PROJECT NOTIFICATION FORM

40 Mount Hood Road

Submitted to:
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Submitted by:
1650 Commonwealth, LLC
133 Pearl Street
Boston, MA 02110

Prepared by:
Epsilon Associates, Inc.
3 Mill & Main Place, Suite 250
Maynard, MA 01754

In Association with:
Stantec Architecture
Copley Wolff Design Group
Dalton & Finegold, LLP
Howard Stein Hudson
Nitsch Engineering
Nauset Strategies

March 1, 2018

Epsilon
ASSOCIATES INC.

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Chapter 1.0

Introduction/Project Description

1.0 INTRODUCTION/ PROJECT DESCRIPTION

1.1 Introduction

1650 Commonwealth, LLC (the Proponent), proposes to develop an approximately 1.7-acre site (the Project site) at 40 Mount Hood Road in the Brighton neighborhood of Boston. The existing site, located at the corner of Mount Hood Road and Egremont Road, currently consists of a motel containing 74 hotel rooms in three separate buildings, as well as surface parking spaces. The site will be developed into an approximately 163,000 square foot (sf) residential building containing approximately 178 residential units with a mix of rental and condominium units, and 142 parking spaces (the Project).

The Project will improve the public realm with approximately 9,000 sf of landscaped space lining the property on both Mount Hood and Egremont roads. This will create an active edge along a corridor that connects the residential neighborhood to Commonwealth Avenue, which is well served by public transit. The pedestrian experience will be further enhanced with new street furniture, trees, plantings, lighting, and path patterning. 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 Expanded Project Notification Form (PNF) is being submitted to the Boston Redevelopment Authority (BRA), doing business as the Boston Planning and Development Agency (BPDA), to initiate review of the Project under Section 80B of the Boston Zoning Code (Zoning Code), Large Project Review. The PNF offers a description of the Project, its minimal impacts and proposed mitigation strategies, and its substantial benefits to the City of Boston (City).

1.2 Project Identification

Address/Location:	40 Mount Hood Road
Developer:	1650 Commonwealth, LLC 133 Pearl Street Boston, MA 02110 (617) 292-0101 John Matteson Yue Li

Architect:	Stantec Architecture 311 Summer Street Boston, MA 02210 (617) 234-3100 James Gray, AIA Aeron Hodges, AIA Eric Smoczynski, AIA
Landscape Architect:	Copley Wolff Design Group 10 Post Office Square, Suite 1315 Boston, MA 02109 (617) 654-9000 John Copley, PLA, ASLA, AIA
Legal Counsel:	Dalton & Finegold, LLP 183 State Street, 5th Floor Boston, MA 02109 (617) 936-7777 Jared Eigerman, Esq.
Permitting Consultants:	Epsilon Associates, Inc. 3 Clock Tower Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Cindy Schlessinger Talya Moked, LEED AP BD+C
Transportation Consultant:	Howard Stein Hudson 11 Beacon Street, Suite 1010 Boston, MA 02108 (617) 482-7080 Michael Littman, PE
Civil Engineer:	Nitsch Engineering 2 Center Plaza, Suite 430 Boston, MA 02108 (617) 338-0063 Deborah M. Danik, PE Ryan Gordon

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

1.3 Project Description

1.3.1 Project Site

The Project site is approximately 1.7-acres located at the corner of Mount Hood Road and Egremont Road in the Brighton neighborhood of Boston (see Figure 1-1). The site comprises three abutting lots, and currently consists of a motel containing 74 hotel rooms in three separate buildings, as well as 93 surface parking spaces. The Project site is sloped, with a grade change of approximately 20 feet, from the highest elevation to the north, sloping to a low point at the southeastern corner. See Figures 1-2 and 1-3 for existing conditions on the site.

1.3.2 Area Context

The Project site is located in a residential section of the City's Brighton neighborhood. The surrounding buildings range from approximately three to seven stories. The Project is ideally located for a transit-oriented development. There are numerous amenities within walking distance, including the Whole Foods Market on Washington Street, and a variety of restaurants and services both at the corner of Washington Street and Commonwealth Avenue, and in the Washington Square neighborhood. In addition, the Project site is less than 1,000 feet to the east of the Sutherland Road Station on the B Branch of the MBTA Green Line and approximately one quarter of a mile to the north of the Dean Road Station on the C Branch of the MBTA Green Line, providing convenient access to Downtown Boston. The Project site is also located along major bike routes, which has become an increasingly popular mode of transportation in recent years.

1.3.3 Proposed Project

The Project, as shown in Table 1-1, would replace the existing motel with an approximately 163,000, seven-story residential building containing 64 rental units and 114 condominium units, for a total of 178 residential units. The building massing will appear as two separate forms, although they will be connected by a one-story, underground podium.

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Data Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

40 Mount Hood Road Boston, Massachusetts

Epsilon Associates Inc.

Figure 1-1
Aerial Locus Map

40 Mount Hood Road Boston, Massachusetts

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Figure 1-2

Existing Conditions

40 Mount Hood Road Boston, Massachusetts

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Figure 1-3

Existing Conditions

The portion of the building closest to Commonwealth Avenue will front on Mount Hood Road, have seven stories, and contain 30 condominium units and 64 rental units. The portion of the building along Egremont Road will step back in height down to five stories, and will contain 84 condominium units, nine of which will be townhomes fronting Egremont Road. Approximately 142 parking spaces will be enclosed in the one-story podium, beneath a central courtyard, with 114 of these spaces dedicated to the condominium units, and 28 spaces dedicated to the rental units.

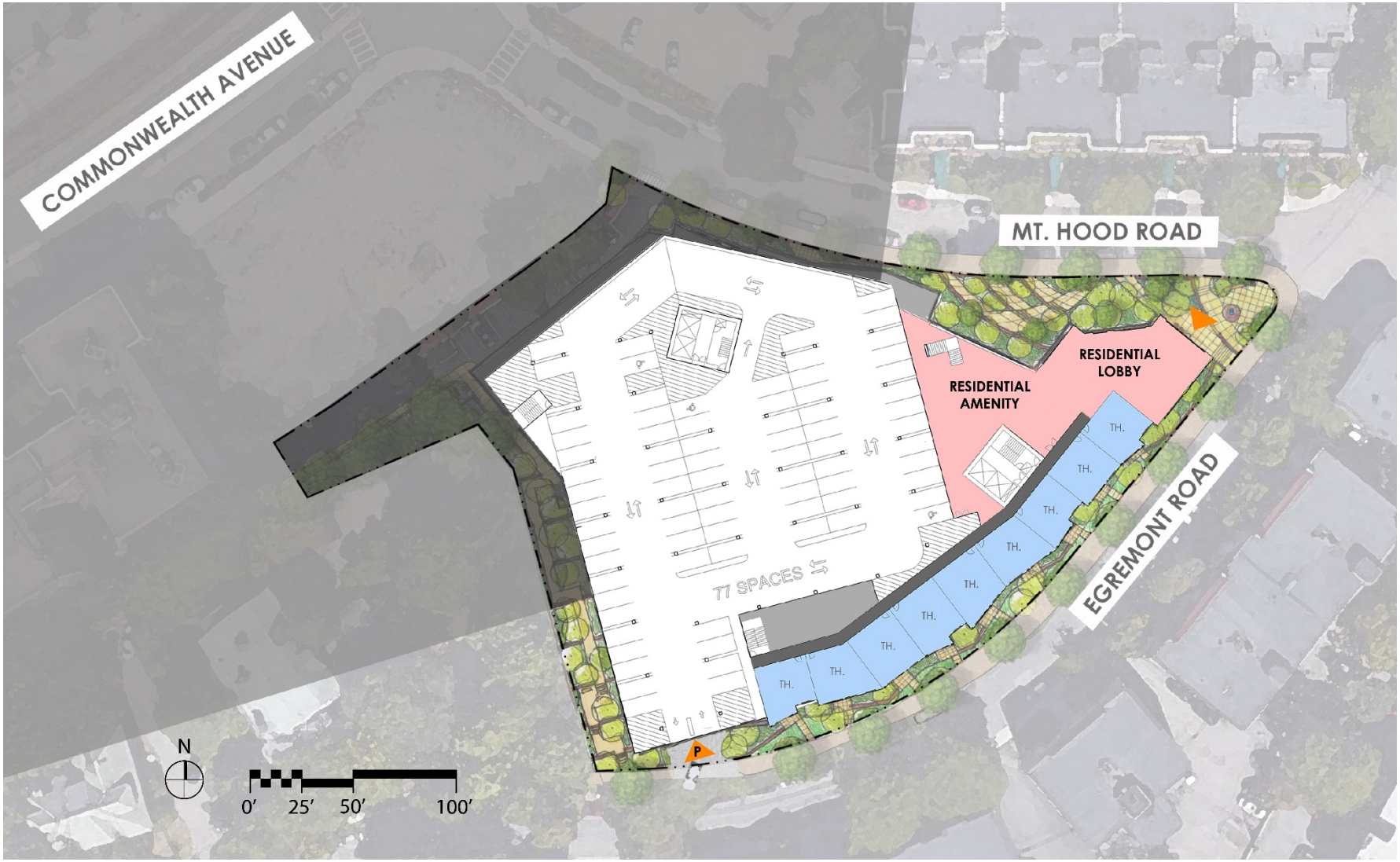
The 178 dwellings will be a mix of studios, and one-, two-, and three-bedroom units. The nine ground-level, two-story townhomes along Egremont Road will each have individual unit entrances onto the sidewalk, improving the local pedestrian environment. Between the two building forms will be 15,000 sf of courtyard space available to all Project residents. Active amenity spaces will enliven the ground floor adjacent to the main lobbies and will spill out into the 9,000 sf of landscaping that will line the property on both Mount Hood and Egremont roads. Figures 1-4 and 1-5 present the locations of the main lobbies. Floor plans, sections, and elevations are in Appendix A.

Table 1-1 Project Program

Project Element	Approximate Dimension
Residential	
Condominium units	114
Rental units	64
Total units	**178**
Parking	142 spaces
Total Gross Floor Area	**163,000 sf**
Height	5-7 stories/84 feet
Parcel Area	75,084 sf (1.7 acres)
Floor Area Ratio	1.8

The Project design is sensitive to the existing character and scale of the neighborhood. As noted above, the building massing is stepped with the highest portion located closest to the larger buildings on Commonwealth Avenue. Stepping down to the south, the Project's height transitions to the scale of the block faces across Mount Hood and Egremont roads. The streetscape will be lined with street trees, replacing much of the existing on-grade parking with private and public landscaped space, and relocating all parking within the structure.

The lobby for the five-story portion of the Project fronting upon Egremont Road will mark the prominent southeastern corner intersection with new landscaping, stoops, and patios to create an active edge and corridor connecting the neighborhood to Commonwealth Avenue



40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 1-4

Lower Lobby Plan

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 1-5

Upper Lobby Plan

and to public transit. The lobby for the seven- story portion of the Project fronting upon Mount Hood Road will also include landscaped open space along much of its perimeter. Consistent with pedestrian treatments in other successful urban communities, street furniture, trees, plantings, lighting and path patterning will be added to enhance the quality of the pedestrian experience for both the Project's residents and the surrounding neighborhood. Amenity spaces will connect both lobbies, as well as the courtyard space.

1.3.4 Vehicular Access

The Project will provide two vehicular access points, one for each portion of the building. The northerly entrance, which will accommodate all loading functions, will use the existing utility alley off of Mount Hood Road. Located at the northwesterly corner of the site, this will keep loading farthest away from the intersection of Mount Hood and Egremont roads. The southerly vehicular entrance, for residential users only, will be off of Egremont Road, at the southwest corner of the site.

As noted above, the Proponent will replace the existing surface parking lots at the site with below-grade and partially below-grade parking spaces within the new building podium. This will minimize the visual impact from the pedestrian experience surrounding the site.

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.

Smart Growth/Transit-Oriented Development

The Project is consistent with smart-growth and transit-oriented development principles. Located within a quarter mile of the MBTA's Washington Street (Green B Line) and Dean Road (Green C-Line) stations, the Project places new developments at existing nodes of excellent transit routes.

Improved Street and Pedestrian Environment

The Project will improve the public realm with approximately 9,000 sf of landscaped space lining the property along both Mount Hood and Egremont roads. The pedestrian experience will be further enhanced with new street furniture, trees, plantings, lighting and path patterning.

Inclusionary Affordable Housing

The Project is subject to the Mayor's Executive Order regarding inclusionary affordable housing, dated February 29, 2000, as amended, as well as the Inclusionary Development Policy (IDP). Thirteen percent (13%) of the approximately 178 dwelling units in the Project will be deed-restricted as IDP units.

Sustainable Design/Green Building

Energy conservation and other sustainable design measures are an integral component of the proposed Project. The Project will employ energy and water efficient features for mechanical, electrical, architectural, and structural systems, assemblies, and materials, where feasible. Sustainable design elements relating to building energy management systems, lighting, recycling, conservation measures, local building materials, and clean construction vehicles will also be included, to the greatest extent practicable. The Proponent is committed to building a LEED certifiable project with a target of the Silver level, incorporating sustainable design features into the Project to preserve and protect the environment.

Increased Employment

The Project will create approximately 225 construction jobs and approximately 25 permanent jobs once it is occupied.

New Property Tax

The Proponent anticipates that, following lease up, the Project will generate approximately $420,000 in net additional tax revenues for the City of Boston, based on the Project's estimated hard construction cost of approximately $6.5 million and current property tax rates for residential buildings.

1.5 Regulatory Controls and Permits

1.5.1 Boston Zoning Code

The Project site is located within the MFR-1 Subdistrict of the Allston/Brighton Neighborhood District (Zoning Code sec. 51-7.4.) The Multifamily Residential Subdistricts are established to encourage medium density multifamily areas with a variety of allowed housing types including one-, two- and three-family Dwellings, Row Houses, Town Houses, and multifamily Dwellings. (Id.) The Project site is also located within the Aberdeen Architectural Conservation District (AACD), administered by the AACD Commission. The site is not located within the Commonwealth Avenue Greenbelt Protection Overlay District (see id. sec. 51-42.2.), nor within the Groundwater Conservation Overlay District (GCOD).

Use and Dimensions

The proposed multifamily dwelling use is permitted by right at the Project site. (Zoning Code sec. 51-8, citing Table A.) The Project will require the Boston Board of Appeal to grant zoning relief in the form of variances for minimum lot area per dwelling unit, floor area ratio (FAR), building height, usable open space, and minimum front yard depth. (Id. sec. 51-9.)

Off-Street Parking and Loading

Off-street parking and loading for the Project will be determined through the Large Project Review process. (Zoning Code art. 51, Table J, fn 1, and Table K, fn 1.)

BCDC Schematic Design Review (Article 28)

The Boston Civic Design Commission (BCDC) must review any project exceeding 100,000 sf of gross floor area, or any project determined by BCDC to be of "special urban design significance." (id. sec. 28-5.) As noted above, the Project would have a GFA exceeding 100,000 sf, and so it requires schematic design review by BCDC. The Proponent looks forward to working with the BCDC regarding the design of the Project.

Barrier-Free Access (Article 30)

The purposes of Article 30 of the Zoning Code (Barrier-Free Access) are to ensure that physically handicapped persons have full access to buildings open to the public; to afford such persons the educational, employment, and recreational opportunities necessary to all citizens; and to preserve and increase the supply of living space accessible to physically handicapped persons. (id. sec. 30-1.) The hotel and other uses proposed under the Project are subject to the provisions Article 30. (id. sec. 30-3.), and the Project is designed to comply.

Groundwater Conservation Overlay District (Article 32)

As noted above, the Project site is not located within the GCOD.

Green Buildings (Article 37)

The purposes of Article 37 of the Zoning Code (Green Buildings) are: to ensure that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston. (id. sec. 37-1.) The Project is subject to the requirements of Article 37 because it is subject to Large Project Review (id. sec. 37-3), and the Project will comply. The Proponent has committed to developing a LEED-certifiable project with a target of the Silver level, incorporating sustainable design features into the Project to preserve and protect the environment.

Development Impact Project (Article 80)

Under Section 80B-7 of the Zoning Code, a Development Impact Project (DIP) is required to make mitigation payments, or provide equivalent in-kind contributions, to create affordable housing and job-training programs. The Project does not constitute a DIP for purposes of Section 80B-7.

1.5.2 Inclusionary Affordable Housing

The Project is subject to the Mayor's Executive Order regarding inclusionary affordable housing, dated February 29, 2000, as amended, as well as the BPDA's Inclusionary Development Policy (IDP). The proponent plans to set aside thirteen percent (13%) of the approximately 178 dwelling units at the site as deed-restricted IDP units.

1.5.3 Boston Water and Sewer Commission

The Boston Water and Sewer Commission (BWSC) approval of the Project is required due to the proposed improvements. The Project will be reviewed and approved by the BWSC through the BWSC's Site Plan Approval process. Once approved, the general contractor will coordinate obtaining and executing the General Service Application (GSA) with the BWSC for any proposed improvements.

1.6 Legal Information

1.6.1 Legal Judgments Adverse to the Proposed Project

The Proponent is not aware of any legal judgments in effect or legal actions pending that would prevent the Proponents from undertaking the Project.

1.6.2 History of Tax Arrears on Property

No property owned in the City of Boston by the Proponent is in tax arrears to the City of Boston.

1.6.3 Site Control/ Public Easements

The Proponent holds fee simple title to the site under a Quitclaim Deed recorded on January 20, 2017, at the Suffolk County Registry of Deeds in Book 57449, at Page 210. A site survey, including a metes-and-bounds description is provided in Appendix B.

1.7 Anticipated Permits

Table 1-2 presents a preliminary list of permits and approvals from governmental agencies that are expected to be required for the Project, based on currently available information. It is possible that only some of these permits or actions will be required, or that additional permits or actions will be required.

Table 1-2 Anticipated Permits and Approvals

Agency	Permit, Review or Approval
State Agencies	
Massachusetts Water Resources Authority	Construction Dewatering Permit
Department of Environmental Protection, Division of Air Quality Control	Notification prior to construction
City Agencies	
Aberdeen Architectural Conservation District	Certificate to Allow Demolition Certificate of Design Approval
Boston Civic Design Commission	Schematic Design Review
Boston Committee on Licenses/Public Safety Commission	Parking Garage Permit Flammable Storage License (parking garage)
Boston Fire Department	Approval of Fire Safety Equipment
Boston Inspectional Services Department	Building and Occupancy Permits
Boston Planning & Development Agency	Large Project Review (Section 80B) Cooperation Agreement Boston Residents Construction Employment Plan Development Impact Project (DIP) Agreement
Boston Public Improvement Commission	Specific Repairs (sidewalks) License, Maintenance, and Indemnification Agreement
Boston Transportation Department	Transportation Access Plan Agreement Construction Management Plan Street and Sidewalk Occupant Permits
Boston Water and Sewer Commission	Water and Sewer Connection Permits General Service Application Site Plan Review Infiltration and Inflow (I&I) Fee

1.8 Public Participation

As part of its planning efforts, the Proponent has contacted nearby residents and representatives of numerous neighborhood groups, elected officials, and public agencies. The Proponent first presented the Project to the Brighton Allston Improvement Association on December 7, 2017. The formal community outreach process begins with the filing of this PNF.

The Proponent continues to be committed to a comprehensive and effective community outreach 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 officials, neighbors, and others as the design and review processes move forward.

1.9 Schedule

It is anticipated that construction will commence in the spring of 2019. Once begun, construction is expected to last approximately 24 months.

Chapter 2.0

Transportation

2.0 TRANSPORTATION

Howard Stein Hudson (HSH) has conducted an evaluation of the transportation impacts of the proposed Project located at 40 Mount Hood Road in Boston's Brighton neighborhood. This transportation study adheres to the Boston Transportation Department (BTD) Transportation Access Plan Guidelines and the BPDA Article 80 development Large Project Review process. The study includes an evaluation of existing conditions, future conditions with and without the Project, projected parking demand, transit services, and pedestrian and bicycle activity.

The intersections studied will continue to operate at the same Level of Service during the Build (2024) Condition as during the No-Build (2024) Condition during both the weekday a.m. and p.m. peak hours. The Project will have minimal impact on the study area intersections, the public transportation services, and bicycle facilities in the area, and will improve the pedestrian facilities by eliminating a curb cut and reducing the width of the two existing curb cuts.

2.1 Project Description

The Project site consists of approximately 1.7 acres composed of three adjacent parcels bounded by Egremont Road to the southeast, Mount Hood Road to the north a residential building that is currently under construction to the northwest, and a residential building to the west. The Project site is fewer than 1,000 feet to the east of the Sutherland Road Station on the B Branch of the MBTA Green Line and approximately a quarter of a mile to the north of the Dean Road Station on the C Branch of the MBTA Green Line, providing convenient access to multiple public transportation opportunities.

The Project site currently contains three separate buildings operated together as a motel, and a parking lot containing 71 surface parking spaces. The site has three full access curb cuts, two along Mount Hood Road and one along Egremont Road. All three buildings are two-stories and contain a total of 74 hotel rooms.

The Project will replace the existing motel buildings with a single residential building with a massing that appears as two separate forms, although they share a lobby, and a below-grade parking garage with 142 spaces. The Project will consist of approximately 64 rental units and 114 condominium units for a total of 178 residential units, ranging in size from studios to three-bedroom units. The lower level of the garage will have one full access driveway along Egremont Road and will contain 77 parking spaces and the upper level of the garage will have one full access driveway along Mount Hood Road and will contain 65 parking spaces. The two garage levels will not connect to each other. All other existing driveways and curb cuts at the site will be eliminated.

Primary pedestrian access to the site will be via three entrances along Mount Hood Road. Pedestrian connectivity will be provided between shared lobby space and both levels of the garage. Loading, deliveries, and trash pick-up will take place on the Project site in the upper-level of the garage to the west of the garage access.

2.1.1 Study Area

The study area consists of the following four unsignalized intersections and four driveways surrounding the Project site as shown on Figure 2-1:

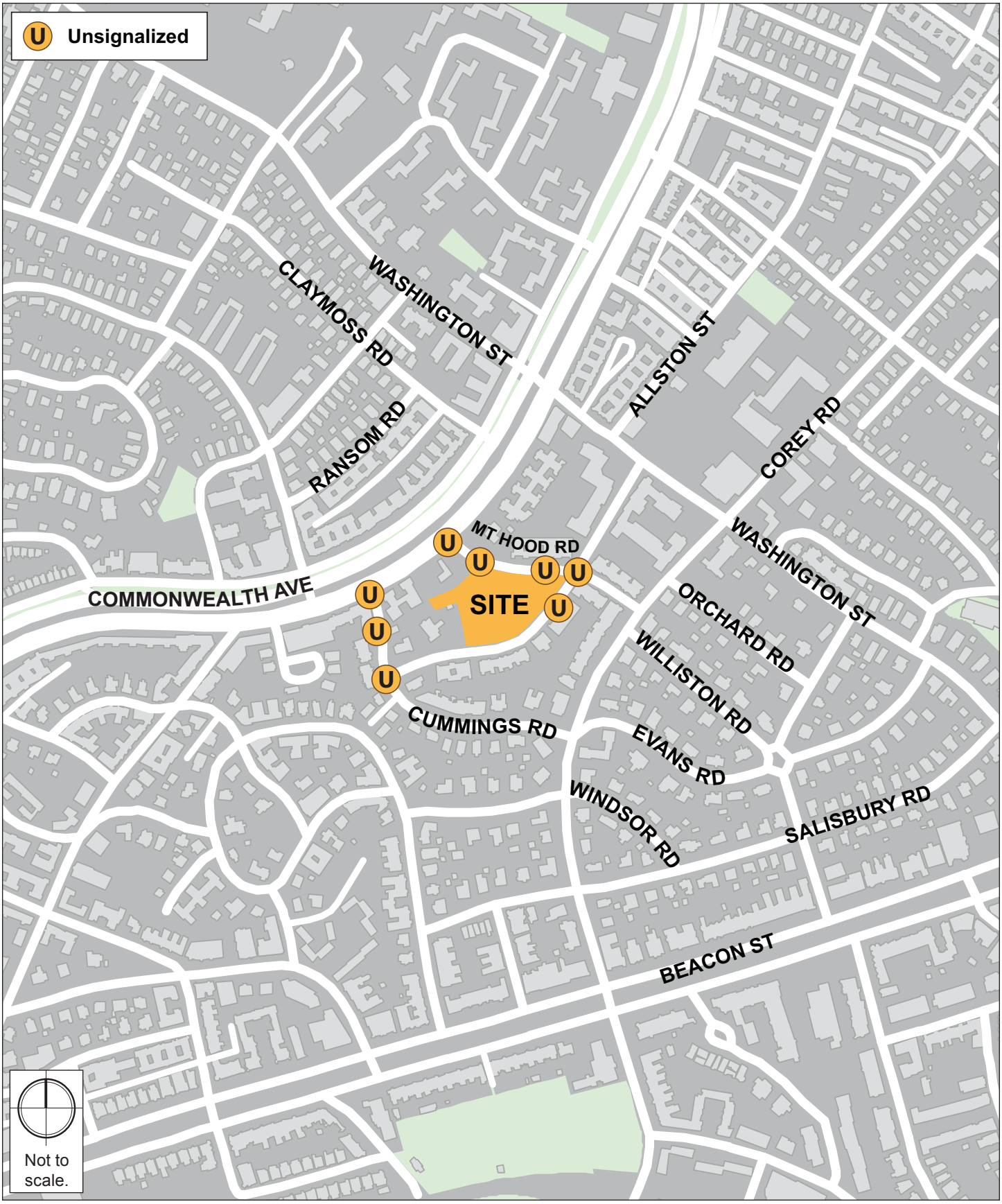
- Commonwealth Avenue/Eastbound Commonwealth Avenue Carriage Road/Mount Hood Road (unsignalized);
- Egremont Road/Mount Hood Road (unsignalized);
- Egremont Road/Cummings Road (unsignalized);
- Eastbound Commonwealth Avenue Carriage Road/Cummings Road (unsignalized).
- Mount Hood Road/North Driveway (unsignalized);
- Mount Hood Road/South Driveway (unsignalized);
- Egremont Road/Driveway (unsignalized); and
- Cummings Road/Alleyway (unsignalized).

2.1.2 Study Methodology

The transportation study and supporting analyses were conducted in accordance with BTD guidelines and is described below.

The existing conditions analysis includes an inventory of the existing transportation conditions such as traffic characteristics, parking, curb usage, transit, pedestrian circulation, bicycle facilities, loading, and site conditions. Existing counts for vehicles, bicycles, and pedestrians were collected on Tuesday October 24, 2017, at the study area intersections. The traffic counts form the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analysis evaluates potential transportation impacts associated with the Project. Long-term impacts are evaluated for the year 2024, based on a seven-year horizon from the year of the filing of this traffic study. Expected roadway, parking, transit, pedestrian, bicycle accommodation, and loading capabilities and deficiencies are identified. The future conditions include the following scenarios:



40 Mount Hood Road Boston, Massachusetts

HOWARD STEIN HUDSON
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Figure 2-1
Study Area

The No-Build (2024) Condition scenario includes both general background traffic growth and traffic growth associated with specific developments and transportation improvements that are planned in the vicinity of the Project site.

The Build (2024) Condition scenario includes Project-generated traffic volume estimates added to the traffic volumes developed as part of the No-Build (2024) Condition scenario.

The Build (2024) Condition scenario includes Project-generated traffic volume estimates added to the traffic volumes developed as part of the No-Build (2024) Condition scenario.

An evaluation of short-term traffic impacts associated with construction activities is also provided.

2.2 Existing Conditions

2.2.1 Existing Roadway Conditions

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

Commonwealth Avenue is a two-way, four-lane roadway located to the north of the Project site. Commonwealth Avenue is classified as an urban principal arterial roadway under BTD jurisdiction and runs in a predominately east-west direction, between Route 95 in Weston to the west and Arlington Street in Boston to the east. The B Branch of the MBTA Green line travels within a wide median that separates the directions of travel along Commonwealth Avenue in the vicinity of the site. Carriage Roads are provided along both sides of Commonwealth Avenue, providing access to local destinations, parking, and minor streets. The Carriage Road along Commonwealth Avenue eastbound will be herein referred to as the "Eastbound Carriage Road". Sidewalks are provided along both sides of Commonwealth Avenue. Parking is intermittently provided along the Carriage Roads. At the time of the data collection, the Eastbound Carriage Road was closed due to construction at 1650 Commonwealth Avenue.

Mount Hood Road is a one-way southbound, one-lane roadway that is located adjacent to the east of the Project site. Mount Hood Road is classified as a local roadway under BTD jurisdiction and runs in a predominately north-south direction, between Commonwealth Avenue to the north and Corey Road to the south. Sidewalks and on-street parking are provided along both sides of the roadway.

Egremont Road is a one-way westbound, one-lane roadway located adjacent to the south of the Project site. Egremont Road is classified as a local roadway under BTD jurisdiction and runs in a predominately east-west direction, between Washington Street to the east and Cummings Road to the west. Sidewalks and on-street parking are provided along both sides of the roadway.

Cummings Road is a one-way northbound, one-lane roadway located to the west of the Project site. Cummings Road is classified as a local roadway under BTD jurisdiction and runs in a predominately north-south direction, between Commonwealth Avenue to the north and Corey Road to the south. Sidewalks and on-street parking are provided along both sides of the roadway.

2.2.2 Existing Intersection Conditions

Existing conditions at the study area intersection are described below.

Commonwealth Avenue/Eastbound Carriage Road/Mount Hood Road is a five-legged, unsignalized intersection with two approaches. The Commonwealth Avenue Eastbound approach consists of two lanes, an exclusive through lane and a shared through/bear-right/right-turn lane. The Eastbound Carriage Road approach consists of one shared bear-left/through/right-turn lane. Although there is no formal control between Commonwealth Avenue and the Eastbound Carriage Road, through vehicles operate under free control and turning vehicles operate under yield or stop control. On-street parking is provided along the south side of Eastbound Carriage Road and the west side of Mount Hood Road. There is also a sharrow along Eastbound Carriage Road. Crosswalks and curb-ramps are provided along the Commonwealth Avenue eastbound approach, the Eastbound Carriage Road eastbound approach, and the Mount Hood Road northbound approach.

Egremont Road/Mount Hood Road is a four-legged, unsignalized intersection with two approaches. The Egremont Road westbound approach consists of one shared left-turn/through lane that operates under free control. The Mount Hood Road southbound approach operates under stop control, and consists of one shared through/right-turn lane. On-street parking is provided on both sides of both approaches. There are no crosswalks, or pavement markings provided at the intersection. Apex pedestrian ramps are provided at all four corners of the intersection.

Egremont Road/Cummings Road is a three-legged, unsignalized intersection that consists of two approaches. The Egremont Road westbound approach operates under stop control, and consists of an exclusive right-turn only lane. The Cummings Road northbound approach consists of an exclusive through lane that operates under free control. On-street parking is provided on both sides of both approaches. There are no crosswalks, or pavement markings provided at the intersection. Pedestrian curb ramps are provided across Egremont Road.

Eastbound Carriage Road/Cummings Road is a three-legged, unsignalized intersection that consists of two approaches. The Eastbound Carriage Road eastbound approach consists of an exclusive through lane that operates under free control. The Cummings Road northbound approach operates under stop control and consists of an exclusive right-turn only lane. On-street parking is provided on both sides of both approaches. A crosswalk and pedestrian curb ramps are provided across Cummings Road.

Mount Hood Road/North Driveway is a three-legged, unsignalized intersection with two approaches. The North Driveway eastbound approach consists of one right-turn only lane. The Mount Hood Road southbound approach consists of one shared through/right-turn lane. There is on-street parking provided along the east side of the roadway. There are no crosswalks provided across any leg of the intersection; however, the sidewalk remains elevated across the North Driveway.

Mount Hood Road/South Driveway is a three-legged, unsignalized intersection with two approaches. The South Driveway eastbound approach consists of one right-turn only lane. The Mount Hood Road southbound approach consists of one shared through/right-turn lane. There is on-street parking provided along both sides of the roadway. There are no crosswalks provided across any leg of the intersection; however, the sidewalk remains elevated across the North Driveway.

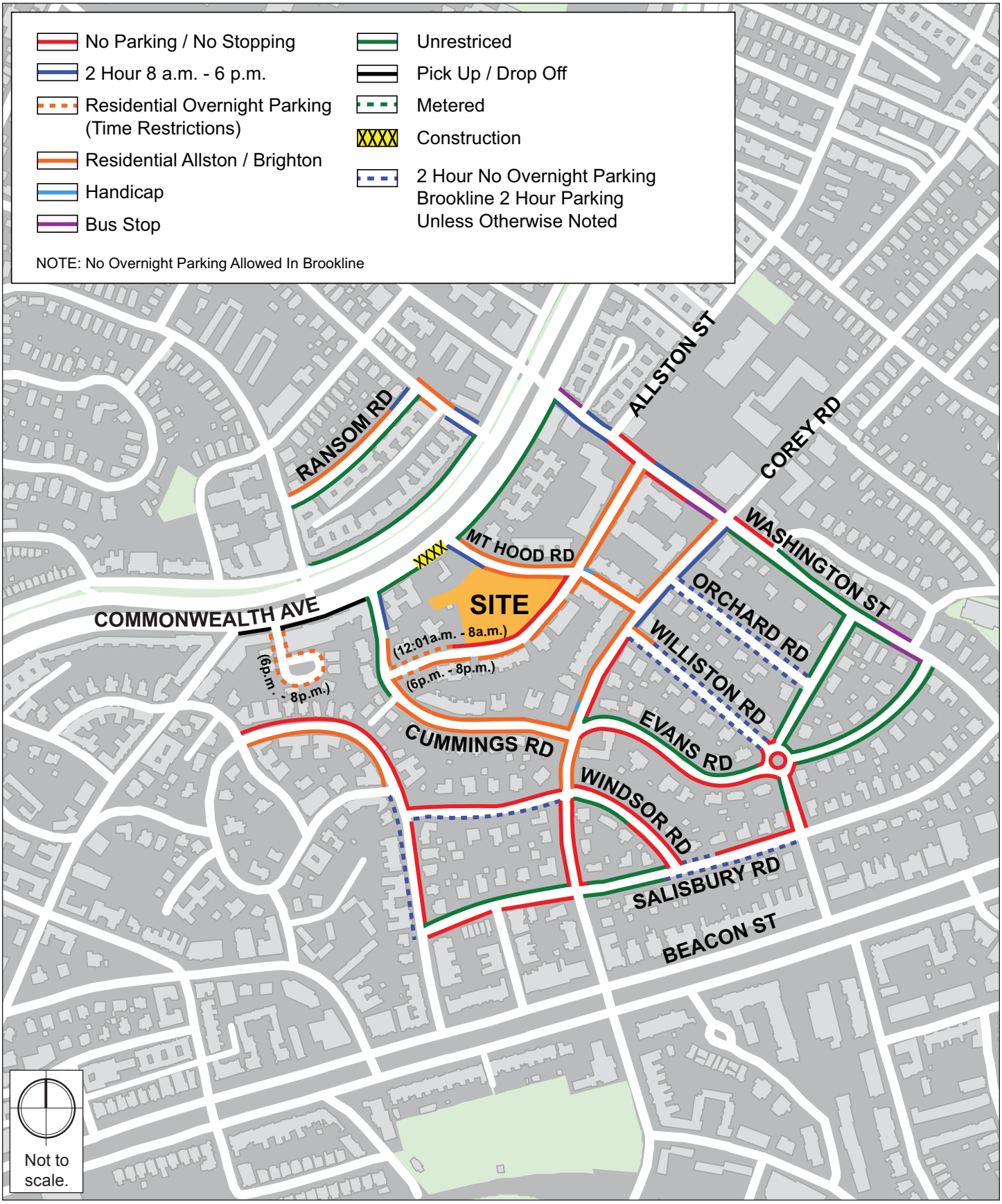
Egremont Road/Driveway is a three-legged, unsignalized intersection that consists of two approaches. The Egremont Road westbound approach consists of one shared through/right-turn lane. The Driveway southbound approach consists of one right-turn only lane. There is on-street parking provided along the south side of the roadway. There are no crosswalks provided across any leg of the intersection; however, the sidewalk remains elevated across the Driveway.

Cummings Road/Alleyway is a three-legged, unsignalized intersection that consists of two approaches. The Cummings Road northbound approach consists of one shared through/right-turn lane. The Alleyway westbound approach consists of one right-turn only lane. There is on-street parking provided along both sides of the roadway. There are no crosswalks provided across any leg of the intersection; however, the sidewalk remains elevated across the Alleyway.

2.2.3 Existing Parking and Curb Usage

On-street parking surrounding the Project site generally consists of no parking, two-hour parking, residential permit parking, and unrestricted parking. Mount Hood Road, adjacent to the east side of the Project site, is signed as resident only parking or two-hour parking between 8 a.m. and 6 p.m. Egremont Road, adjacent to the south side of the Project site, is signed for no parking, residential parking, and residential overnight parking with two different time restrictions. The on-street parking regulations within the study area are shown on Figure 2-2.

The existing Project site currently contains approximately 71 off-street parking spaces in a surface lot surrounding the buildings. The parking spaces include 69 standard parking spaces, and two handicap designated parking spaces. All off-street parking serves the Best Western Hotel.



40 Mount Hood Road Boston, Massachusetts

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Figure 2-2
On-Street Parking

2.2.4 Car Sharing Services

Car sharing enables 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.

Zipcar is the primary company in the Boston car sharing market. There are currently five Zipcar locations within a half-mile walk of the Project site. The nearby car sharing locations are shown in Figure 2-3.

2.2.5 Existing Traffic Data

Traffic movement data was collected at the study area intersections on October 24, 2017. Manual turning movement counts (TMCs) and vehicle classification counts were conducted during the weekday a.m. and p.m. peak periods (7:00 – 9:00 a.m. and 4:00 – 6:00 p.m., respectively) at the study area intersections.

The vehicle classification counts included car, truck, pedestrian, and bicycle movements. Based on the TMCs, the peak hours of vehicular traffic throughout the study area are 7:30 – 8:30 a.m. and 4:45 – 5:45 p.m.

During the TMC data collection, the Eastbound Carriage Road approach to Mount Hood Road was closed due to the construction at 1650 Commonwealth Avenue. No vehicular volume was recorded at this approach; however, it was still analyzed as a study area intersection.

2.2.5.1 Existing Site Trips

Peak-hour TMCs were also conducted at the three curb cuts that serve the existing uses on the Project site. The curb cuts serving the existing hotel currently accommodate 21 vehicles during the a.m. peak hour (14 entering/7 exiting) and 17 vehicles during the p.m. peak hour (10 entering/7 exiting). A discussion of the existing traffic volumes entering and exiting the site is also provided in section 2.4.5 Trip Generation Methodology – Existing Site Trip Generation.

2.2.5.2 Seasonal Adjustment

In order to account for seasonal variation in traffic volumes throughout the year, data provided by MassDOT was reviewed. The most recent (2011) MassDOT Weekday Seasonal Factors were used to determine the need for seasonal adjustments to the October 2017 TMCs. The seasonal adjustment factor for roadways similar to the study area (Group 6 – Urban Arterials) during the month of October is 0.92. This indicates that the average month traffic volumes are approximately eight percent lower than the traffic volumes that were

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Figure 2-3
Car Sharing Services

collected. The traffic counts were not adjusted downward to reflect average month conditions in order to provide a conservatively high analysis consistent with the peak season traffic volumes. The MassDOT 2011 Weekday Seasonal Factors table is provided in Appendix C.

2.2.6 Existing (2017) Traffic Volumes

Existing traffic volumes were balanced to develop the Existing (2017) Condition vehicular traffic volumes. The Existing (2017) Condition weekday a.m. and p.m. peak hour traffic volumes are shown in Figure 2-4 and Figure 2-5.

2.2.7 Existing Pedestrian Conditions

Sidewalks are provided along both sides of all roadways in the area and are generally in good condition. Crosswalks are not always provided at the study area intersections, but pedestrian curb ramps are typically provided at crossing locations.

To estimate the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrent with the TMCs on October 24, 2017 at the study area intersections and are presented in Figure 2-6.

2.2.8 Existing Bicycle Conditions

In recent years, bicycle use has increased dramatically throughout the City of Boston. The Project site is conveniently located in close proximity to several bicycle facilities. The City of Boston's "Bike Routes of Boston" map shows Allston Street is designated as an intermediate route, suitable for riders with some on-road experience. Washington Street and Commonwealth Avenue are designated as advanced routes, suitable for experienced and traffic-confident cyclists. Bicycle lanes are provided along Washington Street within the Town of Brookline, to the east of the Project site. The eastbound and westbound Carriage Roads on Commonwealth Avenue are marked with sharrows for cyclists.

Bicycle counts were also conducted concurrent with the vehicular TMCs on October 24, 2017, and are presented in Figure 2-7. Bicycle volumes are highest along Commonwealth Avenue.

2.2.9 Bicycle Sharing Services

The Project site is also located in proximity to a bicycle sharing station provided by Hubway. Hubway is the bicycle sharing system in the Boston area, which was launched in 2011 and consists of over 185 stations and nearly 1,800 bicycles. The nearest Hubway station is located at the Washington Square Station on the MBTA Green Line C Branch (Washington Street & Beacon Street), approximately one half-mile southeast of the Project site as shown in Figure 2-8.

