

PROJECT NOTIFICATION FORM

449 Cambridge Street



Submitted to:

Boston Planning and Development Agency

One City Hall Square

Boston, MA 02201

Submitted by:

Anchor Line Partners

One Post Office Square, Suite 4100

Boston, MA 02109

Prepared by:

Epsilon Associates, Inc.

3 Mill & Main Place, Suite 250

Maynard, MA 01754

In Association with:

Perkins & Will

CRJA-IBI Group

Reuben, Junius & Rose, LLP

Howard Stein Hudson

Nitsch Engineering

The Green Engineer

Haley & Aldrich

October 21, 2019

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Chapter 1.0

Project Description

1.0 PROJECT DESCRIPTION

1.1 Introduction

Anchor Line Partners (the Proponent) proposes to redevelop an approximately 32,830 square foot (sf) site located at 449 Cambridge Street and 2 Emery Road (the Project site) in the Allston neighborhood of Boston. The Project site, which is divided by Emery Road, currently contains auto body and vehicle repair businesses, an auto tow service, and surface parking. The site will be redeveloped with two new residential buildings containing a total of approximately 166 units, 80 parking spaces, and 2,400 square feet (sf) of ground floor retail space on Cambridge Street.

The proposed Project will replace the current auto-centric uses with new residential buildings that are designed to introduce activity and scale in a playful fashion that is complementary to the diverse and eclectic Allston neighborhood. Along Cambridge Street, the ground floor will be highly transparent, and will include new ground floor retail space to activate this portion of the street. The streetscape will be improved with broad sidewalks and new street trees and plantings. In addition to the benefits to the public realm, the Project also provides new housing, including new opportunities for homeownership, new deed-restricted affordable housing units, construction-period and permanent jobs, and increased tax revenues for the City.

This Project Notification Form (PNF) is being submitted to the Boston Redevelopment Authority (BRA) doing business as Boston Planning & Development Agency (the BPDA) to initiate review of the Project under Article 80B, Large Project Review, of the Boston Zoning Code.

1.2 Existing Project Site and Area Context

The approximately 32,830 sf Project site is located at the corner of Cambridge Street and Rugg Road and along Emery Road in the Allston neighborhood of Boston (see Figure 1-1). The Project site comprises two parcels, 49 Cambridge Street and 2 Emery Road, currently improved with an auto body and vehicle repair businesses, an auto tow service, and surface parking as described above. See Figure 1-2 for existing conditions on the site. Beginning on Cambridge Street, Emery and Rugg roads slope downward approximately 12' vertical feet along the length of the Project site.

The Project site is located in a mixed-use neighborhood, surrounded by commercial and residential buildings. There are numerous amenities within walking distance, including a variety of restaurants and services along Cambridge Street and Brighton Avenue. The MBTA operates three bus routes in close proximity to the site, including two that operate along Cambridge Street adjacent to the Project site. The MBTA's Green Line B Branch and Framingham/Worcester Commuter Line at Boston Landing Station are approximately one-half-mile from the Project site. The Project site is also located along major bike routes, which has become an increasingly popular mode of transportation in recent years.



449 Cambridge Street Boston, Massachusetts



View from West (Cambridge St)



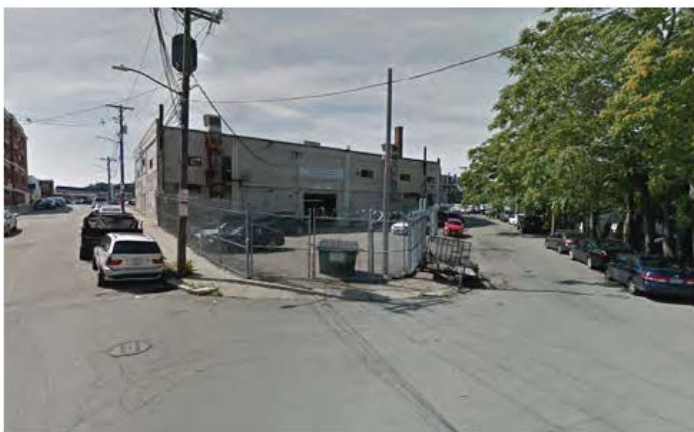
View from Emery Rd



View from East (Cambridge St)



View of West from the site



View from North (Rugg Rd & Emery Rd)



View from East (Cambridge St)

449 Cambridge Street Boston, Massachusetts

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Figure 1-2
Existing Conditions

1.3 Project Description

The Project, as shown in Table 1-1, will replace the existing auto-centric uses on the site with two new residential buildings containing a total of 166 residential units, 2,400 sf of ground floor retail space, and 80 parking spaces. The Cambridge Street component will contain a seven-story building with approximately 127 residential units, ground floor retail space, and approximately 80 parking spaces in the basement and ground floor. The building will provide residential amenity space, including outdoor space on the second floor and a roof deck on the top floor. Due to the slope of the site, the Cambridge Street entrance to the building is on the second floor. The Emery Road component will contain a six-story building with approximately 39 residential units. The building will include outdoor space for use by the residents on the ground floor along the southern edge of the site. Amenity spaces will be shared between the two buildings.

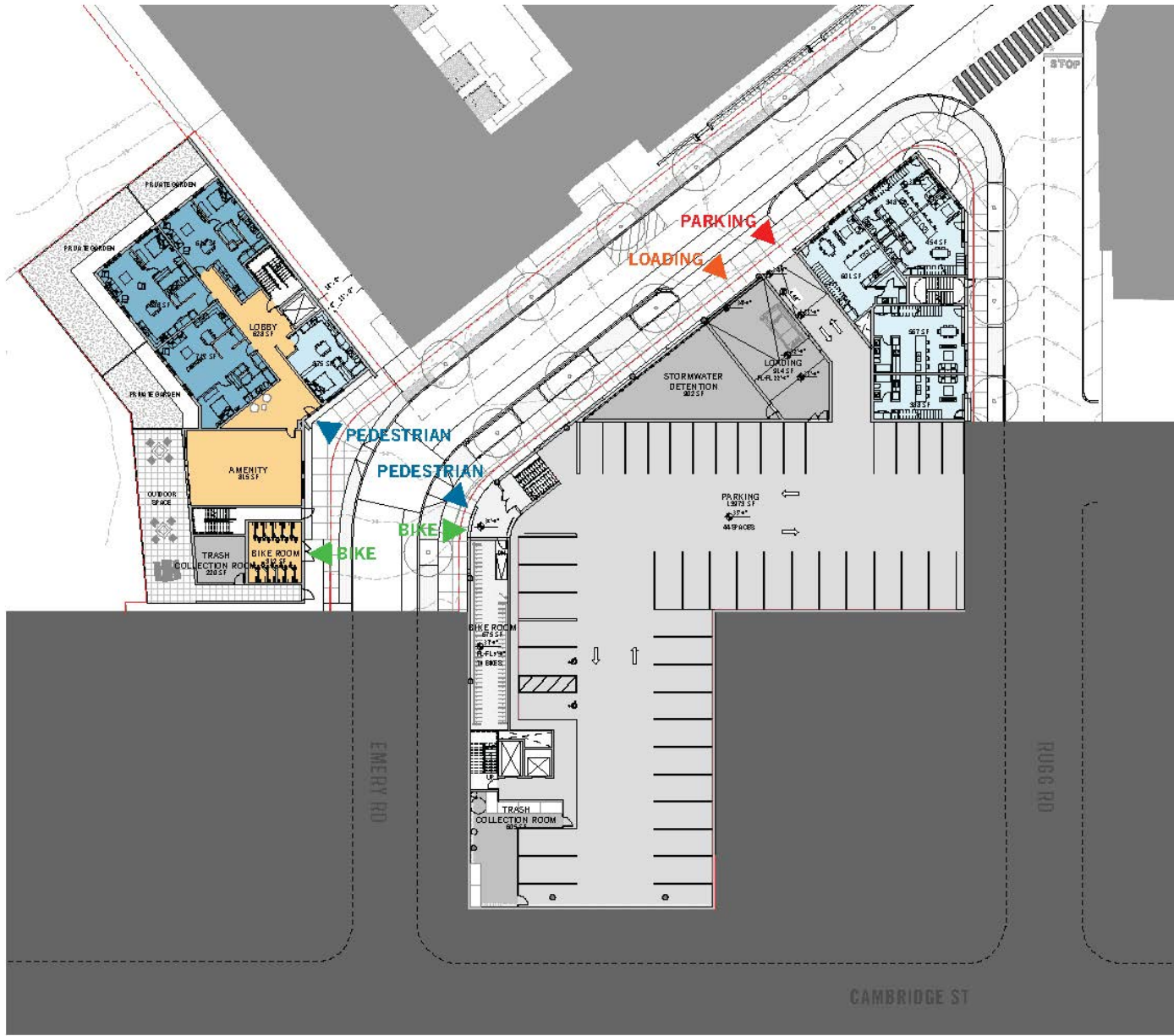
The Project proposes a generous streetscape including broad sidewalks, and a planting zone. The main residential entry of the Cambridge Street component will be at the corner of Cambridge Street and Emery Road, with a ground-floor retail space to the east of the entry. Both the residential lobby and retail space will be two stories, and will be highly transparent, bringing activity and engagement to the Cambridge Street frontage. Figure 1-3 to 1-7 present floor plans.

Table 1-1 Project Program

| Project Element | Cambridge Street | Emery Road | Total |
|-------------------------------|-------------------------|-------------------|-------------------|
| Residential | 127 units | 39 units | 166 units |
| Retail | 2,400 sf | - | 2,400 sf |
| Parking | 80 spaces | - | 80 spaces |
| Total Gross Floor Area | 131,000 sf | 33,000 sf | 164,000 fs |
| | | | |

1.4 Public Benefits

The Project will provide many public benefits for the surrounding neighborhood and the City of Boston as a whole, both during construction and on an ongoing basis upon its completion. These benefits include housing creation, urban design and public realm improvements, job opportunities, and additional tax revenues. Specific public benefits include:

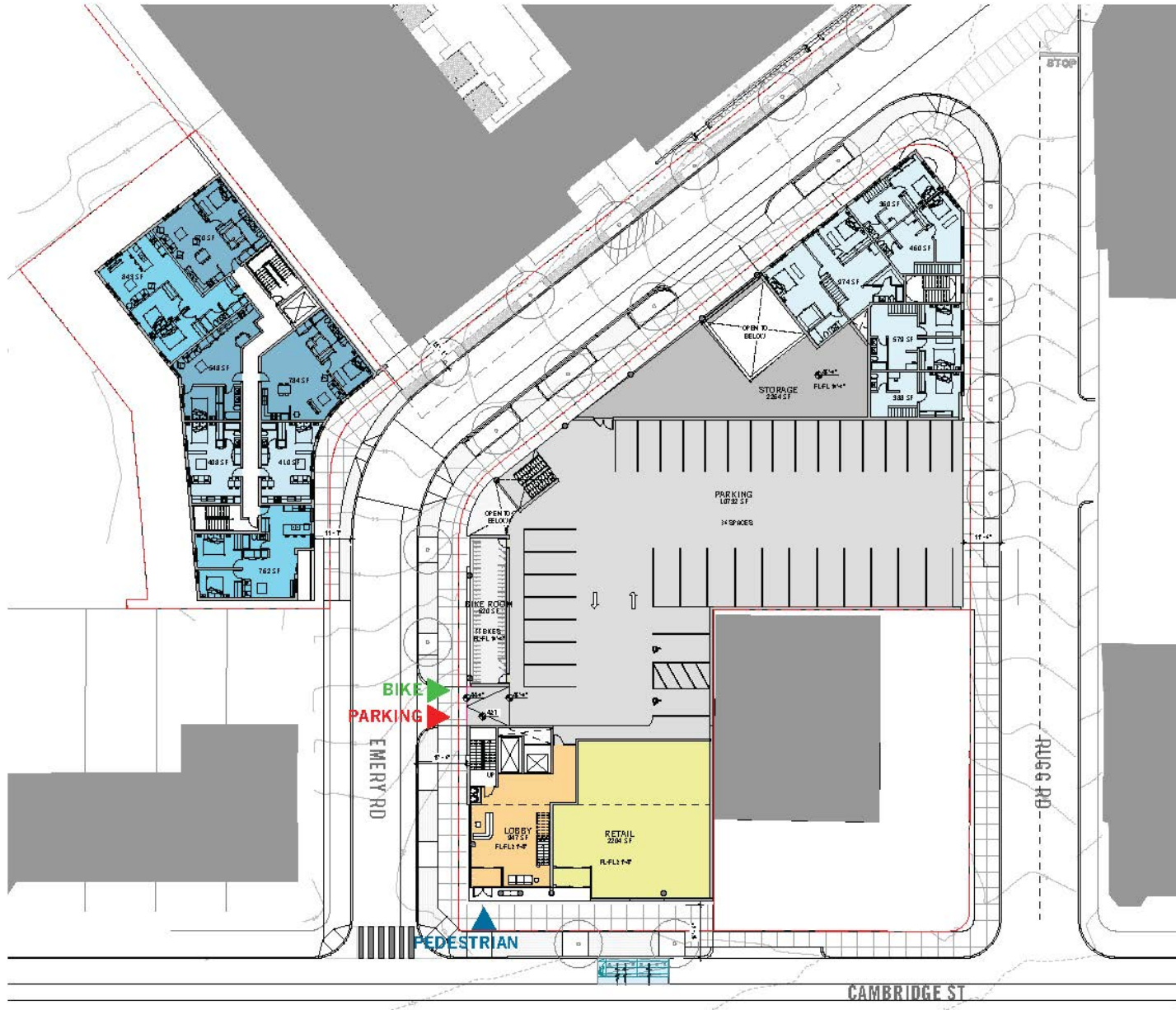


449 Cambridge Street Boston, Massachusetts



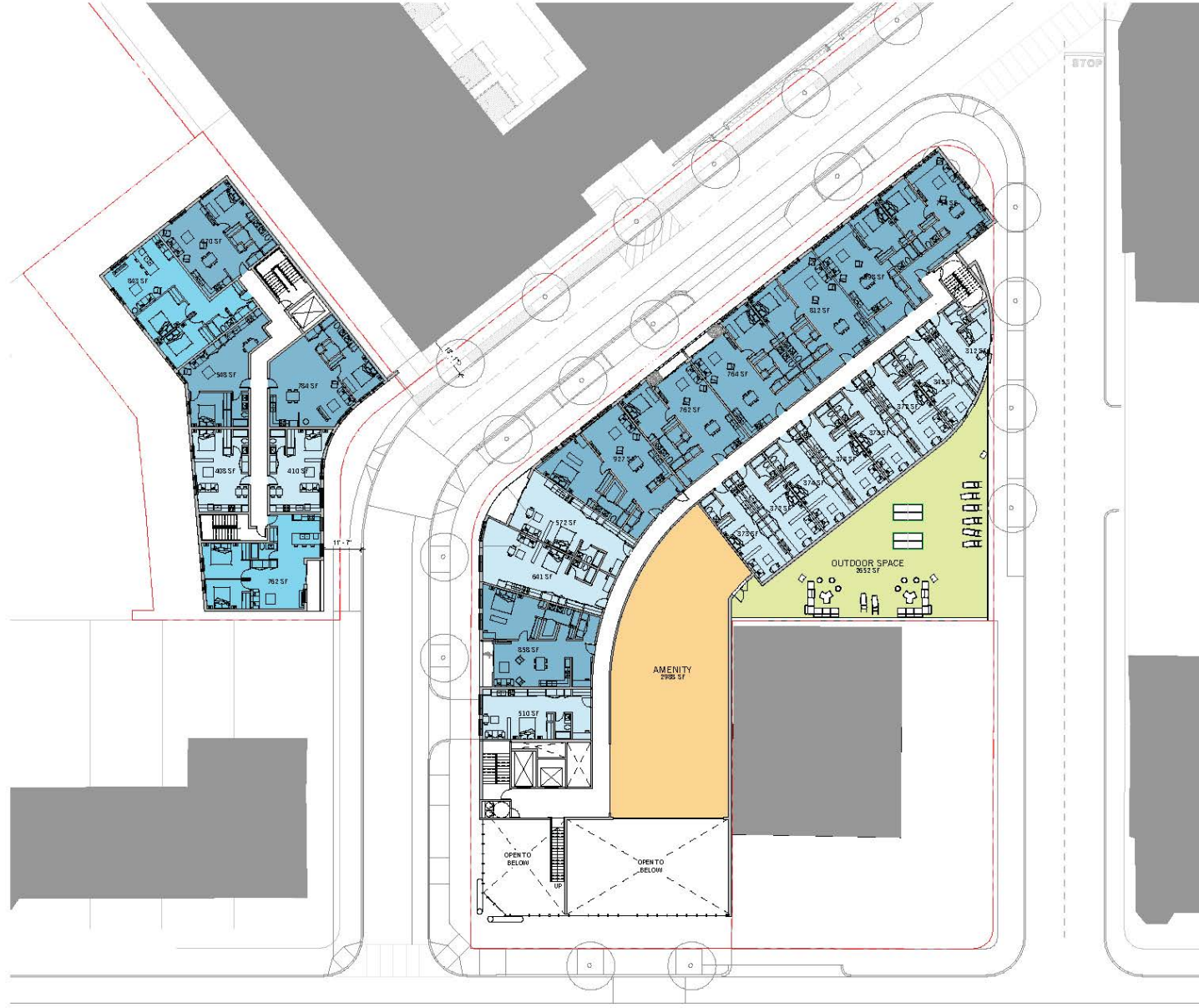
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Figure 1-3
First Floor Plan



449 Cambridge Street Boston, Massachusetts



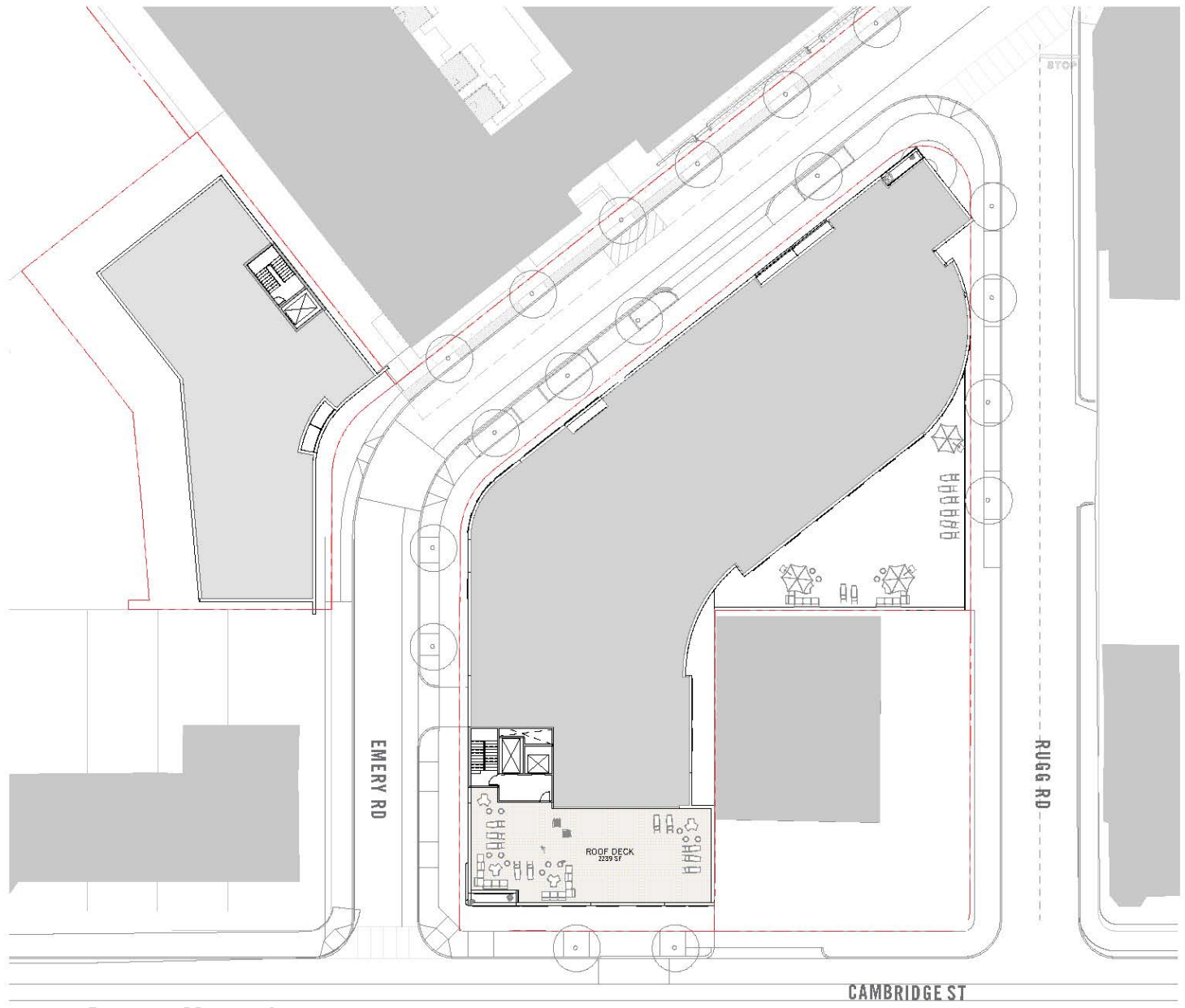


449 Cambridge Street Boston, Massachusetts



Perkins & Will

Figure 1-5
Third Floor Plan



449 Cambridge Street Boston, Massachusetts



Urban Design and Public Realm Benefits

- ◆ Sidewalks surrounding the site will be improved in accordance with Boston Complete Streets guidelines, including new street lighting and new street trees where feasible.
- ◆ The Project will create more activity in the area throughout the day with the introduction of retail and residential uses to the Project site.
- ◆ The Project will include a ground-floor retail space on Cambridge Street to bring new activity to this part of the street

Economic and Community Benefits

- ◆ In keeping with Mayor Martin J. Walsh's goal of adding significant new housing in the city, the Project will create approximately 166 new residential units, including both ownership and rental housing, in close proximity to public transit.
- ◆ The Project will create new deed-restricted affordable housing units consistent with the BPDA's December 2015 Inclusionary Development Policy.
- ◆ The Project will create approximately 220 construction jobs and approximately 5 permanent jobs upon stabilization.
- ◆ The Project will result in increased tax revenues compared to the existing condition.

1.5 Community Outreach Overview

As part of its planning efforts, the Proponent has met often with public agencies, and held two public meetings to introduce the Project to the community. The first meeting held in early August was a Project presentation and overview to the Brighton Allston Improvement Association (BAIA). The second meeting held in September was also a Project presentation and overview with the Allston Civic Association. Additional follow-up meetings will be scheduled upon the submittal of this PNF.

The Proponent continues to be committed to a comprehensive and effective community outreach process and will continue to engage the community to ensure public input on the Project. The Proponent looks forward to working with the BPDA and city agencies, local elected officials, neighbors, and others as the design and review processes move forward.

1.6 Schedule

It is anticipated that construction will commence in the second quarter of 2020; construction of the Project will last approximately 15 months.

Chapter 2.0

General Information

2.0 GENERAL INFORMATION

This Chapter summarizes the local planning and regulatory controls, and lists the anticipated permits and approvals applicable to the Project. This Chapter also identifies the members of the Project team and provides required legal information.

2.1 Zoning and Other Regulatory Controls

As noted in Chapter 1.0, the Project site comprises two lots divided by Emery Road, a private way open to public travel: the Emery Road Lot and the Cambridge Street Lot. The entirety of the Emery Road Lot is located within the Braintree Street LI-1 Subdistrict. The Cambridge Street Lot is part of two different zoning subdistricts. For a depth of approximately feet from Cambridge Street, the Cambridge Street Lot is part of the Harvard Avenue CC-1 Subdistrict; the remainder of the lot is located within the Braintree Street LI-1 Subdistrict. Because the Cambridge Street Lot is split between two different zoning subdistricts, the first 30-foot depth of the Braintree Street LI-1 subdistrict portion must be treated as if it were part of the Harvard Street CC-1 subdistrict.

No portion of the Project site is located within a Flood Hazard District, a Restricted Parking Overlay District, or any other overlay zoning district.

The Project site is not located within any historic districts designed by the City of Boston, nor are any of the existing structures designated as City landmarks. However, the proposed demolition of the existing buildings on the Project site will be subject to review by the Boston Landmarks Commission (BLC) under Article 85 of the Boston Zoning Code. An Article 85 Application for the property will be submitted to the BLC.

The proposed Project includes the construction of over 50,000 square feet and, therefore, is subject to the Boston Zoning Code's Section 80B Large Project Review process.

No portion of the Project site is located on filled or flowed tidelands subject to regulation by the Waterways Division of the Massachusetts Department of Environmental Protection. The Proponent is not aware of any other possible jurisdiction of the Commonwealth of Massachusetts over the Project, such as the need for a Highway Access Permit from the Massachusetts Department of Transportation. Federal jurisdiction appears to be limited to the likely need to apply for a National Pollutant Discharge Elimination System ("NPDES") Remediation General Permit ("RGP") to allow for pumped water to be discharged to a nearby storm drain, during below-grade excavation.

In October 2018, the BPDA approved a Compact Living Design Guidelines that are intended to guide the Boston Board of Appeal when it consider projects proposing 10 or more dwelling units, and apply to units smaller than the following sizes: 450 square feet for studios, 625 square feet for 1-BRs, 850 square feet for 2-BRs, and 950 square feet for 3-BRs. The Project is designed to comply with these guidelines.

Please see Chapter 5.0 Coordination with other Governmental Agencies, for more details.

2.2 List of Anticipated Permits and Approvals

The Project is anticipated to require the following permits and approvals. As the project program and design evolve, some of the below-listed permits/approvals may not be required and/or other permits/approvals may prove to be necessary.

Table 2-1 Anticipated Permits and Approvals

| Agency | Permit / Approval |
|--|--|
| Local | |
| Boston Board of Appeal | Zoning Code special permits and variances; Building Code variances, if required |
| Boston Civic Design Commission | Design Review |
| Boston Conservation Commission | Order of Conditions, if required |
| Boston Fire Department | Approval of Fire Safety Equipment; Permit for Maintenance of Fire Protection Equipment; Permit for Safe Access to Site by Fire Department |
| Boston Inspectional Services Department | Building Permit; Demolition Permit; Other construction-related permits; Certificate of Occupancy |
| Boston Interagency Green Building Committee | Zoning Article 37 |
| Boston Landmarks Commission | Demolition Delay procedure under Article 85 of the Boston Zoning Code |
| Boston Planning & Development Agency | Review under Article 80, including Large Project Review, as required pursuant to Article 80B of the Code; Disclosure of Beneficial Interests in Large Projects; Cooperation Agreement, including Construction Employment Plan |
| Boston Public Improvements Commission | Licenses for Repairs to Public Sidewalks; Street and Sidewalk Occupation Permit; Curb-cut (if required); Specific Repair Plan Approval; Tiebacks (if required); Installation of Monitoring Wells (if required); Signs and Awnings Encroaching over Public Way, if required |
| Boston Public Safety Commission, Committee on Licenses | Permit to Erect and Maintain Parking Garage; Flammable Storage License |
| State | |
| Massachusetts Water Resources Authority | Temporary Construction Dewatering Permit |

2.3 Development Team

The following lists the key members of the development team for the proposed Project:

Address/Location: 449 Cambridge Street and 2 Emery Road

Developer: Anchor Line Partners
One Post Office Square, Suite 4100
Boston, MA 02109
(617) 451-0500
David Wamester

Architect: Perkins & Will
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Andrew Grote
Matthew Pierce

Landscape Architect: CRJA-IBI Group
21 Custom House Street, 3rd Floor
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Chris Jones

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Jared Eigerman, Esq.

