story of grade change between North Beacon Street and Harvester Street.

North Beacon Street features a variety of scales, setbacks and uses ranging from single-story retail to three-family houses to ten-story high rises. Harvester Street features a more residential scale. The Project design addresses the varying contexts by breaking down its massing. The Rental Building, a five-story building along North

Beacon Street, steps down to a four-story building along Harvester Street. The smaller detached Condo Building, at the intersection of Sinclair Road and Harvester Street, maintains the scale of the residential street.

2.3 Planning Principles and Design Goals

The following are key goals and objectives of the Project:

- Create an artful, iconic building expression that responds to the varied context.
- Celebrate the artists of the local community by providing opportunities throughout the project to display local art, both inside and out.
- Replace the existing parking lots with an active ground floor that contributes a meaningful enhancement to the public realm.
- Create a vibrant pedestrian experience along the existing street by widening sidewalks and adding opportunities for landscaping, seating, art display and bicycle parking.
- Screen all parking from public view by building the garage into the hill.
- Maintain a sustainable approach to the building envelope including energy efficient windows and wall construction, mechanical systems, daylighting, water efficiency and construction related management.

2.4 Building Design Concept and Development

The Project Site comprises 29,550 square feet with a significant 15-foot change in elevation between North Beacon Street and Harvester Street. The site offers an additional challenge in its shape as it extends around the abutting corner parcel at the intersection of Everett Street and Harvester Street. Sinclair Road, the private way, leaves one smaller disconnected parcel (Condo Building). Viewing these site challenges as opportunities, the design team has taken advantage of the unique site constraints when designing the two buildings.

The primary mass of the Rental Building is located along North Beacon Street and then steps down in scale toward Harvester Street which features a residential scale. Due to the grade change, the parking garage can be entered from Harvester Street avoiding the need for a curb cut on a main street. The adjacent Condo Building features nine units at a more residential scale.

The main lobby and flexible gallery/amenity space is located at grade along North Beacon Street in the Rental Building. The active uses along the street help to enhance the pedestrian experience. By setting the first floor back, the Project creates a generous plaza; a unique feature which utilizes artful landscaping and seating to create an extension of the indoor space.

The Project will be built utilizing an environmentally sensitive approach to maximize the green design elements and site location. Strategies will maximize energy efficiency, water conservation, minimize waste during construction, and ensure good

indoor air quality. Refer to Figures 2.1a-c for Rental Building floor plans and Figure 2.2 for Condo building floor plans.

2.4.1 Height and Massing Strategy

As viewed from North Beacon Street, the Rental Building is articulated as two adjacent five-story elements, approximately 70 feet in height, and articulated as four stories of residential over a ground floor of lobby and flexible gallery/amenity space. The mass of the building steps down two stories toward Harvester Street. Due to the significant grade changes the Project appears as a four-story building when viewed from Harvester Street. At the intersection of Sinclair Road and Harvester Street the new Condo Building maintains the residential scale at four stories. Refer to Figure 2.3a-b for Rental Building sections, Figure 2.4 for Condo Building sections, and 2.5 for Project massing.

2.4.2 Character and Exterior Materials

The basic approach combines a palette of durable exterior materials including various metal panels, fiber cement and glass. The ground floor components of the lobby and flexible gallery/amenity space feature tall, transparent storefronts. Flat metal canopies, artful landscaped plazas, continuous glazing and signage along the ground floor enhance the public realm and create a vibrant neighborhood experience. Locations for art installations around the building are integrated into the design including a large mural marking the building entrance along North Beacon Street. Refer to Figures 2.6a-b and Figure 2.7 for elevations of the Rental Building and the Condo Building.

2.4.3 Signage

All signage throughout the Project Site will complement the architectural identity of the buildings. Signage will be thoughtfully located, designed to generate an inviting streetscape, and appropriately scaled for the location.

2.5 Public Realm Improvements

The following principles guide the design of the public realm.

- Create opportunities for local artists to display their art around the Project Site (at no cost).
- Create a generous plaza along North Beacon Street featuring landscaping and street furniture that connects to the flexible gallery space creating an indoor/outdoor room.
- Widen the existing sidewalks along North Beacon Street and Everett Street.
- Improve the existing streetscape by adding new landscaping and street trees.
- Add bicycle parking for visitors near the building entrance.

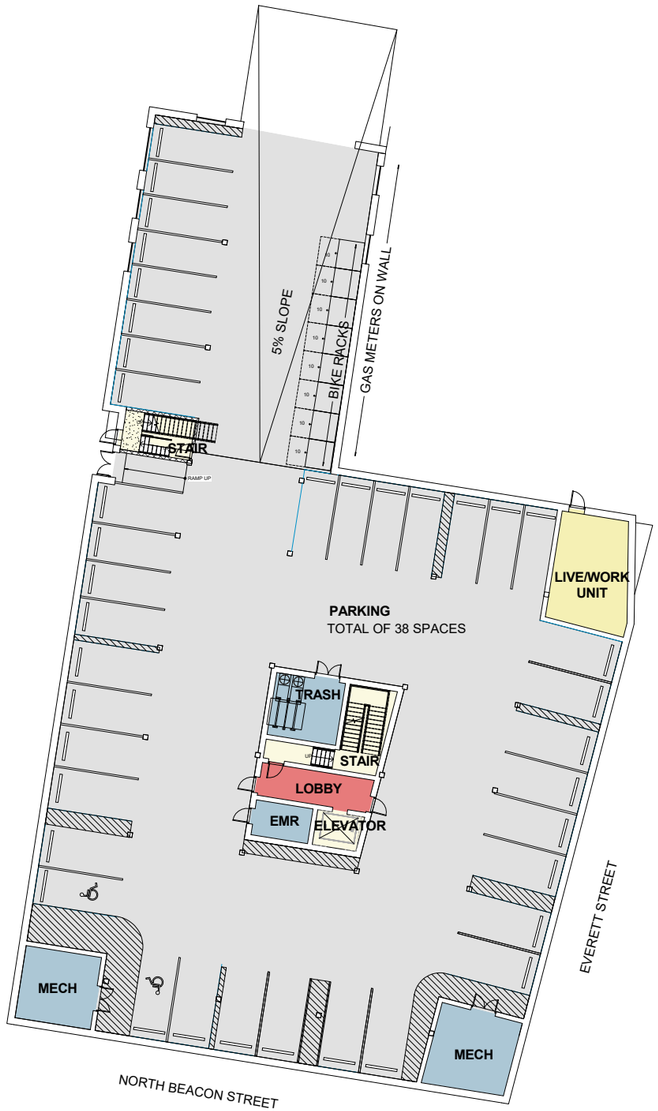
2.6 Site Landscaping

The landscape has been designed to support the Project's role as urban infill, reinforcing the North Beacon and Everett streetscapes with large scale shade trees, and adding more compact tree species on Harvester and Sinclair where the walks are narrower and/or overhead wires exist. Working with Boston's Complete Streets Design Guidelines, a planting strip is proposed along the curb line to infiltrate stormwater. A publicly-accessible sculpture garden and art viewing area are proposed along the pedestrian right-of-way on North Beacon Street.

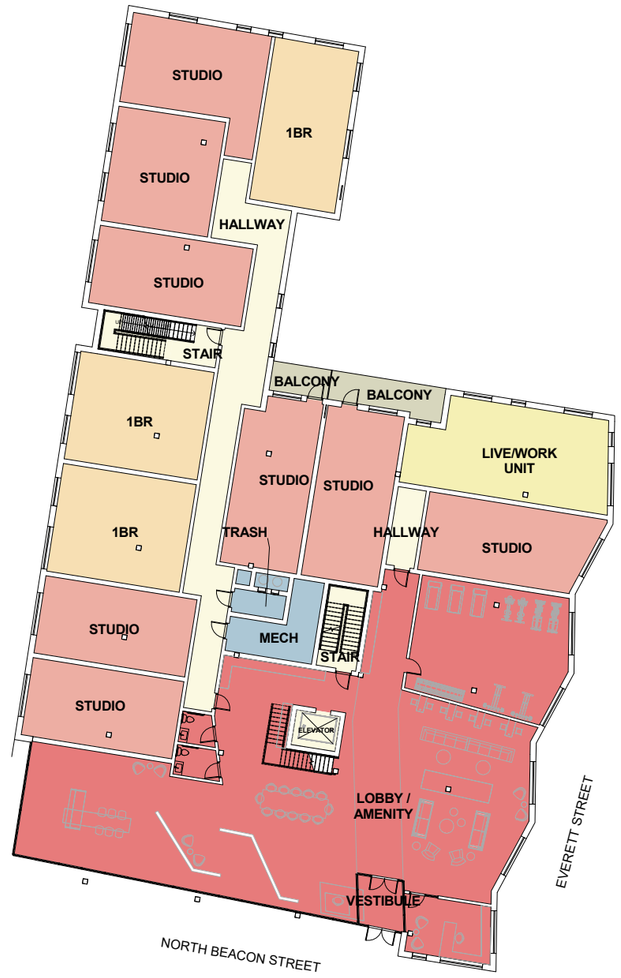
Tree species will be selected from the City of Boston Parks Department's list of recommended street trees. To minimize the Project’s susceptibility to drought conditions, the landscape design will incorporate native and adaptive plant materials. Additional landscape areas are intended for resident seating, gathering and/or dog-walking, and will be detailed upon final programming of the site. Plantings proposed along adjacent residential properties will be selected to complement existing landscape materials and provide screening where necessary.

2.7 Accessibility

Refer to Appendix B for the BPDA Accessibility Checklist and associated graphics.



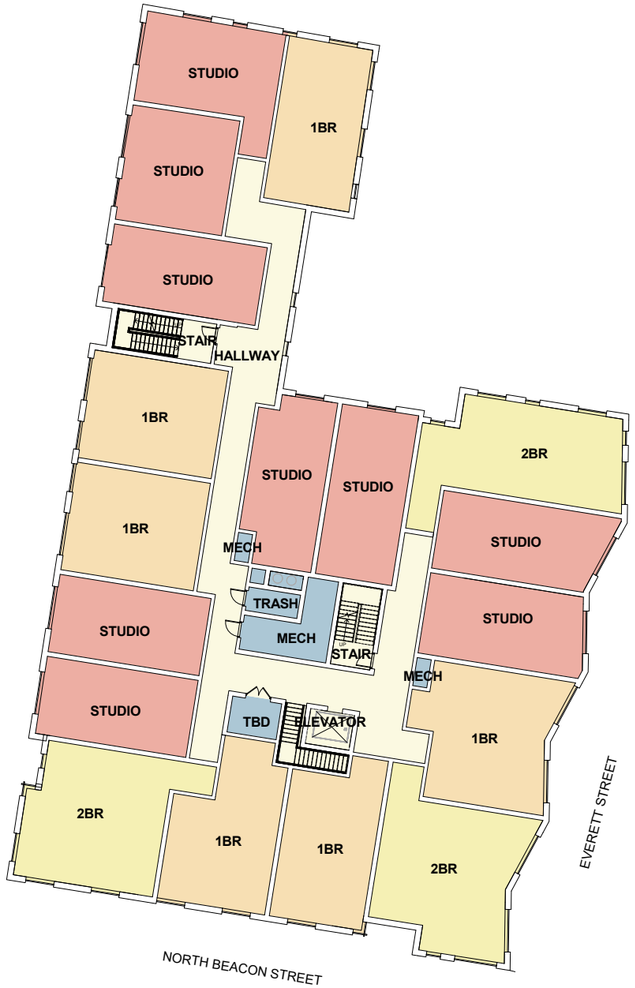
PARKING LEVEL



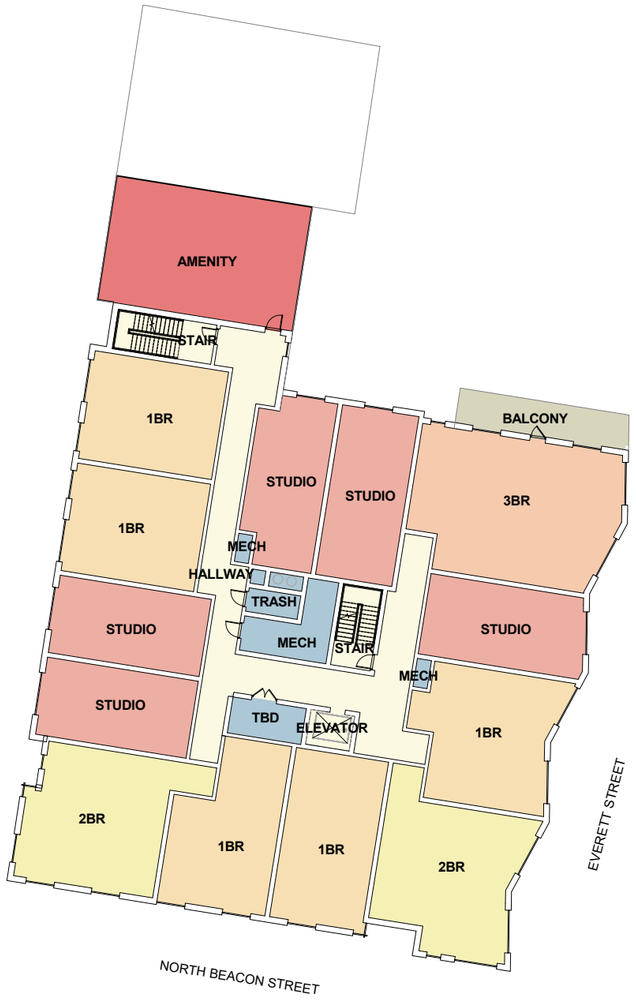
1ST FLOOR

Rental Building Floor Plan
Scale: 1/32"=1'-0"
37 North Beacon Street
Boston, Massachusetts

Figure 2.1A



2ND-3RD FLOOR

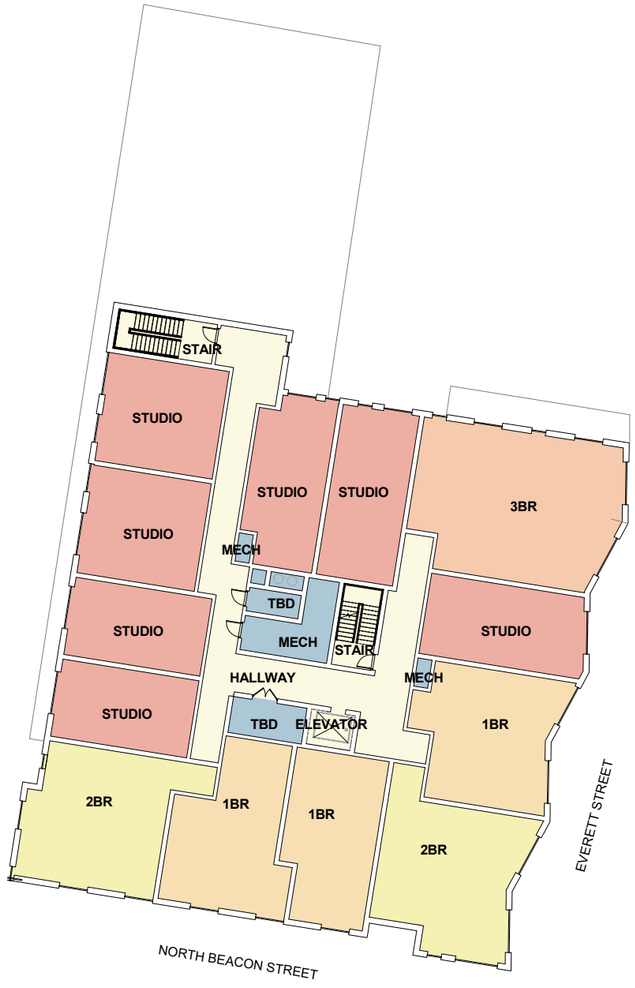


4TH FLOOR

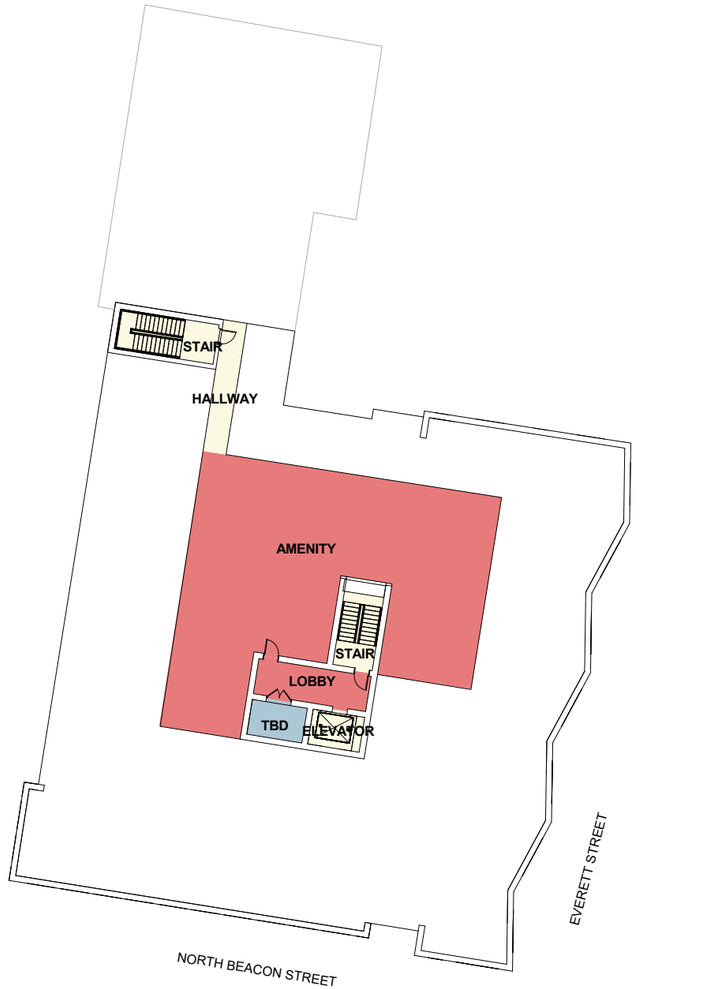
PCA

Rental Building Floor Plan
Scale: 1/32"=1'-0"
37 North Beacon Street
Boston, Massachusetts

Figure 2.1B



5TH FLOOR



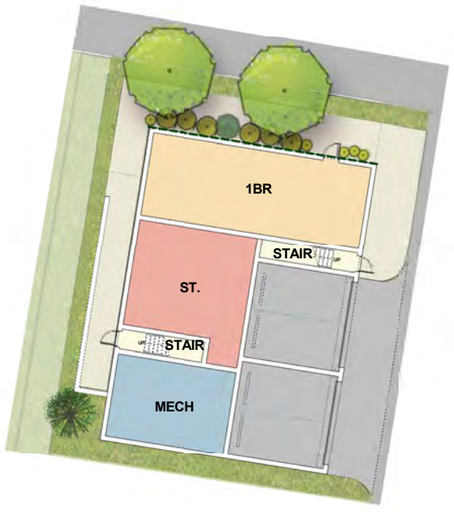
ROOF PLAN

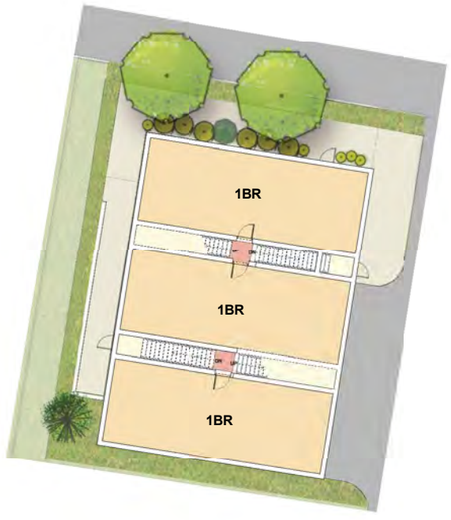
Rental Building Floor Plan
Scale: 1/32"=1'-0"
37 North Beacon Street
Boston, Massachusetts

PCA

Figure 2.1C

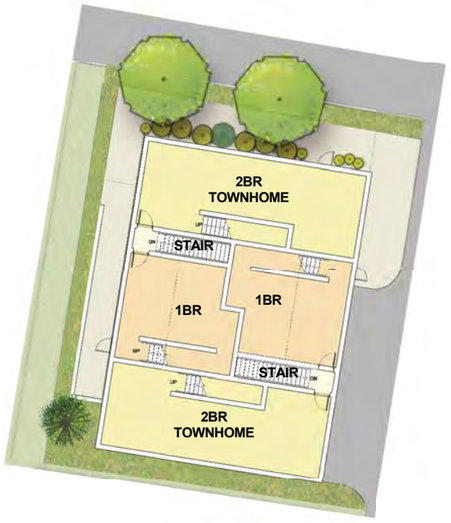
GROUND LEVEL

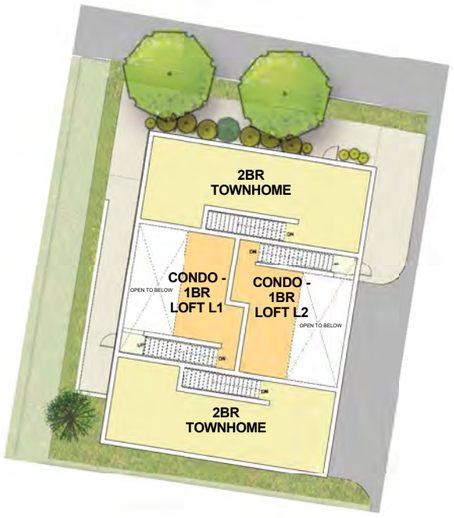




2ND LEVEL

3RD LEVEL

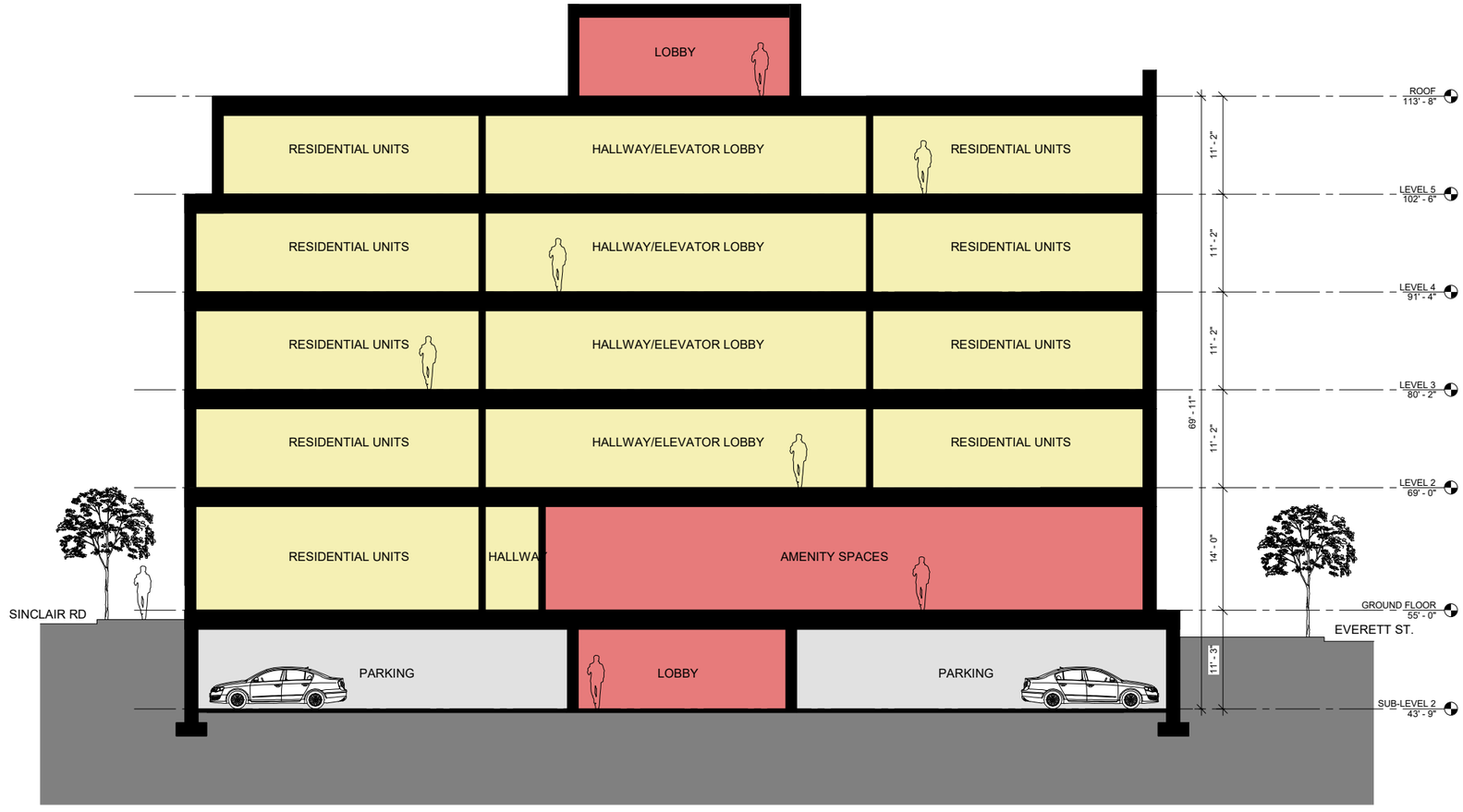


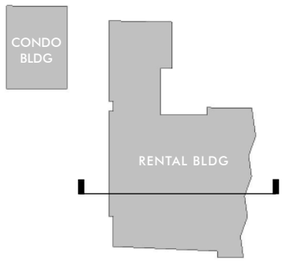


4TH LEVEL

Condo Building Floor Plan
Scale: 1/32"=1'-0"
37 North Beacon Street
Boston, Massachusetts

Figure 2.2A



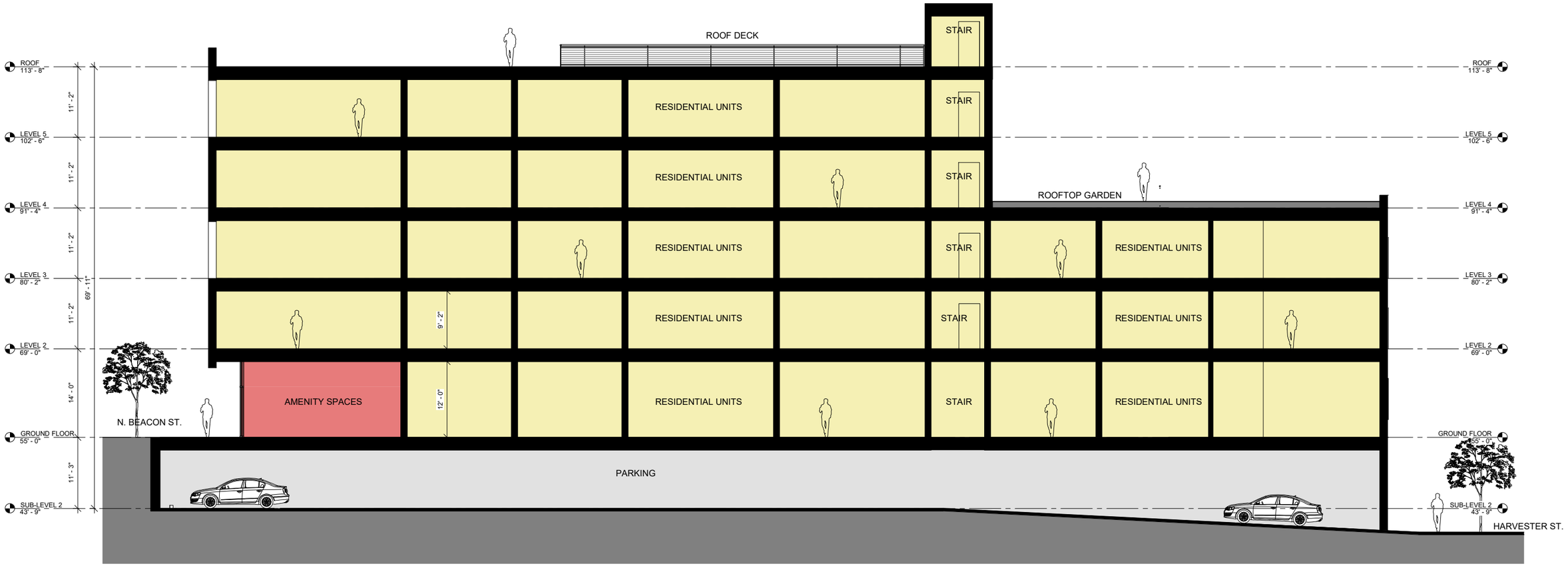


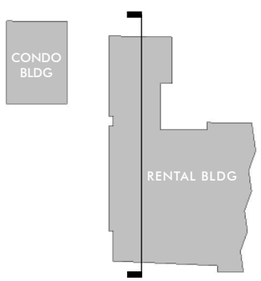
Rental Building Section
Scale: 1/16"=1'-0"

37 North Beacon Street
Boston, Massachusetts

PCA

Figure 2.3A

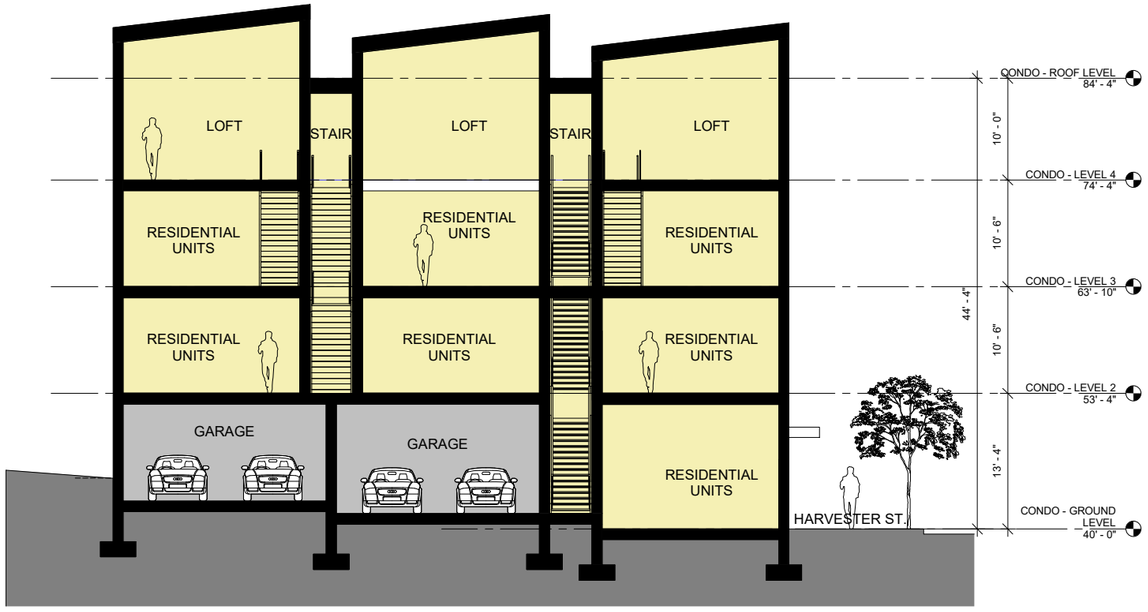


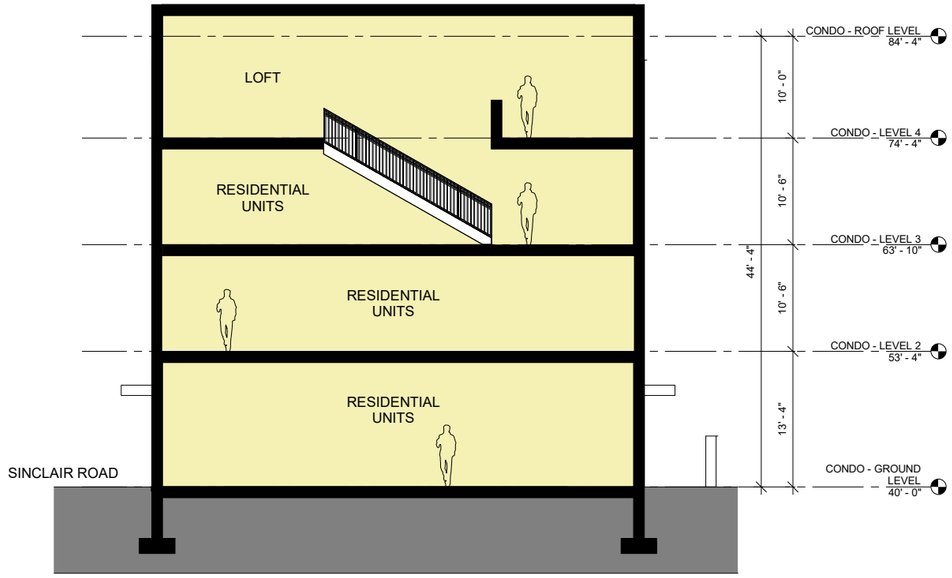


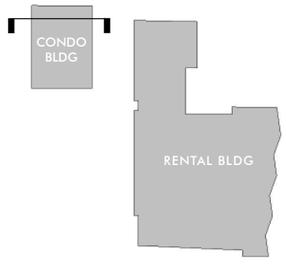
Rental Building Section
Scale: 1/16"=1'-0"

37 North Beacon Street
Boston, Massachusetts

Figure 2.3B





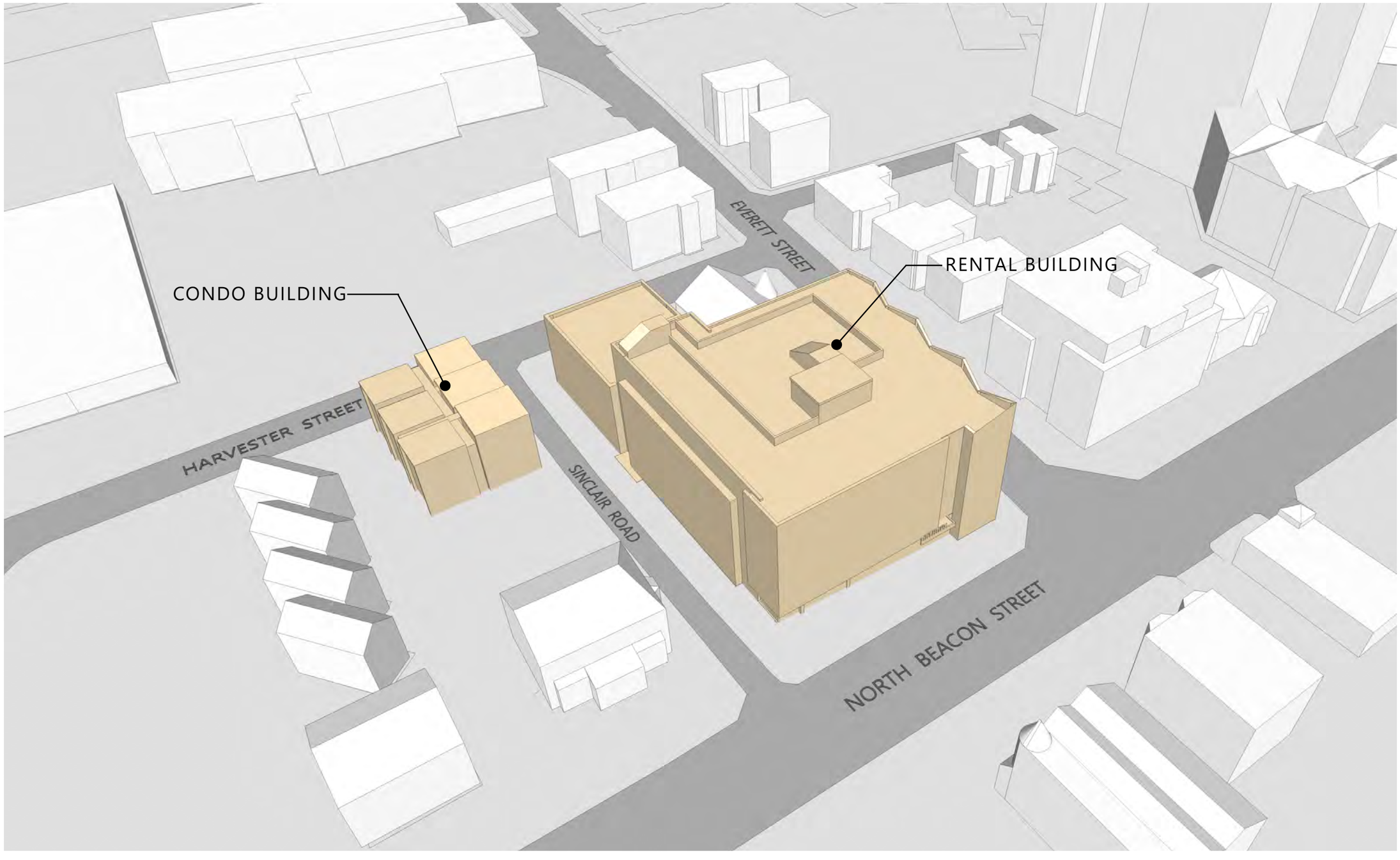


PCA

Condo Building Section
Scale: 1/16"=1'-0"

37 North Beacon Street
Boston, Massachusetts

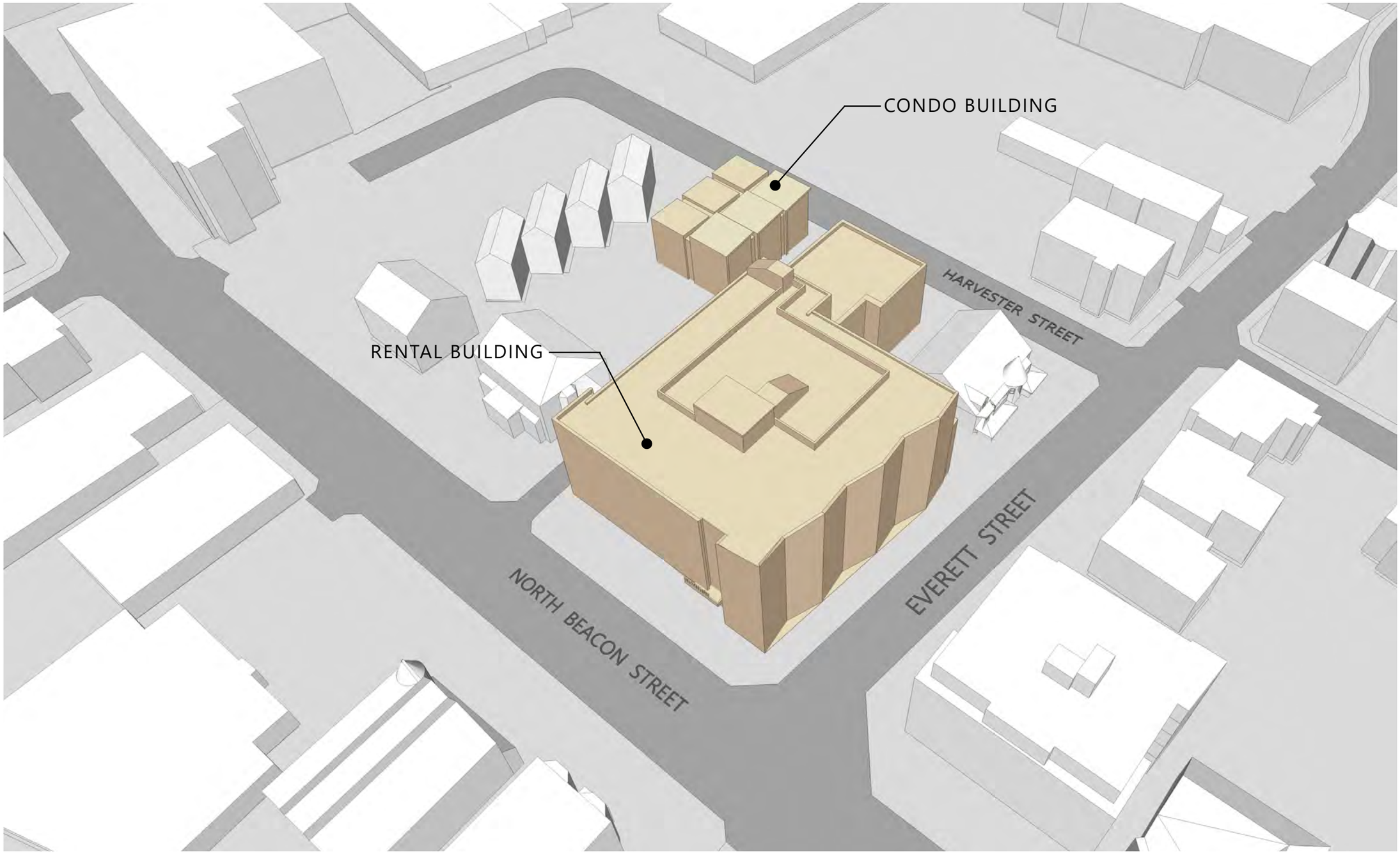
Figure 2.4



Project Massing
Scale: N/A

37 North Beacon Street
Boston, Massachusetts

Figure 2.5A



PCA

Project Massing
Scale: N/A
37 North Beacon Street
Boston, Massachusetts

Figure 2.5B

SOUTH ELEVATION

NORTH ELEVATION

PCA

Apartment South/North Ele.
Scale: 3/64"=1'-0"