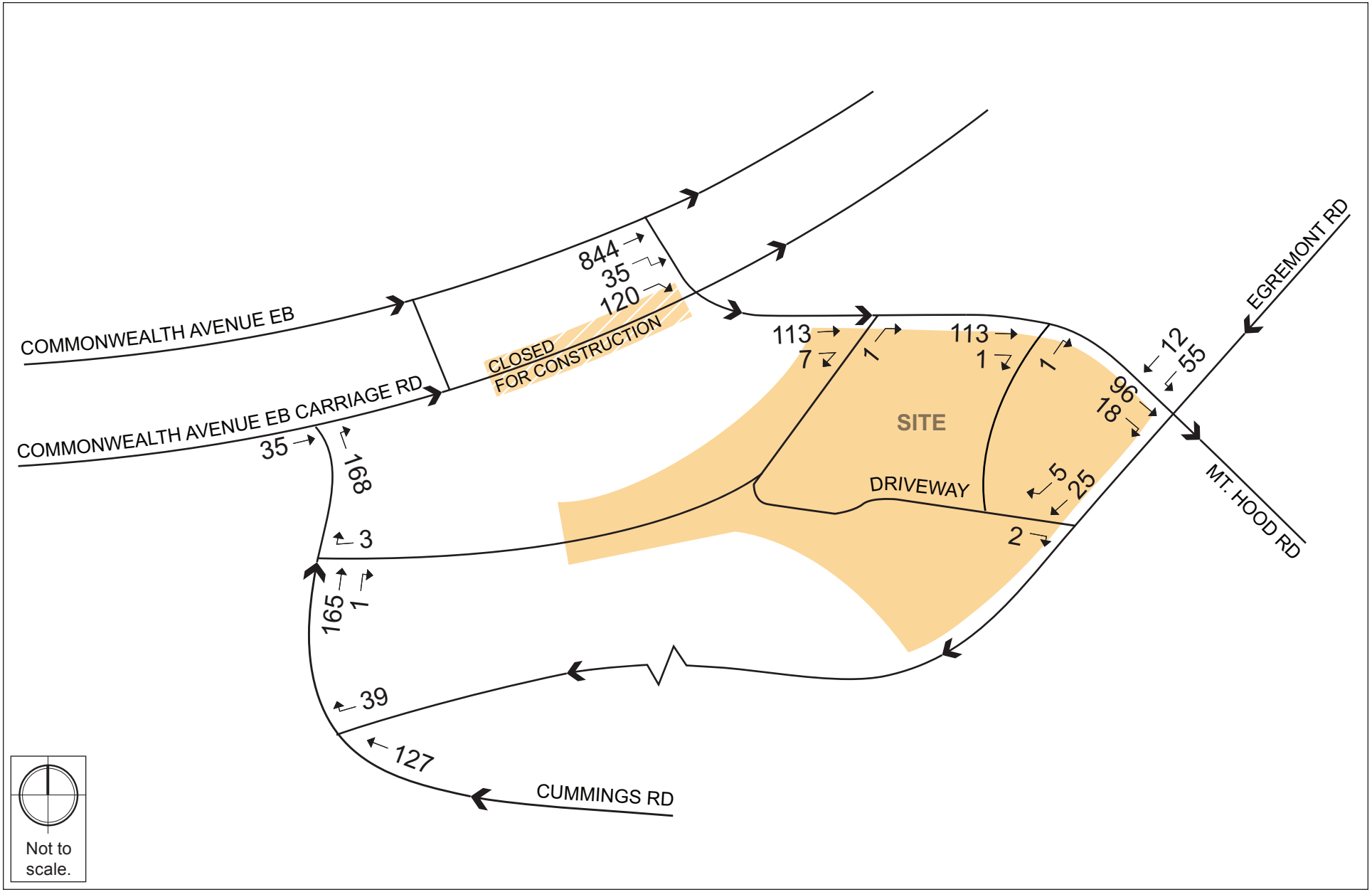

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Figure 2-4

Existing (2017) Condition Traffic Volumes, Weekday a.m. Peak Hour

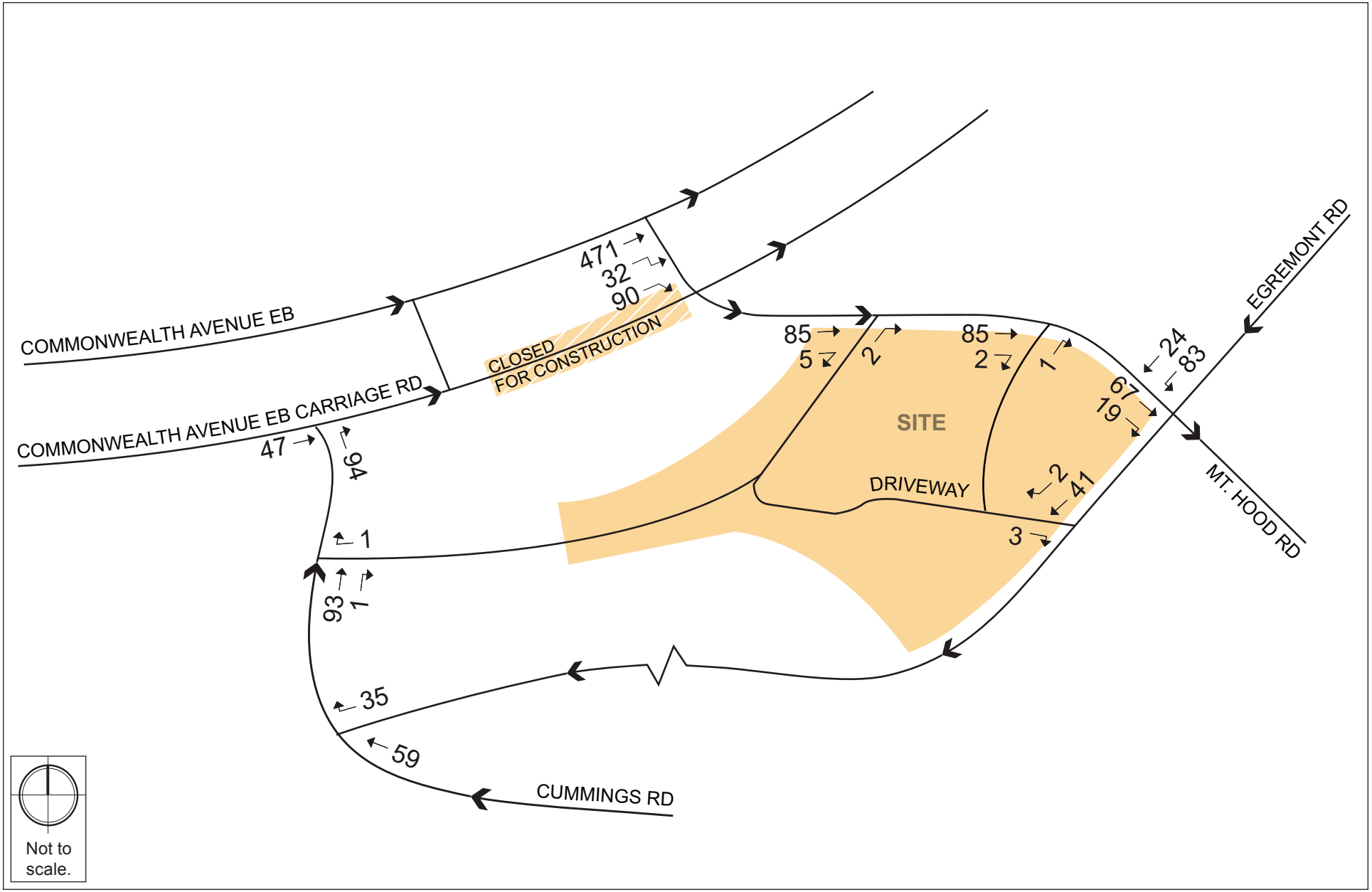

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Figure 2-5

Existing (2017) Condition Traffic Volumes, Weekday p.m. Peak Hour

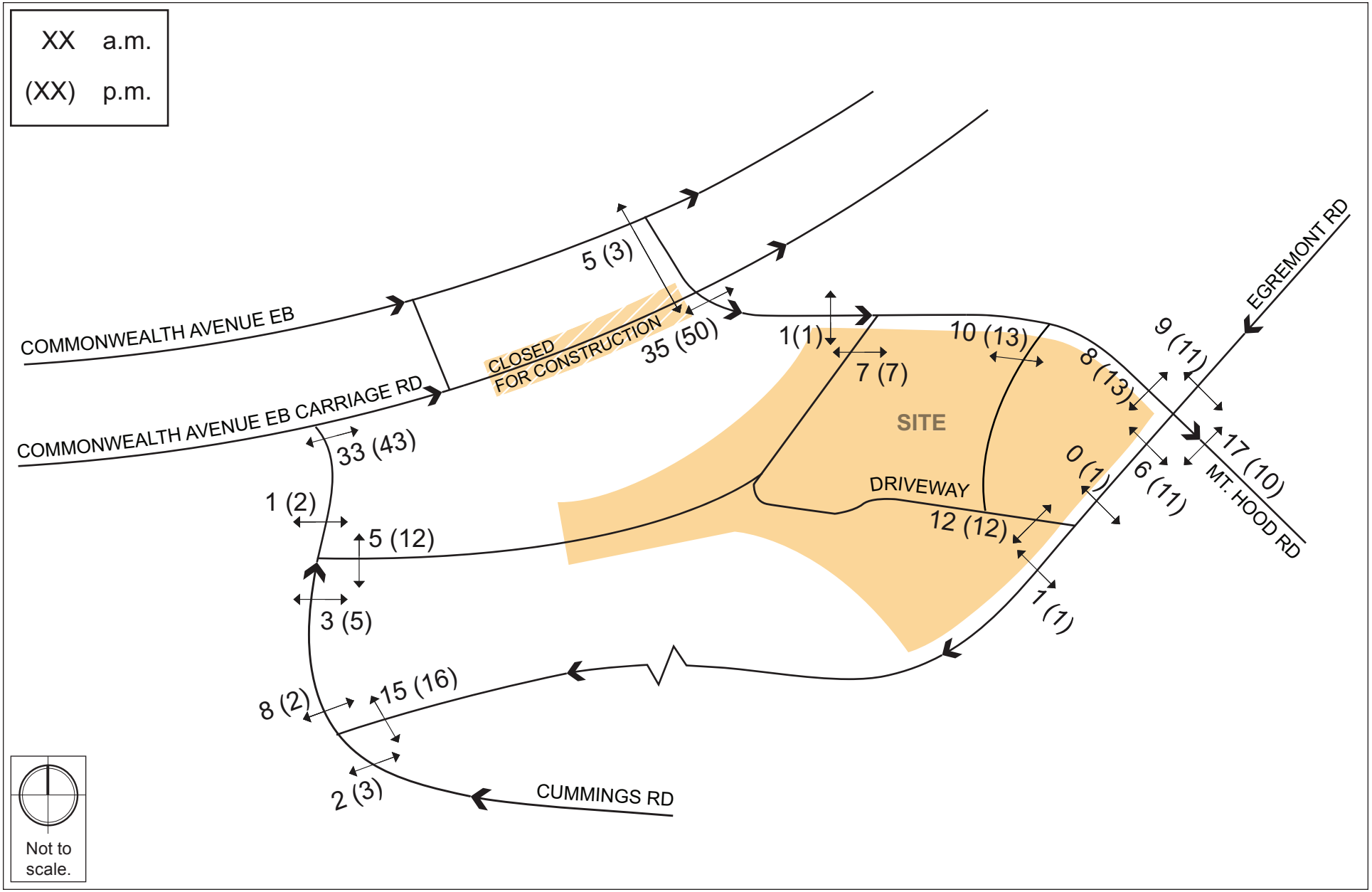

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Figure 2-6

Existing (2017) Condition Pedestrian Volumes, Weekday a.m. and p.m. Peak Hours

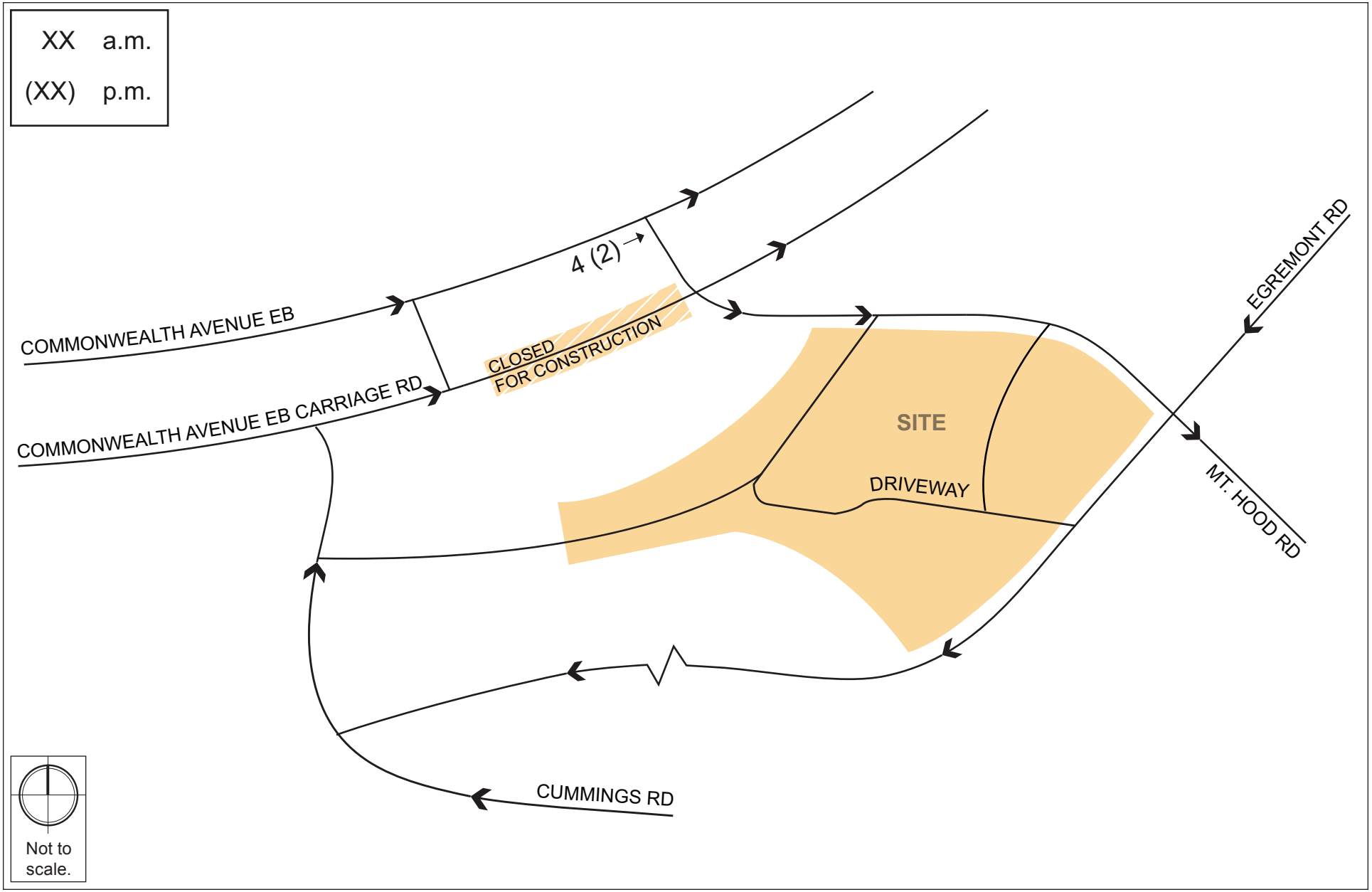

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Figure 2-7

Existing (2017) Condition Bicycle Volumes, Weekday a.m. and p.m. Peak Hours

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Figure 2-8
Bicycle Sharing Services

2.2.10 Existing Public Transportation

The Project site is ideally situated to take advantage of several public transportation opportunities. It is located approximately a sixth of a mile east of the Sutherland Road Station on the B Branch of the MBTA Green Line, approximately an eighth of a mile west of the Washington Street at Corey Road Bus Stop of the MBTA bus route 65, and approximately a quarter of a mile north of the Dean Road Station on the C Branch of the MBTA Green Line, as well as within a half-mile of several other MBTA Green Line stations located on the B, C, and D Branches. The following section describes each public transportation route located in the vicinity of the Project site, with a map of the nearby public transportation services shown in Figure 2-9.

MBTA Green Line B Branch – The Green Line B Branch of the MBTA subway system stops at Sutherland Road Station, located at the intersection of Sutherland Road/Commonwealth Avenue, approximately a sixth of a mile from the Project site. The Washington Street Station is also less than a half-mile from the Project site. The Green Line B Branch runs along Commonwealth Avenue between Park Street Station to the east and Boston College Station to the west, providing convenient access to downtown Boston, Allston, Kenmore Square, and Back Bay. The Green Line B Branch operates with headways of approximately 5 to 12 minutes during the weekday, 6 to 15 minutes on Saturday, and 7-12 minutes on Sunday. Weekday and weekend service runs from approximately 5:00 a.m. to 1:00 a.m.

MBTA Green Line C Branch – The Green Line C Branch of the MBTA subway system stops at Dean Road Station located at the intersection of Corey Road/Dean Road/Beacon Street, approximately a quarter mile from the Project site. The Washington Square Station, Tappan Street Station, Englewood Avenue Station and Cleveland Circle Station are all located within a half mile from the Project site. The Green Line C Branch runs along Beacon Street between North Station to the east and Cleveland Circle Station to the west, providing convenient access to downtown Boston, Brookline, Kenmore Square, and Back Bay. The Green Line C Branch operates with headways of approximately 6 to 10 minutes during the weekday, 7-15 minutes on Saturday, and 8-12 minutes on Sunday. Weekday and weekend service runs from approximately 5:00 a.m. to 1:00 a.m.

MBTA Green Line D Branch – The Green Line D Branch of the MBTA subway system stops at Beaconsfield Station located approximately a half-mile from the Project site. The Reservoir Station is located just over a half-mile from the Project site. The Green Line D Branch runs between Government Center Station to the east and Riverside Station to the west, providing convenient access to Newton, downtown Boston, Brookline, Kenmore Square, and Back Bay. The Green Line D Branch operates with headways of approximately 5 to 15 minutes during the weekday, 9-15 minutes on Saturday, and 12-15 minutes on Sunday. Weekday service runs from approximately 5:00 a.m. to 1:00 a.m.

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Figure 2-9
Public Transportation

MBTA Bus Route 65 – The MBTA 65 bus route stops at the intersections of Washington Street/Euston Street, Washington Street/Commonwealth and Washington Street/Corey Road, all of which are within a quarter-mile from the Project site. There are eight other bus stops along the 65 bus route within a half-mile of the Project site. This route provides service between Brighton Center and Kenmore Station. Weekday service runs from approximately 6:14 a.m. to 8:58 p.m. and Saturday service runs from approximately 6:45 a.m. to 6:39 p.m. Buses do not operate along this route on Sundays. Headways range from approximately 10 minutes during rush hour to 60 minutes in the evenings. The route runs along Washington Street, east of the Project site, with the nearest stop located at the intersection of Washington Street/Commonwealth Avenue.

Table 2-1 summarizes the public transportation options

Table 2-1 Existing Public Transportation

Route	Description	Peak-hour Headway (minutes)*	Weekday Service Duration
Rapid Transit Routes			
Green Line	B Branch: Park Street – Boston College	5-7	5:01 a.m.–12:52 a.m.
	C Branch: North Station – Cleveland Circle	6-7	5:01 a.m.–12:46 a.m.
	D Branch: Government Center – Riverside	5-6	6:14 a.m.–1:00 a.m.
Local Bus Routes			
65	Brighton Center – Kenmore Station	10	9:05 a.m.–8:58 p.m.

* Source: MBTA.com, August 2017. Headway varies.

2.2.11 Existing (2017) Condition Traffic Operations Analysis

The criterion for evaluating traffic operations is level of service (LOS), which is determined by assessing average delay experienced by vehicles at intersections and along intersection approaches. Trafficware's Synchro (version 9.2) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2010 Highway Capacity Manual (HCM). Field observations were performed by HSH to collect intersection geometry such as number of turning lanes, lane length, and lane width that were then incorporated into the operations analysis.

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. Table 2-2 displays the intersection LOS criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst condition. LOS D or better is typically considered acceptable in an urban area. However, LOS E or F is often typical for a stop controlled minor street that intersects a major roadway and does not necessarily indicate that the operations at the intersection are poor or failing.

Table 2-2 Level of Service Criteria

Level of Service	Average Stopped Delay (sec./veh.)	
	Signalized Intersections	Unsignalized Intersections
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Source: 2000 Highway Capacity Manual, Transportation Research Board.

In addition to delay and LOS, the operational capacity and vehicular queues are calculated and used to further quantify traffic operations at intersections. The following describes these other calculated measures.

The volume-to-capacity (v/c) ratio is a measure of congestion at an intersection approach. A v/c ratio below one indicates that the intersection approach has adequate capacity to process the arriving traffic volumes over the course of an hour. A v/c ratio of one or greater indicates that the traffic volume on the intersection approach exceeds capacity.

The 95th percentile queue length, measured in feet, represents the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line during five percent of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only five percent of the time and would typically not occur during off-peak hours. Since volumes fluctuate throughout the hour, the 95th percentile queue represents what can be considered a "worst case" scenario. Queues at the intersection are generally below the 95th percentile queue throughout the course of the peak hour. It is also unlikely that the 95th percentile queues for each approach to the intersection will occur simultaneously.

Table 2-3 and Table 2-4 present the Existing (2017) Condition capacity analysis summary for the study area intersections during the weekday a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in Appendix C.

Table 2-3 Existing (2017) Condition, Capacity Analysis Summary, Weekday a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Unsignalized Intersections				
Comm Ave/ EB Carriage Rd/Mount Hood Rd	-	-	-	-
Commonwealth Ave EB thru | thru/right	A	0.0	0.34	0
Mount Hood Rd SB left/thru	A	1.8	0.02	2
Egremont Rd/Mount Hood Rd	-	-	-	-
Egremont Rd WB left/thru	A	6.1	0.04	3
Mount Hood Rd SB thru/right	B	11.0	0.18	16
Egremont Rd/Cummings Rd	-	-	-	-
Egremont Rd WB right	A	9.4	0.05	4
Cummings Rd NB thru	A	0.0	0.09	0
EB Carriage Rd/Cummings Rd	-	-	-	-
EB Carriage Rd EB thru	A	0.0	0.04	0
Cummings Rd NB right	A	9.9	0.21	19
Mount Hood Rd/North Driveway	-	-	-	-
North Driveway EB right	A	9.0	0.00	0
Mount Hood Rd SB thru/right	A	0.0	0.08	0
Mount Hood Rd/South Driveway	-	-	-	-
South Driveway EB right	A	9.0	0.00	0
Mount Hood Rd SB thru/right	A	0.0	0.08	0
Egremont Rd/Driveway	-	-	-	-
Egremont Rd WB thru/right	A	0.0	0.02	0
Driveway SB right	A	8.6	0.00	0
Cummings Rd/Alleyway	-	-	-	-
Alleyway WB right	A	9.2	0.00	0
Cummings Rd NB thru/right	A	0.0	0.11	0

Table 2-4 Existing (2017) Condition, Capacity Analysis Summary, Weekday p.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Unsignalized Intersections				
Comm Ave/ EB Carriage Rd/Mount Hood Rd	-	-	-	-
Commonwealth Ave EB thru | thru/right	A	0.0	0.19	0
Mount Hood Rd SB left/thru	A	2.0	0.02	2
Egremont Rd/Mount Hood Rd	-	-	-	-
Egremont Rd WB left/thru	A	5.8	0.05	4
Mount Hood Rd SB thru/right	B	11.0	0.14	12
Egremont Rd/Cummings Rd	-	-	-	-
Egremont Rd WB right	A	8.9	0.04	3
Cummings Rd NB thru	A	0.0	0.04	0
EB Carriage Rd/Cummings Rd	-	-	-	-
EB Carriage Rd EB thru	A	0.0	0.04	0
Cummings Rd NB right	A	9.5	0.12	10
Mount Hood Rd/North Driveway	-	-	-	-
North Driveway EB right	A	8.8	0.00	0
Mount Hood Rd SB thru/right	A	0.0	0.06	0
Mount Hood Rd/South Driveway	-	-	-	-
South Driveway EB right	A	8.8	0.00	0
Mount Hood Rd SB thru/right	A	0.0	0.06	0
Egremont Rd/Driveway	-	-	-	-
Egremont Rd WB thru/right	A	0.0	0.03	0
Driveway SB right	A	8.6	0.00	0
Cummings Rd/Alleyway	-	-	-	-
Alleyway WB right	A	8.9	0.00	0
Cummings Rd NB thru/right	A	0.0	0.06	0

As shown in Table 2-3 and Table 2-4, all the study area intersections and approaches operate below capacity (v/c ratio below 1.00) and at LOS B or better under the Existing (2017) Condition. During the weekday a.m. and p.m. peak hours, the Mount Hood Road southbound approach has LOS B with 11 seconds of delay due to the stop controlled approach. The longest queues occur at the Cummings Road northbound approach (19 ft) of the **Eastbound Carriage Road/Cummings Road** intersection during the weekday a.m. peak hour and the Mount Hood southbound approach (12 ft) of the **Egremont Road/Mount Hood Road** during the weekday p.m. peak hour.

2.3 No-Build (2024) Condition

The No-Build (2024) Conditions reflect a future scenario that incorporates anticipated traffic volume changes independent of the Project, and planned infrastructure improvements that will affect travel patterns throughout the study area. Infrastructure improvements include roadway, public transportation, pedestrian, and bicycle improvements. Traffic volume changes are based on two factors: an annual growth rate and growth associated with specific developments near the Project.

2.3.1 Background Traffic Growth

The methodology to account for future traffic growth, independent of the Project, consists of two parts. The first part of the methodology accounts for general background traffic growth that may be affected by changes in demographics, automobile usage, and automobile ownership. Based on a review of recent and historic traffic data collected for nearby projects and to account for any additional unforeseen traffic growth, a one-half percent per year annual traffic growth rate was used to develop the future conditions traffic volumes.

2.3.2 Specific Development Traffic Growth

The second part of the methodology identifies any specific planned developments that are expected to affect traffic patterns throughout the study area within the future analysis time horizon. Eight projects have been identified and were specifically accounted for in the future traffic growth. Figure 2-10 shows the specific development projects in the vicinity of the study area, which are summarized below:

1650 Commonwealth Avenue – This project is adjacent to the northwest side of the Project site and will consist of the construction of a five-story building containing 39 residential units, 2,600 sf of retail on the ground floor, and 35 at-grade parking spaces. This project is under construction.

375-399 Chestnut Hill Avenue – This project is located to the southwest of the Project site and will consist of the construction of a 181-room hotel, 82 residential units, 19,000 sf of medical offices, 14,200 sf of retail space and 228 parking spaces split between surface and underground spaces. This project is under construction.

132 Chestnut Hill Avenue – This project is located to the west of the Project site and will consist of the construction of a six-story building containing approximately 61 apartments and 3,500 sf of ground floor retail space. The project will include 21 at grade parking spaces, 6 of which are to be dedicated to retail use and the remaining 15 for residential. This project is under construction.

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Figure 2-10
Background Projects

Brighton Marine Health Center & Veterans Mixed Income Housing Project – This project is located to the northeast of the Project site and will consist of the demolition of five medical use buildings and the construction of approximately 101 mixed-income residential units and 101 parking spaces that will be split between surface and garage spaces. This project has been approved by the BPDA.

101-105 Washington Street – This project is located to the north of the Project site and will consist of the construction of a seven-story residential building with approximately 73 units, a two-story mikvah, and a two-story synagogue. The project will include 12 surface parking spaces as well as 64 parking spaces and 73 bicycle storage spaces in a below-grade garage. This project has been approved by the BPDA.

139-149 Washington Street – This project is located to the north of the Project site and will consist of the construction of a five-story residential rental building containing approximately 250 apartment units, and a five-story residential condominium building containing approximately 30 condominium units. The project will include 220 at grade garage spaces in the lower levels of the apartment complex and 30 at grade spaces in the lower level of the condominium complex. This project is under review by the BPDA.

159-201 Washington Street – This project is located to the north of the Project site and will consist of the restoration of the Saint Gabriel's Monastery, Pierce House, and the verdant landscaping along Washington Street. The project will also consist of the construction of 679 residential units in three new buildings as well as within the renovated Saint Gabriel's Monastery and the demolition of the Saint Gabriel's church and attached dormitory. Of the new buildings, building one will consist of up to five stories with 127 apartment units, building two will consist of seven stories with 385 apartment units, building three will consist of up to five stories with 152 apartment units, the monastery will consist of 14 apartment units and the Pierce House will become a single unit itself. There will be 395 parking spaces split between the lower level of building two and the lower levels of building three. This project has been approved by the BPDA.

5 Washington Street – This project is located to the southeast of the Project site and will consist of a five-story building containing approximately 115 residential units, 12,500 sf of ground floor retail space, and 104 garage parking spaces, 79 of which will be below grade on the lower level of the garage and the remaining 25 will be at grade on the upper level of the garage. Covered, secure storage for 119 residential bicycles will also be provided. This project is under review by BPDA Board.

2.3.3 Proposed Infrastructure Improvements

A review of planned improvements to roadway, transit, bicycle, and pedestrian facilities was conducted, and determined that there are currently no proposed improvement projects in the vicinity of the study area.

2.3.4 No-Build (2024) Condition Traffic Volumes

The one-half percent per year annual growth rate was applied to the Existing (2017) Condition traffic volumes, then the traffic volumes associated with the background development projects listed above was added to develop the No-Build (2024) Condition traffic volumes. The No-Build (2024) Condition, weekday a.m. and p.m. peak hour traffic volumes are shown on Figure 2-11 and Figure 2-12, respectively.

2.3.5 No-Build (2024) Condition Traffic Operations Analysis

The No-Build (2024) Condition capacity analysis summary uses the same methodology as the Existing (2017) Condition operations analysis. Table 2-5 and Table 2-6 present the No-Build (2024) Condition operations analysis for the weekday a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in Appendix C.

Table 2-5 No-Build (2024) Condition, Capacity Analysis Summary, Weekday a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Unsignalized Intersections				
Comm Ave/ EB Carriage Rd/Mount Hood Rd	-	-	-	-
Commonwealth Ave EB thru | thru/right	A	0.0	0.36	0
Mount Hood Rd SB left/thru	A	1.8	0.03	2
Egremont Rd/Mount Hood Rd	-	-	-	-
Egremont Rd WB left/thru	A	6.1	0.04	3
Mount Hood Rd SB thru/right	B	11.2	0.19	18
Egremont Rd/Cummings Rd	-	-	-	-
Egremont Rd WB right	A	9.4	0.05	4
Cummings Rd NB thru	A	0.0	0.09	0
EB Carriage Rd/Cummings Rd	-	-	-	-
EB Carriage Rd EB thru	A	0.0	0.04	0
Cummings Rd NB right	A	9.9	0.21	20
Mount Hood Rd/North Driveway	-	-	-	-
North Driveway EB right	A	9.1	0.00	0
Mount Hood Rd SB thru/right	A	0.0	0.09	0
Mount Hood Rd/South Driveway	-	-	-	-
South Driveway EB right	A	9.0	0.00	0
Mount Hood Rd SB thru/right	A	0.0	0.08	0

Table 2-5 No-Build (2024) Condition, Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Unsignalized Intersections				
Egremont Rd/Driveway	-	-	-	-
Egremont Rd WB thru/right	A	0.0	0.02	0
Driveway SB right	A	8.6	0.00	0
Cummings Rd/Alleyway	-	-	-	-
Alleyway WB right	A	9.3	0.00	0
Cummings Rd NB thru/right	A	0.0	0.11	0

Table 2-6 No-Build (2024) Condition, Capacity Analysis Summary, Weekday p.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Unsignalized Intersections				
Comm Ave/ EB Carriage Rd/Mount Hood Rd	-	-	-	-
Commonwealth Ave EB thru | thru/right	A	0.0	0.21	0
Mount Hood Rd SB left/thru	A	1.9	0.02	2
Egremont Rd/Mount Hood Rd	-	-	-	-
Egremont Rd WB left/thru	A	5.8	0.06	4
Mount Hood Rd SB thru/right	B	11.2	0.15	13
Egremont Rd/Cummings Rd	-	-	-	-
Egremont Rd WB right	A	8.9	0.04	3
Cummings Rd NB thru	A	0.0	0.04	0
EB Carriage Rd/Cummings Rd	-	-	-	-
EB Carriage Rd EB thru	A	0.0	0.04	0
Cummings Rd NB right	A	9.5	0.12	11
Mount Hood Rd/North Driveway	-	-	-	-
North Driveway EB right	A	8.8	0.00	0
Mount Hood Rd SB thru/right	A	0.0	0.06	0

Table 2-6 No-Build (2024) Condition, Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Unsignalized Intersections				
Mount Hood Rd/South Driveway	-	-	-	-
South Driveway EB right	A	8.9	0.00	0
Mount Hood Rd SB thru/right	A	0.0	0.06	0
Egremont Rd/Driveway	-	-	-	-
Egremont Rd WB thru/right	A	0.0	0.03	0
Driveway SB right	A	8.6	0.00	0
Cummings Rd/Alleyway	-	-	-	-
Alleyway WB right	A	8.9	0.00	0
Cummings Rd NB thru/right	A	0.0	0.06	0

As shown in Table 2-5 and Table 2-6, the intersections and corresponding approaches continue to operate below capacity and at LOS B or better under the No-Build (2024) Condition. During the weekday a.m. and p.m. peak hours, the Mount Hood Road southbound approach continues to operate at LOS B with an increase of less than one second delay. The longest queues continue to occur at the **Eastbound Carriage Road/Cummings Road** intersection during the weekday a.m. peak hour and the **Egremont Road/Mount Hood Road** intersection during the weekday p.m. peak hour. The minimal increases in delay and queue length are primarily due to the background traffic growth percentage.

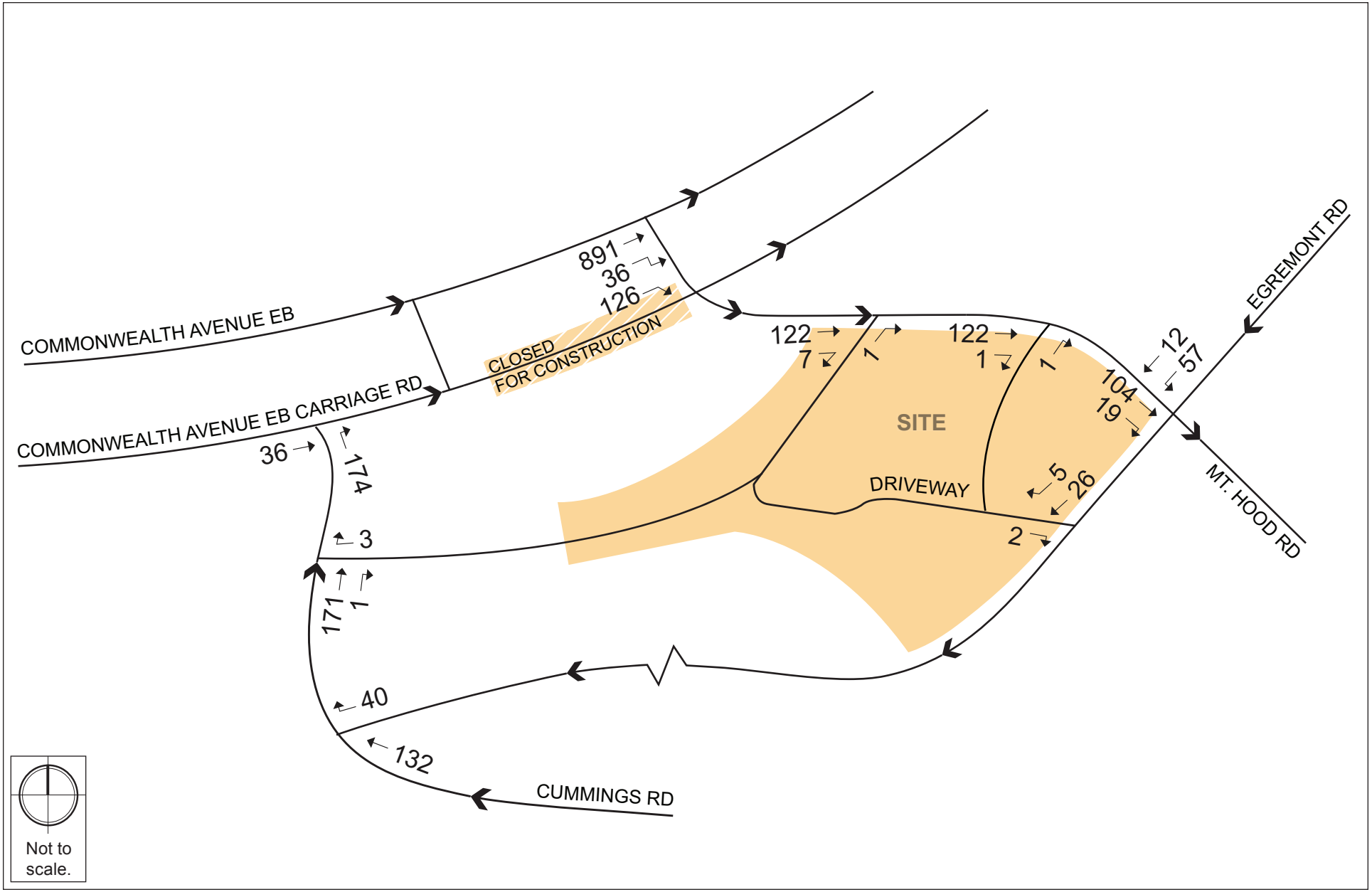

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Figure 2-11

No-Build (2024) Condition Traffic Volume, Weekday a.m. Peak Hour

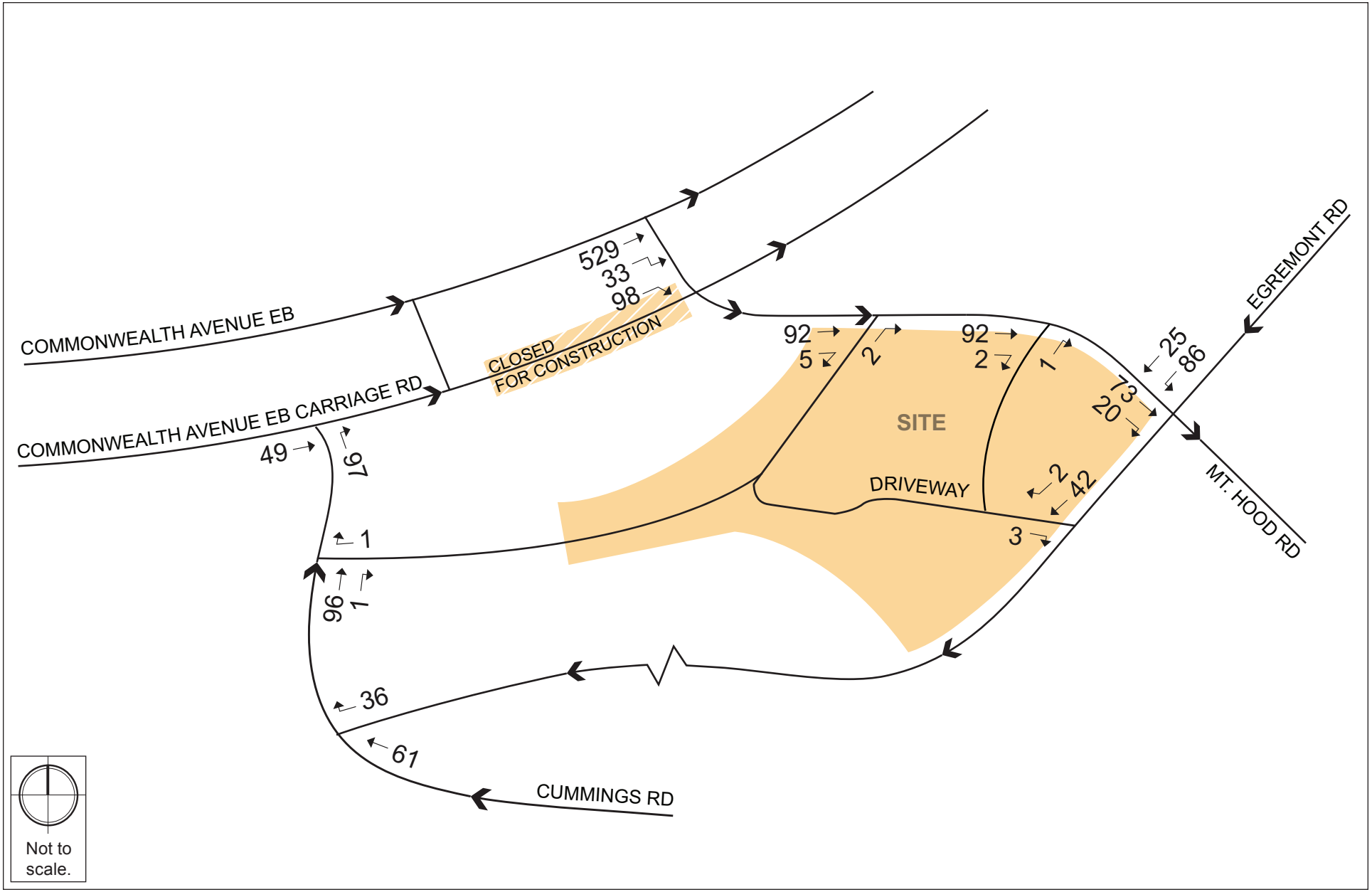

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Figure 2-12

No-Build (2024) Condition Traffic Volume, Weekday p.m. Peak Hour

2.4 Build (2024) Condition

As previously summarized, the Project will consist of approximately 64 rental units and 114 condominium units, for a total of 178 residential units, ranging from studio apartments to three-bedroom units. The Project will also include 142 parking spaces in a two-level garage. The lower level of the garage will be at-grade with Egremont Road and will contain 77 parking spaces. The upper level of the garage will be at-grade with the driveway on Mount Hood Road and will contain 65 parking spaces.

2.4.1 Site Access and Circulation

As shown in the Project site plan in Figure 2-13, vehicular access to the lower garage level will be provided by a single driveway along Egremont Road. Vehicular access to the upper garage level will be provided by a single driveway along Mount Hood Road. The garage levels will not connect to each other. The southernmost existing driveway along Mount Hood Road will be closed, and the existing curb cut along Egremont Road will be moved west towards the south-west corner of the Project site, improving the pedestrian environment surrounding the Project site. Primary pedestrian access to the residential lobby will be provided at three entrances along Mount Hood Road. Pedestrian connectivity will be provided between the residential lobby and garage levels. Loading, deliveries, and trash pick-up will take place on the Project site in the upper garage level.

2.4.2 Parking

The Project will provide a total of 142 parking spaces on the site in a structured garage with two levels. A total of 77 parking spaces will be located on the lower level of the garage and an additional 65 parking spaces will be located on the upper level of the garage. Due to the existing grade change in the site, these driveways will each have an at-grade access driveway and will not connect within the garage.

The parking goals developed by the BTD for this section of Brighton are a maximum of 0.75 to 1.25 parking spaces per residential unit within a ten minute walk of an MBTA station. The parking ratio of 0.80 parking spaces per residential unit is below the allowable maximum required by BTD. Based on the nature of this Project, and its proximity to the nearby transit opportunities, it is expected that this parking ratio will be adequate to accommodate the overall parking demand for the Project.

2.4.3 Loading and Service Accommodations

Residential units primarily generate delivery trips related to small packages and prepared food. Deliveries to the Project site will be limited to SU-36 (36 foot box truck) trucks and smaller delivery vehicles. Loading and service operations will occur on-site adjacent to the upper level parking garage driveway. All trash and residential move-in/move-out activity

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Figure 2-13
Site Access Plan

will also take place in the loading area. Access to this location will be provided via the driveway along Mount Hood Road. The loading area will have capacity for two SU-36 trucks.

2.4.4 Bicycle Accommodations

BTD has established guidelines requiring projects subject to Transportation Access Plan Agreements to provide secure covered bicycle parking for residents, and short-term bicycle racks for visitors. The Project will provide covered and secure storage for 178 bicycles in the garage. The Project will also provide a bicycle maintenance area in a convenient location on the ground floor for use by the residents. Additional storage will be provided by outdoor bicycle racks accessible to visitors to the site in accordance with BTD guidelines.

2.4.5 Trip Generation Methodology

Trip generation is a complex, multi-step process that produces an estimate of vehicle trips, transit trips, walk trips, and 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 project site.

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 mode shares such as walking, bicycling, and transit.

To estimate the number of trips for the Project, the following ITE land use code (LUCs) was used:

Residential Uses: Land Use Code 221 – Multifamily Housing Mid-Rise. Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and ten levels (floors). Calculations of the number of trips use ITE's average rate per dwelling units.

Existing Site Trip Generation. As previously discussed, the site currently contains three separate buildings operated by Best Western Hotel with a parking lot containing 71 surface parking spaces. Counts were conducted at the existing curb cuts to determine the trip generation for the existing uses on the site. It was assumed that all of the trips

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

entering/exiting the site were primary trips beginning or ending at the site. The existing trips on site will be removed from the site driveways and the corresponding study area intersections.

2.4.6 Mode Share

The BTD publishes vehicle, transit, and walking/bicycling mode split rates for different areas of Boston. The Project site is located within BTD's designated Area 10 – Brighton. The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)[2]. The BTD's travel mode share data for Area 10 are shown in **Table 2-7**.