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Elizabeth Peart

Civil Engineer: Nitsch Engineering
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 Boston, MA 02108
 (617) 338-0063
 John Schmid
 Michelle Callahan

Sustainable Design Consultant: The Green Engineer
 23 Bradford Street, 1st Floor
 Concord, MA 01742
 (978) 341-5462
 Sarah Michelman

Geotechnical Consultant: Haley & Aldrich, Inc.
 465 Medford Street, Suite 2200
 Boston, MA 02129
 (617) 886-7400
 Marya Gorczyca

Community Outreach: Nauset Strategies
 One Design Place, Suite 638
 Boston, MA 02210
 (617) 523-3097
 Michael K. Vaughan
 Christine McMahan

2.4 Legal Information

2.4.1 *Legal Judgments or Actions Pending Concerning the Proposed Project*

The Proponent is not aware of any legal judgements or pending actions against the proposed Project.

2.4.2 *History of Tax Arrears on Property Owned in Boston by the Proponent*

There are no known tax arrears on property owned by the Proponent. Property taxes are paid current.

2.4.3 *Evidence of Site Control/Public Easements*

The Proponent is in contract to buy the Project site from its fee owner, Virginia Kakridas, as trustee of Delta Realty Trust u/d/t dated April 6, 1998, recorded with the deed at the Suffolk Registry of Deeds (the "Registry") in Book 22364, at Page 263. Pursuant to a judgment by the Massachusetts Land Court, recorded at the Registry in Book 4776, at Page 63, an approximately 390 square-foot strip of land (the "Contested Area") located along the westerly lot line of the

Emery Road Lot is owned by HJK Realty LLC, the owner of the adjacent lot commonly known as 100-102 Hano Street. The Project does not include any construction on the Contested Area, which is separated from the remainder of the Project Site by a chain-linked fence. As noted above, Emery Road is owned in fee by its abutting owners, including the current fee owner of the Project site, however it is open to public travel.

A site survey is provided in Appendix A.

Chapter 3.0

Transportation

3.0 TRANSPORTATION

3.1 Overview

This Chapter presents a summary of the Project's expected transportation impacts including site access, parking, public transportation, bicycle facilities, trip generation, loading and service, and Transportation Demand Management (TDM) measures. A complete transportation analysis of the Project would be included in the Draft Project Impact Report (DPIR), which will be developed in cooperation with the BPDA, the Boston Transportation Department (BTD), and the community.

3.1.1 Project Description

As described in Chapter 1, the Project site comprises two parcels: 449 Cambridge Street and 2 Emery Road. Combined, the Project site contains businesses related to auto body and vehicle repairs, and a tow lot.

The Project includes the removal of all existing structures and construction of two residential buildings, which will provide approximately 166 residential units and approximately 2,400 square feet of retail space. The Project will also provide approximately 80 parking spaces.

Table 3-1 presents a summary of the development program.

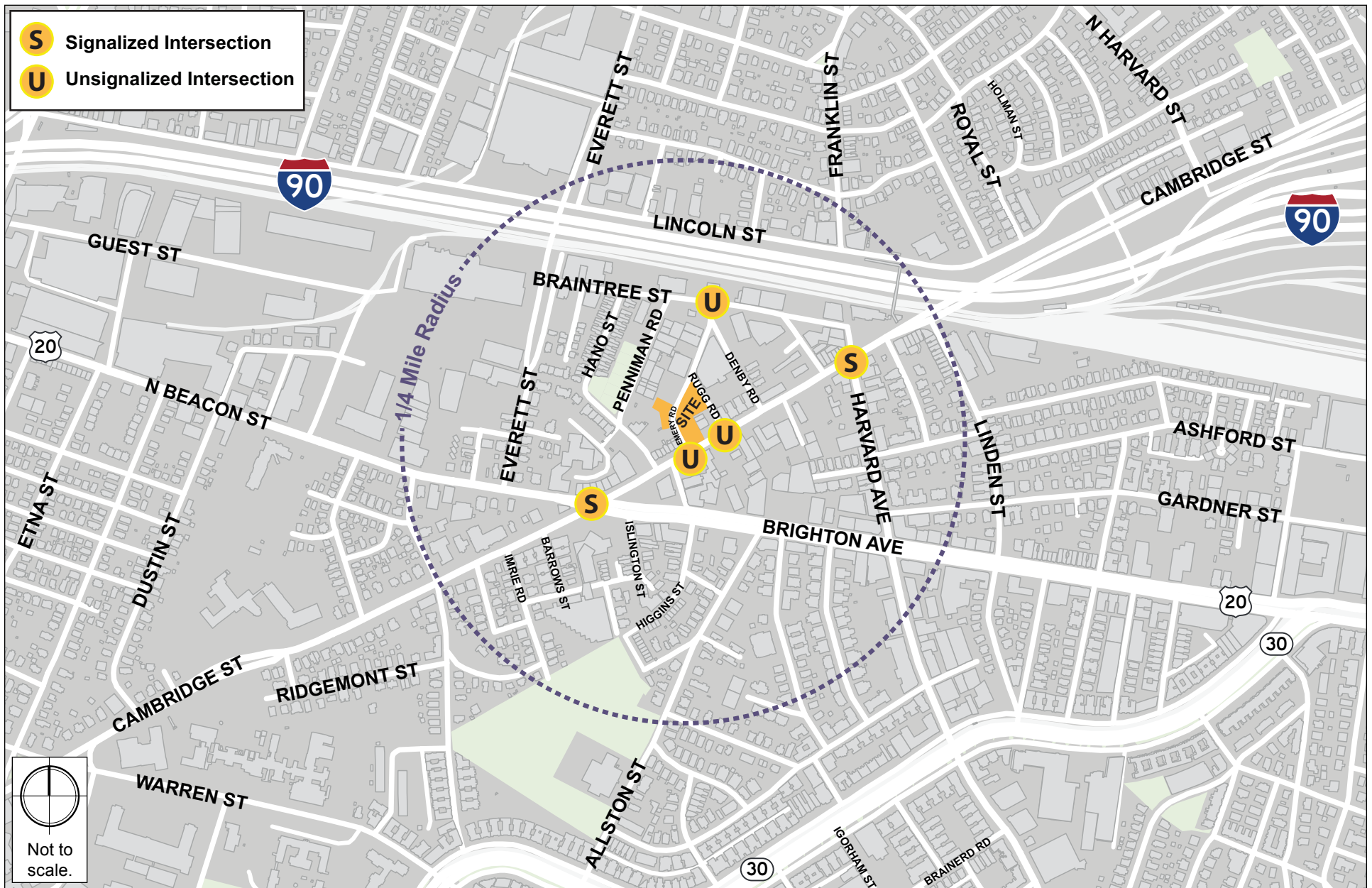
Table 3-1 Project Development Program by Building

| Land Use | 449 Cambridge Street | Emery Road |
|-------------|-------------------------|------------|
| Residential | 127 units | 39 units |
| Retail | approximately 2,400 sf | - |
| Parking | approximately 80 spaces | - |

3.1.2 Study Area

The proposed study area, shown in Figure 3-1, consists of the following five intersections in the vicinity of the Project site.

- ◆ Cambridge Street/North Beacon Street/Brighton Avenue (signalized);
- ◆ Cambridge Street/Harvard Avenue/Franklin Street (signalized);
- ◆ Cambridge Street/Emery Road (unsignalized);
- ◆ Cambridge Street/Rugg Road (unsignalized); and
- ◆ Denby Street/Braintree Street (unsignalized).



449 Cambridge Street Boston, Massachusetts

3.2 Existing Condition

This section includes a description of existing study area roadway geometries, curb usage, parking, public transportation services, and bicycles and pedestrian facilities.

3.2.1 Existing Roadway Conditions

The study area includes the following major roadways, which are categorized according to the Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning functional classifications:

Cambridge Street is a two-way roadway classified as an urban principal arterial roadway under BTD jurisdiction and generally runs in an east-west direction between Memorial Drive to the east and Washington Street to the west. Within the study area, the directions of travel are separated by a raised median, with each direction of travel consisting of two travel lanes. Within the study area, sidewalks are provided along both sides of the roadway and on-street parking is limited along the south side of the roadway.

North Beacon Street is a two-way roadway classified as an urban principal arterial under BTD jurisdiction and runs in an east-west direction between Goodenough Street and Cambridge Street. North Beacon Street provides two wide travel lanes separated by a double-yellow centerline (one lane per direction), with additional turning lanes provided at major intersections. Sidewalks are provided continuously along both sides of North Beacon Street, with marked crosswalks provided at signalized intersections.

Brighton Avenue (Route 20) is a two-way roadway classified as an urban principal arterial under BTD jurisdiction and generally runs in an east-west direction between Commonwealth Avenue to the east and Cambridge Street to the west, where it turns into North Beacon Street. The directions of travel are separated by a raised grass median, with each direction of travel consisting of two travel lanes. Within the study area, on-street parking and sidewalks are generally provided along both sides of the roadway.

Harvard Avenue is a two-way roadway classified as an urban principal arterial roadway under BTD jurisdiction and runs in a north-south direction between Cambridge Street and Washington Street. Harvard Avenue provides two wide travel lanes with sharrows separated by a double-yellow centerline (one lane per direction). Within the study area, on-street parking and sidewalks are generally provided along both sides of the roadway.

3.2.2 Existing Parking

An inventory of the existing on-street parking and car sharing services in the vicinity of the Project was collected. A description of each follows.

3.2.2.1 On-Street Parking and Curb Usage

On-street parking surrounding the Project site consists of a variety of different parking regulations including two-hour parking, private/reserved parking, unrestricted parking, and several others. The on-street parking regulations within the study area are shown in Figure 3-2.

3.2.2.2 Car Sharing Services

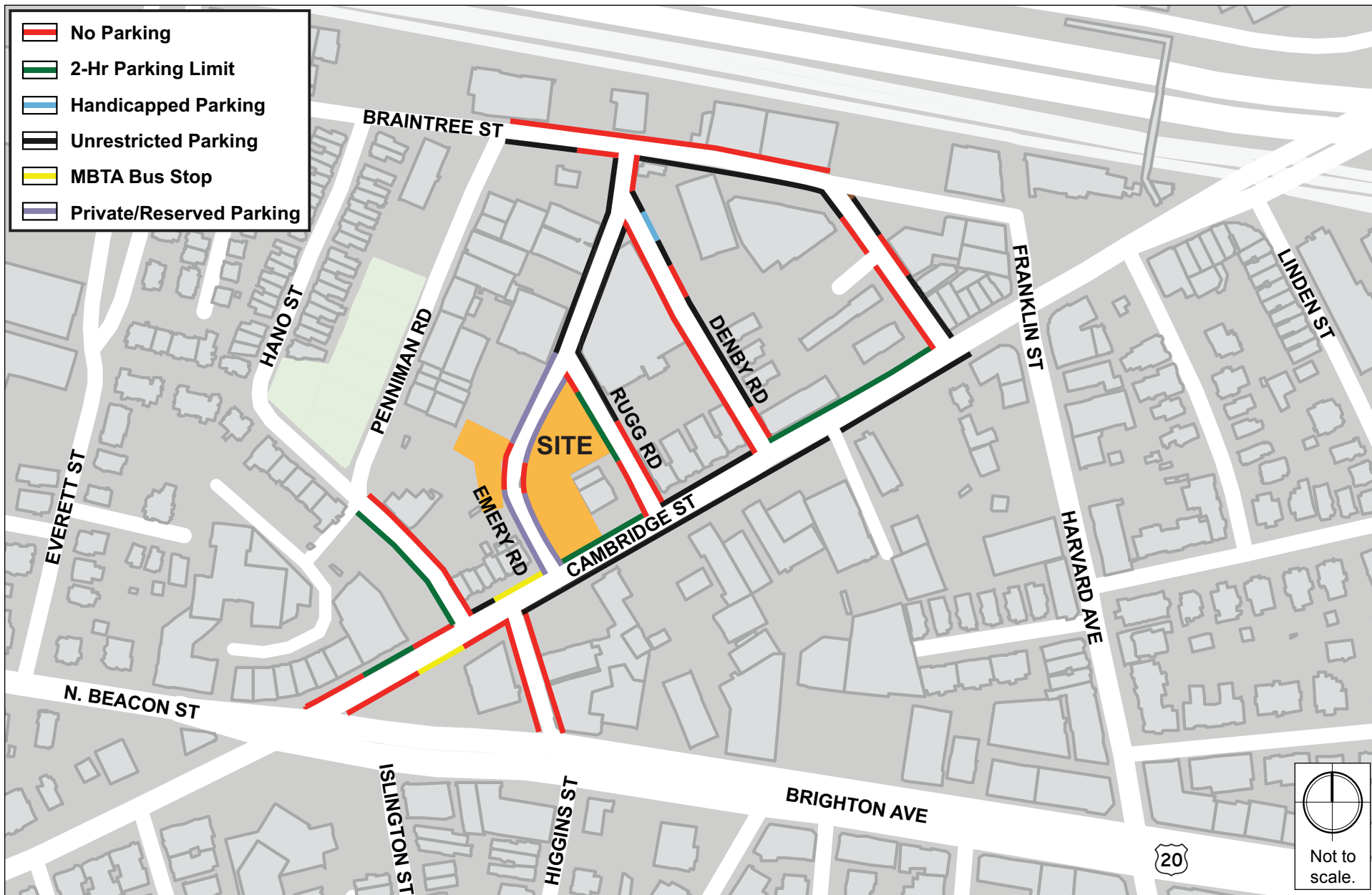
Car sharing services enable easy access to short-term vehicular transportation. Vehicles are rented on an hourly or daily basis, and all vehicle costs (gas, maintenance, insurance, and parking) are included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location. Pick-up/drop-off locations are typically in existing parking lots or other parking areas throughout neighborhoods as a convenience to users of the services. Nearby car sharing services provide an important transportation option and reduce the need for private vehicle ownership.

Zipcar is the primary car share company in the Boston car sharing market, however other companies such as Turo and Getaround also operate within the city. There are currently two Zipcar locations, one Turo location, and two Getaround locations within a five-minute walk (one-quarter mile) of the Project site. Additionally, five Zipcar locations, one Turo location, and two Getaround locations exist within a half-mile from the Project site. The nearby car sharing locations are shown in Figure 3-3.

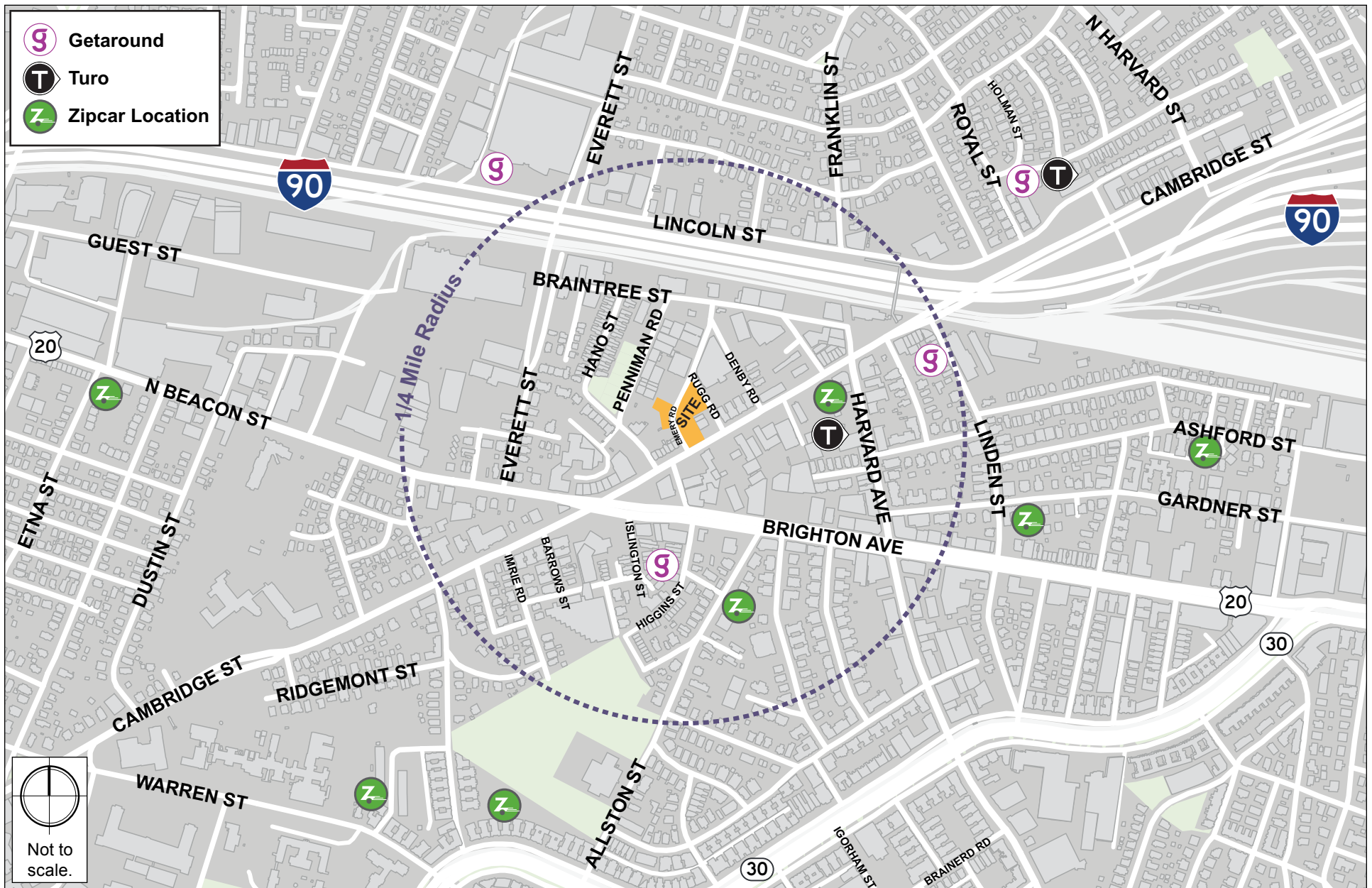
3.2.3 Existing Public Transportation Services

The Project site is in the Allston neighborhood of Boston with various public transportation options. The MBTA operates three bus routes in close proximity to the site, including two that operate along Cambridge Street adjacent to the Project site. The MBTA's Green Line B Branch and Framingham/Worcester Commuter Line at Boston Landing Station are approximately one-half-mile from the Project site.

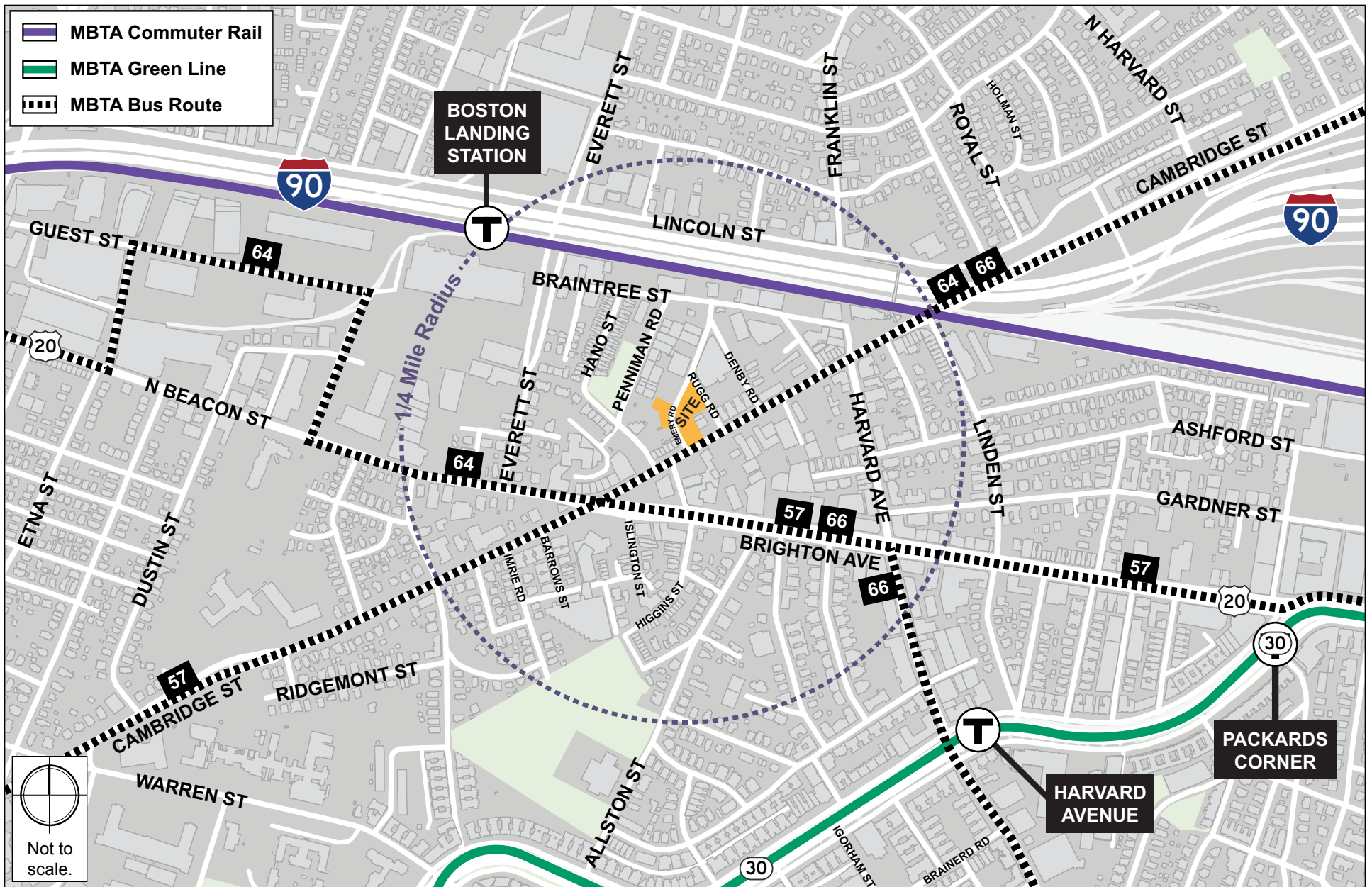
Nearby public transportation services are mapped in Figure 3-4 and listed in Table 3-2 below.



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449 Cambridge Street Boston, Massachusetts



449 Cambridge Street Boston, Massachusetts

Table 3-2 Existing Public Transportation Service Summary

| Transit Service | Description | Peak-Hour Headway (minutes)¹ |
|------------------------|---|--|
| Commuter Rail | | |
| Commuter Rail | Framingham/Worcester Line – South Station – Worcester | 35 |
| Subway Lines | | |
| Green Line B Branch | Boston College – Park Street | 6 |
| Bus Routes | | |
| 57 | Watertown Yard or Oak Square – Kenmore Station | 10 |
| 64 | Oak Square – University Park or Kendall/MIT | 20-30 |
| 66 | Harvard Square – Dudley Station | 5-10 |

¹ Headway is the scheduled time between trains or buses. Headways are approximate. Source: www.mbta.com, September 2019.

3.2.4 Existing Pedestrian and Bicycle Environment

There are sidewalks provided on both sides of the roadways within the study area. Crosswalks and ramps are provided at all study area intersections with the exception of Emery Road at Cambridge Street and Rugg Road at Cambridge Street. In recent years, bicycle use has increased dramatically throughout the City of Boston. Within the study area, there are painted bike lanes and sharrows along both sides of Cambridge Street and Harvard Avenue, and sharrows along both sides of Brighton Avenue.

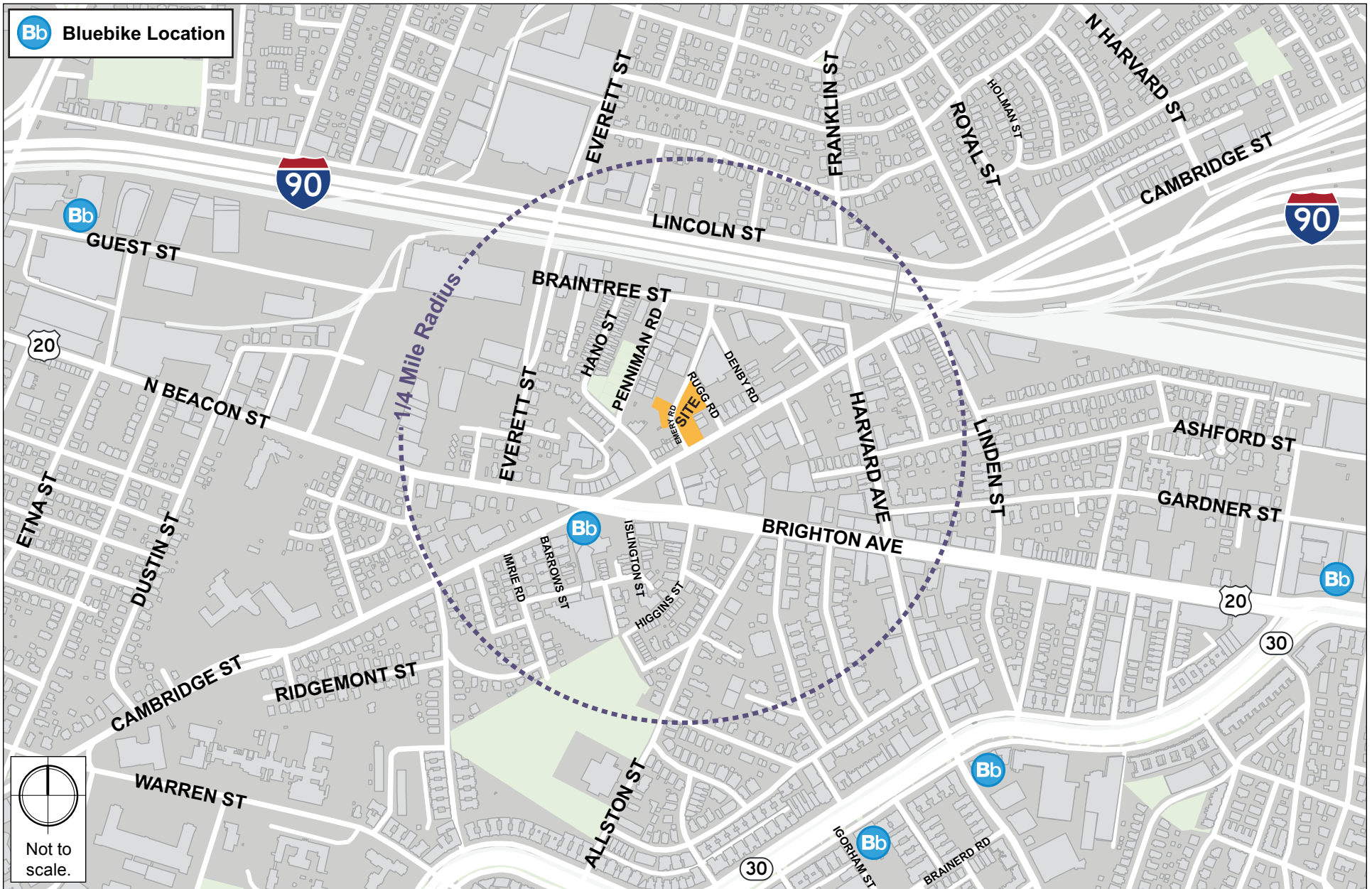
The Project site is also located in proximity to numerous bicycle-sharing stations provided by BLUEbikes (formerly Hubway). BLUEbikes is the Boston area’s largest bicycle sharing service, which was launched in 2011 and currently consists of more than 3,400 shared bicycles at more than 190 stations throughout Boston, Brookline, Cambridge, Somerville, and Everett. As shown in Figure 3-5, there is one BLUEbike station located less than a five-minute walk from the site and an additional four stations are located just outside of a quarter mile of the site.