37 North Beacon Street
Boston, Massachusetts

Figure 2.6A

EAST ELEVATION

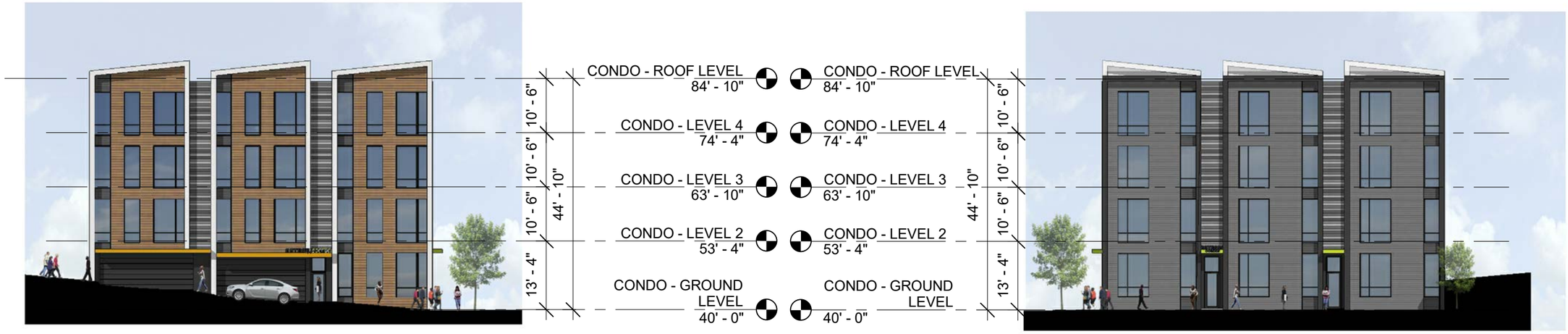
WEST ELEVATION

PCA

Apartment East/West Ele.
Scale: 3/64"=1'-0"

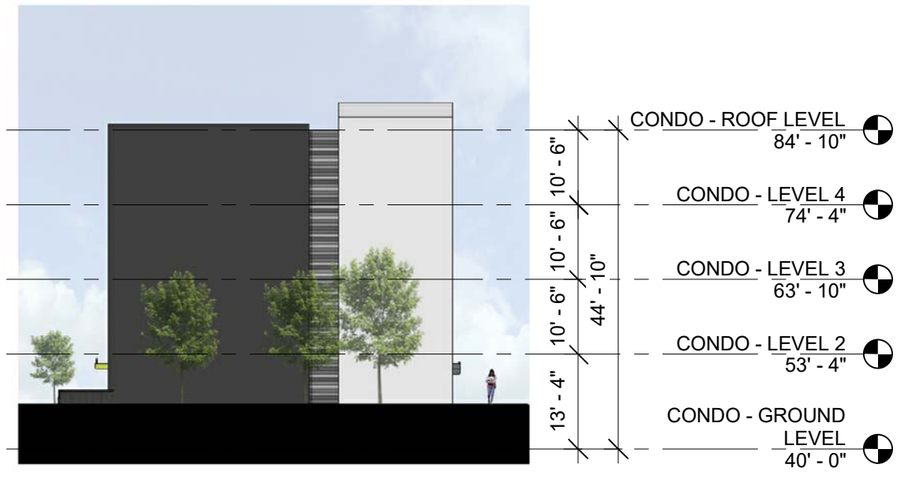
37 North Beacon Street
Boston, Massachusetts

Figure 2.6B



EAST ELEVATION

WEST ELEVATION



SOUTH ELEVATION

NORTH ELEVATION

PCA

Condo Building Elevations
Scale: 3/64"=1'-0"
37 North Beacon Street
Boston, Massachusetts

Figure 2.7

3

Sustainability/Green Building and Climate Change Resiliency

The following chapter describes the overall approach to sustainable design, construction, and operation for the Project. Included is a preliminary assessment of green building design, in compliance with the requirements of Article 37 of the Code relative to the City's Green Building policies and procedures ("Article 37"). This chapter also discusses the approach to preparing for predicted climate change, in accordance with the current BPDA Climate Change Preparedness and Resiliency Policy (the "Resiliency Policy"). The required Climate Change Preparedness and Resiliency Checklist (the "Resiliency Checklist") has been completed for the Project and is provided in Appendix C.

3.1 Summary of Key Findings and Benefits

Key findings and benefits related to sustainability/green building design and climate change preparedness include the following Project attributes:

- Complies with Article 37, Green Buildings of the Code by demonstrating compliance with the LEEDv4 program at a Silver certifiable level.
- Meets the Massachusetts Energy Code requirements (the ASHRAE 90.1-2013 baseline for the Rental Building; a HERS Index Score of 55 or lower for the Condo Building).
- Building design will include high-efficiency building systems (mechanical, plumbing and electrical), and a high-performance building envelope.
- Sustainable design measures such as LED lighting within common areas and units, low flush and flow plumbing fixtures, building energy management systems, and healthy interior environments are a few of the features that are being considered for inclusion in the Project.
- According to City of Boston sea level rise mapping, the Project Site is not located within a flood hazard area.

3.2 Regulatory Context

3.2.1 Energy Code

Effective January 1, 2017, the current Stretch Energy Code, as adopted by the City of Boston, allows multifamily buildings that are five stories or over but that are under 100,000 ft^2 to show compliance through the 9^{th} edition of the baseline commercial code (see 780 CMR 13: *Energy Efficiency*). This entails demonstrating energy performance that meets the ASHRAE 90.1-2013 standard.

The Stretch Energy Code requires multifamily buildings four stories or lower to comply with the 9th edition of the residential code (780 CMR 51.00). These buildings may show compliance by achieving a HERS Index Score of 55 or lower.

3.2.2 Article 37 – Green Buildings

Article 37 submittal requirements include completing a LEED scorecard to demonstrate that a project meets the minimum requirements to be LEED certifiable (all LEED prerequisites and achieve at least 40 points) ("LEED certifiable"). With the LEED version 4, or "v4," rating system effective as of October 31, 2016, the BPDA requires initial Article 80 Large Project Review submissions on or after November 1, 2016 to demonstrate LEED certifiable status using LEEDv4. This latest iteration of the LEED rating system standards is measurably higher and more stringent in many categories.

The Boston Interagency Green Building Committee ("IGBC") advises the BPDA on a proposed project's compliance with the provisions of the article. The Committee consists of representatives of city agencies including the BPDA, BED, BTD, the Inspectional Services Department and the Mayor's Office.

Boston Green Building Credits

Appendix A of Article 37 lists Boston Green Building Credits, which are credits that may be included in the calculation toward achieving a LEED certifiable project. These credits were developed by the City and are intended to address local issues unique to development within Boston. The credits include the following categories: Modern Grid, Historic Preservation, Groundwater Recharge, and Modern Mobility.

3.2.3 BPDA Climate Change Preparedness and Resiliency Policy

In conformance with the Mayor's 2011 Climate Action Leadership Committee's recommendations, the BPDA requires projects subject to Boston Zoning Article 80 Large Project Review to complete the Resiliency Checklist to assess potential adverse impacts that might arise under future climate conditions, and any project resiliency, preparedness, and/or mitigation measures identified early in the design stage. The Resiliency Checklist is reviewed by the IGBC.

3.3 Sustainability/Green Building Design Approach

The Project at this time of preliminary design contains many sustainable elements demonstrating that the Project will meet the requirements of Article 37 of the Boston Zoning Code.

The Project will incorporate sustainable principles into its design, construction, and continued operation activities. Each building will strive to meet the requirements for Silver level certifiability through the United States Green Building Council's ("USGBC") Leadership in Energy and Environmental Design ("LEED") Building Design and Construction ("BD+C") Homes Multifamily rating system ("LEED H V4").

The Project design includes the following sustainable principles:

- An integrated team, members of which will collaborate throughout the design and construction process;
- Environmentally friendly site design and consideration of landscaping and heat island effect to benefit both residents and the surrounding neighborhood;
- Stormwater management infrastructure designed to provide treatment and peak flow mitigation in compliance with municipal stormwater standards;
- A neighborhood with a high degree of walkability and proximity to public transportation, as well as a covered bicycle storage space for each unit;
- Efficient water use that minimizes waste and maximizes available technology for both outdoor and outdoor water systems;
- Energy efficiency through a high-performance envelope, installation of high-efficiency equipment, and a right-sized system design;
- Healthy materials and finishes throughout all interior spaces, reducing health risks for residents; and
- Effective ventilation and exhaust systems, designed to ensure continued health and air quality throughout the life of each building.

Refer to Figures 3.1a and b for preliminary LEED scorecards for the Project. For a credit-by-credit narrative outlining the project's approach to LEED certification, please see Appendix B.

3.3.1 Preliminary Energy Model

Rental Building

The 37 North Beacon building will achieve the necessary credits for LEED certifiability through the LEED Multifamily Midrise program. The building must demonstrate compliance with LEED energy efficiency requirements via modeling using an approved software package to exceed the ASHRAE 90.1-2010 baseline by 5 percent. To evaluate the building for this filing, a conceptual energy model was developed in eQuest to estimate energy consumption and costs. The conceptual model is based on early-stage schematic design and does not reflect the detail resulting from a more complete design process.

Per Massachusetts Energy Code 9th Ed. (780 CMR Chapter 13), mid-rise residential projects must exceed ASHRAE 90.1-2013. At this early stage, the conceptual model shows savings of 16.6 percent against the baseline. The team is confident that the building will also exceed the minimum performance requirement for LEED (ASHRAE 90.1-2010) and will earn at least 13 additional points under LEED credit *Annual Energy Use*. Throughout the design process, the team will update the model as new design decisions are made; these will result in updated model results.

For modeling results, please see Appendix B.

Condo Building

The Condo Building will achieve the necessary credits for LEED certifiability through the LEED Homes Multifamily program. The Project must demonstrate compliance with LEED energy efficiency requirements via modeling through the Energy Star Home Energy Rating System ("HERS") Index Target. To evaluate the building for this filing, conceptual energy models were developed in Ekotrope to estimate energy consumption and utility costs. The conceptual models are based on early-stage schematic design.

In the HERS rating process, individual housing units are modeled representing unique apartment types in the design. The models capture different geometries and envelope characteristics depending on an apartment's position within the building. For the Project, the team has modeled two units: a top-floor three bedroom and a studio that is slab-on-grade.

Per Massachusetts Energy Code 9th Ed. (780 CMR Chapter 51, Section 11), low-rise residential projects must demonstrate a HERS index score of 55 or below (adjustments to this threshold are made where the scope of work includes a solar photovoltaic system and other renewable systems). At this early stage, the conceptual models show HERS scores between 51 and 55. These are below code requirements and exceed the Energy Star HERS Index Target score required by LEED. A score of 55 (the maximum per the code's performance path) will earn 16 points under LEED credit *Annual Energy Use*. Throughout the design process, the team will update the model as new design decisions are made; these will result in updated HERS index scores.

For modeling results, please see Table 3-1. Model assumptions are shown in Table 3-2.

Table 3-1 HERS Modeling Results for Two Units (Annual)

	3BR – Top Level	Studio – Slab on Grade
Heating (therms)	157.4	62.3
Heating (kWh)	17.1	6.8
Cooling (kWh)	166.5	67.8
DHW (therms)	98.4	60.6
Lights & Appliances (therms)	13.5	9.3
Lights & Appliances (kWh)	3,712.9	2,370.5
Total (therms)	269.3	132.3
Total (kWh)	3,896.5	2,445.1
Total Onsite Generation (kWh)	-	-
Peak Winter (kW)	0.36	0.23
Peak Summer (kW)	0.76	0.46
HERS Index Score	55	51

Table 3-2 HERS Model Preliminary Assumptions

Model Input Parameter	2015 IECC Prescriptive (where applicable)	Proposed Design Model
Conditioned Area in REMRate	Varies by unit; values shown are average for type (ft^2)	Varies by unit; values shown are average for type (ft^2)
	Studio = 564	Studio = 564
	3 bed = 1265	3 bed = 1265
Building Envelope		
Wall	R-20 or R-13+R-5 (continuous)	R-21+R-6.6 (continuous)
Slab	R-10, 2 ft	R-10, 2 ft
Deck above Garage	R-30	R-30 continuous
Roof	R-30 continuous	R-25 continuous
Glazing Area	8%	30sf for studios; 120sf for 3BRs
Window U-factor	U-0.30	U-0.27
Window SHGC	0.40	0.40
Infiltration	n/a	5 ACH_{50}
Lighting & Appliances		
Residential lighting	100% "high efficiency" lighting (CFL/LED)	100% "high efficiency" lighting (CFL/LED)
Exterior lighting (Total)	100% "high efficiency" lighting (CFL/LED)	100% "high efficiency" lighting (CFL/LED)
Refrigerators	Energy Star	Energy Star; 348 kWh/yr for studio; 423 kWh/yr for 3BR
Laundry	Energy Star	Energy Star
Range	N/A	Electric
HVAC System		
Primary HVAC system	Fan coil units with hot water heating coils and DX cooling coils	Fan coil units with hot water heating coils and DX cooling coils; 97% AFUE boiler; 0.89 Energy Factor DHW; 15.5 SEER Dx condenser
Ventilation System	mechanical ventilation; rooftop AHU with Dx coil and gas heating coil for corridors	Individual ERVs in each unit, 70% recovery efficiency; rooftop AHU with Dx coil and gas heating coil for corridors
Duct Leakage (Outside)	CFM25 leakage less than 6% of floor area	6 CFM25 leakage per 100 sf of floor area
Domestic Hot Water System		
Equipment Type	Gas-fired hot water tank	[See above]

3.3.1 Clean and Renewable Energy Analysis

The team has carried out a preliminary review of feasibility for combined heat and power ("CHP"), solar photovoltaic ("PV") and solar thermal systems.

Solar PV

Solar PV systems that are installed behind the meter help offset electricity consumption in buildings, with corresponding reductions in utility costs and GHG emissions. The conceptual design for the Rental Building includes a rooftop amenity space for tenants. The roof will also accommodate mechanical equipment for ventilation and conditioning of apartments and common areas. During the design process the team will further investigate the feasibility of solar PV for both buildings in the Project, given the space constraints. The analysis will account for incentive programs currently available including the Solar Massachusetts Renewable Target ("SMART") program.

Combined Heat and Power / Solar Thermal

CHP and solar thermal systems provide electricity and thermal energy simultaneously via one unit. Solar thermal systems heat a water or glycol loop by collecting solar radiation in order to preheat stored domestic hot water. Both CHP and solar thermal are most feasible in buildings with central domestic hot water systems and year-round demand for hot water.

The team is currently pursuing a mechanical strategy that includes individual domestic hot water systems in each apartment with tenant-paid electricity and natural gas. However, if during the design process the team begins to consider a central domestic hot water system, then CHP will be evaluated for physical and financial viability.

3.3.2 Energy Efficiency Assistance

The MassSave Multifamily Highrise program provides incentives for efficient design elements and equipment in new construction of multifamily buildings four stories and above. With two buildings at four and five stories respectively, the Project will eligible for this program. Incentive levels are determined by the program's whole building energy model, comparing the building's anticipated usage of electricity and gas to the baseline reference building. Contact with the MassSave program will begin early in design to ensure maximum benefit and from program staff.

3.4 Climate Change Preparedness and Resiliency

As required by the BPDA for Large Project Review, the Proponent has begun to consider the projected impacts related to climate change in early stages of planning and design by completing the Resiliency Checklist (Appendix C). Climate change is expected to result in rising sea levels, more frequent extreme storms, and more

extreme weather events. The following sections describe what has been considered as it relates to climate change impacts as part of the early stages of project design.

3.4.1 Sea Level Rise and Extreme Storms/Flooding

The Project Site is located outside of the 100-year flood zone and is approximately 3,400 feet from the closest open body of water. Therefore, extreme flooding and sea level rise are not anticipated to impact the Project.

3.4.2 Extreme Weather Events

In addition to sea level rise, additional climate change issues predicted for Massachusetts, per the 2011 Massachusetts Climate Change Adaptation Report, include an increase in extreme weather events which could consist of drought, tropical rainfall patterns (i.e., increased precipitation) and extreme heat and cold stretches, increase in the number of days with extreme heat (i.e., temperatures greater than 90°F and 100°F) and/or fewer days of snow yet increased winter precipitation. Project-related resiliency measures aimed at addressing these potential events are discussed below.

3.4.3 Potential Resiliency Measures

Site Resiliency Measures

To manage stormwater, the Project will provide infiltration that retains site runoff while providing treatment and peak flow mitigation in accordance with municipal stormwater standards. Additionally, the Project Site will grade away from the proposed buildings and on-site drainage will be picked up by area drains or infrastructure in the surrounding streets.

At the street level, the Proponent aims to reduce the heat island effect through the use of light-colored paving materials and integration of greenery, such as tree canopy cover and several landscape features along the streetscape and common green space.

Any new utilities (i.e., gas, electrical) will be buried below ground to reduce the possibility of a localized power outage caused during extreme storm events. Protective plantings throughout and at the edges of the Project Site will mitigate potential wind effects created by open spaces.

Building Resiliency Measures

The Project Site location was assessed for its vulnerability to sea level rise and/or extreme flooding. It was determined the Project Site does not fall within the projected 100-Year Floodplain.

The following design and planning measures will be explored to mitigate for rising temperature impacts:

- Employing reflective roof materials; and

- Designing the residential units with operable windows, which help mitigate power disruptions by reducing the reliance on mechanical ventilation systems windows by providing fresh air when mechanical systems are down.

As part of the energy modeling process, climate files that reflect the predicted increase in temperature may be used to better understand how the buildings and their systems would perform under different climate conditions. (This understanding may then be considered when designing major plant and overall HVAC systems.)

LEED v4 for Building Design and Construction: Homes and Multifamily Lowrise

Project Checklist

Y	?	N			
		2	Credit	Integrative Process	2

15	0	15	**Location and Transportation**		15
Y			Prereq	Floodplain Avoidance	Required
			PERFORMANCE PATH		
		15	Credit	LEED for Neighborhood Development Location	15
			PRESCRIPTIVE PATH		
8			Credit	Site Selection	8
3			Credit	Compact Development	3
2			Credit	Community Resources	2
2			Credit	Access to Transit	2

3	2	2	**Sustainable Sites**		7
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	No Invasive Plants	Required
1	1		Credit	Heat Island Reduction	2
	1	2	Credit	Rainwater Management	3
2			Credit	Non-Toxic Pest Control	2

8	1	1	**Water Efficiency**		12
Y			Prereq	Water Metering	Required
			PERFORMANCE PATH		
			Credit	Total Water Use	12
			PRESCRIPTIVE PATH		
5	1		Credit	Indoor Water Use	6
3		1	Credit	Outdoor Water Use	4

23	0	12	**Energy and Atmosphere**		38
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Energy Metering	Required
Y			Prereq	Education of the Homeowner, Tenant or Building Manager	Required
			PERFORMANCE PATH		
23		3	Credit	Annual Energy Use	29
			BOTH PATHS		
		5	Credit	Efficient Hot Water Distribution System	5
		2	Credit	Advanced Utility Tracking	2
		1	Credit	Active Solar Ready Design	1
		1	Credit	HVAC Start-Up Credentialing	1
			PRESCRIPTIVE PATH		
Y			Prereq	Home Size	Required
			Credit	Building Orientation for Passive Solar	3
			Credit	Air Infiltration	2
			Credit	Envelope Insulation	2
			Credit	Windows	3
			Credit	Space Heating & Cooling Equipment	4
			EA PRESCRIPTIVE PATH (continued)		
			Credit	Heating & Cooling Distribution Systems	3
			Credit	Efficient Domestic Hot Water Equipment	3
			Credit	Lighting	2
			Credit	High Efficiency Appliances	2
			Credit	Renewable Energy	4

0.5	1	9	**Materials and Resources**		10
Y			Prereq	Certified Tropical Wood	Required
Y			Prereq	Durability Management	Required
	1		Credit	Durability Management Verification	1
0.5		3.5	Credit	Environmentally Preferable Products	4
		3	Credit	Construction Waste Management	3
		2	Credit	Material Efficient Framing	2

6.5	0	10	**Indoor Environmental Quality**		16
Y			Prereq	Ventilation	Required
Y			Prereq	Combustion Venting	Required
Y			Prereq	Garage Pollutant Protection	Required
Y			Prereq	Radon-Resistant Construction	Required
Y			Prereq	Air FIltering	Required
Y			Prereq	Environmental Tobacco Smoke	Required
Y			Prereq	Compartmentalization	Required
3			Credit	Enhanced Ventilation	3
		2	Credit	Contaminant Control	2
1		2	Credit	Balancing of Heating and Cooling Distribution Systems	3
		1	Credit	Enhanced Compartmentalization	1
		2	Credit	Enhanced Combustion Venting	2
		2	Credit	Enhanced Garage Pollutant Protection	2
2.5		0.5	Credit	Low Emitting Products	3

1	0	5	**Innovation**		6
Y			Prereq	Preliminary Rating	Required
		5	Credit	Innovation	5
1			Credit	LEED AP Homes	1

1	0	3	**Regional Priority**		4
1			Credit	Regional Priority: Annual Energy Use	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1

58	4	56	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Figure 3.1a

LEED Checklist

37 North Beacon Street
Boston, Massachusetts

LEED v4 for Building Design and Construction: Homes and Multifamily Lowrise

Project Checklist

Y	?	N			
		2	Credit	Integrative Process	2

15	0	15	**Location and Transportation**		15
Y			Prereq	Floodplain Avoidance	Required
			PERFORMANCE PATH		
		15	Credit	LEED for Neighborhood Development Location	15
			PRESCRIPTIVE PATH		
8			Credit	Site Selection	8
3			Credit	Compact Development	3
2			Credit	Community Resources	2
2			Credit	Access to Transit	2

3	2	2	**Sustainable Sites**		7
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	No Invasive Plants	Required
1	1		Credit	Heat Island Reduction	2
	1	2	Credit	Rainwater Management	3
2			Credit	Non-Toxic Pest Control	2

8	1	1	**Water Efficiency**		12
Y			Prereq	Water Metering	Required
			PERFORMANCE PATH		
			Credit	Total Water Use	12
			PRESCRIPTIVE PATH		
5	1		Credit	Indoor Water Use	6
3		1	Credit	Outdoor Water Use	4

###	0	12	**Energy and Atmosphere**		38
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Energy Metering	Required
Y			Prereq	Education of the Homeowner, Tenant or Building Manager	Required
			PERFORMANCE PATH		
20.5		3	Credit	Annual Energy Use	29
			BOTH PATHS		
		5	Credit	Efficient Hot Water Distribution System	5
		2	Credit	Advanced Utility Tracking	2
		1	Credit	Active Solar Ready Design	1
		1	Credit	HVAC Start-Up Credentialing	1
			PRESCRIPTIVE PATH		
Y			Prereq	Home Size	Required
			Credit	Building Orientation for Passive Solar	3
			Credit	Air Infiltration	2
			Credit	Envelope Insulation	2
			Credit	Windows	3
			Credit	Space Heating & Cooling Equipment	4

			EA PRESCRIPTIVE PATH (continued)		
			Credit	Heating & Cooling Distribution Systems	3
			Credit	Efficient Domestic Hot Water Equipment	3
			Credit	Lighting	2
			Credit	High Efficiency Appliances	2
			Credit	Renewable Energy	4

0.5	1	8.5	**Materials and Resources**		10
Y			Prereq	Certified Tropical Wood	Required
Y			Prereq	Durability Management	Required
	1		Credit	Durability Management Verification	1
0.5		3.5	Credit	Environmentally Preferable Products	4
		3	Credit	Construction Waste Management	3
		2	Credit	Material Efficient Framing	2

6.5	0	9.5	**Indoor Environmental Quality**		16
Y			Prereq	Ventilation	Required
Y			Prereq	Combustion Venting	Required
Y			Prereq	Garage Pollutant Protection	Required
Y			Prereq	Radon-Resistant Construction	Required
Y			Prereq	Air FIltering	Required
Y			Prereq	Environmental Tobacco Smoke	Required
Y			Prereq	Compartmentalization	Required
3			Credit	Enhanced Ventilation	3
		2	Credit	Contaminant Control	2
1		2	Credit	Balancing of Heating and Cooling Distribution Systems	3
		1	Credit	Enhanced Compartmentalization	1
		2	Credit	Enhanced Combustion Venting	2
		2	Credit	Enhanced Garage Pollutant Protection	2
2.5		0.5	Credit	Low Emitting Products	3

1	0	5	**Innovation**		6
Y			Prereq	Preliminary Rating	Required
		5	Credit	Innovation	5
1			Credit	LEED AP Homes	1

1	0	3	**Regional Priority**		4
1			Credit	Regional Priority: Annual Energy Use	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1

55.5	4	56	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Figure 3.1b

LEED Checklist

37 North Beacon Street
Boston, Massachusetts

4

Transportation

This chapter provides a detailed and comprehensive evaluation of the existing and proposed transportation conditions in the study area, and identifies traffic impacts as a result of the Project. The analysis captures in detail the operational characteristics of the Project, and provides a basis for determining to what extent, if any, Project-related transportation demands are likely to affect the wider transportation network.

This study has been developed to conform with the Boston Transportation Department ("BTD") "Transportation Access Plans Guidelines" and uses standard methodologies, including the Institute of Transportation Engineers' Trip Generation Manual (10th Edition) and local travel characteristics as defined in *Access Boston 2000-2010*. The Study analyzes the following as part of the evaluation of 2018 Existing Conditions:

- Vehicle traffic on study area roadways and intersections;
- Parking conditions;
- Loading and service activities;
- Pedestrian and bicycle operations; and
- Public transportation services.

In addition, this study quantifies and assesses the transportation impacts that are expected under future conditions. The purposes of these analyses are to:

- Define and quantify existing transportation conditions in the Project study area;
- Estimate the transportation impacts that will be generated under future conditions based on the anticipated program for the Project; and
- Develop a set of mitigation strategies and improvement measures which will help lessen the transportation effects of the Project.

4.1 Summary of Key Findings and Benefits

The Project is a transit-oriented development which relies on its urban setting to encourage new residents to utilize alternative modes of transportation. As such, it is expected to have minimal and limited impacts on the area's peak period traffic operations. The Project is expected to generate only nine (9) net-new vehicle trips during the morning peak hour and 13 net-new vehicle trips during the evening peak hour. The results of the analysis indicate that there will be no changes in level of service ("LOS") in the study area from Project-related traffic. The Project will also implement a proactive Transportation Demand Management ("TDM") program and host of site amenities to encourage use of alternative transportation modes.

Parking will be reserved only for residents of the building. Secure, covered bicycle storage and outdoor public bike parking will be provided at the Project Site consistent with City of Boston Bike Parking Guidelines.

The Project will provide many key benefits to the Allston/Brighton area including:

- The removal of the existing used car dealer surface parking lot adjacent to the sidewalk along North Beacon Street, creating a more inviting environment for pedestrians.
- The addition of residential units in a central commuter location within the Allston/Brighton area.
- The low generation of vehicle trips entering and exiting the site during the morning and evening peak hours.

4.2 Project Description

The Project Site is currently comprised of a used car dealership with adjacent residential properties in the Allston/Brighton neighborhood of Boston. The Project is located at the corner of North Beacon Street and Everett Street, north of North Beacon Street and west of Everett Street. The Project includes construction of a five-story, Rental Building with 74 units and 38 parking spaces and a detached Condo Building, which is four stories, with nine units and four off-street parking spaces. In total, the Project will have 83 residential units and 42 parking spaces.

A summary of the proposed uses for the Project are provided in Table 4-1.

Table 4-1 Project Development Program

Land Use	Size
Residential	83 units
Parking	42 spaces
Bicycle Parking	
Secured/Covered	90 spaces
Outdoor	17 spaces

4.2.1 Site Access and Circulation

The Project will be served by Sinclair Road and Harvester Street with access to the parking garage on Harvester Street. The parking garage driveway will provide access to a single level of below-grade parking for residents with a single, shared entry lane and exit lane.

4.3 Study Methodology

The analysis presented in this chapter provides a detailed description of the Project's transportation characteristics and evaluates key impacts to the transportation infrastructure. The transportation analysis presented in this chapter conforms to BTD Guidelines.

The transportation analysis includes the projection of Project-related trips based on the Institute of Transportation Engineers ("ITE") *Trip Generation Manual 10th* Edition and the application of local travel characteristics established through the *Access Boston 2000-2010* initiative. Synchro 9 software was used to facilitate the evaluation of traffic operations based on the Highway Capacity Manual ("HCM") methodologies.

4.3.1 Traffic Study Area

Based on the Project program and the surrounding vehicular network, five study intersections were determined. As shown in Figure 4.1, the following intersections were included in the study area for the analysis:

1. Everett Street at Harvester Street (unsignalized)
2. North Beacon Street at Gordon Street (unsignalized)
3. North Beacon Street at Sinclair Road (unsignalized)
4. North Beacon Street at Everett Street/KFC Driveway (signalized)
5. North Beacon Street/Brighton Ave at Cambridge Street (signalized)

4.3.2 Analysis Conditions

The transportation analysis considers the following analysis scenarios:

- **2018 Existing Condition** – Based on traffic data conducted within the study area in 2016 and grown by one-half (1/2) percent per year to reflect 2018 conditions.
- **2023 No-Build Condition** – Future conditions for the five-year time horizon as expected to occur if the Project was not constructed.
- **2023 Build Condition** – Future conditions for a five-year time horizon assuming construction and full occupancy of the Project.

4.4 2018 Existing Conditions

This section describes existing transportation conditions, including an overview of roadway conditions, transit, pedestrian and bicycle facilities, and general site conditions.

4.4.1 Roadways

The site is located along North Beacon Street and is bound by Everett Street to the east, Harvester Street to the north, and Sinclair Road to the west.

- **North Beacon Street** – North Beacon Street is adjacent to the Project Site and traverses the study area in an east-west direction between Gordon Street and Cambridge Street. North Beacon Street is a two-lane roadway with additional turning lanes provided at major intersections. On-street parking is provided on both sides of North Beacon Street west of the Project Site, but only on the north side of the street in front of the Project Site. Sidewalks are provided on both sides of the street and crosswalks are provided at most intersections. Land use along North Beacon Street consists of a mix of commercial, industrial, and residential uses.
- **Everett Street** – Everett Street is located to the east of the Project Site and traverses the study area in a north-south direction between Western Avenue and North Beacon Street. Everett Street is a two-lane roadway. On-street parking is prohibited on both sides of Everett Street. Sidewalks are provided on both sides of the street and crosswalks are provided at the intersections with North Beacon Street and Old Everett Street (south). Land use along Everett Street consists of a mix of commercial and residential uses.
- **Harvester Street** – Harvester Street is located north of the Project Site and traverses the study area in an east-west direction from Everett Street to the east and continues to a dead end to the west. Harvester Street is a one-lane, two-way roadway with very low resultant traffic volumes. On-street parking and sidewalks are provided on both sides of Harvester Street. Land use along Harvester Streets consists of residential uses.
- **Sinclair Road** – Sinclair Road runs between the two parcels of the Project Site in a north-south direction from North Beacon Street to the south and continues to Harvester Street to the north. Sinclair Road is a one-lane, two-way roadway. Land use along Harvester Streets consists of residential uses. The parking adjacent to the residential buildings near Harvester Street is reserved for residents only, and there is otherwise no room to park on-street due to the narrow roadway configuration.

4.4.2 Study Area Intersections

The study area consists of five study intersections previously shown in Figure 4.1 and described below. Traffic operations and LOS analysis are presented later in this chapter.

- **Everett Street at Harvester Street** – Everett Street and Harvester Street intersect at a three-way unsignalized intersection. All approaches consist of one general purpose travel lane. The Harvester Street eastbound approach is stop-controlled. Sidewalks are provided on both sides of all approaches. On-street parking is provided on both sides of Harvester Street.
- **North Beacon Street at Gordon Street** – North Beacon Street and Gordon Street intersect at a three-way unsignalized intersection. All approaches consist of one general purpose travel lane. The Gordon Street northbound approach is under stop control. Sidewalks are provided on both sides of all approaches and a crosswalk is provided across the Gordon Street northbound approach. On-street

parking is provided on the north side of North Beacon Street and the west side of Gordon Street.

- **North Beacon Street at Sinclair Road** – North Beacon Street and Sinclair Road intersect at a three-way unsignalized intersection. The North Beacon Street eastbound approach consists of one general purpose travel lane and one through lane allowing left turns onto Sinclair Road. All other approaches consist of one general purpose travel lane. The Sinclair Road southbound approach is under stop control. Sidewalks are provided on both sides of North Beacon Street approaches. On-street parking is provided along the northern side of North Beacon Street.
- **North Beacon Street at Everett Street/KFC Driveway** – North Beacon Street and Everett Street/KFC driveway intersect at a four-way signalized intersection with offset approaches on Everett Street and the KFC Driveway. The North Beacon Street eastbound approach consists of two general purpose lanes. The North Beacon Street westbound approach consists of one through lane and one right-turn lane. All left turns from the westbound approach of North Beacon Street into the KFC driveway are prohibited via signage. The Everett Street southbound approach consists of one general purpose lane. The KFC Driveway is one-way southbound away from the intersection, only providing access for vehicles entering the KFC parking lot. Sidewalks are provided on both sides of the North Beacon Street eastbound and westbound approaches and the Everett Street southbound approach. Crosswalks are provided across the North Beacon Street eastbound approach and the Everett Street southbound approach. On-street parking is provided on the north side of North Beacon Street west of the intersection.
- **North Beacon Street/Brighton Avenue at Cambridge Street** – North Beacon Street/Brighton Avenue and Cambridge Street intersect at a four-way signalized intersection known locally as Union Square. The North Beacon Street eastbound approach consists of two general purpose lanes. The Brighton Avenue westbound approach consists of one left-turn lane, one left-through lane, and one through lane. Right-turning traffic exits the westbound Brighton Avenue approach prior to the intersection via a channelized right-turn slip-ramp. The Cambridge Street northeast-bound approach consists of two through lanes and one right-turn lane. All left turns from the northeast-bound approach of Cambridge Street onto North Beacon Street are prohibited via signage. The Cambridge Street southwest-bound approach consists of one left-through lane, one through lane, and one right-turn lane. Sidewalks are provided on both sides of all approaches and crosswalks are provided across all approaches. On-street parking is provided on the north side of Cambridge Street. MBTA bus stops are located on both sides of North Beacon Street west of the intersection, the south side of Brighton Avenue east of the intersection, and the north side of Cambridge Street southwest of the intersection.

4.4.3 Data Collection

To assess the traffic conditions of the surrounding street network, manual turning movement counts ("TMCs") were collected at the study area intersections. The TMCs from the recently submitted Allston Yards Project PNF were used in support of this study. The data were collected in late 2016 during a typical weekday morning commuter period (7:00 AM - 9:00 AM) and evening peak commuter period (4:00 PM - 6:00 PM). To reflect current 2018 conditions, these counts were grown by one-half (1/2) percent per year from 2016 to 2018. Additionally, to account for projects that have been completed and have become occupied since the counts were taken, vehicle trips from Boston Landing and New Balance HQ were added to the grown 2018 volumes to more accurately reflect current 2018 traffic conditions.

The TMCs were used to establish the study area network peak hour volumes for the 2018 Existing Condition analysis. The weekday morning peak hour was determined to be 8:00 AM to 9:00 AM and the weekday evening peak hour from 5:00 PM to 6:00 PM. The existing morning and evening peak hour volumes are shown in Figures 4.2a and 4.2b, respectively.

4.4.4 Pedestrian Environment and Accessibility

The study area has adequate pedestrian accommodations with sidewalks along the surrounding roadways and crosswalks provided at the intersections. Pedestrian volumes at the study area intersections were collected in conjunction with the TMCs from the Allston Yards Project. Figures 4.3a and 4.3b present the 2018 Existing Condition pedestrian volumes. The highest pedestrian volumes in the study area were observed at the intersection of North Beacon Street at Cambridge Street/Brighton Avenue with approximately 166 pedestrians crossing the intersection during the morning peak hour and 284 pedestrians crossing during the evening peak hour.

4.4.5 Bicycles

Bicycle volumes, shown in Figures 4.4a and 4.4b, at the study area intersections were collected simultaneously with the vehicle turning movement counts. Within the immediate study area, there are shared bicycle lanes along both sides of Cambridge Street and Brighton Avenue eastbound. Dedicated bicycle lanes are provided on Brighton Avenue westbound. The intersection of North Beacon Street at Cambridge Street/Brighton Avenue has approximately 79 cyclists pass through the intersection during the morning peak hour and 94 during the evening peak hour.

The closest Hubway Station is at Union Square - Brighton Avenue at Cambridge Street, approximately a two-minute walk east of the Project Site with 15 bicycle docks, as shown in Figure 4.5.

4.4.6 Public Transportation

Buses

The study area is currently well served by four MBTA bus routes within a half-mile of the Project Site, as shown in Figure 4.5. Routes 51, 57/57A, 64, and 66 stop at North Beacon Street at Cambridge Street. The B Branch of the MBTA Green Line at the Warren Street station also is located one-half mile from the Project Site. Peak period frequencies/headways for MBTA bus services are summarized in Table 4-2.