Table 2-7 Travel Mode Shares

Land Use	Direction	Walk/ Bicycle Share	Transit Share	Auto Share	Vehicle Occupancy Rate
Daily					
Residential	In	22%	19%	59%	1.13
	Out	22%	19%	59%	1.13
a.m. Peak Hour					
Residential	In	30%	18%	52%	1.13
	Out	19%	30%	51%	1.13
p.m. Peak Hour					
Residential	In	19%	30%	51%	1.13
	Out	30%	18%	52%	1.13

Based on BTD data from Area 10 – Brighton, Home trips.

2.4.7 Project Trip Generation

The mode share percentages were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates. The existing uses on the Project site currently generate traffic volumes that were accounted for in the trip generation estimates. The trips associated with the existing hotel were subtracted from the existing traffic volumes. The trip generation for the Project by mode is shown in Table 2-8. The detailed trip generation information is provided in Appendix C.

[2] Summary of Travel Trends: 2009 National Household Survey; FHWA; Washington, D.C.; June 2011.

Table 2-8 Project Trip Generation

Land Use		Transit Trips	Walk/Bike Trips	Vehicle Trips
Daily				
Residential[1]	In	104	120	286
	Out	104	120	286
	Total	208	240	572
a.m. Peak Hour				
Residential[1]	In	3	6	9
	Out	16	10	24
	Total	19	16	33
p.m. Peak Hour				
Residential[1]	In	16	10	25
	Out	6	11	16
	Total	22	21	41

1. ITE Trip Generation Rate, 10th Edition, LUC 221 (Multifamily Housing Mid-Rise), 178 units.

As shown in Table 2-8, the Project is expected to generate approximately 572 daily vehicle trips (286 entering and 286 exiting), with 33 vehicle trips during the a.m. peak hour (9 entering and 24 exiting) and 41 vehicle trips during the p.m. peak hour (25 entering and 16 exiting). The Project is also expected to generate approximately 240 daily walk/bike trips with 16 walk/bike trips during the a.m. peak hour and 21 walk/bike trips during the p.m. peak hour, and 208 daily transit trips that also require a walk trip to and from the station with 19 transit trips during the a.m. peak hour and 22 transit trips during the p.m. peak hour

2.4.7.1 Net New Vehicle Trip Generation

To develop the net new trip generation characteristics, the existing vehicular trips associated with the site were removed and the Project generated trips were added into the network. The Project-generated net new vehicle trips are summarized in Table 2-9, with the detailed trip generation information provided in Appendix C. Daily volumes were not recorded at the existing site driveways therefore daily net new trips are not show.

Table 2-9 Peak Hour Net New Vehicle Trip Generation

Time Period	Direction	Existing[1]	Residential[2]	Net New Trips[3]
a.m. Peak Hour	In	13	9	-4
	Out	4	24	+20
	Total	17	33	+16
p.m. Peak Hour	In	9	25	+16
	Out	6	16	+10
	Total	15	41	+26

1. Based on counts conducted at the three existing curb cut that serves the Project site.
2. Based on ITE LUC 221 – Multifamily Housing (Mid-Rise), 178 units.
3. Project generated new trips minus the existing trips from the existing site.

As shown in Table 2-9, the Project is expected to generate 16 net new vehicle trips during the a.m. peak hour (4 fewer trips entering and 20 new trips exiting) and 26 net new vehicle trips during the p.m. peak hour (16 new trips entering and 10 new trips exiting).

2.4.8 Trip Distribution

The trip distribution identifies the various travel paths for vehicles arriving and leaving the Project site. Trip distribution patterns for the Project were based on BTD's origin-destination data for Area 10 - Brighton and trip distribution patterns presented in traffic studies for nearby projects. The trip distribution patterns for the Project are illustrated in Figure 2-14.

2.4.9 Build (2024) Traffic Volumes

The Project-generated vehicle trips, assigned to the study area roadway network based on the trip distribution patterns, are shown in Figure 2-15 and Figure 2-16 for the weekday a.m. and p.m. peak hours, respectively. The Project-generated trips were added to the No-Build (2024) Condition traffic volumes to develop the Build (2024) Condition peak hour traffic volume networks, and are shown in Figure 2-17 and Figure 2-18 for the weekday a.m. and p.m. peak hours, respectively.

2.3.10 Build (2024) Condition Traffic Operations Analysis

The Build (2024) Condition operations analysis uses the same methodology as the Existing (2017) Condition and the No-Build (2024) Condition operations analyses. The results of the Build (2024) Condition operations analysis at study area intersections are presented in Table 2-10 and Table 2-11 for the weekday a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in Appendix C. Based on the analysis, the Project is expected to have a minimal impact on intersection operations throughout the study area.

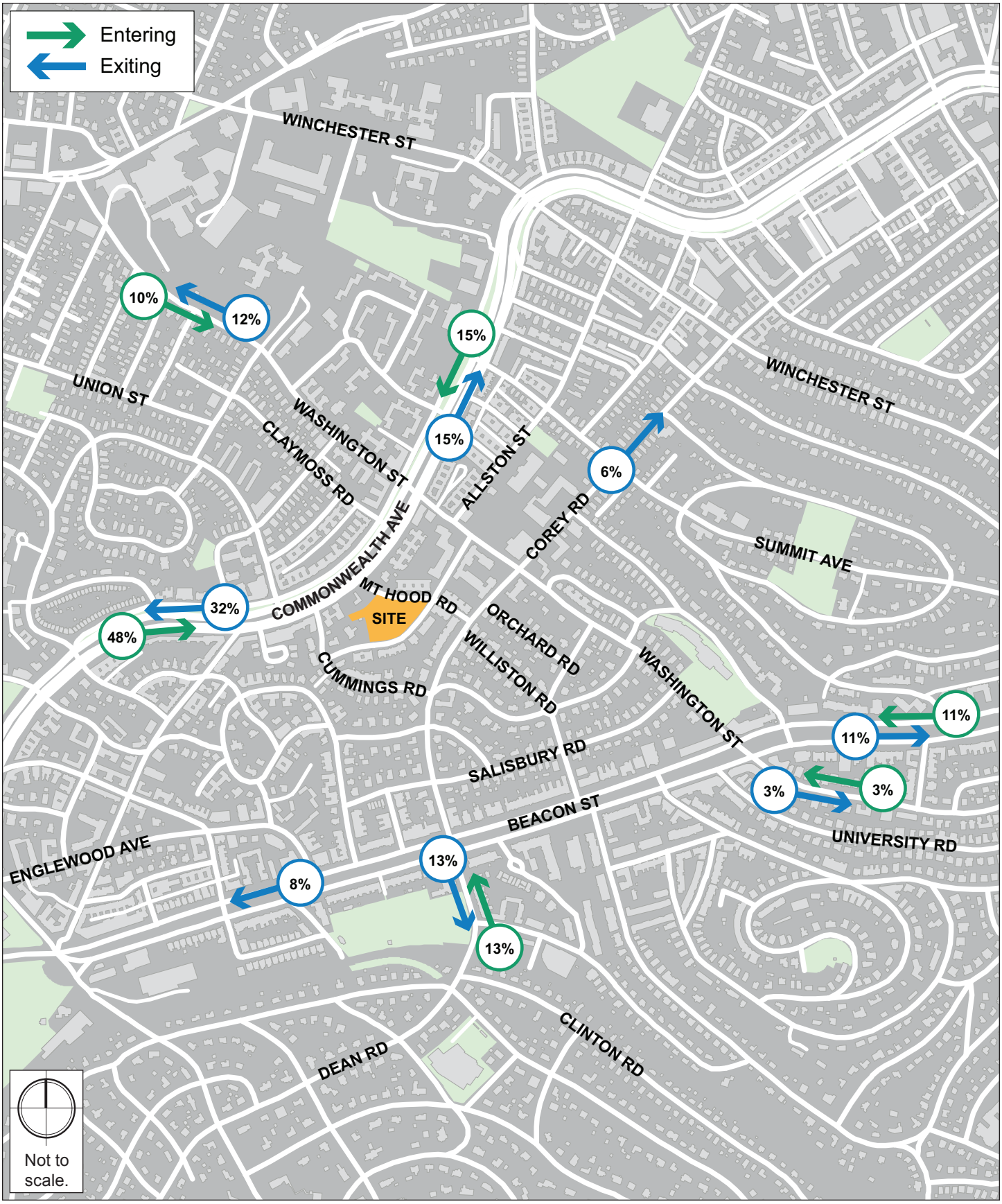

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Figure 2-14
Trip Distribution

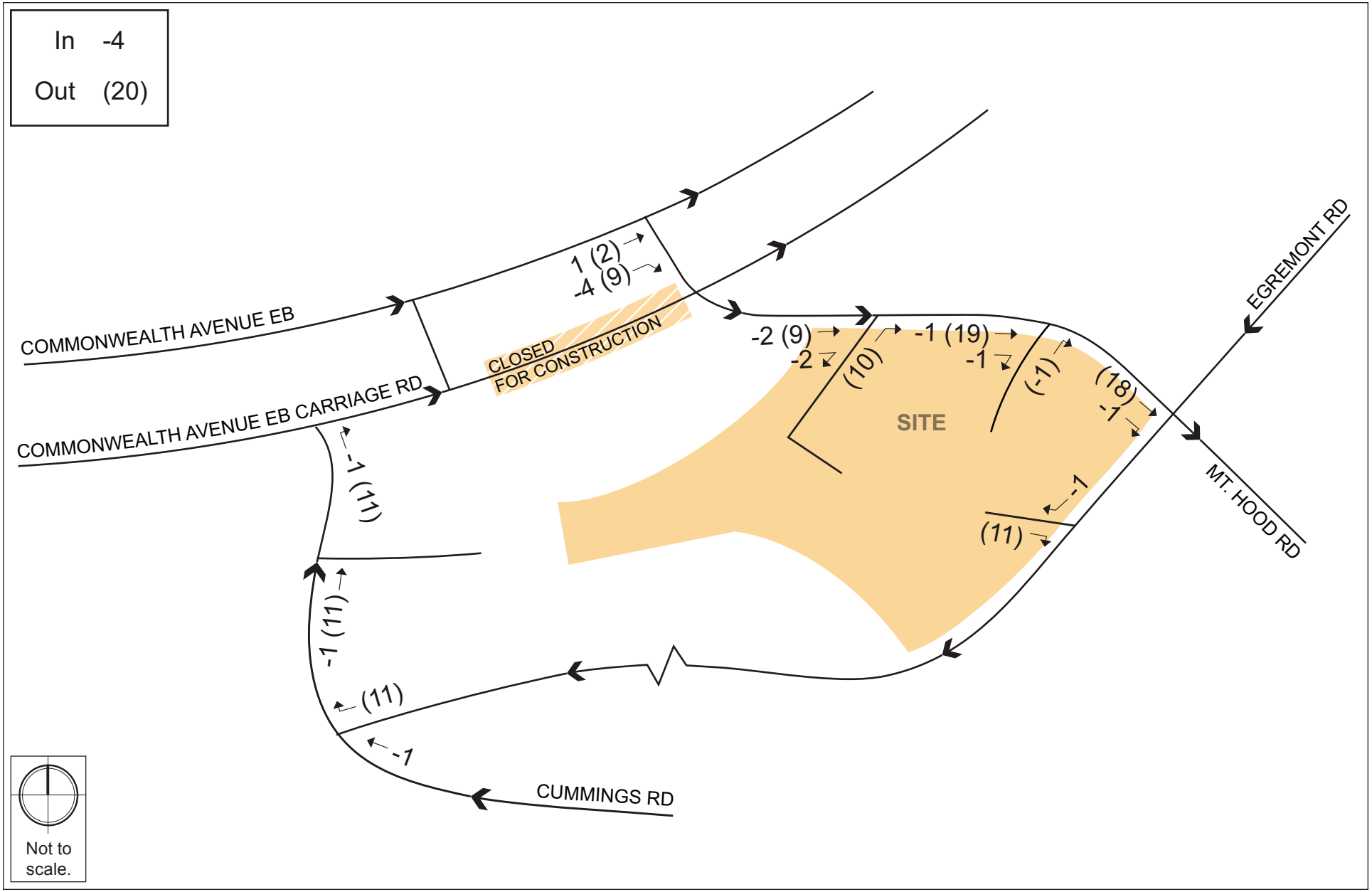

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Figure 2-15
Net New Vehicle Trips, Weekday a.m. Peak Hour

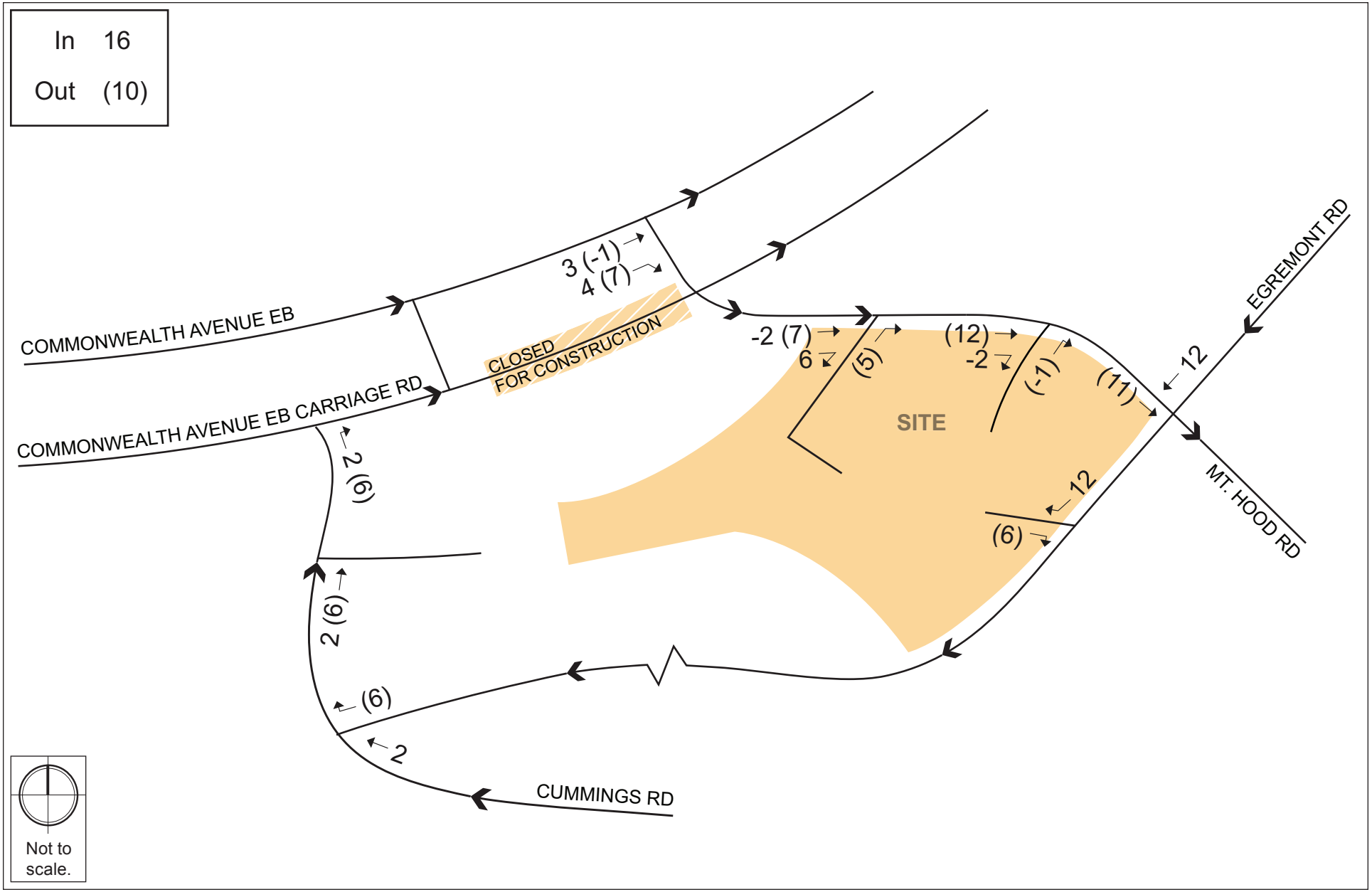

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Figure 2-16

Net New Vehicle Trips, Weekday p.m. Peak Hour

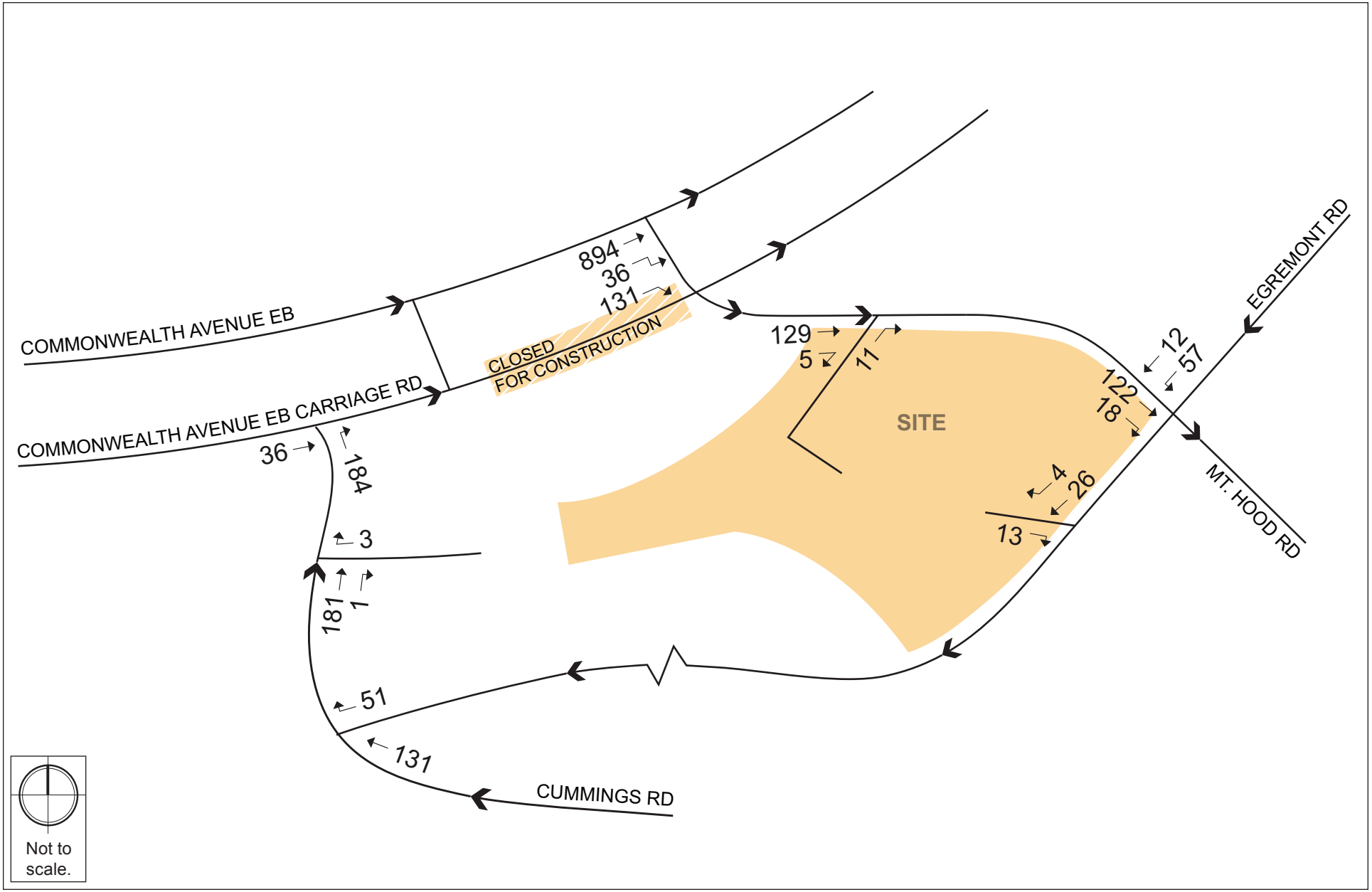

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Figure 2-17

Build (2024) Condition Traffic Volume, Weekday a.m. Peak Hour

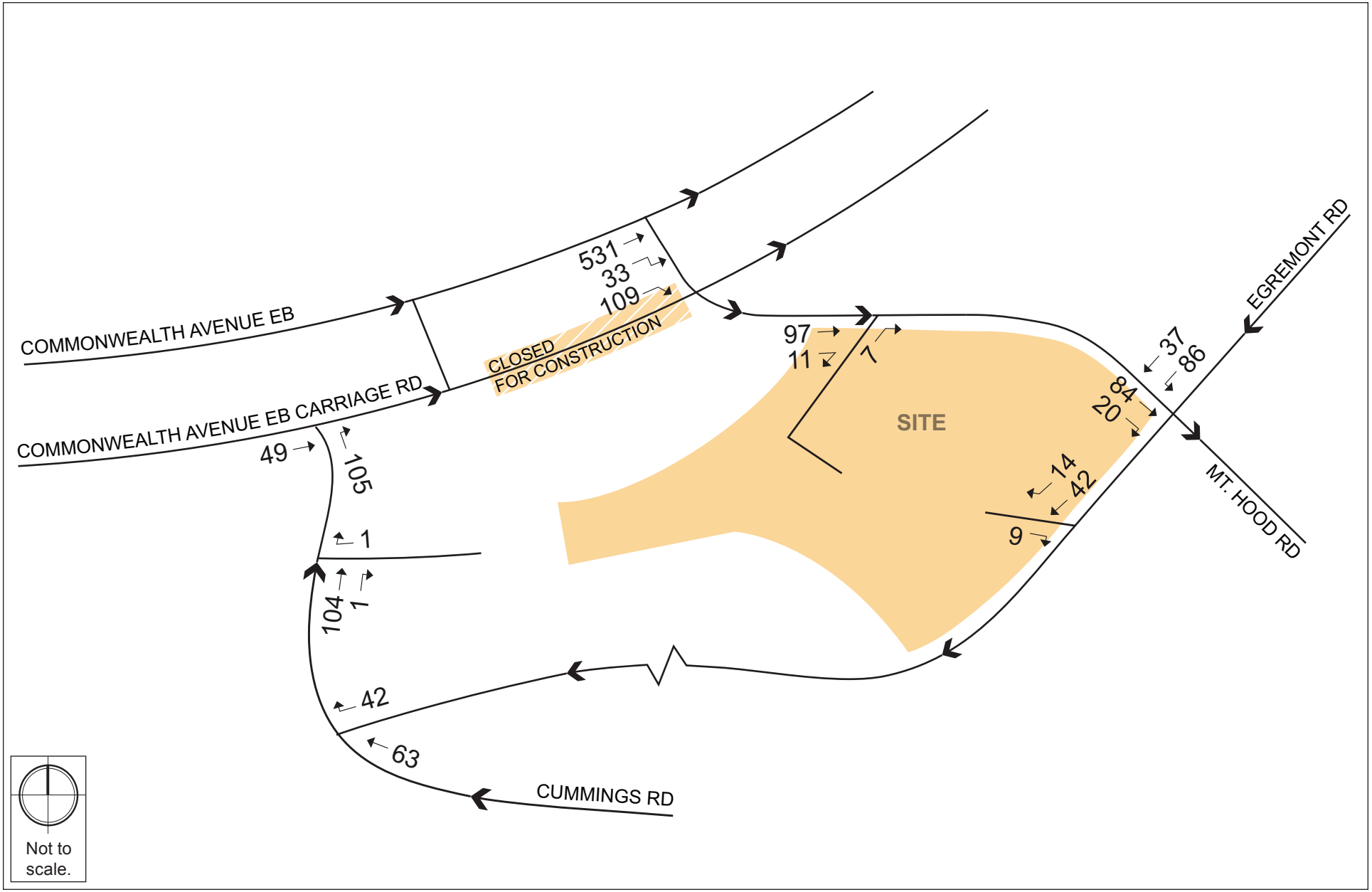

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Figure 2-18

Build (2024) Condition Traffic Volume, Weekday p.m. Peak Hour

Table 2-10 Build Conditions (2024), Capacity Analysis Summary, Weekday a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Unsignalized Intersections				
Comm Ave/ EB Carriage Rd/Mount Hood Rd	-	-	-	-
Commonwealth Ave EB thru | thru/right	A	0.0	0.36	0
Mount Hood Rd SB left/thru	A	1.7	0.03	2
Egremont Rd/Mount Hood Rd	-	-	-	-
Egremont Rd WB left/thru	A	6.1	0.04	3
Mount Hood Rd SB thru/right	B	11.4	0.22	21
Egremont Rd/Cummings Rd	-	-	-	-
Egremont Rd WB right	A	9.5	0.07	5
Cummings Rd NB thru	A	0.0	0.09	0
EB Carriage Rd/Cummings Rd	-	-	-	-
EB Carriage Rd EB thru	A	0.0	0.04	0
Cummings Rd NB right	B	10.0	0.23	22
Mount Hood Rd/North Driveway	-	-	-	-
North Driveway EB right	A	9.3	0.05	4
Mount Hood Rd SB thru/right	A	0.0	0.09	0
Egremont Rd/Driveway	-	-	-	-
Egremont Rd WB thru/right	A	0.0	0.02	0
Driveway SB right	A	8.6	0.03	2
Cummings Rd/Alleyway	-	-	-	-
Alleyway WB right	A	9.3	0.00	0
Cummings Rd NB thru/right	A	0.0	0.12	0

Table 2-11 Build Conditions (2024), Capacity Analysis Summary, Weekday p.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Unsignalized Intersections				
Comm Ave/ EB Carriage Rd/Mount Hood Rd	-	-	-	-
Commonwealth Ave EB thru | thru/right	A	0.0	0.21	0
Mount Hood Rd SB left/thru	A	1.8	0.02	2
Egremont Rd/Mount Hood Rd	-	-	-	-
Egremont Rd WB left/thru	A	5.3	0.06	4
Mount Hood Rd SB thru/right	B	11.5	0.17	15
Egremont Rd/Cummings Rd	-	-	-	-
Egremont Rd WB right	A	9.0	0.05	4
Cummings Rd NB thru	A	0.0	0.04	0
EB Carriage Rd/Cummings Rd	-	-	-	-
EB Carriage Rd EB thru	A	0.0	0.04	0
Cummings Rd NB right	A	9.6	0.14	12
Mount Hood Rd/North Driveway	-	-	-	-
North Driveway EB right	A	8.9	0.01	1
Mount Hood Rd SB thru/right	A	0.0	0.07	0
Egremont Rd/Driveway	-	-	-	-
Egremont Rd WB thru/right	A	0.0	0.04	0
Driveway SB right	A	8.7	0.01	1
Cummings Rd/Alleyway	-	-	-	-
Alleyway WB right	A	9.0	0.00	0
Cummings Rd NB thru/right	A	0.0	0.07	0

As shown in Table 2-10 and Table 2-11, the intersections and corresponding approaches continue to operate below capacity and at LOS B or better under the Build (2024) Condition. At some of the intersections, the approach delay improved due to the decrease in net-new trips. The Cummings Road northbound approach at the **Eastbound Carriage Road/Cummings Road** intersection decreased from LOS A to LOS B during the weekday a.m. peak hour. The longest queues continue to occur at the **Eastbound Carriage Road/Cummings Road** intersection during the weekday a.m. peak hour and the **Egremont Road/Mount Hood Road** intersection during the weekday p.m. peak hour. The minimal increases in delay and queue length are primarily due to the minimal net-new Project related trips.

2.5 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project-traffic related impacts. TDM will be facilitated by the nature of the Project (which does not generate significant peak hour trips) and its proximity to numerous public transit alternatives. TDM measures will be described and evaluated in more detail in the Transportation Access Plan Agreement ("TAPA").

On-site management will keep a supply of transit information (schedules, maps, and fare information) to be made available to the residents of the site. The Proponent will work with the City to develop an appropriate TDM program for the Project and consistent with its level of impact.

The Proponent is prepared to take advantage of good transit access in marketing the site to future residents by working with them to implement the following TDM measures to encourage the use of non-vehicular modes of travel.

The TDM measures for the Project may include but are not limited to the following:

- **Transportation Coordinator**: The Proponent will designate a transportation coordinator to oversee transportation issues, including parking, service and loading, and deliveries, and will work with residents as they move in to raise awareness of public transportation, bicycling, and walking opportunities;
- **Orientation Packets**: The Proponent will provide orientation packets to new residents and tenants containing information on available transportation choices, including transit routes/schedules and nearby vehicle sharing and bicycle sharing locations. On-site management will work with residents and tenants as they move in to help facilitate transportation for new arrivals. Additionally, the Proponent will provide an annual (or more frequent) newsletter or bulletin summarizing transit, ride-sharing, bicycling, alternative work schedules, and other travel options;
- **Real-Time Transit Information Board:** The Proponent will provide information on travel alternatives for employees and visitors in real time via the Internet and in the building lobby;
- **Transportation Management Association:** Join and participate in a local Transportation Management Association (TMA), such as A Better City, on behalf of the residents;
- **Bicycle Accommodation**: The Proponent will provide bicycle storage in secure, sheltered areas for residents. Subject to necessary approvals, public use bicycle racks for visitors will be placed near building entrances. The Proponent will also provide a bicycle maintenance space on the Project site;

- **Bicycle Sharing Program:** The Proponent will explore the possibility of expanding Hubway in the vicinity of the Project site to meet the demands of the Project and the surrounding community;
- **Project Web Site**: The web site will include transportation-related information for residents, and visitors;
- **Electric Charging Stations**: The Proponent will provide a total of two electric charging stations on the site that will serve four parking spaces;
- **Priority Parking Spaces**: The Proponent will provide priority parking spaces for hybrid and electric vehicles on the site; and
- **Vehicle Sharing Program:** The Proponent is exploring the feasibility of providing parking in the garage for a car sharing service.

2.6 Transportation Mitigation Measures

While the traffic impacts associated with the new Project generated trips are minimal, the Proponent will continue to work with the City of Boston to create a Project that efficiently serves vehicle trips, improves the pedestrian environment, and encourages transit and bicycle use. As part of the Project, the Proponent will bring all abutting sidewalks and pedestrian ramps to the City of Boston standards in accordance with the Boston Complete Streets design guidelines. This will include the reconstruction and widening of the sidewalks where possible, the installation of new, accessible ramps, improvements to street lighting where necessary, planting of street trees, and providing bicycle storage racks surrounding the site, where appropriate.

The Proponent is responsible for preparation of the Transportation Access Plan Agreement (TAPA), a formal legal agreement between the Proponent and the BTD. The TAPA formalizes the findings of the transportation study, mitigation commitments, elements of access and physical design, travel demand management measures, and any other responsibilities that are agreed to by both the Proponent and the BTD. Because the TAPA must incorporate the results of the technical analysis, it must be executed after these other processes have been completed. The proposed measures listed above and any additional transportation improvements to be undertaken as part of this Project will be defined and documented in the TAPA.

The Proponent will also produce a Construction Management Plan (CMP) for review and approval by BTD. The CMP will detail the schedule, staging, parking, delivery, and other associated impacts of the construction of the Project. See Section 2.7 for additional information related to the CMP.

2.7 Evaluation of Short-Term Construction Impacts

Details of the overall construction schedule, working hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in a CMP to be filed with BTD in accordance with the City's transportation maintenance plan requirements. The CMP will also address the need for pedestrian detours, lane closures, and/or parking restrictions, if necessary to accommodate a safe and secure work zone.

To minimize transportation impacts during the construction period, the following measures will be considered for the CMP:

- Construction workers will be encouraged to use public transportation and/or carpool;
- A subsidy for MBTA passes will be considered for full-time construction employees; and
- Secure spaces will be provided on-site for workers' supplies and tools so they do not need to be brought to the site each day.

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

Chapter 3.0

Environmental Review Component

3.0 ENVIRONMENTAL REVIEW COMPONENT

3.1 Wind

3.1.1 Introduction

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by Stantec Architecture to prepare a qualitative assessment of the pedestrian wind conditions for the Project. This assessment is based on the following:

- a review of regional long-term meteorological data from Boston Logan International Airport;
- design drawings provided by Stantec on November 10 and 13, 2017;
- wind-tunnel studies undertaken by RWDI for similar projects in the Boston Area;
- RWDI's engineering judgement and knowledge of wind flows around buildings[1][2][3]; and,
- use of software developed by RWDI (Windestimator[2]) for estimating the potential wind conditions around generalized building forms.

This qualitative approach provides a screening-level estimation of potential wind conditions.

Note that other wind issues, such as those related to cladding and structural wind loads, air quality, etc., are not considered in the scope of this assessment.

3.1.2 Building and Site Information

The Project site is located at the southwesterly corner of the intersection of Mount Hood Road and Egremont Road in Brighton (see Figure 3.1-1). The Project site is immediately surrounded by an open lot to the northwest where a five-story residential building is currently under construction, and by mid- and low-rise buildings in all other directions.

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[1] 1. H. Wu and F. Kriksic (2012). "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, vol.104-106, pp.397-407.

[2] 2. H. Wu, C.J. Williams, H.A. Baker and W.F. Waechter (2004), "Knowledge- based Desk-Top Analysis of Pedestrian Wind Conditions", *ASCE Structure Congress 2004*, Nashville, Tennessee.

[3] 3. C.J. Williams, H. Wu, W.F. Waechter and H.A. Baker (1999), "Experience with Remedial Solutions to Control Pedestrian Wind Problems", *10th International Conference on Wind Engineering*, Copenhagen, Denmark.

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Figure 3.1-1
Existing Site and Surroundings

Dense trees are located to the southwest of the site. Further surroundings are dense mid and low-rise buildings in all directions. Downtown Boston is approximately 4.5 miles to the northeast.

The site is currently occupied by three two-story buildings, with surface parking spaces between them.

The proposed Project consists of one building with two separate forms connected by a partially below-grade podium. The seven-story portion of the building, located at the northwestern corner of the site is shown as portion 1 in Figure 3.1-2, and the five-story portion of the building at the southeastern corner of the site is shown as portion 2.

The pedestrian areas of interest include building entrances, public sidewalks and a courtyard above the one-story podium.

3.1.3 Meteorological Data

Wind statistics at Boston Logan International Airport between 1990 and 2015, inclusive, were analyzed for the spring (March to May), summer (June to August), fall (September to November) and winter (December to February) seasons. Figures 3.1-3 to 3.1-5 graphically depict the distributions of wind frequency and directionality for the four seasons and for the annual period. When all winds are considered (regardless of speed), winds from the northwest and southwest quadrants are predominant. Northeasterly winds are also frequent, especially in the spring.

Strong winds with mean speeds greater than 20 mph (red bands in the images) are prevalent from the northwesterly directions throughout the year, while the southwesterly and northeasterly winds are also frequent.

Winds from the northwest, west, southwest, and northeast directions are considered most relevant to the current study, although winds from other directions were also considered in this assessment.

3.1.4 BPDA Wind Criteria

The BPDA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BPDA wind design guidance criterion states that an effective gust velocity (hourly mean wind speed + 1.5 times the root mean square wind speed) of 31 mph should not be exceeded more than one percent of the time. The second set of criteria used by the BPDA

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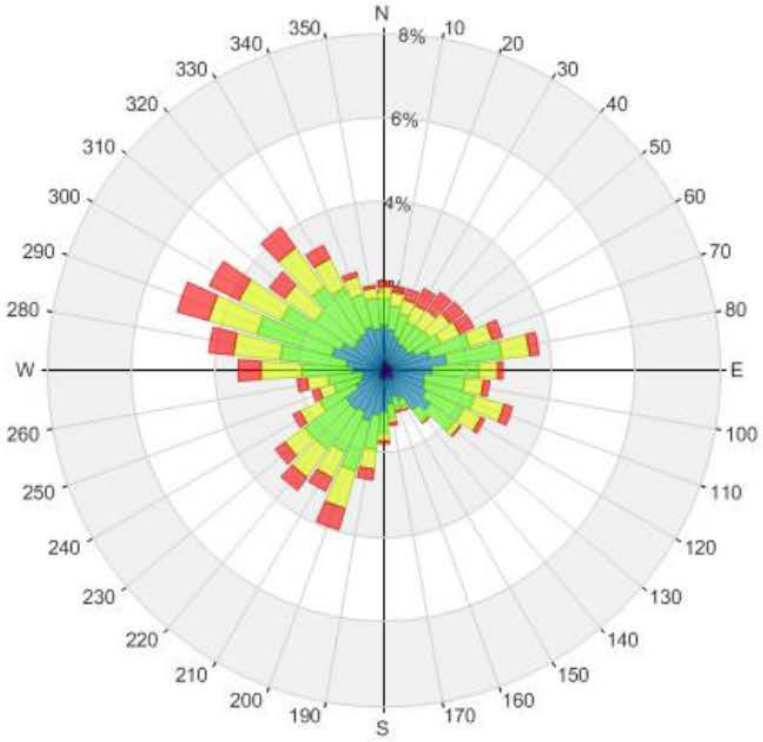
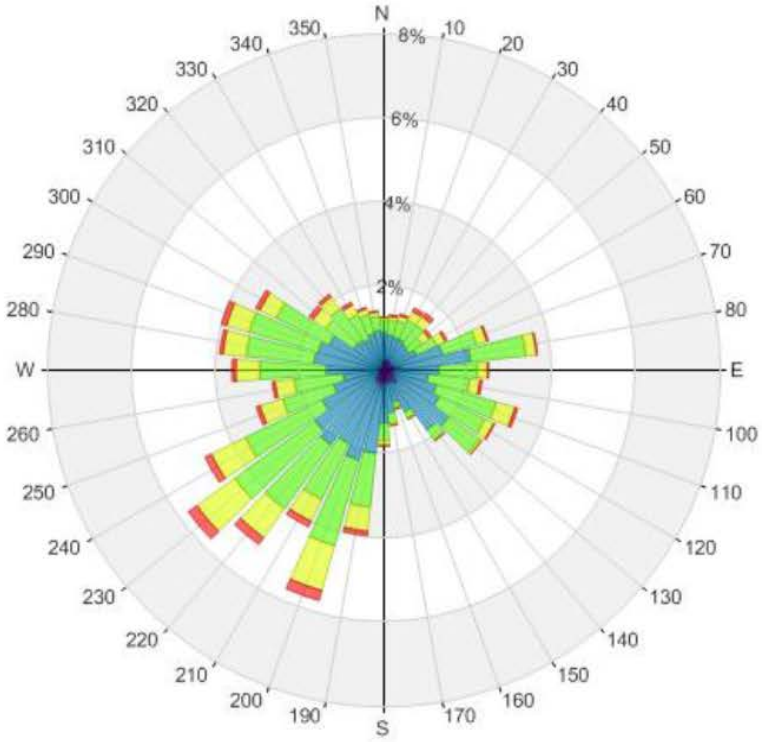
Figure 3.1-2
Proposed Site Plan



Spring
(March - May)

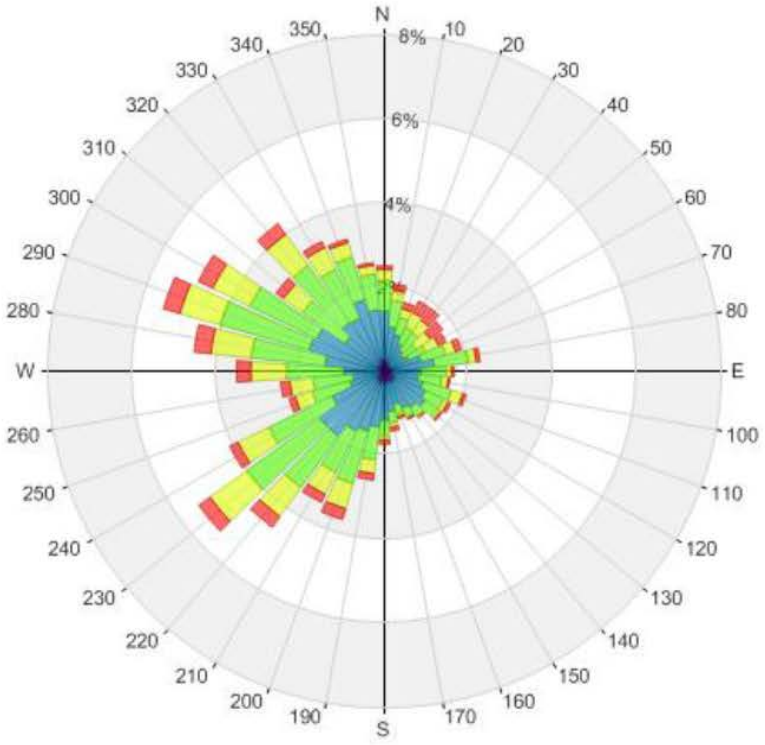


Summer
(June - August)

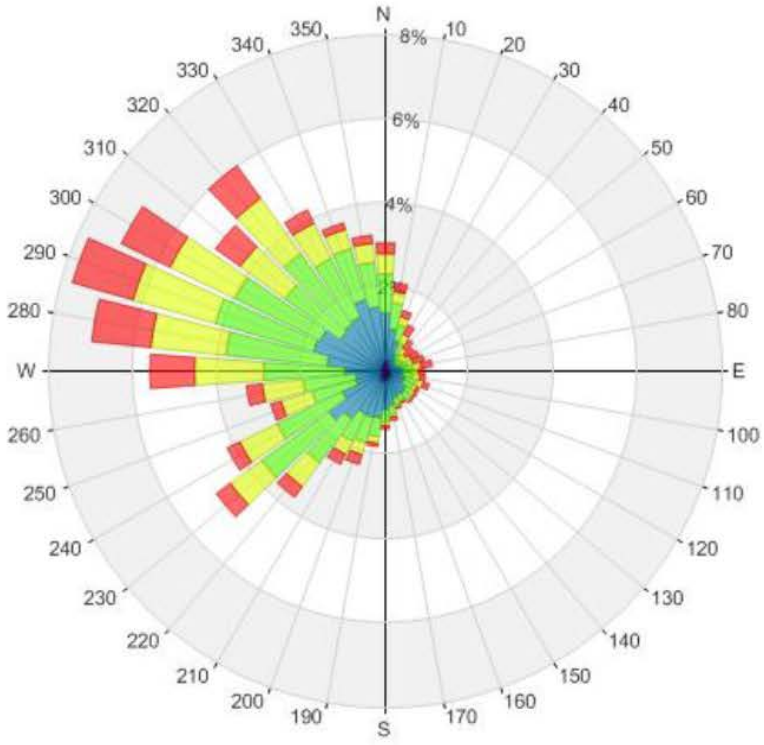
Wind Speed (mph)	Probability (%) Spring	Summer
Calm	2.4	2.7
1-5	6.4	8.9
6-10	28.5	38.1
11-15	32.9	35.1
16-20	19.7	12.6
>20	10.2	2.7

Figure 3.1-3

Directional Distribution (%) of Winds (Blowing From) Boston Logan International Airport (1990-2015)



Fall
(September - November)



Winter
(December - February)

Wind Speed (mph)	Probability (%) Fall	Winter
Calm	2.9	2.3
1-5	8.0	6.2
6-10	34.3	27.5
11-15	32.8	31.1
16-20	15.3	20.1
>20	6.7	12.8

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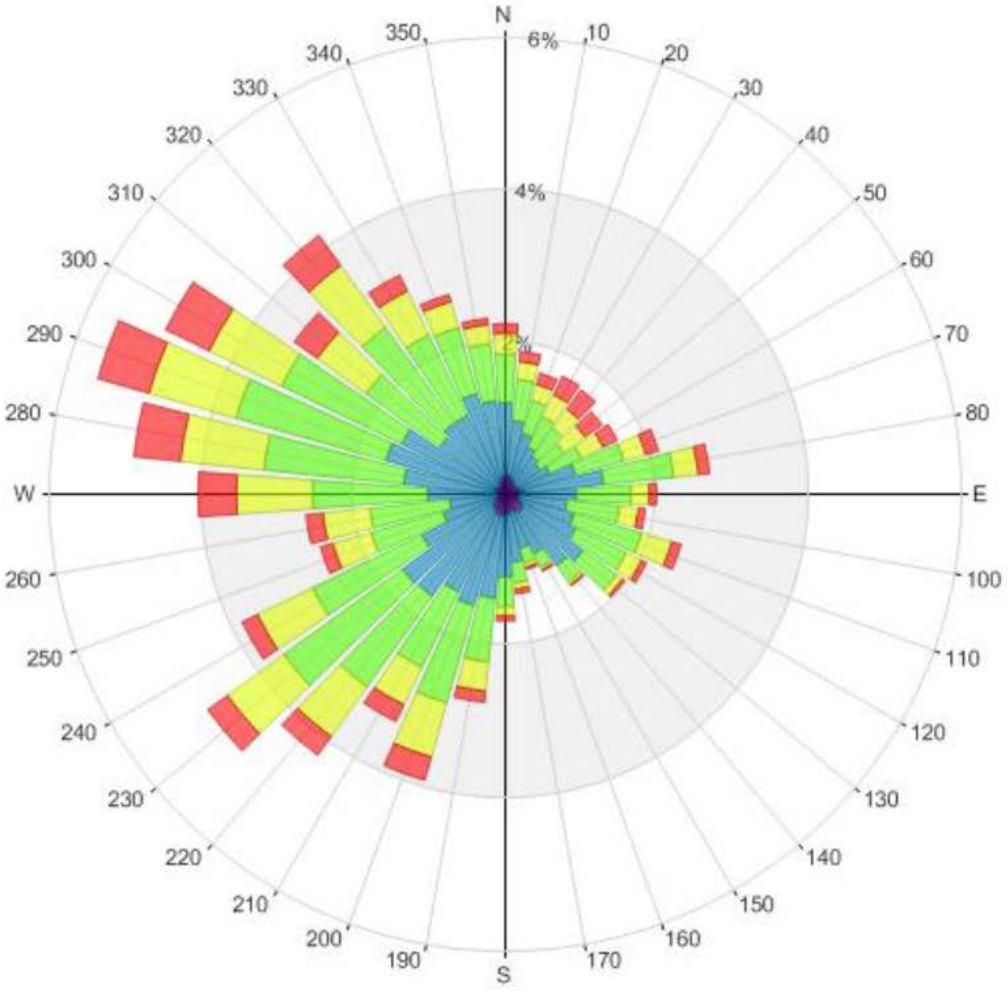
Figure 3.1-4

Directional Distribution (%) of Winds (Blowing From) Boston Logan International Airport (1990-2015)



Annual Winds

Wind Speed (mph)	Probability (%)
Calm	2.5
1-5	7.4
6-10	32.1
11-15	33.0
16-20	16.9
>20	8.1

Figure 3.1-5

Directional Distribution (%) of Winds (Blowing From) Boston Logan International Airport (1990-2015)

to determine the acceptability of specific locations is based on the work of Melbourne[4]. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing, or walking. The criteria are expressed in terms of benchmarks for the one-hour mean wind speed exceeded 1% of the time (i.e., the 99-percentile mean wind speed). They are shown in Table 3.1-1 below.