3.3 Future Conditions

The following sections provide a summary of the future transportation conditions without and with the Project.

3.3.1 No-Build Condition

The No-Build Condition reflects a future scenario that incorporates anticipated traffic volume changes associated with two factors: background traffic growth independent of any specific project and traffic associated with other planned specific developments.



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The methodology to account for general future background traffic growth is to evaluate how traffic volumes may be affected by changes in demographics, smaller scale development projects, or projects unforeseen at this time. Based on a review of recent and historic traffic data collected and to account for any additional unforeseen traffic growth, a traffic growth rate of one-half percent per year applies to traffic volumes in the vicinity of the Project site.

The traffic volumes associated with known, larger, or adjacent development projects can affect traffic patterns throughout the study area within the future analysis time horizon. Key background development projects were identified in the vicinity of the Project site and are shown in Figure 3-6.

3.3.2 Build Condition

The Project includes the construction of two residential buildings with a total of approximately 166 units, approximately 2,400 square foot retail space on the ground floor of the 449 Cambridge Street building, and approximately 80 parking spaces.

3.3.2.1 Parking and Loading Accommodations

The Project will provide approximately 80 parking spaces for the planned 166 residential units, resulting in a parking ratio of 0.48 parking spaces per unit, which is aligned with the City's recent thinking on residential parking ratios in this area. BTD has set parking space goals and guidelines throughout the City to establish the amount of parking supply provided with new developments. BTD's maximum parking ratio guidelines for residential uses in Allston/Brighton is 1.25 spaces per unit for projects within a ten-minute walk from a MBTA station (The site is about a ten-minute walk from both the Boston Landing commuter rail station and the Harvard Avenue Green Line station.) Many residents will not own an automobile and will instead rely on transit, walking, biking, car sharing services, taxicabs, or Uber/Lyft. Additionally, the Project will follow the City of Boston's electric vehicle (EV) guidelines and provide 5% EV charging stations and 15% EV-ready spaces within the Project's parking areas.

All residential move-in/move-out activity, deliveries, and trash accommodations will occur at the internal loading dock, which will be located on Emery Road, near the corner of Rugg Road.

3.3.2.2 Trip Generation Methodology

Trip generation is a complex, multi-step process that produces an estimate of vehicle trips, transit trips, and walk/bicycle trips associated with a proposed development and a specific land use program. A project's location and proximity to different travel modes determines how people will travel to and from a site.



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To estimate the number of trips expected to be generated by the Project, data published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual*¹ were used. ITE provides data to estimate the total number of unadjusted vehicular trips associated with the Project. In an urban setting well-served by transit, adjustments are necessary to account for other travel modes such as walking, bicycling, and transit.

To estimate the unadjusted number of vehicular trips for the Project, the following ITE land use codes (LUC) were used:

Land Use Code 220 – Multifamily Housing (Low-Rise) “Residential”. Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors). Calculations of the number of trips uses ITE’s average rate per units.

ITE also provides data for mid-rise and high-rise residential buildings with more than two floors. However, the study team chose to use the trip rates associated with the Low-Rise Residential LUC which are higher, resulting in a more conservative analysis (i.e., higher impact).

Land Use Code 820 – Shopping Center “Retail”. A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center’s composition is related to its market area in terms of size, location, and type of store. Of the ITE retail categories, this one best suits the retail component proposed within the Project. Calculations of the number of trips use ITE’s average rate per 1,000 sf.

3.3.2.3 Travel Mode Shares

BTM provides vehicle, transit, and walking mode share rates for different areas of Boston. The Project is located in the eastern portion of designated Area 17 – North Allston. The unadjusted vehicular trips were converted to person-trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)². The person-trips were then distributed to different modes according to the mode shares shown in Table 3-3.

¹ Trip Generation Manual, 10th Edition; Institute of Transportation Engineers; Washington, D.C.; 2017.

² Summary of Travel Trends: 2017 National Household Travel Survey; FHWA; Washington, D.C.; July 2018.

Table 3-3 Travel Mode Shares

| Land Use | | Walk/Bicycle Share | Transit Share | Vehicle Share | Vehicle Occupancy Rate |
|-----------------------|-----|--------------------|---------------|---------------|------------------------|
| Daily | | | | | |
| Residential | In | 31% | 22% | 47% | 1.18 |
| | Out | 31% | 22% | 47% | 1.18 |
| Retail | In | 40% | 8% | 52% | 1.82 |
| | Out | 40% | 8% | 52% | 1.82 |
| a.m. Peak Hour | | | | | |
| Residential | In | 33% | 30% | 37% | 1.18 |
| | Out | 36% | 21% | 43% | 1.18 |
| Retail | In | 46% | 11% | 43% | 1.82 |
| | Out | 46% | 7% | 47% | 1.82 |
| p.m. Peak Hour | | | | | |
| Residential | In | 36% | 21% | 43% | 1.18 |
| | Out | 33% | 30% | 37% | 1.18 |
| Retail | In | 46% | 7% | 47% | 1.82 |
| | Out | 46% | 11% | 43% | 1.82 |

3.3.2.4 Existing Trip Generation

When assessing a site with existing, active land uses, it is standard practice to estimate existing trips and subtract those trips from the projected new future trips. The result of this process yields “net new” trips that become the basis for the Build Condition. While part of the Project site (west side of Emery Road) is still active with an auto tow service, much of the site is unoccupied and does not generate activity. Because the current trip generation for the Project site is relatively low, no credit (reduction) for existing trips will be taken under the Build Condition.

3.3.2.5 Project Trip Generation

The travel mode share percentages shown in Table 3-3 were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates for the Project. Vehicle trips include automobiles, taxicabs, and transportation network company (TNC) services, such as Uber and Lyft. The trip generation for the Project by travel mode is shown in Table 3-4. The detailed trip generation information is provided in Appendix B.

Table 3-4 Project Trip Generation

| Land Use/Travel Direction | | Walk/Bicycle Trips | Transit Trips | Vehicle Trips | | Total Vehicle Trips |
|------------------------------------|--------------|--------------------|---------------|---------------|-------------|---------------------|
| | | | | Private | Taxicab/TNC | |
| Daily | | | | | | |
| Residential LUC 220 – 166 units | In | 222 | 158 | 271 | 28 | 299 |
| | <u>Out</u> | <u>222</u> | <u>158</u> | <u>271</u> | <u>28</u> | <u>299</u> |
| | Total | 444 | 316 | 542 | 56 | 598 |
| Retail LUC 820 – 2,400 sf | In | 33 | 7 | 23 | 2 | 25 |
| | <u>Out</u> | <u>33</u> | <u>7</u> | <u>23</u> | <u>2</u> | <u>25</u> |
| | Total | 66 | 14 | 46 | 4 | 50 |
| Total | In | 255 | 165 | 294 | 30 | 324 |
| | <u>Out</u> | <u>255</u> | <u>165</u> | <u>294</u> | <u>30</u> | <u>324</u> |
| | Total | 510 | 330 | 588 | 60 | 648 |
| a.m. Peak Hour | | | | | | |
| Residential LUC 220 – 166 units | In | 7 | 6 | 7 | 2 | 9 |
| | <u>Out</u> | <u>25</u> | <u>15</u> | <u>25</u> | <u>2</u> | <u>27</u> |
| | Total | 32 | 21 | 32 | 4 | 36 |
| Retail LUC 820 – 2,400 sf | In | 1 | 0 | 1 | 0 | 1 |
| | <u>Out</u> | <u>1</u> | <u>0</u> | <u>1</u> | <u>0</u> | <u>1</u> |
| | Total | 2 | 0 | 2 | 0 | 2 |
| Total | In | 8 | 6 | 8 | 2 | 10 |
| | <u>Out</u> | <u>26</u> | <u>15</u> | <u>26</u> | <u>2</u> | <u>28</u> |
| | Total | 34 | 21 | 34 | 4 | 38 |
| p.m. Peak Hour | | | | | | |
| Residential LUC 220 – 166 units | In | 25 | 15 | 25 | 3 | 28 |
| | <u>Out</u> | <u>13</u> | <u>12</u> | <u>12</u> | <u>3</u> | <u>15</u> |
| | Total | 38 | 27 | 37 | 6 | 43 |
| Retail LUC 820 – 2,400 sf | In | 3 | 0 | 2 | 0 | 2 |
| | <u>Out</u> | <u>4</u> | <u>1</u> | <u>2</u> | <u>0</u> | <u>2</u> |
| | Total | 7 | 1 | 4 | 0 | 4 |
| Total | In | 28 | 15 | 27 | 3 | 30 |
| | <u>Out</u> | <u>17</u> | <u>13</u> | <u>14</u> | <u>3</u> | <u>17</u> |
| | Total | 45 | 28 | 41 | 6 | 47 |

As shown in Table 3-4, the Project will generate 330 new daily transit trips (165 in and 165 out), 21 transit trips (6 in and 15 out) during the a.m. peak hour and 28 transit trips (15 in and 13 out) during the p.m. peak hour. The Project will generate 648 daily vehicle trips (324 in and 324 out), 38 vehicle trips (10 in and 28 out) during the a.m. peak hour and 47 vehicle trips (30 in and 17 out) during the p.m. peak hour.

3.3.2.6 Trip Distribution

The trip distribution identifies the various travel paths for vehicles associated with the Project. Trip distribution patterns for the Project were based on BTB's origin-destination data for Area 17 and trip distribution patterns presented in traffic studies for nearby projects. The trip distribution patterns for the Project are illustrated in Figure 3-7 and Figure 3-8.

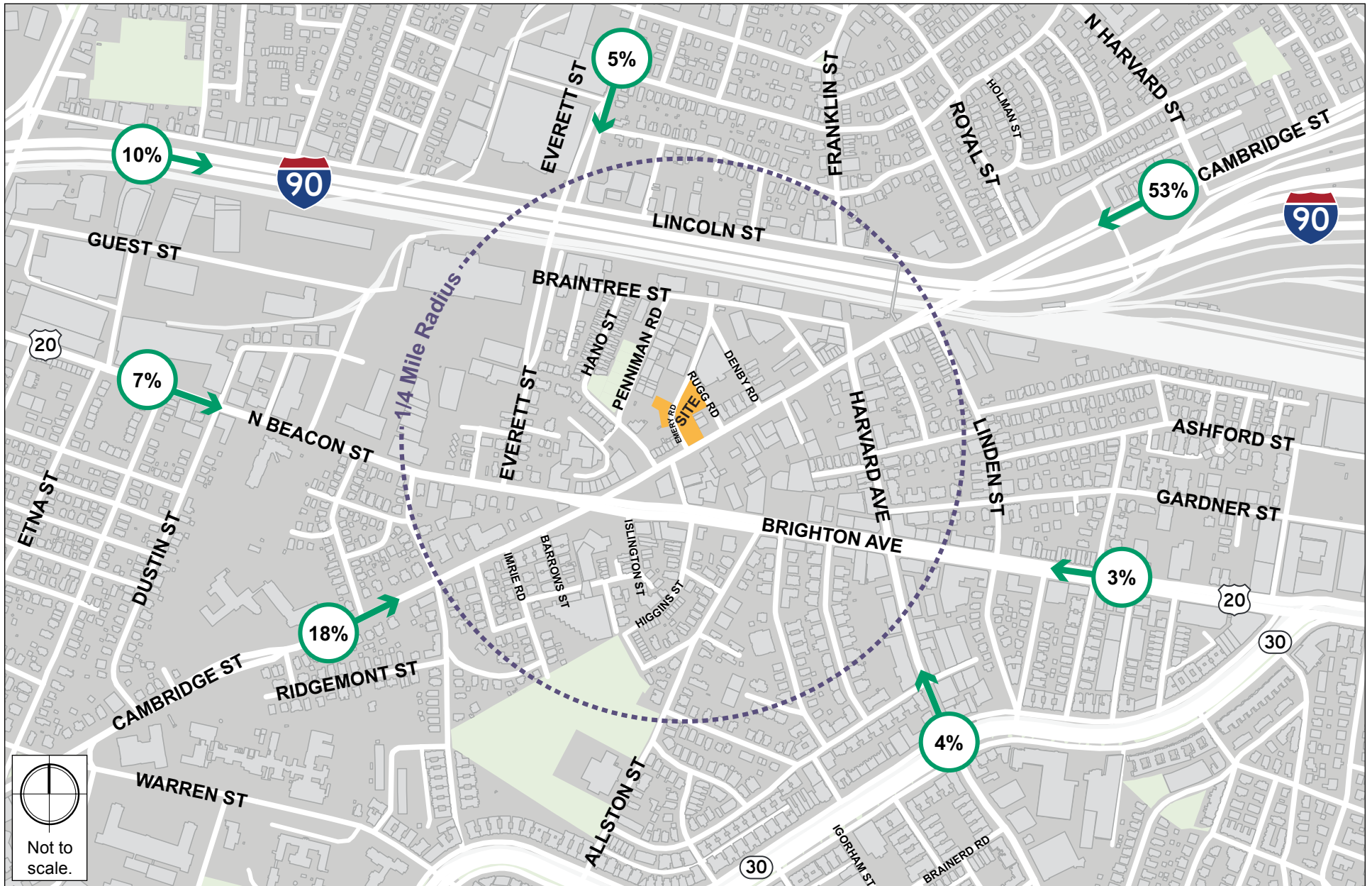
3.3.2.7 Bicycle Accommodations

Under BTB guidelines, projects that require a Transportation Access Plan Agreement (TAPA) must provide secure bicycle parking for residents and employees, as well as short-term bicycle racks for visitors. Based on BTB guidelines, the Project will provide approximately 166 secure bicycle spaces for residents (one space per residential unit) and a minimum of one secure bicycle space for employees (0.3 spaces per 1,000 sf). Additional storage will be provided by outdoor bicycle racks accessible to visitors to the site in accordance with BTB guidelines.

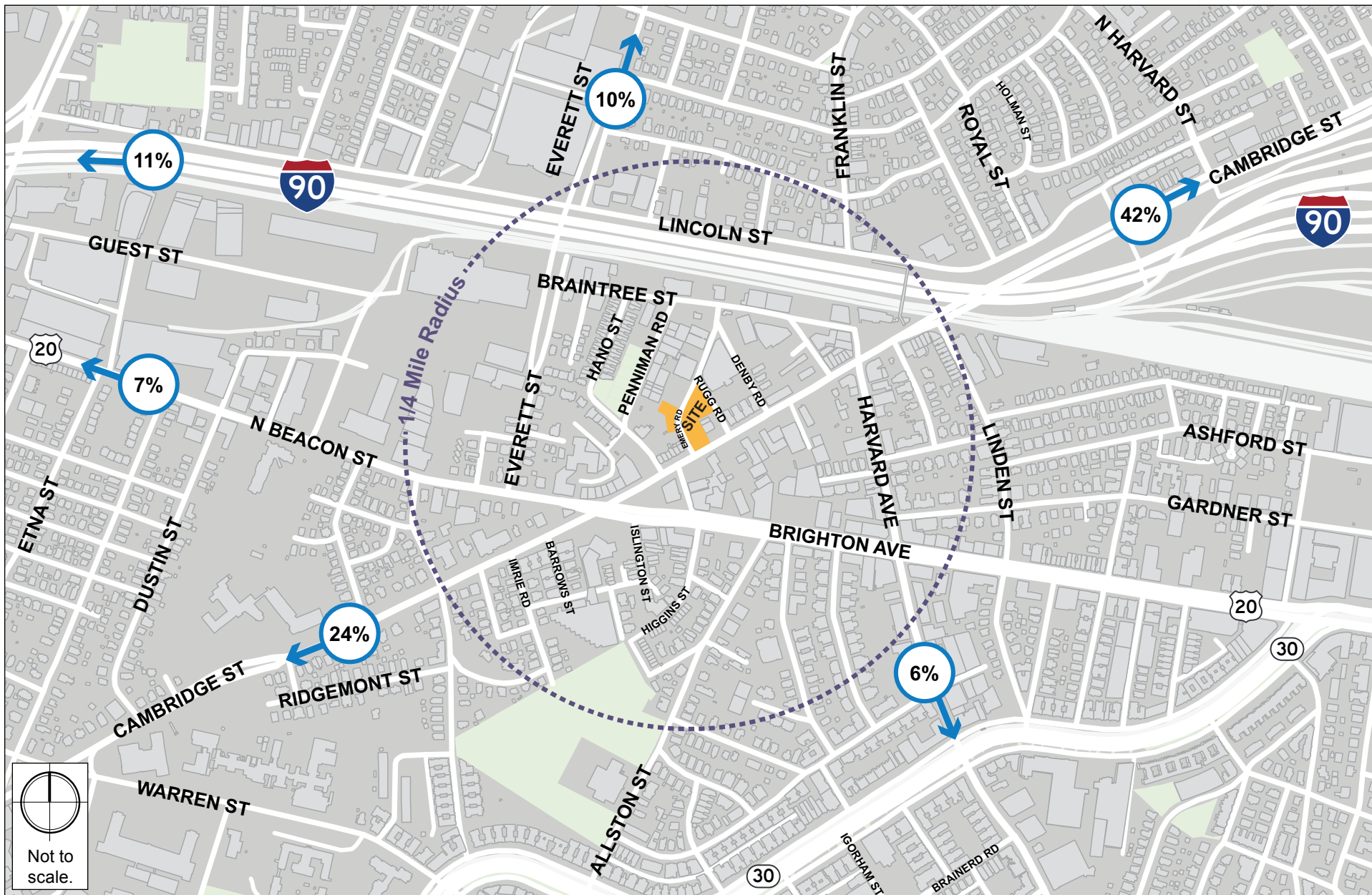
3.4 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to reduce dependence on autos. Because the Project is primarily residential, its trip generation is already lower than that of an office or retail use project. TDM will be facilitated by the nature and location of the proposed Project. The Project site's proximity to workplaces, shopping, and transit will help reduce auto use by residents and visitors alike. The Proponent is committed to implementing a TDM program that supports the City's efforts to reduce dependency on the automobile by encouraging travelers to use alternatives to driving alone, especially during peak time periods, through the following TDM commitments listed below:

- ◆ **Limited Parking:** The Project will have approximately 80 parking spaces for residents. With approximately 166 residential units, the resulting parking ratio is anticipated to be approximately 0.48 spaces per unit.
- ◆ **Electric Vehicle:** The Project will follow the City of Boston's electric vehicle (EV) guidelines and provide 5% EV charging stations and 15% EV-ready spaces within the Project's parking areas.
- ◆ **Public Transportation:** The Proponent will ensure that orientation packets containing information on the available transportation choices are provided to residents. The new commercial tenant leases will contain language to encourage tenants to promote public transportation and encourage subsidizing employee use of public transit.



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- ◆ **Bicycle Spaces:** Secure bicycle storage will be made available to tenants and visitors to encourage bicycling as an alternative mode of transportation. In accordance with BTB guidelines, the Proponent will provide 166 secure/covered bicycle parking spaces as well as outdoor bicycle racks. Bicycle racks, signs, and parking areas will conform to BTB standards and be sited in safe, secure locations.
- ◆ **Transportation Coordinator:** The Proponent will designate a transportation coordinator to manage loading and service activities and provide alternative transportation materials to residents.

The Proponent and BTB will enter into a Transportation Access Plan Agreement. The TAPA will codify the specific measures and agreements between the Proponent and the City of Boston.

3.5 Evaluation of Short-term Construction Impacts

The Proponent will also produce a Construction Management Plan (CMP) for review and approval by BTB. The CMP will detail the schedule, staging, parking, delivery, and other associated impacts of the construction of the Project.

The CMP to be executed with the City prior to commencement of construction and will document all committed measures.

Chapter 4.0

Assessment of Development Review Components

4.0 ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS

This chapter provides detailed green building strategies, as well as discussions and qualitative analyses of other environmental impacts related to the Project.

4.1 Environmental Protection

4.1.1 Wind

The Project will have a maximum building height of approximately 68 feet, and will be similar in height to the BPDA approved 40 Rugg Road project to the north of the Project site. The similar building heights, along with new street trees, are anticipated to minimize pedestrian wind impacts as a result of the Project. Further wind study is seldom necessary for buildings at this scale.

4.1.2 Shadow

The buildings are being designed to minimize new shadows on open spaces, sitting areas or pathways. There are no public open spaces adjacent to the Project site. The Proponent will conduct a shadow study for the Project and report the results in the Draft PIR.

4.1.3 Daylight

The purpose of a daylight analysis is to estimate the extent to which a proposed project affects the amount of daylight reaching public streets in the immediate vicinity of a project site. The daylight obstruction related to the Project is anticipated to be similar to daylight obstruction on streets in the surrounding area. Further daylight study is seldom necessary for buildings at this scale.

4.1.4 Solar Glare

It is not anticipated that the Project will include the use of reflective glass or other reflective materials on the building facades that would result in adverse impacts from reflected solar glare.

4.1.5 Air Quality

Potential long-term air quality impacts will be limited to emissions from Project-related mechanical equipment and pollutant emissions from vehicular traffic generated by the Project. Depending upon the results of the transportation analysis, the potential air quality impacts will be modeled for both existing and future conditions in the Draft PIR to demonstrate conformance with the National Ambient Air Quality Standards (NAAQS).

Construction period air quality impacts and mitigation are discussed below in Section 4.1.10.1.

4.1.6 Flood Hazard Zones/Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the Project Site located in the City of Boston - Community Panel Number 25025C0057G indicates the FEMA Flood Zone Designations for the Project Site. The map shows that the Project is located in a Zone X Area determined to be outside the 0.2% annual chance floodplain.

The Project Site does not contain wetlands.

4.1.7 Geotechnical/Groundwater

This section describes existing site subsurface soil and groundwater conditions, and planned foundation construction for the Project. The Project site is currently occupied by one- to two-story industrial/commercial buildings and paved areas. The site consists of two parcels, divided by Emery Road.

The larger lot is bounded by Cambridge Street, Emery Road (a private way open to public travel) and Rugg Road. This lot contains three buildings of various ages and uses. The businesses include autobody and repair and vacant commercial space. The smaller lot is located to the northwest and consists of a paved lot. The Project site generally slopes from a high point at Cambridge Street and down towards the northeast and northwest. The northeast portion of the site is approximately 12 feet below Cambridge Street grades.

4.1.7.1 Subsurface Soil and Bedrock Conditions

Site and subsurface conditions at the Project site are based on review of available geologic information for the site and surrounding area from readily available sources. The site was generally filled to level the site to current grades. A subsurface investigation is planned during future design phases. The available data generally indicates the following sequence of subsurface units in order of increasing depth below ground surface:

Table 4.1-1 Subsurface Soil and Bedrock Conditions

| Stratum/Subsurface Unit | Estimated Depth to Top of Stratum (ft) | Estimated Thickness (ft) |
|--------------------------------|---|---------------------------------|
| Fill Soils | 0 | 9 - 15 |
| Fluvial Sand | 9 - 15 | 10 - 20 |
| Marine Sand and Clay Deposits | 20 - 40 | 20 - 30 |
| Glacial Till | 40 - 50 | 10 - 20 |
| Bedrock | Possible 60 to 100 | N/A |

4.1.7.2 Groundwater Conditions

Groundwater levels were reported in 2017 at shallow depths, of four to 15 feet below the ground surface. The groundwater level at the site likely follows the ground surface variation and slopes down to the northeast and northwest. Variations in groundwater level are possible as groundwater levels are influenced by precipitation, local construction activities, and leakage into and out of utilities and other below-grade structures.

The Project site is not located within the limits of the Groundwater Conservation Overlay District (GCOD) and therefore is not subject to Article 32 of the Code.

4.1.7.3 Foundation Construction

It is anticipated that the Project will be supported on either a shallow footing bearing on the natural, inorganic Fluvial sand deposits, or on improved ground, or pile foundations bearing in the deeper Fluvial sand or Marine Deposits. Selection of the foundation type will depend on thickness of fill, and depth to suitable bearing soils encountered within the new building footprints, and new building column loads. Foundation construction work will be undertaken in consideration of any environmentally impacted soil or groundwater identified at the site. Excavations are expected to be 10 feet or less, for construction of the basement parking. Excavations will be completed adjacent to City streets and a support of excavation system will be employed along the site perimeter as necessary to retain soils and complete foundation construction.

Limited temporary construction dewatering to lower existing groundwater levels to conduct work in the dry is expected to be required. Temporary construction dewatering for the project will include local sumps to collect excess groundwater and discharged to the site stormwater system. Off-site discharge of dewatering effluent will be undertaken in accordance with applicable permits. There are no known sensitive wood pile supported buildings nearby requiring special consideration.

Foundation construction will be limited to shallow excavation for footing or pile caps. Performance criteria will be developed, and a monitoring program will be implemented to mitigate off site impacts. The monitoring program will include vibration monitoring during at any sensitive nearby facilities during vibration generating activities. Other off-site impacts from planned foundation construction are considered negligible.

4.1.8 Solid and Hazardous Wastes

4.1.8.1 Existing Hazardous Waste Conditions

Based on current and historical industrial and automotive uses on the Project site and in the surrounding area, a Phase I and Phase II Environmental Site Assessment was completed at the property by EBI Consulting in 2017. The environmental site assessment included sampling and analytical testing of soil and groundwater. Results indicated levels of oil and hazardous materials consistent with past site usage.

Future construction at the Project site and any necessary Response Actions will be conducted in accordance with the Massachusetts Contingency Plan (MCP) at 310 CMR 40.000, under the direction of a Licensed Site Professional (LSP). Characterization and management of soil and groundwater will be conducted in accordance with applicable regulations and necessary permits.

4.1.8.2 Operational Solid and Hazardous Wastes

The Project will generate solid waste typical of residential and retail uses. Solid waste is expected to include wastepaper, cardboard, glass bottles and food. Recyclable materials will be recycled through a program implemented by building management. The Project will generate approximately 149 tons of solid waste per year.