Table 4-2 Project Area MBTA Service

Service	Origin / Destination	Peak-Hour Frequency (minutes)
Route 51	Reservoir Station – Forest Hills Station	18-33
Route 57/57A	Watertown Yard or Oak Square – Kenmore Station	4-12
Route 64	Oak Square – University Park or Kendall/MIT	13-30
Route 66	Harvard Square – Dudley Station	9-11
B Branch Green Line	Park Street – Boston College	6

Source: MBTA, Winter Schedule 2018

Commuter Rail

Construction of the Boston Landing MBTA Commuter Rail Station near the Project Site was recently completed and the station became operational in late May 2017. The new commuter rail station serves the MBTA Framingham/Worcester Commuter Rail Line, which operates between Union Station in Worcester and South Station in Boston. This new station provides commuter rail access to the Project Site to and from the Back Bay and downtown Boston, as well as points to the west. The new Boston Landing MBTA Commuter Rail Station has the same general frequency of service as most of the other stations along this line, including the nearby Auburndale, West Newton, and Newtonville stops. Specifically, the first of six-weekday morning peak-period inbound stops occurs at 6:42 AM, with subsequent trains arriving at approximate 35-minute intervals. Eight additional stops are scheduled throughout the day with the last train arriving at 7:42 PM. In the outbound direction, there are eleven total stops over the course of the day, with six occurring in the afternoon peak-period. The headways between trains during the weekday afternoon peak period ranges from 25 to 60 minutes. Weekend service also is offered at the Boston Landing MBTA Commuter Rail Station with the same number of stops and headways found at other stations along this line.

4.4.7 Existing Parking and Carshare Locations

The Project Site currently provides parking for a used car dealership and residential units. The used car dealership lot has its main access off Sinclair Road, and it provides approximately 40 parking spaces. The 10 existing residential units provide parking for approximately 10 vehicles. The total number of existing parking spaces on the Project Site is approximately 50.

There are three carsharing locations near the site. The 26 Allston Street Zipcar location, approximately a quarter-mile to the east, provides three vehicles. The 75 Braintree Street Zipcar location, approximately a quarter-mile to the north, provides one vehicle. The 140 North Beacon Street Zipcar location, under a half-mile west of the site, provides four vehicles.

4.4.8 Crash Analysis

A detailed crash analysis was conducted to identify potential vehicle accident trends and/or roadway deficiencies in the traffic study area. The most current vehicle accident data for the traffic study area intersections were obtained from MassDOT for the years 2011 to 2015. The MassDOT database is comprised of crash data from the Massachusetts Registry of Motor Vehicles ("RMV") Division primarily for use in traffic studies and safety evaluations. Data files are provided for an entire city or town for an entire year, though it is possible that some crash records may be omitted either due to individual crashes not being reported, or the city crash records not being provided in a compatible format for RMV use. It also should be noted that the location for some accidents cannot be precisely determined from the database. These locations typically involve interchange intersections. A summary of the study intersections vehicle accident history based on the available RMV data is presented in Table 4-3.

Crash rates are calculated based on the number of accidents at an intersection and the volume of traffic traveling through that intersection daily. Rates that exceed MassDOT's average for accidents at intersections in the district in which the town or city is located could indicate safety or geometric issues for an intersection. As Boston is in MassDOT's District 6, the calculated crash rates were compared to those of MassDOT District 6, which are 0.70 for signalized intersection and 0.53 for unsignalized intersections. These rates imply that, on average, 0.70 accidents occurred per million vehicles entering signalized intersections throughout District 6, and 0.53 accidents occurred per million vehicles entering unsignalized intersections.

Table 4-3 Vehicular Crash Summary (2011-2015)

	North Beacon Street/ Brighton Avenue and Cambridge Street	North Beacon Street at Gordon Street	North Beacon at Everett Street
Signalized?	Yes	No	Yes
MassDOT Average Crash Rate	0.70	0.53	0.70
Calculated Crash Rate	0.21	0.03	0.09
Exceeds Average?	No	No	No
Year			
2011	3	0	1
2012	4	0	1
2013	3	0	1
2014	1	0	0
2015	0	1	0
Total	11	1	3
Collision Type			
Angle	1	0	0
Head-on	1	0	1
Rear-end	1	0	0
Sideswipe, same direction	2	0	0
Single Vehicle Crash	4	1	1
Not reported	2	0	1
Severity			
Fatal Injury	0	0	0
Non-Fatal Injury	5	1	1
Property Damage Only	4	0	1
Not Reported	2	0	1
Time of Day			
Weekday, 7:00 AM - 9:00 AM	0	1	1
Weekday, 4:00 – 6:00 PM	2	0	0
Saturday 11:00 AM – 2:00 PM	1	0	0
Weekday, other time	5	0	1
Weekend, other time	3	0	1
Pavement Conditions			
Dry	7	1	2
Wet	3	0	0
Not reported	1	0	1
Non-Motorist (Bike, Pedestrian)	3	1	1

Review of the accident data indicates that all study area intersections are below the district crash rate averages. The intersection of North Beacon Street/Brighton Avenue at Cambridge Street has the highest number of crashes in the study area with a total of 11 crashes occurring at the intersection over the five-year period. The most common type of crashes at the intersection was single vehicle crashes. Three of the 11 crashes at the intersection of North Beacon Street/Brighton Avenue at Cambridge Street involved non-motorists (pedestrians, bicyclists).

According to the MassDOT Top Crash Locations interactive map, the study area intersection of North Beacon Street/Brighton Avenue and Cambridge Street was identified as a 2006-2015 Highway Safety Improvement Program (HSIP) Bicycle Cluster due to a high number of bicycle related crashes at this intersection. From 2006-2015, this intersection experienced 12 bicycle-related crashes with eight injured and four non-injured reported.

4.5 Future Transportation Conditions

Two future conditions scenarios were evaluated for a five-year time horizon (2023) to assess the potential Project-related traffic impacts: the No-Build and Build conditions. These future conditions are summarized in the sections below.

4.5.1 2023 No-Build Condition

The 2023 No-Build Condition was developed to evaluate future transportation conditions in the traffic study area without consideration of the Project. In accordance with BTD Guidelines, this future analysis year represents a five-year horizon (2023) from existing conditions (2018). The No-Build Condition provides insight into future traffic conditions resulting from regional growth and traffic generated by specific planned projects that are expected to affect the local roadway network.

General Background Growth

A background growth rate of one-half percent per year was applied to the 2018 Existing Condition traffic volumes to account for population growth and smaller projects that cannot be specifically identified. This background growth rate is consistent with other traffic studies in the area.

Area Development Projects

In addition to the background growth rate, traffic projections for several specific planned or approved projects were also incorporated into the development of the 2023 No-Build Condition. These include the following development projects:

› **44 North Beacon Street** – involves the construction of 54 residential units and 35 off-street parking spaces. This site is located south of the Project Site on the opposite side of North Beacon Street.

- **Allston Yards** – involves the redevelopment of a 10.6-acre Project Site currently occupied by a supermarket and adjoining retail stores with a mixed-use, transit-oriented development ("TOD") consisting of residential, office, restaurant, fitness, and retail uses, including a flagship grocery store, and a new approximately 0.5-acre community green, activated with programming to enhance use and enjoyment, such as an outdoor health and wellness events, public art exhibits, music concerts and holiday festivals. Allston Yards is located north of the Project Site just south of I-90 and west of Everett Street.
- **125 Guest Street** – involves the construction of 295 residential units and 16,000 sf of ground-floor retail, which was permitted by the Third Amendment to the Boston Landing Master Plan approved in 2014. This site is located northwest of the Project Site on Guest Street across from the New Balance World Headquarters, with construction ongoing.
- **31 North Beacon Street** – involves the construction of 20 residential units and 2,170 square feet of ground-floor retail adjacent to the intersection of North Beacon Street and Everett Street, southeast of the Project Site.
- **61 – 83 Braintree Street** – involves the construction of 80 residential units and 2,550 square feet of ground-floor retail to be located northeast of the Project Site on Braintree Street adjacent to the Turnpike and MBTA commuter rail tracks. This project has recently been completed with residents now occupying this building.
- **26 Hichborn Street** – consists of 20 residential units and 1,774 square feet of ground-floor retail. This site is located northwest of the Project Site on Hichborn Street.
- **159 – 201 Washington Street** – involves the construction of 680 residential units on an 11.6-acre site currently occupied by St. Gabriel's Church and Monastery, a cemetery, and a Shrine to Our Lady Fatima, among other uses. This project will preserve and rehabilitate the Monastery and shrine while demolishing the rest of the site. This site is located south of the Project Site adjacent to St. Elizabeth's Medical Center.
- **139 – 149 Washington Street** – consists of approximately 180 apartments and 30 condominiums. This site is located south of the Project Site adjacent to the proposed development at 159-201 Washington Street.
- **Western Ave. Residences** – involves the construction of 132 residential units and 5,180 square feet of ground-floor retail. This site is located northwest of the Project Site on the corner of Western Avenue and Leo M. Birmingham Parkway.
- **61 North Beacon Street** – as part of the original "District 9 at 61 North Beacon Street" development proposal, this site was approved to consist of 71 condominium units to be located within an historic five-story, 71,000 square foot building. The building program has since been modified to include the relocation of the existing Boston Volvo Village dealership to the west, with approximately 28,000 square feet of office and/or research and development space.
- **40 Rugg Road** – proposed residential development is planned on a 1.89-acre site located between Rugg Road, Penniman Road, and Braintree Street to the northeast of the Project Site. A 265-unit development is proposed, with 2,700 square feet of supporting retail space.

In addition to the projects listed above, additional development sites recently have been proposed within the study area since the development of this study. These developments mostly replace existing land uses already generating traffic volumes similar to those projected with the new developments. Accordingly, the studies for these projects reveal that any associated traffic increases should be limited to ten or fewer additional peak-hour trips. That nominal level of increased traffic is sufficiently accounted for through the annual growth rate used in this study.

The 2023 No-Build Condition peak-hour traffic volumes were developed by increasing the 2018 Existing Condition volumes to include general background traffic growth as previously described, and adding traffic volumes associated with known traffic forecasts projected for other development projects in the area. As summarized above, this background traffic includes both the adjacent Boston Landing development as well as the other nearby projects described above.

Figures 4.7a and 4.7b present the 2023 No-Build Condition traffic volumes for the weekday morning and evening, respectively.

4.5.2 2023 Build Condition

The 2023 Build Condition includes the 2023 No-Build Condition background traffic growth with the addition of the Project-generated trips. The Project will improve the Project Site driveway off North Beacon Street.

Project-Generated Trips

To assess the traffic impacts of the Project, trip estimates were based on standard rates from the latest ITE Trip Generation Handbook[1]. Trip generation for the proposed residential building was estimated based on the ITE Land Use Codes as shown in Table 4-4 below.

Table 4-4 Trip Generation Land Use Codes

Land Use	ITE Land Use Code (LUC)	Independent Variable
Residential	221-Multifamily Housing, Midrise	Dwelling Units

Source: Trip Generation; Tenth Edition, Institute of Transportation Engineers; Washington, D.C.; 2017.

To account for alternative modes of transportation, mode shares for the area, based on BTD guidelines for Area 17, were applied to the unadjusted ITE trip results. Mode shares are presented in Table 4-5.

1 Trip Generation; Tenth Edition, Institute of Transportation Engineers; Washington, D.C.; 2017.

Table 4-5 Residential Mode Split

Mode	Daily	AM Peak		PM Peak	
		IN	OUT	IN	OUT
Automobile	47%	37%	43%	43%	37%
Public Transit	22%	30%	21%	21%	30%
Walk/Bike/Other	31%	33%	36%	36%	33%

Source: BTD Area 17 Mode Split

Vehicle Occupancy Rates ("VOR") were also applied to the ITE trip generation to convert the ITE estimated unadjusted vehicle trips to person trips. A VOR of 1.13 persons per vehicle for residential land use was based on the 2009 National Household Travel Survey. After VOR is applied to the ITE unadjusted vehicle trips to produce person trips, these trips are split into modes based on the mode splits shown previously in Table 4-5. The VOR is again applied to the person trips to produce adjusted vehicle trips. The Project trips for all modes are shown in Table 4-6.

Table 4-6 Project-Generated Trips

Time Period/ Direction	Public Transportation	Walk/Bike/ Other	Vehicle	Existing Site Vehicle Trips[1]	Net-New Vehicle Trips
Daily					
Enter	56	79	106	12	94
Exit	56	79	106	12	94
Total	**112**	**158**	**212**	**24**	**188**
AM Peak					
Enter	3	3	3	1	2
Exit	5	9	9	2	7
Total	**8**	**12**	**12**	**3**	**9**
PM Peak					
Enter	5	9	10	2	8
Exit	5	6	6	1	5
Total	**10**	**15**	**16**	**3**	**13**

Source: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington D.C. (2017).
Notes: Land Use Code (LUC) 221 – Multifamily Housing, Midrise (regression formula). The base trip generation estimates were subsequently categorized into transit, walk, bike or vehicular trips following BTD's guidelines for Area 17.
[1] Existing Site Vehicle Trips were estimated based on existing residential unit counts; daily estimates were not made.

Vehicle Trip Distribution

Trip distribution was based on BTD's guidelines for Area 17 (where the Project is located) and the distribution used for the nearby Allston Yards Project. The Area 17 trip distribution rates are based on the 2000 Census data about where residents work and where employees live. The Project-generated vehicle trips were assigned to the roadway network accordingly. A summary of the regional trip distribution results is presented in Table 4-7 and shown graphically in Figure 4.8.

Table 4-7 Project Trip Distribution

Corridor	In	Out
North Beacon Street (to/from West)	32%	32%
Cambridge Street (to/from North)	29%	29%
Everett Street (to/from North)	20%	20%
Gordon Street (to/from South)	11%	11%
Brighton Avenue (to/from East)	8%	8%
Total	**100%**	**100%**

Source:` BTD Area 17 Trip Distribution

The Project-generated vehicle trips were added to the 2023 No-Build Condition traffic networks using the local trip distribution patterns described above. The Project-generated trips are shown in Figure 4.9a and 4.9b for the weekday morning and evening peak hours, respectively.

Pedestrian Environment and Accessibility

The main residential pedestrian access is from North Beacon Street. The landscape at the front of the development will greatly improve the existing conditions. The second building will have its access off of Sinclair Road.

Bicycle Access

The Project will provide covered and secured bicycle spaces within the building, and the Project will also provide outdoor, public bike racks around the building to provide parking for visitors to the residents. All bicycle parking will conform to the City of Boston's Bicycle Parking Guidelines, and Table 4-8 shows the necessary bicycle parking for the Project according to these guidelines. A total of 90 secured/covered bicycle parking spaces and 17 outdoor bicycle parking spaces will be provided.

Table 4-8 Project Bicycle Parking Spaces

	Secured/Covered Bicycle Parking		Outdoor Bicycle Parking	
Land Use	**Ratio**	**Spaces**	**Ratio**	**Spaces**
Residential	>1 per unit	90	1 per 5 units	17

Source: City of Boston Bicycle Parking Guidelines

Loading and Service

The Project will service trash pickup on-street with rolling trash and recycling containers stored within the development. The containers will be rolled out to Harvester Street for pickup as needed. Move-in/move-out loading will be accommodated along Sinclair Road during off-peak hours to limit the disruptions to the surrounding traffic network. There will be designated truck pull-over space along Sinclair Road for loading, as indicated previously in the site plan.

4.6 Transportation Demand Management

Consistent with the City's goals to reduce auto-dependency, the Project and its Proponent will incorporate proactive TDM measures to encourage alternative modes of transportation. Building management will provide transit information (schedules, maps, fare information) in the building lobbies for residents. Management will also work with tenants as they move in to raise awareness of public transportation options.

The following discusses an array of TDM measures that could be implemented. A description of the TDM elements is presented in this section along with information on how those elements aid Project residents. Measures being considered as part of the Project include:

- The Proponent will designate a Transportation Coordinator to oversee parking, loading, and move-in/move-out operations as well as promote the use of alternative transportation measures and carpooling.
- The Proponent will provide a transit screen in the Rental Building lobby that displays real-time information.
- The Proponent will provide an on-site ride share service.
- The Proponent will consider charging for on-site parking.
- The Proponent will provide loaner bikes or implement a private bike share system for use by tenants.
- The Project includes both covered/secure bicycle storage and public outdoor bicycle spaces. These bicycle spaces will be provided in accordance with the BTD guidelines. The Proponent will provide 17 outdoor bicycle spaces (one per five units) and 85 secure storage spaces (more than one per unit). Bicycle racks, signs, and parking areas will conform to BTD standards and be sited in safe, secure locations.
- The Proponent will work with the City to provide safe pedestrian access to the Project from the surrounding area.

4.7 Parking

The Site currently has approximately 40 parking spaces reserved for the used car dealership and 10 spaces for the residential units, combining for a total of approximately 50 existing parking spaces. The parking needs for the Project will be accommodated by approximately 42 total spaces in a single level below ground parking garage. Essentially, the Project will reallocate the existing used car dealership spaces for residential parking to support the proposed residential units. This will result in a reduction of eight parking spaces. Due to the nearby availability of public bus and train service, and amenities within the Project Site that will promote bicycle and pedestrian travel, the need for parking will be reduced. Additionally, alternate means of travel such as taxi, private ride services (Uber, Lyft, and others) should continue to reduce the parking needs for this area.

4.8 Traffic Operations Analysis

Consistent with BTD Guidelines, Synchro 9 software was used to model LOS operations at the study area intersections. LOS is a qualitative measure of control delay at an intersection providing an index to the operational qualities of a roadway or intersection.

LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS D is considered acceptable. LOS E indicates vehicles experience significant delay while LOS F suggests unacceptable delay for the average vehicle. LOS thresholds differ for signalized and unsignalized intersections. Longer delays at signalized intersections than at unsignalized intersections are perceived as acceptable.

Table 4-9 below presents the level of service delay threshold criteria as defined in the 2000 Highway Capacity Manual ("HCM").

Table 4-9 Level of Service Criteria

Level of Service	Unsignalized Intersection Control Delay (sec/veh)	Signalized Intersection Control Delay (sec/veh)
LOS A	≤ 10	≤ 10
LOS B	> 10-15	> 10-20
LOS C	> 15-25	> 20-35
LOS D	> 25-35	> 35-55
LOS E	> 35-50	> 55-80
LOS F	> 50	> 80

Source: 2000 Highway Capacity Manual (HCM)

Adjustments were made to the Synchro model to include characteristics of the study area such as heavy vehicles, bus operations, parking activity, and pedestrian crossings. The capacity analysis results are summarized in the following sections.

4.8.1 Signalized Capacity Analysis

The LOS results of the signalized capacity analyses are summarized in Table 4-10 and Table 4-11 for the 2018 Existing, 2023 No-Build, and 2023 Build Condition peak hours.

Table 4-10 Signalized Intersection Level of Service (LOS) Summary – Morning Peak Hour

	2018 Existing Condition			2023 No-Build Condition			2023 Build Condition		
Location	**v/c[1]**	**Delay[2]**	**LOS[3]**	**v/c**	**Delay**	**LOS**	**v/c**	**Delay**	**LOS**
North Beacon Street/Everett Street	**0.78**	**61.7**	**E**	**0.82**	**73.7**	**E**	**0.83**	**73.6**	**E**
North Beacon Street EB Left/Thru/Right	3.67dl	103.4	F	4.71dl	127.8	F	4.71dl	127.8	F
North Beacon Street WB Thru	0.88	38.5	D	0.91	42.0	D	0.91	42.0	D
North Beacon Street WB Right	0.18	17.2	B	0.19	17.3	B	0.19	17.3	B
Everett Street SB Left/Thru/Right	0.53	28.8	C	0.55	29.4	C	0.56	29.5	C
North Beacon Street/Brighton Street/ Cambridge Street	**0.99**	**67.8**	**E**	**1.03**	**72.8**	**E**	**1.03**	**73.0**	**E**
North Beacon Street EB Left/Thru/Right	0.88	52.3	D	0.91	55.3	E	0.91	55.2	E
Brighton Avenue WB Left	0.47	45.9	D	0.49	46.4	D	0.49	46.4	D
Brighton Avenue WB Left/Thru/Right	1.06	101.2	F	1.10	112.5	F	1.10	112.5	F
Cambridge Street NEB Thru	0.41	37.8	D	0.50	39.4	D	0.50	39.4	D
Cambridge Street NEB Right	0.14	34.9	C	0.15	34.9	C	0.15	34.9	C
Cambridge Street SWB Left/Thru	0.59	34.3	C	0.65	36.1	D	0.65	36.3	D
Cambridge Street SWB Right	1.15	143.0	F	1.20	159.5	F	1.20	160.8	F

1 volume to capacity ratio
2 delay in seconds
3 level of service

The signalized intersection of North Beacon Street at Everett Street operates at a LOS E both during the morning and evening peak hour in the 2018 Existing Conditions. The signalized intersection of North Beacon Street at Brighton Street and Cambridge Street operates at a LOS E during the morning and LOS F during the evening peak hour in the 2018 Existing Conditions. The intersections are minimally affected by the additional traffic volumes due to background growth and surrounding projects. During the evening peak hour, North Beacon Street at Everett Street experiences a slight decrease in performance from LOS E to LOS F due to increased volumes from the 2018 Existing Condition to 2023 No-Build Condition.

Table 4-11 Signalized Intersection Level of Service (LOS) Summary – Evening Peak Hour

	2018 Existing Condition			2023 No-Build Condition			2023 Build Condition		
Location	**v/c[1]**	**Delay[2]**	**LOS[3]**	**v/c**	**Delay**	**LOS**	**v/c**	**Delay**	**LOS**
North Beacon Street/Everett Street	**0.98**	**79.6**	**E**	**1.02**	**89.6**	**F**	**1.02**	**89.5**	**F**
North Beacon Street EB Left/Thru/Right	2.23dl	158.6	F	3.23dl	180.1	F	3.27dl	180.1	F
North Beacon Street WB Thru	0.83	15.6	B	0.88	17.2	B	0.88	17.2	B
North Beacon Street WB Right	0.18	7.0	A	0.20	6.4	A	0.20	6.5	A
Everett Street SB Left/Thru/Right	0.82	43.7	D	0.86	47.5	D	0.87	47.6	D
North Beacon Street/Brighton Street/ Cambridge Street	**1.06**	**100.0**	**F**	**1.12**	**111.8**	**F**	**1.13**	**112.6**	**F**
North Beacon Street EB Left/Thru/Right	1.27	152.6	F	1.32	175.1	F	1.32	176.7	F
Brighton Avenue WB Left	0.59	49.8	D	0.61	50.7	D	0.61	50.7	D
Brighton Avenue WB Left/Thru/Right	1.17	137.3	F	1.21	154.3	F	1.21	155.0	F
Cambridge Street NEB Thru	0.42	38.0	D	0.48	38.9	D	0.48	38.9	D
Cambridge Street NEB Right	0.15	35.0	D	0.15	35.1	D	0.15	35.1	D
Cambridge Street SWB Left/Thru	0.76	40.7	D	0.89	50.7	D	0.89	50.7	D
Cambridge Street SWB Right	0.83	63.4	E	0.89	72.1	E	0.90	73.2	E

1 volume to capacity ratio
2 delay in seconds
3 level of service

The study area intersections show no change in performance from the 2023 No-Build Condition to the 2023 Build Condition, and all the LOS outcomes remain constant for both the morning and evening peak hours. The traffic volumes generated from the Project will not noticeably affect the surrounding area intersections.

4.8.2 Unsignalized Capacity Analysis

The LOS results of the unsignalized capacity analyses are summarized in Table 4-12 and Table 4-13 for the 2018 Existing, 2023 No-Build, and 2023 Build Condition peak hours.

Table 4-12 Unsignalized Intersection Level of Service (LOS) Summary – Morning Peak Hour

	2018 Existing Condition			2023 No-Build Condition			2023 Build Condition		
Location	**v/c[1]**	**Delay[2]**	**LOS[3]**	**v/c**	**Delay**	**LOS**	**v/c**	**Delay**	**LOS**
North Beacon Street/Gordon Street									
Gordon Street NB Left/Right	0.51	19.1	C	0.57	21.9	C	0.57	22.0	C
Everett Street/Harvester Street									
Harvester Street EB Left/Right	0.03	12.4	B	0.03	12.8	B	0.04	12.1	B
North Beacon Street/Sinclair Road									
Sinclair Road SB Left/Right	0.01	11.1	B	0.01	11.3	B	0.02	11.3	B

1 volume to capacity ratio
2 delay in seconds
3 level of service

Table 4-13 Unsignalized Intersection Level of Service (LOS) Summary – Evening Peak Hour

	2018 Existing Condition			2023 No-Build Condition			2023 Build Condition		
Location	**v/c[1]**	**Delay[2]**	**LOS[3]**	**v/c**	**Delay**	**LOS**	**v/c**	**Delay**	**LOS**
North Beacon Street/Gordon Street									
Gordon Street NB Left/Right	0.46	20.5	C	0.53	24.5	C	0.53	24.7	C
Everett Street/Harvester Street									
Harvester Street EB Left/Right	0.02	13.4	B	0.02	13.8	B	0.03	13.2	B
North Beacon Street/Sinclair Road									
Sinclair Road SB Left/Right	0.01	11.1	B	0.01	11.4	B	0.01	11.5	B

1 volume to capacity ratio
2 delay in seconds
3 level of service

The unsignalized intersection of North Beacon Street at Gordon Street operates at a LOS C both during the morning and evening peak hour in the 2018 Existing Conditions. The unsignalized intersection of Everett Street at Harvester Street operates at a LOS B during both the morning and evening peak hour in the 2018 Existing Conditions. The unsignalized intersection of North Beacon Street at Sinclair Road operates at a LOS B during both the morning and evening peak hour in the 2018 Existing Conditions. The study area intersections show no change in performance from the 2018 Existing Condition to the 2023 No-Build Condition, and all of the LOS outcomes remain constant for both the morning and evening peak hours. The study area intersections show no change in performance from the 2023 No-Build Condition to the 2023 Build Condition, and all of the LOS outcomes remain constant for both the morning and evening peak hours. The traffic volumes generated from the Project will not noticeably affect the surrounding area intersections.

4.9 Construction Management

The Proponent will develop a detailed evaluation of potential short-term construction-related transportation impacts including construction vehicle traffic, parking supply and demand, and pedestrian access. Detailed Construction Management Plans ("CMP") will be developed and submitted to the BTD for their approval. These plans will detail construction vehicle routing and staging.

Construction vehicles will be necessary to move construction materials to and from the Project Site. Every effort will be made to reduce the noise, control fugitive dust, and minimize other disturbances associated with construction traffic. Truck staging and laydown areas for the Project will be carefully planned. The need for street occupancy (lane closures) along roadways adjacent to the Project Site is not known at this time.

Contractors will be encouraged to devise access plans for their personnel that de-emphasize auto use (such as seeking off-site parking, provide transit subsidies, on-site lockers, etc.). Construction workers will also be encouraged to use public transportation to access the Project Site because no new parking will be provided for them. Because of the construction workers early arrival/departure (typically 7:00 AM – 3:00 PM) schedule, a conflict for on-street parking is not anticipated.

During the construction period, pedestrian activity adjacent to the site may be impacted by sidewalk closures. A variety of measures will be considered and implemented to protect the safety of pedestrians. Temporary walkways, appropriate lighting, and new directional and informational signage to direct pedestrians around the construction sites will be provided. After construction is complete, finished pedestrian sidewalks will be permanently reconstructed to meet ADA standards around the new facilities. Any damage as a result of construction vehicles or otherwise will be repaired per City standards.

4.10 Transportation Access Plan Agreement

A Transportation Access Plan Agreement (TAPA) will be entered into between the Proponent and BTD. The TAPA will codify the specific measures and agreements between the Proponent and the City of Boston.

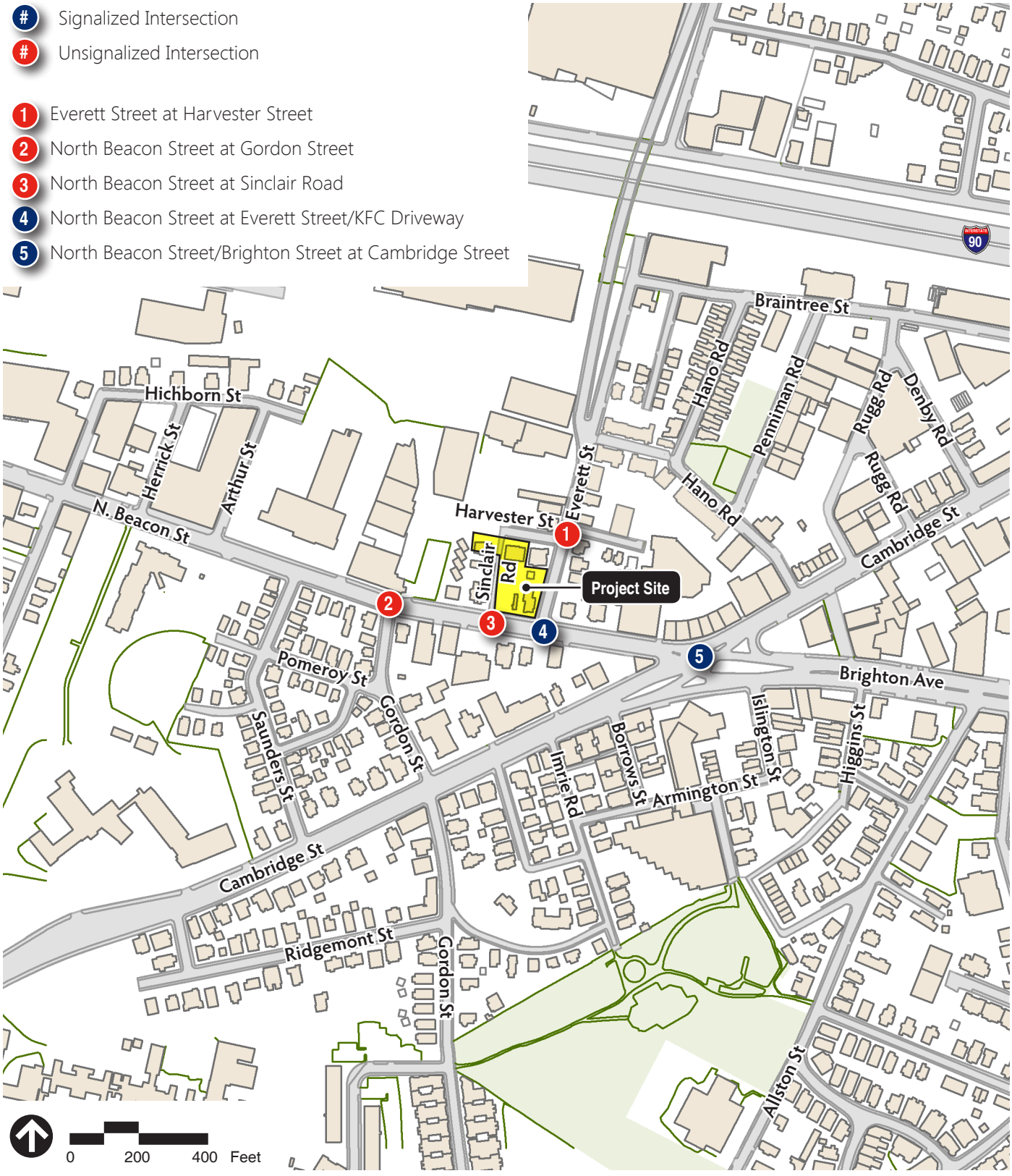


Figure 4.1

Study Area Intersections

37 North Beacon Street
Boston, Massachusetts

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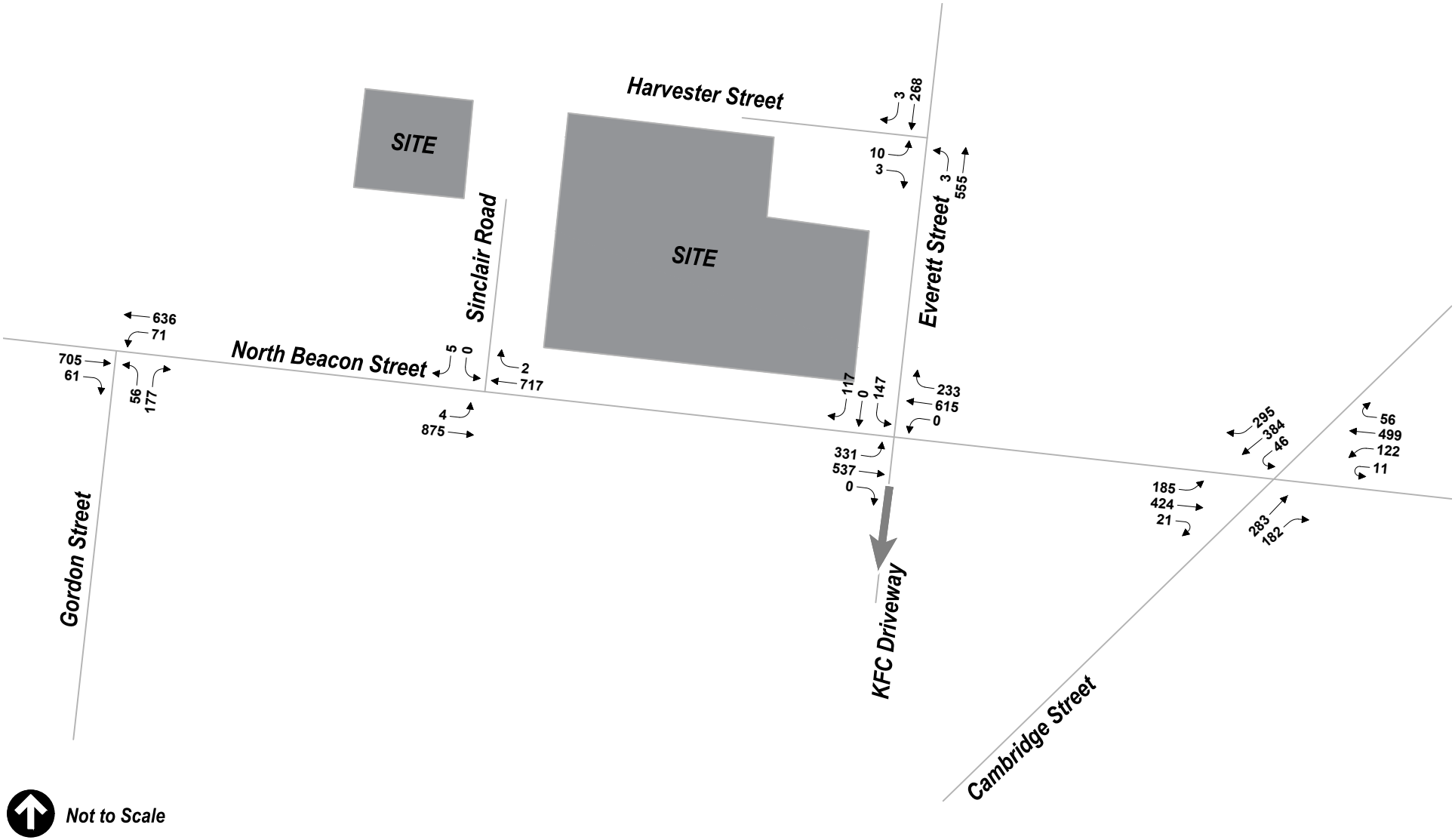

Figure 4.2a

2018 Existing Condition
Morning Peak Hour Vehicle Volumes

37 North Beacon Street
Boston, MA

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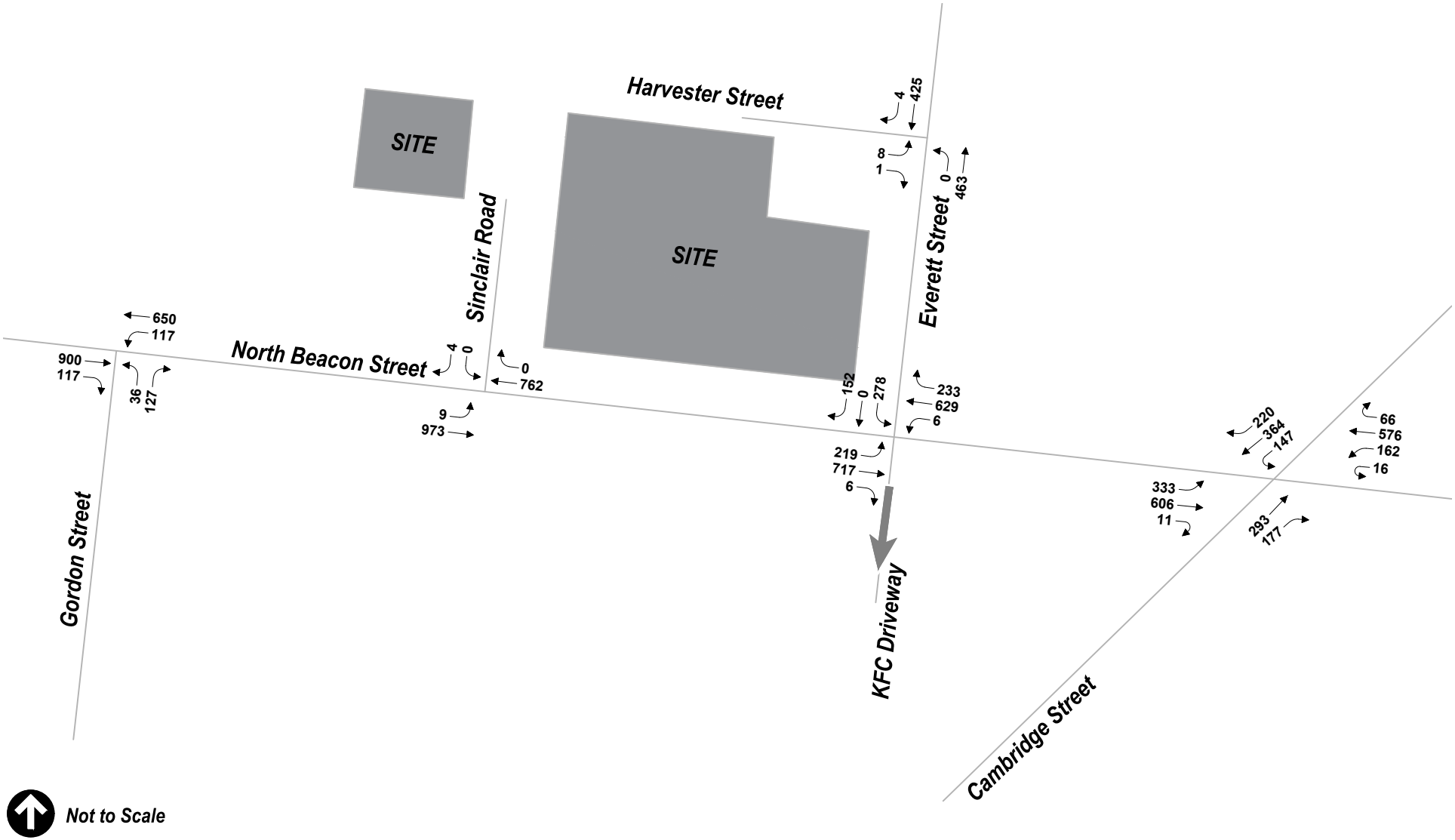