Table 3.1-1 Boston Planning and Development Agency Mean Wind Criteria*

Level of Comfort	Wind Speed
Dangerous	> 27 mph
Uncomfortable for Walking	>19 and ≤27 mph
Comfortable for Walking	>15 and ≤19 mph
Comfortable for Standing	>12 and ≤15 mph
Comfortable for Sitting	<12 mph

* Applicable to the hourly mean wind speed exceeded one percent of the time.

Pedestrians on sidewalks and parking lots will be active, and wind speeds comfortable for walking are appropriate. Lower wind speeds comfortable for standing are desired for building entrances where people are apt to linger. For any outdoor amenity at and above grade, low wind speeds comfortable for sitting are desired in the summer, when it is typically in use.

The wind climate found in a typical location in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares, and meets the BPDA effective gust velocity criterion of 31 mph at most areas, while windier conditions may be expected near the corners of tall buildings exposed to the prevailing winds. However, without any mitigation measures, this wind climate is likely to be frequently unsuitable for more passive activities such as sitting.

Discussions related to pedestrian wind comfort and safety will be based on the annual wind climate. Typically, the summer and fall winds tend to be more comfortable than the annual winds, while the winter and spring winds are less comfortable than the annual winds.

[4] Melbourne, W.H., 1978, "Criteria for Environmental Wind Conditions", Journal of Industrial Aerodynamics, 3 (1978) 241 - 249.

3.1.5 Pedestrian Wind Conditions

3.1.5.1 Background

Predicting wind speeds and occurrence frequencies is complicated. It involves building geometry, orientation, position and height of surrounding buildings, upstream terrain, and the local wind climate. Over the years, RWDI has conducted thousands of wind-tunnel model studies regarding pedestrian wind conditions around buildings, yielding a broad knowledge base. This knowledge has been incorporated into RWDI's proprietary software that allows, in many situations, for a qualitative, screening-level numerical estimation of pedestrian wind conditions without wind tunnel testing.

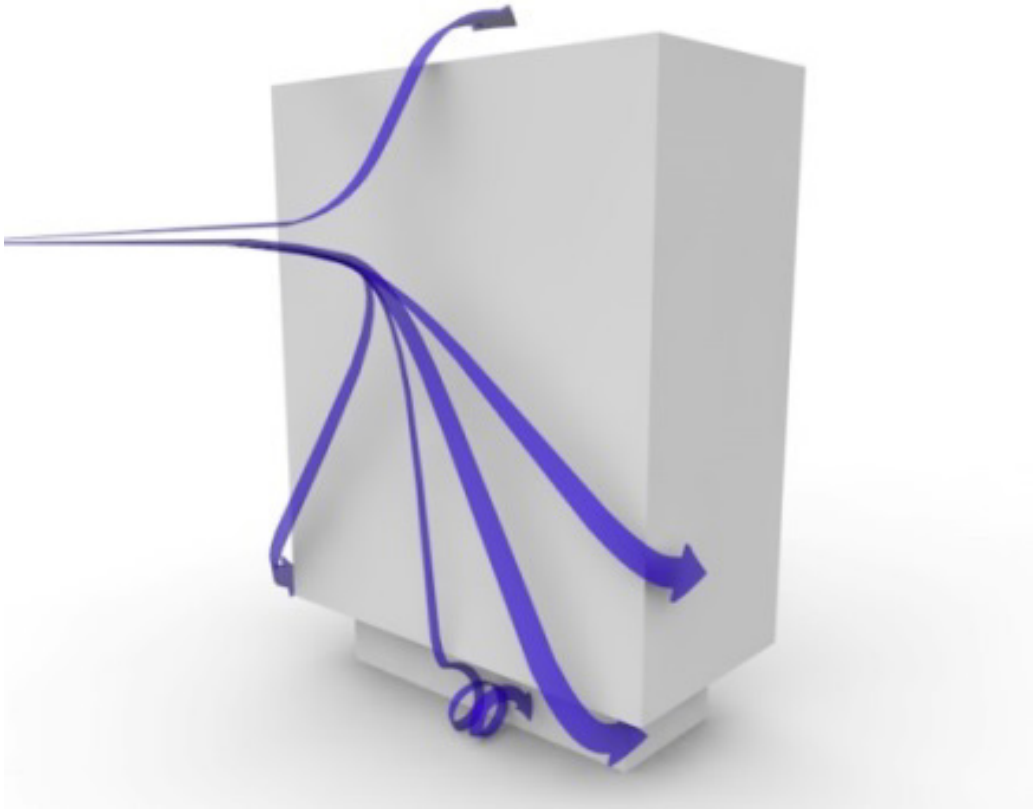
Tall buildings tend to intercept the stronger winds at higher elevations and redirect them to the ground level. Such a downwashing flow (see Figure 3.1-6) is the main cause for increased wind activity around tall buildings at the grade level. When two buildings are located side by side, wind flow accelerations are expected to occur in the gap between the buildings due to the channeling effect (see Figure 3.1-6). If these building/wind combinations occur for prevailing winds, there is a greater potential for increased wind activity.

Given the mid-rise height of the proposed Project, winds at all pedestrian areas on and around the development are expected to meet the effective gust criterion, for both the No-Build and Build configurations. Detailed discussions on the potential wind comfort conditions at key pedestrian areas are provided in the next sections.

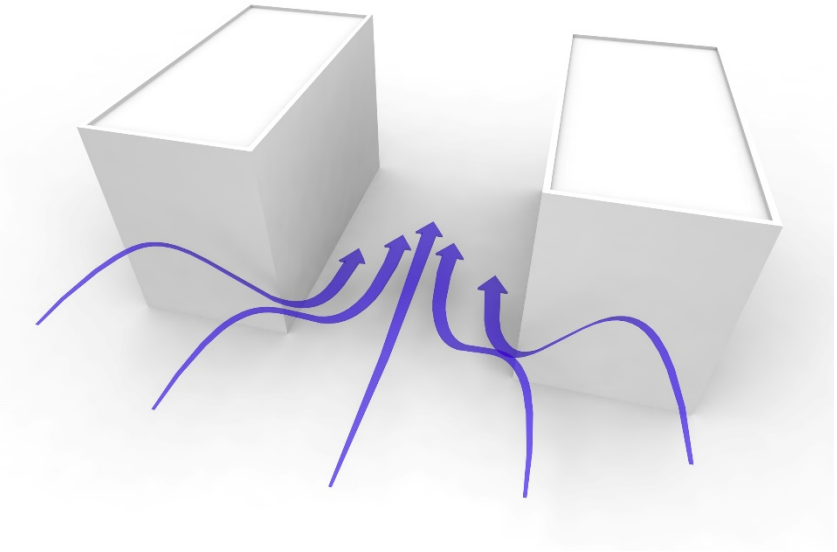
3.1.5.2 Sidewalks

The sidewalks along Egremont Road are protected by the proposed portion 2 from the prevailing northwesterly winds. The southwesterly and northeasterly winds will be parallel to portion 2 and therefore will have limited interaction with this building (see Figure 3.1-7), except at the ends of the building, where slightly increased wind speeds are expected. Overall, wind conditions along the sidewalks of Egremont Road are expected to be comfortable for walking or better throughout the year, which is appropriate for the intended use.

Prevailing northeasterly winds are expected to be intercepted by the north façade of portion 1, redirecting to the grade and accelerating around the northwest corner of this building. Similarly, the northwesterly winds will be directed down the west façade of this building and accelerating around its northwest corner. As a result, accelerated wind speeds are expected at the sidewalks along Mount Hood Road, across portion 1 and close to its northwest corner. These wind speeds could be uncomfortable during the spring and winter. However, to improve the conditions at the sidewalks of Mount Hood Road and at



(a) Downwashing Flow



(b) Channeling Flow

40 Mount Hood Road Boston, Massachusetts

Figure 3.1-7
Flow Pattern around the Project

the building corner, the Proponent will explore potential mitigation measures such as installing a canopy or installing coniferous or marcescent street trees to reduce the local wind speeds. The roadway to the northwest of portion 1 is a vehicular road and higher wind speeds will likely not be a concern.

The future five-story building on the open lot to the northwest of the Project site (1650 Commonwealth Avenue) will provide some sheltering from the prevailing northwesterly winds.

3.1.5.3 Entrances

Two residential lobby entrances are located on Mount Hood Road (A1 and A2 in Figure 3.1-7). These entrances are protected from the southwesterly winds by the Project itself.

Acceleration of the prevailing northeasterly winds around the east corner of portion 2 will result in higher than desired wind speeds at entrance A1. The canopy installed above this entrance and the wall on its east sides are positive features which will help to protect it from the winds; however, the Proponent will explore potential design measures, landscaping, or wind screens to reduce wind speeds at this location.

As a result of interaction of the northeasterly and northwesterly winds with portion 1 (as described earlier), high wind speeds are also expected along Mount Hood Road which are higher than desired for entrance A2. Similarly, the canopy above and the wall on the east side of this entrance are positive features which will help to improve the conditions at this entrance; however, additional mitigation measures to protect it from the northwesterly winds will be considered.

3.1.6 Summary

Wind conditions on and around the proposed Project were assessed, based on the local wind climate, surrounding buildings and RWDI's past experience with wind tunnel testing of similar buildings.

The proposed Project has several positive design features such as a recessed entrance, the canopies above and walls on the east side of the entrances, and position of the courtyard between the two buildings, which is protected from the prevailing winds. In addition, the existing dense trees to the southwest of the site and the future buildings to the northwest will provide additional protection from the prevailing winds.

Appropriate wind conditions are expected throughout the year at the sidewalks along Egremont Road and at the recessed entrance along the north façade. Wind speeds at the sidewalks along Mount Hood Road and the northwest corner of portion 1 and at the entrances might be higher than desired, in particular during spring and winter. Appropriate wind conditions are expected at the west side of the courtyard however wind speeds might

be higher than desired for passive activities at the pool area. Wind control features are being considered in order to reduce wind speeds at these areas.

3.2 Shadow

3.2.1 Introduction and Methodology

As typically required by the BPDA, a shadow impact analysis was conducted to investigate shadow impacts from the Project during three time periods (9:00 a.m., 12:00 noon, and 3:00 p.m.) during the vernal equinox (March 21), summer solstice (June 21), autumnal equinox (September 21), and winter solstice (December 21). In addition, shadow studies were conducted for the 6:00 p.m. time period during the summer solstice and autumnal equinox.

The shadow analysis presents the existing shadow and new shadow that would be created by the proposed Project, illustrating the incremental impact of the Project. The analysis focuses on nearby open spaces, sidewalks and bus stops adjacent to and in the vicinity of the Project site. Shadows have been determined using the applicable Altitude and Azimuth data for Boston. Figures showing the net new shadow from the Project are provided in Figures 3.2-1 to 3.2-14 at the end of this section.

The results of the analysis show that new shadow from the Project will be limited to nearby streets and sidewalks. No new shadow will be cast onto nearby open spaces or bus stops during the time periods studied.

3.2.2 Vernal Equinox (March 21)

No new shadow will be cast onto nearby open spaces or bus stops during the time periods studied.

At 9:00 a.m. during the vernal equinox, new shadow from the Project will be cast to the northwest onto Mount Hood Road and its southern sidewalk.

At 12:00 p.m., new shadow from the Project will be cast to the north onto Mount Hood Road and its sidewalks.

At 3:00 p.m., new shadow from the Project will be cast to the northeast onto Mount Hood Road and its sidewalks, and onto Egremont Road and its western sidewalk.

3.2.3 Summer Solstice (June 21)

No new shadow will be cast onto nearby open spaces or bus stops during the time periods studied.

At 9:00 a.m. during the summer solstice, new shadow from the Project will be cast to the west. No new shadow will be cast onto nearby streets or sidewalks.

At 12:00 p.m., new shadow from the Project will be cast to the north onto Mount Hood Road and its southern sidewalk.

At 3:00 p.m., new shadow from the Project will be cast to the northeast onto Mount Hood Road and its southern sidewalk, and onto Egremont Road and its western sidewalk.

At 6:00 p.m., new shadow from the Project will be cast to the southeast onto a small portion of Egremont Road and its sidewalks.

3.2.4 Autumnal Equinox (September 21)

No new shadow will be cast onto nearby open spaces or bus stops during the time periods studied.

At 9:00 a.m., new shadow from the Project will be cast to the northwest onto Mount Hood Road and its southern sidewalk.

At 12:00 p.m., new shadow from the Project will be cast to the north onto Mount Hood Road and its sidewalks.

At 3:00 p.m., new shadow from the Project will be cast to the northeast onto Mount Hood Road and its sidewalks, and onto Egremont Road and its sidewalks.

At 6:00 p.m., most of the area is under existing shadow. No new shadow will be cast as a result of the Project.

3.2.5 Winter Solstice (December 21)

The winter solstice creates the least favorable conditions for sunlight in New England. The sun angle during the winter is lower than in any other season, causing the shadows in urban areas to elongate and be cast onto large portions of the surrounding area. No new shadow will be cast onto nearby open spaces or bus stops during the time periods studied.

At 9:00 a.m., new shadow from the Project will be cast to the northwest onto Commonwealth Avenue and its sidewalks, and onto Mount Hood Road and its sidewalks.

At 12:00 p.m., new shadow from the Project will be cast to the north onto Mount Hood Road and its sidewalks.

At 3:00 p.m., new shadow from the Project will be cast onto Mount Hood Road and its sidewalks, and onto Egremont Road and its sidewalks.

3.2.6 Conclusions

The shadow impact analysis looked at net new shadow created by the Project during 14 time periods. No new shadow will be cast onto nearby open spaces or bus stops during the time periods studied. New shadow from the Project will be minor and limited to nearby streets and sidewalks.

3.3 Daylight Analysis

3.3.1 Introduction

The purpose of the daylight analysis is to estimate the extent to which a proposed project will affect the amount of daylight reaching the streets and the sidewalks in the immediate vicinity of a project site. The daylight analysis for the Project considers the existing and proposed conditions, as well as daylight obstruction values of the surrounding area.

Because the Project site currently consists of two-story buildings, the proposed Project will increase daylight obstruction from the existing condition; however, the resulting conditions will be only slightly higher than daylight obstruction values of the context points in the area and lower than in other urban areas.

3.3.2 Methodology

The daylight analysis was performed using the Boston Redevelopment Authority Daylight Analysis (BRADA) computer program[5]. This program measures the percentage of sky-dome that is obstructed by a project and is a useful tool in evaluating the net change in obstruction from existing to build conditions at a specific site.

[5] Method developed by Harvey Bryan and Susan Stuebing, computer program developed by Ronald Fergle, Massachusetts Institute of Technology, Cambridge, MA, September 1984.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 3.2-1

Shadow Study: March 21, 9:00 a.m.

40 Mount Hood Road Boston, Massachusetts

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Figure 3.2-2

Shadow Study: March 21, 12:00 p.m.

40 Mount Hood Road Boston, Massachusetts

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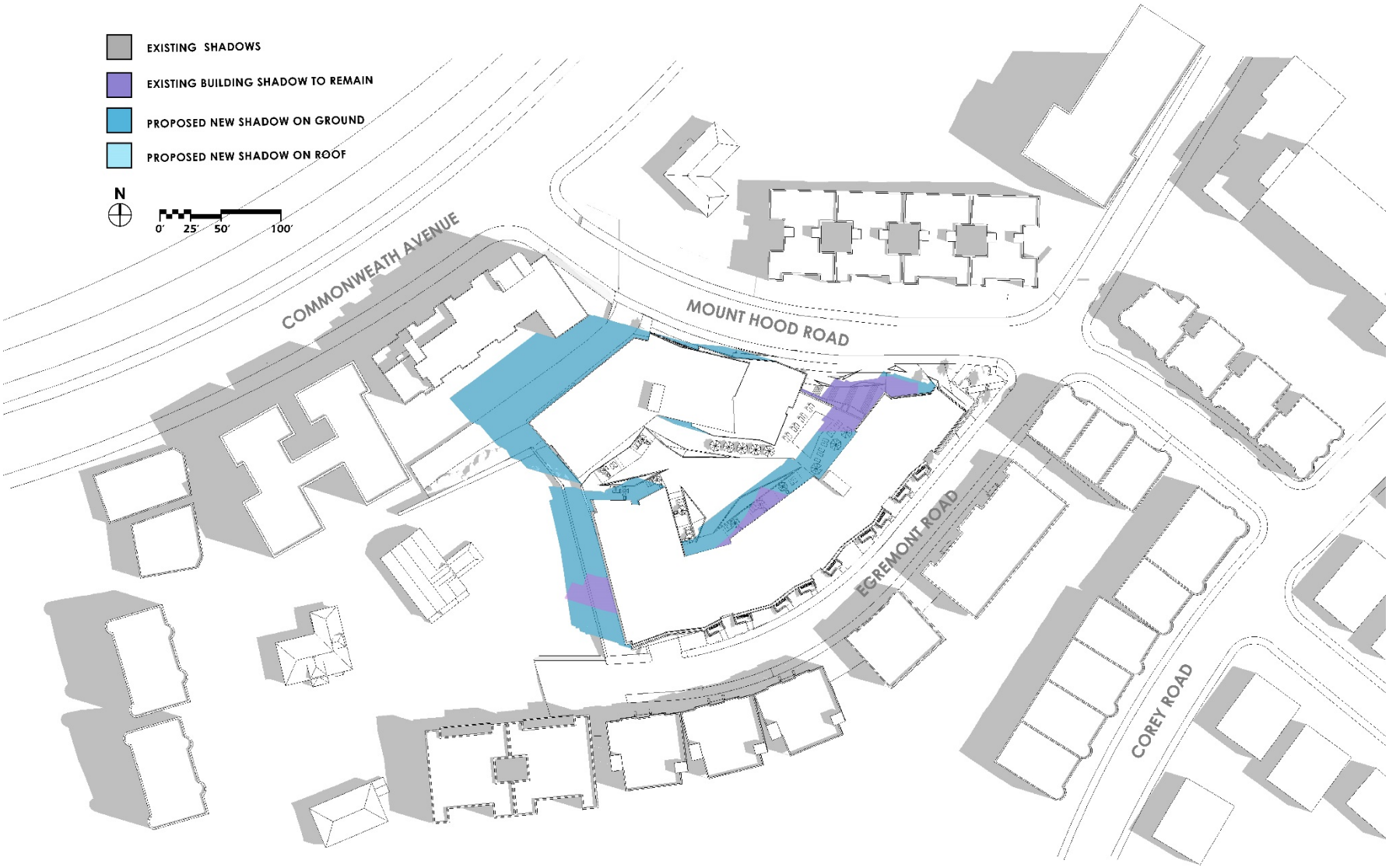
Figure 3.2-3

Shadow Study: March 21, 3:00 p.m.



40 Mount Hood Road Boston, Massachusetts

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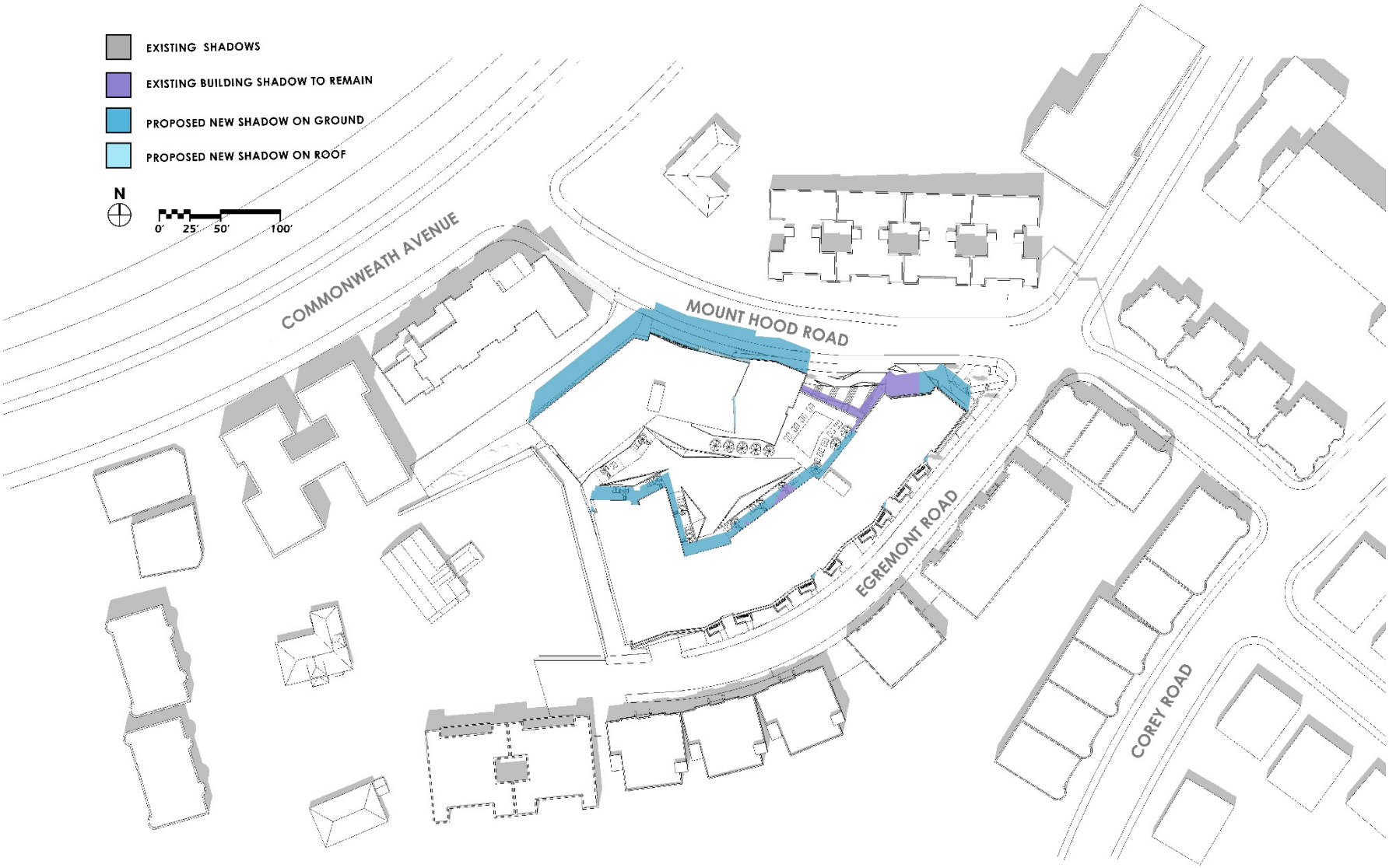
Figure 3.2-4

Shadow Study: June 21, 9:00 a.m.



40 Mount Hood Road Boston, Massachusetts

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Figure 3.2-5

Shadow Study: June 21, 12:00 p.m.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 3.2-6

Shadow Study: June 21, 3:00 p.m.

40 Mount Hood Road Boston, Massachusetts

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Figure 3.2-7

Shadow Study: June 21, 6:00 p.m.

40 Mount Hood Road Boston, Massachusetts

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Figure 3.2-8

Shadow Study: September 21, 9:00 a.m.

40 Mount Hood Road Boston, Massachusetts

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Figure 3.2-9

Shadow Study: September 21, 12:00 p.m.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 3.2-10

Shadow Study: September 21, 3:00 p.m.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 3.2-11

Shadow Study: September 21, 6:00 p.m.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 3.2-12

Shadow Study: December 21, 9:00 a.m.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 3.2-13

Shadow Study: December 21, 12:00 p.m.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 3.2-14

Shadow Study: December 21, 3:00 p.m.

Using BRADA, a silhouette view of the building is taken at ground level from the middle of the adjacent city streets or pedestrian ways centered on the proposed building. The façade of the building facing the viewpoint, including heights, setbacks, corners and other features, is plotted onto a base map using lateral and elevation angles. The two-dimensional base map generated by BRADA represents a figure of the building in the "sky dome" from the viewpoint chosen. The BRADA program calculates the percentage of daylight that will be obstructed on a scale of 0 to 100 percent based on the width of the view, the distance between the viewpoint and the building, and the massing and setbacks incorporated into the design of the building; the lower the number, the lower the percentage of obstruction of daylight from any given viewpoint.

The analysis compares three conditions: Existing Conditions; Proposed Conditions; and the context of the area.

Two viewpoints were chosen to evaluate the daylight obstruction for the Existing and Proposed Conditions. Two area context points were considered to provide a basis of comparison to existing conditions in the surrounding area. The viewpoint and area context viewpoints were taken in the following locations and are shown on Figure 3.3-1.

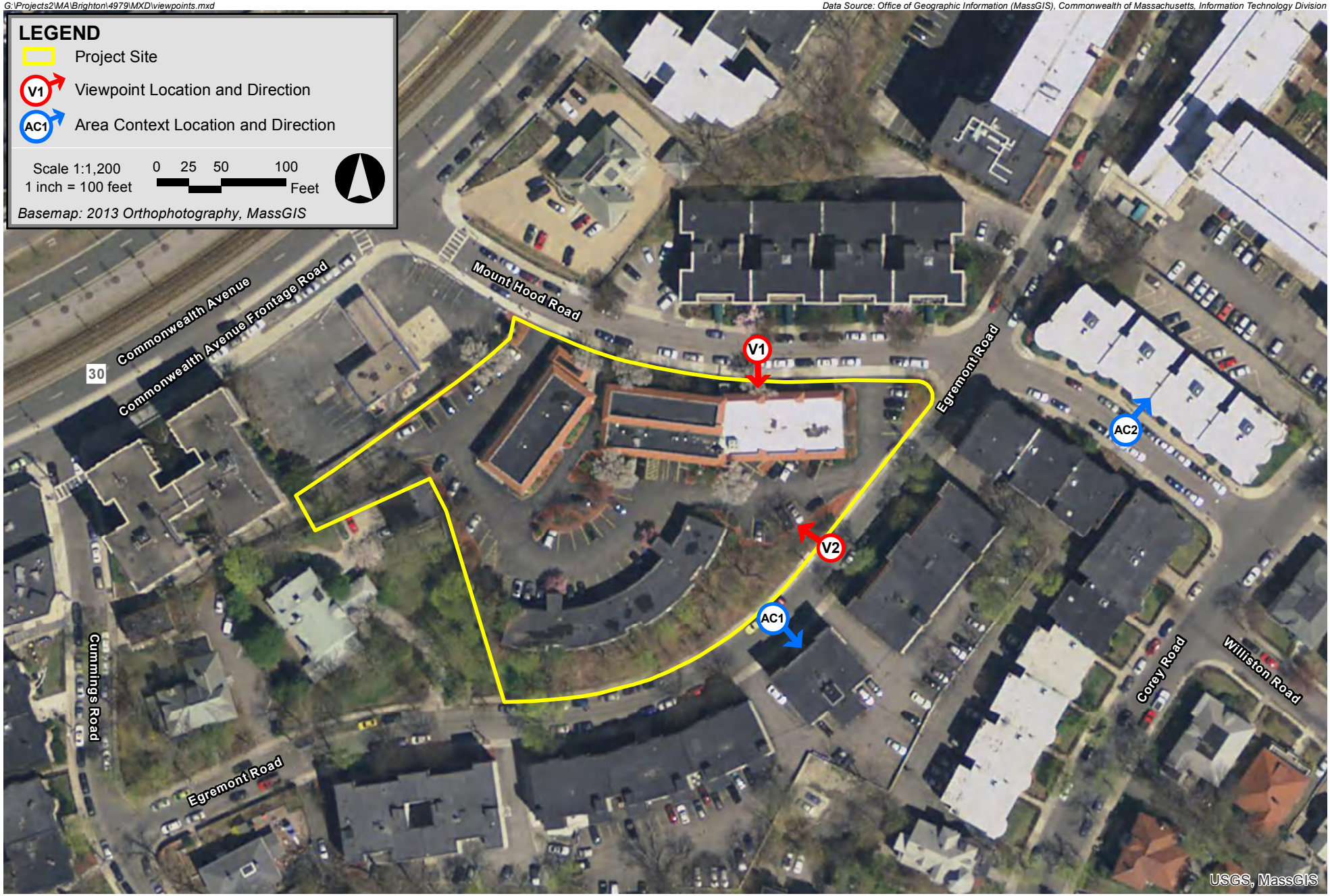
- **Viewpoint 1:** View from the center of Mount Hood Road facing south toward the Project site.
- **Viewpoint 2:** View from the center of Egremont Road facing northwest toward the Project site.
- **Area Context Viewpoint AC1:** View from Egremont Road facing southeast toward 33 Egremont Road.
- **Area Context Viewpoint AC2:** View from Mount Hood Road facing northeast toward
  9-19 Mount Hood Road.

3.3.3 Results

The results for each viewpoint are described in Table 3.3-1. Figures 3.3-2 and 3.3-3 illustrate the BRADA results for each analysis.

G:\Projects2\MA\Brighton\4979\MXD\viewpoints.mxd

Data Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

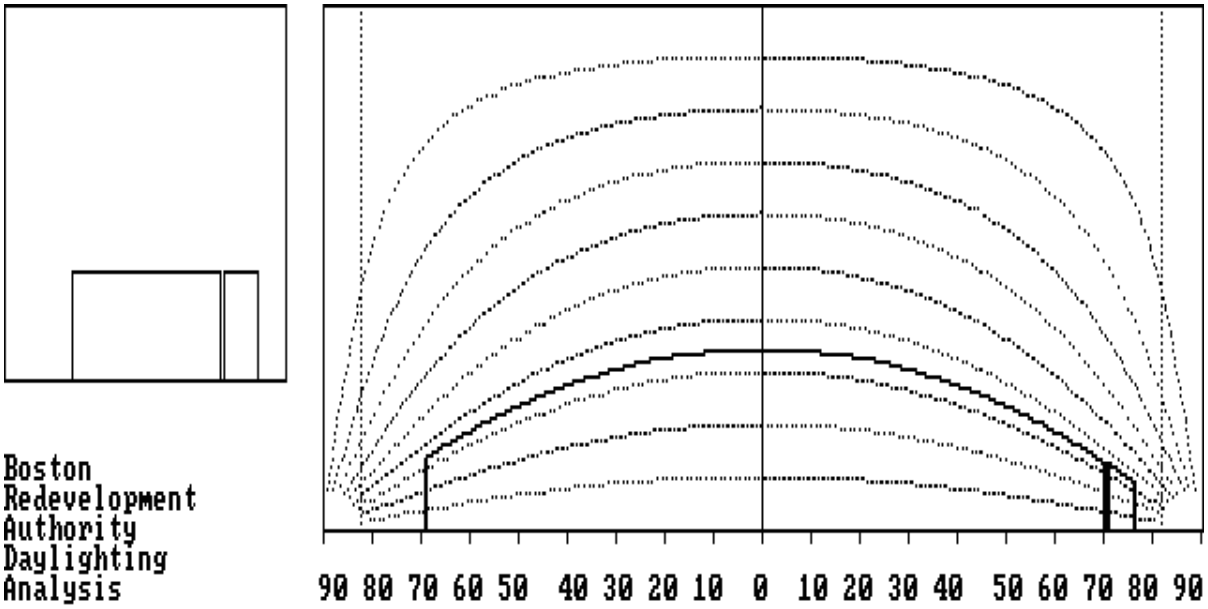


40 Mount Hood Road Boston, Massachusetts

Epsilon Associates Inc.

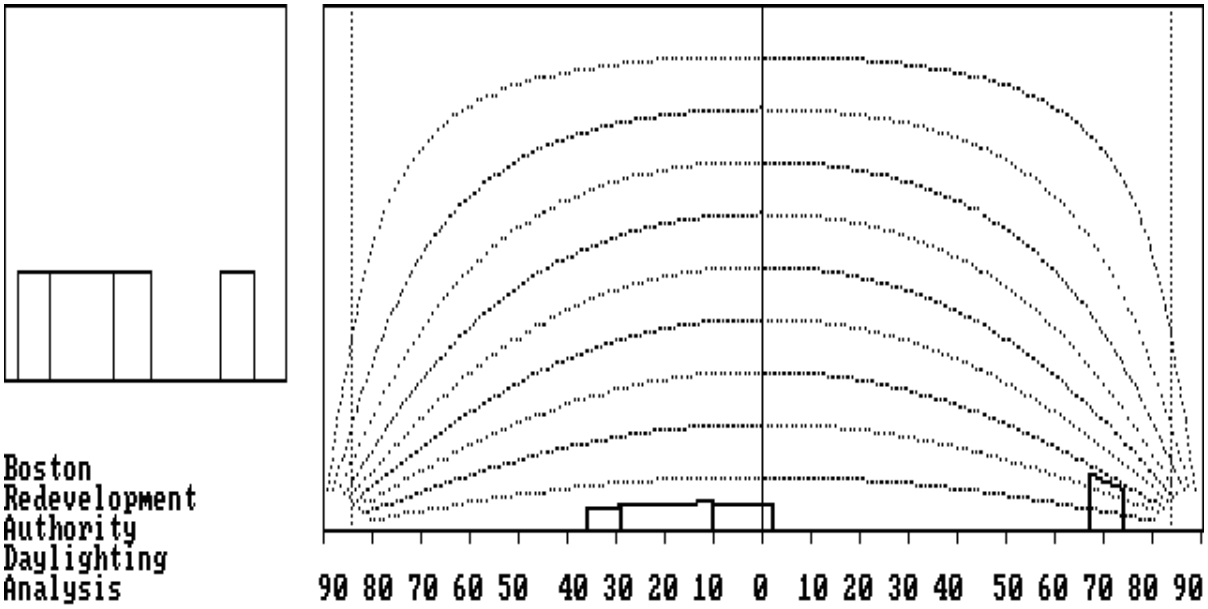
Figure 3.3-1
Viewpoint Locations

Viewpoint 1: View from the center of Mt. Hood Road facing south toward the Project site



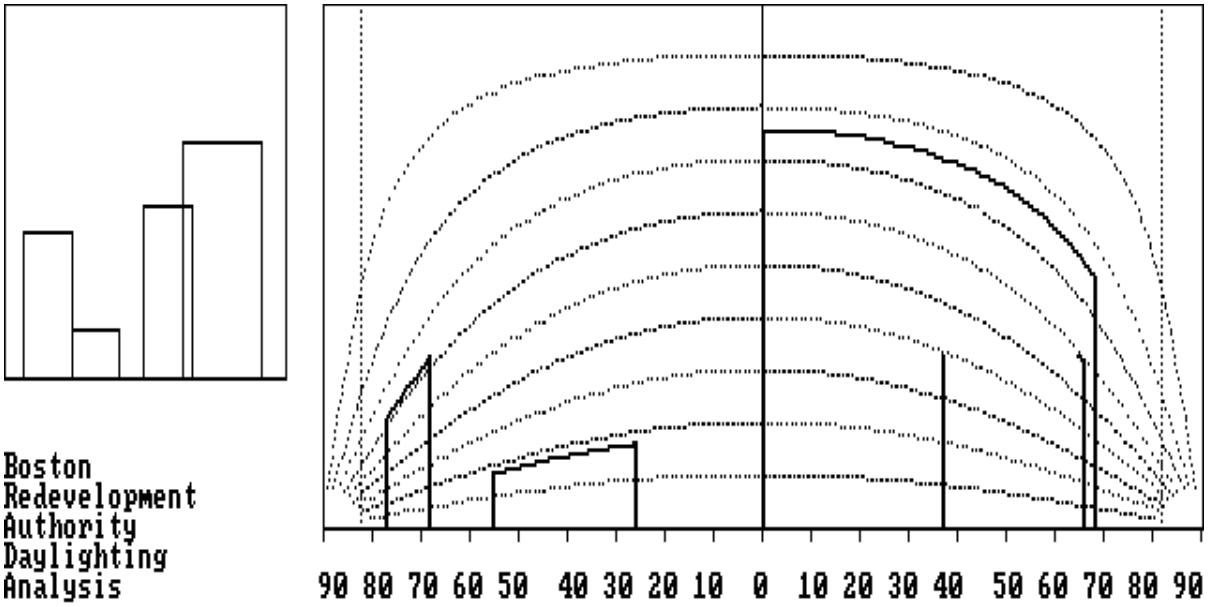
Obstruction of daylight by the building is 30.2 %

Viewpoint 2: View from the center of Egremont Road facing northwest toward the Project site



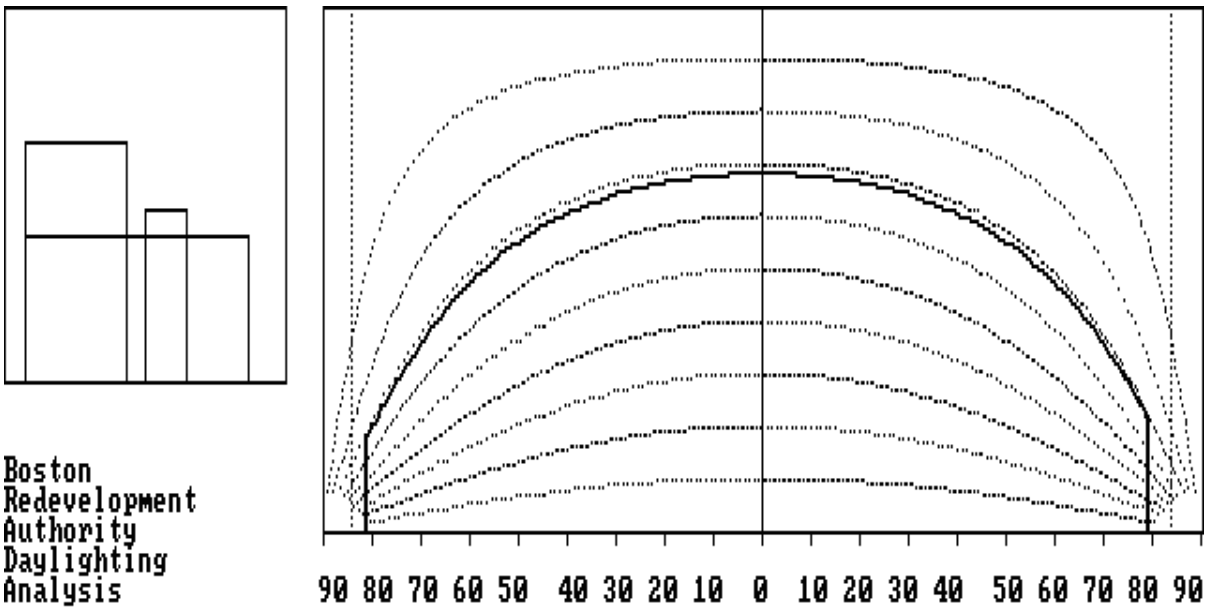
Obstruction of daylight by the building is 1.8 %

Viewpoint 1: View from the center of Mt. Hood Road facing south toward the Project site



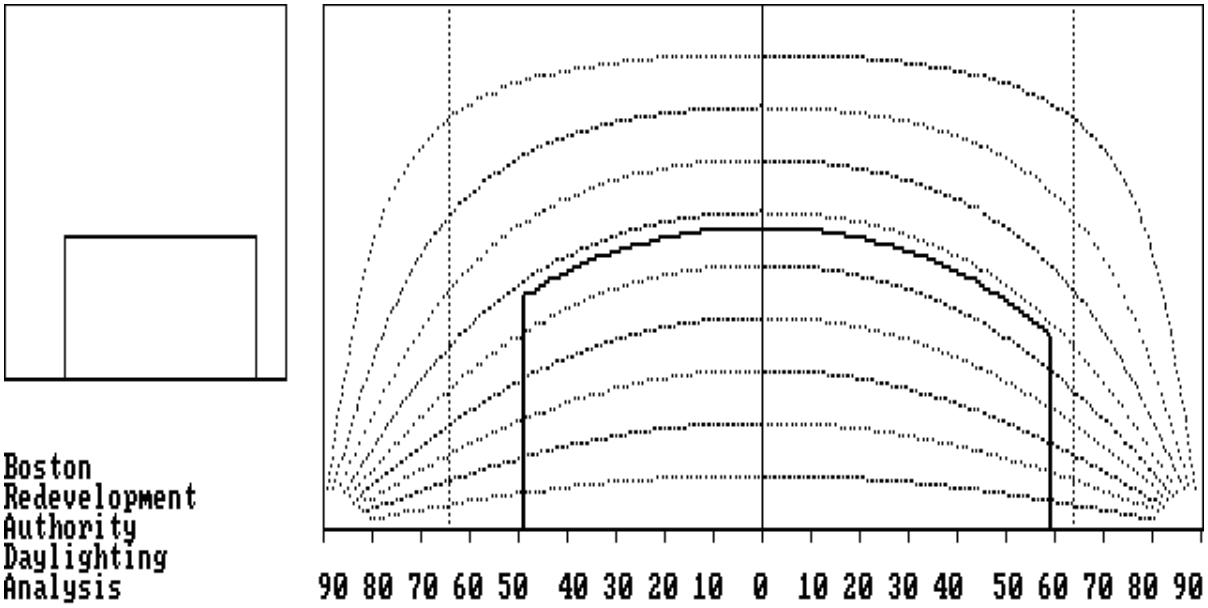
Obstruction of daylight by the building is 32.4 %

Viewpoint 2: View from the center of Egremont Road facing northwest toward the Project site



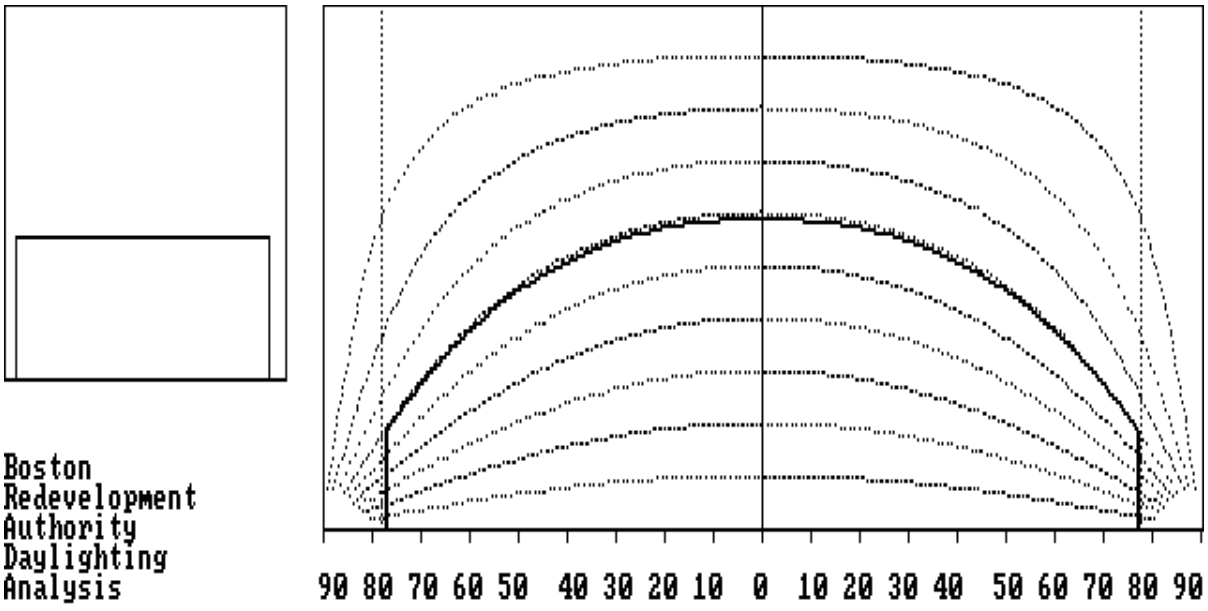
Obstruction of daylight by the building is 65.4 %

Area Context Viewpoint AC1: View from Egremont Road facing southeast toward 33 Egremont Road



Obstruction of daylight by the building is 48.5 %

Area Context Viewpoint AC2: View from Mt. Hood Road facing northeast toward 9-19 Mt. Hood Road.