The Project will include recycling areas for items such as paper, plastic, glass, and metal cans.

4.1.9 Noise

The mechanical equipment for the Project will be typical for similarly sized residential buildings. Rooftop equipment will be screened if necessary, and acoustic screening will be included if necessary to meet City noise regulations. The Project team will ensure that the building's mechanical equipment will meet the City of Boston Noise Standards.

Construction period noise impacts and mitigation are discussed below in Section 4.1.10.2.

4.1.10 Construction Impacts

The proximity of public streets and abutting commercial properties to the Project Site will require careful scheduling of material removal and delivery. Planning with the City and neighborhood will be essential to the successful development of the Project.

As noted above, a Construction Management Plan will be submitted to the BTD for review and approval prior to issuance of a building permit. The CMP will define truck routes which will help in minimizing the impact of trucks on local streets.

Construction methodologies that ensure public safety and protect nearby businesses will be employed. Techniques such as barricades, walkways, painted lines, and signage will be used as necessary. Construction management and scheduling including plans for construction worker commuting and parking, routing plans and scheduling for trucking and deliveries, protection of existing utilities, maintenance of fire access, and control of noise and dust will minimize impacts on the surrounding environment.

Throughout Project construction, a secure perimeter will be maintained to protect the public from construction activities.

4.1.10.1 Construction Air Quality

Short-term air quality impacts from fugitive dust may be expected during demolition, excavation and the early phases of construction. Plans for controlling fugitive dust during demolition, excavation and construction include mechanical street sweeping, wetting portions of the Project Site during periods of high wind, and careful removal of debris by covered trucks. The construction contract will provide for a number of strictly enforced measures to be used by contractors to reduce potential emissions and minimize impacts. These measures are expected to include:

- ◆ Using wetting agents on areas of exposed soil on a scheduled basis;
- ◆ Using covered trucks;
- ◆ Minimizing spoils on the construction site;
- ◆ Monitoring of actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized;
- ◆ Minimizing storage of debris on the site; and
- ◆ Periodic street and sidewalk cleaning with water to minimize dust accumulations.

4.1.10.2 Construction Noise

The Proponent is committed to mitigating noise impacts from the construction of the Project. Periodic increased community sound levels, however, are an inherent consequence of construction activities. Construction work will comply with the requirements of the City of Boston Noise Ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities, including:

- ◆ Instituting a proactive program to ensure compliance with the City of Boston noise regulations;
- ◆ Using appropriate mufflers on all equipment and ongoing maintenance of intake and exhaust mufflers;

- ◆ Muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- ◆ Replacing specific construction operations and techniques by less noisy ones where feasible;
- ◆ Selecting the quietest of alternative items of equipment where feasible;
- ◆ Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- ◆ Turning off idling equipment; and
- ◆ Locating noisy equipment at locations that protect sensitive locations by shielding or distance.

4.1.10.3 Construction Waste Management

The Proponent will reuse or recycle demolition and construction materials to the greatest extent feasible. Construction procedures will allow for the segregation, reuse, and recycling of materials. Materials that cannot be reused or recycled will be transported in covered trucks by a contract hauler to a licensed facility.

4.1.11 Rodent Control

A rodent extermination certificate will be filed with the building permit application to the City. Rodent inspection monitoring and treatment will be carried out before, during, and at the completion of all construction work for the Project, in compliance with the City's requirements. Rodent extermination prior to work commencement will consist of treatment of areas throughout the Project Site.

4.1.12 Wildlife Habitat

The Project Site is currently developed within a fully developed urban area. Consequently, the Project will not impact wildlife habitats as designated on the National Heritage and Endangered Species Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife maps.

4.2 Sustainable Design and Green Buildings

The Project site is a previously developed site in an urban neighborhood. It is located near public transportation with access to multiple bus routes and the MBTA Commuter Rail at Boston Landing Station. Access to the Massachusetts Turnpike Extension is also close, connecting the Project to additional major transportation arteries by automobile. In this way, the Project supports Smart Growth objectives.

The Proponent intends to include environmentally conscious strategies throughout the Project that will benefit residents, owners and tenants. The Project team will explore viable opportunities in energy conservation and sustainable design throughout the duration of the design process in order to determine which strategies suitable for integration into the final development documents and building.

The 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 the common areas and units, low flush and flow plumbing fixtures, building energy management systems, and healthy interior environments are a few of the sustainability measures the team is considering including in the design of the building.

Article 37 of the Code requires new building projects to be designed to meet the compliance level of LEED certifiable in alignment with the applicable LEEDv4 rating system. The Project will use the USGBC LEED for New Construction (“LEED-NC”) v4 rating system as guidance to demonstrate compliance with Article 37 (i.e., LEED certifiable); it will meet the prerequisites and a minimum of 40 LEED credit points. The narrative below summarizes the sustainable design approach for the buildings. A preliminary checklist is included at the end of this section.

Integrative Process

The Project team plans to meet regularly to ensure the individual members from consulting firms involved are collaborating and communicating. Sustainable design focused workshops will be held early on to assist the team in establishing shared sustainable design and energy efficiency goals for the Project. As the design progresses, there will be multiple sustainable design focused workshops to ensure the entire team is engaged throughout the design and construction process.

The Project team will meet with Eversource and National Grid to discuss the incentive programs and potential Energy Conservation Measures for the Project.

Location and Transportation

The Project site is located within the vibrant Allston neighborhood of Boston. It is within easy walking distance of multiple modes of public transportation. There are several bus stops located within 0.25 miles of the Project site and the MBTA Boston Landing station is approximately 0.5-mile walking distance from the site.

Building residents will have access to structured, below-grade parking with parking spaces allocated for electric vehicle (“EV”) charging stations. There are approximately 80 parking spaces provided for residents of both buildings.

The Project includes wide sidewalks and paved pathways to support pedestrian safety. Exterior short-term bike storage for visitors and retail patrons will be provided at locations within the Project site. Residents will have access to enclosed secure bike storage areas within the parking structure. Boston has reduced the speed limit on all City streets to 25 mph which qualifies them to be safe for cyclists with or without a designated bike lane.

The immediate neighborhood provides a wide variety of services with pedestrian and cyclist access including restaurants, grocery stores, banks, and shops. The Project site currently has a Walk Score of 93 making it a “Walker’s Paradise.”

Sustainable Sites

The Project site is composed of previously developed parcels in a densely developed Boston neighborhood. The Project site is designated as a HUD Qualified Census Tract.

The Project is designed to incorporate pervious and open spaces through landscaping, and shared open space, pedestrian-oriented streetscapes and an outdoor terrace. The inclusion of these permeable areas helps reduce rainwater runoff and contain it on site. The project will also be designed to minimize its impact on light pollution in the night sky by specifying exterior light fixtures with compliant backlight-uplight-glare ratings

A proposed stormwater management plan will be developed to address the rate, runoff, and quality of the site rainwater. The Project will be designed to meet BWSC and MassDEP stormwater management requirements. Project benefits may include, but are not limited to, improving stormwater quality, reducing stormwater runoff volume, and controlling peak rates of runoff by incorporating new stormwater management and treatment systems on site. Stormwater runoff from the site is expected to be treated to remove suspended solids prior to being released into the City system.

Water Efficiency

The Project will reduce potable water use for both sewage conveyance and irrigation needs. The Project team will specify low-flow/high-efficiency domestic and commercial plumbing fixtures and will exceed a 20-percent annual potable water use reduction for interior water use and sewage conveyance.

The on-grade landscaped areas will include a mixture of drought tolerant trees, shrubs, and groundcover that grow well in an urban environment. The irrigation system will be designed to use 50-percent less potable water when compared to a mid-summer baseline.

Energy and Atmosphere

The Project will be designed with high-efficiency building systems and a high-performance building envelope. Alternative energy strategies that may be considered for further investigation include photovoltaic arrays and co-generation.

The proposed HVAC system designs for the building may include vertical stack water source heat pumps and a central plant for ventilation air and hot/chilled water distribution.

Refrigerants with low global warming and ozone depleting potential will be specified for use in applicable building systems equipment.

The building, including the parking structure, will target lighting power densities 10-20 percent below code through the use of LED lighting and lighting controls systems.

Once the design has progressed into schematic design, early energy modeling will be used to conduct energy assessments to ensure the proposed designs meets both the State Stretch Energy Code and LEEDv4 prerequisite criteria. The Stretch Code compliance model will be compared to an ASHRAE 90.1-2013 baseline and the LEED model will be compared to the ASHRAE 90.1-2010 baseline.

Additionally, the Proponent will engage a Commissioning Agent (CxA) to perform fundamental commissioning services including providing reviews of design documents. The CxA may be engaged to include an enhanced commissioning scope of work. The CxA will continue through construction and ultimately confirm the building systems are installed and function as intended and desired.

Materials and Resources

The Proponent will specify materials and products that are environmentally responsible and are transparent regarding the harvest and/or extraction of raw materials and the manufacturing processes. The Project team will endeavor to specify materials and products with compliant environmental and health product declarations to reduce the impact of the Project on the environment overall.

Waste management will be addressed both during construction and post occupancy. The construction manager will implement a construction waste management plan to divert a minimum of 50-75 percent of the construction waste and demolition debris comprised of at least four different waste streams.

Post occupancy collected recyclables will be accommodated in a central location. Residents will bring their recyclables to a central storage room. The buildings may incorporate trash and recycling chutes on each floor. A contracted waste management company will pick up the collected recyclables on a regular basis.

Indoor Environmental Quality

The Project will have a healthy interior environment through the use of low VOC-containing interior construction and finish materials and an efficient ASHRAE 62.1 compliant ventilation system. The buildings will be non-smoking and no smoking will be allowed within 25 feet of the buildings, including on residential terraces and occupied roofscapes.

The construction manager will be required to implement a compliant Indoor Air Quality Management Plan for the construction and pre-occupancy phases of the Project.

The building envelope designs include large areas of vision glazing with ample access to daylight and views for the residential units.

The residential building thermal comfort systems and controls will be designed to meet the requirements of ASHRAE 55-2010 for all applicable mechanically ventilated regularly occupied spaces.

Innovation in Design

The Project team will explore innovative approaches to design, construction, operations, and maintenance including low mercury lighting, public outreach/education, an integrated pest management policy, and green housekeeping.

Regional Priorities

Applicable regional priority credits for the Project may include:

- ◆ SS High Priority Site (2 point [pt] threshold)
- ◆ SS Rainwater Management (2 pt threshold)
- ◆ Indoor Water Use Reduction (4 pt threshold)
- ◆ EA Renewable Energy Production (2 pt threshold)
- ◆ EA Optimize Energy Performance (8 pt threshold)

4.3 Climate Change Resilience

4.3.1 Introduction

Climate change conditions considered by the Project team include higher maximum and mean temperatures, more frequent and longer extreme heat events, more frequent and longer droughts, more severe freezing rain and heavy rainfall events, and increased wind gusts.

A copy of the completed Climate Resiliency Checklist is included in Appendix C. Given the preliminary level of design, the responses are also preliminary and will be updated as the Project design progresses.



LEED v4 for BD+C: New Construction and Major Renovation
Project Checklist

Project Name: Anchor Line Residential
Date: 10.10.19

| Y | ? | N | | |
|---|---|---|----------------------------|----------|
| 0 | 1 | 0 | Integrative Process | 1 |
| | 1 | | Credit Integrative Process | 1 |

| Y | ? | N | | |
|----|---|---|---|-----------|
| 14 | 1 | 1 | Location and Transportation | 16 |
| | | x | Credit LEED for Neighborhood Development Location | 16 |
| 1 | | | Credit Sensitive Land Protection | 1 |
| 1 | 1 | | Credit <u>High Priority Site</u> | 2 |
| 5 | | | Credit Surrounding Density and Diverse Uses | 5 |
| 4 | | 1 | Credit Access to Quality Transit | 5 |
| 1 | | | Credit Bicycle Facilities | 1 |
| 1 | | | Credit Reduced Parking Footprint | 1 |
| 1 | | | Credit Green Vehicles | 1 |

| Y | ? | N | | |
|---|---|---|--|-----------|
| 5 | 2 | 3 | Sustainable Sites | 10 |
| Y | | | Prereq Construction Activity Pollution Prevention | Required |
| 1 | | | Credit Site Assessment | 1 |
| | | 2 | Credit Site Development - Protect or Restore Habitat | 2 |
| 1 | | | Credit Open Space | 1 |
| | 2 | 1 | Credit <u>Rainwater Management</u> | 3 |
| 2 | | | Credit Heat Island Reduction | 2 |
| 1 | | | Credit Light Pollution Reduction | 1 |

| Y | ? | N | | |
|---|---|---|--|-----------|
| 5 | 0 | 6 | Water Efficiency | 11 |
| Y | | | Prereq Outdoor Water Use Reduction | Required |
| Y | | | Prereq Indoor Water Use Reduction | Required |
| Y | | | Prereq Building-Level Water Metering | Required |
| 1 | | 1 | Credit Outdoor Water Use Reduction | 2 |
| 3 | | 3 | Credit <u>Indoor Water Use Reduction</u> | 6 |
| | | 2 | Credit Cooling Tower Water Use | 2 |
| 1 | | | Credit Water Metering | 1 |

| Y | ? | N | | |
|---|----|----|---|-----------|
| 6 | 11 | 16 | Energy and Atmosphere | 33 |
| Y | | | Prereq Fundamental Commissioning and Verification | Required |
| Y | | | Prereq Minimum Energy Performance | Required |
| Y | | | Prereq Building-Level Energy Metering | Required |
| Y | | | Prereq Fundamental Refrigerant Management | Required |
| 3 | 2 | 1 | Credit Enhanced Commissioning | 6 |
| 3 | 7 | 8 | Credit Optimize Energy Performance | 18 |
| | | 1 | Credit Advanced Energy Metering | 1 |
| | | 2 | Credit Demand Response | 2 |
| | 1 | 2 | Credit Renewable Energy Production | 3 |
| | 1 | | Credit Enhanced Refrigerant Management | 1 |
| | | 2 | Credit Green Power and Carbon Offsets | 2 |

| Y | ? | N | | |
|---|---|---|---|-----------|
| 3 | 2 | 8 | Materials and Resources | 13 |
| Y | | | Prereq Storage and Collection of Recyclables | Required |
| Y | | | Prereq Construction and Demolition Waste Management Planning | Required |
| | 1 | 4 | Credit Building Life-Cycle Impact Reduction | 5 |
| 1 | | 1 | Credit Building Product Disclosure & Optimization: Environmental Product Declarations | 2 |
| | | 2 | Credit Building Product Disclosure & Optimization: Sourcing of Raw Materials | 2 |
| 1 | | 1 | Credit Building Product Disclosure & Optimization: Material Ingredients | 2 |
| 1 | 1 | | Credit Construction and Demolition Waste Management | 2 |

| Y | ? | N | | |
|---|---|---|--|-----------|
| 7 | 1 | 8 | Indoor Environmental Quality | 16 |
| Y | | | Prereq Minimum Indoor Air Quality Performance | Required |
| Y | | | Prereq Environmental Tobacco Smoke Control | Required |
| 2 | | | Credit Enhanced Indoor Air Quality Strategies | 2 |
| 1 | 1 | 1 | Credit Low-Emitting Materials | 3 |
| 1 | | | Credit Construction Indoor Air Quality Management Plan | 1 |
| | | 2 | Credit Indoor Air Quality Assessment | 2 |
| 1 | | | Credit Thermal Comfort | 1 |
| 1 | | 1 | Credit Interior Lighting | 2 |
| | | 3 | Credit Daylight | 3 |
| 1 | | | Credit Quality Views | 1 |
| | | 1 | Credit Acoustic Performance | 1 |

| Y | ? | N | | |
|---|---|---|-------------------------------------|----------|
| 5 | 1 | 0 | Innovation | 6 |
| 4 | 1 | | Credit Innovation | 5 |
| 1 | | | Credit LEED Accredited Professional | 1 |

| Y | ? | N | | |
|---|---|---|---|----------|
| 0 | 1 | 3 | Regional Priority (credit names have been underlined) | 4 |
| | | 1 | Credit <u>Regional Priority: Renewable Energy Production (2 points)</u> | 1 |
| | 1 | | Credit <u>Regional Priority: Optimize Energy Performance (8 points)</u> | 1 |
| | | 1 | Credit <u>Regional Priority: High Priority Site (2 points)</u> | 1 |
| | | 1 | Credit <u>Regional Priority: Rainwater Management (2 points) OR Indoor Water Use Reduction (4 points)</u> | 1 |

| Y | ? | N | | |
|----|----|----|---------------|-----------------------------|
| 45 | 20 | 45 | TOTALS | Possible Points: 110 |

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

4.3.2 Extreme Heat Events

The *Climate Ready Boston* report predicts that in Boston, there may be between 25 to 90 days with temperatures over 90 degrees by 2070, compared to an average of 11 days per year over 90 degrees between 1971 and 2000. The Project design will include measures to adapt to these conditions, including providing new landscaping that will reduce the urban heat island effect, using reflective roof materials, constructing a high-performance building envelope, and including operable windows where possible.

4.3.3 Rain Events

As a result of climate change, the Northeast is expected to experience more frequent and intense storms. To mitigate this, the Proponent will take measures to minimize stormwater runoff and protect the Project's mechanical equipment, as necessary. The existing Project site is nearly entirely impervious and the Project will reduce the amount of impervious area, which will reduce stormwater runoff on the site. The Project will be designed to reduce the existing peak rates and volumes of stormwater runoff from the site, and promote runoff recharge to the greatest extent practicable.

4.3.4 Drought Conditions

Although more intense rain-storms are predicted, extended periods of drought are also predicted due to climate change. Under the high emissions scenario, the occurrence of droughts lasting one to three months could go up by as much as 75% over existing conditions by the end of the century. To minimize the Project's susceptibility to drought conditions, the landscape design is anticipated to incorporate native and adaptive plant materials and high efficiency irrigation systems will be installed. Aeration fixtures and appliances will be chosen for water conservation qualities, thereby conserving potable water supplies.

4.4 Urban Design

4.4.1 Cambridge Street Component

The Cambridge Street component will be seven stories in total, but due to the slope across the site, it will appear to be a six-story building when viewed from Cambridge Street, and seven stories when viewed from Emery and Rugg roads. The main residential entry will be at the corner of Cambridge Street and Emery Road, with a ground floor retail space to the east of the entry. Both the residential lobby and retail space will be two stories, and will be highly transparent, bringing activity and engagement to the Cambridge Street frontage (see Figure 4.4-1).

The parking structure will be wrapped with as much active space as possible, with two-story townhouses wrapping the building at the corner of Rugg and Emery roads (see Figure 4.4-2). The townhouses will introduce windows and multiple entries to this corner and will complement



449 Cambridge Street Boston, Massachusetts

Perkins&Will

Figure 4.4-1
View from Corner of Cambridge Street and Emery Road



449 Cambridge Street Boston, Massachusetts

Perkins&Will

Figure 4.4-2
View from Corner of Emery Road and Rugg Road

the new streetscape planned as part of the 40 Rugg Road project to the north of the Project site. Parking and loading entries will be located on Emery Road. The Project proposes to improve the streetscape, including by installing broad sidewalks, and a planting zone. An outdoor amenity space on the second-floor overlooks Rugg Road, and colorful exterior balconies are carved from the building massing to introduce activity and scale in a playful fashion that is complementary to the diverse and eclectic Allston neighborhood (see Figure 4.4-3).

4.4.2 *Emery Road Component*

The smaller parcel on Emery Road is designed as a “younger sibling” to the larger building on Cambridge Street. This building employs a similarly playful approach to massing that incorporates carved out balconies, and will feature a concave façade that elegantly follows the curved shape of the road (see Figures 4.4-4 and 4.4-5). Being on less active street, this building does not include retail space, but rather a discreet lobby entry, ground level apartments, and both shared and private outdoor spaces on the ground floor.

4.4.3 *Evolution of Design*

Due to the dimensions of the Project site, there are limited options regarding the layout of the residential floors. At the lower levels however, many alternatives were studied which focused on entry points for parking and loading, and screening of parking levels. Early iterations of the design had two levels of parking exposed to the street on both Emery and Rugg roads, with an artistic approach to screening this parking. Later iterations resulted in a reconfiguration of the garage to accommodate an active use at the corner of Rugg and Emery roads, and later this was further refined to include to a series of townhouses that would further activate Emery Street with multiple front entries and windows. A streetscape designed in conjunction with the upcoming development of 40 Rugg Road was designed to create a cohesive and much improved streetscape. Initial designs also had the building reaching the property line on Cambridge Street, but this façade has been pushed back to create a more generous public realm.

4.5 *Historic and Archaeological Resources*

4.5.1 *Historic Resources on the Project Site*

There are no historic resources located within the Project site that are listed in the State and National Registers of Historic Places or included in the Inventory of Historic and Archaeological Assets of the Commonwealth.

4.5.2 *Historic Resources in the Project Vicinity*

The Project site is within a few blocks of several historic resources listed in the State and National Registers of Historic Places or included in the Inventory of Historic and Archaeological Assets of the Commonwealth. Table 4.5-1 lists historic resources within a quarter mile radius of the Project site; the locations of these resources are depicted on Figure 4.5-1.



449 Cambridge Street Boston, Massachusetts

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Figure 4.4-3
View from Emery Road



449 Cambridge Street Boston, Massachusetts

Perkins&Will

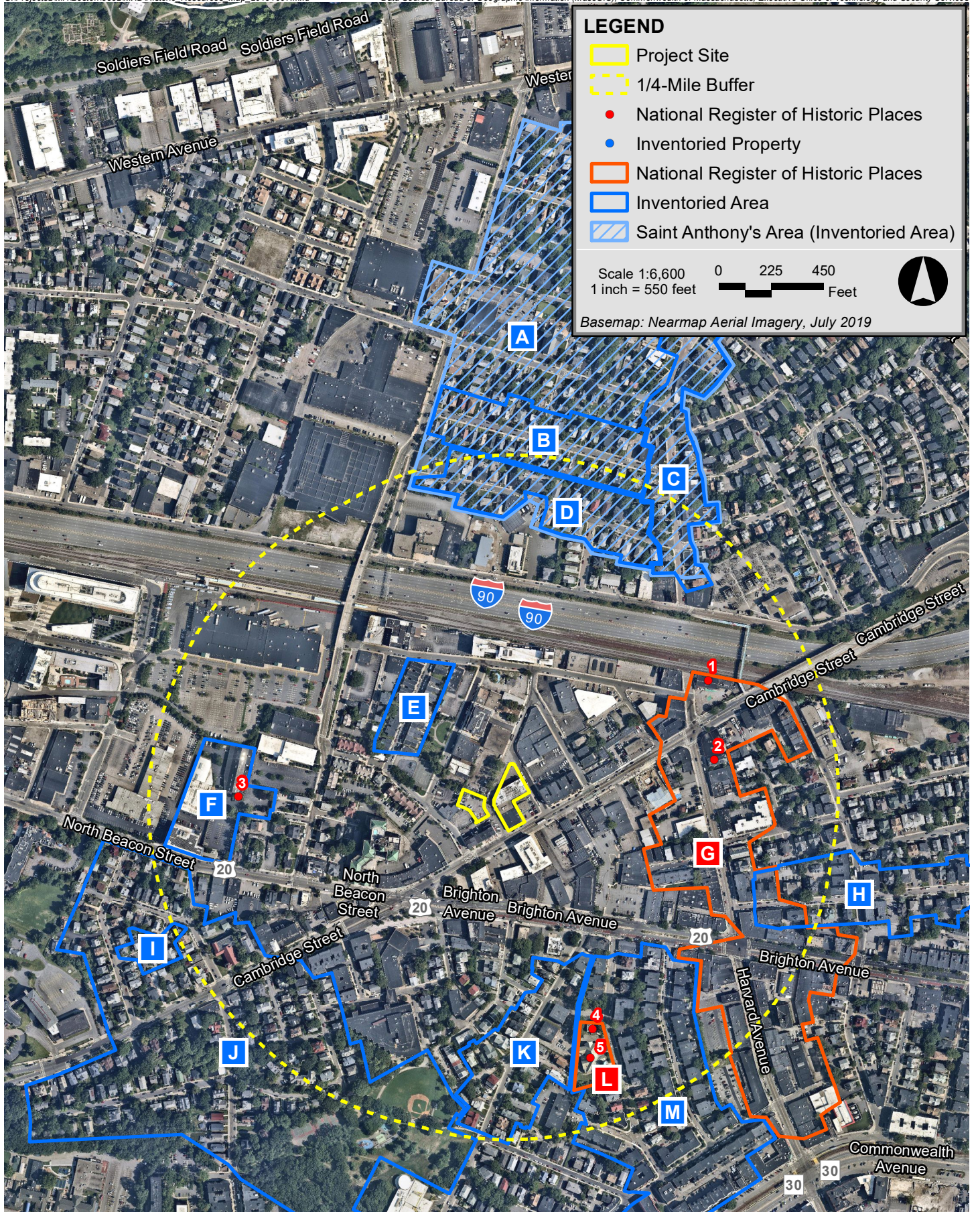
Figure 4.4-4
View of Emery Road Component



449 Cambridge Street Boston, Massachusetts

Perkins&Will

Figure 4.4-5
View of Emery Road Component



449 Cambridge Street Boston, Massachusetts

Table 4.5-1 Historic Resources Within and in the Vicinity of the Project

| Existing Map Key | Historic Resource | Address | Designation* |
|---|---|---|--------------|
| A | Saint Anthony's Area | Roughly bounded by Wester Ave and Franklin, Adamson, and Everett Streets | INV |
| B | Aldie Street, 1-75 | 1-75 Aldie Street | INV |
| C | Franklin Street, 51-168 | 51-168 Franklin Street | INV |
| D | Adamson Street, 1-87 | 1-87 Adamson Street | INV |
| E | Hano Street Area | 1-72 Hano Street | INV |
| F | International Harvester New England Branch Headquarters | 61 North Beacon Street | INV |
| G | Harvard Avenue Historic District | Both sides of Harvard Avenue between Boston and Albany Railroad at Franklin Street and Commonwealth Avenue. | NRDIS |
| H | Gardner Street, 4-98 | 4-98 Gardner Street | INV |
| I | Guilford Street, 2-15 | 2-15 Guildford Street | INV |
| J | Allston Heights | Roughly bounded by North Beacon, Gordon Street, Cambridge Street and Imrie Road | INV |
| K | 13-75 Allston Street & 1-8 Griggs Place | 13-75 Allston Street & 1-8 Griggs Place | INV |
| L | Allston Congregational Church | 31-41 Quint Avenue | NRIND |
| M | Glenville-Commonwealth Avenues Area | Roughly bounded by Commonwealth, Park Vale, Quint, and Glenville Avenues | INV |
| 1 | Allston Depot | 15 Franklin Street | LL NRDIS |
| 2 | Harvard Avenue Fire Station | 16 Harvard Avenue | NRDIS, NRIND |
| 3 | Englewood Diner | 69 North Beacon Street | NRDOE |
| 4 | Allston Congregational Church Parsonage | 31-41 Quint Ave | NRIND |
| 5 | Allston Congregational Church | 41 Quint Ave | NRIND, PR |
| <p>*Designation Legend</p> <p>NRIND Individually listed in the National Register of Historic Places</p> <p>NRDIS National Register of Historic Places historic district</p> <p>LL Local Landmark</p> <p>INV Massachusetts Historic Commission Inventory</p> <p>PR Preservation Restriction</p> | | | |

4.5.3 Archaeological Resources Within the Project Site

A review of Massachusetts Historical Commission's online archaeological base maps was conducted on October 17, 2019. It found no known archeological sites within the Project site or the immediate vicinity.