Figure 4.2b

2018 Existing Condition
Evening Peak Hour Vehicle Volumes

37 North Beacon Street
Boston, MA

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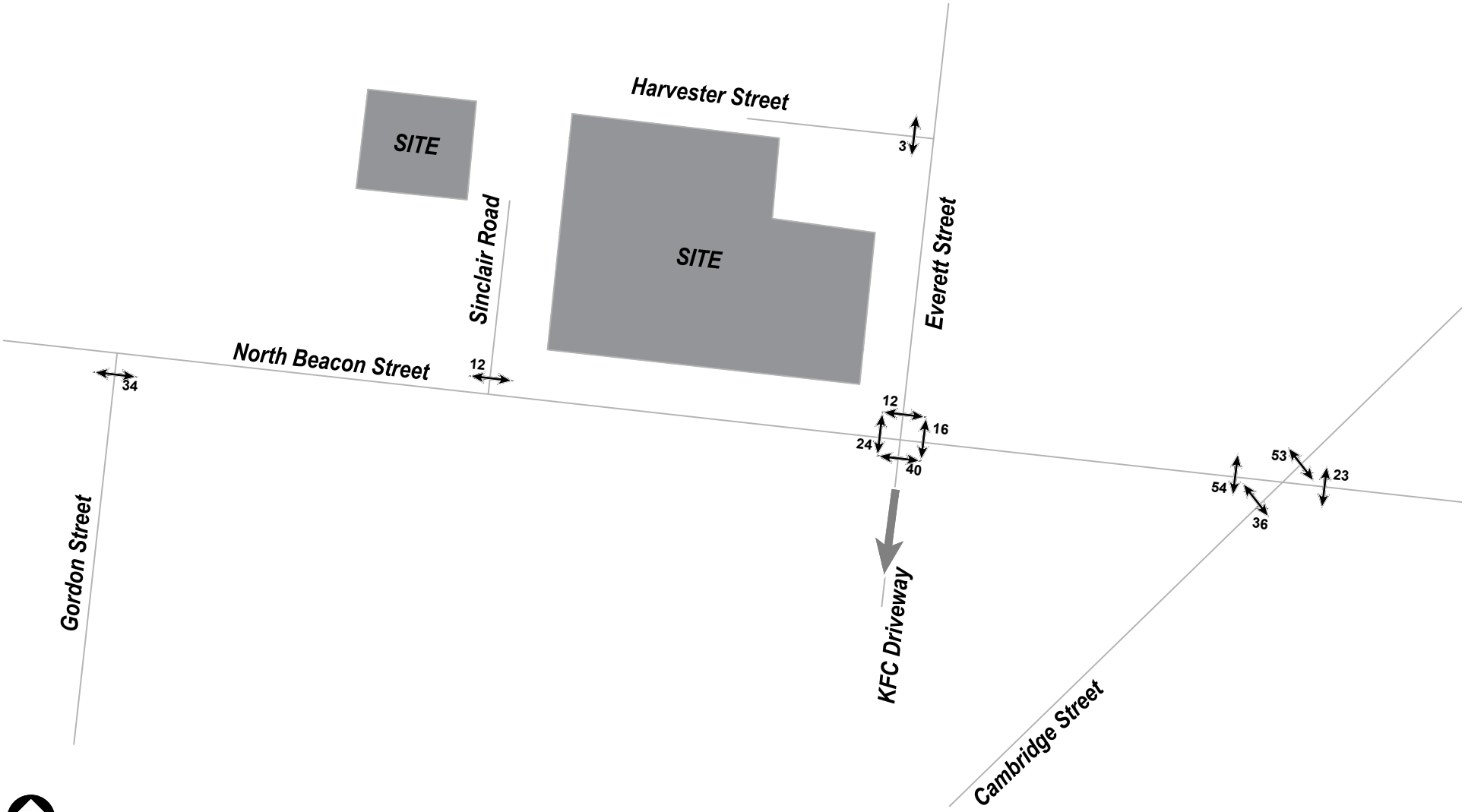

Figure 4.3a

2018 Existing Condition
Morning Peak Hour Pedestrian Volumes

37 North Beacon Street
Boston, MA

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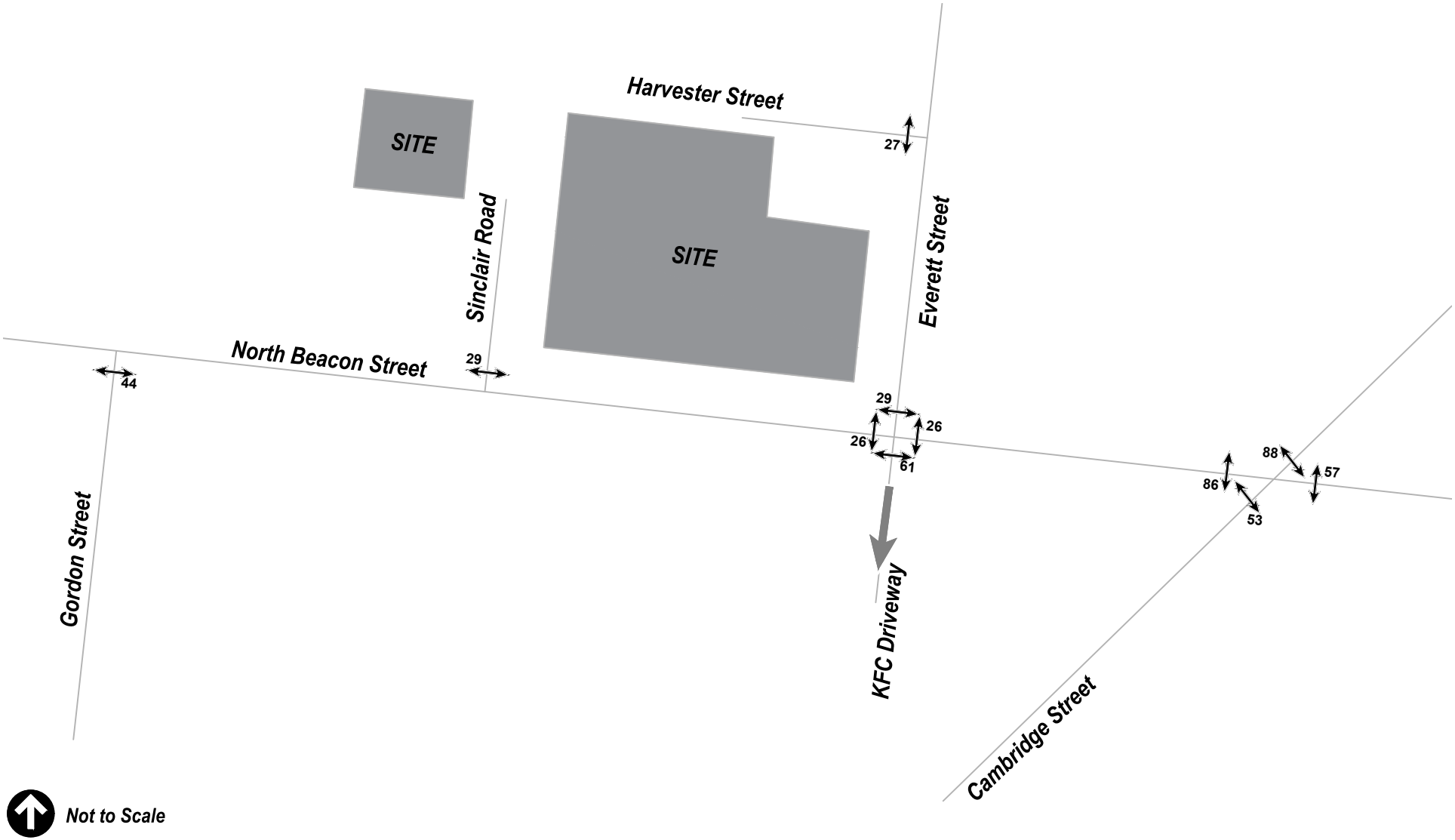

Figure 4.3b

2018 Existing Condition
Evening Peak Hour Pedestrian Volumes

37 North Beacon Street
Boston, MA

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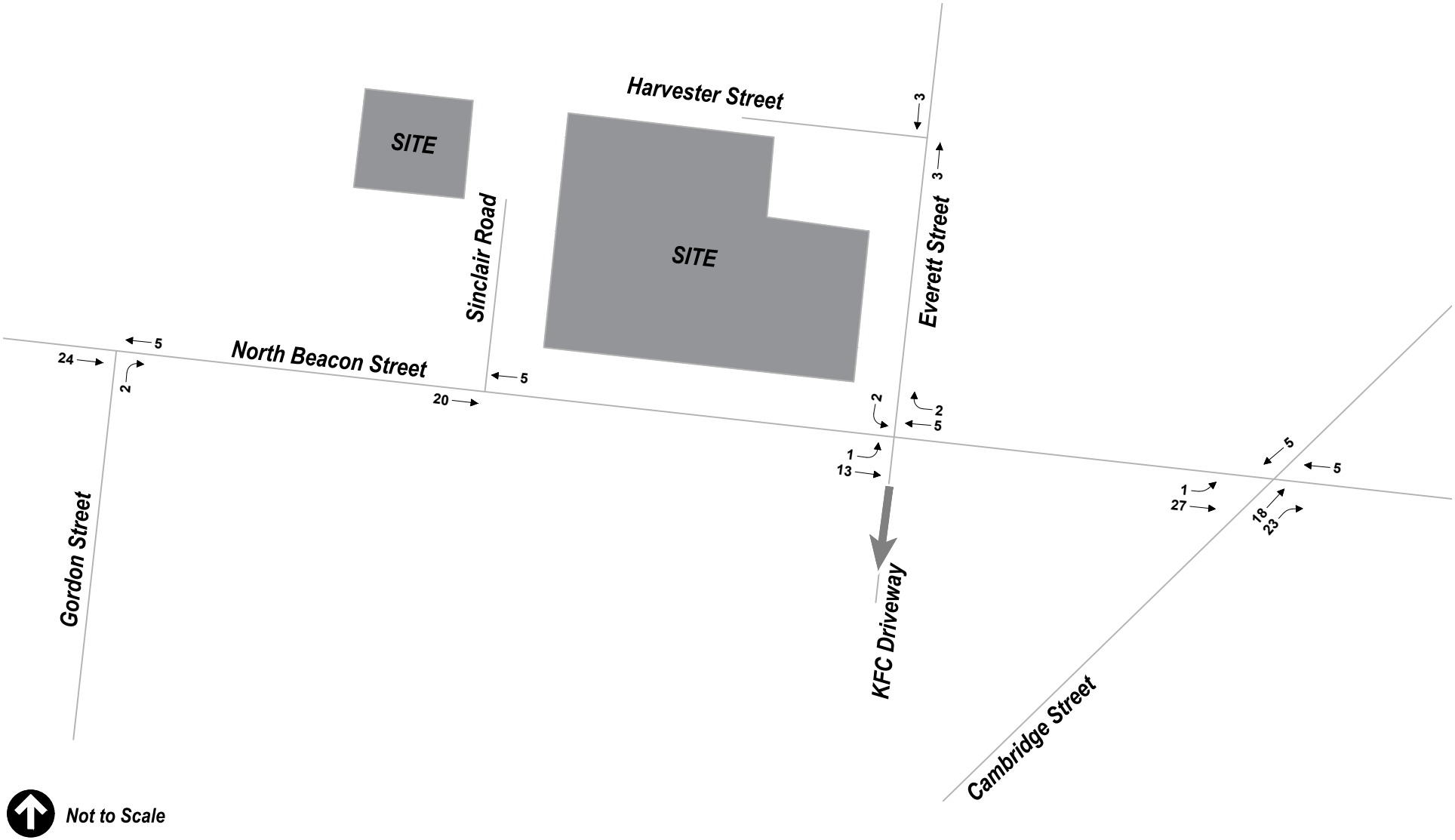

Figure 4.4a

2018 Existing Condition
Morning Peak Hour Bicycle Volumes

37 North Beacon Street
Boston, MA

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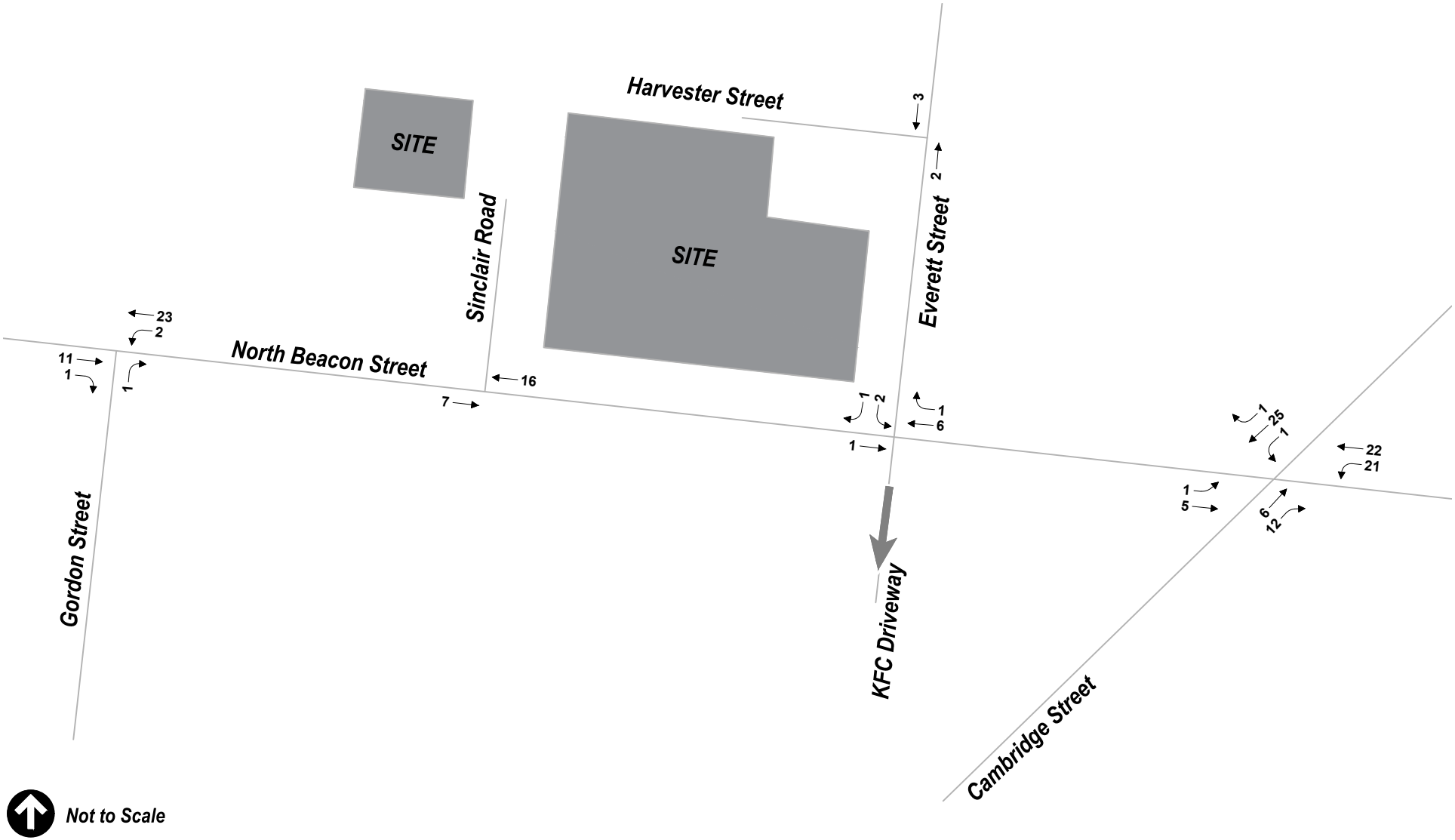

Figure 4.4b

2018 Existing Condition
Evening Peak Hour Bicycle Volumes

37 North Beacon Street
Boston, MA

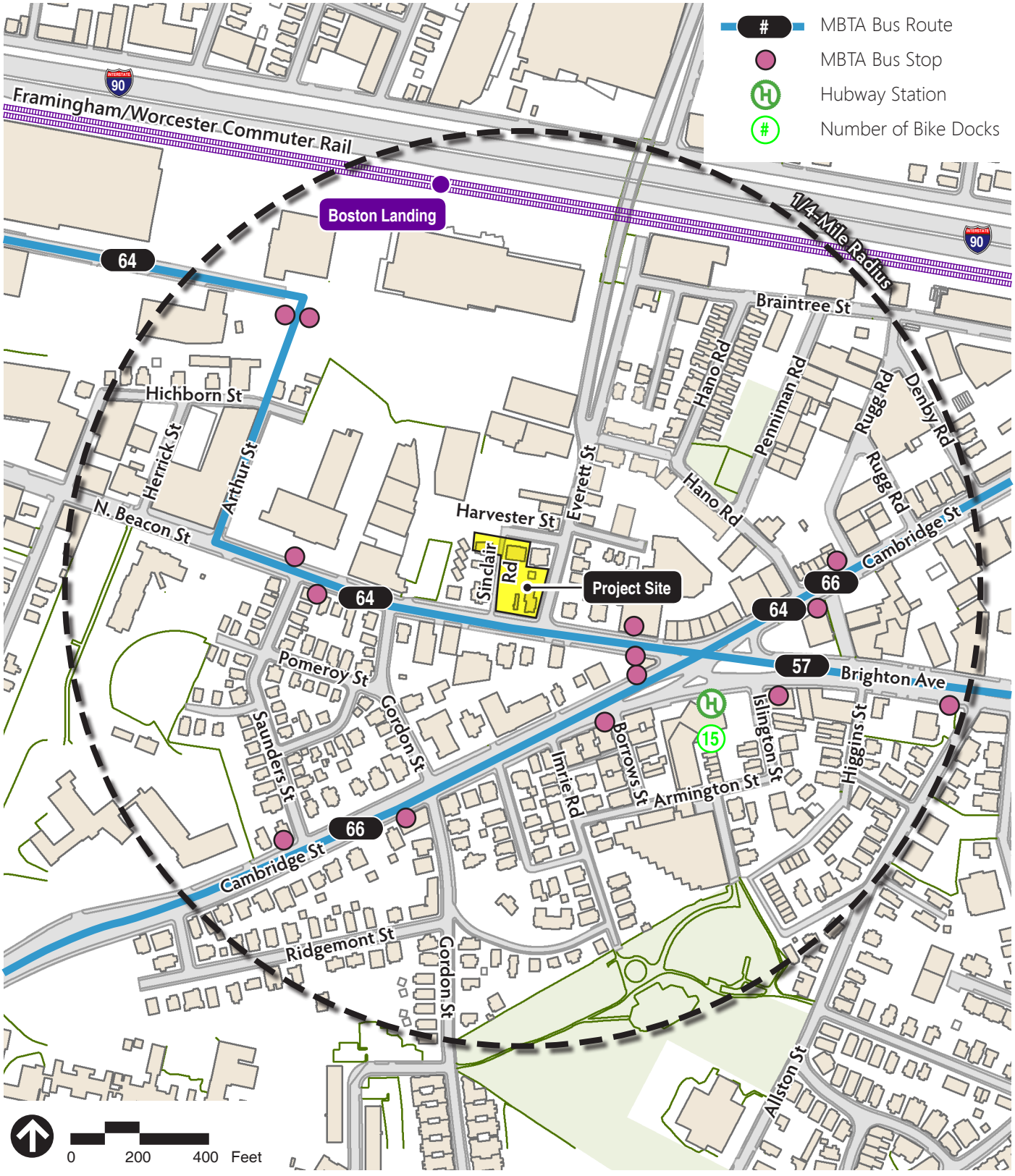

Figure 4.5

Existing Public Transit Services

37 North Beacon Street
Boston, Massachusetts

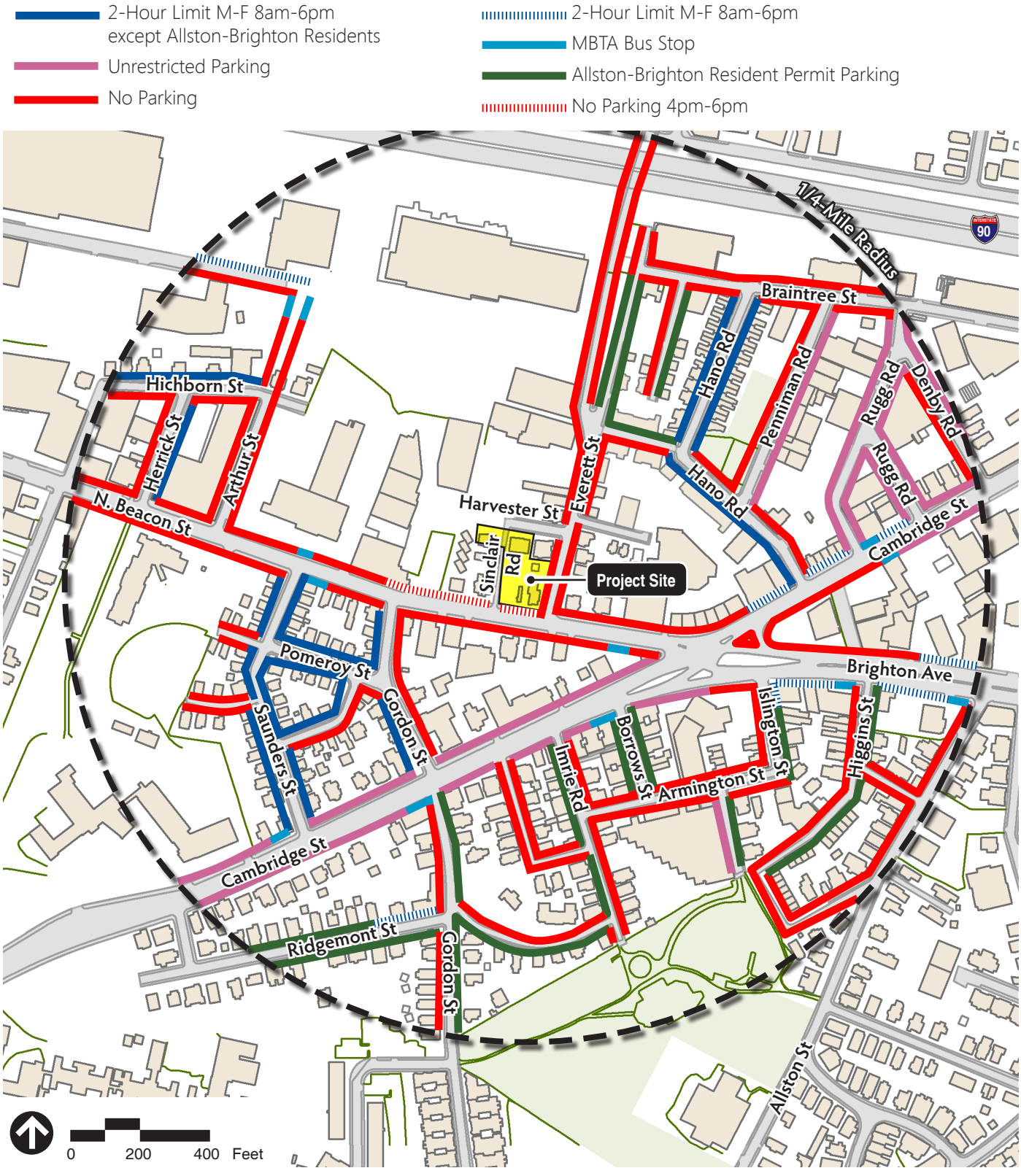

Figure 4.6

Existing Curb Use

37 North Beacon Street
Boston, Massachusetts

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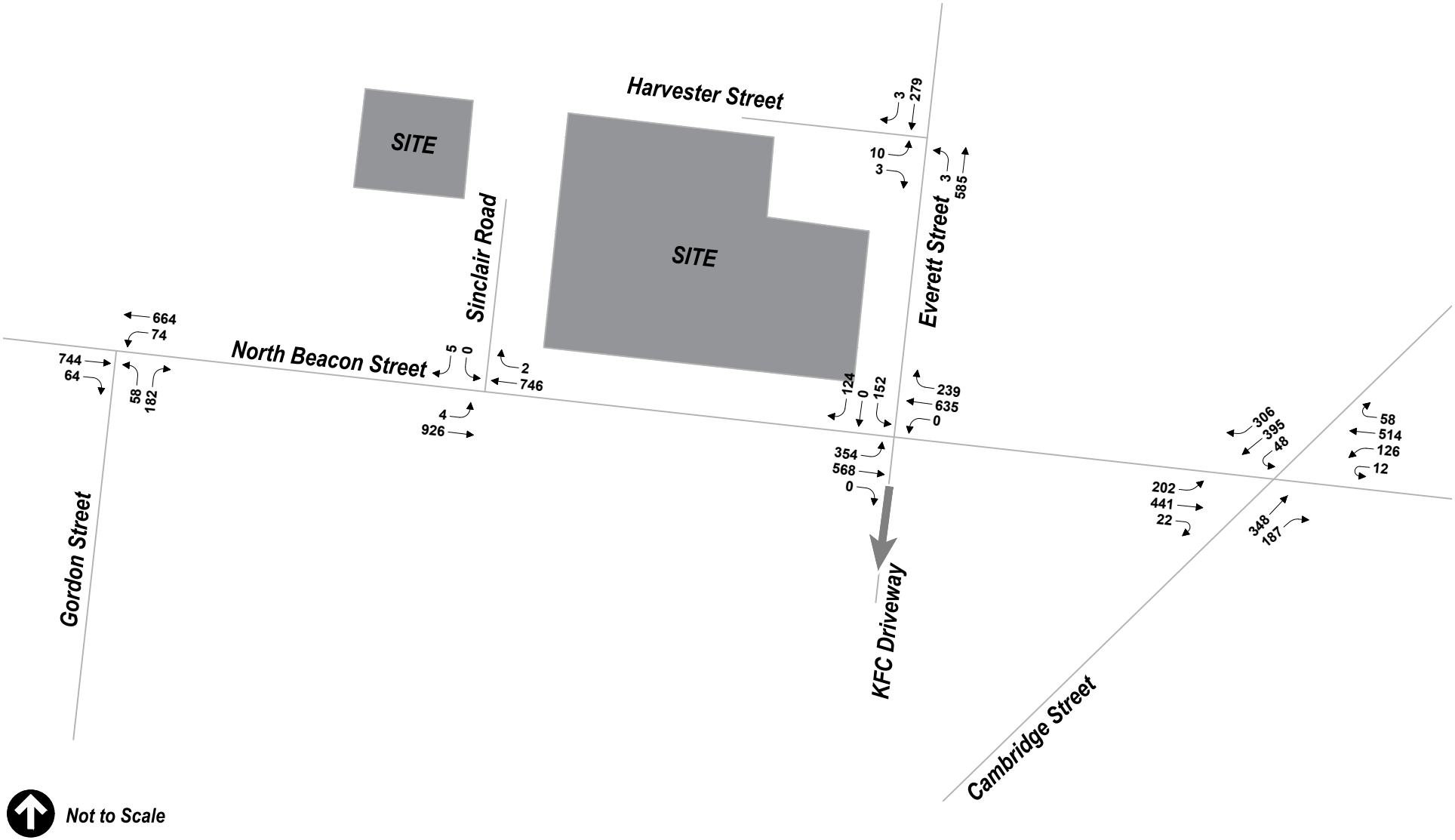

Figure 4.7a

2023 No-Build Condition
Morning Peak Hour Vehicle Volumes

37 North Beacon Street
Boston, MA

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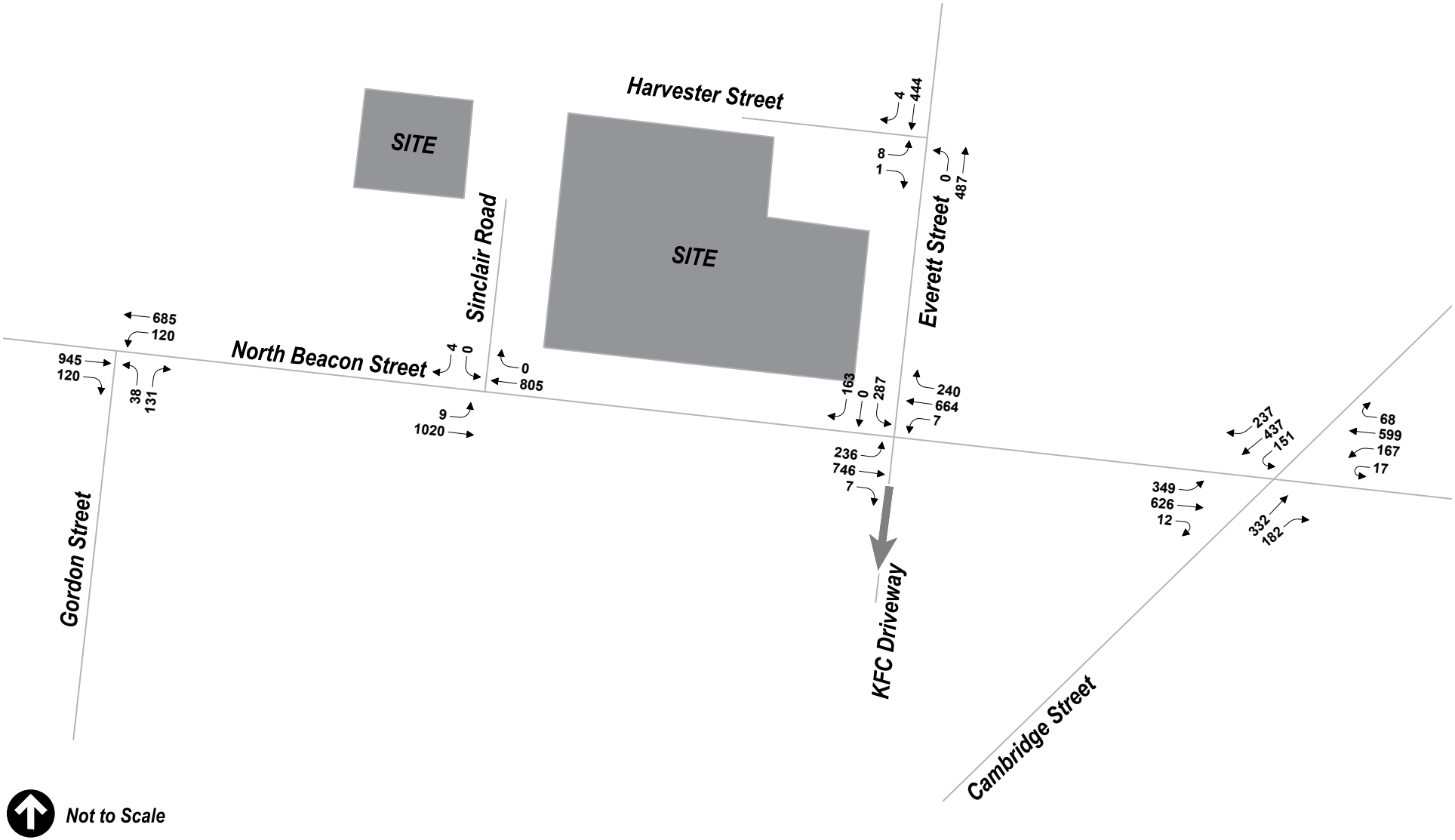

Figure 4.7b

2023 No-Build Condition
Evening Peak Hour Vehicle Volumes

37 North Beacon Street
Boston, MA

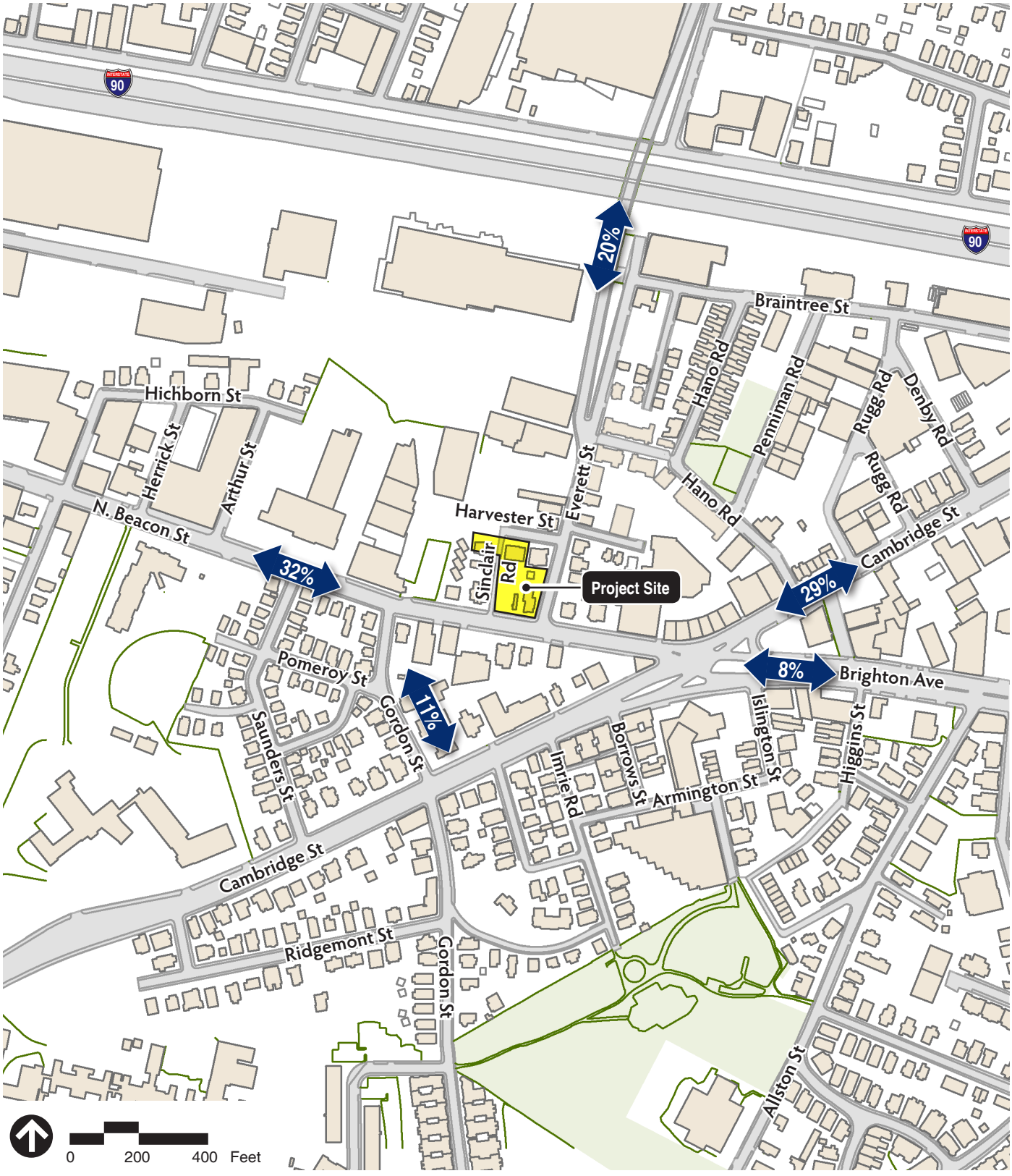

Figure 4.8

Trip Distribution

37 North Beacon Street
Boston, Massachusetts

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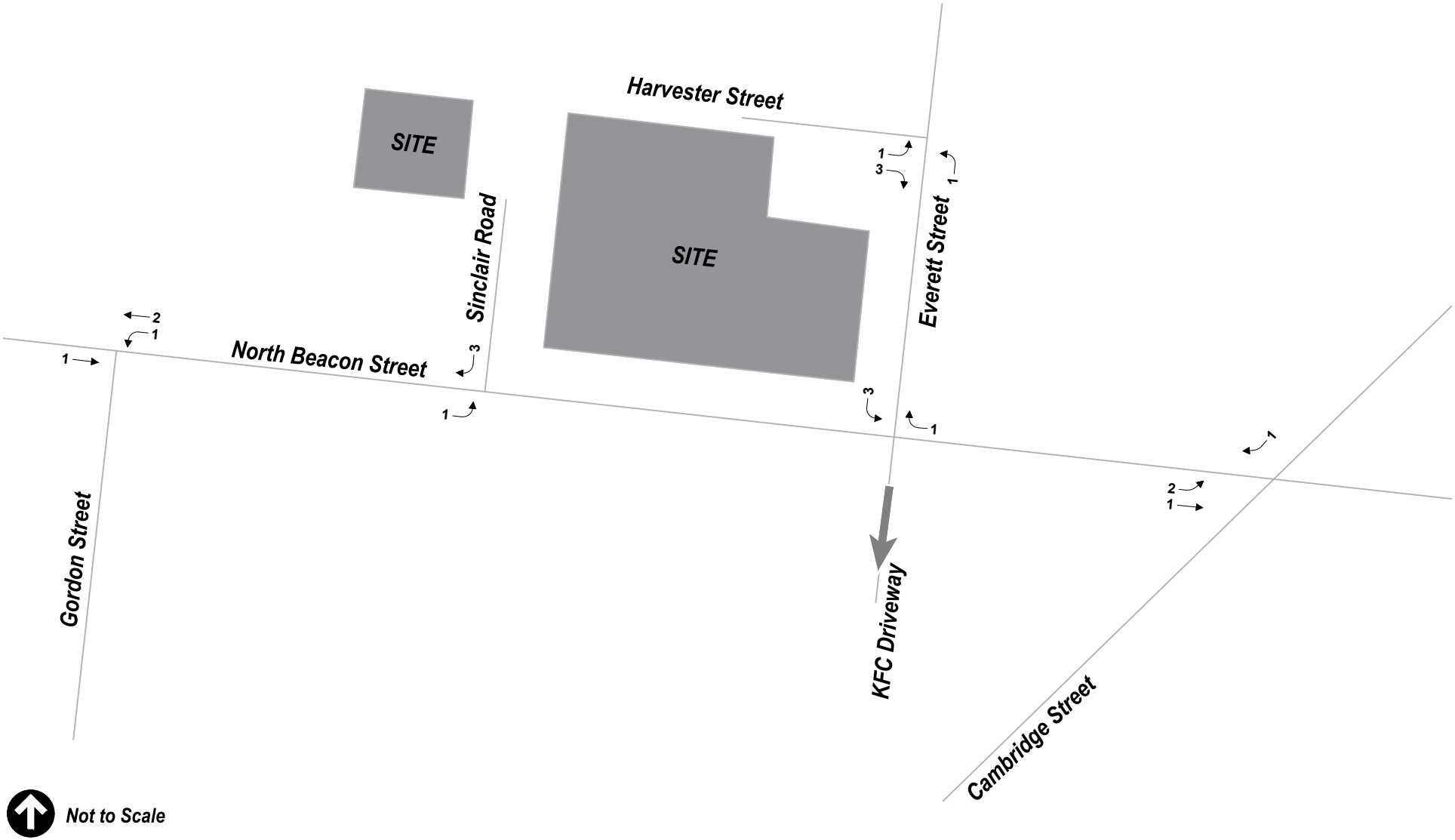