Obstruction of daylight by the building is 58.8 %

Table 3.3-1 Daylight Analysis Results

Viewpoint Locations		Existing Conditions	Proposed Conditions
Viewpoint 1	View from the center of Mount Hood Road facing south toward the Project site	30.2%	32.4%
Viewpoint 2	View from the center of Egremont Road facing northwest toward the Project site	1.8%	65.4%
Area Context Points			
AC1	View from Egremont Road facing southeast toward 33 Egremont Road	48.5%	N/A
AC2	View from Mount Hood Road facing northeast toward 9-19 Mount Hood Road	58.8%	N/A

Mount Hood Road – Viewpoint 1

Mount Hood Road runs along the northerly edge of the Project site. Viewpoint 1 was taken from the center of Mount Hood Road facing southerly toward the Project site. Since the Project site currently contains low-scale, two-story buildings, the existing daylight obstruction is 30.2%. The development of the Project will increase the daylight obstruction slightly to 32.4%. The varied heights and the space between the two portions of the building allow for views of the sky. This is a minimal increase in daylight obstruction over existing conditions, and is less than the daylight obstruction value of other buildings in the area, including the Area Context buildings.

Egremont Road – Viewpoint 2

Egremont Road runs along the southeastern edge of the Project site. Viewpoint 2 was taken from the center of Egremont Road facing northwest toward the Project site. Since the Project site currently contains two-story buildings with significant setbacks from the street at this viewpoint, the existing daylight obstruction is negligible at 1.8%. The development of the Project will increase the daylight obstruction to 65.4%. While this is an increase over existing conditions, it is only slightly higher than the Area Context buildings.

Area Context Viewpoints

The Project site is in an area that consists of residential buildings ranging from three to seven stories. To provide a larger context for comparison of daylight conditions, obstruction values were calculated for the two Area Context Viewpoints described above and shown on Figure 3.3-1. The daylight obstruction values ranged from 48.5% for AC1 to 58.8% for AC2. Daylight obstruction values for the Project are consistent with the Area Context values.

3.3.4 Conclusions

The daylight analysis conducted for the Project describes existing and proposed daylight obstruction conditions at the Project site and in the surrounding area. The results of the BRADA analysis indicate that while the development of the Project will result in increased daylight obstruction over existing conditions, the resulting daylight obstruction values are low and will be similar to or slightly more than daylight obstruction values within the surrounding area.

3.4 Solar Glare

The Project materials are still being studied and glazing of the windows will be determined as the design progresses. Due to the type of potential glass and glazing used, solar glare impacts are not currently anticipated.

3.5 Air Quality Analysis

3.5.1 Introduction

The BPDA requires that proposed projects evaluate the air quality in the local area, and assess any adverse air quality impacts attributable to the project. The BPDA guidelines state that impacts from stationary sources (boilers, engines) and mobile sources (vehicles) must be addressed.

All intersections evaluated in the transportation analysis in Chapter 2 are either below the BPDA thresholds requiring a microscale analysis of carbon monoxide, or are unsignalized. Additionally, the Project does not generate enough traffic to require a mesoscale vehicle emissions quantification analysis.

Any new stationary sources will be reviewed by the Massachusetts Department of Environmental Protection during permitting under the Environmental Results Program, as required. It is expected that all stationary sources will be small, and any impacts from stationary sources would be insignificant.

Therefore, an analysis of existing air quality in the area is presented.

3.5.2 National Ambient Air Quality Standards and Background Concentrations

Background air quality concentrations and federal air quality standards were utilized to conduct the above air quality impact analyses. Federal National Ambient Air Quality Standards (NAAQS) were developed by the U.S. Environmental Protection Agency (EPA) to protect the human health against adverse health effects with a margin of safety. The following sections outline the NAAQS standards and detail the sources of background air quality data.

3.5.2.1 National Ambient Air Quality Standards

The 1970 Clean Air Act was enacted by the U.S. Congress to protect the health and welfare of the public from the adverse effects of air pollution. As required by the Clean Air Act, EPA promulgated NAAQS for the following criteria pollutants: nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) (PM-10 and PM-2.5), carbon monoxide (CO), ozone (O_3), and lead (Pb). The NAAQS are listed in Table 3.5-1. Massachusetts Ambient Air Quality Standards (MAAQS) are typically identical to NAAQS (differences are highlighted in **bold** in Table 3.5-1).

NAAQS specify concentration levels for various averaging times and include both "primary" and "secondary" standards. Primary standards are intended to protect human health, whereas secondary standards are intended to protect public welfare from any known or anticipated adverse effects associated with the presence of air pollutants, such as damage to vegetation.

The NAAQS also reflect various durations of exposure. The non-probabilistic short-term periods (24 hours or less) refer to exposure levels not to be exceeded more than once a year. Long-term periods refer to limits that cannot be exceeded for exposure averaged over three months or longer.

Table 3.5-1 National (NAAQS) and Massachusetts (MAAQS) Ambient Air Quality Standards

Pollutant	Averaging Period	NAAQS ($\mu g/m^3$)		MAAQS ($\mu g/m^3$)	
		Primary	Secondary	Primary	Secondary
NO_2	Annual (1)	100	Same	100	Same
	1-hour (2)	188	None	None	None
SO_2	Annual (1)(9)	80	None	80	None
	24-hour (3)(9)	365	None	365	None
	3-hour (3)	None	1300	None	1300
	1-hour (4)	196	None	None	None
PM-2.5	Annual (1)	12	15	None	None
	24-hour (5)	35	Same	None	None
PM-10	Annual (1)(6)	None	None	50	Same
	24-hour (3)(7)	150	Same	150	Same
CO	8-hour (3)	10,000	Same	10,000	Same
	1-hour (3)	40,000	Same	40,000	Same
Ozone	8-hour (8)	147	Same	235	Same
Pb	3-month (1)	1.5	Same	1.5	Same

(1) Not to be exceeded.
(2) 98th percentile of one-hour daily maximum concentrations, averaged over three years.
(3) Not to be exceeded more than once per year.
(4) 99th percentile of one-hour daily maximum concentrations, averaged over three years.
(5) 98th percentile, averaged over three years.
(6) EPA revoked the annual PM-10 NAAQS in 2006.
(7) Not to be exceeded more than once per year on average over three years.
(8) Annual fourth-highest daily maximum eight-hour concentration, averaged over three years.
(9) EPA revoked the annual and 24-hour SO_2 NAAQS in 2010. However, they remain in effect until one year after the area's initial attainment designation, unless designated as "nontattinment".

Source: http://www.epa.gov/ttn/naaqs/criteria.html and 310 CMR 6.04

3.5.2.2 Background Concentrations

To estimate background pollutant levels representative of the area, the most recent air quality monitor data reported by the MassDEP to EPA was obtained for 2014 to 2016. Data for the pollutant and averaging time combinations were obtained from the EPA's AirData website.

The Clean Air Act allows for one exceedance per year of the CO and SO_2 short-term NAAQS per year. The highest second-high accounts for the one exceedance. Annual NAAQS are never to be exceeded. The 24-hour PM-10 standard is not to be exceeded more than once per year on average over three years. To attain the 24-hour PM-2.5 standard, the three-year average of the 98th percentile of 24-hour concentrations must not exceed 35 $\mu g/m^3$. For annual PM-2.5 averages, the average of the highest yearly

observations was used as the background concentration. To attain the one-hour NO_2 standard, the three-year average of the 98th percentile of the maximum daily one-hour concentrations must not exceed 188 $\mu g/m^3$.

Background concentrations were determined from the closest available monitoring stations to the proposed development. The closest monitor is at Kenmore Square in Boston, roughly 3.1 miles east of the Project. This site samples for all pollutants except CO, ozone, and lead. The next closest monitor at Harrison Avenue in Boston was alternatively used for those pollutants. A summary of the background air quality concentrations are presented in Table 3.5-2.

Table 3.5-2 Observed Ambient Air Quality Concentrations and Selected Background Levels

Pollutant	Averaging Time	2014	2015	2016	Background Concentration ($\mu g/m^3$)	NAAQS	Percent of NAAQS
SO_2 (1)(6)	1-Hour (5)	25.4	14.4	10.7	16.9	196.0	9%
	3-Hour	24.6	11.5	10.0	24.6	1300.0	2%
	24-Hour	13.1	7.6	5.2	13.1	365.0	4%
	Annual	2.5	1.4	1.1	2.5	80.0	3%
PM-10	24-Hour	53.0	30.0	30.0	53.0	150.0	35%
	Annual	15.0	14.2	14.1	15.0	50.0	30%
PM-2.5	24-Hour (5)	14.6	14.5	13.0	14.0	35.0	40%
	Annual (5)	6.1	6.5	6.2	6.3	12.0	52%
NO_2 (3)	1-Hour (5)	92.1	105.3	88.4	95.3	188.0	51%
	Annual	32.3	32.5	28.3	32.5	100.0	33%
CO (2)(7)	1-Hour	1489.8	1560.9	2760.7	2760.7	40000.0	7%
	8-Hour	1260.6	1031.4	2062.8	2062.8	10000.0	21%
Ozone (4)	8-Hour	106.0	109.9	113.9	113.9	147.0	77%
Lead	Rolling 3-Month	0.014	0.016	0.017	0.017	0.15	12%

Notes:
From 2012-2014 EPA's AirData Website
(1) SO_2 reported ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 2.62 $\mu g/m^3$.
(2) CO reported in ppm. Converted to $\mu g/m^3$ using factor of 1 ppm = 1146 $\mu g/m^3$.
(3) NO_2 reported in ppb. Converted to $\mu g/m^3$ using factor of 1 ppm = 1.88 $\mu g/m^3$.
(4) O_3 reported in ppm. Converted to $\mu g/m^3$ using factor of 1 ppm = 1963 $\mu g/m^3$.
(5) Background level is the average concentration of the three years.
(6) The 24-hour and Annual standards were revoked by EPA on June 22, 2010, Federal Register 75-119, p. 35520.
(7) CO monitor at Kenmore Square was deactivated in January 2015. Harrison Avenue monitor used for 2015 and 2016.

Air quality in the vicinity of the Project site is generally good, with all local background concentrations found to be well below the NAAQS.

3.5.2 Stationary Sources

Stationary sources of air pollution are typically units that combust fuel. In this case, these sources consist of heating and hot water units and emergency electrical generators. Cooling towers, although not a combustion source, are a source of particulate emissions.

It is expected that the majority of stationary sources (boilers, engines, etc) may be subject to the MassDEP's Environmental Results Program (ERP). The Proponent will complete the required applications and submittals for the equipment, as necessary.

3.5.3 Mobile Sources

Mobile sources of air pollution include gasoline, diesel, and natural gas fueled vehicles. Emissions from mobile sources have continually decreased as engine technology and efficiency have been improved.

Given that this Project does not significantly increase vehicle volumes, and does not affect any already poorly functioning intersections, it can be reasonably assumed that the vehicle trips generated by this Project will not cause adverse air quality impacts in the area.

3.6 Stormwater/Water Quality

Please see Section 7.4.

3.7 Flood Hazard Zones/ Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the site located in the City of Boston - Community Panel Number 25025C0059G indicates the FEMA Flood Zone Designations for the site area. The map shows that the Project is located in a Zone X, "Areas determined to be outside the 0.2% annual chance floodplain."

The site does not contain wetlands.

3.8 Geotechnical Impacts

Soil borings to determine the generalized subsurface conditions at the Project site have not yet been conducted, but as the design of the Project proceeds, it is anticipated that they will be conducted prior to determining the appropriate foundation approach. It is also anticipated that the foundation design and construction will be conducted to limit potential adverse impacts.

The Project site is not located in the Groundwater Conservation Overlay District (GCOD) and will therefore not need to comply with the requirements of Article 32 of the City of Boston Zoning Code.

3.9 Solid and Hazardous Waste

3.9.1 Hazardous Waste

If soil disposal is required, the Proponent will obtain site specific information regarding environmental conditions of excavated soils to evaluate for the presence of oil and hazardous materials. Foundation construction for the new building may generate soil requiring off-site transport. Chemical testing of the material will be required by receiving facilities to identify chemical constituents and any contaminants present. Chemical testing of the material will be conducted prior to construction in accordance with facility requirements.

Any material leaving the site will be required to be legally transported in accordance with local, state and federal requirements. In addition, any regulated soil conditions related to oil and hazardous materials will be managed in accordance with appropriate MassDEP regulatory requirements.

3.9.2 Operation Solid and Hazardous Waste Generation

The Project will generate solid waste typical of residential 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 170 tons of solid waste per year.

With the exception of household hazardous wastes typical of residential developments (e.g., cleaning fluids and paint), the Project will not involve the generation, use, transportation, storage, release, or disposal of potentially hazardous materials.

3.9.3 Recycling

A dedicated recyclables storage and collection program will facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. The recycling program will be fully developed in accordance with LEED standards as described in Chapter 4.

3.10 Noise Impacts

3.10.1 Introduction

A sound level assessment was conducted that included a baseline sound monitoring program to measure existing sound levels in the vicinity of the Project, computer modeling to predict operational sound levels from proposed mechanical equipment, and a comparison of future Project sound levels to applicable City of Boston Zoning District Noise Standards.

This analysis, which is consistent with BPDA requirements for noise studies, indicates that with appropriate noise controls, predicted sound levels from the Project will comply with local noise regulations.

3.10.2 Noise Terminology

There are several ways in which sound (noise) levels are measured and quantified. All of them use the logarithmic decibel (dB) scale. The following information defines the sound level measurement terminology used in this analysis.

The decibel scale is logarithmic to accommodate the wide range of sound intensities found in the environment. A property of the decibel scale is that the sound pressure levels of two or more separate sounds are not directly additive. For example, if a sound of 50 dB is added to another sound of 50 dB, the total is only a three-dB increase (53 dB), which is equal to doubling in sound energy but not equal to a doubling in quantity (100 dB). Thus, every three-dB change in sound level represents a doubling or halving of sound energy. Relative to this characteristic, a change in sound levels of less than three dB is imperceptible to the human ear.

Another property of decibels is that if one source of noise is 10 dB (or more) louder than another source, then the total sound level is simply the sound level of the higher-level source. For example, a sound source at 60 dB plus another sound source at 47 dB is equal to 60 dB.

A sound level meter (SLM) that is used to measure noise is a standardized instrument.[6] It contains "weighting networks" to adjust the frequency response of the instrument to approximate that of the human ear under various circumstances. The most commonly used weighting network is the A-weighting (there are also C-, and Z-weighting networks) because it most closely approximates how the human ear responds to sound at various frequencies, described in Hertz (Hz). The A-weighting network is the accepted scale used for community sound level measurements, and sounds are frequently reported as detected with a sound level meter with this weighting. A-weighted sound levels emphasize middle frequency sounds (i.e., middle pitched – around 1,000 Hz), and de-emphasize low and high frequency sounds. A-weighted sound levels are reported in decibels designated as "dBA".

Because the sounds in the environment vary with time, many different sound metrics may be used to quantify them. There are two typical methods used for describing variable sounds. These are exceedance levels and equivalent levels, both of which are derived from a large number of moment-to-moment A-weighted sound pressure level measurements.

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[6] *American National Standard Specification for Sound Level Meters*, ANSI S1.4-1983, published by the Standards Secretariat of the Acoustical Society of America, Melville, NY.

Exceedance levels are values from the cumulative amplitude distribution of all of the sound levels observed during a measurement period. Exceedance levels are designated L_n, where "n" can have a value between 0 and 100 in terms of percentage. Equivalent levels are designated L_{eq} and quantify a hypothetical steady sound that would have the same energy as the actual fluctuating sound observed. The several sound level metrics that are commonly reported in community noise monitoring and are presented in this report are described below.

- L_{90} is the sound level in dBA exceeded 90 percent of the time during a measurement period. The L_{90} is close to the lowest sound level observed. It is essentially the same as the residual sound level, which is the sound level observed when there are no obvious nearby intermittent noise sources.

- L_{50} is the median sound level, the sound level in dBA exceeded 50 percent of the time during the measurement period.

- L_{10} is the sound level in dBA exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. The L_{10} is sometimes called the intrusive sound level because it is caused by occasional louder noises like those from passing motor vehicles.

- L_{max} is the maximum instantaneous sound level observed over a given period.

- L_{eq} is a sound pressure level commonly A-weighted and presented in dBA. The equivalent level represents the time average of the fluctuating sound pressure, but because sound is represented on a logarithmic scale and the averaging is done with time-averaged mean square sound pressure values, the L_{eq} is primarily controlled by loud noises if there are fluctuating sound levels.

- In the design of noise controls, which do not function quite like the human ear, it is important to understand the frequency spectrum of the noise source of interest. The spectra of noises are usually stated in terms of octave-band sound pressure levels, in dB, with the frequency bands being those established by standard (American National Standards Institute [ANSI] S1.11, 1986). To facilitate the noise control design process, the estimates of noise levels in this analysis are also presented in terms of octave-band sound pressure levels. Octave-band measurements and modeling are used in assessing compliance with the City of Boston noise regulations.

3.10.3 Noise Regulations and Criteria

The City of Boston has both a noise ordinance and noise regulations. Chapter 16 §26 of the Boston Municipal Code sets the general standard for noise that is unreasonable or excessive: louder than 50 decibels between the hours of 11:00 p.m. and 7:00 a.m., or

louder than 70 decibels at all other hours. The Boston Air Pollution Control Commission (BAPCC) has adopted regulations based on the city's ordinance - "Regulations for the Control of Noise in the City of Boston", which distinguish among residential, business, and industrial districts in the City. In particular, BAPCC Regulation 2 is applicable to the sounds from the Project and is considered in this noise study.

Table 3.10-1 below presents the "Zoning District Noise Standards" contained in Regulation 2.5 of the BAPCC "Regulations for the Control of Noise in the City of Boston," adopted December 17, 1976. These maximum allowable sound pressure levels apply at the property line of the receiving property. The "Residential Zoning District" limits apply to any lot located within a residential zoning district or to any residential use located in another zone except an Industrial Zoning District, according to Regulation 2.2. Similarly, per Regulation 2.3, business limits apply to any lot located within a business zoning district not in residential or institutional use.

Table 3.10-1 City Noise Standards, Maximum Allowable Sound Pressure Levels

Octave-band Center	Residential Zoning District		Residential Industrial Zoning District		Business Zoning District	Industrial Zoning District
Frequency (Hz)	Daytime (dB)	All Other Times (dB)	Daytime (dB)	All Other Times (dB)	Anytime (dB)	Anytime (dB)
32	76	68	79	72	79	83
63	75	67	78	71	78	82
125	69	61	73	65	73	77
250	62	52	68	57	68	73
500	56	46	62	51	62	67
1000	50	40	56	45	56	61
2000	45	33	51	39	51	57
4000	40	28	47	34	47	53
8000	38	26	44	32	44	50
A-Weighted (dBA)	**60**	**50**	**65**	**55**	**65**	**70**

Notes:
1. Noise standards from Regulation 2.5 "Zoning District Noise Standards", City of Boston Air Pollution Control Commission, "Regulations for the Control of Noise in the City of Boston", adopted December 17, 1976.
2. All standards apply at the property line of the receiving property.
3. dB and dBA based on a reference pressure of 20 micropascals.
4. Daytime refers to the period between 7:00 a.m. and 6:00 p.m. daily, except Sunday.

3.10.4 Existing Conditions

A background noise level survey was conducted to characterize the existing "baseline" acoustical environment in the vicinity of the Project. Existing noise sources around the site include: vehicular and truck traffic along local streets, pedestrian traffic, mechanical noise

from surrounding buildings, overhead planes, daytime construction activity and equipment operation, wind, rustling vegetation, an MBTA Green Line train, and the general city soundscape.

3.10.5 Noise Monitoring Methodology

Since noise impacts from the Project on the community will be highest when background noise levels are the lowest, the study was designed to measure community noise levels under conditions typical of a "quiet period" for the area. Therefore, daytime measurements were scheduled to avoid peak traffic conditions. Sound level measurements were made on Thursday, December 7, 2017 during the daytime (1:00 p.m. to 3:00 p.m.) and on Friday, December 8, 2017 during nighttime hours (12:00 a.m. to 2:00 a.m.). All measurements were 20 minutes in duration.

Sound levels were measured at publicly accessible locations at a height of five feet (1.5 meters) above ground level, under low wind conditions, and with dry roadway surfaces. Wind speed measurements were made with a Davis Instruments TurboMeter electronic wind speed indicator, and temperature and humidity measurements were made using a General Tools digital psychrometer. Unofficial observations about meteorology or land use in the community were made solely to characterize the existing sound levels in the area and to estimate the noise sensitivity at properties near the Project site.

3.10.6 Noise Monitoring Locations

The selection of the noise monitoring locations was based upon a review of zoning and land use in the Project area. Four noise monitoring locations were selected as representative sites to obtain a sampling of the ambient baseline noise environment. These measurement locations are depicted on Figure 3.10-1 and described below.

- **Location 1** is located on the southern sidewalk of Egremont Road, between #23 and #27, south of the Project parcel. This location is representative of the closest residential receptors south of the Project.

- **Location 2** is located on the eastern sidewalk of Egremont Road, outside of #18 Mount Hood Road, and near the corner of Mount Hood Road and Egremont Road. This location represents the closest residential receptors east of the Project.

- **Location 3** is located along the northern sidewalk of Mount Hood Road, outside of #39 and across from the Project site. This location is adjacent to the Boston International Academy and is representative of the closest receptors to the north of the Project.

- **Location 4** is located outside of #1662 Commonwealth Avenue along the southern sidewalk. This location is representative of the closest receptors to the north and west of the Project.

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Figure 3.10-1
Sound Monitoring Locations

3.10.7 Noise Monitoring Equipment

A Larson Davis Model 831 sound level meter equipped with a PCB PRM831 preamplifier, a PCB 377B20 half-inch microphone, and manufacturer-provided windscreen was used to collect background sound pressure level data. This instrumentation meets the "Type 1 - Precision" requirements set forth in ANSI S1.4 for acoustical measuring devices. The measurement equipment was calibrated in the field before and after the surveys with a Larson Davis CAL200 acoustical calibrator which meets the standards of IEC 942 Class 1L and ANSI S1.40-1984. Statistical descriptors (e.g., L_{eq}, L_{90}, etc.) were measured for each 20-minute sampling period, with octave-band sound levels corresponding to the same data set processed for the broadband levels.

3.10.8 Measured Background Sound Levels

Baseline noise monitoring results are presented in Table 3.10-2 and summarized below:

- The daytime residual background (L_{90}) measurements ranged from 47 to 56 dBA;
- The nighttime residual background (L_{90}) measurements ranged from 40 to 43 dBA;
- The daytime equivalent level (L_{eq}) measurements ranged from 54 to 68 dBA;
- The nighttime equivalent level (L_{eq}) measurements ranged from 46 to 59 dBA.

Table 3.10-2 Summary of Measured Background Noise Levels – December 7, 2017 (Daytime) & December 8, 2017 (Nighttime)

Location	Period	Start Time	LA_{eq}	LA_{max}	LA_{10}	LA_{50}	LA_{90}	L_{90} Sound Pressure Level by Octave-Band Center Frequency (Hz)									
								31.5	63	125	250	500	1000	2000	4000	8000	16000
			dBA	dBA	dBA	dBA	dBA	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
1	Day	1:00 PM	54	70	56	49	47	56	56	50	46	44	41	36	31	27	26
2	Day	1:25 PM	55	72	58	51	49	59	57	55	49	45	43	37	27	23	25
3	Day	1:50 PM	57	68	60	54	51	58	64	56	49	46	45	41	33	28	26
4	Day	2:18 PM	68	81	73	65	56	61	64	56	54	51	52	47	39	32	27
1	Night	12:05 AM	46	65	47	44	40	49	47	43	41	37	34	27	24	23	26
2	Night	12:54 AM	50	71	49	43	41	53	50	49	42	39	35	28	22	22	26
3	Night	12:31 AM	47	64	49	45	42	54	55	51	44	39	35	29	23	22	26
4	Night	1:21 AM	59	71	64	51	43	54	52	48	45	40	38	31	22	22	26

Note: Sound pressure levels are rounded to the nearest whole decibel.

Weather Conditions:

	Date	Temp	RH	Sky	Wind
Daytime	Thursday, December 7, 2017	44 °F	30%	Mostly sunny	N @ 0-2 mph
Nighttime	Friday, December 8, 2017	33 °F	48%	Clear	calm

Monitoring Equipment Used:

	Manufacturer	Model	S/N
Sound Level Meter	Larson Davis	LD831	3753
Microphone	Larson Davis	377B20	142956
Preamp	Larson Davis	PRM831	29564
Calibrator	Larson Davis	Cal200	2853

3.10.9 Future Conditions – Overview of Potential Project Noise Sources

The primary sources of continuous sound exterior to the Project will consist of ventilation, heating, cooling, and emergency power noise sources. Multiple noise sources will be located on the rooftop, a small transformer will be located at the northwest corner of the site, and intake louvers will be located on the façades of the building between the first and second floors.

Table 3.10-3 provides an anticipated list of the major sources of sound. Sound power levels used in the acoustical modeling of each piece of equipment are presented in Table 3.10-4. Sound power level data were provided by the respective manufacturer of each piece of equipment, or by calculations based on equipment size and capacity.

The Project includes select noise-control measures that are necessary to achieve compliance with the applicable noise regulations. As the design progresses, specifications for mechanical equipment may change; however, appropriate measures will be taken to ensure compliance with the City Noise Standards. The emergency generator sound levels will be controlled using an enclosure, an exhaust silencer, and an acoustical louver. To further limit impacts from the standby generator, required periodic, routine testing will be conducted during daytime hours, when background sound levels are highest. A summary of the noise mitigation proposed for the Project is presented in Table 3.10-5.

Table 3.10-3 Modeled Noise Sources

Noise Source	Quantity	Approximate Location & Elevation	Size/Capacity
Air Cooled Condenser Unit	32	North & south upper roof	1.5 tons
Air Cooled Condenser Unit	40	North & south upper roof	2 tons
Air Cooled Condenser Unit	19	North & south upper roof	3 tons
Air Cooled Condenser Unit	14	North & south upper roof	5 tons
Energy Recovery Unit	2	North & south upper roof	5,000 CFM
Energy Recovery Unit	2	North & south upper roof	6,000 CFM
Garage Exhaust Fans	2	North & south upper roof	27,000 CFM
General Exhaust Fans	4	North & south upper roof	500 CFM
Trash Room Exhaust Fans	2	North & south upper roof	1,000 CFM
Emergency Generator (Engine)	1	Lower level (in building)	350 kW
Emergency Generator (Exhaust)	1	Southeastern roof area	350 kW
Utility Transformer	1	Northwestern portion of site	1,500 KVA

Table 3.10-4 Modeled Sound Power Levels per Noise Source

Noise Source	Broad-band (dBA)	Sound Level (dB) per Octave-Band Center Frequency (Hz)								
		31.5	63	125	250	500	1k	2k	4k	8k
Air Cooled Condenser Unit (1.5 ton)	73	79[1]	79	69	67	70	70	64	59	53
Air Cooled Condenser Unit (2 ton)	72	76[1]	76	75	69	72	66	62	59	54
Air Cooled Condenser Unit (3 ton)	72	70[1]	70	73	71	70	66	62	60	56
Air Cooled Condenser Unit (5 ton)	74	72[1]	72	74	70	73	70	61	61	57
Energy Recovery (5,000-6,000 CFM)	85	86[1]	86	91	86	83	80	75	71	65
Garage Exhaust Fans	86	89[1]	89	89	86	84	80	76	69	63
General Exhaust Fans	78	82[1]	82	81	76	77	72	68	61	53
Trash Room Exhaust Fans	75	86[1]	86	78	71	73	69	66	60	53
Emergency Generator (Engine)[2]	98	101[1]	101	102	99	90	87	86	82	95
Emergency Generator (Exhaust)	130	128[1]	128	134	128	129	124	121	116	108
Utility Transformer	72	69	75	77	72	72	66	61	56	49

Notes: Sound power levels do not include mitigation identified in Table 3.7-5.

1. No data provided by manufacturer. Octave-band sound level assumed to be equal to the 63 Hz band level.
2. Calculated interior sound level, assumes genset is in standard Level 1 Canopy enclosure

Table 3.10-5 Attenuation Values Applied to Mitigate Each Noise Source

Noise Source	Form of Mitigation	Sound Level (dB) per Octave-Band Center Frequency (Hz)								
		31.5	63	125	250	500	1k	2k	4k	8k
Generator Intake	Louver[1]	10[3]	10	12	15	21	26	27	22	20
Generator Exhausts	Silencer[2]	25	25	34	38	34	28	26	27	28

Notes:

1. Kinetics Noise Control KCPL-3 12 inch acoustical louver transmission loss.
2. GT Exhaust model A201-5100 Critical Grade Silencer
3. No data provided by manufacturer. Octave-band reduction level assumed to be equal to the 63 Hz band level.

3.10.10 Noise Modeling Methodology

The noise impacts associated with the Project were predicted at the nearest and most representative receptors using the CadnaA noise calculation software developed by DataKustik GmbH. This software uses the ISO 9613-2 international standard for sound propagation (Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation). The benefits of this software are a refined set of computations due to the inclusion of topography, ground attenuation, multiple building reflections, drop-off with distance, and atmospheric absorption. The CadnaA software allows for octave-band calculation of noise from multiple noise sources, as well as computation of diffraction around building edges.

3.10.11 Future Sound Levels – Nighttime

The analysis of sound levels at night included all the mechanical equipment operating at max loads except the emergency generator to simulate worst-case nighttime operation conditions at nearby receptors. Eight modeling locations were included in the analysis. Modeling receptors A, D, and E are residential locations on Egremont Road and are near monitoring location 2. Modeling locations B and C are residential areas to the south and west of the Project, and are near monitoring location 1. Modeling location H is west of the Project, and is near monitoring location 4. Modeling receptors F and G represent residential properties on Mount Hood Road, and are near monitoring location 3. The modeling receptors, which correspond to institutional and residential uses in the community, are depicted in Figure 3.10-2. The predicted exterior Project-only sound levels range from 35 to 44 dBA at nearby receptors. The City of Boston Residential and Business limits have been applied to the appropriate locations. Institutional locations are subject to the same limits as residential areas. Predicted sound levels from Project-related equipment are within the broadband and octave-band nighttime limits under the City Noise Standards at the modeling locations. The evaluation is presented in Table 3.10-6.

Table 3.10-6 Comparison of Future Predicted Project-Only Nighttime Sound Levels to the City of Boston Limits

Modeling Location ID	Zoning / Land Use	Broadband (dBA)	Sound Level (dB) per Octave-Band Center Frequency (Hz)								
			31.5	63	125	250	500	1k	2k	4k	8k
A	Residential	36	47	45	44	37	34	28	21	15	5
B	Residential	38	49	47	46	39	37	31	23	17	5
C	Residential	35	48	46	44	37	34	27	21	16	6
D	Residential	36	48	46	45	38	35	29	22	16	7
E	Residential	35	46	44	43	36	34	29	22	15	2
F	Residential	37	48	46	45	38	36	31	25	18	5
G	Institutional	38	49	47	46	39	37	32	25	19	7
H	Residential	44	50	49	49	43	43	37	32	27	18
City of Boston Limits	**Residential/Institutional**	**50**	**68**	**67**	**61**	**52**	**46**	**40**	**33**	**28**	**26**
	Business	**65**	**79**	**78**	**73**	**68**	**62**	**56**	**51**	**47**	**44**

3.10.12 Future Sound Levels – Daytime

As previously noted, the emergency generator will only operate during the day for brief, routine testing when the background sound levels are high, or during an interruption of power from the electrical grid. A second analysis combined noise from the Project's mechanical equipment and its emergency generator to reflect worst-case conditions during a period of equipment testing. The sound levels were calculated at the same receptors as in

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Figure 3.10-2
Sound Modeling Locations

the nighttime analysis and then evaluated against daytime limits. The predicted exterior, Project-only, daytime sound levels range from 38 to 45 dBA at nearby receptors. Predicted sound levels from Project-related equipment are within the daytime broadband and octave-band limits under the City Noise Standards at each of the modeled locations. This evaluation is presented in Table 3.10-7.

Table 3.10-7 Comparison of Future Predicted Project-Only Daytime Sound Levels to City Noise Standards

Modeling Location ID	Zoning / Land Use	Broadband (dBA)	Sound Level (dB) per Octave-Band Center Frequency (Hz)								
			31.5	63	125	250	500	1k	2k	4k	8k
A	Residential	45	60	59	55	48	39	34	28	25	37
B	Residential	38	51	49	46	39	37	32	24	18	6
C	Residential	38	52	51	47	38	36	31	25	18	12
D	Residential	43	58	58	53	45	39	35	28	23	33
E	Residential	43	59	59	53	45	38	33	27	22	34
F	Residential	41	55	53	49	40	38	35	29	21	20
G	Institutional	45	52	52	49	41	42	41	38	30	13
H	Residential	44	51	50	49	43	43	37	32	27	18
City of Boston Limits	**Residential/Institutional**	**60**	**76**	**75**	**69**	**62**	**56**	**50**	**45**	**40**	**38**
	Business	**65**	**79**	**78**	**73**	**68**	**62**	**56**	**51**	**47**	**44**

3.10.13 Conclusions

Baseline noise levels were measured in the vicinity of the Project during the day and at night. At these and additional locations, future Project-only sound levels were calculated based on information provided on the expected mechanical equipment. Project-only sound levels were compared to applicable limits.

Predicted mechanical equipment noise levels from the proposed Project at each receptor location, taking into account attenuation due to distance, structures, and noise-control measures, will be at or below the octave-band requirements of the City Noise Standards. The predicted sound levels from Project-related equipment, as modeled, are expected to remain below 50 dBA at residences; therefore, within the nighttime residential zoning limits for the City of Boston at the nearest residential receptors. The results indicate that the Project can operate without substantial impact on the existing acoustical environment.

At this time, while the mechanical equipment and noise controls have been refined, they are still conceptual in nature. During the final design phase of the Project, mechanical equipment and noise controls will be specified and designed to meet the applicable broadband limit and the corresponding octave-band limits of the City Noise Standards.

3.11 Construction Impacts

3.11.1 Introduction

A Construction Management Plan (CMP) in compliance with the City's Construction Management Program will be submitted to the Boston Transportation Department (BTD) once final plans are developed and the construction schedule is fixed. The construction contractor will be required to comply with the details and conditions of the approved CMP.

Proper pre-planning with the City and neighborhood will be essential to the successful construction of the Project. Construction methodologies, which ensure public safety and protect nearby residences and businesses, will be employed. Techniques such as barricades, walkways and signage will be used. The CMP will include routing plans for trucking and deliveries, plans for the protection of existing utilities, and control of noise and dust.

During the construction phase of the Project, the Proponent will provide the name, telephone number, and address of a contact person to communicate with on issues related to the construction.

The Proponent intends to follow the guidelines of the City of Boston and the MassDEP, which direct the evaluation and mitigation of construction impacts.

3.11.2 Construction Methodology/Public Safety

Construction methodologies that ensure public safety and protect nearby tenants will be employed. Techniques such as barricades and signage will be used. Construction management and scheduling will minimize impacts on the surrounding environment and will include plans for construction worker commuting and parking, routing plans for trucking and deliveries, and the control of noise and dust.

As the design of the Project progresses, the Proponent will meet with BTD to discuss the specific location of barricades, the need for lane closures, pedestrian walkways, and truck queuing areas. Secure fencing, signage, and covered walkways may be employed to ensure the safety and efficiency of all pedestrian and vehicular traffic flows. In addition, sidewalk areas and walkways near construction activities will be well marked and lighted to protect pedestrians and ensure their safety. Public safety for pedestrians on abutting sidewalks will also include covered pedestrian walkways when appropriate. If required by BTD and the Boston Police Department, police details will be provided to facilitate traffic flow. These measures will be incorporated into the CMP which will be submitted to BTD for approval prior to the commencement of construction work.

3.11.3 Construction Schedule

The Proponent anticipates that the Project will commence construction in spring of 2019 and last for approximately 24 months.

Typical construction hours will be from 7:00 am to 6:00 pm, Monday through Friday, with most shifts ordinarily ending at 3:30 pm. No substantial sound-generating activity will occur before 7:00 am. If longer hours, additional shifts, or Saturday work is required, the construction manager will place a work permit request to the Boston Air Pollution Control Commission and BTD in advance. Notification should occur during normal business hours, Monday through Friday. It is noted that some activities such as finishing activities could run beyond 6:00 pm to ensure the structural integrity of the finished product; certain components must be completed in a single pour, and placement of concrete cannot be interrupted.

3.11.4 Construction Staging/Access

Access to the site and construction staging areas will be provided in the CMP.

Although specific construction and staging details have not been finalized, the Proponent and its construction management consultant will work to ensure that staging areas will be located to minimize impacts to pedestrian and vehicular flow. Secure fencing and barricades will be used to isolate construction areas from pedestrian traffic adjacent to the site. Construction procedures will be designed to meet all Occupational Safety and Health Administration (OSHA) safety standards for specific site construction activities.

3.11.5 Construction Mitigation

The Proponent will follow City and MassDEP guidelines which will direct the evaluation and mitigation of construction impacts. As part of this process, the Proponent and construction team will evaluate the Commonwealth's Clean Air Construction Initiative.

A CMP will be submitted to BTD for review and approval prior to issuance of a Building Permit. The CMP will include detailed information on specific construction mitigation measures and construction methodologies to minimize impacts to abutters and the local community. The CMP will also define truck routes which will help in minimizing the impact of trucks on City and neighborhood streets.

"Don't Dump - Drains to Charles River" plaques will be installed at storm drains that are replaced or installed as part of the Project.

3.11.6 Construction Employment and Worker Transportation

The number of workers required during the construction period will vary. It is anticipated that approximately 225 construction jobs will be created over the length of construction. The Proponent will make reasonable good-faith efforts to have at least 51% of the total employee work hours be for Boston residents, at least 40% of total employee work hours be for minorities and at least 12% of the total employee work hours be for women. The Proponent will enter into jobs agreements with the City of Boston.

To reduce vehicle trips to and from the construction site, minimal construction worker parking will be available at the site and all workers will be strongly encouraged to use public transportation and ridesharing options. The general contractors will work aggressively to ensure that construction workers are well informed of the public transportation options serving the area. Space on-site will be made available for workers' supplies and tools, so they do not have to be brought to the site each day.

3.11.7 Construction Truck Routes and Deliveries

Truck traffic will vary throughout the construction period, depending on the activity. The construction team will manage deliveries to the site during morning and afternoon peak hours in a manner that minimizes disruption to traffic flow on adjacent streets. Construction truck routes to and from the site for contractor personnel, supplies, materials, and removal of excavations required for the development will be coordinated with BTD. Traffic logistics and routing will be planned to minimize community impacts. Truck access during construction will be determined by the BTD as part of the CMP. These routes will be mandated as a part of all subcontractors' contracts for the development. The construction team will provide subcontractors and vendors with Construction Vehicle & Delivery Truck Route Brochures in advance of construction activity.

"No Idling" signs will be included at the loading, delivery, pick-up and drop-off areas.

3.11.8 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 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, pursuant to this Article 80 approval. 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.

3.11.9 Construction Noise

The Proponent is committed to mitigating noise impacts from the construction of the Project. 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.

Mitigation measures are expected to include:

- Instituting a proactive program to ensure compliance with the City of Boston noise limitation policy;
- 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.

3.11.10 Construction Vibration

All means and methods for performing work at the site will be evaluated for potential vibration impacts on adjoining property, utilities, and adjacent existing structures. Acceptable vibration criteria will be established prior to construction, and vibration will be monitored, if required, during construction to ensure compliance with the agreed-upon standard.

3.11.11 Construction Waste

The Proponent will take an active role with regard to the reprocessing and recycling of construction waste. The disposal contract will include specific requirements that will ensure that construction procedures allow for the necessary segregation, reprocessing, reuse and recycling of materials when possible. For those materials that cannot be recycled, solid waste will be transported in covered trucks to an approved solid waste facility, per MassDEP Regulations for Solid Waste Facilities, 310 CMR 16.00. This requirement will be specified in the disposal contract. Construction will be conducted so that materials that may be recycled are segregated from those materials not recyclable to enable disposal at an approved solid waste facility.