4.5.4 Status of Project Review with Historical Agencies

4.5.4.1 Boston Landmarks Commission

The submission of this PNF initiates review of the Project by the Boston Landmarks Commission under the City's Article 80 Review process.

4.5.4.2 Boston Landmarks Commission Article 85 Review

The proposed demolition of the existing buildings on the Project site will be subject to review by the BLC under Article 85 (Demolition Delay) of the Boston Zoning Code, due to their age. An Article 85 Application for the property will be submitted to the BLC.

4.5.4.3 Massachusetts Historical Commission

The Massachusetts Historical Commission (MHC) has review authority over projects requiring state funding, licensing, permitting and/or approvals that may have direct or indirect impacts to properties listed in the State Register of Historic Places. If a state permit is required for the Project, the MHC review process will be initiated through the filing of an MHC Project Notification Form as prescribed in MHC's governing regulations. Currently no state permit is anticipated.

4.6 Infrastructure Systems

This Section outlines the existing utilities surrounding the Project site, the connections required to provide service to the Project, and any impacts on the existing utility systems that may result from the construction of the Project. The following utility systems are discussed herein:

- ◆ Sewer
- ◆ Domestic water
- ◆ Fire protection
- ◆ Drainage
- ◆ Natural gas
- ◆ Electricity
- ◆ Telecommunications

The Project includes the construction of two new residential buildings containing a total of 166 units/186 bedrooms and a ground floor retail space in place of the existing auto-centric uses on the Project site. The Project site is located at 449 Cambridge Street and 2 Emery Road in the Allston neighborhood of Boston.

4.6.1 Wastewater

4.6.1.1 Sewer Infrastructure

Existing Boston Water and Sewer Commission (BWSC) dedicated sewer and drain mains are located in Cambridge Street, Emery Road, and Rugg Road.

Cambridge Street

There is a 10-inch BWSC sewer main which flows in a southwesterly direction before joining a 12-inch main in Hano Street. The 12-inch main expands to a 15-inch main and then connects to a 15-inch sewer main in Braintree Street. It then connects to a 24-inch by 39-inch sewer main in Everett Street.

Emery Road

There is a 12-inch sewer main which flows in a northeasterly direction before joining a 12-inch sewer main in Rugg Road. This sewer main then joins a 12-inch sewer main in Braintree Street, expanding to a 15-inch sewer main before eventually connecting to a 24-inch by 39-inch sewer main in Everett Street.

Rugg Road

There is a 12-inch sewer main which flows in a northwesterly direction before joining a 12-inch sewer main in Braintree Street, expanding to a 15-inch sewer main before eventually connecting to a 24-inch by 39-inch sewer main in Everett Street.

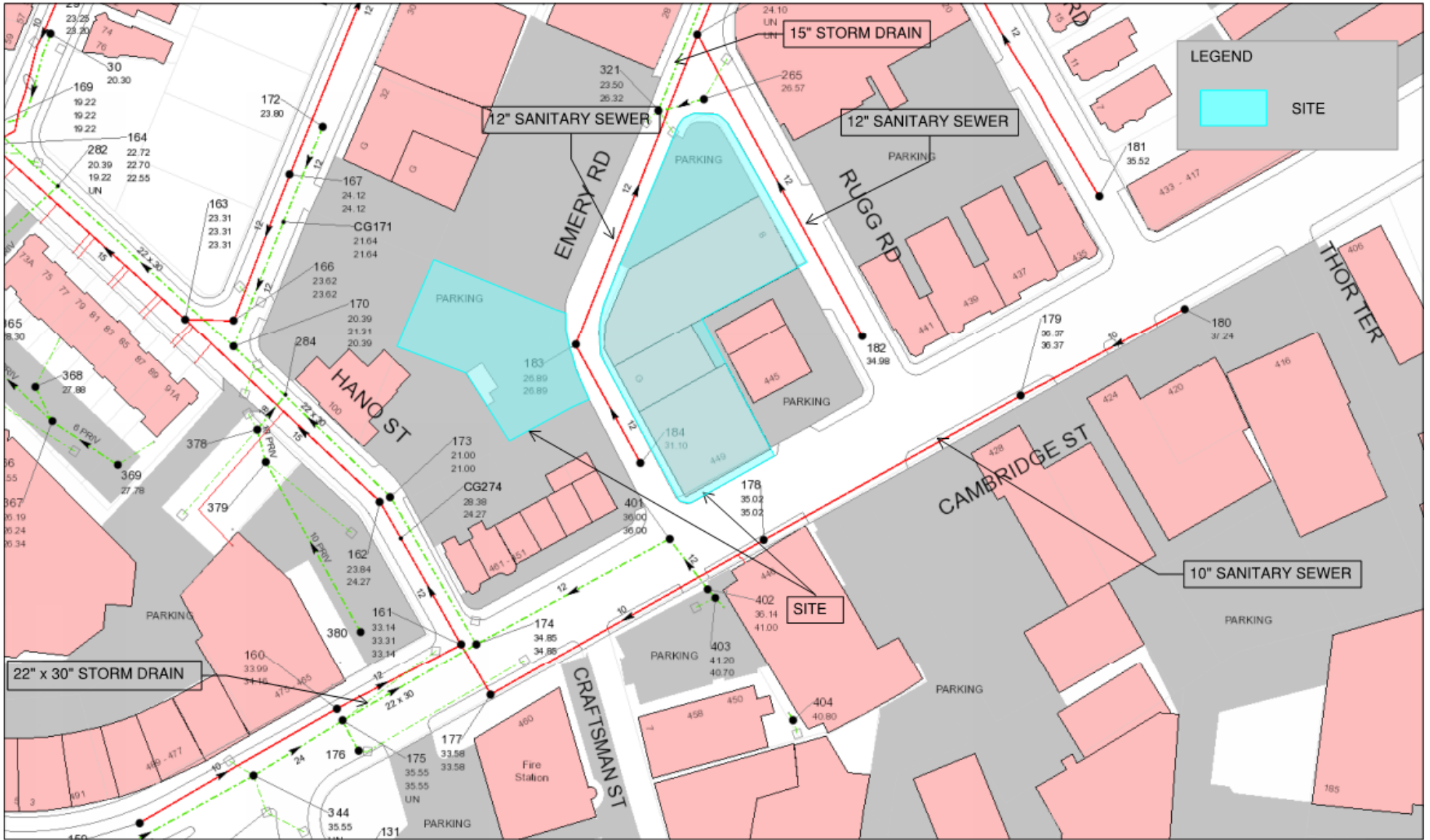
The existing sewer system is illustrated in Figure 4.6-1.

4.6.1.2 Wastewater Generation

The Project's sewage generation rates were estimated using Massachusetts Department of Environmental Protection 310 CMR 15.00 values for the proposed building program. 310 CMR 15.00 lists typical sewage generation values for the proposed building uses, as shown in Table 4.6-1. Typical generation values are conservative values for estimating the sewage flows from new construction.

The Project site is currently comprised of a motorcycle repair shop, two autobody repair shops, and a tow lot.

As noted above, the Project includes the construction of two new residential buildings containing a total of 166 units/186 bedrooms and a ground floor retail space in place of the existing auto-centric uses on the Project site.



449 Cambridge Street Boston, Massachusetts

Table 4.6-1 Proposed Project Wastewater Generation

| Use | Size/Unit | 310 CMR Value (gpd/unit) | Total Flow (gpd) |
|--|--------------------|--------------------------|------------------|
| Existing Building (using average 310 CMR values) | | | |
| Autobody Shop* | 16,790 square feet | 75/1000 SF | 1,259 |
| Total Existing Sewer Flows | | | 1,259 |
| *310CMR 15.00 does not include autobody shop sewer flows – office space values were used | | | |
| Proposed Building (using average 310 CMR values) | | | |
| Residential | 186 Bedrooms | 110/bedroom | 20,460 |
| Retail | 2,400 square feet | 50/1000 SF | 120 |
| Total Proposed Sewer Flows | | | 20,580 |

| | |
|---------------------------------------|---------------|
| Increase in Sewer Flows (gpd): | 19,321 |
|---------------------------------------|---------------|

4.6.1.3 Sewage Capacity and Impacts

The Proponent studied the Project’s impact on the existing BWSC systems in Cambridge Street and Emery Road, and in Rugg Road was studied. The existing sewer system capacity calculations are presented in Table 4.6-2.

Table 4.6-2 Sewer Hydraulic Capacity Analysis

| Manhole (BWSC Number) | Distance | Invert Elevation (Up) | Invert Elevation (Down) | Slope (%) | Diameter (inches) | Manning's Number | Flow Capacity (cfs) | Flow Capacity (MGD) |
|-------------------------|----------|-----------------------|-------------------------|-----------|-------------------|------------------|---------------------|---------------------|
| Cambridge Street | | | | | | | | |
| 180 to 178 | 367 | 37.25 | 35.02 | 0.6% | 10 | 0.013 | 1.71 | 1.10 |
| 178 to 177 | 240 | 35.02 | 33.58 | 0.6% | 10 | 0.013 | 1.70 | 1.10 |
| 177 to 161 | 44 | 33.58 | 33.14 | 1.0% | 10 | 0.013 | 2.19 | 1.42 |
| 161 to 162 | 125 | 33.14 | 24.84 | 6.6% | 12 | 0.013 | 9.18 | 5.93 |
| Minimum Flow Analyzed | | | | | | | 1.70 | 1.10 |
| Emery Road | | | | | | | | |
| 184 to 183 | 104 | 31.1 | 26.89 | 4.0% | 12 | 0.013 | 7.17 | 4.63 |
| 183 to 18 | 192 | 26.89 | 24.10 | 1.5% | 12 | 0.013 | 4.29 | 2.78 |
| 18 to 266 | 261 | 24.10 | 23.45 | 0.2% | 12 | 0.013 | 1.78 | 1.15 |
| 266 to 15 | 80 | 23.45 | 23.18 | 0.3% | 12 | 0.013 | 2.07 | 1.34 |
| Minimum Flow Analyzed | | | | | | | 1.78 | 1.15 |
| Rugg Road | | | | | | | | |
| 182 to 18 | 263 | 34.98 | 24.10 | 4.1% | 12 | 0.013 | 7.25 | 4.68 |
| 18 to 266 | 261 | 24.10 | 23.45 | 0.2% | 12 | 0.013 | 1.78 | 1.15 |
| 266 to 15 | 80 | 23.45 | 23.18 | 0.3% | 12 | 0.013 | 2.07 | 1.34 |
| Minimum Flow Analyzed | | | | | | | 1.78 | 1.15 |

Note: 1. Manhole numbers taken from BWSC Sewer system GIS Map
 2. Flow Calculations based on Manning Equation

Table 4.6-2 indicates the hydraulic capacity of the existing 10-inch sewer main in Cambridge Street and the two 12-inch sewer mains in Emery Road and Rugg Road. The minimum hydraulic capacity is 1.10 million gallons per day (MGD) or 1.70 cubic feet per second (CFS) for the 10-inch main in Cambridge Street and 1.15 million gallons per day (MGD) or 1.78 cubic feet per second (CFS) for the 12-inch sewer mains in Emery Road and Rugg Road.

Based on an average daily flow estimate for the Project of 20,580 GPD or 0.02058 MGD, an increase of 19,321 GPD or 0.019321 MGD from the existing buildings; and with a factor of safety estimate of 10 (total estimate = $0.019321 \text{ MGD} \times 10 = 0.19321 \text{ MGD}$), there is no expectation of capacity problems for a proposed sewer connection. BWSC maps do not indicate an existing sewer connection. Design of sanitary sewer connections will be coordinated with BWSC during the permitting phase, and will not negatively impact the capacity of any of the sewer mains in the streets adjacent to the Project site.

4.6.1.4 Proposed Conditions

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connections to the sewer system. The Project is expected to generate an increase in wastewater flows of approximately 19,321 gpd. Approval for the increase in sanitary flow will come from BWSC.

Sewer services for the existing building will need to be determined and be evaluated for capacity and condition and will be replaced as necessary. New sewer services resulting from the Project will likely connect to the existing sanitary sewer mains in Cambridge Street, Emery Road, and/or Rugg Road.

Improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process for the Project. This process will include a comprehensive design review of the existing and proposed service connections, an assessment of Project demands and system capacity, and the establishment of service accounts.

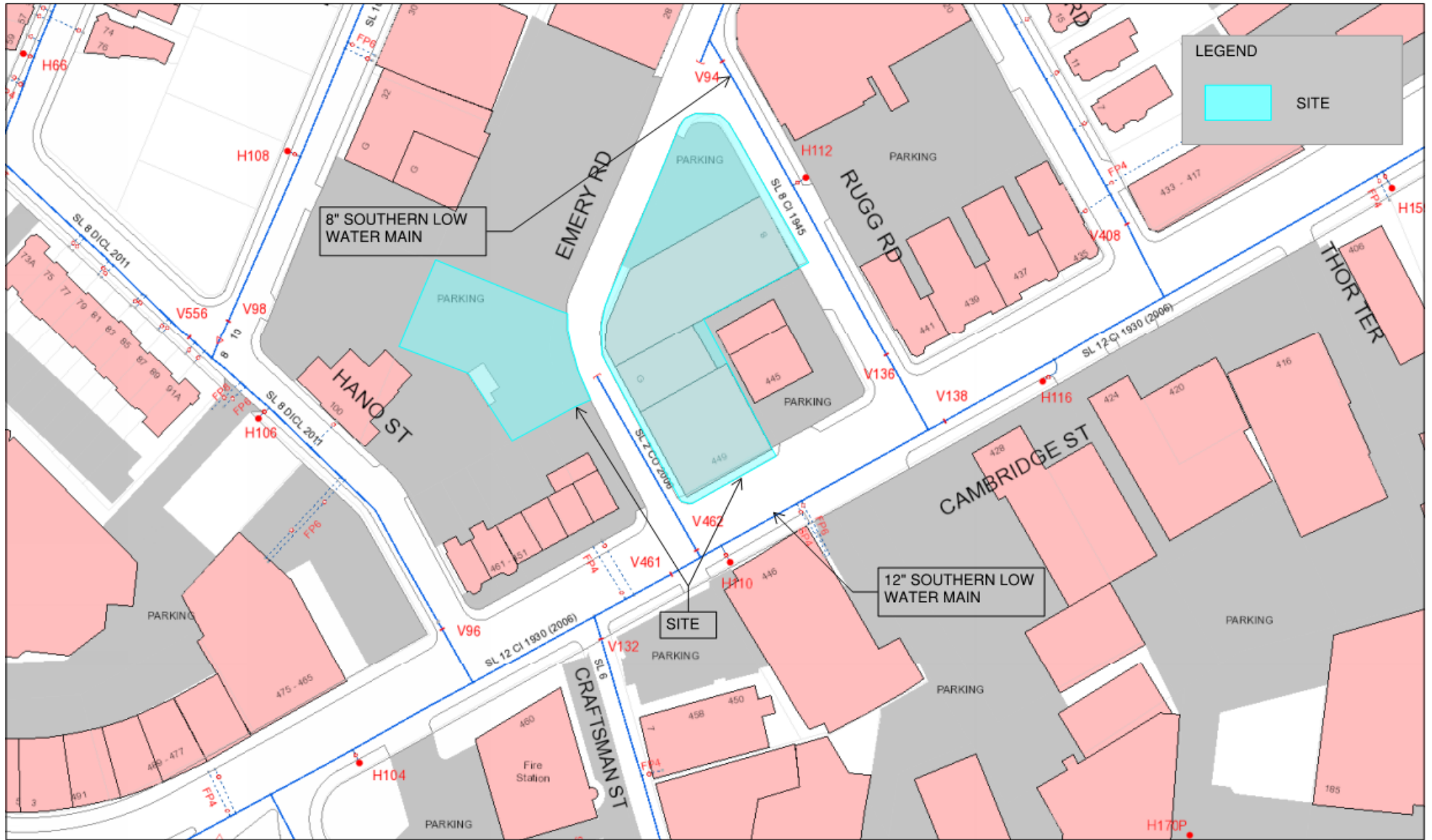
4.6.2 Water Supply

4.6.2.1 Water Infrastructure

Water for the Project site will be provided by the BWSC. There are five water systems within the City, and these provide service to portions of the City based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high. There are existing BWSC water mains in Cambridge Street, Emery Road, and Rugg Road.

There is a 12-inch southern low main in Cambridge Street, and an 8-inch southern low main in both Emery Road and Rugg Road.

The existing water system is illustrated in Figure 4.6-2.



449 Cambridge Street Boston, Massachusetts

4.6.2.2 Water Consumption

The Project's water demand estimate for domestic services is based on the Project's estimated sewage generation, described above. A conservative factor of 1.1 (10%) is applied to the estimated average daily wastewater flows calculated with 314 CMR 15.00 values to account for consumption, system losses and other usages to estimate an average daily water demand. The Project's estimated domestic water demand is 22,638 gpd. The water for the Project will be supplied by the BWSC systems in Cambridge Street, Emery Road, and/or Rugg Road. It is unknown where the existing service connects to; this will likely be replaced for the proposed Project.

4.6.2.3 Existing Water Capacity and Impacts

BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Project site was requested by the Proponent. Hydrant flow data was available for one hydrant on Cambridge Street, near the Project site. The existing hydrant flow data is shown in Table 4.6-3.

Table 4.6-3 Existing Hydrant Flow Data

| Flow Hydrant | Date of | Static Pressure | Residual | Total |
|--------------|------------|-----------------|----------|-------|
| 23EH159 | 06/05/2017 | 64 | 58 | 1,736 |

Note: Data provided by BWSC on September 6, 2019

Water capacity problems are not anticipated within this system as a result of the Project's construction.

4.6.2.4 Proposed Project

The domestic and fire-protection water services for the Project will likely connect to the existing BWSC water mains in Cambridge Street, Emery Road, and/or Rugg Road.

The proposed Project's impacts to the existing water system will be reviewed as part of the BWSC's Site Plan Review process.

The domestic and fire-protection water service connections required for the Project will meet the applicable City and State codes and standards, including cross-connection backflow prevention. Compliance with the standards for the domestic water system service connection will be reviewed as part of BWSC's Site Plan Review Process. This review will include sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and Boston Fire Department requirements.

Efforts to reduce water consumption will be made. Aeration fixtures and appliances will be chosen for water conservation qualities. In public areas, sensor operated faucets and toilets will be installed.

New water services will be installed in accordance with the latest local, state, and federal codes and standards. Backflow preventers will be installed at both domestic and fire protection service connections. New meters will be installed with Meter Transmitter Units (MTU's) as part of the BWSC's Automatic Meter Reading (AMR) system.

4.6.3 Stormwater

4.6.3.1 Existing Stormwater System

There are existing BWSC storm drain mains in Cambridge Street and Rugg Road adjacent to the Project site. The existing drainage ultimately flows to the Charles River for disposal.

Cambridge Street

There is a 22-inch by 30-inch BWSC storm drain which flows in a southwesterly direction along Cambridge Street before continuing northwesterly onto Hano Street. The main in Hano Street connects to a 66-inch by 76-inch main line in Everett Street.

Rugg Road

There is a 15-inch BWSC storm drain which flows in a northeasterly direction along Rugg Road before connecting to the Braintree Street main. The main in Braintree Street connects to a 66-inch by 76-inch main line in Everett Street.

The existing BWSC storm drain system is illustrated in Figure 4.6-1.

It is unclear how stormwater at the site is currently captured. Stormwater in the adjacent roadways is captured by existing catch basins, which flow to the existing BWSC storm drain in Rugg Road.

4.6.3.2 Proposed Project

The Project site is comprised of three existing buildings and a parking lot and is nearly entirely impervious. The Project will meet or reduce the existing peak rates of stormwater discharge and volumes of stormwater runoff from the site and promote runoff recharge to the greatest extent possible.

The Project will infiltrate one and a quarter inch-inch of stormwater runoff from impervious areas into the ground to the greatest extent possible. Different approaches to stormwater recharge will be assessed. It is anticipated that the stormwater recharge systems will work to passively infiltrate runoff into the ground through a combination of storage tanks in the building and pumps, with infiltration under public right-of-way via injection wells. Any required site-

closed drainage systems will be designed so that there will be no increase in the peak rate of stormwater discharge from the Project site in the developed condition compared to the existing condition.

Improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process. The process will include a comprehensive design review of the proposed service connections, and assessment of Project demands and system capacity.

4.6.3.3 Water Quality Impact

The Project will not affect the water quality of nearby water bodies. Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas and BWSC storm drain systems. During construction, existing catch basins will be protected with filter fabric, straw bales and/or crushed stone, to provide for sediment removal from runoff. These controls will be inspected and maintained throughout the construction phase until the areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

All necessary dewatering will be conducted in accordance with applicable MWRA and BWSC discharge permits. Once construction is complete, the Project will be in compliance with local and state stormwater management policies, as described below.

4.6.3.4 Groundwater

The BPDA oversees proposed projects within the Groundwater Conservation Overlay District under Article 32. The Project parcel is not located within the City of Boston's Groundwater Conservation Overlay District.

Furthermore, the BPDA also oversees the Smart Utilities Policy for Article 80 Development Review. Since the Project is above the threshold criteria of having at or above 100,000 square feet of gross floor area, the Project is required through the use of Green Infrastructure to retain, on site, a volume of runoff equal to 1.25 inches of rainfall across the portion of impervious area on site.

As noted above, the Project site is not located within the Groundwater Control Overlay District (Article 32). Regardless, the Project will comply with Article 80 by capturing within a suitably-designed system a volume of rainfall on the lot equivalent to no less than 1.25 inches across that portion of the surface area of the lot to be occupied by the Project. The Project will result in no negative impact on groundwater levels within the lot in question or adjacent lots, subject to the terms of any (i) dewatering permit or (ii) cooperation agreement entered into by the Proponent and the BPDA, to the extent that such agreement provides standards for groundwater protection during construction.

4.6.3.5 MassDEP Stormwater Management Policy Standards

In March 1997, MassDEP adopted a Stormwater Management Policy to address non-point source pollution. In 1997, MassDEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy, which was revised in February 2008. The Policy prescribes specific stormwater management standards for development projects, including urban pollutant removal criteria for projects that may impact environmental resource areas. Compliance is achieved through the implementation of Best Management Practices (BMPs) in the stormwater management design. The Policy is administered locally pursuant to MGL c. 131, s. 40.

A brief explanation of each Policy Standard and the system compliance is provided below:

Standard #1: No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

Compliance: The Project will comply with this Standard. The design will incorporate the appropriate stormwater treatment and no new untreated stormwater will be directly discharged to, nor will erosion be caused to wetlands or waters of the Commonwealth as a result of stormwater discharges related to the Project.

Standard #2: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR.

Compliance: The Project will comply with this Standard. The existing discharge rate will be met or decreased as a result of the improvements associated with the Project.

Standard #3: Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmental sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Compliance: The Project will comply with this Standard to the maximum extent practicable.

Standard #4: Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

- a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;*

- b. *Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
- c. *Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.*

Compliance: The Project will comply with this standard to the maximum extent practicable. Within the Project's limit of work, there will be mostly building roof, paved sidewalk, and roadway areas. Runoff from paved areas that would contribute unwanted sediments or pollutants to the existing storm drain system will be collected by deep sump, hooded catch basins and conveyed through stormwater systems designed to improve runoff quality before discharging into the BWSC system.

Standard #5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

Compliance: The Project will comply with this Standard. The Project is not associated with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-6).

Standard #6: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

Compliance: The Project will comply with this Standard. The Project will not discharge untreated stormwater to a sensitive area or any other area.

Standard #7: A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural stormwater best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

Compliance: The Project is a redevelopment. A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural stormwater best management practice requirements of Standards 4, 5, and 6. A redevelopment project must comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

Standard #8: A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

Compliance: The Project will comply with this Standard. Sedimentation and erosion controls will be incorporated as part of the design of these projects and employed during construction.

Standard 9: A Long-Term Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed.

Compliance: The Project will comply with this Standard. An O&M Plan including long-term BMP operation requirements will be prepared for the Project and will assure proper maintenance and functioning of the stormwater management system.

Standard 10: All illicit discharges to the stormwater management system are prohibited.

Compliance: The Project will comply with this Standard. There will be no illicit connections associated with the Project.

4.6.4 Protection Proposed During Construction

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

The Proponent will continue to work and coordinate with the BWSC and the utility companies to ensure safe and coordinated utility operations in connection with the Project.

4.6.5 *Conservation of Resources*

The State Building Code requires the use of water-conserving fixtures. Water conservation measures such as low-flow toilets and restricted flow faucets will help reduce the domestic water demand on the existing distribution system. The installation of sensor-operated sinks with water conserving aerators and sensor-operated toilets in all non-residential restrooms will be incorporated into the design plans for the Project.

4.6.6 *Electrical System*

Electrical service will be coordinated with the utility company.

4.6.7 *Natural Gas System*

Natural gas service will be coordinated with the utility company as required.

4.6.8 *Telecommunication System*

Telecommunication service will be coordinated with the telecommunication providers.

Chapter 5.0

Coordination with other Governmental Agencies

5.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

5.1 Architectural Access Board Requirements

In addition to Article 80 (Barrier Free Access) of the Zoning Code, the Project will comply with the requirements of the Massachusetts Architectural Access Board and the standards of the Americans with Disabilities Act. An Accessibility Checklist and related plans is included in Appendix D.

5.2 Massachusetts Environmental Policy Act (MEPA)

A project is subject to the Massachusetts Environmental Policy Act (MEPA) review when the following two conditions are met: (1) a project is subject to MEPA jurisdiction, and (2) a MEPA review threshold is exceeded. At present, the Project is not expected to require any state permits or state funding, nor to involve any state land transfers and thus, there is no MEPA jurisdiction.

5.3 Massachusetts Historical Commission State Register Review

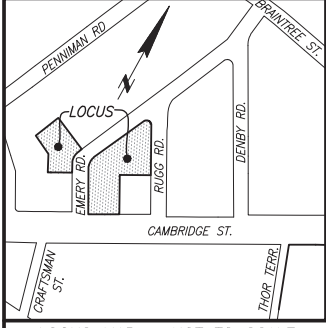
The Proponent does not anticipate that the Project will require any state or federal licenses, permits or approvals, and does not anticipate utilizing any state or federal funds, nor does the Project involve alteration of a property on the State Register. Therefore, review by the Massachusetts Historical Commission (MHC) is not anticipated at this time. In the event that state or federal licenses, permits, approvals or funding is involved, the Proponent will file an MHC Project Notification Form to initiate MHC's review of the Project.