Figure 4.9a

Project Generated Trips
Morning Peak Hour Vehicle Volumes

37 North Beacon Street
Boston, MA

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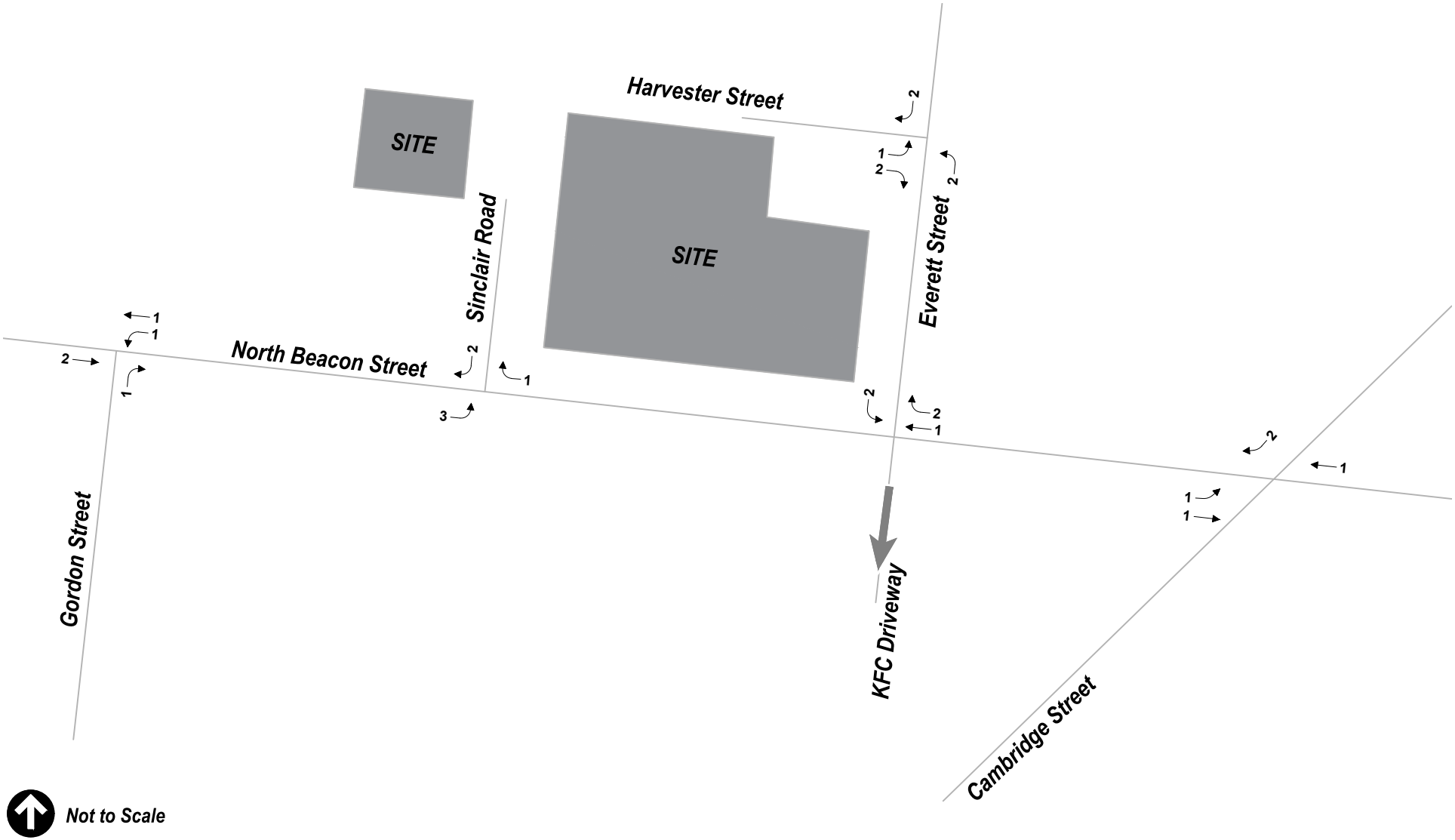

Figure 4.9b

Project Generated Trips
Morning Peak Hour Vehicle Volumes

37 North Beacon Street
Boston, MA

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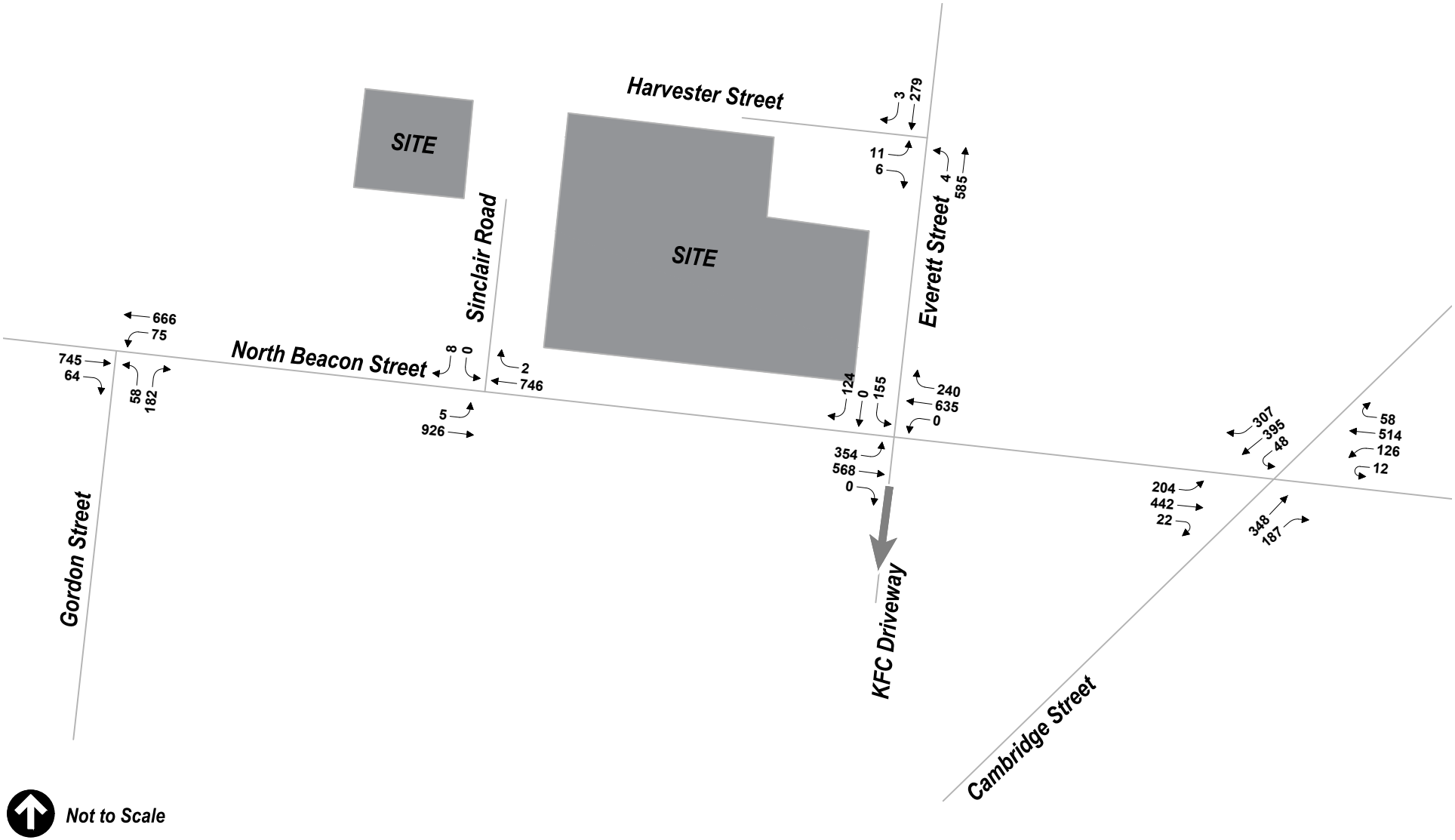

Figure 4.10a

2023 Build Condition
Morning Peak Hour Vehicle Volumes

37 North Beacon Street
Boston, MA

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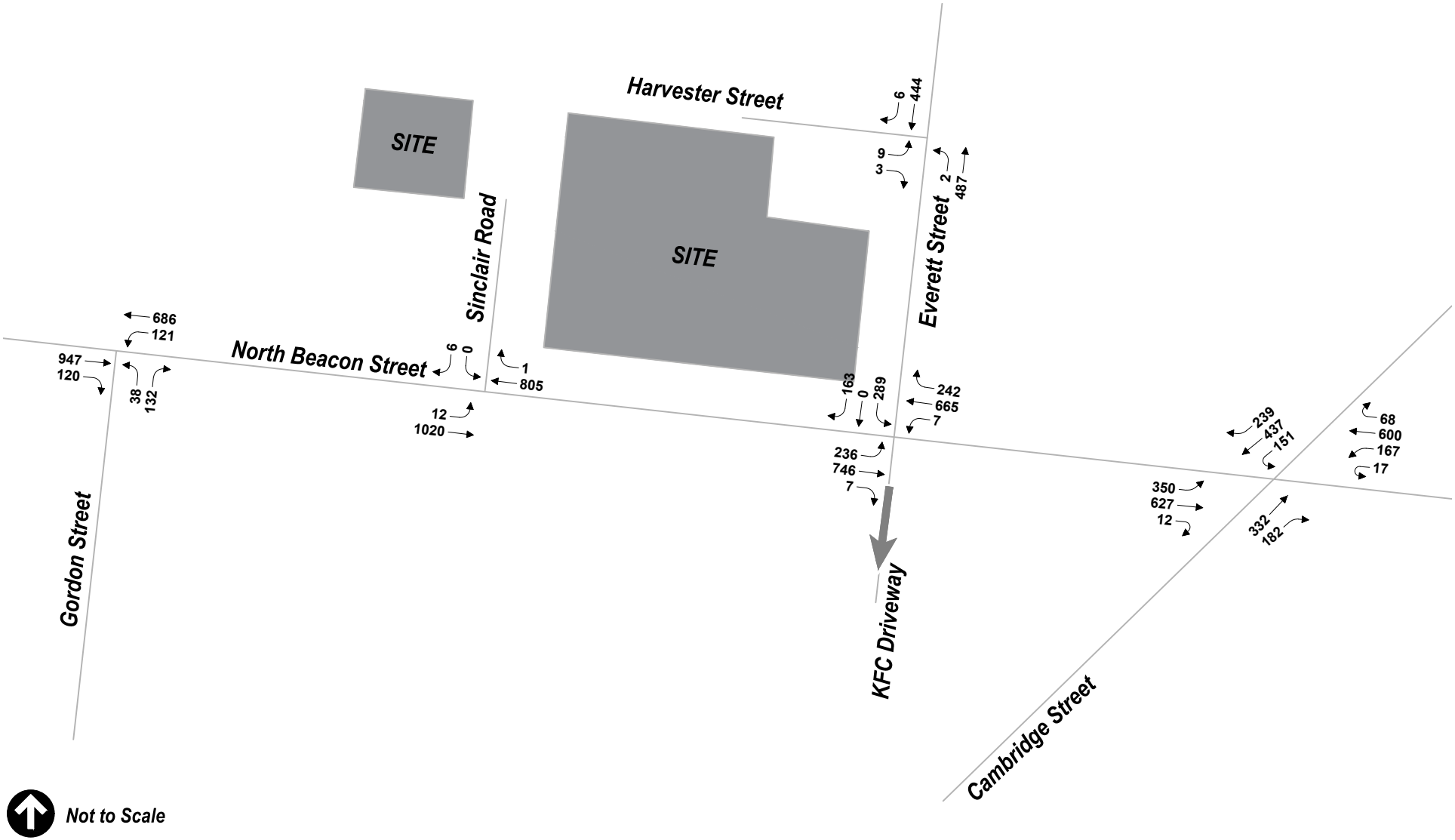


Figure 4.10b

2023 Build Condition
Evening Peak Hour Vehicle Volumes

37 North Beacon Street
Boston, MA

5

Environmental Protection and Historic Resources

This chapter provides information on existing environmental conditions at the Project Site and the potential changes that may occur as a result of the Project; it also identifies properties located within and in the vicinity of the Project Site that are listed in the National and State Registers of Historic Places, and/or are included in the Inventory of Historic and Archaeological Assets of the Commonwealth (the "Inventory"). The following sections identify impacts and discuss steps that have been or will be taken through design and management to avoid, minimize, and/or mitigate adverse effects. Temporary construction-period impacts associated with the Project will be managed to minimize disruption to the surrounding neighborhoods.

In compliance with Article 80, this chapter will address potential environmental impacts in the following categories:

- *Shadow*
- *Daylight*
- *Solar Glare*
- *Air Quality*
- *Noise*
- *Water Quality*
- *Geotechnical/Groundwater*
- *Solid Waste & Hazardous Materials*
- *Construction*
- *Historic*

The following sections describe the environmental conditions and potential changes as a result of the Project. As demonstrated below, impacts have been avoided, minimized and/or mitigated through design and/or management while addressing local, state and federal requirements.

5.1 Summary of Key Findings and Benefits

The analysis of potential environmental impacts resulting from the Project include the following conclusions:

- **Shadow** – Shadow impacts have been minimized to the extent practicable to avoid noticeable effects on pedestrian use patterns. Due to the massing and orientation of the buildings, new shadows are anticipated to be minimal and will avoid public parks and historic sites.
- **Daylight** – When viewed from the adjacent sidewalk, the Project will result in an increase in visible skydome. Such changes are consistent with the Project's urban context and the replacement of single-story structures with a multi-story residential building.

- **Solar Glare** – The exterior building materials have not yet been finalized, however, it is not anticipated that highly reflective glass will be employed in any of the building facades.
- **Air Quality** – The air quality analysis demonstrates that the Project will conform to the National Ambient Air Quality Standards and will not have a substantial impact on surrounding air quality.
- **Noise** – The Project will comply with the City of Boston noise standards.
- **Water Quality** – The Project will improve water quality by collecting and treating stormwater runoff through a series of structural Best Management Practices.
- **Hazardous Materials** – There are no previously documented releases of oil and/or hazardous materials on the Project Site. If undocumented releases are encountered during construction, they will be managed in accordance with applicable regulatory requirements including a Release Abatement Measure Plan under the Massachusetts Contingency Plan.
- **Groundwater** – Groundwater is anticipated to between seven to ten feet below grade (or approximately between elevation 26 to 22 feet BCB) based on groundwater monitoring well data adjacent sites. As such, temporary dewatering may be required during construction. The Project Site is not located within an Overlay Area of the Groundwater Conservation Overlay District.
- **Geotechnical** – The subsurface conditions are anticipated to consist of granular urban fill underlain by natural sands over glacial deposits. A discontinuous layer of marine clay may be present below the sand deposit (and above the glacial deposits). Bedrock may be encountered at relatively shallow depths at the southern portion of the Project Site for the Rental Building.
- **Construction** – The team will work to reduce potential construction period impacts, and detailed construction management plans will be developed and submitted to BTD for their approval.

5.2 Shadow

This section describes the anticipated changes to shadows in the Project area as a result of the Project. See Figures 5.1a-d for Shadow Study diagrams.

5.2.1 Summary of Key Findings

As is to be expected when building on a previously underutilized site, the Project will result in moderate increases in new shadow impacts within the surrounding area. New shadows are generally limited to roads, sidewalks, parking areas, and rooftops and will not significantly impact any public green space. The presence of these new shadows is consistent with the urban environment and planning objectives of the neighborhood, and the stepped massing strategy and orientation of the building

mitigates the effect of the seven-story massing shadows, as the taller portion will mostly cast shadow onto the Project itself. This, when combined with the Proponent's proposed enhancements, will not discourage the use of sidewalk or public areas in the vicinity of the Project Site.

During certain times of the year, 12-14 Everett Street will have an increase in shadowing, although it will not be unduly burdened by new shadows. The building at 12-14 Everett Street is currently flanked on its southern side by trees with canopies which, at the very least, partially obscure both light and view from the windows on all three stories of that side of the building. Furthermore, any increase in shade is not absolute as the Rental Building will be set back ten feet from the property line in addition to the existing setback from its property line that 12-14 Everett Street currently maintains, allowing light to continue to infiltrate those areas.

5.2.2 Methodology

The following shadow study has been prepared using methodologies consistent with accepted practices for such studies completed under Article 80 review. The analysis provides a comparison of the No-Build and Build Conditions. This is accomplished with a three-dimensional model of the project area using data provided by the BPDA, updated to include nearby foreseeable projects. The analysis is based on the BPDA's 3D massing model for the Allston neighborhood. The study was completed using standard sun altitude and azimuth data for each study date estimated to occur at latitude and longitude 42° 21' 14.8'' N, 71° 8' 21.5'' W. Times were adjusted for daylight savings time as appropriate. The conditions were compared for the spring and fall equinoxes and the summer solstice at 9:00 AM, 12:00 Noon, 3:00 PM and 6:00 PM and for the winter solstice at 9:00 AM, 12:00 Noon and 3:00 PM.

5.2.3 Potential Effects

The results of the shadow studies are presented in Figures 5.1a-d.

March 21

March 21 is the spring equinox on which Boston experiences roughly equal length day and night. Figure 5.1a illustrates the Project-related net new shadow for this condition.

On March 21 at 9:00 AM, the Project casts a new shadow to the northwest across Sinclair Road and onto the adjacent properties. At 12:00 PM, the sun moves higher and to the south, and the Project no longer casts a shadow on the adjacent properties to the West, only casting a small shadow to the north along Sinclair Road and along the rear portion of 12-14 Everett Street. At 3:00 PM, the Project casts new shadow northeast across a portion of Everett Street and further onto 12-14 Everett Street. By 6:00 PM the Project casts net new shadow to the east across Everett Street, a portion of Harvester Street, and the adjacent properties.

June 21

June 21 is the summer solstice with the longest day of the year and the smallest shadows expected. Figure 5.1b illustrates the Project-related net new shadow for this condition.

At 9:00 AM, the Project casts a new shadow west across Sinclair Road and onto the adjacent properties. At 12:00 PM, the sun is very high in the sky and, therefore, a very limited amount of new shadow falls to the northwest of the Project. At 3:00 PM, the Project-related new shadow shifts east falling across a portion of Everett Street. By 6:00 PM, the Project casts net new shadow to the southeast across Everett Street, a portion of Sinclair Road, and the adjacent properties.

September 21

September 21 is the fall equinox where Boston again experiences roughly equal length days and nights. Figure 5.1c illustrates the Project-related net new shadow for this condition. In comparison to the spring equinox, the fall equinox shadows are somewhat shorter in the morning and somewhat longer in the afternoon at comparable times of the day.

At 9:00 AM, the sun is in the southeast. As during the spring equinox, the Project-related new shadow casts a new shadow northwest across Sinclair Road and onto the adjacent properties. By 12:00 PM, the sun moves higher and to the south so that the Project no longer casts a shadow across the properties to the west, but begins to shade the adjacent 12-14 Everett Street property. At 3:00 PM, the Project-related new shadow moves east extending to a portion of Everett Street. At 6:00 PM, the sun is low and most of the surrounding area is covered by existing shadow. The Project casts net new shadow to the east across the adjacent roadways and properties.

December 21

December 21 is the winter solstice and the shortest day of the year. Boston experiences long shadows throughout the day in most locations. Figure 5.1d illustrates the Project related net new shadow for this condition.

At 9:00 AM, the sun is low in the southern sky resulting in shadows to the north. Under this condition, the Project casts new shadow across Sinclair Road, 12-14 Everett Street and a portion of Harvester Street. By 12:00 PM, the Project-related new shadow casts to the northeast over Harvester Street. At 3:00 PM, the sun is in the southwest and low in the sky, resulting in shadows across Everett Street.

5.3 Daylight Analysis

The following section describes the anticipated effect on daylight coverage at the Project Site as a result of the Project. An analysis of the percentage of skydome obstructed under the No-Build and Build Conditions is a requirement of Article 80 (Section 80B-2(c)). The daylight analysis was prepared using the BPDA's Daylight Analysis Program ("BRADA") and has been completed in accordance with the requirements of Article 80. The results of the analysis are presented in Figures 5.2a-e.

5.3.1 Methodology

The daylight analysis was conducted using the BRADA program developed in 1985 by the Massachusetts Institute of Technology to estimate the pedestrian's view of the skydome taking into account building massing and building materials used. The software approximates a pedestrian's view of a site based on input parameters such as: location of viewpoint; length and height of buildings and the relative reflectivity of the building façades. The model typically uses the midpoint of an adjacent right-of-way or sidewalk as the analysis viewpoint. Based on these data, the model calculates the perceived skydome obstruction and provides a graphic depicting the analysis conditions.

The model inputs used for the study presented herein were taken from a combination of the BPDA's City of Boston model data, an existing conditions survey, and schematic design plans prepared by the Project Architect. As described above, the BRADA software considers the relative reflectivity of building façades when calculating perceived daylight obstruction. Highly reflective materials are thought to reduce the perceived skydome obstruction when compared to non-reflective materials. For the purposes of this daylight analysis, the building façades are considered non-reflective, resulting in a conservative estimate of daylight obstruction.

Viewpoints

The following three viewpoints were studied in the daylight analysis:

- Everett Street – This viewpoint is located on the centerline of Everett Street, centered on the eastern side of the Rental Building.
- Harvester Street – This viewpoint is located on the centerline of Harvester Street, centered on the northern side of the Project Site.
- North Beacon Street – This viewpoint is located on the centerline of North Beacon Street, centered on the southern side of the Rental Building.
- Sinclair Road (East) – This viewpoint is located on the centerline of Sinclair Road, looking East to the Rental Building.
- Sinclair Road (West) – This viewpoint is located on the centerline of Sinclair Road, looking west to the Condo Building.

These points represent the proposed building façades when viewed from the adjacent public ways.

5.3.2 Daylight Study Findings

Daylight Existing/No-Build Conditions

Under the Proposed Conditions, the viewpoints along the four roadways are expected to experience an increase in skydome obstruction due to the increase height and massing of the new buildings, as would be expected when increasing the

density of an urban site. The increase in skydome obstruction will be offset by improvements to the public realm which are anticipated to improve the overall pedestrian experience as compared to existing conditions.

Daylight Build Conditions

Table 5-1 below presents the percentage of skydome that is expected to be obstructed along the four public ways with and without the Project. Figures 5.2a-e graphically show the Project-related daylight impacts from the same viewpoints.

Table 5-1 Existing/No-Build and Build Daylight Conditions

Viewpoint	Existing/No-Build Condition Skydome Obstruction	Build Condition Skydome Obstruction
Everett Street	19.9%	62.9%
Harvester Street	12.6%	14.5%
North Beacon Street	5.8%	49.9%
Sinclair Road (East)	4.5%	75.3%
Sinclair Road (West)	24.2%	76.4%

5.4 Solar Glare Analysis

The City of Boston BPDA Development Review Guidelines require projects undergoing Large Project Review to analyze the potential impacts from solar glare if there is a potential for visual impairment or discomfort due to reflective spot glare on:

- Potentially affected streets;
- Public open spaces; and
- Pedestrian areas.

Furthermore, projects must consider the potential for solar heat buildup in any nearby buildings receiving reflective sunlight from the building, if applicable.

The exterior building materials have not yet been finalized for the Project, however, it is not anticipated that highly reflective glass will be employed in any of the building facades. The Project will be designed to minimize the potential for solar glare that could adversely impact traffic safety along nearby roadways and solar heat gain in nearby buildings through the consideration of low/non-reflecting exterior building materials as design progresses. The absence of solar glare impacts will be confirmed during the design review process in connection with the selection of façade materials.

5.5 Air Quality

This section presents an overview of and the results for the preliminary mobile source assessment conducted for the Project. The purpose of the air quality assessment is to demonstrate that the Project satisfies applicable regulatory requirements, and whether it complies with the 1990 Clean Air Act Amendments ("CAAA") following the local and the EPA policies and procedures.

The air quality assessment conducted for the Project includes a qualitative localized (microscale), or "hot spot", analysis of carbon monoxide ("CO") concentrations in accordance with BPDA screening guidance. The microscale analysis evaluated potential CO impacts from vehicles traveling through congested intersections in the Project Site area under the existing conditions, as well as considering site-specific impacts under the future conditions. The results from this evaluation are subject to the National Ambient Air Quality Standards ("NAAQS"). A review of the mesoscale/regional air quality impacts is also qualitatively discussed below.

5.5.1 Background

The CAAA resulted in states being divided into attainment and non-attainment areas, with classifications based upon the severity of their air quality problems. Air quality control regions are classified and divided into one of three categories: attainment, non-attainment and maintenance areas depending upon air quality data and ambient concentrations of pollutants. Attainment areas are regions where ambient concentrations of a pollutant are below the respective NAAQS; non-attainment areas are those where concentrations exceed the NAAQS. A maintenance area is an area that used to be non-attainment, but has demonstrated that the air quality has improved to attainment. After 20 years of clean air quality, maintenance areas can be re-designated to attainment.

The Project is in Boston, which is a CO Maintenance area (although not officially designated on the Greenbook[1], the area is beyond the 20-year maintenance timeframe and therefore could be designated as attainment). Projects located in a CO maintenance area are required to evaluate their CO concentrations with the NAAQS. As such, CO concentrations need to be considered for this Project. Suffolk County is in attainment for the remainder of the criteria pollutants.

5.5.2 Air Quality Standards

The EPA has established the NAAQS to protect the public health. Massachusetts has adopted similar standards as those set by the EPA for CO. Table 5-2 presents the NAAQS for CO.

[1] *Nonattainment Areas for Criteria Pollutants*, Greenbook (as of January 31, 2018), https://www.epa.gov/green-book. Accessed January 22, 2018.

Table 5-2 National Ambient Air Quality Standards

	Primary Standards		
Pollutant	**Level**	**Averaging Time**	**Form**
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour	Not to be exceeded more than once per year
	35 ppm (40 mg/m^3)	1-hour	

DEP maintains a network of air quality monitors to measure background CO concentrations. Background concentrations are ambient pollution levels from all stationary, mobile, and area sources. Background CO concentrations are determined by choosing the maximum of the second highest annual values from the previous three years. Looking at the air quality monitor closest to and most representative of the Project Site (the Kenmore Square monitor for the years 2014-2015 and Harrison Ave for 2016)[2], the CO background values are 2.4 ppm for the 1-hour averaging time and 1.2 ppm for the 8-hour averaging time. These values are much less than the 1-hour and 8-hour NAAQS. The background values are presented in Table 5-3.

Table 5-3 Air Quality Background Concentrations

	Background Concentrations		NAAQS	
Pollutant	**Level**	**Averaging Time**	**Level**	**Averaging Time**
Carbon Monoxide	1.2 ppm	8-hour	9 ppm	8-hour
	2.4 ppm	1-hour	35 ppm	1-hour

Monitoring Location: Kenmore Square and Harrison Avenue, Boston, MA. Years 2014-2016.

The potential CO concentrations from motor vehicle traffic related to the Project will be considered in conjunction with these background concentrations to demonstrate that the Project will comply with the NAAQS Standards.

5.5.3 BPDA Development Review Guidelines

The BPDA Development Review Guidelines require "a microscale analysis predicting localized carbon monoxide concentrations should be performed, including identification of any locations projected to exceed the National or Massachusetts Ambient Air Quality Standards, for projects in which:

- Project traffic would impact intersections or roadway links currently operating at LOS D, E, or F or would cause LOS to decline to D, E, or F; or
- Project traffic would increase traffic volumes on nearby roadways by 10 percent or more (unless the increase in traffic volume is less than 100 vehicles per hour); or
- The Project will generate 3,000 or more new average daily trips on roadways providing access to a single location."

[2] The Kenmore Square monitoring station ceased CO monitoring in 2016. Harrison Avenue is the next closest station.

5.5.4 Traffic Data

The air quality study uses traffic data (volumes, delays, and speeds) developed for the analysis conditions based upon the traffic analysis. The traffic study area includes the following intersections:

- North Beacon Street at Gordon Street;
- North Beacon Street at Sinclair Road;
- North Beacon Street at Everett Street;
- Everett Street at Harvester Street; and
- North Beacon Street/Brighton Avenue at Cambridge Street.

Based on the traffic study presented in Chapter 4, *Transportation*, the Project is expected to generate nine vehicle trips in the morning peak hour and 13 vehicle trips in the evening peak hour.

5.5.5 Microscale Screening Analysis

An evaluation of the traffic data was conducted under the review guidelines developed by the BPDA for determination of the potential for CO impacts. It was determined that:

- The Project would not cause a decline in LOS at any intersection in the study area in both the morning and evening peak hours. Thus, the Project would not substantially impact any intersections operating at a LOS of D, E or F. The results of the transportation analysis indicate that there will be no changes in LOS in the study area as a result of the Project.
- Project generated traffic is not expected to exceed 100 vehicles per hour during the peak hours. The Project is estimated to generate nine vehicles in the morning peak hour and 13 vehicles in the evening peak hour. Since volume increases will be less than 100 vehicles per hour, it is not necessary to consider the percentage increase of traffic volumes on nearby roadways.
- The Project will generate less than 3,000 or more new average daily trips on the study area roadways. The Project is estimated to generate 188 weekday vehicle trips, well under the 3,000 vehicles per day threshold.

Based on the microscale screening results discussed above, it has been determined that a quantitative CO hotspot analysis is not necessary for the Project, as the BPDA thresholds are not exceeded. No microscale air quality impacts are anticipated.

5.5.6 Mesoscale Air Quality Analysis

The purpose of the mesoscale analysis is to estimate the area-wide emissions of volatile organic compounds ("VOC") and nitric oxide ("NOx") during a typical day in the peak ozone season (summer) consistent with the requirements of the State Implementation Plan ("SIP"). A mesoscale analysis evaluates the change in VOC and NOx emissions from average daily traffic volumes and vehicle emission rates. To

demonstrate compliance with the SIP criteria, the air quality study must show the Project's change in daily (24-hour period) VOC and NOx emissions.

The BPDA requires a mesoscale air quality analysis if a project produces 10,000 or more vehicle trips per day. The Project is not anticipated to generate over 10,000 or more vehicle trips per day (188 vehicle trips on an average weekday are projected), therefore this analysis is not required for the BPDA and no mesoscale air quality impacts are anticipated.

5.6 Noise

The noise assessment evaluated the potential noise impacts associated with the Project's activities, including potential mechanical equipment and service activities. This section discusses the fundamentals of noise, noise impact criteria, noise analysis methodology, and potential noise impacts. Noise measurements were conducted for determining existing ambient conditions near the Project site. A qualitative analysis demonstrates that the Project will comply with City of Boston noise regulations.

5.6.1 Fundamentals of Noise

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, communication, work, or recreation. How people perceive sound depends on several measurable physical characteristics, which include the following:

- Intensity - Sound intensity is often equated to loudness.
- Frequency - Sounds are comprised of acoustic energy distributed over a variety of frequencies. Acoustic frequencies, commonly referred to as tone or pitch, are typically measured in Hertz. Pure tones have all their energy concentrated in a narrow frequency range.

Sound levels are most often measured on a logarithmic scale of decibels (dB). The decibel scale compresses the audible acoustic pressure levels which can vary from the threshold of hearing (zero dB) to the threshold of pain (120 dB). Because sound levels are measured in dB, the addition of two sound levels is not linear. Adding two equal sound levels creates a 3 dB increase in the overall level. Research indicates the following general relationships between sound level and human perception:

- A 3 dB increase is a doubling of acoustic energy and is the threshold of perceptibility to the average person.
- A 10 dB increase is a tenfold increase in acoustic energy but is perceived as a doubling in loudness to the average person.

The human ear does not perceive sound levels from each frequency as equally loud. To compensate for this phenomenon in perception, a frequency filter known as A-weighted [dB(A)] is used to evaluate environmental noise levels. Table 5-4 presents a list of common outdoor and indoor sound levels.

Table 5-4 Common Outdoor and Indoor Sound Levels

Outdoor Sound Levels	Sound Pressure (μPa)*		Sound Level dB(A)**	Indoor Sound Levels
	6,324,555	-	110	Rock Band at 5 m
Jet Over Flight at 300 m		-	105	
	2,000,000	-	100	Inside New York Subway Train
Gas Lawn Mower at 1 m		-	95	
	632,456	-	90	Food Blender at 1 m
Diesel Truck at 15 m		-	85	
Noisy Urban Area—Daytime	200,000	-	80	Garbage Disposal at 1 m
		-	75	Shouting at 1 m
Gas Lawn Mower at 30 m	63,246	-	70	Vacuum Cleaner at 3 m
Suburban Commercial Area		-	65	Normal Speech at 1 m
	20,000	-	60	
Quiet Urban Area—Daytime		-	55	Quiet Conversation at 1 m
	6,325	-	50	Dishwasher Next Room
Quiet Urban Area—Nighttime		-	45	
	2,000	-	40	Empty Theater or Library
Quiet Suburb—Nighttime		-	35	
	632	-	30	Quiet Bedroom at Night
Quiet Rural Area—Nighttime		-	25	Empty Concert Hall
Rustling Leaves	200	-	20	
		-	15	Broadcast and Recording Studios
	63	-	10	
		-	5	
Reference Pressure Level	20	-	0	Threshold of Hearing

Source: Highway Noise Fundamentals. Federal Highway Administration, September 1980.

* μPA – MicroPascals, which describe pressure. The pressure level is what sound level monitors measure.

** dB(A) – A-weighted decibels, which describe pressure logarithmically with respect to 20 μPa (the reference pressure level).

A variety of sound level indicators can be used for environmental noise analysis. These indicators describe the variations in intensity and temporal pattern of the sound levels. The following is a list of common sound level descriptors used for environmental noise analyses:

- L90 is the sound level which is exceeded for 90 percent of the time during the time period. The L90 is generally considered to be the ambient or background sound level.
- Leq is the A-weighted sound level, which averages the background sound levels with short-term transient sound levels and provides a uniform method for comparing sound levels that vary over time.

5.6.2 Methodology

The noise analysis evaluated the potential noise impacts associated with the Project's operations, which include mechanical equipment and service activities. The noise analysis included measurements of existing ambient background sound levels and a qualitative assessment of potential noise impacts associated with the proposed mechanical equipment (e.g., HVAC units, exhaust ventilation systems) and service activities. The study area was evaluated and sensitive receptor locations near the Project were identified and examined. The site layout and building design, as it relates to the service area and management of deliveries at the Project Site were also considered. The analysis considered sound level reductions due to distance, proposed building design, and obstructions from surrounding structures.

5.6.2.1 Receptor Locations

The noise assessment included an evaluation of the study area to identify nearby sensitive receptor locations, which typically include areas of sleep and areas of outdoor activities. The noise assessment identified ten sensitive receptor locations near the Project. As shown on Figure 5.3, the sensitive receptor locations include the following:

- R1 – 22 Everett Street;
- R2 – 14 Everett Street;
- R3 – 19-21 Everett Street;
- R4 – 11-15 Everett Street;
- R5 – 9 Everett Street;
- R6 – 31 North Beacon Street;
- R7 – 36 North Beacon Street;
- R8 – 38-40 North Beacon Street;
- R9 – 45-47 North Beacon Street; and
- R10 – 51 North Beacon Street.

These receptor locations, selected based on land use considerations, represent the most sensitive locations near the Project Site.

5.6.3 City of Boston Noise Impact Criteria

The City of Boston has developed noise standards that establish noise thresholds deemed to result in adverse impacts. The noise analysis for the Project used these standards to evaluate whether the proposed development will generate sound levels that result in potential adverse impacts.

Under Chapter 40 Section 21 of the General Laws of the Commonwealth of Massachusetts and Title 7 Section 50 of the City of Boston Code, the Air Pollution Control Commission of the City of Boston has adopted Regulations for the Control

of Noise in the City of Boston. These regulations establish maximum allowable sound levels based upon the land use affected by the proposed development. Table 5-5 summarizes the allowable sound levels that should not be exceeded.

Table 5-5 City of Boston Noise Standards by Zoning District, dB(A)

Land Use Zone District	Daytime (7:00 AM – 6:00 PM)	All Other Times (6:00 PM – 7:00 AM)
Residential	60	50
Residential/Industrial	65	55
Business	65	65
Industrial	70	70

Source: Regulations for the Control of Noise in the City of Boston, Air Pollution Control Commission.

For a residential zoning district, the maximum noise level affecting residential uses shall not exceed the Residential Noise Standard. The residential land use noise standard is 60 dB(A) for daytime periods (7:00 AM to 6:00 PM) and 50 dB(A) for nighttime conditions (6:00 PM to 7:00 AM).

5.6.4 Existing Noise Conditions

Noise measurements were conducted to establish existing ambient sound levels in vicinity of the Project site. The existing sound levels were measured using Type 1 sound analyzer (Larson Davis 831). Measurements were conducted between January 18, 2018 and January 19, 2018 to capture sound levels representative of typical existing ambient conditions. Short-term measurements (20 minutes) during the daytime period was conducted between 11:00 AM to 12:30 PM. The nighttime period measurements were conducted between 11:30 PM to 1:00 AM. The existing measured sound level data are summarized in Table 5-6.

Table 5-6 Existing Ambient Sound Levels, dB(A)

	City of Boston Residential District Noise Standard		Measured L90 Sound Levels	
Monitoring Location	**Daytime**	**Nighttime**	**Daytime**	**Nighttime**
M1 – North Beacon Street	60	50	58	**54**
M2 – Harvester Street	60	50	53	48

Source: VHB

Note: Refer to Figure 5.3 for monitoring locations.

* Measured sound levels represent average of hourly L90 levels during each period.

Bold values exceed City of Boston noise standards.

The measured L90 sound level ranged from approximately 53 dB(A) to 58 dB(A) during the daytime period in the surrounding neighborhood. During the nighttime period, the neighborhood experience sound levels ranging from approximately 48 dB(A) to 54 dB(A). The results of the noise measurements indicate that the daytime sound levels in the surrounding neighborhood adjacent to the Project site are currently below the City of Boston's standards for a Residential District. During

the daytime period, the measured sound levels data were composed of noise primarily from vehicles traveling on the North Beacon Street. During the nighttime period, existing sound levels exceed the City's nighttime standards in the Project area. The nighttime period sound levels were also generally associated with traffic on North Beacon Street.

5.6.5 Future Noise Conditions

The noise analysis evaluated the potential noise impacts associated with the Project's proposed mechanical equipment and service activities. The analysis assessed the potential sound level impacts at the nearby sensitive receptor locations.

5.6.5.1 Mechanical Equipment

Since the Project is in the early stages of the design process, the specific details related to the final selection and location of the mechanical equipment are unknown at the time of this assessment. Based on preliminary plans, the anticipated mechanical equipment associated with the Project are expected to potentially include:

- Garage exhaust fans located in the garage or at ground level;
- Individual condensing units located on the roof;
- Central energy recovery unit for air and exhaust ventilation located on the roof; and
- Emergency generator located on roof or in garage.

During the design and selection process, the appropriate low-noise mechanical equipment will be selected, including potential noise mitigation measures, such as acoustical enclosures and/or acoustical silencers. The equipment may be contained in mechanical rooms within the building and/or on the rooftop to minimize the sound associated with the equipment. The height of the proposed building is expected to be similar or greater than surrounding existing structures. As such, the proposed mechanical equipment could be strategically located on the roof to utilize the rooftop as a barrier between the noise sources and abutting sensitive receptors. The Project will incorporate noise attenuation measures necessary to comply with City of Boston's noise criteria at the sensitive receptor locations.

The Project may require an emergency generator for life safety purposes, such as emergency exit lighting. The determination of specific generator parameters, such as the size and location will be made during the building design process. The Project will be required to adhere to Massachusetts Department of Environmental Protection's ("DEP's") regulations that require such equipment to be certified and registered. As part of the air permitting process, the Project will be required to meet additional noise requirements described in DEP regulations under the Codes of Massachusetts Regulations (310 CMR 7.00). When the details of the emergency generator are developed, the proponent will submit the appropriate permit

application to DEP, which would include noise mitigation measures (such as acoustic enclosures and exhaust silencers) that are necessary to meet DEP's noise criteria.