3.11.12 Protection of Utilities

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

3.11.13 Rodent Control

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

3.11.14 Wildlife Habitat

The Project site is in an established urban neighborhood. There are no wildlife habitats in or adjacent to the Project site.

Chapter 4.0

Sustainable Design and Climate Change Resiliency

4.0 SUSTAINABLE DESIGN AND CLIMATE CHANGE RESILIENCY

4.1 Sustainable Design

To measure the results of their sustainability initiatives and to comply with Article 37 of the Boston Zoning Code, the Proponent intends to use the framework of the Leadership in Energy and Environmental Design (LEED) rating system promulgated by the US Green Building Council (USGBC). The Project will use LEED for New Construction (LEED v4 for BD+C) as the rating system to demonstrate compliance with Article 37. The LEED rating system tracks the sustainable features of a project by achieving points in the following categories: Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation and Design Process, and Regional Priority Credits.

A LEED checklist for the Project is included at the end of this section, and the narrative below outlines how the Project intends to achieve the prerequisites and credits for each credit category. The checklist will be updated regularly as the design develops and engineering assumptions are substantiated. At present, 50 points have been targeted. Additional credits, identified as "Maybe" on the checklist, will be evaluated as the design progresses.

Integrative Process

Integrative Process: Beginning in pre-design and continuing throughout the design phases, the Project team will identify and use opportunities to achieve synergies across disciplines and building systems. The analyses will inform the Proponent's Project requirements, basis of design, design documents, and construction documents.

Location and Transportation

Sensitive Land Protection: The Project site is a previously developed site.

High Priority Site: The Project site is located within a Federal Empowerment Zone, meeting the criteria for Option 2.

Surrounding Density and Diverse Uses: The site is within a ½ mile of at least eight basic services, including restaurants, community retail, community spaces, and food retail. The area around the site is also densely developed.

Access to Quality Transit: The Project site is located within ½ mile of MBTA B and C Green Line branches, and is within ¼ mile of the MBTA #65 bus line.

Bicycle Facilities: All Project entrances are connected by an existing bike route along Commonwealth Avenue which connects to at least 10 diverse uses within three miles of the site. The Project will also include at least one bicycle storage space per unit, as well as short-term bicycle racks for visitors.

Reduced Parking Footprint: The Project achieves at least a 40% reduction in parking spaces from the base ratios recommended in the ITE Transportation Planning handbook. At least 5% of the parking spaces will be designated as preferred parking for carpools.

Sustainable Sites

Construction Activity Pollution Prevention (Prerequisite): An Erosion and Sedimentation Control Plan will be established to control erosion, waterway sedimentation and airborne dust generation during construction.

Environmental Site Assessment: The team will complete and document an assessment of the following information:

1. Topography – contours and sloping,
2. Hydrology – flood hazards and existing water bodies,
3. Climate – solar exposure and sun angles,
4. Vegetation – vegetation types and greenfield spaces,
5. Soils – soils delineation, prime farmland, and disturbed soils,
6. Human Use – enhanced views, availability of transportation, and future building potential, and
7. Human Health Effects – population assessment, physical fitness, and existing air pollution sources.

Site Development – Protect or Restore Habitat: Using native or adapted vegetation, the Project will restore 30% of the site. The Project is achieving an FAR of greater than 1.5, and may include vegetated roof surfaces in this calculation.

Open Space: Approximately 38% of the total site area will be accessible open space, and at least 25% of the open space will be vegetated.

Rainwater Management: The Project will pursue Option 1, Path 3 for zero lot line projects. In a manner best replicating natural site hydrology, runoff quotas will meet or exceed the 85th percentile of regional/local (most stringent) rainfall events.

Heat Island Reduction: The building will utilize high albedo materials for all hardscapes, including both nonroof and roof installations. All installed materials will meet LEED requirements for either initial or three-year Solar Reflectance Index values.

Light Pollution Reduction: All exterior lighting fixtures are designed to be full cutoff and meet the LEED dark sky requirements. No up-lighting will be utilized, and fixtures will be dimmed at night to keep the site safe while minimizing light pollution.

Water Efficiency

Outdoor Water Use Reduction (Prerequisite): The Project's landscape will be designed to reduce water usage by at least 30%, calculated from the site's baseline peak watering month.

Indoor Water Use Reduction (Prerequisite): The building will achieve a minimum reduction of 20% of water consumption from the baseline.

Building-Level Water Metering (Prerequisite): A water meter will be installed for the building.

Outdoor Water Use Reduction: The landscaping will be designed to reduce potable water for irrigation by 50% from a calculated midsummer baseline case.

Indoor Water Use Reduction: An additional reduction to 30% will be achieved through the use of efficient fixtures.

Cooling Tower Water Use: A one-time potable water analysis will be conducted. The design will maximize the number of water cycles, and at least 20% of the water used will be from non-potable sources.

Water Metering: The Proponent will measure at least two of the following five water flows: irrigation, indoor plumbing fixtures, domestic hot water, boiler, or reclaimed water.

Energy and Atmosphere

Fundamental Commissioning and Verification (Prerequisite): The team will include an experienced Commissioning (Cx) Agent. This person will be hired before the end of the design development phase to provide review services for the project Basis of Design and Owner's Project Requirements, as well as a thorough review of both the Design Development and Construction Documents plan and specification set, observation of all start-up testing and balancing procedures, and confirmation of installation and operation according to the design parameters.

Minimum Energy Performance (Prerequisite): Through a Whole Building Energy Simulation, the Proponent will demonstrate at least a 5% improvement in the proposed building performance rating, compared with the baseline building performance rating. The baseline building performance rating will be calculated according to Appendix G of ASHRAE 90.1-2010 using a computer simulation model for the whole building project.

Building-Level Energy Metering (Prerequisite): Energy meters will be installed to measure total building energy consumption (electricity, natural gas, chilled water, steam, fuel oil, propane, biomass).

Fundamental Refrigerant Management (Prerequisite): It is the intent of this Project not to use any CFC-based refrigerants in the building's heating, ventilating, air conditioning, or refrigeration equipment.

Enhanced Commissioning: As noted above, the team will include an experienced Commissioning (Cx) Agent. This person will be hired before the end of the design development phase to provide review services for the project Basis of Design and Owner's Project Requirements, as well as a thorough review of both the Design Development and Construction Documents plan and specification set, observation of all start-up testing and balancing procedures, and confirmation of installation and operation according to the design parameters.

Optimize Energy Performance: The Project will strive to optimize energy performance and realize energy cost savings of 10% compared with ASHRAE 90.1-2010. Energy conservation measures will be determined via an integrative approach investigating the overlapping of architectural and engineering systems to reduce energy cost. Energy conservation measures are expected to include green roofs, reflective roofs, efficient lighting and HVAC systems, heat recovery systems, and enhanced glazing and insulation.

Enhanced Refrigerant Management: As noted above, it is the intent of this Project not to use any CFC-based refrigerants in the building's heating, ventilating, air conditioning, or refrigeration equipment. In addition, the Project will only use refrigerants with an ozone depletion potential equal to zero and a global warming potential of less than 50.

Materials and Resources

Storage and Collection of Recyclables (Prerequisite): An easily accessible area will be provided for the collection and storage of materials for recycling for the entire building. Materials will include paper, corrugated cardboard, glass, plastics, and metals. Appropriate measures will be taken for the safe collection, storage, and disposal of two of the following: batteries, mercury-containing lamps, and electronic waste

Construction and Demolition Waste Management Planning (Prerequisite): The construction team will institute a Construction Waste Management Plan, which will establish waste diversion goals for five materials.

Construction and Demolition Waste Management: The Project team intends to divert at least 75 percent of waste from at least four material streams.

Indoor Environmental Quality

Minimum Indoor Air Quality Performance (Prerequisite): The team will ensure that all ventilation systems meet the minimum requirements of Sections 4 through 7 of the ASHRAE 62.1-2007 standard for Acceptable Indoor Air Quality.

Environmental Tobacco Smoke Control (Prerequisite): Smoking will be prohibited inside the building and within 25-feet of all entries, outdoor air intakes, and operable windows; these prohibitions will be included in all lease agreements and/or condominium documents, will be displayed via on-site signage.

Enhanced Indoor Air Quality Strategies: Permanent entryway systems at least ten feet in length will be installed in the primary direction of travel, to capture dirt and particulates entering the building at regularly used exterior entrances. Additionally, spaces where air-quality hazards might be stored (janitor's closets, print rooms, etc.) will have separate exhaust, negative pressurization, provide self-closing doors, and either floor-to-deck partitions or a hard-lid ceiling. Outdoor air ventilation systems will use MERV 13 or higher filtration media.

Low-Emitting Materials: The team will specify low-emitting materials for paints, coatings, flooring, adhesives, and sealants.

Construction Indoor Air Quality (IAQ) Management Plan: The Proponent will develop and implement an IAQ management plan for the construction and pre-occupancy phase of the building.

Indoor Air Quality Assessment: The Project will perform building flush-outs either prior to occupancy or during occupancy. After the flush-out, indoor air quality will be tested, and corrective actions will be taken if necessary.

Thermal Comfort Controls: All HVAC systems will be designed in compliance with ASHRAE 55-2010 (with errata). Thermal comfort controls will be provided for a minimum of 50% of individual occupant spaces with group thermal comfort controls for all shared multi-occupant spaces.

Interior Lighting: The Project will provide individual lighting controls for at least 90% of individual occupant spaces, and all shared spaces will include controls for adjustment per group needs. The Project will also apply at least four additional strategies as outlined in Option 2.

Innovation in Design

LEED Accredited Professional: A LEED Accredited Professional is part of the team.

Regional Priority

The Project anticipates receiving a Regional Priority Credit for Rainwater Management.

4.2 Climate Change Resiliency

4.2.1 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.

The expected life of the Project is anticipated to be approximately 50 years. Therefore, the Proponent has planned for climate-related conditions projected 50 years into the future. A copy of the completed Checklist is included in Appendix D. Given the preliminary level of design, the responses are also preliminary and may be updated as the Project design progresses.

4.2.2 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 to 2000. The Project design will include measures to adapt to these conditions, including installing high performance HVAC equipment, a high-performance building envelope and including operable windows where possible. New street trees and landscaping, both at the street level and in the Project courtyard, will reduce the urban heat island effect.

4.2.3 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 Project will be designed to reduce the existing peak rates and volumes of stormwater runoff from the site, and to promote runoff recharge to the greatest extent practicable.

4.2.4 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, conserving potable water supplies.

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

Project Checklist

40 Mount Hood
Date: 11/17/2017

Y	?	N			
1			Credit	Integrative Process	1

12	1	3	**Location and Transportation**		16
		n/a	Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
1		1	Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
3		2	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
1			Credit	Reduced Parking Footprint	1
	1		Credit	Green Vehicles	1

8	1	0	**Sustainable Sites**		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
1			Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
2	1		Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

7	4	0	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	4		Credit	Indoor Water Use Reduction	6
2			Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

8	24	1	**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	3		Credit	Enhanced Commissioning	6
3	15		Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
	1	1	Credit	Demand Response	2
	3		Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

2	9	2	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	3	2	Credit	Building Life-Cycle Impact Reduction	5
	2		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	2		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	2		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

11	5	0	**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
3			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
2			Credit	Interior Lighting	2
	3		Credit	Daylight	3
	1		Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

1	5	0	**Innovation**		6
	5		Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

1	3	0	**Regional Priority**		4
1			Credit	Regional Priority: ꞉ Rainwater Management	1
	1		Credit	Regional Priority: ꞉ Indoor Water Use Reduction 40%	1
	1		Credit	Regional Priority: ꞉ Optimize Energy 20%	1
	1		Credit	Regional Priority: ꞉ Renewables 3%	1

51	52	6	**TOTALS**	Possible Points:	110

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

Chapter 5.0

Urban Design

5.0 URBAN DESIGN

5.1 Introduction

The Project will mesh seamlessly with of the existing residential community. With public transportation and daily shopping needs nearby, the Project site presents an opportunity for urban transit-oriented living. Residents are likely rely less on their personal automobile. by including a mix of dwelling unit sizes and styles, ranging from traditional flat apartments to multi-level townhomes, the Project will appeal to a diverse range of residents.

The Project site comprise three, abutting lots with frontage along Mount Hood Road and Egremont Road. The new building will appear to be two buildings connected by a one-story podium with a central courtyard above it. Residents will have access to the private courtyard as well as the landscaped open space along Mount Hood Road.

5.2 Aberdeen Neighborhood

The Project has been designed to respect the Aberdeen Neighborhood, including its natural topography. The Project strategically integrates elements of open space, connectivity, scale, materiality, street pattern, pedestrian and bike access, and transit access.

The Aberdeen Neighborhood is distinguished by its curvilinear roadways wind their way through the hilly rocky terrain. The Aberdeen Architectural Conservation District represents confluence of the original romantic suburban neighborhood with the later urban apartment district creating a totally new type of residential area. It is defined by spacious avenues with large apartment buildings as the central spine of an integrated neighborhood of varied housing types, united by the architectural quality and landscape.

The Project follows the existing terrain and curved streetscapes. The two portions of the building step down the slope of the terrain following the natural topography and maintaining the scale of the surrounding neighborhood context (see Figure 5-1). The highest portion of the new building is located at the northerly edge of the site, to match the large apartment buildings along Commonwealth Avenue. The southerly portion of the Project, along Egremont Road, is lower and more intimate.

The Proponent is committed to creating and maintaining a pedestrian-friendly environment. Accordingly, the ground level of the Project is designed engage the public visually. Along Egremont Road, stoops and patios provide variation along the sidewalk (see Figure 5-2). Along Mount Hood Road, landscaped open space runs along most of the façade (see Figure 5-3). As in other successful urban communities, street furniture, trees, plantings, lighting and path patterning will be added to enhance the streetscape, for both the Project's residents and the surrounding residents.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 5-1

View from the Corner of Mount Hood and Egremont Roads.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 5-2

Aerial View

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 5-3

View of Mount Hood Road

5.3 Architectural Character

The Project focuses the greatest building heights at the northerly edge of the site, nearest to Commonwealth Avenue and the existing five- and six- story apartment buildings located there. Moving away from Commonwealth Avenue, the Project steps down in height to respect the scale of the neighborhood. The lower portions of the building will be connected by a single-story amenity space, set back from the street, which will break up the mass of the building, and create openness and diversity in the façade.

A common feature of the neighborhood is long apartment facades that are articulated with pronounced entries and a rhythm of protruded bays. The form of the proposed building acknowledges this by canting its façade along the street between inset vertical bays. This provides depth to the building's facades and breaks the longer building lengths into smaller residential segments. The rhythmic stoops and bays between the segments establish an interesting and varied streetscape.

The transit orientation identity of the Project leads to both entries being located along Mount Hood Road for more efficient access to public transportation on Commonwealth Avenue. The southerly entry is extruded out to make it the primary and most visible corner of the site. The northerly entry is located further up the hill and angles upward toward the intersection with Commonwealth Avenue (see Figure 5-4). Walking from inside the neighborhood toward Commonwealth Avenue, the entry points act as nodes as one wanders up the hillside. While from the bustle of Commonwealth Avenue, the two entries linger in the distance as reference points for habitation and respite. Both entries discharge into landscaped open space at either end of the Project's Mount Hood Road façade. The new green space at the same level as the sloping sidewalk is an extension of the public realm, creating a social space for neighborhood residents.

The mass of the new building creates a protective surrounding for the private residential courtyard within, which, in turn, allows natural light into the building interior. The building's rooflines vary with the use of cornices and parapets. Mechanical equipment will be screened from view on the roof, and located away from the parapet walls. The step in the northerly, higher portion of the building could be improved with a green roof or a residential roof-top deck. On Mount Hood Road there are additional French balconies to provide fresh air for residents, and to provide interest and variety to the façade.

Masonry, wood, and miscellaneous metal of the building's features sympathize with the character both of the early suburban and later apartment development of the Aberdeen neighborhood. The intent is to use materials that are abundant in the surrounding context to continue the original materials and elements that give the neighborhood its character. Brick facades are the primary exterior cladding, while the top level of the Egremont Road façade is setback and clad with contrasting panels to reduce the perception of building height (see Figure 5-5). This same strategy is used on the northerly, higher portion of the Project, to emphasize the horizontality of the mass and to minimize perceived height.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 5-4

Mount Hood Road Entrance

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 5-5

View from Egremont Road

The interior courtyard echoes the exterior façade with contextual façade material including the warm-colored brick. Punched windows dress the façade with articulation of the lintel and sills sympathetic to the surrounding typologies.

Architectural details will activate the facades at the cornices and the building entrances. Entry canopies will be incorporated at the main points of entry as well at most ground level private entrances and decks. The main entrances will be oriented to highlight the points of interest along Mount Hood Road and the main intersection with Egremont Road.

Sheltered from the bustle of the street, the courtyard garden and terrace will balance both serene and restful with social spaces. Private patios extend from the surrounding residential units; while being open to the exterior they are screened by plantings and hard landscaping to provide privacy and comfort. Pockets of seating and small gathering areas accommodate small group gatherings (see Figure 5-6). Large glass doors will allow people to flow out from the adjacent amenity social spaces onto the patio, which overlooks the landscaped open space to create multiple levels of activity along the main circulation path on the site. Lining Egremont Road, private residential decks and stoops will enliven the street level. Street trees and low plants will soften the ground plane and provide shelter to pedestrians.

40 Mount Hood Road Boston, Massachusetts

Stantec

Figure 5-6

Courtyard Terrace

Chapter 6.0

Historic and Archaeological Resources

6. 0 HISTORIC AND ARCHAEOLOGICAL RESOURCES

This section identifies and describes the existing buildings on the Project site as well as the individual historic resources and districts in the vicinity and discusses potential Project related impacts based upon those historic resources.

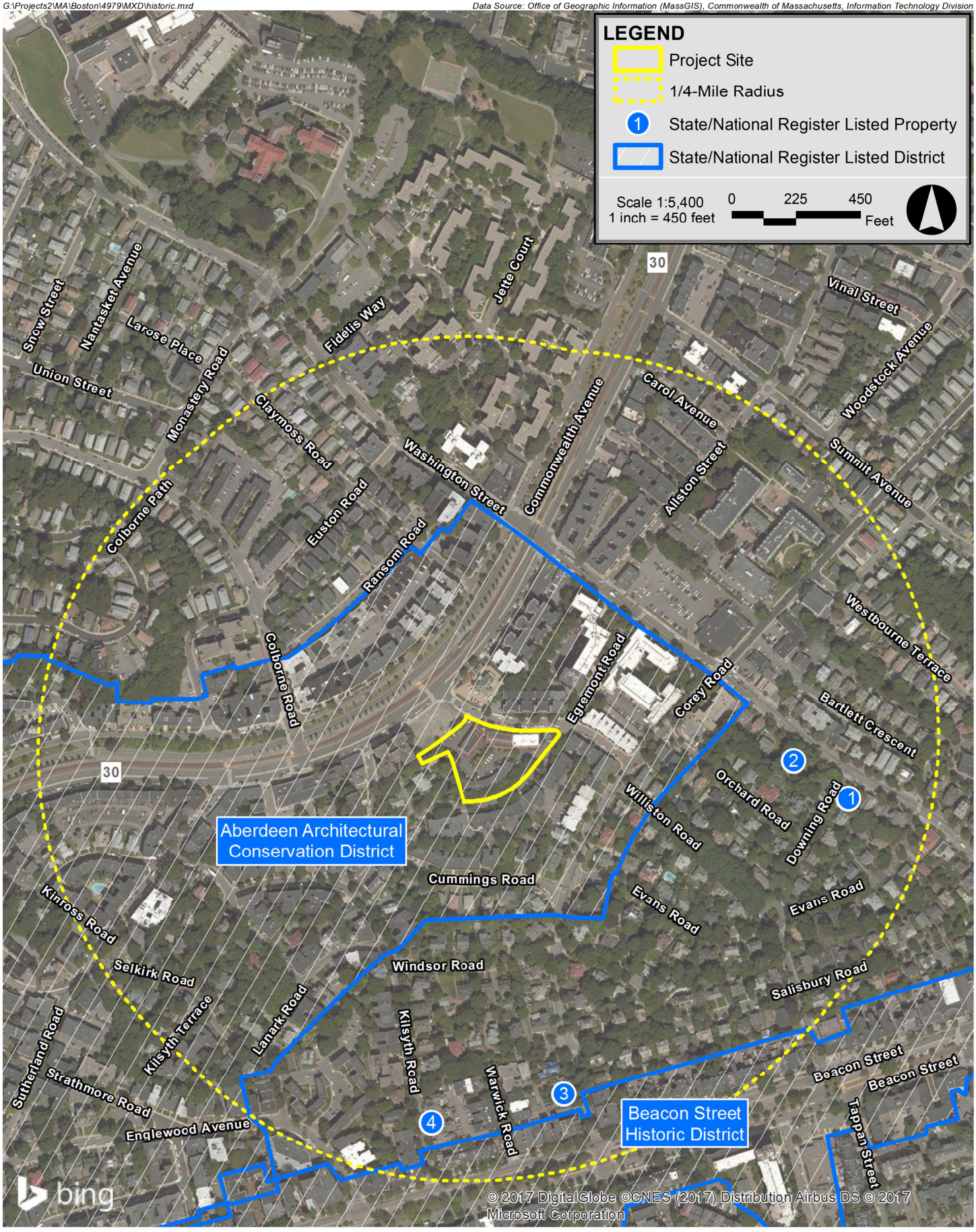
6.1 Buildings on the Project Site

A 1.7-acre parcel located at 40 Mount Hood Road in the Aberdeen neighborhood of the Brighton section of Boston, the Project site is currently occupied by three low-scale, late-20th century buildings. These are operated as a 74-room motel, supported by 93 surface parking spaces.

Three two-story buildings comprise the present motel establishment. Following the declining grade from Commonwealth Avenue along Mount Hood Road, they are unified by their red, vertically seamed metal roofs supported by paneled stucco piers. These enclose the horizontal railing systems of the exterior balconies and stairwells that provide access to the individual rooms, whose horizontally sliding windows and flush doors are visible beyond the railings. The existing buildings lack any significant architectural qualities and do not contribute to the architectural character of the surrounding context. As discussed below, the Project site is located within the boundaries of the Aberdeen Architectural Conservation District, a City of Boston local historic district.

6.2 Historic Resources in the Vicinity

As listed in Table 6-1 below, and as shown on Figure 6-1, numerous districts and individual resources included in the State and National Registers of Historic Places are located within proximity to the Project site. Historic districts near the Project site include the Aberdeen Architectural Conservation District (AACD) and the Beacon Street Historic District, a National Register district in the adjoining town of Brookline. In addition, four individually National Register-listed resources in Brookline are located within a quarter-mile radius; these are the Timothy Corey houses at 786-88 and 808 Washington Street, the Arthur & Shaw houses at 12-16 Corey Road, and Kilsyth Terrace at 12-27 Kilsyth Road. These resources are described below.



40 Mount Hood Road Boston, Massachusetts

Epsilon Associates Inc.

Figure 6-1
Historic Resources Map

Table 6-1 State and National Register-Listed Properties near the Project Site

Historic Resource	Address	Designation
A. Aberdeen Architectural Conservation District (AACD)	Bounded by Washington Street; Ransom, Leamington and Chiswick Roads, South Street and Greycliff Road, Commonwealth Avenue and Cleveland Circle to the Brookline border	LHD
B. Beacon Street Historic District	Bounded by Beacon Street in Brookline from the Boston line at St. Mary's Street to Ayr Road, Tappan Street and Garrison Road	NRDIS, NRMRA
1. Timothy Corey House, #2	786-788 Washington Street, Brookline	NRIND
2. Arthur & Shaw Houses	12-16 Corey Road, Brookline	NRIND
3. Timothy Corey House, #1	808 Washington Street, Brookline	NRIND
4. Kilsyth Terrace	15-27 Kilsyth Road, Brookline	NRIND

Designation Legend

LHD	Local Historic District
NRDIS	National Register of Historic Places Historic District
NRMRA	National Register Multiple Resource Area
NRIND	Individually listed in the National Register of Historic Places

The Project site is located within one of Boston's locally designated landmark districts, the Aberdeen Architectural Conservation District.

As first developed in the last quarter of the 19th century, Brighton's Aberdeen neighborhood was conceived as a picturesque suburb, whose freestanding single-family dwellings, largely of frame construction, were set on generous lots along winding, hilly streets. The area contains well-detailed examples of the Shingle, Queen Anne and Colonial Revival styles, as well as the somewhat later Mission Revival and Arts and Crafts idioms.

Following the First World War and the introduction of electric streetcar service along Commonwealth Avenue, that thoroughfare was heavily built up with substantial apartment blocks. These buildings' large footprints, and masonry facades of buff or red brick generously trimmed in cast-stone ornament, lent a distinctly urban character to what had been a leafy suburban enclave.

As a consequence of its phased development history, Aberdeen unusually combines elements of both the late 19th century suburb and the early 20th century urban apartment district. The Aberdeen Architectural Conservation District was designated a local landmark district in 2002.

Brookline's Beacon Street Historic District extends westward for approximately two miles from the Boston line. Although it had been laid out by the middle of the 19th century, Beacon Street did not acquire its present character until the introduction of the streetcar line in the 1880s. At that time, noted landscape architects, the Olmsted Brothers, devised a plan to mitigate the visual intrusion of both tracks and cars by planting a line of trees along the central median accommodating the rail bed. Residential development followed quickly in the form of both single-family rowhouses as well as masonry apartment buildings. The Beacon Street Historic District was listed in the National Register of Historic Places in 1985.

Also within a quarter-mile radius of the Project site are four properties in the Town of Brookline, all of which were individually listed in the National Register in 1985.

The Second Timothy Corey house at 786-788 Washington Street (corner of Downing Road) was completed in 1843 for an important member of the locally prominent Corey family. It is a substantial, two-and-one-half story, front-gabled Greek Revival residence whose gabled roof is enclosed by a full pediment facing Washington Street.

The steeply pitched roof of the four attached Arthur & Shaw houses, at 12-16 Corey Road features prominent gables, dormers and a massive pilastered chimney. Completed in 1899 to the designs of architect Arthur Bowditch, its façade includes both yellow brick and wood shingles as well as leaded and diamond-paned windows, carved brackets, and trefoil bargeboards.

At 808 Washington Street, the First Timothy Corey house, completed in 1806, embodies the vernacular Federal style. Set on a heavily planted knoll, this side-gabled, two-and-one-half story, center-chimneyed frame house features a five-bay façade with later Victorian-era bays and porches.

Kilsyth Terrace, at 15-27 Kilsyth Road, is a row of seven attached houses in yellow brick and Roxbury puddingstone completed in 1892 to the designs of J. Williams Beal. The buildings feature tall conical turrets and extensive corbelling.

6.3 Archaeological Resources

A review of Massachusetts Historical Commission (MHC) online archaeological base maps conducted on January 8, 2018, revealed no significant archaeological resources within the Project site or its vicinity.

6.4 Potential Impacts to Historic Resources

6.4.1 Demolition of Existing Buildings

The proposed Project will require the demolition of the late 20th-century motel buildings on the Project site. The existing buildings lack any significant architectural qualities and do not contribute to the architectural character of the surrounding Aberdeen Architectural Conservation District. The AACD study report identifies the existing buildings as "intrusions." (AACD Study Report., p. 13.) An application for Certificate of Appropriateness will be submitted to the AACD at the appropriate time.

6.4.2 Project Design and Visual Impacts to Historic Resources

The Project has been designed to respond to and respect the architectural character of the AACD.

In its massing, the Project concentrates its greatest height at the northern edge of the site, nearest Commonwealth Avenue where five- and six-story apartment buildings are predominant, creating the appearance of two buildings connected by a one-story (partially below-grade) podium, topped by a central courtyard. The building's rooflines include cornice and parapet details which respond to the hills and rocky outcroppings that characterize the local topography.

Façades are expressed in masonry, wood and metal surfaces; these treatments reflect the materials vocabulary of the adjacent early 20th century apartment buildings, and they lend visual interest and variety to the streetscape. Responding to the strong contextual condition of long apartment façades articulated with prominent entries and rhythmically projecting bays, the new building's major elevations are enlivened by similar stoops and bay projections. Entry marquees, ornamental balconies, and punched window openings with pronounced lintels and sills represent further acknowledgments of the neighborhood's familiar prototypes.

6.4.4 Shadow Impacts to Historic Resources

As described in greater detail in Section 3.2, shadow studies were conducted to investigate potential shadow impacts from the Project during three time periods (9:00 a.m., 12:00 noon, and 3:00 p.m.), during the vernal equinox (March 21), summer solstice (June 21), autumnal equinox (September 21), and winter solstice (December 21). In addition, shadow studies were conducted for the 6:00 p.m. time period during the summer solstice and autumnal equinox. As illustrated in the shadow study diagrams (Figures 3.2-1 to 3.2-14), no new shadow will be cast onto nearby buildings or open spaces during the time periods studied. New shadow from the Project will be minor and limited to nearby streets and sidewalks.

6.4.5 Wind Impacts to Historic Resources

The Project entails new construction which will result in localized changes in wind conditions. Within the surrounding area, wind conditions at pedestrian level will be substantially unchanged beyond the Project site. There are no anticipated wind impacts to the Aberdeen Architectural Conservation District or the National Register-listed district and individual properties noted above in the neighboring Town of Brookline.

6.5 Status of Project Reviews with Historical Agencies

6.5.1 Aberdeen Architectural Conservation District Commission Review

The proposed demolition of the existing buildings located on the Project site will be subject to review by the Aberdeen Architectural Conservation District Commission. An application for a Certificate of Appropriateness will be submitted at the appropriate time.

6.5.2 Massachusetts Historical Commission

The Massachusetts Historical Commission (MHC) has review authority over projects requiring state or federal licensing, permitting and/or approvals, or that utilize state or federal funding. In the event that state or federal licenses, permits or approval are required for the Project, or if state or federal funding is pursued, the MHC review process will be initiated through the filing of an MHC Project Notification Form. Currently, it is not anticipated that the Project will require review by the MHC.

Chapter 7.0

Infrastructure

7.0 INFRASTRUCTURE

7.1 Introduction

This Chapter 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 approximately 1.7-acre Project site is bounded by Mount Hood Road to the north, an abutting building to the west and Egremont Road to the east and south. The site currently consists of a motel containing 74 hotel rooms in three separate buildings, as well as 93 surface parking spaces. The proposed Project includes the demolition of the existing buildings and the construction of a new residential building with enclosed parking beneath a central courtyard.

7.2 Wastewater

7.2.1 Existing Sewer System

The Boston Water and Sewer Commission (BWSC) owns and maintains the sewer system that services the City of Boston. The BWSC sewer system connects to the Massachusetts Water Resources Authority (MWRA) interceptors for conveyance, treatment, and disposal through the MWRA Deer Island Wastewater Treatment Plant. There are existing BWSC sanitary sewer mains near the Project site.

There is an existing 10-inch BWSC sanitary sewer main which decreases to an 8-inch sewer main in Mount Hood Road and flows easterly to Corey Road. There is an existing 8-inch BWSC sanitary sewer main in Egremont Road which flows northerly and connects to the 8-inch sewer main in Mount Hood Road and flows easterly to Corey Road. The sewer main

then flows through the Town of Brookline and is ultimately directed to the MWRA Deer Island Wastewater Treatment Plant for treatement and disposal. The existing BWSC sewer system is shown in Figure 7-1.

Record plans do not indicate where existing building sewer services connect to the BWSC sewer mains adjacent to the Project site. These will be located during demolition.

The Project's existing sanitary flows were estimated using 310 CMR 15.203 for hotel uses. 310 CMR 15.203 lists typical sewage generation values by the building use and are conservative values for estimating the sewage flows from buildings. These values were used to estimate existing and proposed sewer flows, and to determine the approximate increase in sewer flows due to the Project.

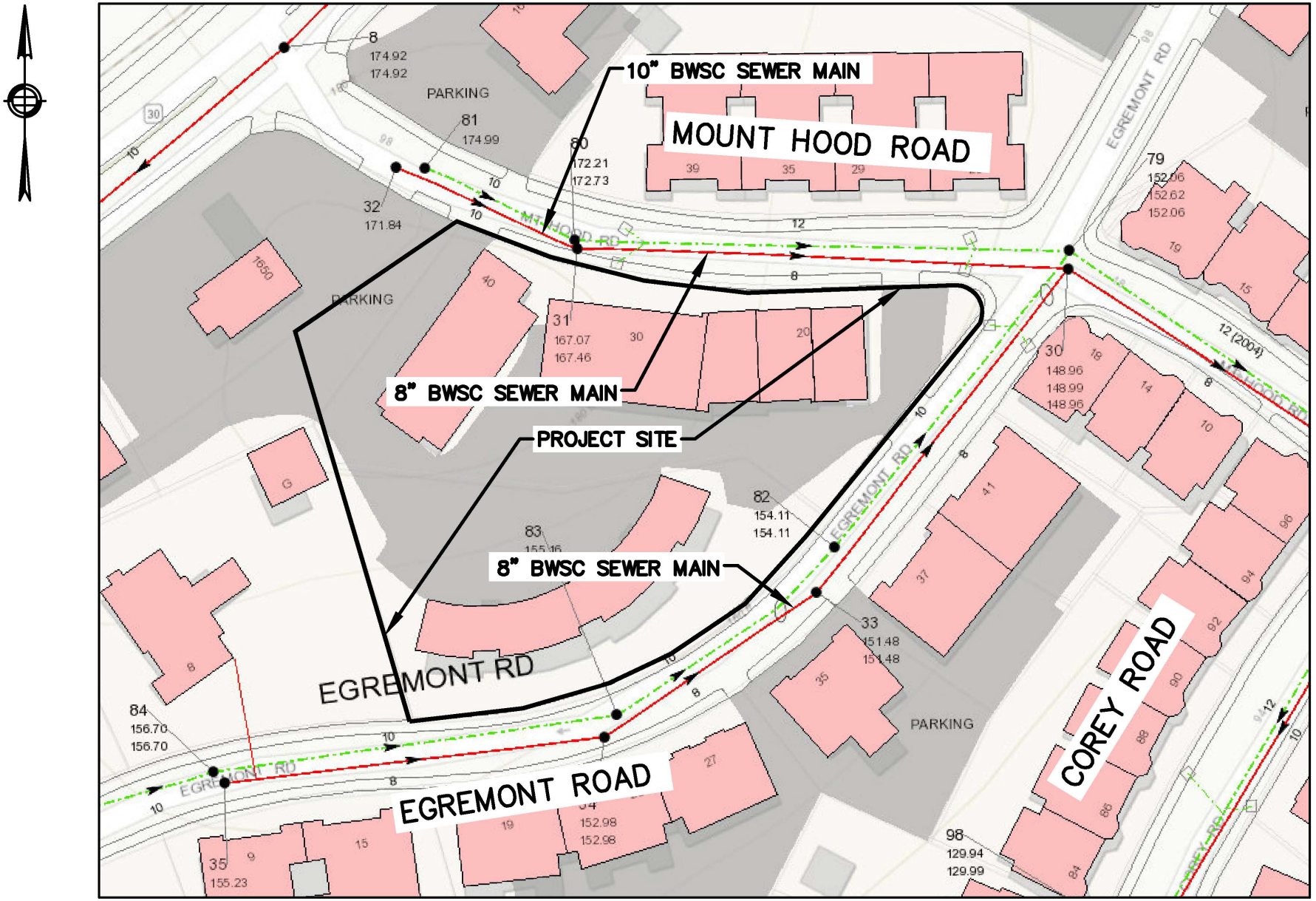
The existing buildings contain 74 hotel rooms. As shown in Table 7-1, the existing average daily sewage generation is estimated to be approximately 8,140 gallons per day (gpd).

7.2.2 Project Generated Sanitary Sewer Flow

Estimated sewage flows for the Project were calculated using 310 CMR 15.203 values, as summarized in Table 7-1. The total estimated proposed sewage flow for the Project is approximately 25,630 gpd, or an increase of approximately 17,490 gpd compared to the existing conditions.

Table 7-1 Estimated Sewage Flows

Proposed Use	Units/Size	Design Flow Rate (GPD/unit)	Proposed Sanitary Flows (GPD)
Studio	42 units	110/bedroom	4,620
1 Bedroom	92 units	110/bedroom	10,120
2 Bedrooms	33 units	110/bedroom	7,260
3 Bedrooms	11 units	110/bedroom	3,630
Total Proposed Sanitary Flow			25,630
Existing Use	**Units/Size**	**Design Flow Rate (GPD/unit)**	**Existing Sanitary Flows (GPD)**
Hotel	74 rooms	110/bedroom	8,140
Total Existing Sanitary Flow			8,140
Total Increase in Sewer Flows			17,490



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40 Mount Hood Road Boston, Massachusetts

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Figure 7-1

Existing Sewer System

7.2.3 Sewage Capacity and Impacts

The Project's impact on the existing BWSC systems in Mount Hood Road and Egremont Road were analyzed. The existing sewer system capacity calculations are presented in Table 7-2.

Table 7-2 Sewer Hydraulic Capacity Analysis

BWSC Sewer Manhole[2]	Slope (%)[1]	Dia. (inches)	Manning's Number	Flow Capacity (cfs)[3]	Flow Capacity (MGD)
Mount Hood Road					
32 to 31	2.7%	10	0.013	3.63	2.34
31 to 30	4.7%	8	0.013	2.62	1.69
			Minimum Flow Analyzed:	2.62	1.69
Egremont Road					
35 to 34	0.8%	8	0.013	1.05	0.68
34 to 33	0.8%	8	0.013	1.05	0.68
33 to 30	0.8%	8	0.013	1.07	0.69
			Minimum Flow Analyzed:	1.05	0.68

1. Slope was calculated with inverts from BWSC GIS Sewer Maps.
2. BWSC sewer manhole numbers are from BWSC GIS Sewer Maps.
3. Flow calculations based on Manning's Equation.

Table 7-2 indicates the flow (hydraulic) capacity of the 10- and 8-inch sanitary sewer mains in Mount Hood Road and Egremont Road. The minimum flow capacity is 1.69 million gallons per day (MGD) or 2.62 cubic feet per second (cfs) for the BWSC sewer main in Mount Hood Road and 0.68 MGD or 1.05 cubic feet per second for the BWSC sewer main in Egremont Road.

As previously stated, the approximate proposed increase in sewage flow is 17,490 gpd or 0.017 MGD. Based on an increase in average daily flow of 0.017 MGD; and with a safety factor of 10 (total estimate = 0.017 MGD x 10 = 0.17 MGD), no capacity problems are anticipated for the sewer mains in Mount Hood Road and Egremont Road. The connections to the 10- and 8-inch BWSC sewer mains in Mount Hood and Egremont Road will be evaluated throughout the design process.

7.2.4 Proposed Conditions

The Project will require new building sewer service connections. The new sewer services for the Project may connect to the BWSC sewer mains in Mount Hood Road and/or in Egremont 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 proposed service connections, an assessment of Project demands and system capacity, and the establishment of service accounts. Coordination with

BWSC will include review and approval of the design, capacity, connections, and flow increase resulting from the proposed discharges to the sanitary sewer system. In total, the complete Project sewer generation is expected to increase wastewater flows by approximately 17,490 gpd. Approval for the increase in sanitary flow will come from BWSC.

7.3 Water System

7.3.1 Existing Water Service

Water for the Project will be provided by BWSC. BWSC is supplied water by the MWRA system. There are five water systems within the City of Boston, and these provide service to portions of the City based on ground surface elevation. The five systems are the southern low (SL), southern high (SH), southern extra high (SEH), northern low (NL), and northern high (NH). Water mains are labeled by their system, pipe size, year installed, pipe material, and year cement lined (CL), if applicable.

There is an existing SH 8 DICL 2004 BWSC water main in Mount Hood Road adjacent to the Project site as well as an existing SH 8 PCI 1910 (1984) BWSC water main in Egremont Road. BWSC records indicate that there are two existing water services at the north-east corner of the Project site that connect to the water main in Mount Hood Road. Record plans do not indicate if there are additional existing water services. There is an existing BWSC hydrant in Egremont Road and another BWSC hydrant in Mount Hood Road adjacent to the Project site. The existing BWSC water system is shown in Figure 7-2.

The Project's estimated existing water usage for domestic water service is based on the Project's estimated existing sewage generation. A conservative factor of 1.1 (10%) is applied to the estimated existing average daily sewage flows to account for consumption, system losses and other usages to estimate an average daily water demand. The estimate is used to compare the proposed average daily water demand to the existing conditions. The existing building's water usage is estimated to be approximately 8,954 gpd.

7.3.2 Anticipated Water Consumption

The Project's water demand estimate for the domestic services is based on the Project's estimated sewage generation. A conservative factor of 1.1 (10%) is applied to the estimated daily sewage flows, calculated in Table 7-1 to account for consumption system losses, and other usages to estimate an average daily water demand. The estimated proposed domestic water demand is approximately 28,193 gallons per day, or an increase of approximately 19,239 gpd compared to the existing condition.

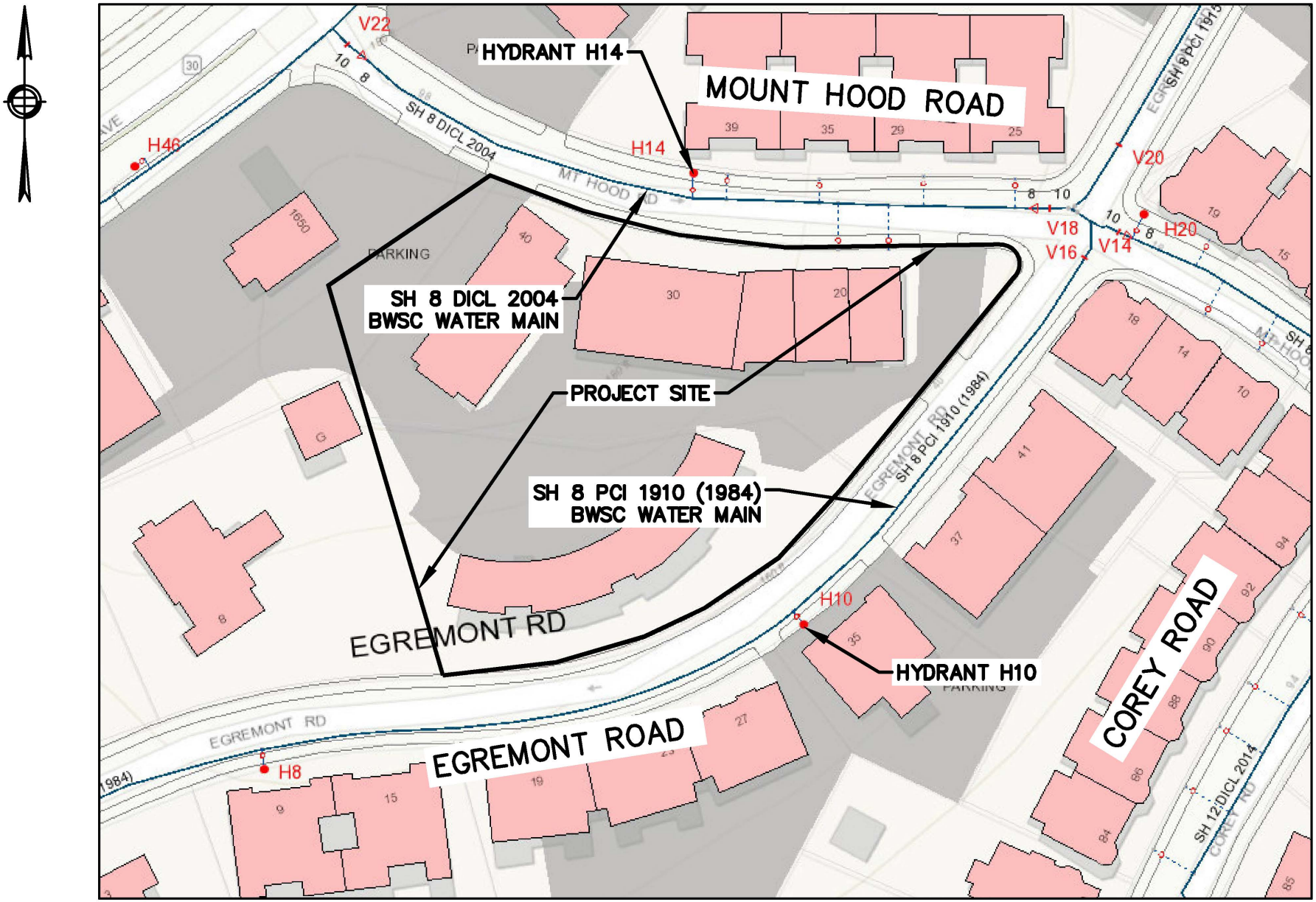

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Figure 7-2

Existing Water System

7.3.3 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 not available near the Project site. As the design progresses, the Proponent will request hydrant flows be conducted by BWSC adjacent to the Project, as hydrant flow test data must be less than one-year old when used for design.