5.4 Boston Civic Design Commission

The Project meets the definition of a Large Scale Development Project under Article 28 (Boston Civil Design Commission) of the Zoning Code. Accordingly, an application will be submitted to the Boston Civic Design Commission (BCDC) by the BPDA as part of the Article 80 process.

Appendix A

Site Survey

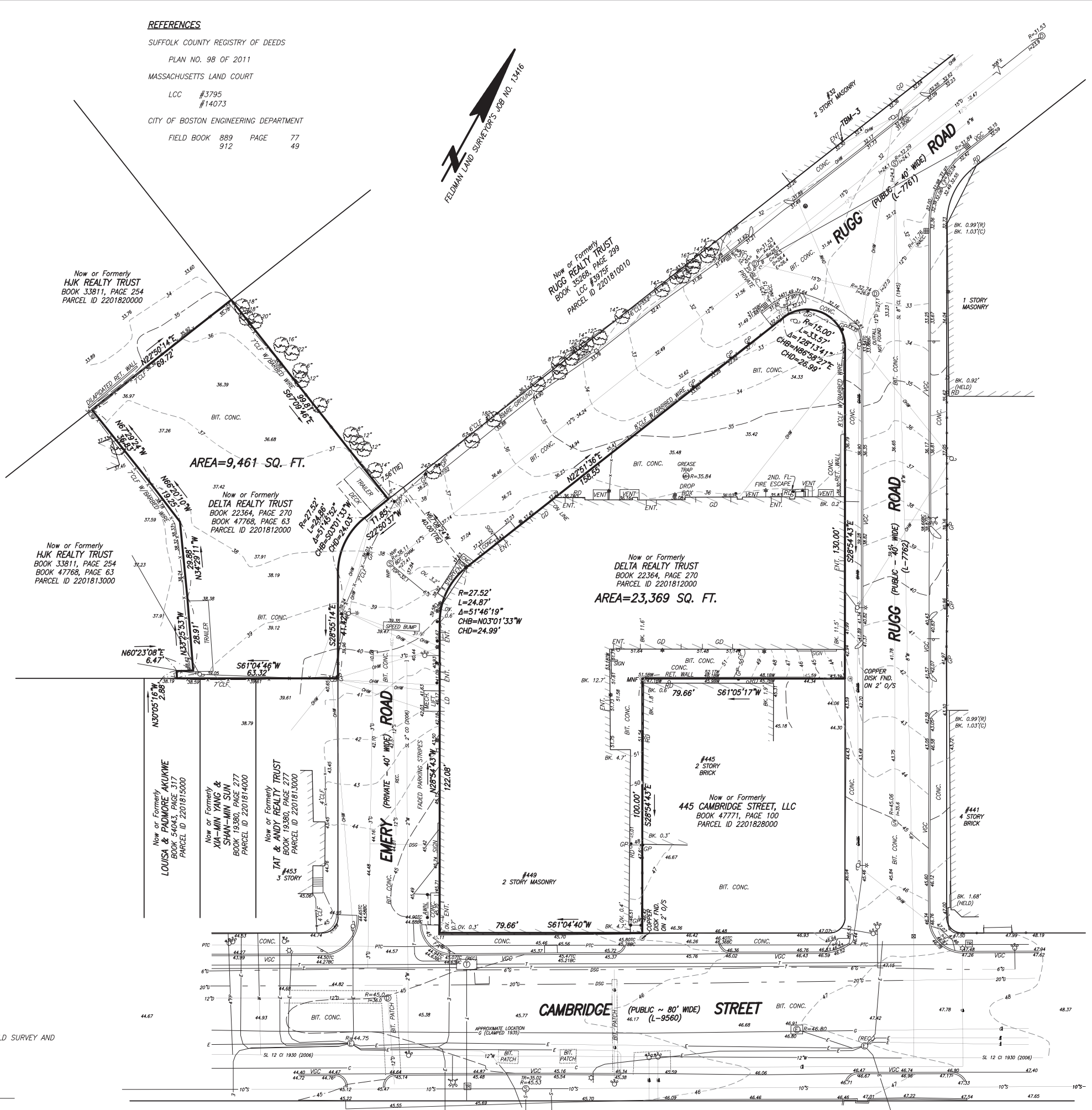


REFERENCES
 SUFFOLK COUNTY REGISTRY OF DEEDS
 PLAN NO. 98 OF 2011
 MASSACHUSETTS LAND COURT
 LCC #3795
 #14073
 CITY OF BOSTON ENGINEERING DEPARTMENT
 FIELD BOOK 889 PAGE 77
 912 49



LEGEND

- ⊙ SEWER MANHOLE
- ⊙ DRAIN MANHOLE
- ⊙ ELECTRIC MANHOLE
- ⊙ TELEPHONE MANHOLE
- ⊙ MANHOLE
- ⊙ HYDRANT
- ⊙ WATER SHUT OFF/WATER GATE
- ⊙ GAS SHUT OFF/GAS GATE
- ⊙ BOSTON WATER VALVE
- ⊙ CATCH BASIN
- ⊙ UTILITY POLE
- ⊙ WALL LIGHT
- ⊙ BOLLARD
- ⊙ SIGN
- ⊙ FA FIRE ALARM
- ⊙ RD ROOF DRAIN
- ⊙ MAGNAIL
- ⊙ COPPER DISK
- ⊙ OBSERVATION WELL
- ⊙ SECURITY CAMERA
- ⊙ UTILITY POLE W/ LIGHT
- ⊙ TRASH RECEPTACLE
- ⊙ DECIDUOUS TREE
- ⊙ GP GATE POST
- ⊙ HANDICAP RAMP
- AWN AWNING
- BC BOTTOM OF CURB
- BIT BITUMINOUS
- BK BACK
- BOT= BOTTOM ELEVATION
- BW= BOTTOM OF WALL
- (C) CALCULATED
- CHB= CHORD BEARING
- CHD= CHORD DISTANCE
- CLF= CHAIN LINK FENCE
- CONC= CONCRETE
- Δ= DELTA ANGLE
- ENT= ENTRANCE
- FND= FOUND
- GD= GARAGE DOOR
- IN= INVERT ELEVATION
- INACC= INACCESSIBLE
- L= ARC LENGTH
- LD= LOADING DOCK
- LST= LANDSCAPE TIMBER
- MNF= MAG NAIL FOUND
- OV= OVER
- R= RADIUS OR RIM ELEVATION
- (R) RECORD
- RET= RETAINING
- SO. FT. SQUARE FEET
- TBM= TEMPORARY BENCH MARK
- TC= TOP OF CURB
- TR= CENTERLINE OF TROUGH
- TW= TOP OF WALL
- VGC= VERTICAL GRANITE CURB
- C CABLE TELEVISION
- D DRAIN
- E ELECTRIC
- G GAS
- OHW OVERHEAD WIRES
- S SEWER
- T TELEPHONE
- W WATER
- DSG DIG SAFE GAS



NOTES:

- 1) BENCH MARK INFORMATION:
 BENCH MARK USED:
 TBM-A: X-CUT ON RIGHT BOLT ON MAIN OUTLET OF HYDRANT LOCATED ON SOUTH SIDE OF CAMBRIDGE STREET AT NO.424 CAMBRIDGE STREET, AS SHOWN HEREON. ELEVATION = 50.34 FLS JOB NO. 13416
 TBM-B: BENCH TIE SET 1.0' UP IN GUY POLE NO.190/12 AT NORTHWESTERLY CORNER AT INTERSECTION OF CAMBRIDGE STREET AND HANO STREET, AS SHOWN HEREON. ELEVATION = 44.28 FLS JOB NO. 13416
 TEMPORARY BENCH MARKS SET:
 TBM-3: X-CUT ON THE RIGHT OUTER CORNER OF THE BRICK THRESHOLD AT #32 RUGG ROAD, AS SHOWN HEREON. ELEVATION = 33.34
 TBM-4: X-CUT ON FRONT BOLT OF A HYDRANT ON THE NORTHEASTERLY SIDE OF RUGG ROAD, ABOUT 170'± NORTHWESTERLY OF CAMBRIDGE STREET, AS SHOWN HEREON. ELEVATION = 40.75
- 2) ELEVATIONS REFER TO BOSTON CITY BASE
- 3) CONTOUR INTERVAL EQUALS ONE (1) FOOT.
- 4) BY GRAPHIC PLOTTING ONLY, THE PARCELS SHOWN HEREON LIE WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C00576, CITY OF BOSTON HAVING AN EFFECTIVE DATE OF SEPTEMBER 25, 2009.
- 5) UTILITY INFORMATION SHOWN IS BASED ON BOTH A FIELD SURVEY AND PLANS OF RECORD. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM THE AFORESAID RECORD PLANS AND ARE APPROXIMATE ONLY. WE CANNOT ASSUME RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES THAT ARE OMITTED OR INACCURATELY SHOWN ON SAID RECORD PLANS, SINCE SUBSURFACE UTILITIES CANNOT BE VISIBLY VERIFIED. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHOULD BE DETERMINED IN THE FIELD. CALL TOLL FREE, THE DIG SAFE CALL CENTER AT 1-888-344-7233 SEVENTY-TWO HOURS PRIOR TO EXCAVATION.
- 6) THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF FELDMAN LAND SURVEYORS ISSUED TO OUR CLIENT FOR PURPOSES RELATED DIRECTLY AND SOLELY TO FELDMAN LAND SURVEYORS' SCOPE OF SERVICES UNDER CONTRACT TO OUR CLIENT FOR THIS PROJECT. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN CONSENT IS PROVIDED BY FELDMAN LAND SURVEYORS.

**EXISTING CONDITIONS PLAN OF LAND
 449 CAMBRIDGE STREET
 BOSTON, MASS.**

FELDMAN LAND SURVEYORS MAY 3, 2018
 152 HAMPDEN STREET PHONE: (617)357-9740
 BOSTON, MASS. 02119 www.feldmansurveyors.com



I CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY AND THE LATEST PLANS AND DEEDS OF RECORD.

DRAFT 5-11-2018

TIMOTHY R. AGURKIS, PLS (MA# 52782) DATE
 TRA@FELDMANSURVEYORS.COM

| | | | | |
|--|----------------|----------------|---------------|------------------|
| RESEARCH TRA | FIELD CHIEF NC | PROJ MGR TRA | APPROVED | SHEET NO. 1 OF 1 |
| CADD TRA | FIELD CHECKED | CRD FILE 16121 | JOB NO. 16121 | |
| FILENAME: S:\PROJECTS\16100a\16121\DWG\SUBMITTED\16121-EC-SUBMIT-5-11-2018.dwg | | | | |

Appendix B

Transportation

Trip Generation - Proposed Program

449 Cambridge Street
Trip Generation Assessment

HOWARD STEIN HUDSON
20-Aug-2019

xx HARD CODED TO BALANCE (Manually change formatting)

| Land Use | Size | Category | Directional Split | Average Trip Rate | Unadjusted Vehicle Trips | Assumed National Vehicle Occupancy Rate ¹ | Unadjusted Person-Trips | Transit Share ² | Transit Person-Trips | Walk/Bike/ Other Share ² | Walk/ Bike/ Other Trips | Auto Share ² | Auto Person-Trips | % Taxi/ TNC ³ | Assumed Local Auto Occupancy | | | Assumed Local Auto Occupancy | | | Total Adjusted Auto (Private + Taxi) Trips | |
|---|-----------|----------|-------------------|-------------------|--------------------------|--|-------------------------|----------------------------|----------------------|-------------------------------------|-------------------------|-------------------------|-------------------|--------------------------|------------------------------|-----------------------------|---------------------------|------------------------------|-----------------------------|---------------------|--|-------------------|
| | | | | | | | | | | | | | | | Taxi/TNC Person-Trips | Rate for Taxis ⁴ | Private Auto Person-Trips | Primary Auto- Person Trips | Occupancy Rate ⁴ | Taxi/TNC Auto Trips | | Primary AutoTrips |
| Daily Peak Hour | | | | | | | | | | | | | | | | | | | | | | |
| Multifamily Housing (Low Rise) ⁵ | 166 units | Total | | 7.320 | 1,216 | 1.18 | 1,434 | 22% | 316 | 31% | 444 | 47% | 674 | 5% | 34 | 1.18 | 640 | 640 | 1.18 | 56 | 542 | 598 |
| | | In | 50% | 3.660 | 608 | 1.18 | 717 | 22% | 158 | 31% | 222 | 47% | 337 | 5% | 17 | 1.18 | 320 | 320 | 1.18 | 28 | 271 | 299 |
| | | Out | 50% | 3.660 | 608 | 1.18 | 717 | 22% | 158 | 31% | 222 | 47% | 337 | 5% | 17 | 1.18 | 320 | 320 | 1.18 | 28 | 271 | 299 |
| Shopping Center ⁶ | 2.4 KSF | Total | | 37.750 | 90 | 1.82 | 164 | 8% | 14 | 40% | 66 | 52% | 84 | 2% | 2 | 1.82 | 82 | 82 | 1.82 | 4 | 46 | 50 |
| | | In | 50% | 18.875 | 45 | 1.82 | 82 | 8% | 7 | 40% | 33 | 52% | 42 | 2% | 1 | 1.82 | 41 | 41 | 1.82 | 2 | 23 | 25 |
| | | Out | 50% | 18.875 | 45 | 1.82 | 82 | 8% | 7 | 40% | 33 | 52% | 42 | 2% | 1 | 1.82 | 41 | 41 | 1.82 | 2 | 23 | 25 |
| Total | | Total | | | 1,306 | | 1,598 | | 330 | | 510 | | 758 | | | | | | | 60 | 588 | 648 |
| | | In | | | 653 | | 799 | | 165 | | 255 | | 379 | | | | | | | 30 | 294 | 324 |
| | | Out | | | 653 | | 799 | | 165 | | 255 | | 379 | | | | | | | 30 | 294 | 324 |
| AM Peak Hour | | | | | | | | | | | | | | | | | | | | | | |
| Multifamily Housing (Low Rise) ⁵ | 166 units | Total | | 0.460 | 77 | 1.18 | 91 | | 21 | | 32 | | 38 | 5% | 2 | 1.18 | 37 | 37 | 1.18 | 4 | 32 | 36 |
| | | In | 23% | 0.106 | 18 | 1.18 | 21 | 30% | 6 | 33% | 7 | 37% | 8 | 5% | 0 | 1.18 | 8 | 8 | 1.18 | 2 | 7 | 9 |
| | | Out | 77% | 0.354 | 59 | 1.18 | 70 | 21% | 15 | 36% | 25 | 43% | 30 | 5% | 2 | 1.18 | 29 | 29 | 1.18 | 2 | 25 | 27 |
| Shopping Center ⁶ | 2.4 KSF | Total | | 0.94 | 2 | 1.82 | 4 | | 0 | | 2 | | 2 | 2% | 0 | 1.82 | 2 | 2 | 1.82 | 0 | 2 | 2 |
| | | In | 62% | 0.583 | 1 | 1.82 | 2 | 11% | 0 | 46% | 1 | 43% | 1 | 2% | 0 | 1.82 | 1 | 1 | 1.82 | 0 | 1 | 1 |
| | | Out | 38% | 0.357 | 1 | 1.82 | 2 | 7% | 0 | 46% | 1 | 47% | 1 | 2% | 0 | 1.82 | 1 | 1 | 1.82 | 0 | 1 | 1 |
| Total | | Total | | | 79 | | 95 | | 21 | | 34 | | 40 | | | | | | | 4 | 34 | 38 |
| | | In | | | 19 | | 23 | | 6 | | 8 | | 9 | | | | | | | 2 | 8 | 10 |
| | | Out | | | 60 | | 72 | | 15 | | 26 | | 31 | | | | | | | 2 | 26 | 28 |
| PM Peak Hour | | | | | | | | | | | | | | | | | | | | | | |
| Multifamily Housing (Low Rise) ⁵ | 166 units | Total | | 0.560 | 93 | 1.18 | 110 | | 27 | | 38 | | 45 | 5% | 3 | 1.18 | 43 | 43 | 1.18 | 6 | 37 | 43 |
| | | In | 63% | 0.353 | 59 | 1.18 | 70 | 21% | 15 | 36% | 25 | 43% | 30 | 5% | 2 | 1.18 | 29 | 29 | 1.18 | 3 | 25 | 28 |
| | | Out | 37% | 0.207 | 34 | 1.18 | 40 | 30% | 12 | 33% | 13 | 37% | 15 | 5% | 1 | 1.18 | 14 | 14 | 1.18 | 3 | 12 | 15 |
| Shopping Center ⁶ | 2.4 KSF | Total | | 3.81 | 9 | 1.82 | 16 | | 1 | | 7 | | 8 | 2% | 0 | 1.82 | 8 | 8 | 1.82 | 0 | 4 | 4 |
| | | In | 48% | 1.829 | 4 | 1.82 | 7 | 7% | 0 | 46% | 3 | 47% | 4 | 2% | 0 | 1.82 | 4 | 4 | 1.82 | 0 | 2 | 2 |
| | | Out | 52% | 1.981 | 5 | 1.82 | 9 | 11% | 1 | 46% | 4 | 43% | 4 | 2% | 0 | 1.82 | 4 | 4 | 1.82 | 0 | 2 | 2 |
| Total | | Total | | | 102 | | 126 | | 28 | | 45 | | 53 | | | | | | | 6 | 41 | 47 |
| | | In | | | 63 | | 77 | | 15 | | 28 | | 34 | | | | | | | 3 | 27 | 30 |
| | | Out | | | 39 | | 49 | | 13 | | 17 | | 19 | | | | | | | 3 | 14 | 17 |

- 2017 National vehicle occupancy rates - 1.18:home to work; 1.82: family/personal business; 1.82: shopping; 2.1 social/recreational
- Mode shares based on peak-hour BTS Data for Area 17
- Assumed TNC percentage
- Local vehicle occupancy rates based on 2017 National vehicle occupancy rates
- ITE Trip Generation Manual, 10th Edition, LUC 220 (Multifamily Housing Low-Rise (1-2 floors), average rate
- ITE Trip Generation Manual, 10th Edition, LUC 820 (Shopping Center), average rate

Appendix C

Climate Resiliency Checklist

Boston Planning & Development Agency Climate Resiliency Report Summary



Submitted: 10/16/2019 10:50:46

A.1 - Project Information

| | | | |
|----------------------------|--|--------------------|---|
| Project Name: | 449 Cambridge Street | | |
| Project Address: | 449 Cambridge Street and 2 Emery Road | | |
| Filing Type: | Initial (PNF, EPNF, NPC or other substantial filing) | | |
| Filing Contact: | Talya Moked | Epsilon Associates | tmoked@epsilonassociates.com 9784616223 |
| Is MEPA approval required? | No | MEPA date: | |

A.2 - Project Team

| | |
|--------------------------|--------------------------|
| Owner / Developer: | Anchor Line Partners |
| Architect: | Perkins & Will |
| Engineer: | |
| Sustainability / LEED: | The Green Engineer |
| Permitting: | Epsilon Associates, Inc. |
| Construction Management: | |

A.3 - Project Description and Design Conditions

| | |
|---|------------------------------|
| List the principal Building Uses: | Residential, retail, parking |
| List the First Floor Uses: | Residential, retail, parking |
| List any Critical Site Infrastructure and or Building Uses: | |

Site and Building:

| | | | |
|--|-------|--|--------|
| Site Area (SF): | 32830 | Building Area (SF): | 164000 |
| Building Height (Ft): | 68 | Building Height (Stories): | 7 |
| Existing Site Elevation – Low (Ft BCB): | 33 | Existing Site Elevation – High (Ft BCB): | 47 |
| Proposed Site Elevation – Low (Ft BCB): | 33 | Proposed Site Elevation – High (Ft BCB): | 47 |
| Proposed First Floor Elevation (Ft BCB): | | Below grade spaces/levels (#): | 1 |

Article 37 Green Building:

| | | | |
|-------------------------------|--------------|-----------------------------------|----|
| LEED Version - Rating System: | LEED BD+C v4 | LEED Certification: | |
| Proposed LEED rating: | Certified | Proposed LEED point score (Pts.): | 45 |

Boston Planning & Development Agency Climate Resiliency Report Summary



Building Envelope:

When reporting R values, differentiate between R discontinuous and R continuous. For example, use “R13” to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

| | | | |
|--|----------------------|---------------------------------|----------------------|
| Roof: | <input type="text"/> | Exposed Floor : | <input type="text"/> |
| Foundation Wall: | <input type="text"/> | Slab Edge (at or below grade): | <input type="text"/> |
| Vertical Above-grade Assemblies (%’s are of total vertical area and together should total 100%): | | | |
| Area of Opaque Curtain Wall & Spandrel Assembly: | <input type="text"/> | Wall & Spandrel Assembly Value: | <input type="text"/> |
| Area of Framed & Insulated / Standard Wall: | <input type="text"/> | Wall Value: | <input type="text"/> |
| Area of Vision Window: | <input type="text"/> | Window Glazing Assembly Value: | <input type="text"/> |
| | | Window Glazing SHGC: | <input type="text"/> |
| Area of Doors: | <input type="text"/> | Door Assembly Value : | <input type="text"/> |

Energy Loads and Performance

| | | | |
|---|---|---|----------------------|
| For this filing – describe how energy loads & performance were determined | This information will be provided in the DPIR | | |
| Annual Electric (kWh): | <input type="text"/> | Peak Electric (kW): | <input type="text"/> |
| Annual Heating (MMbtu/hr): | <input type="text"/> | Peak Heating (MMbtu): | <input type="text"/> |
| Annual Cooling (Tons/hr): | <input type="text"/> | Peak Cooling (Tons): | <input type="text"/> |
| Energy Use - Below ASHRAE 90.1 - 2013 (%): | <input type="text"/> | Have the local utilities reviewed the building energy performance?: | No |
| Energy Use - Below Mass. Code (%): | <input type="text"/> | Energy Use Intensity (kBtu/SF): | <input type="text"/> |

Back-up / Emergency Power System

| | | | |
|------------------------------------|----------------------|------------------------|----------------------|
| Electrical Generation Output (kW): | <input type="text"/> | Number of Power Units: | <input type="text"/> |
| System Type (kW): | <input type="text"/> | Fuel Source: | <input type="text"/> |

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

| | | | |
|----------------|----------------------|---------------------|----------------------|
| Electric (kW): | <input type="text"/> | Heating (MMbtu/hr): | <input type="text"/> |
| | | Cooling (Tons/hr): | <input type="text"/> |

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

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

The Project team plans to meet regularly to ensure the individual members from consulting firms involved are collaborating and communicating. Sustainable design focused workshops will be held early on to assist the team in establishing shared sustainable design and energy efficiency goals for the Project. As the design progresses, there will be multiple sustainable design focused workshops to ensure the entire team is engaged throughout the design and construction process.

The Project team will conduct a preliminary energy model for the DPIR.

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

The Project will be designed with high-efficiency building systems and a high-performance building envelope.

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

The building, including the parking structure, will target lighting power densities 10-20 percent below code through the use of LED lighting and lighting controls systems.

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

Alternative energy strategies that may be considered for further investigation include photovoltaic arrays and co-generation.

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

Not applicable.

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

The Project team will meet with Eversource and National Grid to discuss the incentive programs and potential Energy Conservation Measures for the Project.

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):

The building will be capable of conversion to an all-electric building, using grid-generated electricity as its primary fuel source; as the electrical grid evolves to be carbon neutral the building will as well. The building electrical and heating systems will be configured to accept future renewable energy sources (photovoltaic and/or solar thermal hot water).

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 (Deg.): | 8 | Temperature Range - High (Deg.): | 91 |
| Annual Heating Degree Days: | | Annual Cooling Degree Days | |
| What Extreme Heat Event characteristics will be / have been used for project planning | | | |
| Days - Above 90° (#): | 60 | Days - Above 100° (#): | 30 |
| Number of Heatwaves / Year (#): | 6 | Average Duration of Heatwave (Days): | 5 |

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

The Project will install high-reflective paving materials and roof materials, and new landscaping will reduce building-related heat island effects.

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:

The building will include high performance HVAC equipment, energy recovery ventilation systems, and new landscaping to reduce the heat island effect.

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:

The Project will include a generator for life safety systems

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

What is the project design precipitation level? (In. / 24 Hours)

6

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

The Project will comply with the Smart Utilities Policy for Article 80 Development Review by capturing within a suitably-designed system a volume of rainfall on the lot equivalent to no less than 1.25 inches across that portion of the surface area of the lot to be occupied by the Project. In doing so, the Project will reduce storm water run-off.

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):

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, the sea level 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 Special Flood Hazard Area?

No

What Zone:

What is the current FEMA SFHA Zone Base Flood Elevation for the site (Ft BCB)?

Is any portion of the site in the BPDA Sea Level Rise Flood Hazard Area (see [SLR-FHA online map](#))?

No

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

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented by the Sea Level Rise Flood Hazard Area (SLR-FHA), which includes 3.2' of sea level rise above 2013 tide levels, an additional 2.5" to account for subsidence, and the 1% Annual Chance Flood. After using the SLR-FHA to identify a project's Sea Level Rise Base Flood Elevation, proponents should calculate the Sea Level Rise Design Flood Elevation by adding 12" of freeboard for buildings, and 24" of freeboard for critical facilities and infrastructure and any ground floor residential units.

What is the Sea Level Rise -
Base Flood Elevation for the
site (Ft BCB)?

What is the Sea Level Rise -
Design Flood Elevation for the
site (Ft BCB)?

What are the Site Elevations at
Building (Ft BCB)?

First Floor Elevation (Ft BCB):

What is the Accessible Route Elevation
(Ft BCB)?

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

Describe any strategies that would support rapid recovery after a weather event:

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

Boston Planning & Development Agency
Climate Resiliency Report Summary



Thank you for completing the Boston Climate Change Checklist!

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

Appendix D

Accessibility Checklist

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 BPDA 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%20200114_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.