5.6.5.2 Service Activities

Due to the nature of the proposed residential use, deliveries and service activities associated with the Project are expected to consist of small delivery and service vehicles such as vans and single panel vehicles used by FedEx and UPS deliveries. Service activities are expected to occur in a designated loading area at the ground level internal to the Project Site along Sinclair Road or along North Beacon Street. These activities will be managed so that service and loading operations do not impact traffic on the surrounding local streets. Since loading activities will utilize small delivery vehicles that are on the existing roadways and will be managed, potential noise impacts to nearby sensitive receptor locations are expected to be negligible.

5.6.6 Conclusion of Noise Impact Assessment

The noise analysis determined that the sensitive receptor locations in the vicinity of the Project site currently experience exterior sound levels exceeding the City of Boston's nighttime noise standard. The dominant noise source contributing to the existing sound levels in the study area is traffic traveling along North Beacon Street. The Project will be designed to incorporate abatement measures to minimize impacts on the proposed residential units.

With the primary noise sources potentially located within mechanical rooms and/or on the rooftop, the sound levels associated with the Project's mechanical equipment are expected to have no adverse noise impacts at nearby sensitive receptor locations. While potential noise impacts associated with the emergency generators are also expected to be negligible, a separate MassDEP permitting process will allow for further review of this equipment at a later date. Service activities are expected to be conducted with small deliveries vehicles, which are currently traveling along the local roadways in the vicinity of the Project area. As a result of the preliminary design, the Project's operations will have no adverse noise impacts at nearby sensitive receptor locations.

5.7 Water Quality

The Project will improve the quality of stormwater runoff from the Project Site as compared to existing conditions. The proposed stormwater management system will comply with the 2008 DEP Stormwater Management Handbook, as well as the WPA and City of Boston and Revere Stormwater requirements. Refer to Chapter 6, *Infrastructure*, for additional detail regarding quality of stormwater runoff.

5.8 Geotechnical/Groundwater

Based on review of existing geotechnical information for the Project Site, the subsurface conditions below the buildings are anticipated to consist of the following (listed from the ground surface down):

- Approximately five to 15 feet (but typically less than 10 feet) of variable density, granular urban fill.
- A natural sand deposit consisting of varying amounts of gravel and silt extending to depths of two to greater than 30 feet below ground surface ("bgs"). A discontinuous marine clay layer may be present between the fill and natural sand layers.
- Dense glacial till deposits underlie the natural sand and marine clay deposits. The thickness of the glacial till will vary depending on the depth to bedrock.
- Bedrock, likely consisting of quartzite and/or conglomerate underlies the glacial till. The depth to bedrock is expected to vary from north to south, with rock present at potentially shallow depths on the southern side of the site near North Beacon Street.

Groundwater is anticipated to between seven to ten feet bgs (or approximately between elevation 26 to 22 feet BCB) based on groundwater monitoring well data from adjacent sites. The groundwater flow is anticipated to be to the northeast.

5.8.1 Proposed Construction

The Project includes two building structures with four to five levels of timber frame construction above grade. A below-grade parking garage is proposed at the Rental Building. The building foundations will step up to match the existing topography (higher grades on the south side along North Beacon Street). Small amounts of bedrock may be required to removed at isolated high spots. We anticipate bedrock would be removed by excavation or other mechanical methods, if encountered.

Based on the subsurface conditions and proposed building concepts, it is anticipated that the proposed buildings will be supported by spread footings with the lowest floor level constructed as a slab-on-grade. the fill layer is deep it may be over-excavated and replaced with imported fill, or improved by ground improvement (such as rammed aggregate piers) prior to construction of footings and slabs-on-grade.

Foundation underdrain systems are not currently anticipated given the depth to groundwater and the proposed design concept. Temporary excavation support will likely be required for the construction of the basement level, and will likely consist of drilled-in-place soldier piles and lagging.

Temporary dewatering may be required during construction to remove groundwater. A temporary construction dewatering permit will be obtained from governing agencies prior to discharge of temporary dewatering effluent from the

Site. Testing of the effluent will be conducted prior to and during discharge to confirm compliance with all permit requirements.

5.9 Solid Waste and Hazardous Materials

In order to evaluate potential hazardous materials impacts for the Project, a desktop review of DEP records pertaining to oil and/or hazardous materials ("OHM") was conducted via the Online Searchable Sites Database. The DEP Underground Storage Tank ("UST") Query website was searched to determine whether any active or closed USTs have been registered at the Site. In addition, the DEP database of permitted active and closed solid waste landfills was searched to determine whether solid waste may have been historically disposed on-site. The results of this desktop review, as well as findings related to the Project, are presented in the following sections.

5.9.1 DEP Online Database Review Results

Based on a review of the DEP database, no documented releases of OHM were identified on the site. Two releases were identified at the northerly abutting property with an address of 61-69 North Beacon Street:

- Release Tracking Number ("RTN") 3-788 was assigned to a release of petroleum from former USTs at the property in January 1990. The current regulatory status is "Pending No Further Action" as of August 1996, which is a designation that was historically used to indicate that a document was submitted to DEP asserting that no further action is required in regards to the release.
- RTN 3-21084 was assigned to a release of chlorinated VOCs ("cVOCs") and urban fill-type contaminants at the property in September 2001. A Class A-1 Response Action Outcome ("RAO") Statement was submitted to the DEP in June 2010, which indicates that regulatory closure was achieved but residual contamination was left in place.

Based on a review of the available reports pertaining to the releases at 61-69 North Beacon Street, regulatory closure has been achieved and contamination has reportedly not migrated off-property. Therefore, these releases are not anticipated to impact environmental conditions within the Project Site.

Furthermore, there are no records of closed or open USTs for the site address on the DEP UST Query website. Based on a review of the DEP solid waste data layers, there have been no active or closed permitted solid waste facilities located within the Project Site.

5.9.2 Construction Impacts

Due to the developed nature of the Project area, undocumented releases and non-native urban fill may be present within the Project area. Urban fill can be impacted

with residual OHM, including metals, pesticides, and petroleum constituents such as polycyclic aromatic hydrocarbons ("PAHs"), as well as debris such as coal, coal ash, and coal slag. The presence of these contaminants may increase soil disposal costs and necessitate appropriate soil management procedures.

Should a previously undocumented release of OHM be identified during construction that requires notification to the DEP, excavation activities that occur within the new release area (i.e. disposal site) boundaries would need to be conducted under a preliminary Response Action such as a Release Abatement Measure ("RAM") and/or Immediate Response Action ("IRA") in accordance with the Massachusetts Contingency Plan ("MCP", 310 CMR 40.0000). The RAM/IRA process includes the submittal of a plan, status reports, and completion report to DEP, as well as public notices. Additional subsurface investigations would likely be required in order to properly characterize risk at the disposal site prior to, during, and/or following construction. All disposal sites must eventually achieve regulatory closure (i.e. Permanent Solution); therefore, a new reportable release, if identified, would need to be managed under this MCP regulatory process.

Any soil or groundwater that requires disposal during construction must be properly characterized and managed in accordance with the applicable regulations and with the appropriate documentation such as Material Shipping Records, Bills of Lading, manifests, etc.

5.10 Construction

5.10.1 Overview

Most construction activities will be accommodated within current Project Site boundaries. Details of the overall construction schedule, work hours, number of construction workers, worker transportation and parking, number of construction vehicles and routes will be addressed in the Construction Management Plan ("CMP") to be filed with BTD in accordance with the City's transportation maintenance plan requirements.

5.10.2 Air Quality

No adverse air quality impacts from the construction of the Project are anticipated. Fugitive dust mitigation measures may include, as necessary:

- Wet suppression to minimize the generation of dust from excavation operations and on-site vehicle traffic, with provisions for any runoff control;
- Spraying any piles of excavation materials with soil cement or calcium chloride overnight and on weekends, and securely covering long-term material stock piles;
- Compacting of the soil or the use of gravel to stabilize the Site access points;

- Washing vehicle wheels before leaving the Project Site, as necessary, with provisions for runoff control;
- Periodic cleaning of paved streets near the entrances to the Project Site to minimize vehicle mud/dirt carryout;
- Installing fencing around the perimeter of the Project Site to assist in containing wind-blown dust;
- Requiring that trucks hauling excavated material from the Project Site install secure covers over their loads; and,
- Encouraging the construction contractors for the Project to implement the Massachusetts Diesel Retrofit Program control measures for heavy-duty diesel equipment.

5.10.3 Noise

The construction of the Project will be performed in a manner that complies with the DEP and City of Boston noise regulations. To ensure compliance with these regulations during construction, the Proponents, to the extent practicable, will seek to incorporate into the general construction contract the following mitigation measures:

- Limited vehicle idling to five minutes;
- Limited construction vehicle warm-up to ten minutes;
- Insuring construction vehicles have ambient leveling sensors on the back up alarms; and
- Limiting construction to the hours allowable by City of Boston regulations.

5.10.4 Traffic

To minimize impacts to abutters and the local community, the Proponent will consider all available measures, including information on construction activities, specific construction mitigation measures, and construction materials access and staging area plans. Barricades, walkways, lighting and signage will be used to ensure public safety throughout the construction period.

Refer to Chapter 4, *Transportation,* for additional detail on construction management relative to traffic and roadway access.

5.10.5 Odor

Odor issues are not anticipated due to the lack of organic soils on the Project Site; however, if such soils are encountered, the Project Team will undertake appropriate mitigation measures to control the odor associated with their removal, such as:

- Cut and cover utility trenches whenever possible;
- Protection of excavated materials with plastic sheathing to encapsulate odors; and

- Removal of excavated materials from the Site in a covered vehicle on a frequent basis.

5.10.6 Rodents

The City of Boston has declared that the infestation of rodents in the city as a serious problem. To control this infestation, the City enforces the requirements established under the Massachusetts State Sanitary Code, Chapter 211, 105 CMR 410.550 and the State Building Code, Section 108.6. Policy Number 87-4 (City of Boston) established that preparation of a program for the extermination of rodents shall be required for issuance of permits for demolition, excavation, foundation, and basement rehabilitation. The Proponent will prepare and adhere to a rodent control program prior to demolition and on a regular basis throughout the duration of construction.

5.10.7 Construction Staging – Public Safety

Prior to the beginning of construction, the Construction Manager will produce a Site-Specific Safety Plan to be reviewed and approved by the City as well as all other agencies impacted in conjunction with the CMP.

The entire perimeter of the construction site will be protected with a construction fence with debris net on top of concrete barriers to separate the construction activities and general public. Vehicular gates will be provided for construction traffic in alignment with the flow of traffic on perimeter roads to allow safe entrance and exiting for construction vehicles. Sidewalks around the Project Site perimeter will be maintained during construction, and overhead protection will be utilized in areas where the new construction is in close proximity to the general public.

Post-construction during building operations, trash and solid waste removal will be handled by building management. A service contract with a professional pest control firm will be maintained to address rodent/pest control during the operational phase of the Project, as needed. In addition, no open top dumpsters will be allowed as an additional precaution to deter infestation.

5.11 Historic Resources

This section identifies properties located within and in the vicinity of the Project Site that are listed in the National and State Registers of Historic Places and/or are included in the Inventory of Historic and Archaeological Assets of the Commonwealth (the "Inventory"), and evaluates potential Project effects on those properties.

5.11.1 Overview

A survey was undertaken to identify historic resources within and in the vicinity of the Project Site. The Project Site encompasses three residential buildings, located at

1 Sinclair Road, 2 Sinclair Road, and 37 North Beacon Street, and a car dealership at 41 North Beacon Street. The 1830s buildings at 1 Sinclair Road and 2 Sinclair Road are included in the Inventory. 37 North Beacon Street, constructed ca. 1880, and 37 North Beacon Street, erected in 1978, are not included in the inventory. In addition, within a one-quarter-mile radius of the Project Site is one property individually listed in the State Register of Historic Places and multiple properties and areas included in the Inventory. The properties are listed in Table 5-7 and depicted in Figure 5.4. A brief description of the historic resources follows.

Table 5-7 Historic Resources within and in the Vicinity of the Project Site

No.	Resource Name	Location	MHC Inventory No.	Designation
1	Englewood Diner	808 Washington Street	BOS.	SR
2	Hano Street Area	Hano Street	BOS.KM	INV
3	International Harvester New England Branch Headquarters	61 North Beacon St.	BOS.ADJ	INV
4	Mount Saint Joseph Academy	637 Cambridge St.	BOS.KH	INV
5	Allston Heights	NA	BOS.KI	INV
6	2-15 Guildford Street	2-15 Guildford St.	BOS.LD	INV
7	13-17 Allston Street and 1-8 Griggs Place	13-17 Allston Street & 1-8 Griggs Place	BOS.KR	INV
8	Thomas Sinclair House	1 Sinclair Road	BOS.8310	INV
9	Jedediah Troy House	2 Sinclair Road	BOS.8311	INV
10	Residence	19 Everett Street	BOS.8143	INV
11	Col. Thomas Gardner House	26-28 Higgins St.	BOS.8230	INV

SR State Register of Historic Places
INV Inventory of Historic and Archaeological Assets of the Commonwealth; no designation

5.11.2 Historic Resources within Project Site

Thomas Sinclair House, 1 Sinclair Road, BOS.8310 and Jedediah Troy House, 2 Sinclair Road, BOS.8311

These two substantially renovated Greek Revival residences at 1 and 2 Sinclair Road were surveyed by the Boston Landmarks Commission (BLC) in 1978. The Thomas Sinclair House at 1 Sinclair Road was built ca. 1835. The house originally stood on North Beacon Street and was moved to its present location at an unknown date. The Jedediah Troy House at 2 Sinclair Road was built ca. 1833. Both houses are 2.5-story, five-bay Greek Revival-style houses with gable roofs. The Jedediah Troy House retains its historic six-panel door and entrance surround. Alterations to both buildings include vinyl cladding, asphalt shingles, and replacement one-over-one vinyl sash. Neither building appears to meet the criteria of eligibility for listing in the National Register.

5.11.3 Historic Resources within One-Quarter-Mile Radius of Project Site

See Figure 5.4 for a location map of historic resources within a one-quarter mile radius of the Project Site.

Englewood Diner, 69 North Beacon Street, BOS.5952

The Englewood Diner, constructed ca. 1935, was once located in the Dorchester's Peabody Square neighborhood. It was moved to North Beacon Street from Salisbury in 2012 and renamed "Red Line." The diner was determined eligible for listing in the National Register by the Massachusetts Historical Commission (MHC) and is listed in the State Register of Historic Places.

Hano Street Area, BOS.KM

The Hano Street area is small neighborhood of ca. 1890, attached two-family houses located in an industrial/warehouse district. The area was surveyed by the BLC in 1996.

International Harvester New England Branch Headquarters, 61 North Beacon Street, BOS.ADJ

Constructed in the early 20th century, the International Harvester New England Branch Headquarters is a small area that encompasses the branch headquarters building, truck storage facility, and service station. Surveyed in 2017, the area is recommended as National Register eligible by the MHC and BLC.

Mount Saint Joseph Academy, 637 Cambridge Street, BOS.KH

Mount Saint Joseph Academy encompasses nine structures, constructed between ca. 1900 and the 1970s. The rear of the site, fronting on North Beacon Street was originally open space/playing fields. It has been redeveloped as nursing home and rehabilitation center. The property was surveyed by the BLC in 1996.

Allston Heights, BOS.KI

Allston Heights is a residential neighborhood noted for its late-19th-century Queen Anne and Shingle Style houses. The area, that encompasses Area BOS.LI (below), was surveyed by the BLC in 1996.

2-15 Guildford Street, BOS.LI

The Guildford Street area is a small residential area of predominantly Queen Anne style single family houses, surveyed in 1978.

13-17 Allston Street and 1-8 Griggs Place. BOS.KR

The Allston Street and Griggs Place area is a small residential area of with a mix of Federal, Greek Revival, Italianate, and Mansard style houses, surveyed in 1978.

19 Everett Street, BOS.8143

Substantially renovated ca. 1830 single-family residence, surveyed in 1978.

Col. Thomas Gardner House, 26-28 Higgins Street, BOS.8230

Constructed ca. 1740, this Georgian style residence was moved to its current location ca. 1870. The property was surveyed in 1978.

Archaeological Resources

Review of the Massachusetts Cultural Resource Information System (MACRIS) site file indicates there are no previously inventoried or State or National Register listed archaeological sites or districts within the Project Site or in immediate adjacent areas.

5.12 Potential Impacts to Historic Resources

Potential impacts to historic resources related to demolition, urban design, and visual aspects of the Project are described in the following sections.

5.12.1 Demolition of Historic Resources

The Project includes the demolition of four structures: two 2.5-story four-family dwellings built ca. 1833 and ca. 1835 at 1 Sinclair Road, 2 Sinclair Road; a vacant ca. 1880 two-story multi-family dwelling, formerly used as a rooming house at 37 North Beacon Street; and a small car dealership office building, constructed ca. 1978, at 41 North Beacon Street. None of the four structures are listed in the National or State Register of Historic Places. The two 1830s multi-family dwellings at 1 and 2 Sinclair Road, known as the Thomas Sinclair House and the Jedediah Troy House, are included in the Inventory. None of the four buildings appear to meet the criteria of eligibility for listing in the National Register. Demolition of the buildings will not have any direct impacts on significant historic resources.

5.12.2 Urban Design and Visual

As described in Chapter 2, Urban Design, the Project Site is located at the intersection of North Beacon Street and Everett Street just outside of Allston's Union Square. The site is bounded on the north by Harvester Street. Development in the area along North Beacon Street features a variety of uses of differing scales and setbacks, including single-story retail, three-family houses, and ten-story high rises. In contrast, Harvester Street features a combination of industrial and smaller residential buildings. The neighborhood is made up of a combination of new and old buildings.

The Project proposes two new buildings – 37 North Beacon Street and Sinclair Condo, sited on either side of Sinclair Road. The buildings have been designed to respond to the neighborhood's diverse context, improve the streetscape, and be sensitive to the varied scale of the neighborhood. The design of 37 North Beacon Street consists of two distinct components, designed to respect the diverse development in the surrounding neighborhood – the southern portion of the building on North Beacon Street will be five stories, while the northern portion

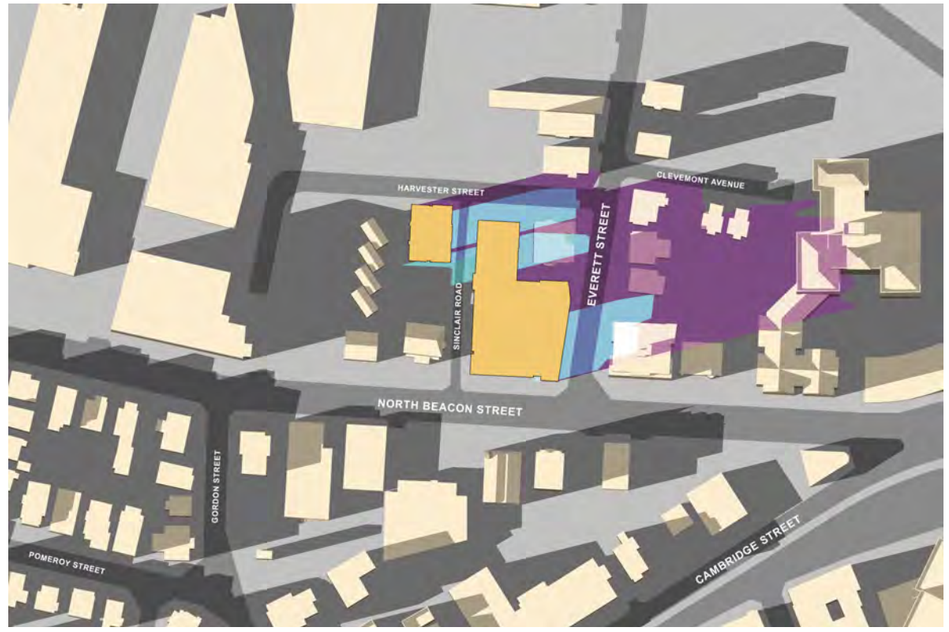
facing Harvester Street will step down to four stories. All parking will be constructed into the hill to screen it from public view. Similarly, the four-story Sinclair Condo has been designed to more closely echo the scale of Harvester Street. The proposed materials of both buildings, consisting of metal panels, fiber cement and glass, have been proposed to reflect the rich and diverse urban fabric surrounding the Project Site.

The new development will complement the neighborhood and will not introduce any visual elements that are out of character with historic resources in the vicinity of the Project Site.

9 AM

12 PM

3 PM



6 PM

NEW SHADOWS
NEW BUILDING
DEMO SHADOWS
EXISTING BUILDINGS
EXISTING SHADOWS

N

0 75 150 300 Feet

PCA

Solar Analysis
March 21

37 North Beacon Street
Boston, Massachusetts

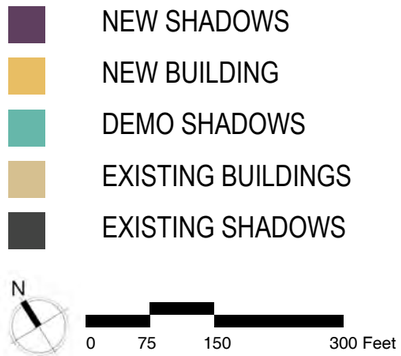
Figure 5.1a

9 AM

12 PM

3 PM

6 PM



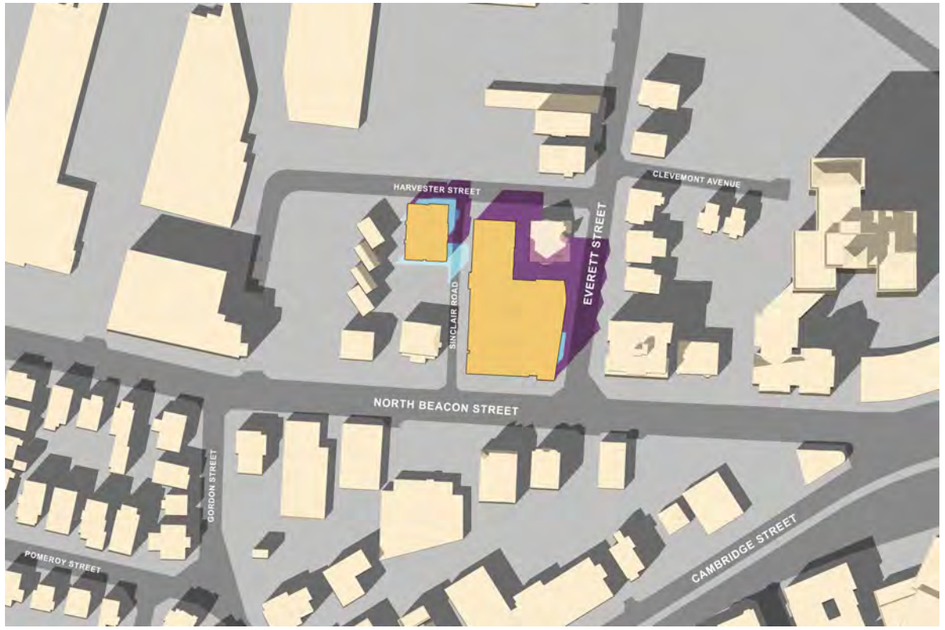
PCA

Solar Analysis
June 21
37 North Beacon Street
Boston, Massachusetts

Figure 5.1b

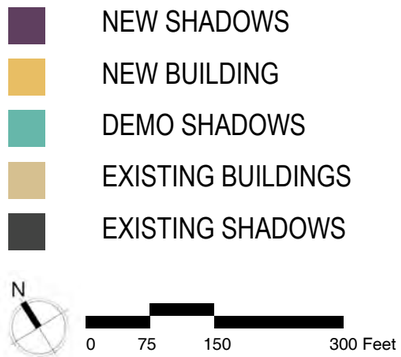
9 AM

12 PM



3 PM

6 PM



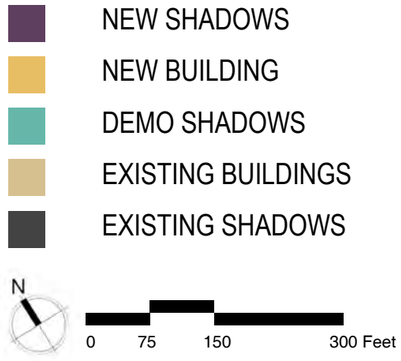
PCA

Solar Analysis
September 21
37 North Beacon Street
Boston, Massachusetts

Figure 5.1c

9 AM

12 PM



3 PM

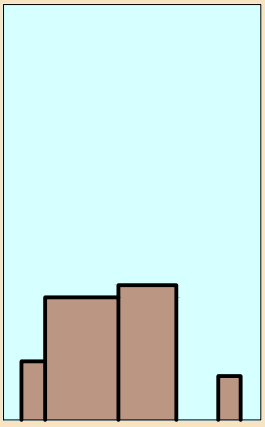
PCA

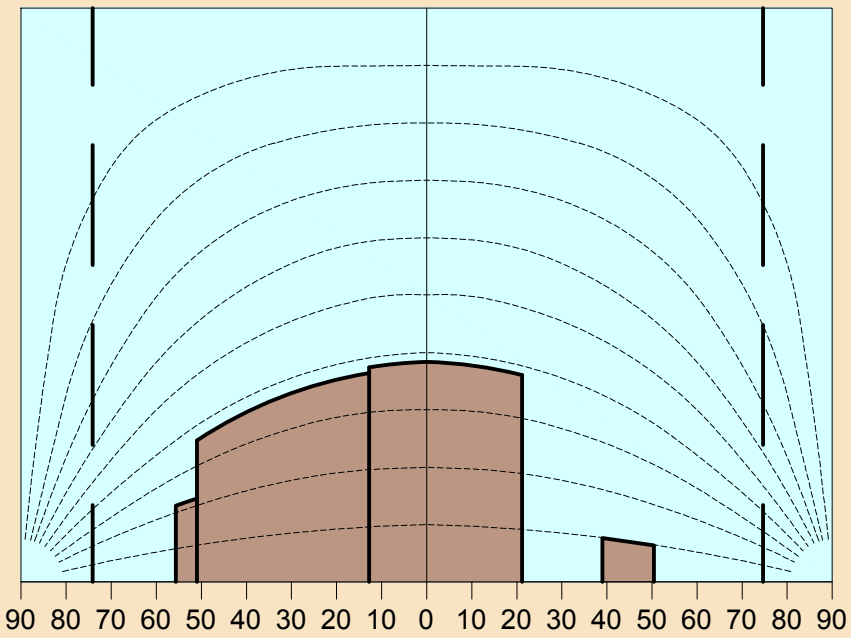
Solar Analysis
December 21
37 North Beacon Street
Boston, Massachusetts

Figure 5.1d

Existing

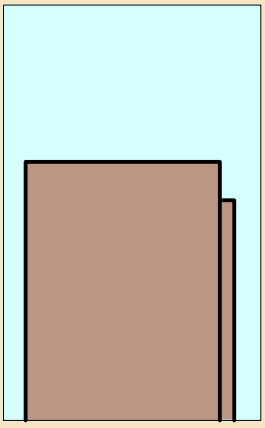
Obstruction of
Skyplane = 19.9%





Proposed

Obstruction of
Skyplane = 62.9%



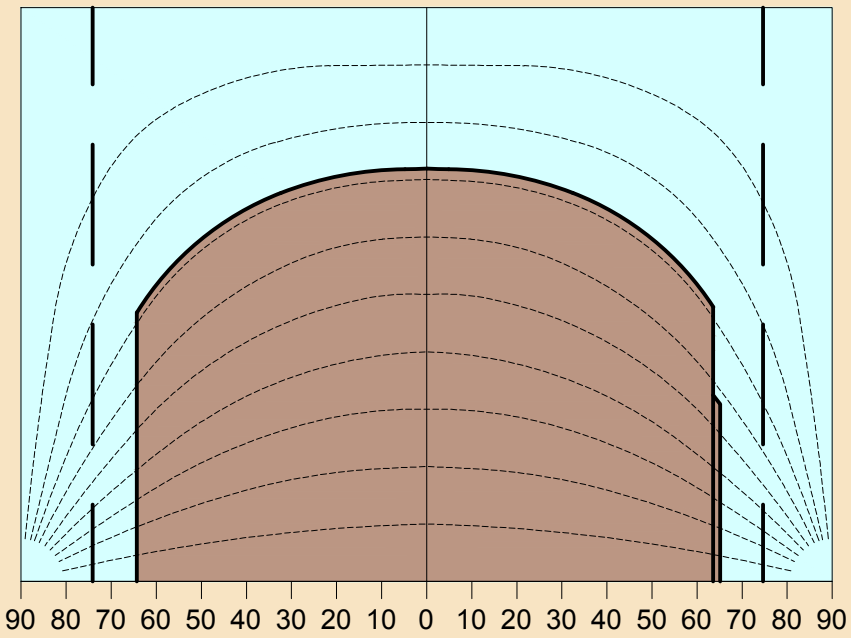


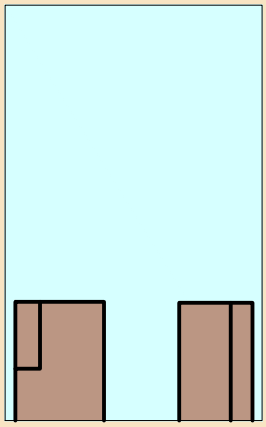
Figure 5.2a

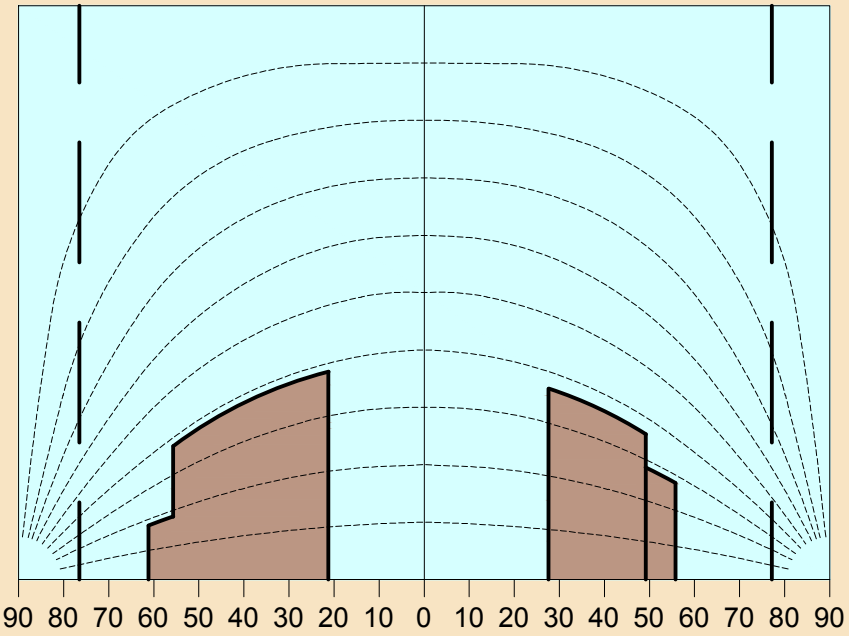
Daylighting Analysis
Center of Everett Street

37 North Beacon Street
Boston, Massachusetts

Existing

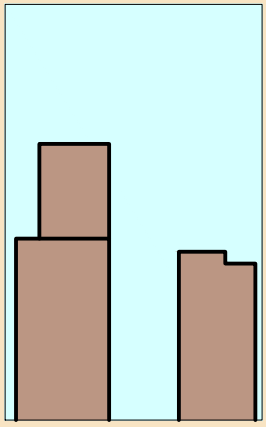
Obstruction of
Skyplane = 12.6%





Proposed

Obstruction of
Skyplane = 14.5%



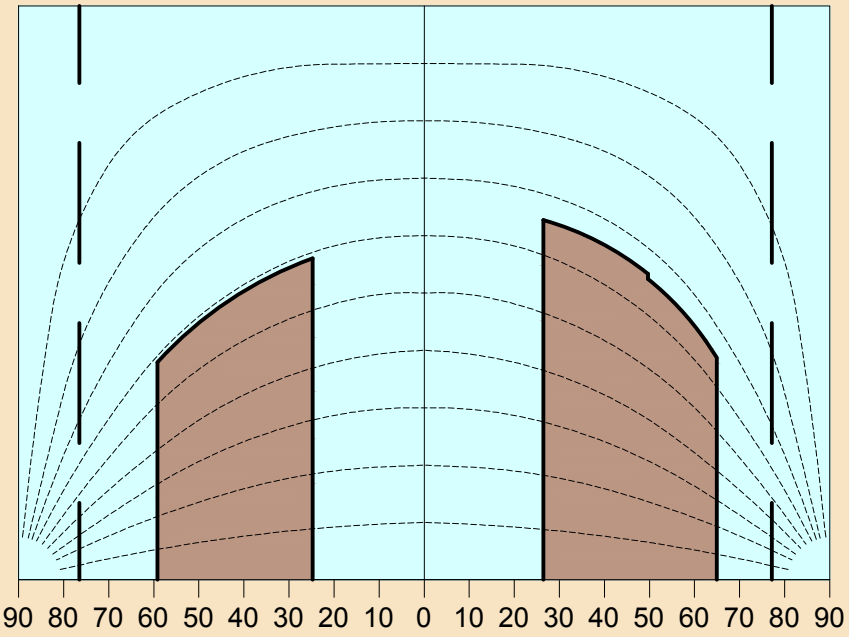


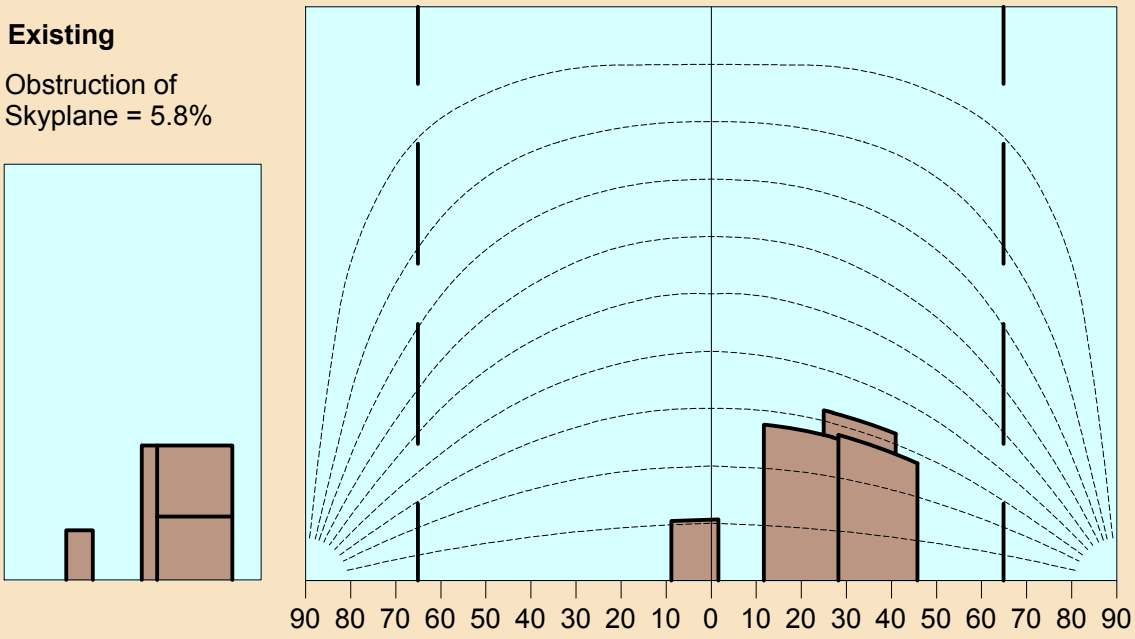
Figure 5.2b

Daylighting Analysis
Center of Harvester Street

37 North Beacon Street
Boston, Massachusetts

Existing

Obstruction of
Skyplane = 5.8%



Proposed

Obstruction of
Skyplane = 49.9%

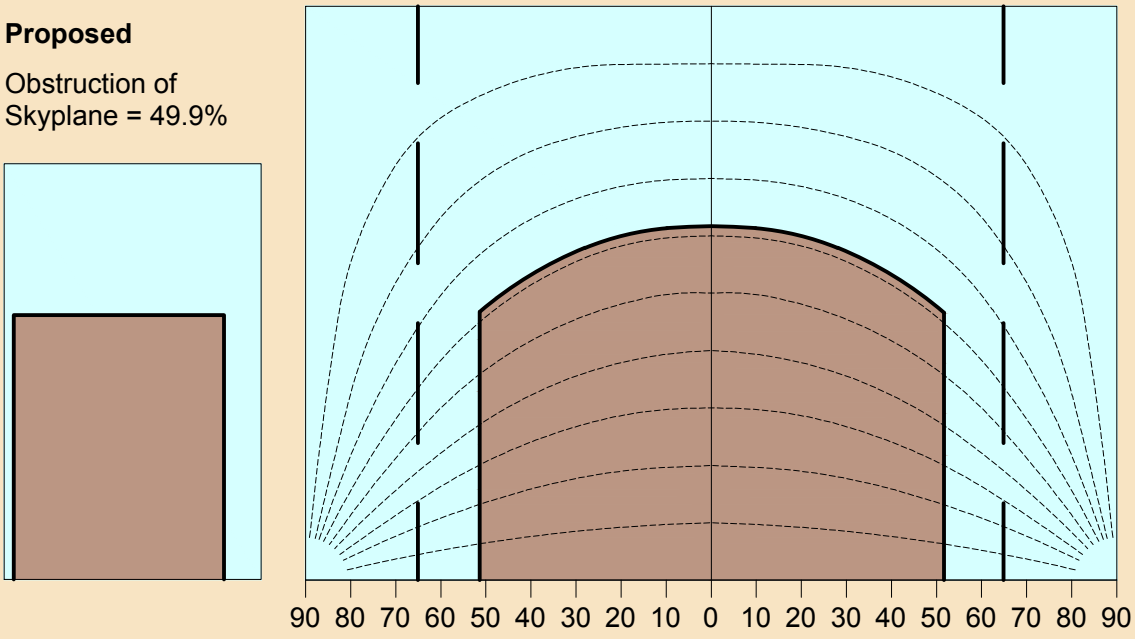


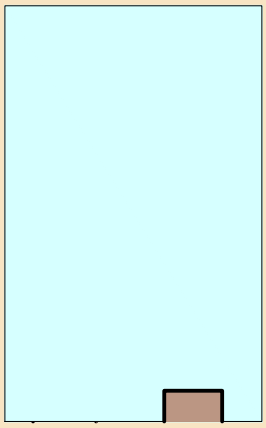
Figure 5.2c

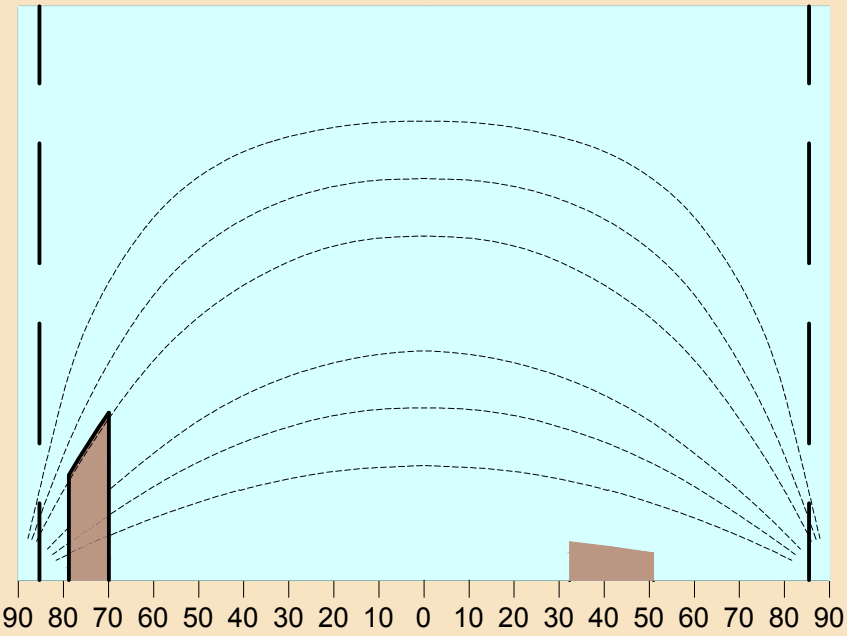
Daylighting Analysis
Center of North Beacon Street