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

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.

7.3.4 Proposed Water Service

The Project will require a new domestic water service and a fire protection service. The domestic water and fire protection services for the Project will connect to the existing BWSC water mains in Mount Hood Road and/or Egremont Road. The Proponent will coordinate with the BWSC to design private water services that will meet BWSC requirements.

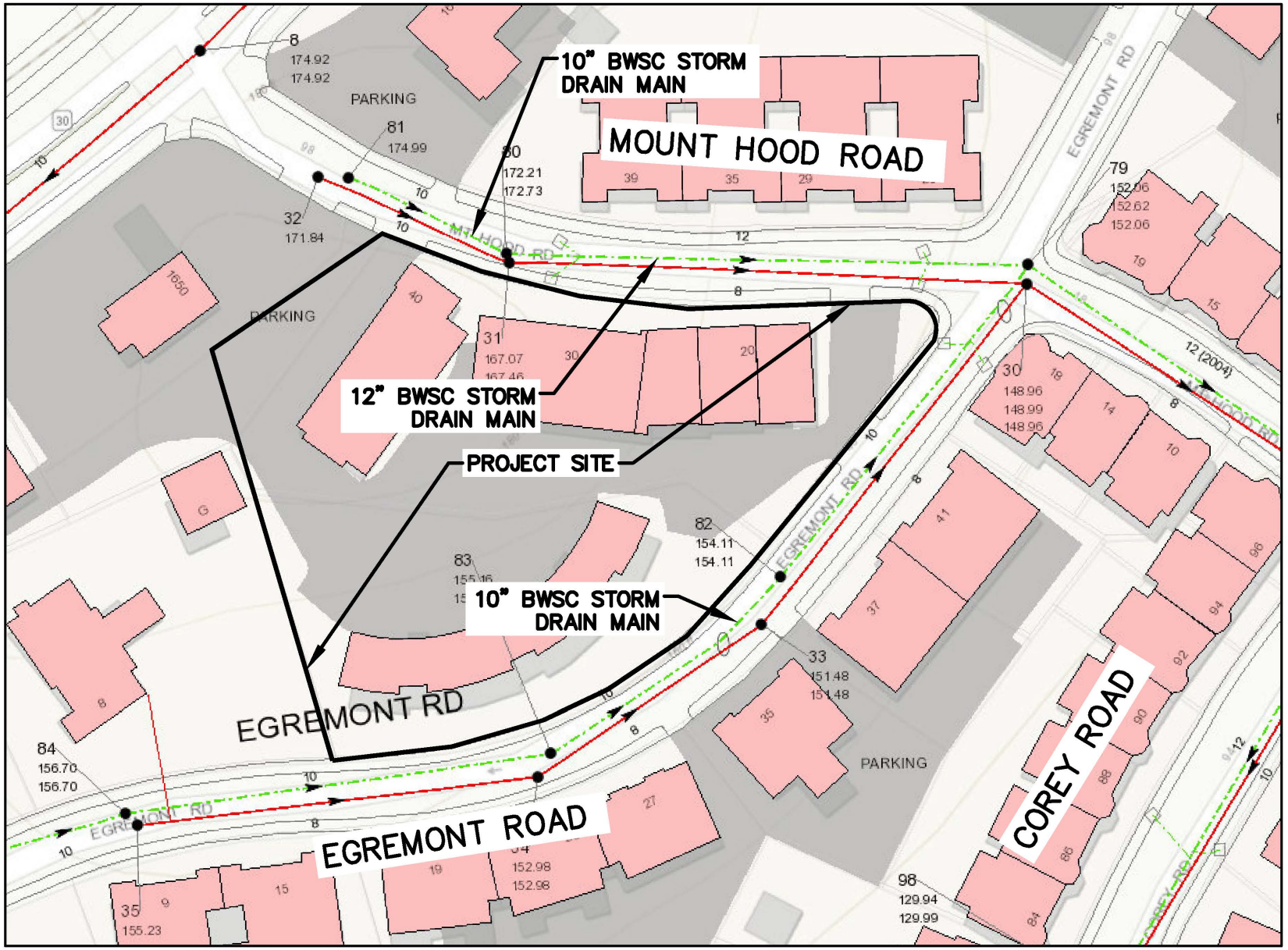
The domestic water and fire protection service connections required for the Project will meet the applicable City and State codes and standards, including cross-connection backflow prevention. Compliance with the standards for the domestic water system service connection will be reviewed as part of BWSC's 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.

7.4 Storm Drainage System

7.4.1 Existing Storm Drainage System

The existing site is comprised of building roof, paved parking areas and walkways as well as a landscaped area with grass and trees. The existing site is approximately 80-percent impervious.

There is a 10-inch storm drain which increases to a 12-inch BWSC storm drain main in Mount Hood Road adjacent to the Project site which flows easterly towards Corey Road. There is also a 10-inch BWSC storm drain main in Egremont Road that flows northerly to Mount Hood Road which then flows easterly toward Corey Road. BWSC has indicated that these storm drain mains ultimately flow to the Charles River via the Muddy River. The existing BWSC Storm Drainage System is shown in Figure 7-3.



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40 Mount Hood Road Boston, Massachusetts

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Figure 7-3

Existing Storm System

BWSC records do not indicate where the existing building drains connect to existing drainage systems. The existing site slopes from the northeast corner down to the low side at the corner of Mount Hood Road and Egremont Road. Stormwater runoff from the paved parking lot around the existing buildings appear to sheet flow offsite and are collected by the catch basins in the adjacent roadways. Stormwater runoff from the buildings appears to be collected by roof drains and directed to either the pavement or the planted landscape areas.

7.4.2 Proposed Storm Drainage System

The proposed design will be approximately 85-percent impervious, an increase of approximately 5-percent compared to the existing condition. The proposed impervious area will consist mostly of building roof with landscape and pedestrian plaza over an underground garage. The Project will be designed to meet or reduce stormwater runoff peak rates and volumes, and to minimize the loss of annual stormwater recharge to groundwater through the use of on-site infiltration measures to the greatest extent practicable.

The Project will be designed to capture and recharge one-inch of stormwater from the impervious site areas. The Project's design will include a private closed drainage system that will be adequately sized for the Project's expected stormwater flows, and will direct stormwater to the on-site infiltration system for groundwater recharge prior to overflow to the BWSC systems. Overflow connections to the BWSC storm drain mains will be provided for greater stormwater flows. The on-site infiltration systems will strive to infiltrate one-inch of stormwater runoff from impervious areas to the greatest extent practicable, to meet the BWSC stormwater quality and stormwater recharge requirements.

Improvements to the BWSC infrastructure and the existing private storm drain systems will be evaluated as part of the BWSC Site Plan Review Process.

7.4.3 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.

The constructed Project will improve the quality of stormwater leaving the site. The existing site does not appear to provide stormwater treatment or storage. The site will be designed to, at minimum, meet the existing rates and volumes of stormwater infiltration from the site. The proposed design will treat stormwater by collecting it at the building roof or landscape

plaza above the garage and directing it to underground recharge systems for storage prior to overflowing to BWSC infrastructure. Stormwater from the paved vehicular areas will be collected by deep-sump and hooded catch basins, directed to proprietary water-quality structures, and then to the underground recharge systems. Stormwater from landscaped areas will be collected by area drains or catch basins.

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.

7.4.4 MassDEP Stormwater Management Policy Standards

In March 1997, Massachusetts Department of Environmental Protection (MassDEP) adopted a new 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 Ch. 131, s. 40.

A description of the Project's anticipated compliance with the Standards is outlined 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 proposed design will comply with this Standard. The design will not propose new stormwater conveyances 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 10.04.

Compliance: The proposed design will comply with this Standard to the maximum extent practicable. The existing peak discharge rate will be met or will be 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 environmentally 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. The stormwater system will be designed to capture and infiltrate 1-inch of stormwater from the impervious site's areas to the greatest 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 proposed design will comply with this standard. Within the Project site, there will be mostly roof, paved sidewalks, and landscape over an underground garage. 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 treated with proprietary water quality structures 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 proposed design will comply with this standard. The proposed design will include source control, pollution prevention, and pretreatment practices, as necessary.

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: Not Applicable. The proposed Project is not within an outstanding resource 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 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 will comply with this Standard to the maximum extent practicable.

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 proposed design will comply with this Standard. A plan to control temporary construction-related impacts including erosion, sedimentation, and other pollutant sources during construction and land-disturbing activities will be developed and implemented.

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 Best Management Practices (BMP) operation requirements will be prepared for the Proposed 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 proposed Project.

7.5 Utility Protection 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.

7.6 Electrical Services

Eversource owns and maintains the electricity distribution system in the vicinity of the Project site. The Proponent will work with Eversource to confirm the system has adequate capacity as the design advances.

7.7 Telecommunications Systems

Comcast, Verizon, and RCN each have telecommunications systems in the vicinity of the Project site. The Proponent will work with each of these providers to determine the appropriate services and connection locations to support the proposed development.

7.8 Natural Gas Systems

National Grid owns and maintains the gas distribution system in the vicinity of the Project site. The Proponent will work with National Grid to confirm the system has adequate capacity as the design advances.

Chapter 8.0

Coordination with other Governmental Agencies

8.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

8.1 Architectural Access Board Requirements

The Project will comply with the requirements of the Massachusetts Architectural Access Board and will be designated to comply with the standards of the Americans with Disabilities Act. The Accessibility Checklist is provided in Appendix E.

8.2 Massachusetts Environmental Policy Act (MEPA)

The Proponent does not expect that the Project will require review by the Massachusetts Environmental Policy Act (MEPA) Office of the Massachusetts Executive Office of Energy and Environmental Affairs. Current plans do not call for the Project to receive any state permits or state funding, or to involve any state land transfers.

8.3 Massachusetts Historical Commission

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. 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 review of the Project.

8.4 Boston Civic Design Commission

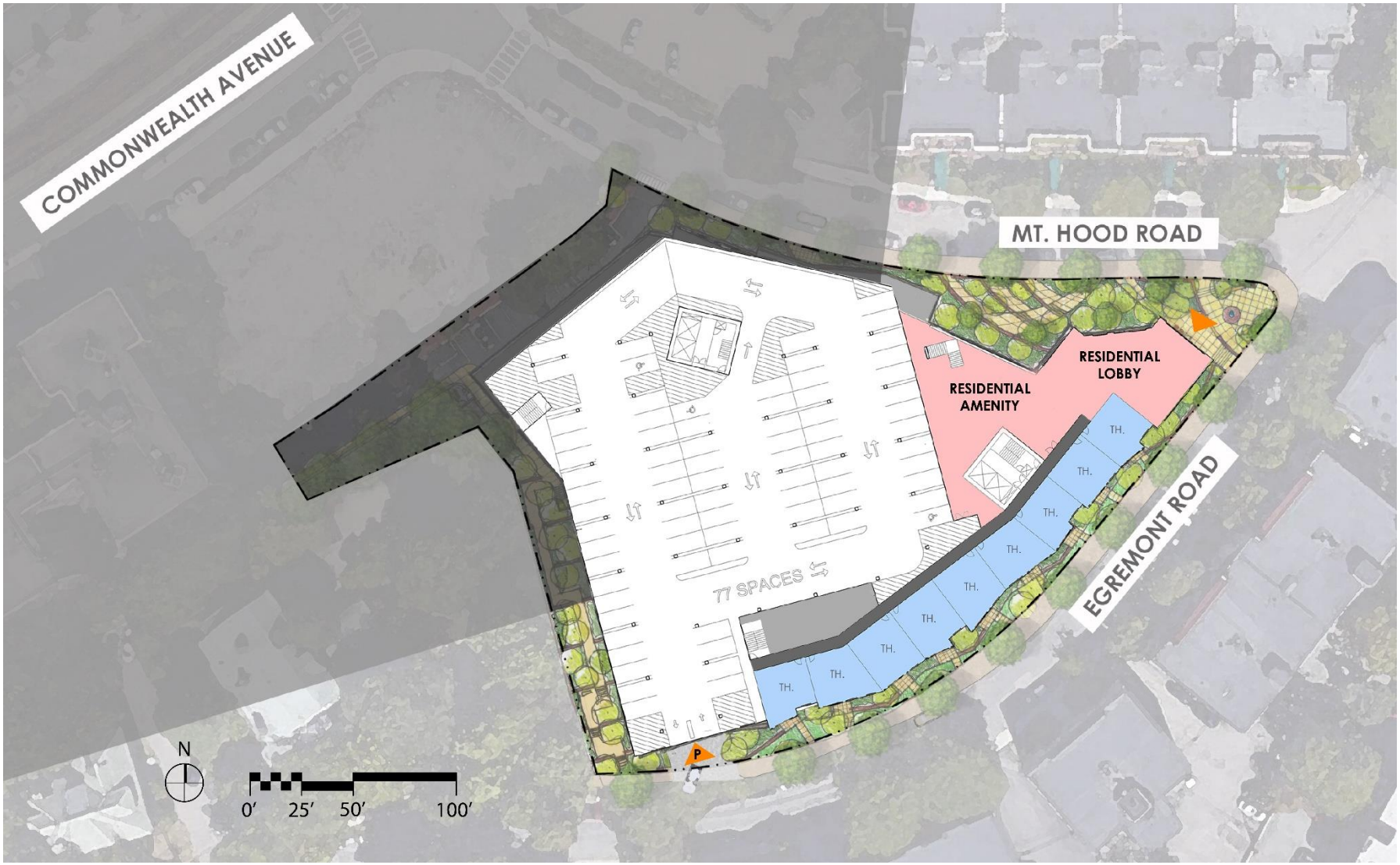
The Project will comply with the provisions of Article 28 of the Boston Zoning Code. This PNF will be submitted to the Boston Civic Design Commission by the BPDA as part of the Article 80 process.

8.5 Aberdeen Architectural Conservation District Commission Review

The proposed demolition of the existing buildings located on the Project site will be subject to review by the Aberdeen Architectural Conservation District Commission. An application for a Certificate of Appropriateness will be submitted at the appropriate time.

Appendix A

Floor Plans, Elevations, and Sections



40 Mount Hood Road Boston, Massachusetts

Stantec

Lower Parking Plan

40 Mount Hood Road Boston, Massachusetts

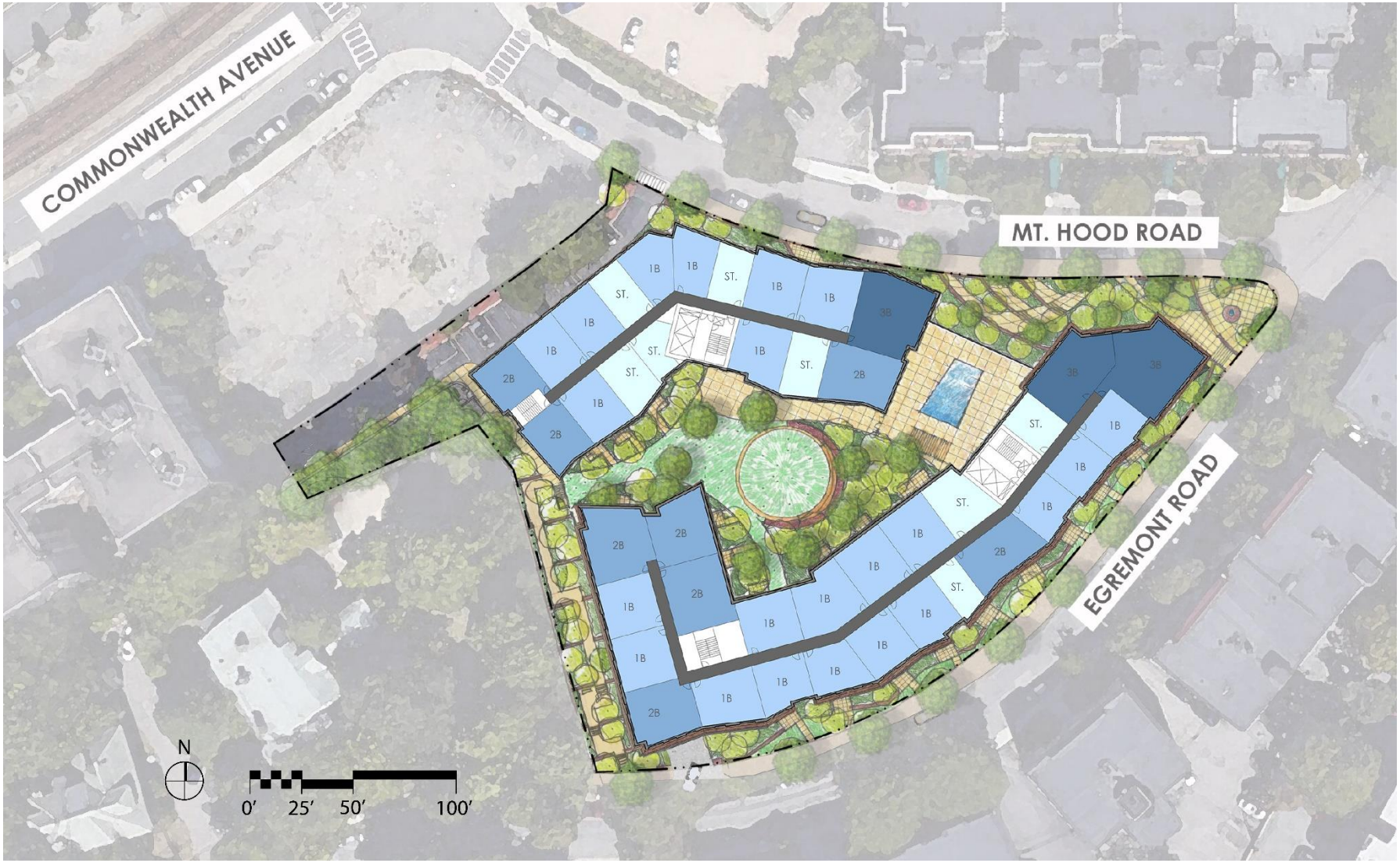
Stantec

Upper Parking Plan

40 Mount Hood Road Boston, Massachusetts

Stantec

Courtyard Plan



40 Mount Hood Road Boston, Massachusetts

Stantec

Typical Floor Plan

40 Mount Hood Road Boston, Massachusetts

Stantec

Upper Level Plan

1 **ELEVATION - SOUTH**

1" = 40'-0"

2 **ELEVATION - WEST**

1" = 40'-0"

40 Mount Hood Road Boston, Massachusetts

1 **ELEVATION - NORTH**

1" = 40'-0"

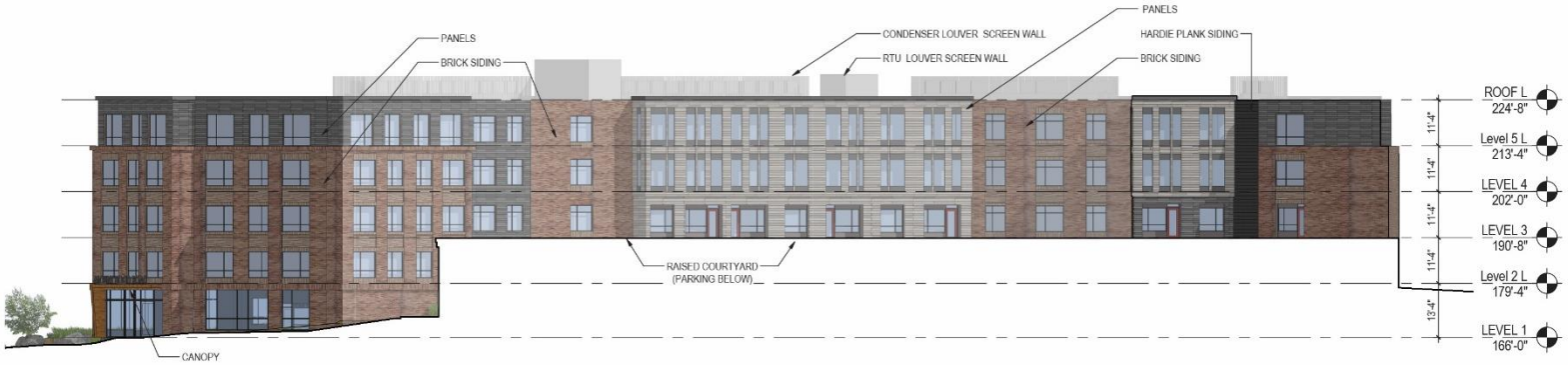
2 **ELEVATION - EAST**

1" = 40'-0"

40 Mount Hood Road Boston, Massachusetts

1 **ELEVATION - NORTH - COURTYARD**

1" = 40'-0"



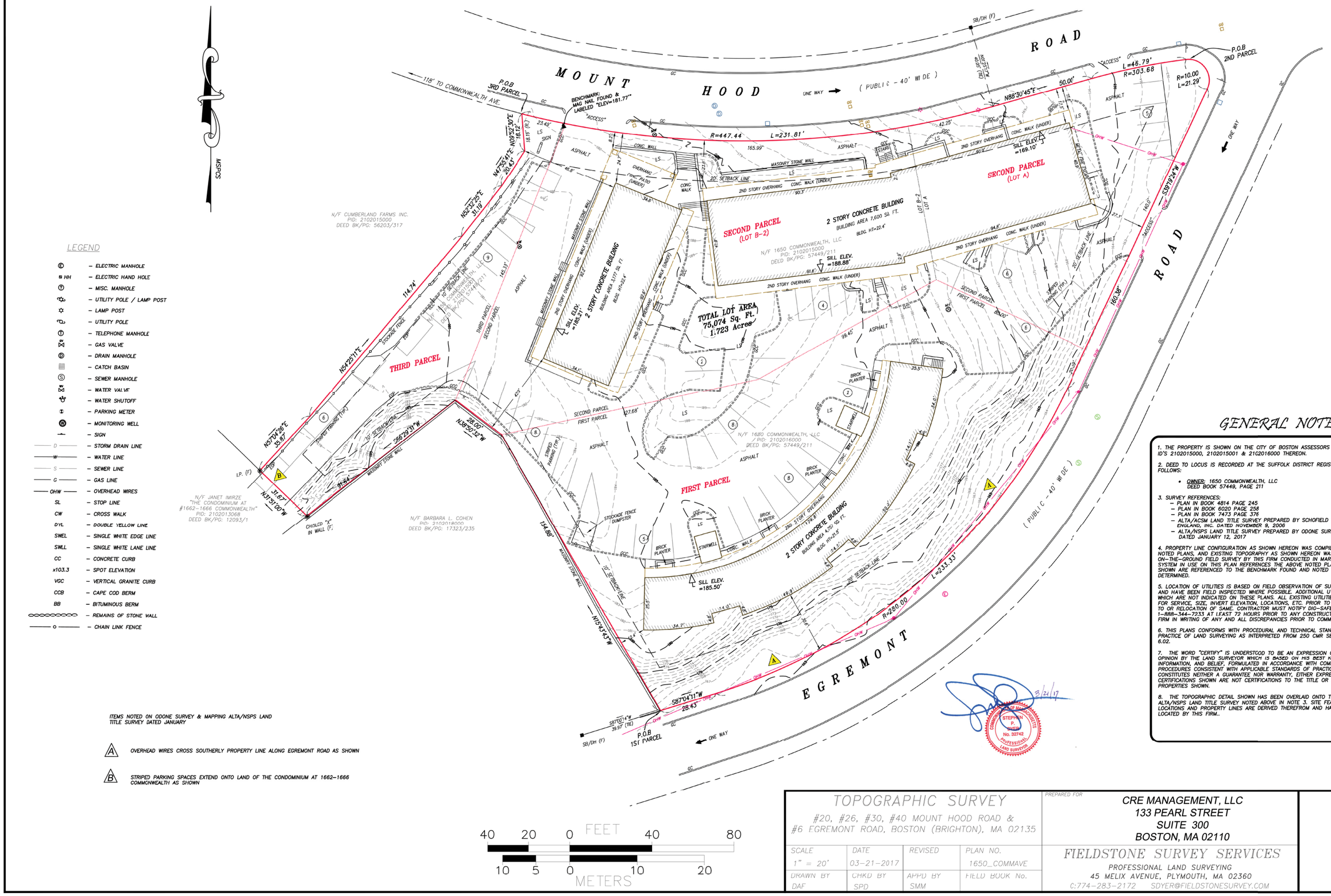
2 **ELEVATION - SOUTH - COURTYARD**

1" = 40'-0"

40 Mount Hood Road Boston, Massachusetts

Appendix B

Site Survey



LEGEND

- E – ELECTRIC MANHOLE
- HH – ELECTRIC HAND HOLE
- T – MISC. MANHOLE
- – UTILITY POLE / LAMP POST
- – LAMP POST
- – UTILITY POLE
- T – TELEPHONE MANHOLE
- – GAS VALVE
- D – DRAIN MANHOLE
- – CATCH BASIN
- S – SEWER MANHOLE
- – WATER VALVE
- – WATER SHUTOFF
- – PARKING METER
- M – MONITORING WELL
- – SIGN
- D – STORM DRAIN LINE
- W – WATER LINE
- S – SEWER LINE
- G – GAS LINE
- OHW – OVERHEAD WIRES
- SL – STOP LINE
- CW – CROSS WALK
- DYL – DOUBLE YELLOW LINE
- SWEL – SINGLE WHITE EDGE LINE
- SWLL – SINGLE WHITE LANE LINE
- CC – CONCRETE CURB
- x103.3 – SPOT ELEVATION
- VGC – VERTICAL GRANITE CURB
- CCB – CAPE COD BERM
- BB – BITUMINOUS BERM
- – REMAINS OF STONE WALL
- o – CHAIN LINK FENCE

ITEMS NOTED ON ODONE SURVEY & MAPPING ALTA/NSPS LAND TITLE SURVEY DATED JANUARY

A – OVERHEAD WIRES CROSS SOUTHERLY PROPERTY LINE ALONG EGREMONT ROAD AS SHOWN

B – STRIPED PARKING SPACES EXTEND ONTO LAND OF THE CONDOMINIUM AT 1662-1666 COMMONWEALTH AS SHOWN

40 20 0 FEET 40 80

10 5 0 10 20 METERS

GENERAL NOTES

1. THE PROPERTY IS SHOWN ON THE CITY OF BOSTON ASSESSORS MAPS AS PARCEL ID'S 2102015000, 2102015001 & 2102016000 THEREON.

2. DEED TO LOCUS IS RECORDED AT THE SUFFOLK DISTRICT REGISTRY OF DEEDS AS FOLLOWS:
   - OWNER: 1650 COMMONWEALTH, LLC
     DEED BOOK 57449, PAGE 211

3. SURVEY REFERENCES:
   - PLAN IN BOOK 4814 PAGE 245
   - PLAN IN BOOK 6020 PAGE 258
   - PLAN IN BOOK 7473 PAGE 376
   - ALTA/ACSM LAND TITLE SURVEY PREPARED BY SCHOFIELD BROTHERS OF NEW ENGLAND, INC. DATED NOVEMBER 9, 2006
   - ALTA/NSPS LAND TITLE SURVEY PREPARED BY ODONE SURVEY & MAPPING DATED JANUARY 12, 2017

4. PROPERTY LINE CONFIGURATION AS SHOWN HEREON WAS COMPILED FROM THE ABOVE NOTED PLANS, AND EXISTING TOPOGRAPHY AS SHOWN HEREON WAS DERIVED FROM ON-THE-GROUND FIELD SURVEY BY THIS FIRM CONDUCTED IN MARCH 2017. BEARING SYSTEM IN USE ON THIS PLAN REFERENCES THE ABOVE NOTED PLANS, AND ELEVATIONS SHOWN ARE REFERENCED TO THE BENCHMARK FOUND AND NOTED HEREON; DATUM NOT DETERMINED.

5. LOCATION OF UTILITIES IS BASED ON FIELD OBSERVATION OF SURFACE INSTALLATIONS, AND HAVE BEEN FIELD INSPECTED WHERE POSSIBLE. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT INDICATED ON THESE PLANS. ALL EXISTING UTILITIES SHALL BE VERIFIED FOR SERVICE, SIZE, INVERT ELEVATION, LOCATIONS, ETC. PRIOR TO NEW CONNECTIONS TO OR RELOCATION OF SAME. CONTRACTOR MUST NOTIFY DIG-SAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION. NOTIFY THIS FIRM IN WRITING OF ANY AND ALL DISCREPANCIES PRIOR TO COMMENCING ANY WORK.

6. THIS PLANS CONFORMS WITH PROCEDURAL AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS INTERPRETED FROM 250 CMR SECTIONS 6.01 AND 6.02.

7. THE WORD "CERTIFY" IS UNDERSTOOD TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY THE LAND SURVEYOR WHICH IS BASED ON HIS BEST KNOWLEDGE, INFORMATION, AND BELIEF, FORMULATED IN ACCORDANCE WITH COMMONLY ACCEPTED PROCEDURES CONSISTENT WITH APPLICABLE STANDARDS OF PRACTICE, AND AS SUCH IT CONSTITUTES NEITHER A GUARANTEE NOR WARRANTY, EITHER EXPRESS OR IMPLIED. THE CERTIFICATIONS SHOWN ARE NOT CERTIFICATIONS TO THE TITLE OR OWNERSHIP OF THE PROPERTIES SHOWN.

8. THE TOPOGRAPHIC DETAIL SHOWN HAS BEEN OVERLAID ONTO THE MOST RECENT ALTA/NSPS LAND TITLE SURVEY NOTED ABOVE IN NOTE 3. SITE FEATURES, BUILDING LOCATIONS AND PROPERTY LINES ARE DERIVED THEREFROM AND HAVE NOT BEEN LOCATED BY THIS FIRM..

3/21/17

COMMONWEALTH OF MASSACHUSETTS STEPHEN P. DYER No. 32742 PROFESSIONAL LAND SURVEYOR

TOPOGRAPHIC SURVEY

#20, #26, #30, #40 MOUNT HOOD ROAD &
#6 EGREMONT ROAD, BOSTON (BRIGHTON), MA 02135

SCALE	DATE	REVISED	PLAN NO.
1" = 20'	03-21-2017		1650_COMMAVE
DRAWN BY	CHKD BY	APPD BY	FIELD BOOK No.
DAF	SPD	SMM	

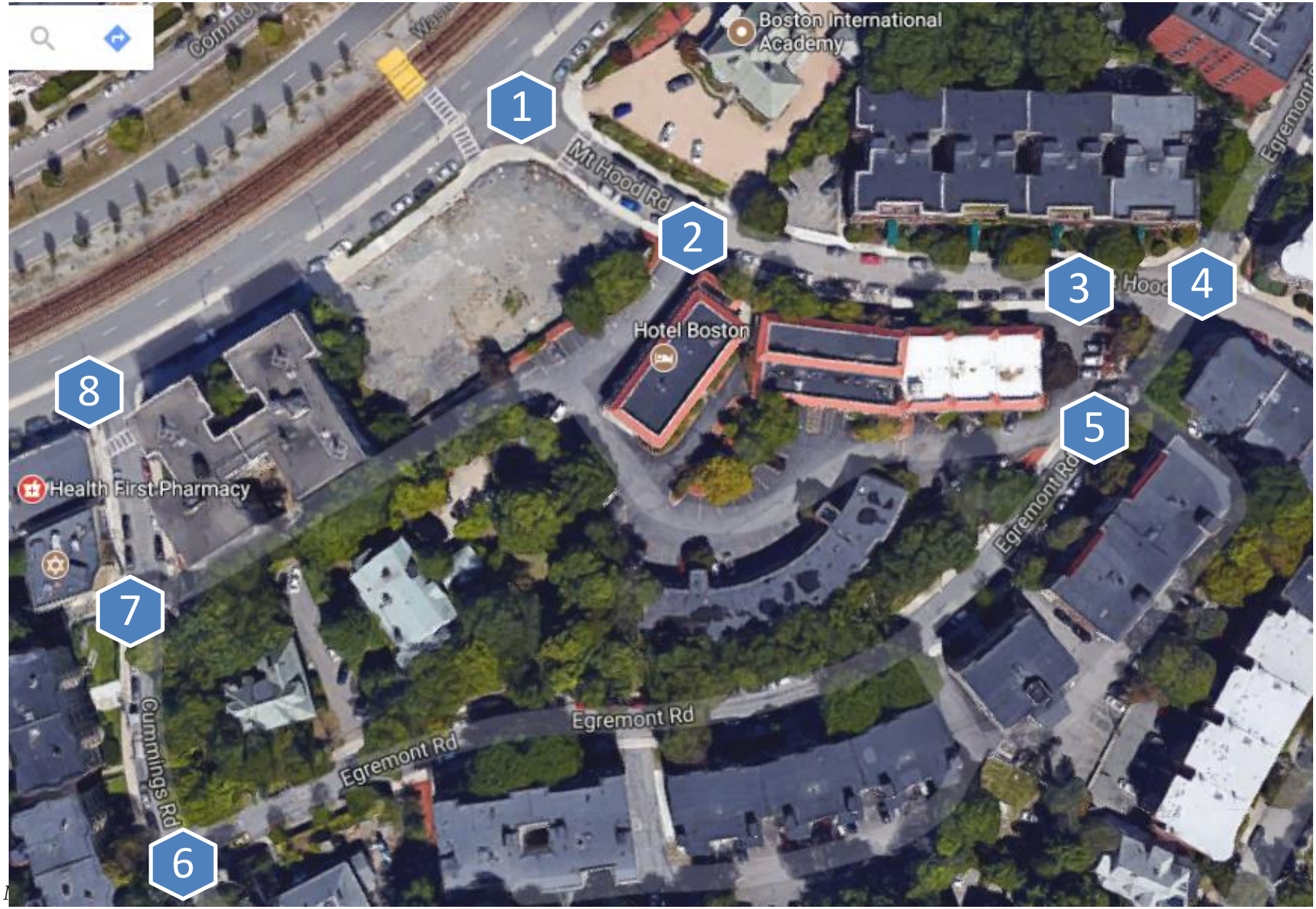
PREPARED FOR

CRE MANAGEMENT, LLC
133 PEARL STREET
SUITE 300
BOSTON, MA 02110

FIELDSTONE SURVEY SERVICES
PROFESSIONAL LAND SURVEYING
45 MELIX AVENUE, PLYMOUTH, MA 02360
C:774-283-2172 SDYER@FIELDSTONESURVEY.COM

Appendix C

Transportation



BOSTON TRAFFIC DATA	BTD ID:120_040 _HSH	Brighton, MA	# of TMC's: 08	Client: Howard Stein Hudson
		Collect on October 24, 2017	# of ATR's: 00	Contact: Michael Littman

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 1
Location:	Brighton, MA
Street 1:	Commonwealth Avenue Eastbound
Street 2:	Mount Hood Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

	Mount Hood Road Northwestbound				Southeastbound				Commonwealth Avenue Eastbound Eastbound					Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Sight Right	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	113	5	36	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	146	8	33	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	173	10	28	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	202	8	23	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	224	5	17	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	217	9	19	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	201	13	15	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	199	10	16	0	0	0	0

	Mount Hood Road Northwestbound				Southeastbound				Commonwealth Avenue Eastbound Eastbound					Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Sight Right	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	100	5	22	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	109	5	23	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	115	4	21	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	119	6	24	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	121	7	20	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	117	9	22	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	114	10	19	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	109	9	21	0	0	0	0

AM PEAK HOUR 7:45 AM	Mount Hood Road Northwestbound				Southeastbound				Commonwealth Avenue Eastbound Eastbound					Westbound			
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Sight Right	Right	U-Turn	Left	Thru	Right
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**844**	**35**	**74**	**0**	**0**	**0**	**0**
PHF		**0.00**				**0.00**					**0.97**				**0.00**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:45 PM	Mount Hood Road Northwestbound				Southeastbound				Commonwealth Avenue Eastbound Eastbound					Westbound			
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Sight Right	Right	U-Turn	Left	Thru	Right
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**471**	**32**	**85**	**0**	**0**	**0**	**0**
PHF		**0.00**				**0.00**					**0.99**				**0.00**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Note:
1. A building on southwest corner is under construction. A police officer was directing traffic from time to time from 7:48 am to 9 am.
   No construction vehicles blocking the intersection. No impact on traffic flow.