Article 80 | ACCESSIBILTY CHECKLIST

| | | | |
|---|--|--|----------------------------|
| <p>1. Project Information: <i>If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.</i></p> | | | |
| Project Name: | 449 Cambridge Street | | |
| Primary Project Address: | 449 Cambridge Street 2 Emery Road | | |
| Total Number of Phases/Buildings: | 2 buildings | | |
| Primary Contact (Name / Title / Company / Email / Phone): | Brian Chaisson/ Managing partner/ Anchor Line Partners/ bchaisson@anchorlinepartners.com / 617-451-0500 | | |
| Owner / Developer: | Anchor Line Partners | | |
| Architect: | Perkins & Will | | |
| Civil Engineer: | Nitsch | | |
| Landscape Architect: | CRJA/IBI | | |
| Permitting: | Epsilon Associates | | |
| Construction Management: | TBD | | |
| At what stage is the project at time of this questionnaire? Select below: | | | |
| | <u>PNF / Expanded PNF Submitted</u> | 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)? <i>If yes, identify and explain.</i> | No | | |
| <p>2. Building Classification and Description: <i>This section identifies preliminary construction information about the project including size and uses.</i></p> | | | |
| What are the dimensions of the project? | | | |
| Site Area: | 32,830 SF | Building Area: | 164,000 GSF |
| Building Height: | 68 FT. | Number of Stories: | 7 Flrs. |

Article 80 | ACCESSIBILITY CHECKLIST

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|--|--|---|-----------------|-------------|
| First Floor Elevation: | At sidewalk level | Is there below grade space: | <u>Yes</u> / No | |
| What is the Construction Type? (Select most appropriate type) | | | | |
| | Wood Frame | Masonry | Steel Frame | 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: | <i>Retail, parking</i> | | | |
| <p>3. Assessment of Existing Infrastructure for Accessibility:</p> <p><i>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.</i></p> | | | | |
| Provide a description of the neighborhood where this development is located and its identifying topographical characteristics: | The Project site located on Cambridge Street, with frontage also on Emery and Rugg roads. Beginning on Cambridge Street, Emery and Rugg roads slope down approximately 12’ vertical feet along the length of the Project site. | | | |
| List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops: | Harvard Avenue Green line stop is just over ½ mile from the Project, and the Boston Landing commuter rail stop is also ½ mile away. The #66 bus stops at the corner of Emery Road and Cambridge Street. | | | |
| List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others: | <p>Within 1 mile from the Project site, there are:</p> <p>Hospitals: St. Elizabeth's Medical Center (736 Cambridge St, Brighton), Franciscan Children's Hospital (30 Warren St, Brighton),</p> <p>Public Housing: Faneuil Gardens Public Housing (266 North Beacon Street)</p> <p>Elderly and disabled housing developments: Commonwealth Elderly Public Housing (35 Fidelis Way, Brighton), Washington Street Public Housing (91-95 Washington Street, Brighton), Patricia White Public Housing (20 Washington Street, Brighton)</p> <p>Educational facilities: Jackson/Mann K-8 School (40 Armington St, Allston), Match Charter Public High School (1001 Commonwealth Avenue, Boston)</p> <p>Others: Allston Brighton Community Development Corporation (18R Shepard St #100, Brighton)</p> | | | |
| List the surrounding government buildings: libraries, community centers, | Within 1 mile from the Project site, there are: | | | |

Article 80 | ACCESSIBILITY CHECKLIST

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| <p>recreational facilities, and other related facilities:</p> | <p>Libraries: Honan-Allston Branch of the Boston Public Library (300 N Harvard St, Allston), Brighton Branch of the Boston Public Library (40 Academy Hill Rd, Brighton) Community centers: Jackson Mann Community Center (500 Cambridge St, Allston), Josephine A. Fiorentino Community Center (123 Antwerp St, Allston), All Bright Community Center (1287 Commonwealth Avenue, Allston) Recreational facilities: Brookline Quest (133 Eliot St, Brookline) Other related facilities: Boston Police District D-14 Brighton/ Allston (301 Washington St, Brighton), Boston Fire Department Engine 41 Ladder 14 (460 Cambridge St, Allston)</p> |
| <p>4. Surrounding Site Conditions – Existing: <i>This section identifies current condition of the sidewalks and pedestrian ramps at the development site.</i></p> | |
| <p>Is the development site within a historic district? If yes, identify which district:</p> | <p>No</p> |
| <p>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:</p> | <p>There is a sidewalk on Cambridge Street and Rugg Road, neither of which has a compliant ramp. Emery Road currently does not have sidewalks. The sidewalks that exist are concrete and in moderate condition. Width is 5'-6' on Rugg Rd, 6'-7' on Cambridge St.</p> |
| <p>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:</p> | <p>Sidewalks on Cambridge Street will be widened and improved and new ramps will be incorporated. Rugg Road sidewalk will likely remain and new ramps will be installed where required.</p> |
| <p>5. Surrounding Site Conditions – Proposed <i>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.</i></p> | |
| <p>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.</p> | <p>Emery Road: Neighborhood Residential Rugg Road: Neighborhood Residential Cambridge Street: Neighborhood Connector</p> |

Article 80 | ACCESSIBILITY CHECKLIST

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| <p>What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:</p> | <p>Emery Road: 12'-24" Frontage Zone, 8'-6"- 9'-0" Pedestrian, 6'-0" Furnishing Zone Rugg Road: 6'-0" Pedestrian Zone, 5'-0" Furnishing Zone Cambridge St: 12-24" Frontage Zone, 8'-0" Pedestrian, 8'-0" Furnishing Zone Cross Slope: Less than or equal to 1.5% Longitudinal Slope: Less than 5%</p> |
| <p>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?</p> | <p>Frontage Zone: Concrete Unit Paver Pedestrian Zone: Concrete Furnishing Zone: Permeable Paving Right-Of-Way: Combination</p> |
| <p>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?</p> | <p>N/A</p> |
| <p>If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?</p> | <p>N/A</p> |
| <p>Will any portion of the Project be going through the PIC? If yes, identify PIC actions and provide details.</p> | <p>Yes: Licenses for Repairs to Public Sidewalks; Street and Sidewalk Occupation Permit; Curb-cut (if required); Specific Repair Plan Approval; Tiebacks (if required); Installation of Monitoring Wells (if required); Signs and Awnings Encroaching over Public Way, if required</p> |
| <p>6. Accessible Parking: <i>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.</i></p> | |
| <p>What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?</p> | <p>80, Garage</p> |
| <p>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?</p> | <p>3 Accessible spaces (with 5' access aisle) 1 Van-accessible space (with 8' access aisle)</p> |

Article 80 | ACCESSIBILTY CHECKLIST

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| Will any on-street accessible parking spaces be required? <i>If yes</i> , has the proponent contacted the Commission for Persons with Disabilities regarding this need? | This has not yet been determined |
| Where is the accessible visitor parking located? | Level 1, near the parking entrance |
| Has a drop-off area been identified? <i>If yes</i> , will it be accessible? | No |
| <p>7. Circulation and Accessible Routes: <i>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.</i></p> | |
| Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator: | Main residential entry will be flush at the exterior, with an accessible interior ramp leading to the lobby. |
| Are the accessible entrances and standard entrance integrated? <i>If yes</i> , describe. <i>If no</i> , what is the reason? | There are no separate entrances, they are integrated. |
| <i>If project is subject to Large Project Review/Institutional Master Plan</i> , describe the accessible routes way-finding / signage package. | Routes are not anticipated to differ from the primary route, they intend to be integrated. |
| <p>8. Accessible Units (Group 2) and Guestrooms: (If applicable) <i>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.</i></p> | |
| What is the total number of proposed housing units or hotel rooms for the development? | 166 |
| <i>If a residential development</i> , how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP (Inclusionary Development Policy) units? | All are for rent, IDP units will be 13% of total units |
| <i>If a residential development</i> , how many accessible Group 2 units are being proposed? | 8 Units (5% of total 166 units) |
| <i>If a residential development</i> , how many accessible Group 2 units will also be IDP units? <i>If none</i> , describe reason. | 1 Unit (5% of the Group 2 Units) |

Article 80 | ACCESSIBILTY CHECKLIST

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| <p><i>If a hospitality development</i>, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? <i>If yes</i>, provide amount and location of equipment.</p> | <p>N/A</p> |
| <p>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. <i>If yes</i>, provide reason.</p> | <p>No</p> |
| <p>Are there interior elevators, ramps or lifts located in the development for access around architectural barriers and/or to separate floors? <i>If yes</i>, describe:</p> | <p>Elevators serve all amenity and residential floors, and are located adjacent to stairs.</p> |
| <p>9. Community Impact: <i>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.</i></p> | |
| <p>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?</p> | <p>Street tress will be added on all three streets. Other public benefits will be determined through the Large Project Review process.</p> |
| <p>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?</p> | <p>All amenity spaces, both indoor and outdoor, will be accessible to people with disabilities. Seating in these spaces is not anticipated to be fixed, so they should be able to accommodate all users.</p> |
| <p>Are any restrooms planned in common public spaces? <i>If yes</i>, will any be single-stall, ADA compliant and designated as “Family”/ “Companion” restrooms? <i>If no</i>, explain why not.</p> | <p>Common areas are not currently planned with restrooms.</p> |
| <p>Has the proponent reviewed the proposed plan with the City of Boston</p> | <p>Project has not been reviewed.</p> |

Article 80 | ACCESSIBILITY CHECKLIST

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| <p>Disability Commissioner or with their Architectural Access staff? If yes, did they approve? If no, what were their comments?</p> | |
| <p>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?</p> | <p>Project has not been reviewed.</p> |
| <p>10. Attachments <i>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.</i></p> | |
| <p>Provide a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations, including route distances. ⇒ See attached</p> | |
| <p>Provide a diagram of the accessible route connections through the site, including distances. ⇒ See attached</p> | |
| <p>Provide a diagram the accessible route to any roof decks or outdoor courtyard space? (if applicable) ⇒ See attached</p> | |
| <p>Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry. ⇒ See attached</p> | |
| <p>Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible elements of this project. •</p> | |

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.

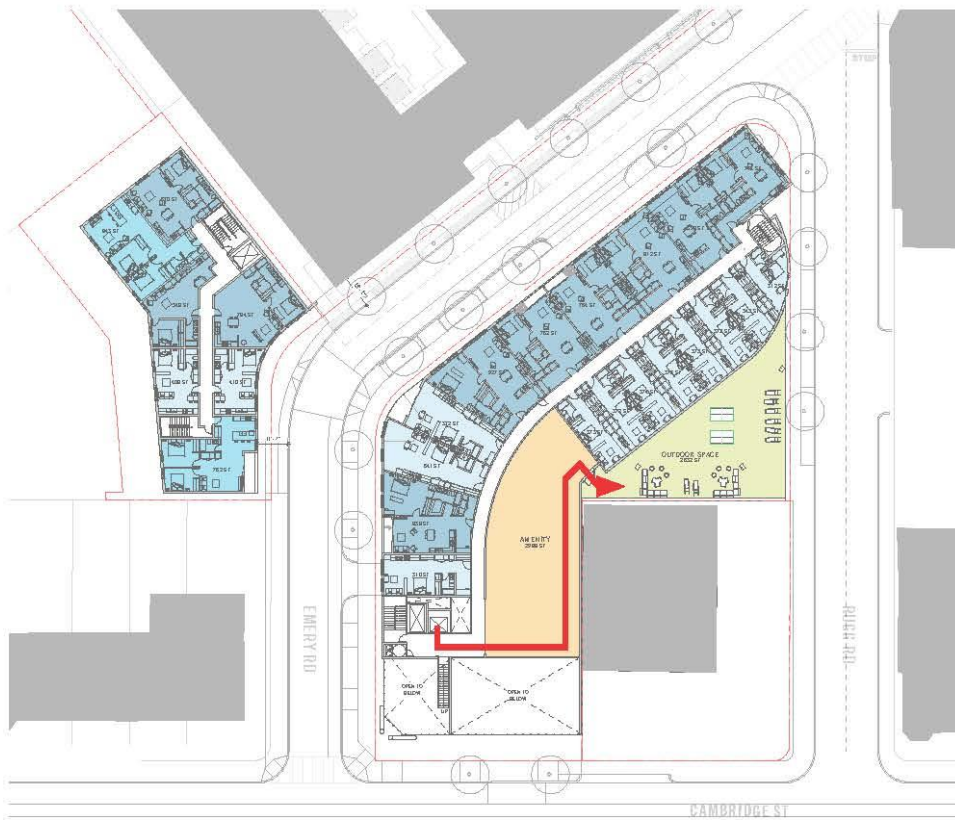
For questions or comments about this checklist, or for more information on best practices for improving accessibility and inclusion, visit www.boston.gov/disability, or our office:

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

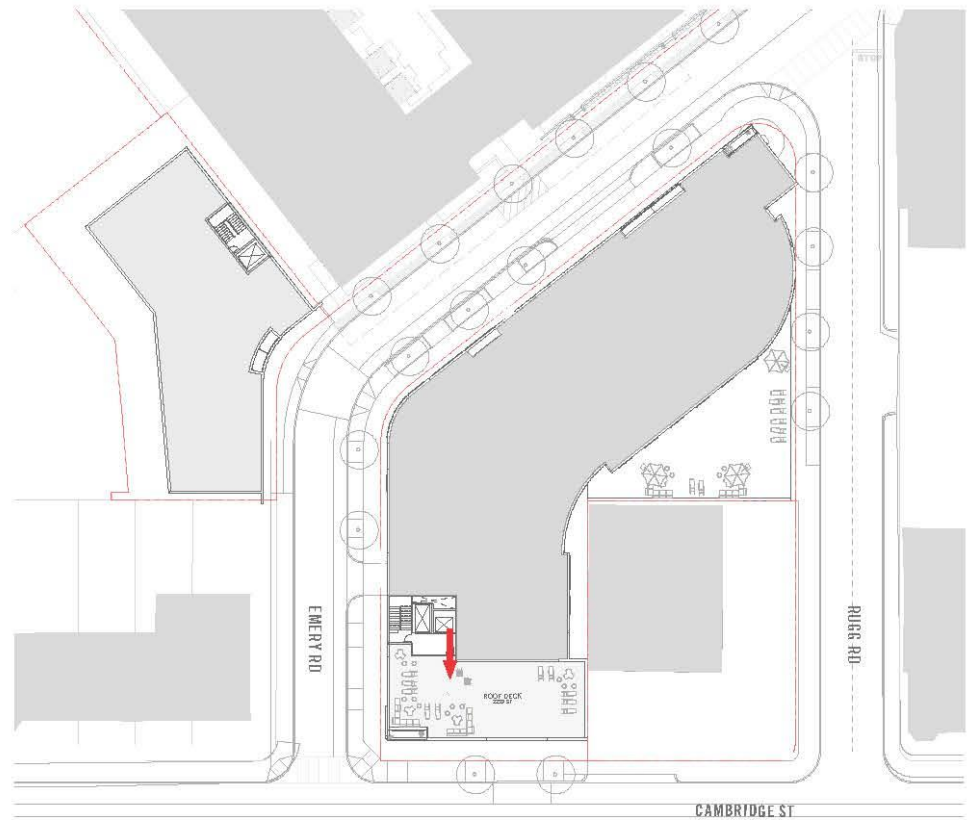
Architectural Access staff can be reached at:

Article 80 | ACCESSIBILITY CHECKLIST

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



LEVEL 3 FLOOR PLAN



LEVEL ROOF FLOOR PLAN

 ACCESS ROUTE

449 Cambridge Street Boston, Massachusetts

UNIT MIX

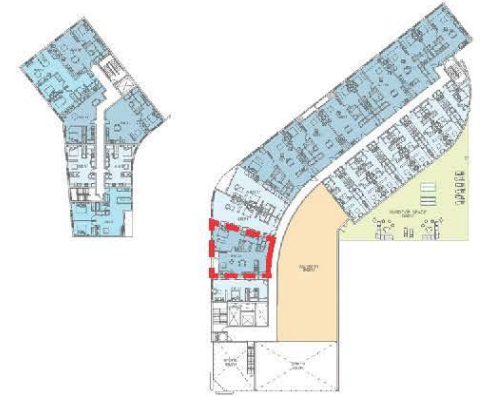
| | STU | 1BR | 2BR | TH |
|--------------------------|-----|-----|-----|----|
| Level 7 | 16 | 8 | 2 | - |
| Level 6 | 18 | 11 | 4 | - |
| Level 5 | 18 | 11 | 4 | - |
| Level 4 | 18 | 11 | 4 | - |
| Level 3 | 13 | 10 | 2 | - |
| Level 2 | 2 | 3 | 2 | - |
| Level 1 | 1 | 3 | - | 5 |
| Total (unit) | 86 | 57 | 18 | 5 |
| Barrier Free Proposed 5% | 4 | 3 | 1 | 0 |



LEVEL 1 (PARKING) FLOOR PLAN



LEVEL 2 (GROUND) FLOOR PLAN



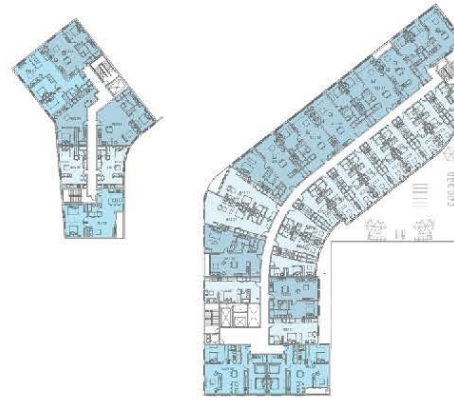
LEVEL 3 FLOOR PLAN



LEVEL 4 FLOOR PLAN



LEVEL 5 FLOOR PLAN



LEVEL 6 FLOOR PLAN



LEVEL 7 FLOOR PLAN

449 Cambridge Street Boston, Massachusetts

Appendix E

Broadband Ready Questionnaire

**Form Publisher
Template**

10/16/2019



FormPublisher

This is a simple template document automatically generated by Form Publisher.
Feel free to personalize it like any other Google Spreadsheet.

Questions list:

Project Name::

Project Address Primary: :

Project Address Additional: :

Project Contact (name / Title /
Company / email / phone): :

Expected completion date:

Owner / Developer: Anchor Line Partners

Architect: Perkins & Will

Engineer (building systems)::

Permitting:: Epsilon Associates, Inc.

Construction Management:

Number of Points of Entry: Unknown

Locations of Points of Entry: Unknown

Quantity and size of conduits: Unknown

Location where conduits
connect (e.g. building-owned
manhole, carrier-specific
manhole or stubbed at
property line) :

Unknown

Other information/comments:

Do you plan to conduct a
utility site assessment to
identify where cabling is
located within the street? This
information can be helpful in
determining the locations of
POEs and telco rooms.
Please enter 'unknown' if
these decisions have not yet
been made or you are
presently unsure.:

Unknown

Number of risers: Unknown

Distance between risers (if
more than one): Unknown

Dimensions of riser closets: Unknown

Riser or conduit will reach to
top floor : Unknown

Number and size of conduits
or sleeves within each riser: Unknown

Proximity to other utilities (e.g.
electrical, heating): Unknown

Other information/comments:

What is the size of the
telecom room?: Unknown

Describe the electrical
capacity of the telecom room
(i.e. # and size of electrical
circuits):

Unknown

Will the telecom room be
located in an area of the
building containing one or
more load bearing walls?:

Unknown

Will the telecom room be
climate controlled? :

Unknown

| | | | | |
|---|---------|--|--|--|
| If the building is within a flood-prone geographic area, will the telecom equipment will be located above the floodplain?: | Yes | | | |
| Will the telecom room be located on a floor where water or other liquid storage is present?: | Unknown | | | |
| Will the telecom room contain a flood drain?: | Unknown | | | |
| Will the telecom room be single use (telecom only) or shared with other utilities?: | Unknown | | | |
| Other information/comments: | | | | |
| Will building/developer supply common inside wiring to all floors of the building? : | Unknown | | | |
| If yes, what transmission medium (e.g. coax, fiber)? Please enter 'unknown' if these decisions have not yet been made or you are presently unsure.: | | | | |
| Is the building/developer providing wiring within each unit? : | Unknown | | | |
| If yes, what transmission medium (e.g. coax, fiber)? Please enter 'unknown' if these decisions have not yet been made or you are presently unsure.: | | | | |
| Will the building conduct any RF benchmark testing to assess cellular coverage?: | Unknown | | | |
| Will the building allocate any floor space for future in-building wireless solutions (DAS/small cell/booster equipment)?: | Unknown | | | |
| Will the building be providing an in-building solution (DAS/ Small cell/ booster)? : | Unknown | | | |
| If so, are you partnering with a carrier, neutral host provider, or self-installing?: | | | | |
| Will you allow cellular providers to place equipment on the roof?: | Unknown | | | |
| Will you allow broadband providers (fixed wireless) to install equipment on the roof? : | Unknown | | | |
| Will you allow broadband providers (fixed wireless) to install equipment on the roof? : | Unknown | | | |
| Date contacted: | | | | |
| Does Comcast intend to serve the building?: | | | | |
| Transmission Medium: | | | | |
| If no or unknown, why?: | | | | |
| Date contacted: | | | | |
| Does RCN intend to serve the building?: | | | | |
| Transmission Medium: | | | | |
| If no or unknown, why?: | | | | |
| Date contacted: | | | | |
| Does Verizon intend to serve the building?: | | | | |
| Transmission Medium: | | | | |

| | | | | |
|--|---------|--|--|--|
| If no or unknown, why?: | | | | |
| Date contacted: | | | | |
| Does netBlazr intend to serve the building?: | | | | |
| Transmission Medium: | | | | |
| If no or unknown, why?: | | | | |
| Date contacted: | | | | |
| Does WebPass intend to serve the building?: | | | | |
| Transmission Medium: | | | | |
| If no or unknown, why?: | | | | |
| Date contacted: | | | | |
| Does Starry intend to serve the building?: | | | | |
| Transmission Medium: | | | | |
| If no or unknown, why?: | | | | |
| Do you plan to abstain from exclusivity agreements with broadband and cable providers? : | Unknown | | | |
| Do you plan to make public to tenants and prospective tenants the list of broadband/cable providers who serve the building?: | Unknown | | | |

Appendix F

Smart Utilities Checklist



Boston Smart Utilities Checklist

Date Submitted: 10/16/2019 15:04:27
Submitted by: tmoked@epsilonassociates.com

Background

The Smart Utilities Checklist will facilitate the Boston Smart Utilities Steering Committee's review of:

- a) compliance with the Smart Utilities Policy for Article 80 Development Review, which calls for the integration of five (5) Smart Utility Technologies (SUTs) into Article 80 developments
- b) integration of the Smart Utility Standards

More information about the Boston Smart Utilities Vision project, including the Smart Utilities Policy and Smart Utility Standards, is available at:

[www.http://bostonplans.org/smart-utilities](http://www.bostonplans.org/smart-utilities)

Note: Any documents submitted via email to manuel.esquivel@boston.gov will not be attached to the pdf form generated after submission, but are available upon request.

Part 1 - General Project Information

1.1 Project Name 449 Cambridge Street

1.2 Project Address 449 Cambridge Street

1.3 Building Size (square feet) 164000

**For a multi-building development, enter total development size (square feet)*

1.4 Filing Stage Initial Filing (i.e., PNF)

1.5 Filing Contact Information
1.5a Name Talya Moked



Boston Smart Utilities Checklist

| | |
|-------------------|------------------------------|
| 1.5b Company | Epsilon Associates |
| 1.5c E-mail | tmoked@epsilonassociates.com |
| 1.5d Phone Number | 9784616223 |

1.6 Project Team

| | |
|------------------------------|--------------------------|
| 1.6a Project Owner/Developer | Anchor Line Partners |
| 1.6b Architect | Perkins & Will |
| 1.6c Permitting | Epsilon Associates, Inc. |
| 1.6d Construction Management | |

Part 2 - District Energy Microgrids

Fill out this section if the proposed project's total development size is equal to or greater than 1.5 million square feet.

Note on submission requirements timeline:

Feasibility Assessment Part A should be submitted with PNF or any other initial filing.

Feasibility Assessment Part B should be submitted with any major filing during the Development Review stage (i.e., DPIR)

District Energy Microgrid Master Plan Part A should be submitted before submission of the Draft Board Memorandum by the BPDA Project Manager (Note: Draft Board Memorandums are due one month ahead of the BPDA Board meetings)

District Energy Microgrid Master Plan Part B should be submitted before applying for a Building Permit

Please email submission to manuel.esquivel@boston.gov

| | |
|---|----------------|
| 2.1 Consultant Assessing/Designing District Energy Microgrid (if applicable) | Not applicable |
|---|----------------|

| | |
|--------------------------------------|--|
| 2.2 Latest document submitted | |
|--------------------------------------|--|



Boston Smart Utilities Checklist

2.3 Date of latest submission

2.4 Which of the following have you had engagement/review meetings with regarding District Energy Microgrids? (select all that apply)

2.5 What engagement meetings have you had with utilities and/or other agencies (i.e., MA DOER, MassCEC) regarding District Energy Microgrids? (Optional: include dates)

2.6 Additional Information

Part 3 - Telecommunications Utilidor

Fill out this section if the proposed project's total development size is equal to or greater than 1.5 million square feet OR if the project will include the construction of roadways equal to or greater than 0.5 miles in length.

Please submit a map/diagram highlighting the sections of the roads on the development area where a Telecom Utilidor will be installed, including access points to the Telcom Utilidor (i.e., manholes)

Please email submission to manuel.esquivel@boston.gov

3.1 Consultant Assessing/Designing Telecom Utilidor (if applicable)

3.2 Date Telecom Utilidor Map/Diagram was submitted

3.3 Dimensions of Telecom Utilidor (include units)

Boston Smart Utilities Checklist

3.3a Cross-section (i.e., diameter,
width X height)

3.3b Length

**3.4 Capacity of Telecom Utilidor (i.e.,
number of interducts, 2 inch (ID) pipes,
etc.)**

**3.5 Which of the following have you had
engagement/review meetings with
regarding the Telecom Utilidor? (select all
that apply)**

**3.6 What engagement meetings have you
had with utilities and/or other agencies
(i.e., State agencies) regarding the Telecom
Utilidor? (Optional: include dates)**

3.7 Additional Information

Part 4 - Green Infrastructure

Fill out this section if the proposed project's total development size is equal to or greater than 100,000 square feet.

Please submit a map/diagram highlighting where on the development Green Infrastructure will be installed.

Please email submission to manuel.esquivel@boston.gov

**4.1 Consultant Assessing/Designing Green
Infrastructure (if applicable)**

Nitsch Engineering

**4.2 Date Green Infrastructure
Map/Diagram was submitted**

10/16/2019

Boston Smart Utilities Checklist

4.3 Types of Green Infrastructure included in the project (select all that apply)

Infiltration chambers

4.4 Total impervious area of the development (in square inches)

4746096

4.5 Volume of stormwater that will be retained (in cubic inches)*

5932620

**Note: Should equal to at least "Total impervious area (entered in section 4.4)" times "1.25 inches"*

4.6 Which of the following have you had engagement/review meetings with regarding Green Infrastructure? (select all that apply)

4.7 What engagement meetings have you had with utilities and/or other agencies (i.e., State agencies) regarding Green Infrastructure? (Optional: include dates)

The team has not yet had these meetings

4.8 Additional Information

Part 5 - Adaptive Signal Technology (AST)

Fill out this section if as part of your project BTM will require you to install new traffic signals or make significant improvements to the existing signal system.

Please submit a map/diagram highlighting the context of AST around the proposed development area, as well as any areas within the development where new traffic signals will be installed or where significant improvements to traffic signals will be made.

Please email submission to manuel.esquivel@boston.gov

5.1 Consultant Assessing/Designing Adaptive Signal Technology (if applicable)

It has not yet been determined if this is applicable

Boston Smart Utilities Checklist

5.2 Date AST Map/Diagram was submitted

5.3 Describe how the AST system will benefit/impact the following transportation modes

5.3a Pedestrians

5.3b Bicycles

5.3c Buses and other Public Transportation

5.3d Other Motorized Vehicles

5.4 Describe the components of the AST system (including system design and components)

5.5 Which of the following have you had engagement/review meetings with regarding AST? (select all that apply)

5.6 What engagement meetings have you had with utilities and/or other agencies (i.e., State agencies) regarding AST? (Optional: include dates)

5.7 Additional Information

Part 6 - Smart Street Lights

Fill out this section if as part of your project PWD and PIC will require you to install new street lights or make significant improvements to the existing street light system.