37 North Beacon Street
Boston, Massachusetts

Existing

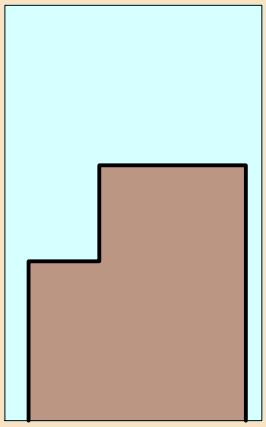
Obstruction of
Skyplane = 4.5%





Proposed

Obstruction of
Skyplane = 75.3%



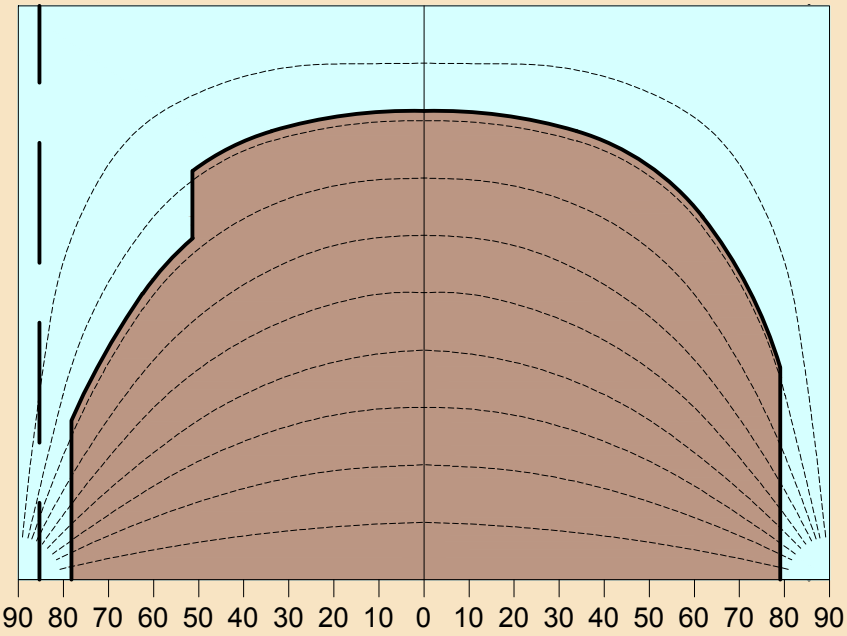


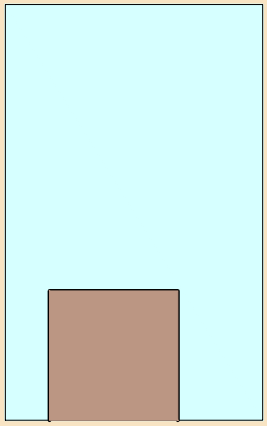
Figure 5.2d

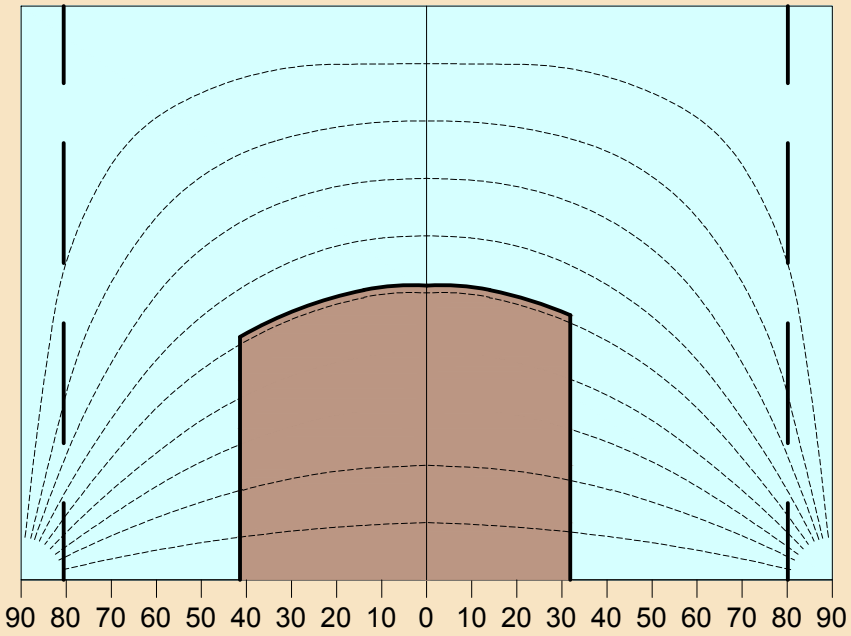
Daylighting Analysis
Center of Sinclair Road - Looking East

37 North Beacon Street
Boston, Massachusetts

Existing

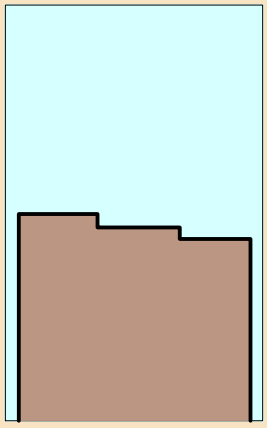
Obstruction of
Skyplane = 24.2%





Proposed

Obstruction of
Skyplane = 76.4%



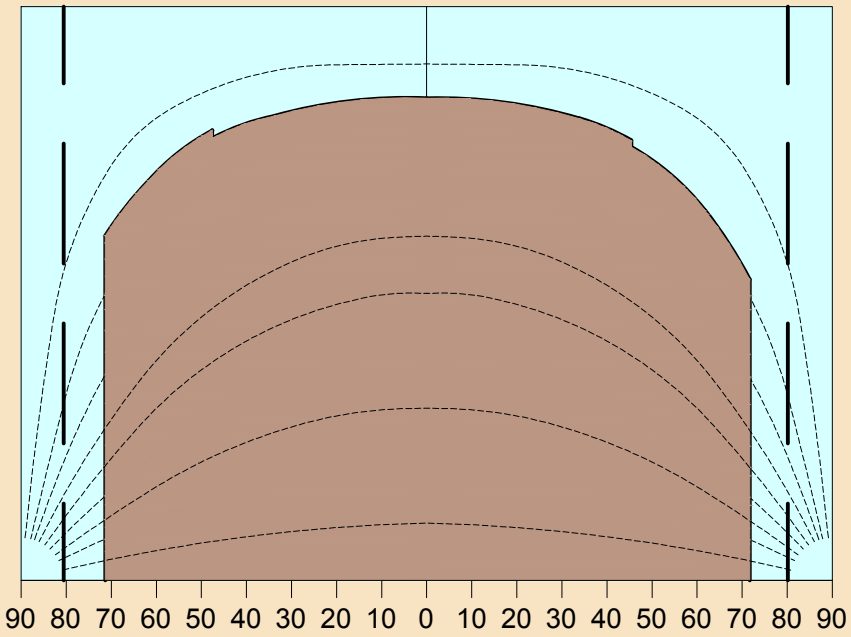
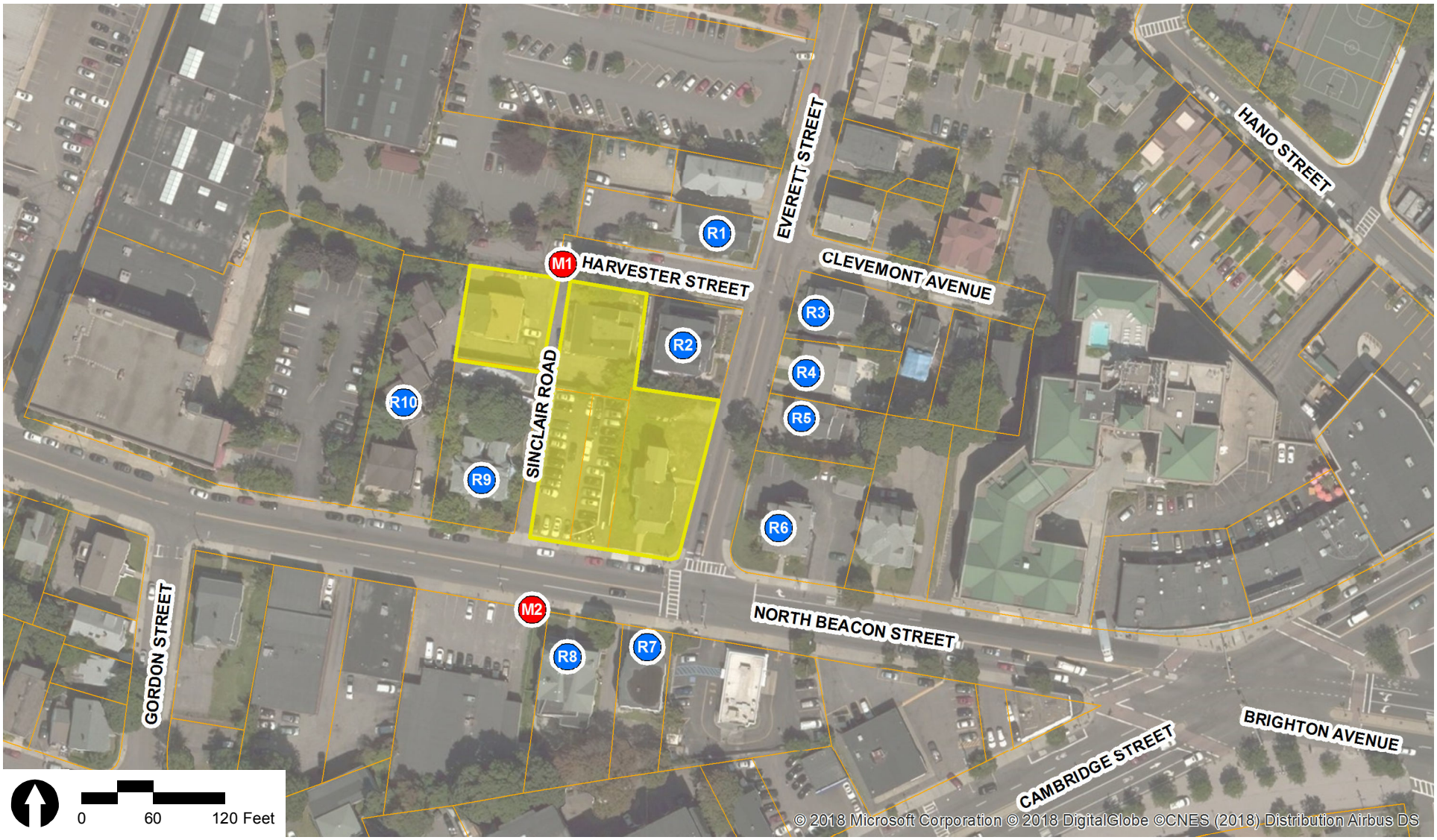


Figure 5.2e

Daylighting Analysis
Center of Sinclair Road - Looking West

37 North Beacon Street
Boston, Massachusetts

\\vhb\proj\Boston\14128.00\tech\Noise\GIS\Figure Noise Monitoring and Receptor Locations.mxd



Source: Bing Aerials

M# Receptor Locations

R# Monitoring Locations

Project Site

Figure 5.3

Noise Monitoring and Receptor Locations

37 North Beacon Street
Boston, Massachusetts

Properties included in the State Register of Historic Places

1. Englewood Diner

Properties Included in the Inventory of Historic and Archaeological Assets of the Commonwealth

2. Hano Street Area
3. International Harvester New England Branch Headquarters
4. Mount Saint Joseph Academy
5. Allston Heights
6. 2-15 Guildford Street
7. 13-17 Allston Street & 1-8 Griggs Place
8. Thomas Sinclair House
9. Jedediah Troy House
10. Residence
11. Col. Thomas Gardner House

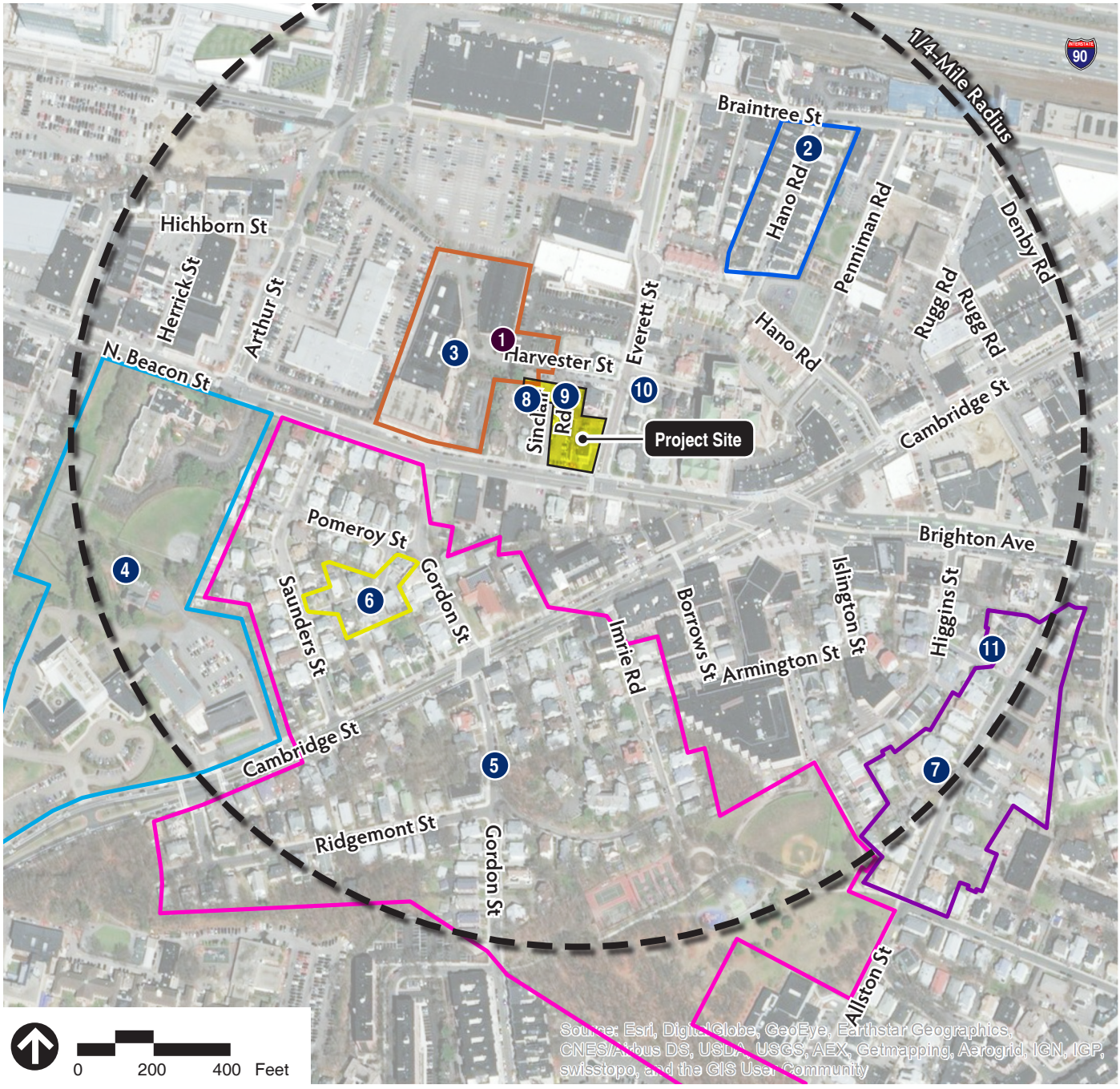


Figure 5.4

Historic Resources

37 North Beacon Street
Boston, Massachusetts

6

Infrastructure

This chapter describes the existing infrastructure systems surrounding the Project Site as well as supporting utility systems, and potential utility impacts of the Project. The following utilities are discussed: wastewater, water, stormwater management, natural gas, electricity, and telecommunications. Chapter 3, Sustainability/Green Building and Climate Change Resiliency, discusses energy conservation measures being considered as part of the Project.

The Project is in an urban context with a comprehensive utility service network available at the Project Site boundaries. The Project is expected to connect to existing City and utility company systems in the adjacent public streets. Based on a preliminary and initial review of the available existing conditions information and record utility drawings, it is anticipated that the existing infrastructure systems will be able to support the incremental increase in demand associated with the development and operation of the Project. As design progresses, all required engineering analyses will be conducted, and the final design will adhere to all applicable protocols and design standards ensuring that the Project is properly supported by available City infrastructure. Detailed design of the Project's utility systems will proceed in conjunction with the design of the Project.

The systems discussed herein include those owned or managed by the Boston Water and Sewer Commission ("BWSC") and private utility companies. There will be further coordination among these entities and with the Project Team as the Project design develops and during the construction process for the Project. See Figure 6.1 for a site plan that shows the existing utility infrastructure at the Project Site.

6.1 Summary of Key Findings and Benefits

The key impact assessment findings related to infrastructure systems include:

- Existing City and utility infrastructure systems are available at the Project Site boundaries and are expected to be adequately sized to accept the new demand associated with the development and operation of the Project. This will be confirmed as the design develops, service locations are established and the development team meets with the appropriate agencies and utility companies.
- On-site drainage generally flows towards the Charles River via BWSC-owned and maintained drainage infrastructure in Everett Street abutting the Project Site.
- The Project Site is currently serviced by the BWSC for domestic water and fire protection, stormwater, and sanitary sewage conveyance.

- Based on the current development program, the Project is estimated to generate approximately 8,977 net new gallons per day of sanitary sewage and will require approximately 9,875 gallons of water per day.

Key Project-related benefits associated with the infrastructure systems include:

- Construction of the Project is expected to incorporate on-site stormwater management and treatment systems, which are expected to result in improved water quality and reduced stormwater runoff volumes as well as peak rates of runoff, in comparison to existing conditions.
- The Project is not expected to result in the introduction of any increased peak flows, pollutants, or sediments that would potentially impact the local stormwater drainage systems.
- Consistent with the sustainable design goals and Article 37 of the Code, the Proposed Project is expected to exceed a 20 percent annual potable water use reduction for interior water use and sewage conveyance through the use of low-flow/high-efficiency plumbing fixtures. Such achievement will be determined once plumbing fixtures are selected by the plumbing engineer.

6.2 Regulatory Context

All connections will be designed and constructed in accordance with applicable city, state and federal standards. The following discusses the regulatory framework of utility connection reviews and standards. A complete list of the anticipated state and local permits associated with Project-related infrastructure is included in Chapter 1, *Project Description*. Detailed design of the Proposed Project-related utility systems will proceed in conjunction with the final design of the buildings and its interior mechanical systems.

- BWSC approval will be required for all water, sewer and stormwater systems.
- The Boston Fire Department will review the Project with respect to fire protection measures such as siamese connections, hydrants, and standpipes.
- Where new utility connections are needed and existing connections are to be capped, the excavation will be authorized by the Boston Public Works Department ("BPWD") through the street opening permit process, as required.

All improvements and connections to BWSC infrastructure will be reviewed by BWSC as part of the BWSC site plan review process. This process includes a comprehensive design review of the proposed service connections, assessment of system demands and capacity, and establishment of service accounts.

6.3 Stormwater Management

The Project is expected to improve stormwater runoff quality and reduce peak flows by increasing landscaping and pervious areas, and through the use of treatment and infiltration facilities.

6.3.1 Existing Drainage Conditions

Under existing conditions, the Project Site is occupied by buildings, asphalt paved surface parking, walkways, and a small grassy lawn space. Based on the existing conditions survey and available record information, there is a small infiltration system on the southwest corner of the site. This system connects into Harvester Street. On-site drainage generally flows through existing BWSC infrastructure towards the Charles River Basin, as shown per BWSC maps. Stormwater runoff appears to be primarily collected through roof drains of existing buildings and discharged onto the ground surface. The runoff is directed to public drainage structures outside of the Project Site boundary, which connect to stormwater mains in North Beacon Street, Everett Street and Harvester Street.

According to BWSC system maps and record information, the BWSC owns and maintains the catch basins and additional drainage infrastructure in the public way which serve the Project Site. North of the Site, a 12-inch drainage main is in Harvester Street which connects into a 12-inch drain flowing North in Everett Street. The BWSC-owned drain in Everett Street expands to become a 66 by 76-inch main with multiple stormwater systems converging into this main.

To the south of the site, North Beacon street contains an existing BWSC-owned 10-inch drainage main which flows west. Ultimately, the 10-inch North Beacon main converges into the Everett Street main which continues North until it discharges into the Charles River Basin at Storm Drain Outfall ("SDO") #037. Refer to Figure 6.1 for the existing on-site drainage facilities serving the Project.

6.3.2 Proposed Drainage Approach

The Project will incorporate stormwater management and treatment systems that will improve water quality, reduce runoff volume and control peak rates of runoff in comparison to existing conditions. The Project will provide infiltration that retains site runoff while providing treatment and peak flow mitigation, in accordance with stormwater standards and BWSC. Additionally, to better ensure improved water quality from the Project, a "Don't Dump, Drains to Charles River" casting will be installed at all new catch basins, area drains, and trench drains.

Stormwater runoff calculations will be done for existing and proposed conditions during the BWSC permitting process for the 2-, 10-, 25- and 100-year storm events. During construction, measures will be implemented to minimize water quality impacts and avoid impacts to abutters.

6.4 Sanitary Sewage

6.4.1 Existing Sewer System

The BWSC owns and maintains the sanitary sewer infrastructure serving the Project site. According to BWSC record drawings, Everett Street contains a 10-inch sewer main, Harvester Street contains a 10-inch sewer main, and North Beacon Street contains a 12-inch sewer main. The sanitary sewer main in Everett Street expands downstream to become a 20 by 30-inch main.

Sewage generation from the existing site has been estimated to be 2,095 gallons per day ("GPD") based on DEP 310 CMR 15.203 flow factors for the existing residential uses of the Project Site.

6.4.2 Proposed Sewage Flow and Connection

Based on the current development program, the Project is estimated to generate approximately 11,072 GPD of sanitary sewage, producing a net new sewage flow of 8,977 GPD. Table 6-1 below summarizes the estimated existing and proposed sewer generation rates based on Massachusetts State Environmental Code (Title 5) generation rates.

Changes to the proposed building program will vary sanitary flow. Final flow estimates will be determined as the Project design moves forward.

Table 6-1 Estimated Sewer Generation

Program Type	Sewage Generation Rate[1]	Unit/Quantity	Estimated Sewage Generation (GPD)
Existing			
Residential	110 GPD/Bedroom	19 Beds	2,090
Office	5 GPD/Toilet	1 Toilet	5
Proposed			
Residential	110 GPD/Bedroom	97 Beds	10,670
Amenity	75 GPD/1000 SF	5,361 SF[2]	402
	Total Proposed		11,072
	Total Existing		2,095
	Net New Total		**8,977**

GPD = Gallons per day
SF = Square Feet
[1] Based on DEP 310 CMR 15.203 flow calculation factors.
[2] Accounts for the proposed community gathering space.

6.5 Domestic Water and Fire Protection

6.5.1 Existing Water Supply System

The BWSC owns and maintains the water mains in the vicinity of the Project Site. According to BWSC record drawings, streets surrounding the Project Site are serviced by eight and 12-inch southern low ("SL") pressure water mains. The water main in Everett Street is a 12-inch ductile iron ("DI") main installed in 1999 and includes a four-inch fire protection connection. The water main in North Beacon Street is a 12-inch ductile iron cement lined ("DICL") main installed in 2006. The water mains in Sinclair Avenue and Harvester Street are both eighth-inch cast iron ("CI") mains installed in 1931, these mains include a four-inch fire protection connection. Additionally, there are currently three fire hydrants are close to the Project Site.

6.5.2 Proposed Water Demand and Connection

Domestic water demand is based on estimated sewage generation with an added factor of 10 percent for consumption, system losses, and other use. Based upon standard sewage generation rates outlined in the DEP System Sewage Flow Design Criteria, 310 CMR 15.203, the Project will require approximately 12,179 gallons of water per day. The Proponent will continue to consider and evaluate methods to conserve water as building design evolves. Appropriate low-flow and low-consumption plumbing fixtures are available to be installed in all residential units to achieve a reduction in water usage at a minimum of 20 percent over the baseline to comply with Article 37 of the Boston Zoning Code, as discussed in Chapter 3, *Sustainability/Green Building and Climate Change Resiliency*.

New water connections will be designed in accordance with BWSC design standards and requirements. Water services to the new building will be metered in accordance with BWSC's Site Plan Requirements and Site Review Process. The review includes, but is not limited to, sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and Siamese connections conform to BWSC and Boston Fire Department ("BFD") requirements. The Proponent will provide for the connection of the meter to the BWSC's automatic meter reading system. Fire protection connections on the Project Site will also need approval of the BFD. The Proponent will request record hydrant flow test information from the BWSC to aid in the preliminary water design. In addition, the Proponent will request new hydrant flow tests on the main to which the Proponent intends on connecting.

6.6 Other Utilities

6.6.1 Natural Gas Service

National Grid Energy (local gas provider) owns and operates the natural gas mains and services in the vicinity of the Project Site. The total estimated natural gas demand for the Project is unknown.

The Proponent will coordinate with National Grid to determine whether their infrastructure can meet the demand estimated for this Project, and the best means of obtaining a system connection. The site survey indicates a 4-inch gas main in Sinclair Avenue, a 6-inch main in Everett Street, and a 24-inch gas main in North Beacon Street.

As the building system design is developed, the Proponent will work with National Grid to ensure adequate capacity is available to serve the Project.

6.6.2 Electrical Service

The estimated electricity demand for the Project at this time is undetermined at this time. Based on a preliminary review of existing utility information, Eversource (local electricity provider) appears to own and operate the electric facilities in the vicinity of the Project Site.

Record and survey information indicates that there are multiple major electric manholes in North Beacon Street. Underground electric service is provided to 37 North Beacon Street via electric conduit in Everett Street. The additional buildings on the Project site are serviced by an overhead wire network which connects to a conduit in Harvester Street.

As the design of the Project progresses, the Proponent's electrical engineer and civil engineer will coordinate with Eversource on future configurations of the power system and connections. Expansion of underground electrical services will be considered for the future project.

Energy conservation measures will be an integral part of the Project-related infrastructure design. As described in Chapter 3, Sustainability/Green Building and Climate Change Resiliency, all buildings will be designed to include energy-efficient and water-conservation features for mechanical, electrical, architectural, and structural systems, assemblies, and materials, where feasible and reasonable.

6.6.3 Telephone and Telecommunications

Record survey information indicates that Verizon owns and operates the telephone facilities in areas adjacent to the Project Site, while Comcast owns and operates the telecommunications facilities and services in areas adjacent to the Project Site. Survey, provided by Nitsch Engineering, indicates that there are active telephone and telecommunications manholes and utilities located in North Beacon Street,

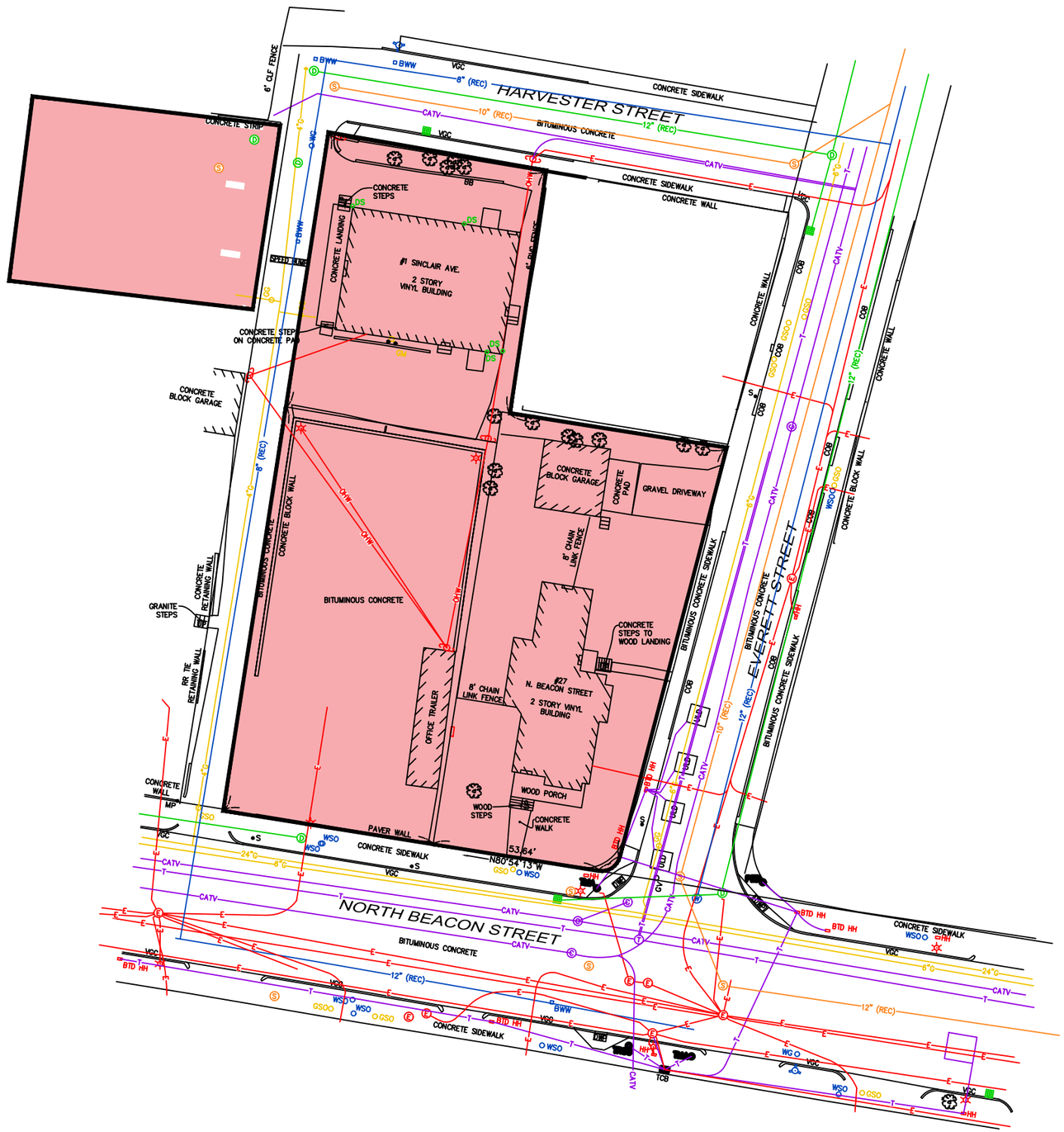
Everett Street, and Harvester Street. The corresponding services serving the existing Project Site consist of a network of overhead wires between the site buildings.

As the Project design progresses, the configuration of the proposed services will be developed with the resident utility companies to determine whether their infrastructure can be used to service this Project, and the best means of obtaining a system connection. Underground service connections to buildings will be considered for the future Project.

6.6.4 Protection of Utilities During Construction

Existing public and private infrastructure located within the public right-of-way will be protected during construction. The installation of proposed utilities within the public way will be constructed in accordance with BWSC, Boston Public Works Department, the Dig-Safe Program, and governing utility company requirements. All necessary permits will be obtained before the commencement of work. Specific methods for constructing proposed utilities whether they are near, or connect with, existing water, sewer, and drain facilities are subject to review by the BWSC as part of its Site Plan Review process.

Infrastructure will be protected using sheeting and shoring, temporary relocations, and/or construction staging as required. The contractor will be required to coordinate all protection measures, temporary supports, and temporary shutdowns of all utilities with the appropriate utility owners and/or agencies. The contractor will also be required to provide adequate notification to the utility owner prior to any work commencing on their utility.



Electric Service
Water Service
Gas Service
Drain Service
Sewer Service
Telephone and Cable Service
Site Boundary

Figure 6.1
Existing Utility Infrastructure

37 North Beacon Street
Boston, Ma

Appendix A: Letter of Intent

MOUNT VERNON
COMPANY

January 3, 2018

Brian P. Golden, Director
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007
Attn: Lance Campbell, Project Manager

RE: Letter of Intent (LOI) to File Expanded Project Notification Form (EPNF)
Article 80 – Large Project Review
37 – 43 North Beacon Street; 1-3 Sinclair Road; 2 Sinclair Road, Allston, MA

Dear Director Golden:

Please accept this letter as notice of our intent to file an Expanded Project Notification Form (EPNF) with the Boston Redevelopment Authority under Article 80 – Large Project Review requirements of the Boston Zoning Code to construct a multi-family residential development at 37 – 43 North Beacon Street; 1-3 Sinclair Road; and 2 Sinclair Road in the Allston-Brighton neighborhood of Boston (the "Project"). The Project Proponent will be 37-43 North Beacon Street, LLC (The Mount Vernon Company, Inc., its Manager).

The Project will consist of a five-story building at the corner of North Beacon Street and Everett Street containing seventy-four (74) rental apartment units as well as a separate four-story building consisting of nine (9) for sale condominiums located on Sinclair Road. There will be 3 three-bedroom, 10 two-bedroom, 21 one-bedroom and 40 studio units in the for-rent building. The for-sale condominium building will consist of 5 one-bedroom and 4 one-bedroom loft units. Amenities will include parking for 42 vehicles, storage for 83 bicycles, a rooftop outdoor area, a fitness center and substantial art gallery space on the first floor.

The property is situated at the edge of Union Square on North Beacon Street in Allston. The site abuts other multifamily dwellings located on Everett Street and North Beacon Street. The adjacent parcel along North Beacon Street is a multi-family and commercial property and on the other side a new multi-family five-story development is currently under construction. Across North Beacon is a KFC restaurant and two separate multi-family apartment buildings.

The Project site contains approximately 24,385 square feet of land entirely within the 3F-4000 zone in Boston. In a 3F-4000 sub-district zone the Floor Area Ratio is 0.8; there is a height restriction of 35 feet; and multi-family residential apartments are Forbidden under Article 51 of the Boston Zoning Code (Allston Brighton). In addition to the proposed use, the Project will need zoning relief for FAR, which we estimate will be 3.0; building height, which will be approximately 69 feet; and other dimensional and parking requirements under the Article 80 process.

There are two existing structures that would be razed. The first is a vacant two-story multi-family dwelling formerly used as a rooming house. The second is a 2.5 story four-family dwelling.

The Project will comply with the City's Inclusionary Development Policy.

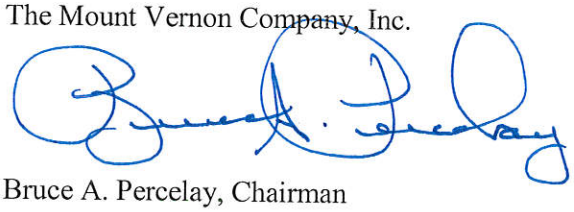
In addition to The Mount Vernon Company, Inc., the development team will include Prellwitz Chilinski Associates as architect; Paul Alan Rufo, Esquire, Smith Duggan Buell & Rufo, LLP as legal counsel; and Solomon McCown as community affairs consultant.

We expect to file an EPNF in the near future. The EPNF will include a transportation analysis and detailed evaluation of the proposed urban design as well as the environmental and infrastructure components. We have met with David Carlson, Deputy Director of Urban Design, Michael Cannizzo, Senior Architect/Urban Designer and Lance Campbell, Senior Project Manager, and other members of the BPDA Staff and will continue to meet with the BPDA Staff throughout our pre-submission planning. We expect that our EPNF will include sufficient information to allow us to proceed to a Draft Project Impact Report ("DPIR").

We look forward to continuing the development process for this Project and to meeting with you and your staff in the coming weeks to refine our plan for this important and beneficial Project to the Allston Brighton neighborhood and to the City of Boston.

Very truly yours,

The Mount Vernon Company, Inc.



Bruce A. Percelay, Chairman

Appendix B: Art. 37 Supporting Information

NEW ECOLOGY
Community-Based Sustainable Development

15 Court Square, Suite 420
Boston, MA 02108

Article 37 Compliance

37 N. Beacon St. Apartments

Boston, MA

March 5, 2018

I. Overview

The 37 N. Beacon St project (the "Proposed Project") consists of two multifamily buildings located in the Brighton neighborhood of Boston. The project will have a total of 83 units and 87,484 gross square feet (gsf). A breakdown of square footage and units is presented in Table 1:

Table 1: Units and Square Footage Breakdown

Building	# of Units	Gross SF
37 N. Beacon	74	76,292
Sinclair Condos	9	11,192
Total	*83*	*87,484*

The project will be designed and constructed under the guidelines of the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) for Homes Multifamily v4 rating system. The building will meet or exceed the Article 37 requirement of LEED Silver, certifiable The following is an outline of the preliminary LEED compliance strategy for this project.

II. LEED Homes Multifamily v4 Scorecard

New Ecology, Inc. (NEI) has reviewed the preliminary project scope and understands the credit summary presented in Table 2: Summary Scorecard to be reasonable and achievable – the subsequent Narrative identifies the project's current approach to compliance with all checklist prerequisites and applicable, optional credits. Attached in Appendix A, please find a preliminary checklist for each building, taken from the LEED Homes v4 workbook.

Table 2: Summary Scorecard

Category	Yes Points	Maybe Points
Integrative Process	0*	0
Location and Transportation	15	0
Sustainable Sites	3	1
Water Efficiency	8	1
Energy and Atmosphere	23 (37 N Beacon) 20.5 (Sinclair)	0
Materials and Resources	0.5	1
Indoor Environmental Quality	6.5	0
Innovation	1	0
Regional Priority	1	0
Total Points	*58 for 37 N Beacon* *55.5 for Sinclair Condos*	*3*

III. Narrative for LEED Credits

The Project will fulfill all the prerequisites for all categories.

Note: Only credits that will be pursued by the Project are discussed below; credits that will not be pursued are not included.

A. Integrative Process

*** IP Integrative Process**	**0 yes points**
Though Mt Vernon is not taking points for this credit, we have assembled a comprehensive design team that includes an artchitect, civil engineer, MEP engineer, and sustainability consultant. The project team is committed to continue close coordination between professions.	

B. Location and Transportation

LT Sensitive Land Protection	**4 yes points**
Path 1: Previously Developed – The project is located on a previously developed lot, located in Brighton, Boston, satisfying the credit conditions.	
LT Infill Development	**2 yes points**
The project is located in an urban setting in which all of the land wthin 0.5 miles (excluding parks and water bodies per the credit language) is previously developed land.	
LT Open Space	**1 yes point**
The project is within 0.5 miles of several open spaces, including Rigner Playground, Penniman Road Play Area, and Fidelis Way Park, all part of the City of Boston's park system.	
LT Street Network	**1 yes point**
The project is located in a urban area dense in publically accessible roads. According to the Center for Neighborhood Technology's H+T Index, the site is surrounded by a density of 302 intersections per square mile.	
LT Compact Development	**3 yes points**
The project will include 83 units on 0.68 buildable acres of land, resulting in an overall unit density of 122 units per acre. This exceeds the threshold of 20 units per acre for 3 points set out for LEED for Homes Lowrise v4.	
LT Community Resources	**2 yes points**
The project site is located within an urban area with several community resources within a 0.5 mile walking distance. The project team has documented 14 for 2 points.	
LT Access to Transit	**2 yes points**
The project site is located directly adjacent to three MBTA bus routes (#57, #64, and #66), is 0.5 miles walking distance to one T stop (Warren Street, B Green Line), and is 0.25 miles from the Boston Landing	

station on the Framingham/Worcester commuter rail line. These routes provide 766 trips per weekday and an average of 612 trips per day on weekends, qualifying for 2 points via the applicable LEED thresholds.

C. Sustainable Sites

SS Construction Activity Pollution Prevention	**Required**
The project's construction documents will call out silt fencing, silt sacks, straw bales and other measures as appropriate to prevent runoff from the site during construction. Topsoil and other materials that are present onsite for greater than three days will be seeded or covered as appropriate. This site is smaller than one acre.	
SS No Invasive Plants	**Required**
37 N. Beacon St is committed to meeting this prerequisite and complying with US Department of Agriculture's GRIN Taxonomy for Plants database, the National Association of Exotic Pest Plant Council, or the UMass Extension school list.	
SS Heat Island Reduction	**1 yes point, 1 maybe point**
The project will utilize high albedo materials for the roof, light-colored paving materials, and tree canopy cover representing approximately 50% of the property for one point. An additional point will be pursued by achieving over 75%.	
SS Rainwater Management	**1 maybe point**
The 37 N. Beacon St project team will investigate strategies for the site that minimize the amount of stormwater that leaves the site – 50% of site area for 1 maybe point.	
SS Nontoxic Pest Control	**2 yes points**
37 N. Beacon St is committed to complying with this credit by incorporating the following strategies: • Use solid concrete foundation walls • Seal all external cracks, joints, penetrations and entry points • Design discharge points for rain gutters, A/C condensate lines, • Design Landscape features to provide a minimum 18" space between exterior wall and any plantings • Develop an integrated pest management policy	

D. Water Efficiency

WE Water Metering	**Required**
37 N. Beacon St will comply with the requirements of this credit by installing a water meter for each of the two buildings.	
WE Indoor Water Use	**5 yes points, 1 maybe point**
37 N. Beacon St will reduce demand for water through high efficiency fixtures and efficient landscaping practices by using efficient fixtures such as: • Shower: 1.5 GPM (2 points)	

• Bath Lavatory: 1.0 GPM (2 points) • Toilet: 1.28 GPF (1 point) The team will consider an additional point by specifying a toilet lower than 1.28 gpf.

WE Outdoor Water Use	**3 yes points**
37 N. Beacon St will reduce demand for irrigation water by minimizing turf grass and maximizing area planted with native or adapted species. The project sets a goal of <20% turf grass and >75% native or adapted plants, for 3 points.	

E. Energy and Atmosphere

EA Minimum Energy Performance	**Required**
37 N. Beacon St will be complying with this prerequisite by meeting the following requirements: • Per Massachusetts Energy Code 9th edition, 37 N Beacon will demonstrate compliance with the ASHRAE 90.1-2013 baseline, exceeding the ASHRAE 90.1-2010 baseline by at least 5% (per LEED). Sinclair Condos will demonstrate a HERS Index rating of 55 or lower to comply with LEED's requirement to meet or exceed the Energy Star HERS Index Target. Elsewhere in this document is a summary of the assumed (or known) mechanical, electrical, plumbing, architectural systems designed or planned for the project, with preliminary model results. • Refrigerators and dishwashers will be Energy Star labeled. Clothes Washers will be Energy Star labeled if included in the scope. • All duct runs will be fully ducted.	

EA Energy Metering	**Required**
The project will include an electricity and a gas meter for each apartment as well as common area gas and electricity meters.	

EA Education of the Homeowner, Tenant, or Building Manager	**Required**
37 N. Beacon St will comply with this prerequisite by providing to the owner an operations and maintenance manual with all LEED/sustainability related requirements.	

EA Annual Energy Use	**23 yes points (37 N Beacon); 20.5 yes points (Sinclair)**
37 N. Beacon St will achieve additional energy savings beyond the minimum ASHRAE 90.1-2013 baseline. At this stage, we anticipate the building will earn 13 points in addition to the 10 points provided by the LEED multifamily home size adjuster. Sinclair condos will achieve a HERS Index of 55, for 16 points in addition to 4.5 points from the home size adjuster.	

F. Materials and Resources

MR Certified Tropical Wood	**Required**
This project has committed to using non-tropical woods, or when tropical woods are required, to use only FSC Certified woods.	

MR Durability Management	**Required**
The project has committed to complying with this prerequisite to promote durability and performance of the building enclosure and its components and systems through compliance with the Energy Star for Homes version 3 Water Management System Builder Checklist, and through measures as outlined by the USGBC including: • Use of nonpaper faced backer board in specific bath areas • Use of water resistant flooring in kitchen and baths • No carpet within 3 feet of exterior doors • Drain pans and automatic water shut-ff valves, or floor drain with floor sloped to drain for all tank water heaters and for all clothes washers in living spaces • Clothes dryers exhausted to the outdoors	
MR Durability Management Verification	**1 maybe point**
37 N. Beacon St has retained the services of a 3rd party verification team to confirm that designed durability measures have been installed correctly.	
EA Environmentally Preferable Products	**0.5 yes points, 1.5 maybe points**
37 N. Beacon St is committed to providing a healthy living environment to its tenants and to install components that minimize material consumption through recyclable content, reclamation, or overall reduced life cycle impact. 0.5 point will be earned by sourcing at least 50% of aggregated used for concrete from locally produced materials. During the design and construction, including submittal review process, the team will strive to further maximize the product points in this section.	

G. Indoor Environmental Quality

EQ Ventilation	**Required**
37 N. Beacon St will meet all requirements of ASHRAE Standard 62.2-2010 (with errata). Fresh air will be mechanically supplied directly to each unit and exhausted from kitchens and bathrooms through individual ERVs for each apartment.	
EQ Combustion Venting	**Required**
37 N. Beacon St will meet the requirements of this prerequisite by installing only sealed combustion equipment.	
EQ Garage Pollutant Protection	**Required**
37 N. Beacon St will meet the requirements of this prerequisite by completely separating living spaces from the garage spaces. In addition, the garage will be mechanically ventilated to further reduce the potential for CO contamination to the living areas.	
EQ Radon Resistant Construction	**N/A**
37 N. Beacon St is located in EPA radon Zone 3, which means this prerequisite does not apply.	
EQ Air Filtering	**Required**

37 N. Beacon St will comply with the requirements of this prerequisite by installing air filters rated to MERV 6 for all central ventilation systems with at least 10 feet of ductwork and air filters rated to MERV 8 in each unit.	
EQ Environmental Tobacco Smoke	**Required**
37 N. Beacon St will comply with the requirements of this prerequisite by prohibiting smoking in all common areas, and outside the building except for within 25 feet of entries, intakes, and windows. Signs will be posted.	
EQ Compartmentalization	**Required**
37 N. Beacon St will comply with the requirements of this prerequisite by using a 3rd party to verify that the constructed buildings meet the LEED v4 standard.	
EA Enhanced Ventilation	**3 yes points**
37 N. Beacon St will comply with the requirements of this credit by installing a continuously operating Energy Recovery Ventilation (ERV) unit in each apartment, by meeting the ASHRAE 62.2-2010 Standard and by not exceeding ASHRAE requirements by more than 10%.	
EQ Balancing of Heating and Cooling Distribution Systems	**1 yes point**
37 N. Beacon St will automatically earn one point through this credit because each apartment will have a forced-air space conditioning system and the average unit size in each building will be lower than 1,200 ft^2, per the credit language (673 ft^2 in 37 N Beaon, and 958 ft^2 in Sinclair Condos).	
EQ Low Emitting Products	**2.5 yes points**
37 N. Beacon St will earn 2.5 points through this credit by specifying and confirming the application of paints, coatings, flooring, adhesives, and sealants comply with California Department of Public Health Standard Method V1.1–2010, using CA Section 01350, Appendix B, New Single-Family Residence Scenario. The project will also earn one point by specifying composite wood products tested to meet the California Air Resources Board requirements for ultra-low-emitting formaldehyde (ULEF) or no-added formaldehyde resins.	

H. Innovation in Design

ID Preliminary Rating	**Required**
The project has achieved a preliminary rating using the LEED for Homes checklist and will assign accountable parties for each credit, meeting this requirement.	
ID LEED Accredited Professional	**1 yes point**
Michael Brod, LEED AP, is coordinating the Article 37 Compliance process and LEED certification for this project.	

I. Regional Priority

RP Regional Priority	**1 yes point**

The project meet the threshold for at least 1 Regional Priority credit point:

- EA Annual Energy Use (threshold – 20 points)

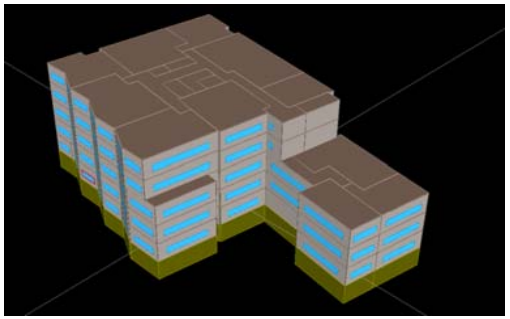
NEW ECOLOGY
Community-Based Sustainable Development

Project Information

Project Name	37 N Beacon
Client	Mt. Vernon Company
Rating Method	ASHRAE 90.1-2013
Date	3/5/2018
Project Area total (ft^2)	73,701

Utility Rates

Electricity	0.156	$/kwh
Natural Gas	0.927	$/therm



End Use	Baseline -ASHRAE 90.1-2013					Proposed Design					Energy Savings
	Electricity (kWh)	Natural Gas (Therms)	Total Energy Usage (kBtu)	Percent of Total (%)	Electricity Coincident Peak Demand (kW)	Electricity (kWh)	Natural Gas (Therms)	Total Energy Usage (kBtu)	Percent of Total (%)	Electricity Coincident Peak Demand (kW)	Percent (%)
Interior Lighting	132,948	-	453,617	9.4%	52.1	126,397	-	431,267	10.8%	25.7	5%
Exterior Lighting	1,081	-	3,688	0.1%	0.0	1,081	-	3,688	0.1%	0.0	0%
Misc. Equipment	440,463	-	1,502,860	31.3%	92.8	409,129	-	1,395,948	34.8%	100.2	7%
Space Heating	1,055	14,370	1,440,550	30.0%	0.0	1,384	10,841	1,088,822	27.2%	0.0	24%
Space Cooling	92,084	-	314,189	6.5%	71.6	73,934	-	252,263	6.3%	91.5	20%
Heat Rejection	-	-	-	0.0%	0.0	-	-	-	0.0%	0.0	#DIV/0!
Pumps & Aux	3,398	-	11,594	0.2%	0.0	2,228	-	7,602	0.2%	0.0	34%
Ventilation Fans	136,990	-	467,411	9.7%	15.0	131,426	-	448,426	11.2%	15.6	4%
Heat Pump Supplement	-	-	-	0.0%	0.0	-	-	-	0.0%	0.0	#DIV/0!
Domestic Hot Water	-	6,139	613,900	12.8%	0.0	-	3,809	380,900	9.5%	0.0	38%
Total Energy by Utility	808,018	20,509	4,807,808	100%	194.7	745,579	14,650	4,008,916	100%	223.4	
Site Energy (kBtu)	2,756,958	2,050,850				2,543,916	1,465,000				**Energy Savings**
Site EUI ($kBtu/ft^2$)			65					54			**16.62%**
Total Cost by Type	$ 126,051	$ 19,011				$ 116,310	$ 13,581				**Cost Savings**
Total Energy Cost	$		145,062			$		129,891			**10.46%**

Appendix C: BPDA Checklists

boston planning & development agency

Climate Resiliency Checklist

NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

A.1 - Project Information

Project Name:	**37 North Beacon Street**			
Project Address:	**37 North Beacon Street, Boston, MA**			
Project Address Additional:				
Filing Type (*select*)	***Initial*** *(PNF,* ***EPNF****, NPC or other substantial filing)* *Design / Building Permit (prior to final design approval), or* *Construction / Certificate of Occupancy (post construction completion)*			
Filing Contact	***Morgan Pierson***	***The Mount Vernon Company***	***mpierson@mvernon.com***	***617-963-0857***
Is MEPA approval required	*Yes/****No***		*2/28/18*	

A.3 - Project Team

Owner / Developer:	**The Mount Vernon Company**
Architect:	**Prellwitz Chilinski Associates, Inc.**
Engineer:	**VHB**
Sustainability / LEED:	**NEI General Contracting**
Permitting:	**VHB**
Construction Management:	

A.3 - Project Description and Design Conditions

List the principal Building Uses:	**Residential (apartments in main building, condos in smaller building)**
List the First Floor Uses:	**Lobby, flexible gallery/amenity space, units, parking**
List any Critical Site Infrastructure and or Building Uses:	**None**

Site and Building:

Site Area:	*29,550 SF (combined sites)*	Building Area:	*87,484 GSF (combined sites, excludes parking)*
Building Height:	*Apartment Building: 69'-11"* *Condo Building: ~53'-0"*	Building Height:	*Apartment Building: 6* *Condo Building: 4*
Existing Site Elevation – Low:	39.5' NAVD88	Existing Site Elevation – High:	56.29' NAVD88
Proposed Site Elevation – Low:	39.5' NAVD88	Proposed Site Elevation – High:	55.0' NAVD88
Proposed First Floor Elevation:	55.0' NAVD88	Below grade levels:	*1*

Article 37 Green Building:

LEED Version - Rating System :	Homes Multifamily	LEED Certification:	*No*
Proposed LEED rating:	*Silver*	Proposed LEED point score:	Condo Building: 55.5 Rental Building: 58

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined	*The Rental Building will be designed to achieve the ASHRAE 90.1-2013 baseline. The team has modeled this building in eQuest. The Condo Building will be designed to achieve HERS 55 to satisfy code and LEED Homes requirements. The team has modeled two condo units using Ekotrope representing the different unit types in the buildings. The results below reflect only Rental Building, since full building modeled consumption cannot be provided for the Condo Building.*		
Annual Electric:	745,579 kWh	Peak Electric:	223.4 kW (coincident)
Annual Heating:	1,088,822 kBtu	Peak Heating:	0.0 (coincident)
Annual Cooling:	252,263 kBtu	Peak Cooling:	91.5 kW (coincident)
Energy Use - Below ASHRAE 90.1 - 2013:	16.6%	Have the local utilities reviewed the building energy performance?:	No
Energy Use - Below Mass. Code:	16.6%	Energy Use Intensity:	54 kBtu/SF

Back-up / Emergency Power System

Electrical Generation Output:	Approx. 100 kW	Number of Power Units:	
System Type:	Combustion Engine	Fuel Source:	Diesel

Emergency and Critical System Loads (in the event of a service interruption)

Electric:		Heating:	
		Cooling:	

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing GHG emissions is critical to avoiding more extreme climate change conditions. To achieve the City's goal of carbon neutrality by 2050 new buildings performance will need to progressively improve to net carbon zero and positive.

B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions:	*(Tons)*

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

Energy efficiency will be a factor in building design. The building models will serve as a reference point throughout the design process to ensure that efficient design practices are included. High performance envelope details and systems are planned.

Describe building specific passive energy efficiency measures including orientation, massing, envelop, and systems:

Building envelope will be prioritized and glazing design will be informed by building orientation.

Describe building specific active energy efficiency measures including equipment, controls, fixtures, and systems:

All mechanical equipment will be high performance. High-efficiency lighting will be specified throughout, automatic lighting controls will be specified for common areas, and all plumbing fixtures will be high performance.

Describe building specific load reduction strategies including on-site renewable, clean, and energy storage systems:

The team will investigate strategies to incorporate solar photovoltaic (PV) systems into the design.

Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:

Currently the design supports individual high-efficiency mechanical systems in each apartment.

Describe any energy efficiency assistance or support provided or to be provided to the project:

The building will be modeled by experienced energy modelers and design guidance will be provide by experts well-versed in high-performance building design.

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

A strategy to investigate to reduce GHG emissions associated with the buildings could include solar PV plus battery storage.

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2˚F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low:	*0 Deg.*	Temperature Range - High:	*91 Deg.*
Annual Heating Degree Days:		Annual Cooling Degree Days	

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90°:	*2*	Days – Above 100°:	0
Number of Heatwaves / Year:	-	Average Duration of Heatwave (Days):	-

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:

High-albedo roofing materials and landscaped areas will help to mitigate the urban heat island effect.

C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

Cooling systems will be sized to accommodate current and future cooling loads. High-albedo roofing materials will be specified.

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

High-performance building envelopes will retain habitable temperatures in the buildings for an extended period in the event of a loss of service.

D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

10 Year, 24 Hour Design Storm: *8.83 Inches*

Describe all building and site measures for reducing storm water run-off:

The proposed stormwater system will be collecting and infiltrating the first inch of run-off on site to meet Boston Water and Sewer Commission (BWSC) requirements.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

The proposed stormwater system hasn't been designed, but we will be collecting and infiltrating the first inch of run-off on site to meet Boston Water and Sewer Commission (BWSC) requirements.

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, sea levels in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA SFHA?	*Yes / **No***	What Zone:	N/A
		Current FEMA SFHA Zone Base Flood Elevation:	*N/A*

Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online BPDA SLR-FHA Mapping Tool to assess the susceptibility of the project site.	*Yes / **No***

If you answered YES to either of the above questions, please complete the following questions.
Otherwise you have completed the questionnaire; thank you!

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

For questions or comments about this checklist or Climate Change best practices, please contact:
John.Dalzell@boston.gov

Article 80 – Accessibility Checklist

A requirement of the Boston Planning & Development Agency (BPDA)
Article 80 Development Review Process

The Mayor's Commission for Persons with Disabilities strives to reduce architectural, procedural, attitudinal, and communication barriers that affect persons with disabilities in the City of Boston. In 2009, a Disability Advisory Board was appointed by the Mayor to work alongside the Commission in creating universal access throughout the city's built environment. The Disability Advisory Board is made up of 13 volunteer Boston residents with disabilities who have been tasked with representing the accessibility needs of their neighborhoods and increasing inclusion of people with disabilities.

In conformance with this directive, the BDPA has instituted this Accessibility Checklist as a tool to encourage developers to begin thinking about access and inclusion at the beginning of development projects, and strive to go beyond meeting only minimum MAAB / ADAAG compliance requirements. Instead, our goal is for developers to create ideal design for accessibility which will ensure that the built environment provides equitable experiences for all people, regardless of their abilities. As such, any project subject to Boston Zoning Article 80 Small or Large Project Review, including Institutional Master Plan modifications and updates, must complete this Accessibility Checklist thoroughly to provide specific detail about accessibility and inclusion, including descriptions, diagrams, and data.

For more information on compliance requirements, advancing best practices, and learning about progressive approaches to expand accessibility throughout Boston's built environment. Proponents are highly encouraged to meet with Commission staff, prior to filing.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
   http://www.ada.gov/2010ADAstandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
3. Massachusetts State Building Code 780 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/building-codebbrs.html
4. Massachusetts Office of Disability – Disabled Parking Regulations
   http://www.mass.gov/anf/docs/mod/hp-parking-regulations-summary-mod.pdf
5. MBTA Fixed Route Accessible Transit Stations
   http://www.mbta.com/riding_the_t/accessible_services/
6. City of Boston – Complete Street Guidelines
   http://bostoncompletestreets.org/
7. City of Boston – Mayor's Commission for Persons with Disabilities Advisory Board
   www.boston.gov/disability
8. City of Boston – Public Works Sidewalk Reconstruction Policy
   http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
9. City of Boston – Public Improvement Commission Sidewalk Café Policy
   http://www.cityofboston.gov/images_documents/Sidewalk_cafes_tcm3-1845.pdf

Glossary of Terms:

1. ***Accessible Route*** – A continuous and unobstructed path of travel that meets or exceeds the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 20
2. ***Accessible Group 2 Units*** – Residential units with additional floor space that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 9.4
3. ***Accessible Guestrooms*** – Guestrooms with additional floor space, that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 8.4
4. ***Inclusionary Development Policy (IDP)*** – Program run by the BPDA that preserves access to affordable housing opportunities, in the City. For more information visit: http://www.bostonplans.org/housing/overview
5. ***Public Improvement Commission (PIC)*** – The regulatory body in charge of managing the public right of way. For more information visit: https://www.boston.gov/pic
6. ***Visitability*** – A place's ability to be accessed and visited by persons with disabilities that cause functional limitations; where architectural barriers do not inhibit access to entrances/doors and bathrooms.

1. Project Information: *If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.*			
Project Name:	**37 North Beacon Street**		
Primary Project Address:	**37 North Beacon Street, Boston, MA**		
Total Number of Phases/Buildings:	**1/2**		
Primary Contact (Name / Title / Company / Email / Phone):	**Morgan Pierson / Vice President / The Mount Vernon Company / mpierson@mvernon.com / 617-963-0857**		
Owner / Developer:	**The Mount Vernon Company**		
Architect:	**Prellwitz Chilinski Associates, Inc.**		
Civil Engineer:	**VHB**		
Landscape Architect:	**RBLA**		
Permitting:	**VHB**		
Construction Management:			
At what stage is the project at time of this questionnaire? Select below:			
	PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BPDA Board Approved
	BPDA Design Approved	Under Construction	Construction Completed:
Do you anticipate filing for any variances with the Massachusetts Architectural Access Board (MAAB)? ***If yes,*** identify and explain.	No		
2. Building Classification and Description: *This section identifies preliminary construction information about the project including size and uses.*			
What are the dimensions of the project?			

Site Area:	***29,550 SF (combined sites)***	Building Area:		***87,484 GSF (combined sites, excludes parking)***
Building Height:	***Apartment Building: 69'-11" Condo Building: ~53'-0".***	Number of Stories:		***Apartment Building: 6 Condo Building: 4***
First Floor Elevation:	**55'**	Is there below grade space:		***Yes*** / *No*
What is the Construction Type? (Select most appropriate type)				
	Wood Frame	Masonry	**Steel Frame (podium)**	Concrete
What are the principal building uses? (IBC definitions are below – select all appropriate that apply)				
	Residential – One - Three Unit	**Residential - Multi-unit, Four +**	Institutional	Educational
	Business	Mercantile	Factory	Hospitality
	Laboratory / Medical	Storage, Utility and Other		
List street-level uses of the building:	*Residential, Flexible Gallery/Amenity Space*			

3. Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and institutions, such as (but not limited to) hospitals, elderly & disabled housing, and general neighborhood resources. Identify how the area surrounding the development is accessible for people with mobility impairments and analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the neighborhood where this development is located and its identifying topographical characteristics:	**The project site is a collection of 4 parcels located at the intersection of North Beacon Street and Everett Street just outside of Allston's Union Square. The site is also bounded by Harvester Street, currently a dead end and Sinclair Road, a private way. It is located in a 3F-4000 zone. The site features approximately one story (15') of grade change between North Beacon Street and Harvester Street.**
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	**MBTA bus routes 51, 57, 57A, 64, 66, 501, 503 stop in Union Square one block from the project site on North Beacon Street. The Boston Landing Commuter Rail stop is within a 1/4 mile from the site.**
List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others:	**Some of Boston's largest employers are in proximity to the site such as New Balance, St. Elizabeth's Hospital and Harvard University. Faneuil Gardens, a Boston Public Housing Community is a little over a half mile from the project site. Refer to Chapter 3, Transportation and Parking of the EPNF for further details**

List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	**The Jackson Mann Community Center is located a block away in Union Square.**
4. Surrounding Site Conditions – Existing: *This section identifies current condition of the sidewalks and pedestrian ramps at the development site.*	
Is the development site within a historic district? ***If yes,*** identify which district:	**No**
Are there sidewalks and pedestrian ramps existing at the development site? ***If yes***, list the existing sidewalk and pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:	**Yes. Along North Beacon Street the existing sidewalk is approximately 9'-8" wide while along Everett Street the existing sidewalk is approximately 6'-8" wide. Along Harvester Street the existing sidewalk is approximately 5' wide. The existing sidewalks are all concrete and in various physical conditions. The sidewalks at the intersection of North Beacon and Everett, and along Everett Street appear to be the newest with the fewest cracks. The only sidewalk that features street trees or planted strips is along Everett Street where there are two small street trees in pits.**
Are the sidewalks and pedestrian ramps existing-to-remain? ***If yes,*** have they been verified as ADA / MAAB compliant (with yellow composite detectable warning surfaces, cast in concrete)? ***If yes,*** provide description and photos:	**TBD**
5. Surrounding Site Conditions – Proposed *This section identifies the proposed condition of the walkways and pedestrian ramps around the development site. Sidewalk width contributes to the degree of comfort walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Wider sidewalks allow people to walk side by side and pass each other comfortably walking alone, walking in pairs, or using a wheelchair.*	
Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? ***If yes***, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.	**The sidewalks are consistent with the Complete Streets guidelines to the extent feasible given existing curb lines. Neighborhood Main dimensions have been applied to North Beacon Street, and Residential guidelines to the remaining perimeter streets.**

What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:	**Pedestrian Zones are, at minimum, 5-ft wide; 8-ft wide on N Beacon St. A 3-ft Furnishing Zone is provided on all abutting streets, with a 0- to 2-ft wide Frontage Zone. Slopes follow existing street grades.**
List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?	**The 3-ft Furnishing Zone will be constructed of permeable pavers where furniture or utilities are located, and of landscape materials where trees are located. Pedestrian Zones will be cement concrete to match existing adjacent sidewalks. All Furnishing Zones are on the City of Boston pedestrian right-of-way. Frontage Zones vary throughout the Project and will be cement concrete, unit pavers, and/or landscaping, and are on Private property**
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way? ***If yes,*** what are the proposed dimensions of the sidewalk café or furnishings and what will the remaining right-of-way clearance be?	**Sidewalk cafes or other furnishings <u>are not</u> programmed for the pedestrian right-of-way. A sculpture garden and art viewing space are proposed on the N Beacon façade, on private property and accessible to the pedestrian right-of-way. This space is approximately 75' x 15'.**
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	**TBD**
Will any portion of the Project be going through the PIC? ***If yes,*** identify PIC actions and provide details.	**TBD**
6. **Accessible Parking:** *See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability – Disabled Parking Regulations*.	
What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?	**42 spaces located in garages.**
What is the total number of accessible spaces provided at the development site? How many of these are "Van Accessible" spaces with an 8 foot access aisle?	**2 accessible spaces, one of which is van accessible.**

Will any on-street accessible parking spaces be required? ***If yes,*** has the proponent contacted the Commission for Persons with Disabilities regarding this need?	**No**
Where is the accessible visitor parking located?	**The two designated accessible parking spaces will be located near the residential entrance with elevators.**
Has a drop-off area been identified? ***If yes,*** will it be accessible?	**No**
7. Circulation and Accessible Routes: *The primary objective in designing smooth and continuous paths of travel is to create universal access to entryways and common spaces, which accommodates persons of all abilities and allows for visitability with neighbors.*	
Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	**The residential lobby will be accessible from the adjacent sidewalks and the parking areas in a flush condition.**
Are the accessible entrances and standard entrance integrated? ***If yes,*** *describe.* ***If no,*** what is the reason?	**Yes, they are one and the same.**
If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.	**Site signage TBD**
8. Accessible Units (Group 2) and Guestrooms: (If applicable) *In order to facilitate access to housing and hospitality, this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing and hotel rooms.*	
What is the total number of proposed housing units or hotel rooms for the development?	**83 (74 rental, 9 condo)**
If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP	**9 units for sale (1 IDP)** **74 units for rent (10 IDP)**

(Inclusionary Development Policy) units?	
If a residential development, how many accessible Group 2 units are being proposed?	**The number of accessible units at the Project will be determined as the Project advances and comply with 521 CMR.**
If a residential development, how many accessible Group 2 units will also be IDP units? ***If none***, describe reason.	**13%**
If a hospitality development, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? ***If yes,*** provide amount and location of equipment.	**N/A**
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs / thresholds at entry, step to balcony, others. ***If yes***, provide reason.	**The apartment building does not. The condo building features stairs to upper floors since an elevator is not required.**
Are there interior elevators, ramps or lifts located in the development for access around architectural barriers and/or to separate floors? ***If yes***, describe:	**Yes there are interior elevators serving all floors and the garage of the apartment building.**

9. Community Impact:

Accessibility and inclusion extend past required compliance with building codes. Providing an overall scheme that allows full and equal participation of persons with disabilities makes the development an asset to the surrounding community.

Is this project providing any funding or improvements to the surrounding neighborhood? Examples: adding extra street trees, building or refurbishing a local park, or supporting other community-based initiatives?	**Sidewalk improvements will be part of the project, including new landscaping and amenities. Additional funding undetermined at this time.**

What inclusion elements does this development provide for persons with disabilities in common social and open spaces? Example: Indoor seating and TVs in common rooms; outdoor seating and barbeque grills in yard. Will all of these spaces and features provide accessibility?	**All amenity spaces in the building and on roof decks are fully accessible.**
Are any restrooms planned in common public spaces? ***If yes,*** will any be single-stall, ADA compliant and designated as "Family"/ "Companion" restrooms? ***If no***, explain why not.	**Yes, there are some proposed. At least one will be ADA compliant.**
Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff? ***If yes,*** did they approve? ***If no,*** what were their comments?	**Project has not been reviewed.**
Has the proponent presented the proposed plan to the Disability Advisory Board at one of their monthly meetings? Did the Advisory Board vote to support this project? ***If no,*** what recommendations did the Advisory Board give to make this project more accessible?	**Project has not been presented.**

10. Attachments

Include a list of all documents you are submitting with this Checklist. This may include drawings, diagrams, photos, or any other material that describes the accessible and inclusive elements of this project.

Refer to the attached Figures

This completes the Article 80 Accessibility Checklist required for your project. Prior to and during the review process, Commission staff are able to provide technical assistance and design review, in order to help achieve ideal accessibility and to ensure that all buildings, sidewalks, parks, and open spaces are usable and

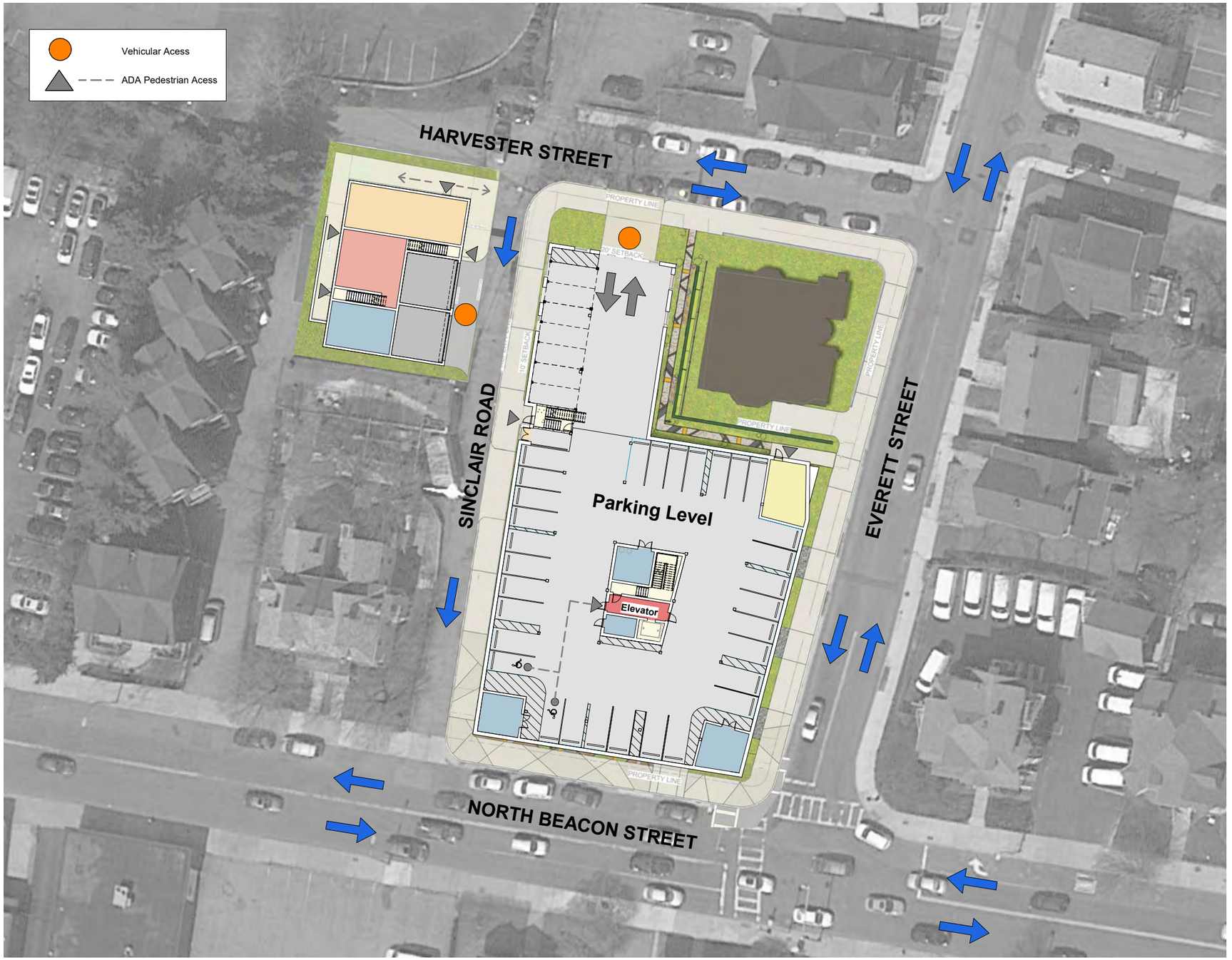
welcoming to Boston's diverse residents and visitors, including those with physical, sensory, and other disabilities.

For questions or comments about this checklist, or for more information on best practices for improving accessibility and inclusion, visit www.boston.gov/disability, or our office:

The Mayor's Commission for Persons with Disabilities
1 City Hall Square, Room 967,
Boston MA 02201.

Architectural Access staff can be reached at:

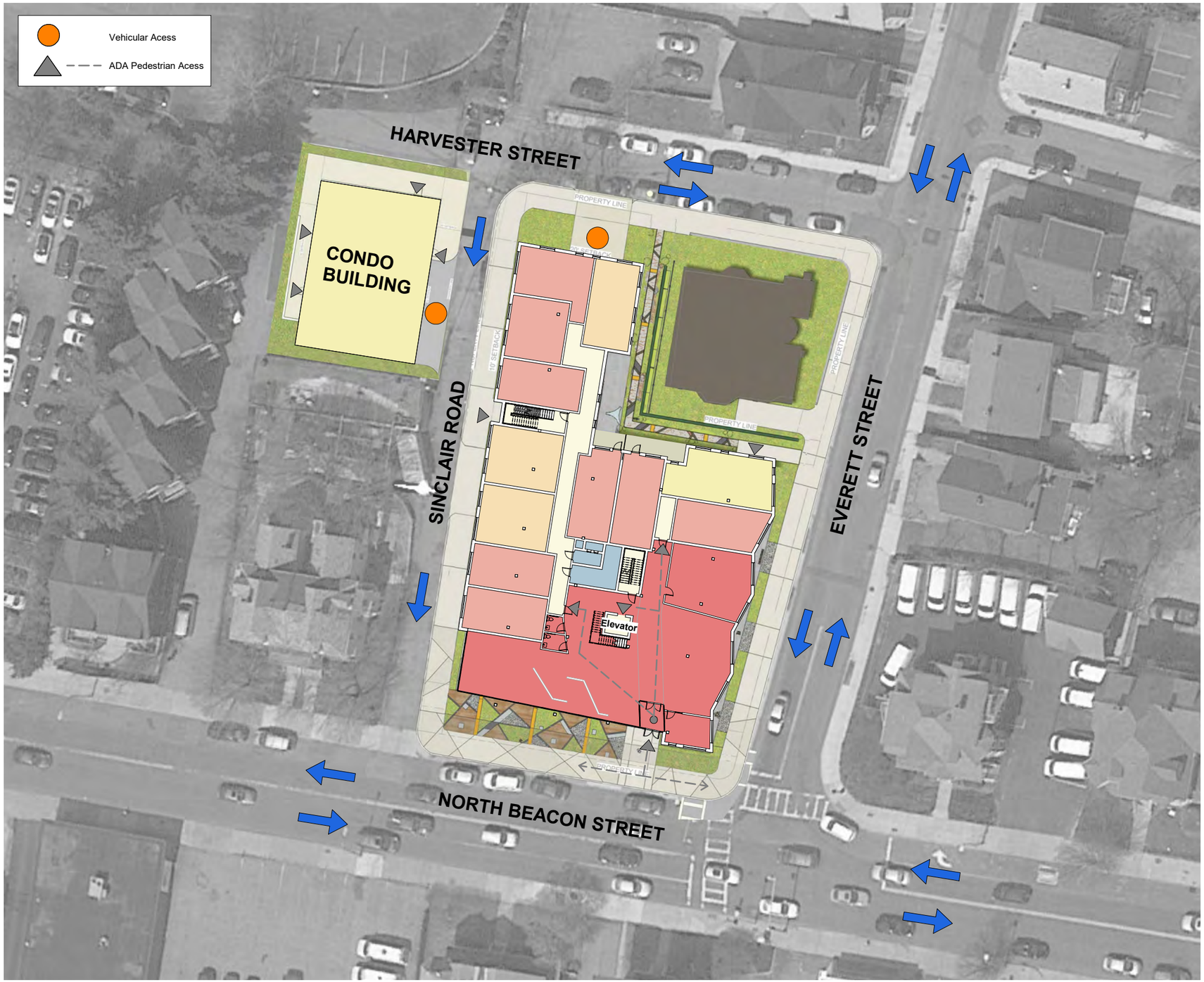
accessibility@boston.gov | patricia.mendez@boston.gov | sarah.leung@boston.gov | 617-635-3682



Accessibility Plan - Parking Level **Figure C.1**
Scale: 3/128"=1'-0"

PCA

37 North Beacon Street
Boston, Massachusetts



PCA

Accessibility Plan - Ground Level **Figure C.2**
Scale: 3/128"=1'-0"

37 North Beacon Street
Boston, Massachusetts

Accessibility Plan - 4th Level
Scale: 3/128"=1'-0"

37 North Beacon Street
Boston, Massachusetts

Figure C.3

Accessibility Plan - Roof Level
Scale: 3/128"=1'-0"

37 North Beacon Street
Boston, Massachusetts

PCA

Figure C.4