Please submit a map/diagram highlighting where new street lights will be installed or where improvements to street lights will be made.

Please email submission to manuel.esquivel@boston.gov

Boston Smart Utilities Checklist

6.1 Consultant Assessing/Designing Smart Street Lights (if applicable)

Streetscape improvements have not yet been determined

6.2 Date Smart Street Lights Map/Diagram was submitted

6.3 Which of the following have you had engagement/review meetings with regarding Smart Street Lights? (select all that apply)

6.4 What engagement meetings have you had with utilities and/or other agencies (i.e., State agencies) regarding Smart Street Lights? (Optional: include dates)

6.5 Additional Information

Part 7 - Smart Utility Standards

The Smart Utility Standards set forth guidelines for planning and integration of SUTs with existing utility infrastructure in existing or new streets, including cross-section, lateral, and intersection diagrams. The Smart Utility Standards are intended to serve as guidelines for developers, architects, engineers, and utility providers for planning, designing, and locating utilities. The Smart Utility Standards will serve as the baseline for discussions on any deviations from the standards needed/proposed for any given utility infrastructure.

Please submit typical below and above grade cross section diagrams of all utility infrastructure in the proposed development area (including infrastructure related to the applicable SUTs).

Please submit typical below and above grade lateral diagrams of all utility infrastructure in the proposed development area (including infrastructure related to the applicable SUTs).

Please email submission to manuel.esquivel@boston.gov



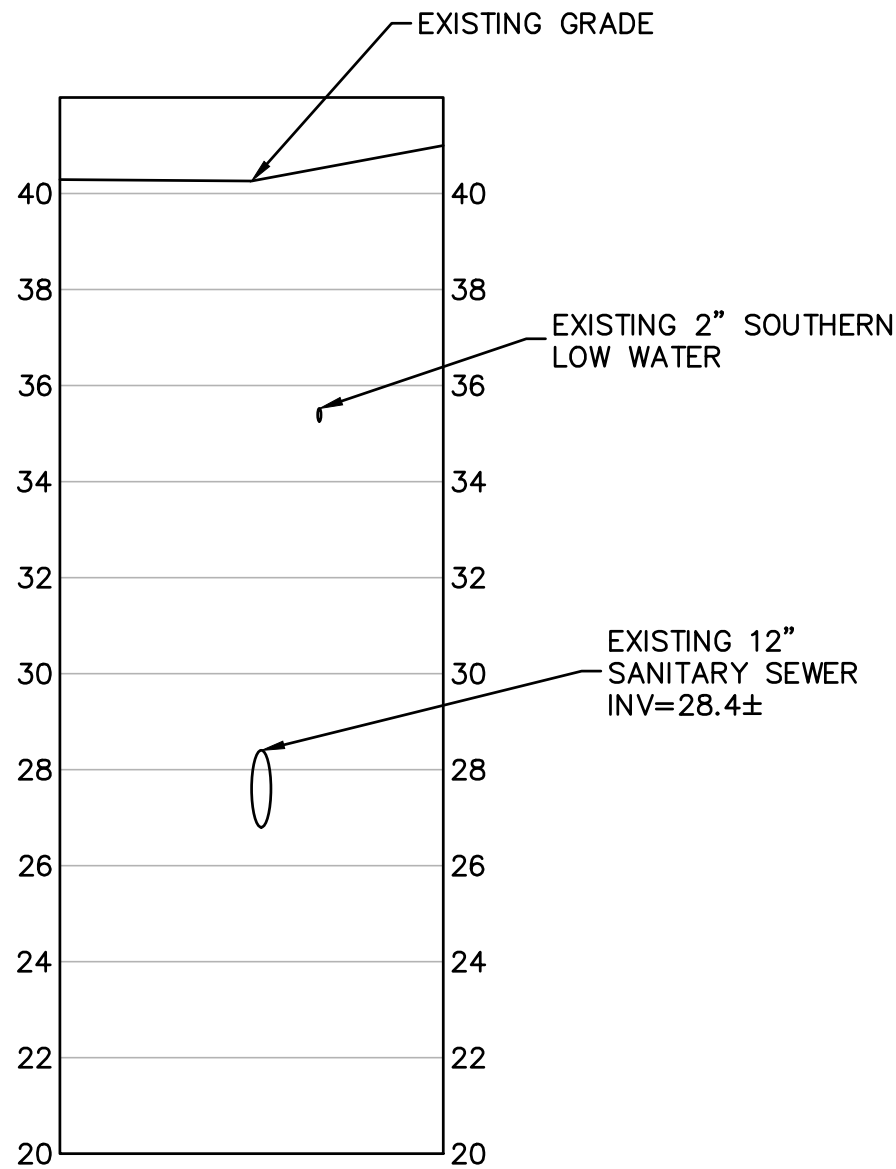
Boston Smart Utilities Checklist

7.1 Date Cross Section Diagram(s) was submitted

10/16/2019

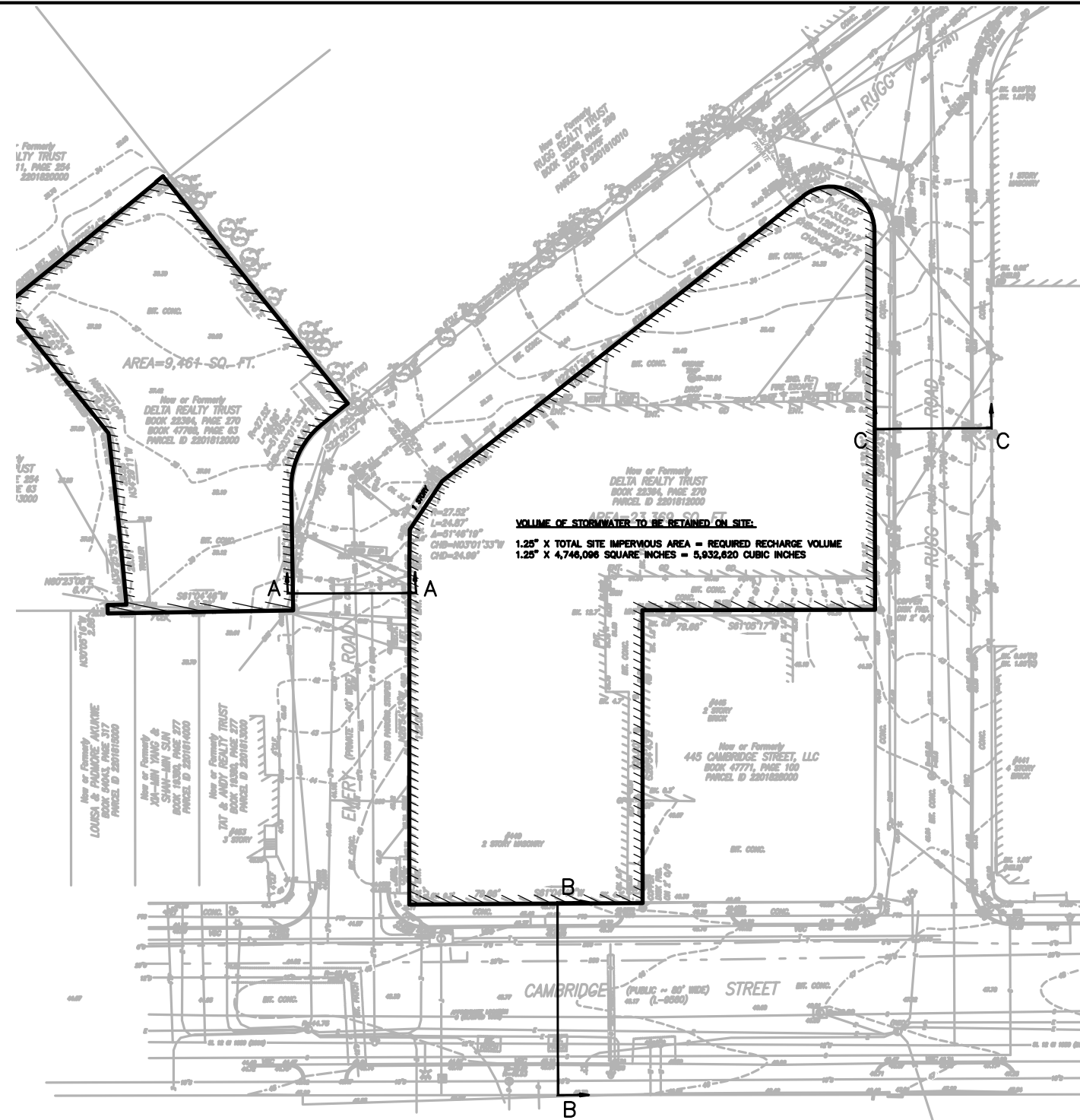
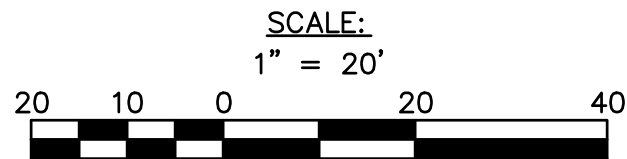
7.2 Date Lateral Diagram(s) was submitted

7.3 Additional Information



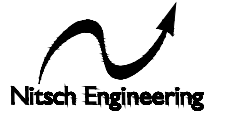
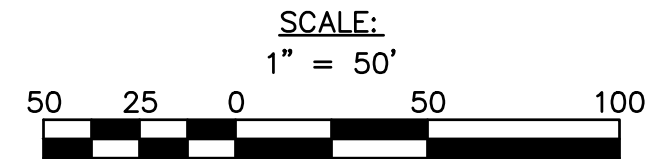
UTILITY PROFILE EMERY ROAD
SECTION A-A

HORIZONTAL SCALE 1"=20'
VERTICAL SCALE 1"=4'



PROFILE PLAN VIEW

SCALE 1"=50'



www.nitscheng.com
2 Center Plaza, Suite 430
Boston, MA 02108
T: (617) 338-0063
F: (617) 338-6472

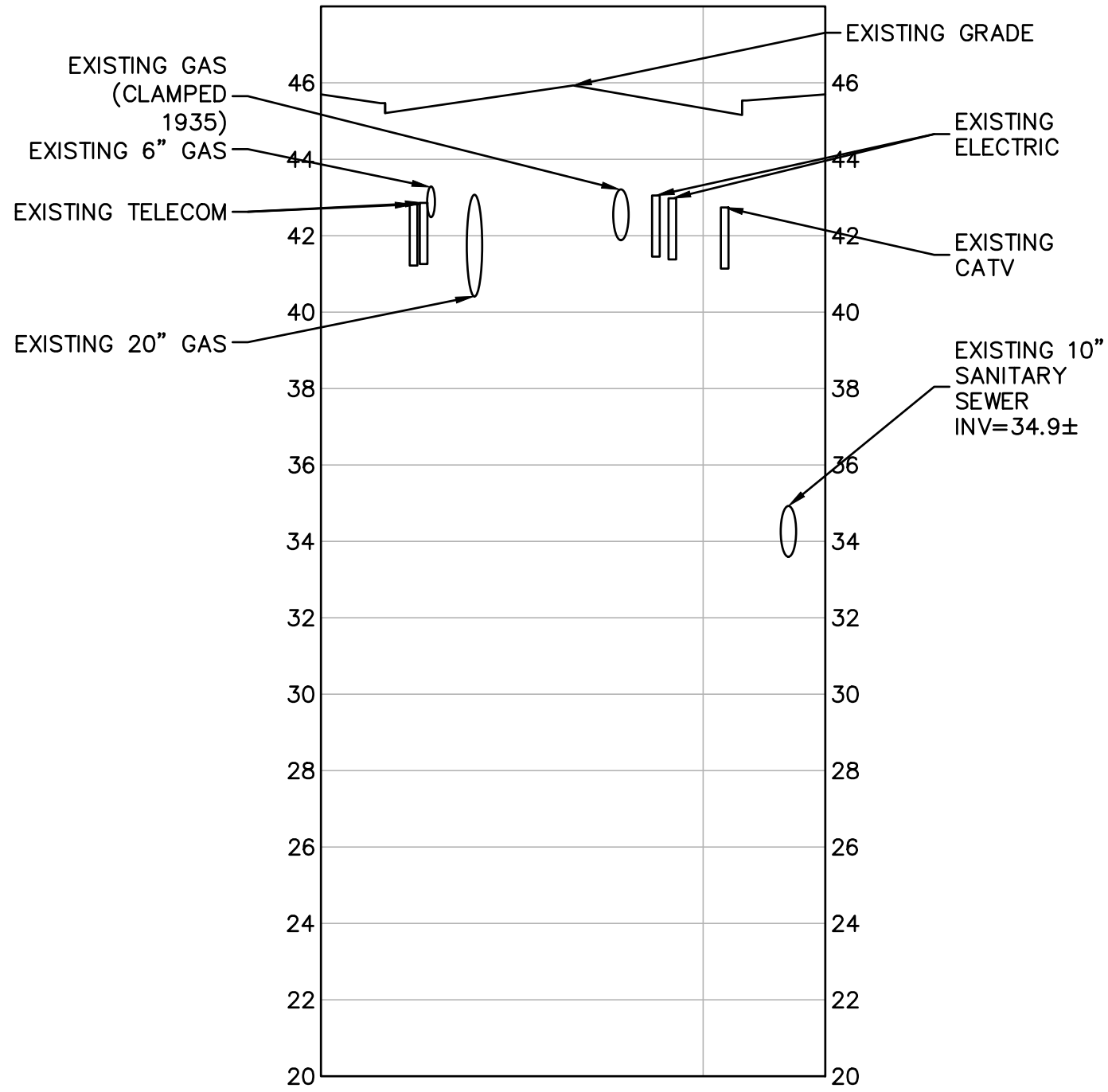
- ▶ Civil Engineering
- ▶ Land Surveying
- ▶ Transportation Engineering
- ▶ Structural Engineering
- ▶ Green Infrastructure
- ▶ Planning
- ▶ GIS

449 CAMBRIDGE ST & 2 EMERY ROAD
BOSTON, MA

PREPARED FOR:
ANCHOR LINE PARTNERS
ONE POST OFFICE SQUARE, SUITE 4100
BOSTON, MA 02109

| | |
|--------------|--------------|
| PROJECT # | #13571 |
| FILE: | 13571cut.dwg |
| SCALE: | AS NOTED |
| DATE: | 10/15/2019 |
| PROJECT MGR: | MLC |
| SURVEYOR: | |
| DRAFTED BY: | MF |
| CHECKED BY: | MLC |

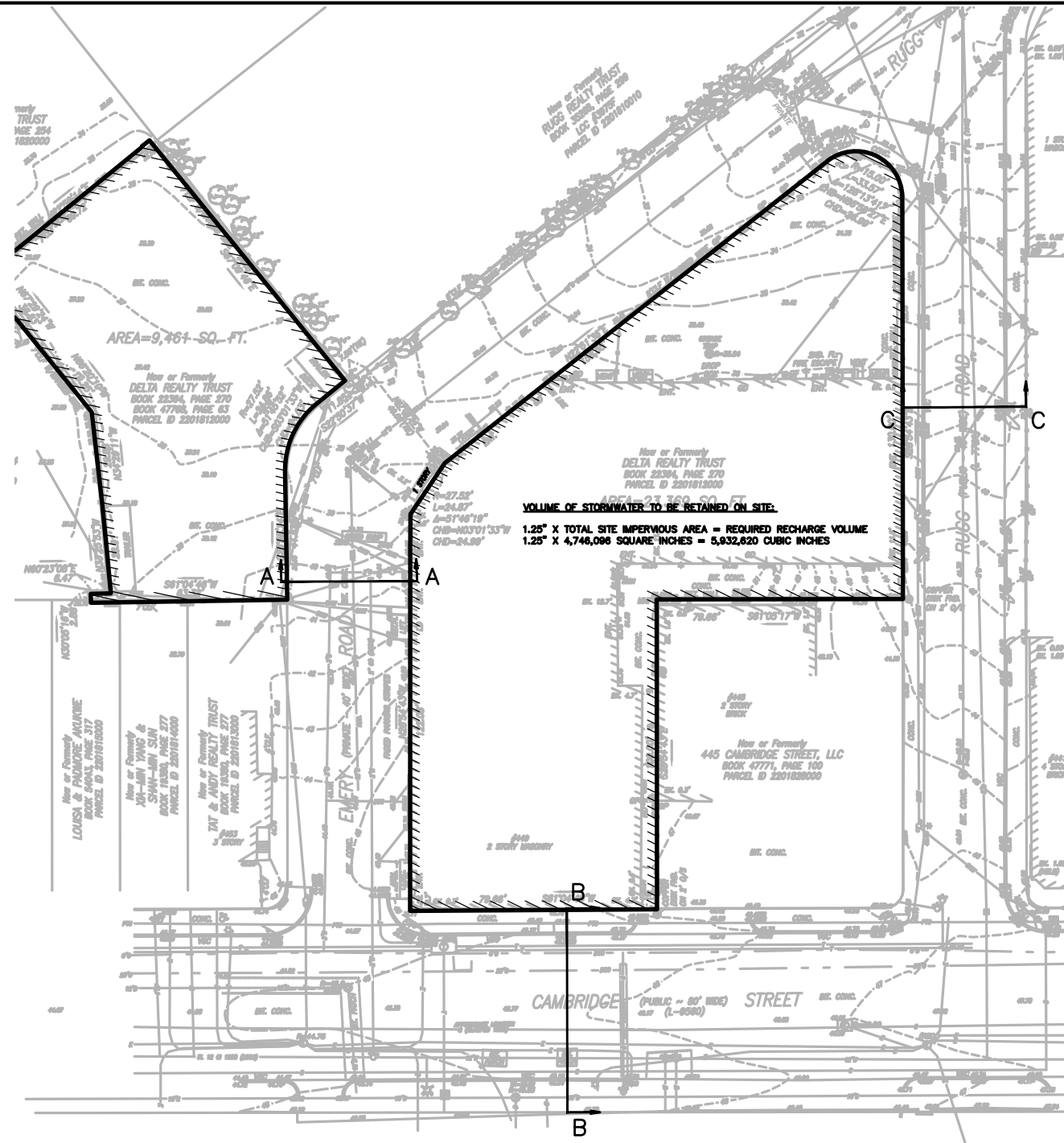
SU-1



UTILITY PROFILE CAMBRIDGE STREET
SECTION B-B

HORIZONTAL SCALE 1"=20'
VERTICAL SCALE 1"=4'

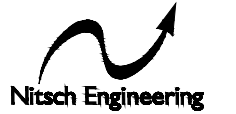
SCALE:
1" = 20'



PROFILE PLAN VIEW

SCALE 1"=50'

SCALE:
1" = 50'



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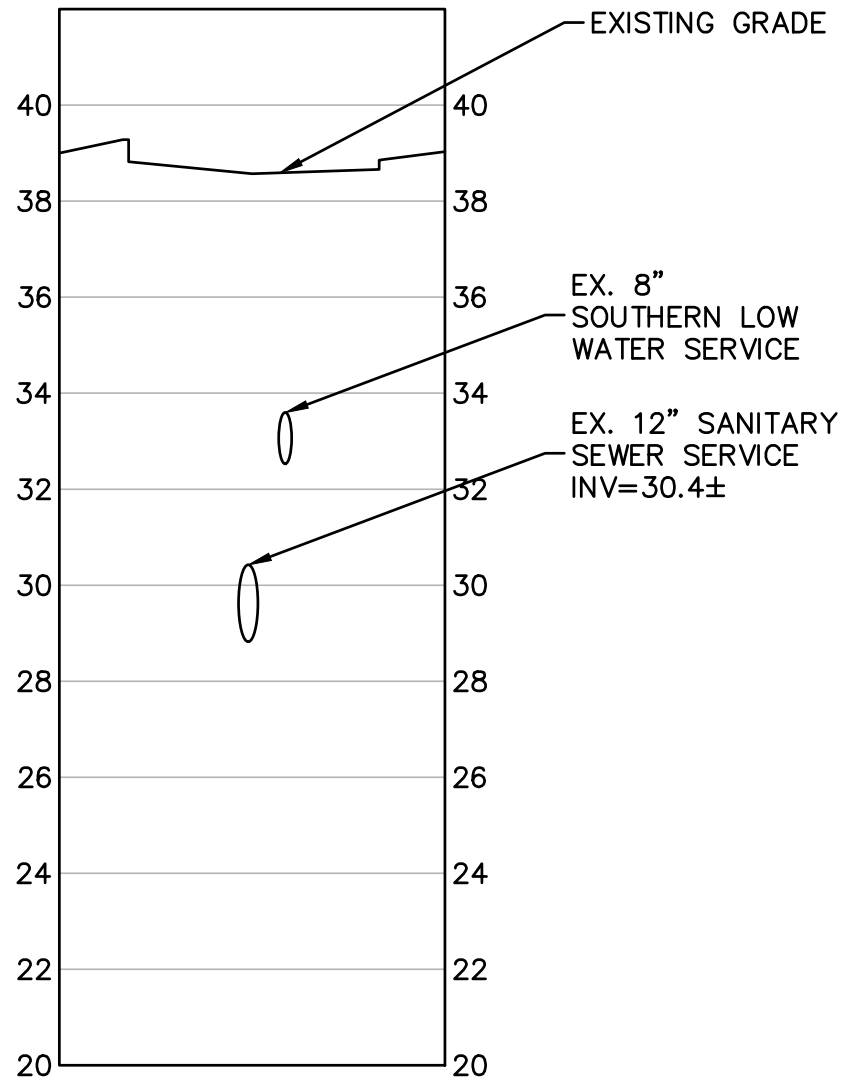
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- ▶ Transportation Engineering
- ▶ Structural Engineering
- ▶ Green Infrastructure
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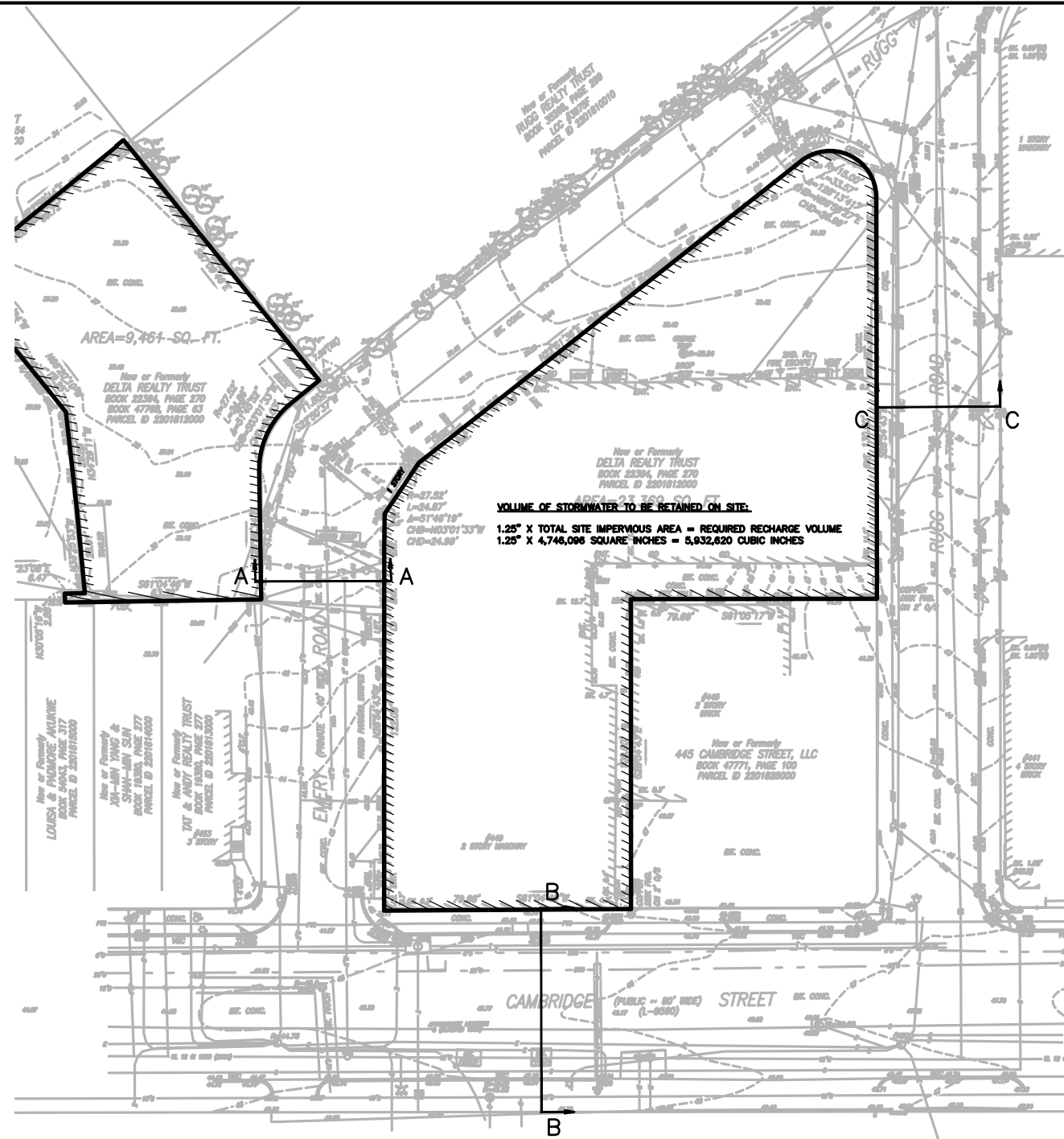
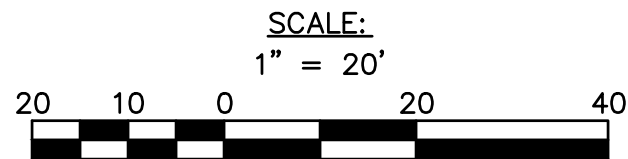
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| DATE: | 10/15/2019 |
| PROJECT MGR: | MLC |
| SURVEYOR: | |
| DRAFTED BY: | MF |
| CHECKED BY: | MLC |

SU-2



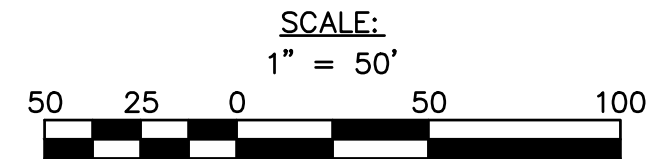
**UTILITY PROFILE RUGG ROAD
SECTION C-C**

HORIZONTAL SCALE 1"=20'
VERTICAL SCALE 1"=4'



PROFILE PLAN VIEW

SCALE 1"=50'



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| | |
|--------------|--------------|
| PROJECT # | #13571 |
| FILE: | 13571cut.dwg |
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| PROJECT MGR: | MLC |
| SURVEYOR: | |
| DRAFTED BY: | MF |
| CHECKED BY: | MLC |

SU-3