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 1
Location:	Brighton, MA
Street 1:	Commonwealth Avenue Eastbound
Street 2:	Mount Hood Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

BOSTON TRAFFIC DATA
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Office: 978-746-1259
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www.BostonTrafficData.com

TRUCKS

	Mount Hood Road Northwestbound				Southeastbound				Commonwealth Avenue Eastbound Eastbound					Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Slight Right	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

	Mount Hood Road Northwestbound				Southeastbound				Commonwealth Avenue Eastbound Eastbound					Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Slight Right	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Mount Hood Road Northwestbound				Southeastbound				Commonwealth Avenue Eastbound Eastbound					Westbound			
7:30 AM to 8:30 AM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Slight Right	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.63**					**0.00**			

PM PEAK HOUR	Mount Hood Road Northwestbound				Southeastbound				Commonwealth Avenue Eastbound Eastbound					Westbound			
4:00 PM to 5:00 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Slight Right	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.50**					**0.00**			

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 1
Location:	Brighton, MA
Street 1:	Commonwealth Avenue Eastbound
Street 2:	Mount Hood Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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PEDESTRIANS & BICYCLES

	Mount Hood Road Northwestbound					Southeastbound					Commonwealth Avenue Eastbound Eastbound					Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	3		0	0	0	0		0	0	0	1		0	0	0	0	
7:15 AM	0	0	0	5		0	0	0	0		0	1	0	0		0	0	0	0	
7:30 AM	0	0	0	6		0	0	0	0		0	0	0	2		0	0	0	0	
7:45 AM	0	0	0	8		0	0	0	0		0	2	0	1		0	0	0	0	
8:00 AM	0	0	0	12		0	0	0	0		0	1	0	3		0	0	0	0	
8:15 AM	0	0	0	7		0	0	0	0		0	1	0	0		0	0	0	0	
8:30 AM	0	0	0	8		0	0	0	0		0	0	0	1		0	0	0	0	
8:45 AM	0	0	0	6		0	0	0	0		0	1	0	0		0	0	0	0	

	Mount Hood Road Northwestbound					Southeastbound					Commonwealth Avenue Eastbound Eastbound					Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	7		0	0	0	0		0	2	0	6		0	0	0	0	
4:15 PM	0	0	0	9		0	0	0	0		0	1	0	4		0	0	0	0	
4:30 PM	0	0	0	10		0	0	0	0		0	0	0	2		0	0	0	0	
4:45 PM	0	0	0	12		0	0	0	0		0	1	0	1		0	0	0	0	
5:00 PM	0	0	0	15		0	0	0	0		0	0	0	0		0	0	0	0	
5:15 PM	0	0	0	14		0	0	0	0		0	1	0	2		0	0	0	0	
5:30 PM	0	0	0	9		0	0	0	0		0	0	0	0		0	0	0	0	
5:45 PM	0	0	0	10		0	0	0	0		0	0	0	1		0	0	0	0	

AM PEAK HOUR[1]	Mount Hood Road Northwestbound					Southeastbound					Commonwealth Avenue Eastbound Eastbound					Westbound				
7:45 AM to 8:45 AM	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	35		0	0	0	0		0	4	0	5		0	0	0	0	

PM PEAK HOUR[1]	Mount Hood Road Northwestbound					Southeastbound					Commonwealth Avenue Eastbound Eastbound					Westbound				
4:45 PM to 5:45 PM	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	50		0	0	0	0		0	2	0	3		0	0	0	0	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 2
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	North Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

	North Driveway Northbound				Small Parking Lot Driveway Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	32	4	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	31	2	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0
7:45 AM	0	0	0	1	0	0	0	0	0	0	22	1	0	0	0	0
8:00 AM	0	0	0	1	0	0	0	0	0	0	16	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	17	2	0	0	0	0
8:30 AM	0	0	1	1	0	0	0	0	0	0	13	2	0	0	0	0
8:45 AM	0	0	0	3	0	0	0	0	0	0	16	0	0	0	0	0

	North Driveway Northbound				Small Parking Lot Driveway Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	21	1	0	0	0	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	22	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	19	2	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	23	1	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	18	2	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	21	1	0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0	0	0	19	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	20	1	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	North Driveway Northbound				Small Parking Lot Driveway Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**113**	**7**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.00**				**0.83**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:00 PM to 5:00 PM	North Driveway Northbound				Small Parking Lot Driveway Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**85**	**5**	**0**	**0**	**0**	**0**
PHF	**0.50**				**0.00**				**0.94**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 2
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	North Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

BOSTON
TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
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www.BostonTrafficData.com

TRUCKS

	North Driveway Northbound				Small Parking Lot Driveway Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	North Driveway Northbound				Small Parking Lot Driveway Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	North Driveway Northbound				Small Parking Lot Driveway Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	North Driveway Northbound				Small Parking Lot Driveway Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.00**				**0.00**			

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 2
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	North Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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PEDESTRIANS & BICYCLES

	North Driveway Northbound					Small Parking Lot Driveway Southbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	4		0	0	0	0		0	0	0	1		0	0	0	0	
7:15 AM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	0	0	
7:30 AM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
7:45 AM	0	0	0	2		0	0	0	1		0	0	0	0		0	0	0	0	
8:00 AM	0	0	0	0		0	0	0	2		0	0	0	0		0	0	0	0	
8:15 AM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
8:30 AM	0	0	0	1		0	0	0	1		0	0	0	0		0	0	0	0	
8:45 AM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	0	0	

	North Driveway Northbound					Small Parking Lot Driveway Southbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	3		0	0	0	1		0	0	0	0		0	0	0	0	
4:15 PM	0	0	0	0		0	0	0	3		0	0	0	0		0	0	0	0	
4:30 PM	0	0	0	3		0	0	0	1		0	0	0	0		0	0	0	0	
4:45 PM	0	0	0	1		0	0	0	2		0	0	0	1		0	0	0	0	
5:00 PM	0	0	0	1		0	0	0	1		0	0	0	0		0	0	0	1	
5:15 PM	0	0	0	5		0	0	0	2		0	0	0	0		0	0	0	0	
5:30 PM	0	0	0	4		0	0	0	1		0	0	0	0		0	0	0	0	
5:45 PM	0	0	0	2		0	0	0	1		0	0	0	0		0	0	0	0	

AM PEAK HOUR[1]	North Driveway Northbound					Small Parking Lot Driveway Southbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
7:00 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:00 AM	0	0	0	7		0	0	0	2		0	0	0	1		0	0	0	0	

PM PEAK HOUR[1]	North Driveway Northbound					Small Parking Lot Driveway Southbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
4:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
5:00 PM	0	0	0	7		0	0	0	7		0	0	0	1		0	0	0	0	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 3
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	South Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TOTAL (CARS & TRUCKS)

	South Driveway Northbound				Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	30	1	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0
7:45 AM	0	0	0	1	0	0	0	0	0	0	23	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0
8:15 AM	0	0	0	1	0	0	0	0	0	0	16	1	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0

	South Driveway Northbound				Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	1	0	0	0	0	0	0	21	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	18	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	23	1	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	21	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	19	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	South Driveway Northbound				Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**113**	**1**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.00**				**0.89**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:00 PM to 5:00 PM	South Driveway Northbound				Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**85**	**2**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.00**				**0.91**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 3
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	South Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TRUCKS

	South Driveway Northbound				Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	South Driveway Northbound				Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	South Driveway Northbound				Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	South Driveway Northbound				Southbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.00**				**0.00**			

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 3
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	South Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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PEDESTRIANS & BICYCLES

	South Driveway Northbound					Southbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	4		0	0	0	0		0	0	0	0		0	0	0	0	
7:15 AM	0	0	0	2		0	0	0	0		0	0	0	0		0	0	0	0	
7:30 AM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
7:45 AM	0	0	0	3		0	0	0	0		0	0	0	0		0	0	0	0	
8:00 AM	0	0	0	2		0	0	0	0		0	0	0	0		0	0	0	0	
8:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
8:30 AM	0	0	0	1		0	0	0	0		0	0	0	1		0	0	0	0	
8:45 AM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	

	South Driveway Northbound					Southbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	6		0	0	0	0		0	0	0	0		0	0	0	0	
4:15 PM	0	0	0	3		0	0	0	0		0	0	0	0		0	0	0	0	
4:30 PM	0	0	0	2		0	0	0	0		0	0	0	0		0	0	0	0	
4:45 PM	0	0	0	2		0	0	0	0		0	0	0	0		0	0	0	0	
5:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
5:15 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
5:30 PM	0	0	0	2		0	0	0	0		0	0	0	0		0	0	0	0	
5:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

AM PEAK HOUR[1]	South Driveway Northbound					Southbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
7:00 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:00 AM	0	0	0	10		0	0	0	0		0	0	0	0		0	0	0	0	

PM PEAK HOUR[1]	South Driveway Northbound					Southbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
4:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
5:00 PM	0	0	0	13		0	0	0	0		0	0	0	0		0	0	0	0	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 4
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	Egremont Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TOTAL (CARS & TRUCKS)

	Egremont Road Northeastbound				Egremont Road Southwestbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	8	2	0	0	0	27	5	0	0	0	0
7:15 AM	0	0	0	0	0	13	2	0	0	0	26	4	0	0	0	0
7:30 AM	0	0	0	0	0	18	1	0	0	0	23	5	0	0	0	0
7:45 AM	0	0	0	0	0	16	3	0	0	0	20	4	0	0	0	0
8:00 AM	0	0	0	0	0	13	2	0	0	0	14	3	0	0	0	0
8:15 AM	0	0	0	0	0	11	5	0	0	0	15	2	0	0	0	0
8:30 AM	0	0	0	0	0	9	7	0	0	0	12	2	0	0	0	0
8:45 AM	0	0	0	0	0	8	6	0	0	0	16	3	0	0	0	0

	Egremont Road Northeastbound				Egremont Road Southwestbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	16	2	0	0	0	21	1	0	0	0	0
4:15 PM	0	0	0	0	0	13	4	0	0	0	20	3	0	0	0	0
4:30 PM	0	0	0	0	0	10	5	0	0	0	15	4	0	0	0	0
4:45 PM	0	0	0	0	0	15	7	0	0	0	18	5	0	0	0	0
5:00 PM	0	0	0	0	0	19	6	0	0	0	14	6	0	0	0	0
5:15 PM	0	0	0	0	0	21	5	0	0	0	17	5	0	0	0	0
5:30 PM	0	0	0	0	0	23	5	0	0	0	15	4	0	0	0	0
5:45 PM	0	0	0	0	0	20	6	0	0	0	16	4	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Egremont Road Northeastbound				Egremont Road Southwestbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**55**	**8**	**0**	**0**	**0**	**96**	**18**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.83**				**0.89**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Egremont Road Northeastbound				Egremont Road Southwestbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**83**	**22**	**0**	**0**	**0**	**62**	**19**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.94**				**0.92**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 4
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	Egremont Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TRUCKS

	Egremont Road Northeastbound				Egremont Road Southwestbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Egremont Road Northeastbound				Egremont Road Southwestbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Egremont Road Northeastbound				Egremont Road Southwestbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.25**				**0.00**				**0.00**			

PM PEAK HOUR 4:15 PM to 5:15 PM	Egremont Road Northeastbound				Egremont Road Southwestbound				Mount Hood Road Eastbound				Mount Hood Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.75**				**0.00**				**0.00**			

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 4
Location:	Brighton, MA
Street 1:	Mount Hood Road
Street 2:	Egremont Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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PEDESTRIANS & BICYCLES

	Egremont Road Northeastbound					Egremont Road Southwestbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	0		0	0	0	1		0	0	0	1		0	0	0	1	
7:15 AM	0	0	0	1		0	0	0	2		0	0	0	1		0	0	0	5	
7:30 AM	0	0	0	1		0	0	0	1		0	0	0	2		0	0	0	3	
7:45 AM	0	0	0	4		0	0	0	5		0	0	0	4		0	0	0	8	
8:00 AM	0	0	0	3		0	0	0	3		0	0	0	5		0	0	0	4	
8:15 AM	0	0	0	2		0	0	0	4		0	0	0	3		0	0	0	3	
8:30 AM	0	0	0	1		0	0	0	3		0	0	0	4		0	0	0	2	
8:45 AM	0	0	0	2		0	0	0	4		0	0	0	4		0	0	0	3	

	Egremont Road Northeastbound					Egremont Road Southwestbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	4		0	0	0	2		0	0	0	4		0	0	0	4	
4:15 PM	0	0	0	1		0	0	0	2		0	0	0	3		0	0	0	2	
4:30 PM	0	0	0	2		0	0	0	1		0	0	0	2		0	0	0	3	
4:45 PM	0	0	0	2		0	0	0	3		0	0	0	4		0	0	0	2	
5:00 PM	0	0	0	3		0	0	0	2		0	0	0	3		0	0	0	3	
5:15 PM	0	0	0	2		0	0	0	4		0	0	0	5		0	0	0	2	
5:30 PM	0	0	0	4		0	0	0	3		0	0	0	3		0	0	0	2	
5:45 PM	0	0	0	2		0	0	0	2		0	0	0	2		0	0	0	3	

AM PEAK HOUR[1]	Egremont Road Northeastbound					Egremont Road Southwestbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
7:00 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
8:00 AM	0	0	0	6		0	0	0	9		0	0	0	8		0	0	0	17	

PM PEAK HOUR[1]	Egremont Road Northeastbound					Egremont Road Southwestbound					Mount Hood Road Eastbound					Mount Hood Road Westbound				
5:00 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6:00 PM	0	0	0	11		0	0	0	11		0	0	0	13		0	0	0	10	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 5
Location:	Brighton, MA
Street 1:	Egremont Road
Street 2:	Existing Site Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TOTAL (CARS & TRUCKS)

	Egremont Road Northeastbound				Egremont Road Southwestbound				Existing Site Driveway at Egremont Road Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	6	0	0	0	0	1	0	0	0	0
7:30 AM	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	7	0	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	5	0	0	0	0	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	7	2	0	0	0	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	7	2	0	0	0	0	0	0	0	0

	Egremont Road Northeastbound				Egremont Road Southwestbound				Existing Site Driveway at Egremont Road Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	8	1	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	12	0	0	0	0	1	0	0	0	0
5:00 PM	0	0	0	0	0	0	11	1	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Egremont Road Northeastbound				Egremont Road Southwestbound				Existing Site Driveway at Egremont Road Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**25**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.83**				**0.50**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:30 PM to 5:30 PM	Egremont Road Northeastbound				Egremont Road Southwestbound				Existing Site Driveway at Egremont Road Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**41**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.90**				**0.75**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 5
Location:	Brighton, MA
Street 1:	Egremont Road
Street 2:	Existing Site Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TRUCKS

	Egremont Road Northeastbound				Egremont Road Southwestbound				Existing Site Driveway at Egremont Road Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Egremont Road Northeastbound				Egremont Road Southwestbound				Existing Site Driveway at Egremont Road Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Egremont Road Northeastbound				Egremont Road Southwestbound				Existing Site Driveway at Egremont Road Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Egremont Road Northeastbound				Egremont Road Southwestbound				Existing Site Driveway at Egremont Road Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.25**				**0.00**				**0.00**			

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 5
Location:	Brighton, MA
Street 1:	Egremont Road
Street 2:	Existing Site Driveway
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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PEDESTRIANS & BICYCLES

	Egremont Road Northeastbound					Egremont Road Southwestbound					Existing Site Driveway at Egremont Road Eastbound					Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	0		0	0	0	1		0	0	0	1		0	0	0	0	
7:15 AM	0	0	0	0		0	0	0	0		0	0	0	1		0	0	0	0	
7:30 AM	0	0	0	1		0	0	0	0		0	0	0	2		0	0	0	0	
7:45 AM	0	0	0	0		0	0	0	0		0	0	0	5		0	0	0	0	
8:00 AM	0	0	0	1		0	0	0	0		0	0	0	4		0	0	0	0	
8:15 AM	0	0	0	0		0	0	0	0		0	0	0	2		0	0	0	0	
8:30 AM	0	0	0	0		0	0	0	0		0	0	0	3		0	0	0	0	
8:45 AM	0	0	0	0		0	0	0	0		0	0	0	3		0	0	0	0	

	Egremont Road Northeastbound					Egremont Road Southwestbound					Existing Site Driveway at Egremont Road Eastbound					Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	0		0	0	0	0		0	0	0	3		0	0	0	0	
4:15 PM	0	0	0	0		0	0	0	0		0	0	0	2		0	0	0	0	
4:30 PM	0	0	0	1		0	0	0	0		0	0	0	3		0	0	0	0	
4:45 PM	0	0	0	0		0	0	0	0		0	0	0	2		0	0	0	0	
5:00 PM	0	0	0	0		0	0	0	1		0	0	0	5		0	0	0	0	
5:15 PM	0	0	0	0		0	0	0	0		0	0	0	2		0	0	0	0	
5:30 PM	0	0	0	0		0	0	0	2		0	0	0	3		0	0	0	0	
5:45 PM	0	0	0	0		0	0	0	0		0	0	0	2		0	0	0	0	

AM PEAK HOUR[1] 8:00 AM to 9:00 AM	Egremont Road Northeastbound					Egremont Road Southwestbound					Existing Site Driveway at Egremont Road Eastbound					Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	1		0	0	0	0		0	0	0	12		0	0	0	0	

PM PEAK HOUR[1] 4:30 PM to 5:30 PM	Egremont Road Northeastbound					Egremont Road Southwestbound					Existing Site Driveway at Egremont Road Eastbound					Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	1		0	0	0	1		0	0	0	12		0	0	0	0	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 6
Location:	Brighton, MA
Street 1:	Egremont Road
Street 2:	Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TOTAL (CARS & TRUCKS)

	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Egremont Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	9
7:15 AM	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	8
7:30 AM	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	9
7:45 AM	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	10
8:00 AM	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	11
8:15 AM	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	9
8:30 AM	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	10
8:45 AM	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	9

	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Egremont Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	4
4:15 PM	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	7
4:30 PM	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	9
4:45 PM	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	10
5:00 PM	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	9
5:15 PM	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	7
5:30 PM	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	4
5:45 PM	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	5

AM PEAK HOUR 8:00 AM to 9:00 AM	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Egremont Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**128**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**39**
PHF			**0.86**				**0.00**				**0.00**				**0.89**	
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:15 PM to 5:15 PM	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Egremont Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**60**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**35**
PHF			**0.88**				**0.00**				**0.00**				**0.88**	
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.9%**

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 6
Location:	Brighton, MA
Street 1:	Egremont Road
Street 2:	Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TRUCKS

	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Egremont Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Egremont Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Egremont Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Egremont Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
PHF	**0.00**				**0.00**				**0.00**				**0.25**			

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 6
Location:	Brighton, MA
Street 1:	Egremont Road
Street 2:	Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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PEDESTRIANS & BICYCLES

	Cummings Road Northbound					Cummings Road Southbound					Eastbound					Egremont Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	0		0	0	0	2		0	0	0	0		0	0	0	2	
7:15 AM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	0	3	
7:30 AM	0	0	0	0		0	0	0	2		0	0	0	0		0	0	0	4	
7:45 AM	0	0	0	0		0	0	0	2		0	0	0	0		0	0	0	3	
8:00 AM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	0	3	
8:15 AM	0	0	0	1		0	0	0	3		0	0	0	0		0	0	0	5	
8:30 AM	0	0	0	1		0	0	0	2		0	0	0	0		0	0	0	3	
8:45 AM	0	0	0	0		0	0	0	2		0	0	0	0		0	0	0	4	

	Cummings Road Northbound					Cummings Road Southbound					Eastbound					Egremont Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	5	
4:15 PM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	0	4	
4:30 PM	0	0	0	2		0	0	0	1		0	0	0	0		0	0	0	5	
4:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	4	
5:00 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	3	
5:15 PM	0	0	0	0		0	0	0	2		0	0	0	0		0	0	0	5	
5:30 PM	0	0	0	2		0	0	0	1		0	0	0	0		0	0	0	4	
5:45 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	4	

AM PEAK HOUR[1]	Cummings Road Northbound					Cummings Road Southbound					Eastbound					Egremont Road Westbound				
8:00 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
9:00 AM	0	0	0	2		0	0	0	8		0	0	0	0		0	0	0	15	

PM PEAK HOUR[1]	Cummings Road Northbound					Cummings Road Southbound					Eastbound					Egremont Road Westbound				
4:15 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
5:15 PM	0	0	0	3		0	0	0	2		0	0	0	0		0	0	0	16	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 7
Location:	Brighton, MA
Street 1:	Cummings Road
Street 2:	Driveway at Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TOTAL (CARS & TRUCKS)

	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Driveway at Cummings Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	43	1	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	40	1	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	1

	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Driveway at Cummings Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	25	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	20	1	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Driveway at Cummings Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**165**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
PHF	**0.90**				**0.00**				**0.00**				**0.75**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:15 PM to 5:15 PM	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Driveway at Cummings Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**93**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
PHF	**0.90**				**0.00**				**0.00**				**0.25**			
HV %	**0.0%**	**0.0%**	**1.1%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 7
Location:	Brighton, MA
Street 1:	Cummings Road
Street 2:	Driveway at Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TRUCKS

	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Driveway at Cummings Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Driveway at Cummings Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Driveway at Cummings Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Cummings Road Northbound				Cummings Road Southbound				Eastbound				Driveway at Cummings Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.00**				**0.00**				**0.00**			

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 7
Location:	Brighton, MA
Street 1:	Cummings Road
Street 2:	Driveway at Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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PEDESTRIANS & BICYCLES

	Cummings Road Northbound					Cummings Road Southbound					Eastbound					Driveway at Cummings Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
7:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	
7:30 AM	0	0	0	2		0	0	0	0		0	0	0	0		0	0	0	4	
7:45 AM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	0	3	
8:00 AM	0	0	0	3		0	0	0	0		0	0	0	0		0	0	0	2	
8:15 AM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	0	0	
8:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	
8:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	

	Cummings Road Northbound					Cummings Road Southbound					Eastbound					Driveway at Cummings Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	2		0	0	0	0		0	0	0	0		0	0	0	3	
4:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
4:30 PM	0	0	0	2		0	0	0	1		0	0	0	0		0	0	0	2	
4:45 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	5	
5:00 PM	0	0	0	2		0	0	0	1		0	0	0	0		0	0	0	4	
5:15 PM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	0	4	
5:30 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	6	
5:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	5	

AM PEAK HOUR[1]	Cummings Road Northbound					Cummings Road Southbound					Eastbound					Driveway at Cummings Road Westbound				
8:00 AM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
9:00 AM	0	0	0	3		0	0	0	1		0	0	0	0		0	0	0	5	

PM PEAK HOUR[1]	Cummings Road Northbound					Cummings Road Southbound					Eastbound					Driveway at Cummings Road Westbound				
4:15 PM																				
to	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
5:15 PM	0	0	0	5		0	0	0	2		0	0	0	0		0	0	0	12	

[1] *Peak hours corresponds to vehicular peak hours.*

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 8
Location:	Brighton, MA
Street 1:	Commonwealth Avenue Eastbound
Street 2:	Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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TOTAL (CARS & TRUCKS)

	Cummings Road Northbound				Southbound				Commonwealth Avenue Eastbound Eastbound				Commonwealth Avenue Eastbound Carriage Road Eastbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	20	0	0	0	0	0	0	124	0	0	0	10	0
7:15 AM	0	0	0	31	0	0	0	0	0	0	148	0	0	0	8	0
7:30 AM	0	0	0	43	0	0	0	0	0	0	162	0	0	0	6	0
7:45 AM	0	0	0	41	0	0	0	0	0	0	187	0	0	0	5	0
8:00 AM	0	0	0	37	0	0	0	0	0	0	206	0	0	0	3	0
8:15 AM	0	0	0	40	0	0	0	0	0	0	195	0	0	0	10	0
8:30 AM	0	0	0	47	0	0	0	0	0	0	165	0	0	0	17	0
8:45 AM	0	0	0	43	0	0	0	0	0	0	166	0	0	0	14	0

	Cummings Road Northbound				Southbound				Commonwealth Avenue Eastbound Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	17	0	0	0	0	0	0	106	0	0	0	4	0
4:15 PM	0	0	0	22	0	0	0	0	0	0	109	0	0	0	6	0
4:30 PM	0	0	0	24	0	0	0	0	0	0	109	0	0	0	8	0
4:45 PM	0	0	0	25	0	0	0	0	0	0	114	0	0	0	9	0
5:00 PM	0	0	0	22	0	0	0	0	0	0	116	0	0	0	10	0
5:15 PM	0	0	0	20	0	0	0	0	0	0	115	0	0	0	13	0
5:30 PM	0	0	0	18	0	0	0	0	0	0	110	0	0	0	15	0
5:45 PM	0	0	0	16	0	0	0	0	0	0	109	0	0	0	13	0

AM PEAK HOUR 7:45 AM to 8:45 AM	Cummings Road Northbound				Southbound				Commonwealth Avenue Eastbound Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**165**	**0**	**0**	**0**	**0**	**0**	**0**	**753**	**0**	**0**	**0**	**35**	**0**
PHF	**0.88**				**0.00**				**0.91**				**0.51**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:45 PM to 5:45 PM	Cummings Road Northbound				Southbound				Commonwealth Avenue Eastbound Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**85**	**0**	**0**	**0**	**0**	**0**	**0**	**455**	**0**	**0**	**0**	**47**	**0**
PHF	**0.85**				**0.00**				**0.98**				**0.78**			
HV %	**0.0%**	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 8
Location:	Brighton, MA
Street 1:	Commonwealth Avenue Eastbound
Street 2:	Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

BOSTON TRAFFIC DATA
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Office: 978-746-1259
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TRUCKS

	Cummings Road Northbound				Southbound				Commonwealth Avenue Eastbound Eastbound				Commonwealth Avenue Eastbound Carriage Road Eastbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

	Cummings Road Northbound				Southbound				Commonwealth Avenue Eastbound Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Cummings Road Northbound				Southbound				Commonwealth Avenue Eastbound Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.63**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Cummings Road Northbound				Southbound				Commonwealth Avenue Eastbound Eastbound				Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.00**				**0.25**				**0.00**			

Client:	Michael Littman
Project #:	125_042_HSH_Brighton
BTD #:	Location 8
Location:	Brighton, MA
Street 1:	Commonwealth Avenue Eastbound
Street 2:	Cummings Road
Count Date:	10/24/2017
Day of Week:	Tuesday
Weather:	Cloudy w/ Occasional Rain, 70°F

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PEDESTRIANS & BICYCLES

	Cummings Road Northbound					Southbound					Commonwealth Avenue Eastbound Eastbound					Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	3		0	0	0	0		0	0	0	0		0	0	0	0	
7:15 AM	0	0	0	6		0	0	0	0		0	1	0	0		0	0	0	0	
7:30 AM	0	0	0	9		0	0	0	0		0	0	0	0		0	0	0	0	
7:45 AM	0	0	0	8		0	0	0	0		0	1	0	0		0	0	0	0	
8:00 AM	0	0	0	10		0	0	0	0		0	2	0	0		0	0	0	0	
8:15 AM	0	0	0	8		0	0	0	0		0	1	0	0		0	0	0	0	
8:30 AM	0	0	0	7		0	0	0	0		0	0	0	0		0	0	0	0	
8:45 AM	0	0	0	9		0	0	0	0		0	1	0	0		0	0	0	0	

	Cummings Road Northbound					Southbound					Commonwealth Avenue Eastbound Eastbound					Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	13		0	0	0	0		0	2	0	0		0	0	0	0	
4:15 PM	0	0	0	11		0	0	0	0		0	1	0	0		0	0	0	0	
4:30 PM	0	0	0	12		0	0	0	0		0	0	0	0		0	0	0	0	
4:45 PM	0	0	0	10		0	0	0	0		0	1	0	0		0	0	0	0	
5:00 PM	0	0	0	13		0	0	0	0		0	1	0	0		0	0	0	0	
5:15 PM	0	0	0	11		0	0	0	0		0	0	0	0		0	0	0	0	
5:30 PM	0	0	0	9		0	0	0	0		0	1	0	0		0	0	0	0	
5:45 PM	0	0	0	10		0	0	0	0		0	0	0	0		0	0	0	0	

AM PEAK HOUR[1]	Cummings Road Northbound					Southbound					Commonwealth Avenue Eastbound Eastbound					Westbound				
7:45 AM to 8:45 AM	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	33		0	0	0	0		0	4	0	0		0	0	0	0	

PM PEAK HOUR[1]	Cummings Road Northbound					Southbound					Commonwealth Avenue Eastbound Eastbound					Westbound				
4:45 PM to 5:45 PM	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	43		0	0	0	0		0	3	0	0		0	0	0	0	

[1] *Peak hours corresponds to vehicular peak hours.*

MASSACHUSETTS HIGHWAY DEPARTMENT - STATEWIDE TRAFFIC DATA COLLECTION

2011 WEEKDAY SEASONAL FACTORS *

* Note: These are weekday factors. The average of the factors for the year will not equal 1, as weekend data are not considered.

FACTOR GROUP	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
GROUP 1 - WEST INTERSTATE	0.98	0.93	0.90	0.89	0.90	0.88	0.91	0.90	0.89	0.89	0.93	0.95
Use group 2 for R5, R6, & R0 GROUP 2 - **RURAL MAJOR COLLECTOR (R-5)**	1.12	1.12	1.07	0.99	0.91	0.90	0.86	0.86	0.92	0.93	1.01	1.05
GROUP 3A - RECREATIONAL **(1-4) See below	1.26	1.25	1.20	1.06	0.96	0.89	0.76	0.76	0.92	0.99	1.08	1.14
GROUP 3B - RECREATIONAL ***(5) See below	1.22	1.26	1.22	1.06	0.96	0.90	0.72	0.74	0.97	1.02	1.14	1.15
GROUP 4 - I-495 INTERSTATE	1.02	1.00	1.00	0.96	0.92	0.89	0.85	0.83	0.93	0.96	1.01	1.03
GROUP 5 - EAST INTERSTATE	1.04	1.00	0.96	0.93	0.92	0.91	0.91	0.89	0.93	0.93	0.96	1.01
GROUP 6: Use group 6 for U2, U3, U5, U6, U0, R2, & R3 **URBAN ARTERIALS, COLLECTORS & RURAL ARTERIALS (R-2, R-3)**	1.03	1.01	0.96	0.92	0.91	0.90	0.92	0.92	0.93	0.92	0.97	0.97
GROUP 7 - I-84 PROXIMITY (STA. 17, 3921)	1.24	1.24	1.15	1.04	0.99	1.00	0.93	0.89	1.05	1.05	1.05	1.12
GROUP 8 - I-295 PROXIMITY (STA. 6590)	1.00	0.99	0.95	0.92	0.94	0.91	0.93	0.92	0.95	0.94	0.97	0.95
GROUP 9 - I-195 PROXIMITY (STA. 7)	1.13	1.05	1.03	0.95	0.89	0.87	0.86	0.79	0.88	0.91	0.99	1.03

RECREATIONAL: (ALL YEARS)

**GROUP 3A:

1. CAPE COD (ALL TOWNS)

2.PLYMOUTH(SOUTH OF RTE.3A)

7014, 7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108,7178

3.MARTHA'S VINEYARD

4.NANTUCKET

***GROUP 3B:

5.PERMANENTS 2 & 189

1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,

1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,

1105,1106,1107,1108,1113,1114,1116,2196,2197,2198

2011 AXLE CORRECTION FACTORS

ROAD INVENTORY FUNCTIONAL CLASSIFICATION	AXLE CORRECTION FACTOR
RURAL	
1	0.95
2	0.97
3	0.98
0,5,6	0.98
URBAN	
1	0.96
2,3	0.98
5	0.98
0,6	0.99
I-84	0.90

ROUND OFF

0 - 999.....10

> 1,000.....100

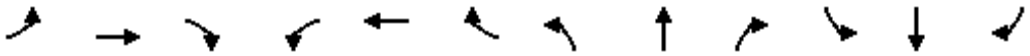
Apply I-84 factor to stations:

3290, 3921, 3929

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	844	155	0	0	0	0
Future Volume (Veh/h)	844	155	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	870	160	0	0	0	0
Pedestrians	5					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1030		955	515
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1030		955	515
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			682		259	510

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	580	450	0
Volume Left	0	0	0
Volume Right	0	160	0
cSH	1700	1700	1700
Volume to Capacity	0.34	0.26	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

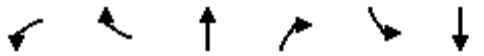
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	55	12	0	0	0	0	0	96	18
Future Volume (Veh/h)	0	0	0	55	12	0	0	0	0	0	96	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.92	0.92	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	66	14	0	0	0	0	0	108	20
Pedestrians		6			9			17			8	
Lane Width (ft)		0.0			12.0			0.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	22			17			243	171	26	163	171	28
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	22			17			243	171	26	163	171	28
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			100	100	100	100	84	98
cM capacity (veh/h)	1594			1613			595	691	1047	764	691	1045

Direction, Lane #	WB 1	SB 1
Volume Total	80	128
Volume Left	66	0
Volume Right	0	20
cSH	1613	729
Volume to Capacity	0.04	0.18
Queue Length 95th (ft)	3	16
Control Delay (s)	6.1	11.0
Lane LOS	A	B
Approach Delay (s)	6.1	11.0
Approach LOS		B

Intersection Summary				
Average Delay	9.1			
Intersection Capacity Utilization	25.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	39	127	0	0	0
Future Volume (Veh/h)	0	39	127	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	44	148	0	0	0
Pedestrians	15		2			8
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	165	171			163	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	165	171			163	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	817	865			1408	

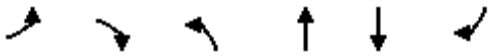
Direction, Lane #	WB 1	NB 1
Volume Total	44	148
Volume Left	0	0
Volume Right	44	0
cSH	865	1700
Volume to Capacity	0.05	0.09
Queue Length 95th (ft)	4	0
Control Delay (s)	9.4	0.0
Lane LOS	A	
Approach Delay (s)	9.4	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	35	0	0	0	0	168
Future Volume (Veh/h)	35	0	0	0	0	168
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.51	0.51	0.92	0.92	0.88	0.88
Hourly flow rate (vph)	69	0	0	0	0	191
Pedestrians					33	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					3	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			102		102	102
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			102		102	102
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	79
cM capacity (veh/h)			1456		873	928

Direction, Lane #	EB 1	NB 1
Volume Total	69	191
Volume Left	0	0
Volume Right	0	191
cSH	1700	928
Volume to Capacity	0.04	0.21
Queue Length 95th (ft)	0	19
Control Delay (s)	0.0	9.9
Lane LOS		A
Approach Delay (s)	0.0	9.9
Approach LOS		A

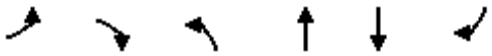
Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1	0	0	113	7
Future Volume (Veh/h)	0	1	0	0	113	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.92	0.92	0.83	0.83
Hourly flow rate (vph)	0	4	0	0	136	8
Pedestrians	7				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	3.5				3.5	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	148	147	151			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	148	147	151			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	842	899	1433			

Direction, Lane #	EB 1	SB 1
Volume Total	4	144
Volume Left	0	0
Volume Right	4	8
cSH	899	1700
Volume to Capacity	0.00	0.08
Queue Length 95th (ft)	0	0
Control Delay (s)	9.0	0.0
Lane LOS	A	
Approach Delay (s)	9.0	0.0
Approach LOS	A	

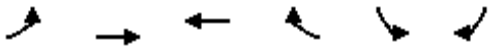
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1	0	0	113	1
Future Volume (Veh/h)	0	1	0	0	113	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	0	4	0	0	127	1
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	138	138	138			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	138	138	138			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	852	908	1444			

Direction, Lane #	EB 1	SB 1
Volume Total	4	128
Volume Left	0	0
Volume Right	4	1
cSH	908	1700
Volume to Capacity	0.00	0.08
Queue Length 95th (ft)	0	0
Control Delay (s)	9.0	0.0
Lane LOS	A	
Approach Delay (s)	9.0	0.0
Approach LOS	A	

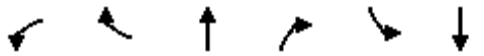
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	18.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	25	5	0	2
Future Volume (Veh/h)	0	0	25	5	0	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.83	0.83	0.50	0.50
Hourly flow rate (vph)	0	0	30	6	0	4
Pedestrians		1			12	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	48				45	46
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48				45	46
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1554				959	1017

Direction, Lane #	WB 1	SB 1
Volume Total	36	4
Volume Left	0	0
Volume Right	6	4
cSH	1700	1017
Volume to Capacity	0.02	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	8.6
Lane LOS		A
Approach Delay (s)	0.0	8.6
Approach LOS		A

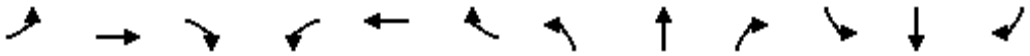
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	3	165	1	0	0
Future Volume (Veh/h)	0	3	165	1	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	4	183	1	0	0
Pedestrians	5		3			1
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	192	190			189	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192	190			189	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	796	853			1390	

Direction, Lane #	WB 1	NB 1
Volume Total	4	184
Volume Left	0	0
Volume Right	4	1
cSH	853	1700
Volume to Capacity	0.00	0.11
Queue Length 95th (ft)	0	0
Control Delay (s)	9.2	0.0
Lane LOS	A	
Approach Delay (s)	9.2	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	19.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	35	120	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	35	120	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	40	136	0
Pedestrians		5						35				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	221	221	176	251	221	0	141			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	221	221	176	251	221	0	141			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			98		
cM capacity (veh/h)	719	661	868	691	661	1091	1448			1636		

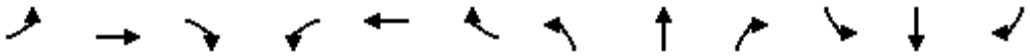
Direction, Lane #	EB 1	SB 1
Volume Total	0	176
Volume Left	0	40
Volume Right	0	0
cSH	1700	1636
Volume to Capacity	0.00	0.02
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	1.8
Lane LOS	A	A
Approach Delay (s)	0.0	1.8
Approach LOS	A	

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	25.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	471	122	0	0	0	0
Future Volume (Veh/h)	471	122	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.99	0.99	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	476	123	0	0	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			599		540	300
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			599		540	300
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			988		475	703

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	317	282	0
Volume Left	0	0	0
Volume Right	0	123	0
cSH	1700	1700	1700
Volume to Capacity	0.19	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

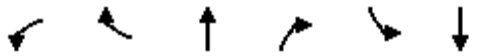
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	83	24	0	0	0	0	0	67	19
Future Volume (Veh/h)	0	0	0	83	24	0	0	0	0	0	67	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	88	26	0	0	0	0	0	73	21
Pedestrians		11			11			10			13	
Lane Width (ft)		0.0			12.0			0.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	39			10			280	225	21	226	225	50
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	39			10			280	225	21	226	225	50
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			100	100	100	100	88	98
cM capacity (veh/h)	1564			1616			573	633	1051	681	633	1011

Direction, Lane #	WB 1	SB 1
Volume Total	114	94
Volume Left	88	0
Volume Right	0	21
cSH	1616	691
Volume to Capacity	0.05	0.14
Queue Length 95th (ft)	4	12
Control Delay (s)	5.8	11.0
Lane LOS	A	B
Approach Delay (s)	5.8	11.0
Approach LOS		B

Intersection Summary				
Average Delay	8.1			
Intersection Capacity Utilization	27.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	35	59	0	0	0
Future Volume (Veh/h)	0	35	59	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	40	67	0	0	0
Pedestrians	16		3			2
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	2		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	86	85			83	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	86	85			83	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	904	956			1504	

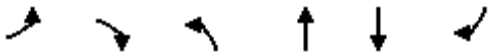
Direction, Lane #	WB 1	NB 1
Volume Total	40	67
Volume Left	0	0
Volume Right	40	0
cSH	956	1700
Volume to Capacity	0.04	0.04
Queue Length 95th (ft)	3	0
Control Delay (s)	8.9	0.0
Lane LOS	A	
Approach Delay (s)	8.9	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	47	0	0	0	0	94
Future Volume (Veh/h)	47	0	0	0	0	94
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.92	0.92	0.85	0.85
Hourly flow rate (vph)	60	0	0	0	0	111
Pedestrians					43	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					4	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			103		103	103
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			103		103	103
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	88
cM capacity (veh/h)			1440		863	916

Direction, Lane #	EB 1	NB 1
Volume Total	60	111
Volume Left	0	0
Volume Right	0	111
cSH	1700	916
Volume to Capacity	0.04	0.12
Queue Length 95th (ft)	0	10
Control Delay (s)	0.0	9.5
Lane LOS		A
Approach Delay (s)	0.0	9.5
Approach LOS		A

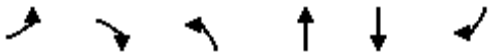
Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2	0	0	85	5
Future Volume (Veh/h)	0	2	0	0	85	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.92	0.92	0.94	0.94
Hourly flow rate (vph)	0	4	0	0	90	5
Pedestrians	7				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	3.5				3.5	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100	100	102			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100	100	102			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	896	955	1493			

Direction, Lane #	EB 1	SB 1
Volume Total	4	95
Volume Left	0	0
Volume Right	4	5
cSH	955	1700
Volume to Capacity	0.00	0.06
Queue Length 95th (ft)	0	0
Control Delay (s)	8.8	0.0
Lane LOS	A	
Approach Delay (s)	8.8	0.0
Approach LOS	A	

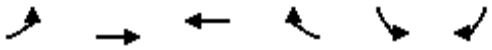
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1	0	0	85	2
Future Volume (Veh/h)	0	1	0	0	85	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.92	0.92	0.91	0.91
Hourly flow rate (vph)	0	4	0	0	93	2
Pedestrians	13					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	107	107	108			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	107	107	108			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	884	941	1477			

Direction, Lane #	EB 1	SB 1
Volume Total	4	95
Volume Left	0	0
Volume Right	4	2
cSH	941	1700
Volume to Capacity	0.00	0.06
Queue Length 95th (ft)	0	0
Control Delay (s)	8.8	0.0
Lane LOS	A	
Approach Delay (s)	8.8	0.0
Approach LOS	A	

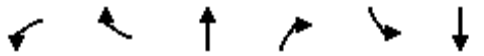
Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	17.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	41	2	0	3
Future Volume (Veh/h)	0	0	41	2	0	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.75	0.75
Hourly flow rate (vph)	0	0	46	2	0	4
Pedestrians		1	1		12	
Lane Width (ft)		0.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	60				60	60
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60				60	60
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1539				940	1000

Direction, Lane #	WB 1	SB 1
Volume Total	48	4
Volume Left	0	0
Volume Right	2	4
cSH	1700	1000
Volume to Capacity	0.03	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	8.6
Lane LOS		A
Approach Delay (s)	0.0	8.6
Approach LOS		A

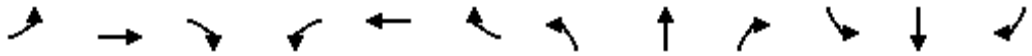
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	93	1	0	0
Future Volume (Veh/h)	0	1	93	1	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	4	103	1	0	0
Pedestrians	12		5			2
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	120	118			116	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	120	118			116	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	866	929			1468	

Direction, Lane #	WB 1	NB 1
Volume Total	4	104
Volume Left	0	0
Volume Right	4	1
cSH	929	1700
Volume to Capacity	0.00	0.06
Queue Length 95th (ft)	0	0
Control Delay (s)	8.9	0.0
Lane LOS	A	
Approach Delay (s)	8.9	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	32	90	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	32	90	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	34	96	0
Pedestrians		3						50				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	167	167	149	214	167	0	99			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	167	167	149	214	167	0	99			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			98		
cM capacity (veh/h)	785	712	900	734	712	1091	1502			1636		

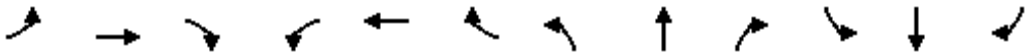
Direction, Lane #	EB 1	SB 1
Volume Total	0	130
Volume Left	0	34
Volume Right	0	0
cSH	1700	1636
Volume to Capacity	0.00	0.02
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	2.0
Lane LOS	A	A
Approach Delay (s)	0.0	2.0
Approach LOS	A	

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	25.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	891	162	0	0	0	0
Future Volume (Veh/h)	891	162	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	919	167	0	0	0	0
Pedestrians	5					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1086		1008	543
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1086		1008	543
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			650		239	489

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	613	473	0
Volume Left	0	0	0
Volume Right	0	167	0
cSH	1700	1700	1700
Volume to Capacity	0.36	0.28	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

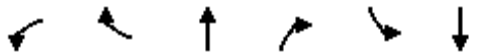
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		33.1%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	57	12	0	0	0	0	0	104	19
Future Volume (Veh/h)	0	0	0	57	12	0	0	0	0	0	104	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.92	0.92	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	69	14	0	0	0	0	0	117	21
Pedestrians		6			9			17			8	
Lane Width (ft)		0.0			12.0			0.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	22			17			254	177	26	169	177	28
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	22			17			254	177	26	169	177	28
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			100	100	100	100	83	98
cM capacity (veh/h)	1594			1613			576	684	1047	756	684	1045

Direction, Lane #	WB 1	SB 1
Volume Total	83	138
Volume Left	69	0
Volume Right	0	21
cSH	1613	722
Volume to Capacity	0.04	0.19
Queue Length 95th (ft)	3	18
Control Delay (s)	6.1	11.2
Lane LOS	A	B
Approach Delay (s)	6.1	11.2
Approach LOS		B

Intersection Summary				
Average Delay	9.3			
Intersection Capacity Utilization	25.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	40	132	0	0	0
Future Volume (Veh/h)	0	40	132	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	45	153	0	0	0
Pedestrians	15		2			8
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	170	176			168	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	170	176			168	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	812	860			1402	

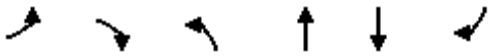
Direction, Lane #	WB 1	NB 1
Volume Total	45	153
Volume Left	0	0
Volume Right	45	0
cSH	860	1700
Volume to Capacity	0.05	0.09
Queue Length 95th (ft)	4	0
Control Delay (s)	9.4	0.0
Lane LOS	A	
Approach Delay (s)	9.4	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	36	0	0	0	0	174
Future Volume (Veh/h)	36	0	0	0	0	174
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.51	0.51	0.92	0.92	0.88	0.88
Hourly flow rate (vph)	71	0	0	0	0	198
Pedestrians					33	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					3	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			104		104	104
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			104		104	104
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	79
cM capacity (veh/h)			1453		871	926

Direction, Lane #	EB 1	NB 1
Volume Total	71	198
Volume Left	0	0
Volume Right	0	198
cSH	1700	926
Volume to Capacity	0.04	0.21
Queue Length 95th (ft)	0	20
Control Delay (s)	0.0	9.9
Lane LOS		A
Approach Delay (s)	0.0	9.9
Approach LOS		A

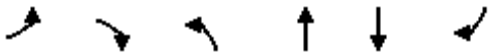
Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1	0	0	122	7
Future Volume (Veh/h)	0	1	0	0	122	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.92	0.92	0.83	0.83
Hourly flow rate (vph)	0	4	0	0	147	8
Pedestrians	7				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	3.5				3.5	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159	158	162			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159	158	162			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	830	887	1420			

Direction, Lane #	EB 1	SB 1
Volume Total	4	155
Volume Left	0	0
Volume Right	4	8
cSH	887	1700
Volume to Capacity	0.00	0.09
Queue Length 95th (ft)	0	0
Control Delay (s)	9.1	0.0
Lane LOS	A	
Approach Delay (s)	9.1	0.0
Approach LOS	A	

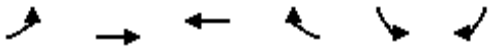
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1	0	0	122	1
Future Volume (Veh/h)	0	1	0	0	122	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	0	4	0	0	137	1
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	148	148	148			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	148	148	148			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	841	896	1432			

Direction, Lane #	EB 1	SB 1
Volume Total	4	138
Volume Left	0	0
Volume Right	4	1
cSH	896	1700
Volume to Capacity	0.00	0.08
Queue Length 95th (ft)	0	0
Control Delay (s)	9.0	0.0
Lane LOS	A	
Approach Delay (s)	9.0	0.0
Approach LOS	A	

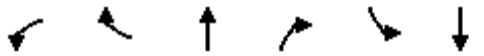
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	18.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	26	5	0	2
Future Volume (Veh/h)	0	0	26	5	0	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.83	0.83	0.50	0.50
Hourly flow rate (vph)	0	0	31	6	0	4
Pedestrians		1			12	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	49				46	47
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	49				46	47
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1553				958	1016

Direction, Lane #	WB 1	SB 1
Volume Total	37	4
Volume Left	0	0
Volume Right	6	4
cSH	1700	1016
Volume to Capacity	0.02	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	8.6
Lane LOS		A
Approach Delay (s)	0.0	8.6
Approach LOS		A

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	3	171	1	0	0
Future Volume (Veh/h)	0	3	171	1	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	4	190	1	0	0
Pedestrians	5		3			1
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	198	196			196	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198	196			196	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	789	846			1382	

Direction, Lane #	WB 1	NB 1
Volume Total	4	191
Volume Left	0	0
Volume Right	4	1
cSH	846	1700
Volume to Capacity	0.00	0.11
Queue Length 95th (ft)	0	0
Control Delay (s)	9.3	0.0
Lane LOS	A	
Approach Delay (s)	9.3	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	20.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	36	126	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	36	126	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	41	143	0
Pedestrians		5						35				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	230	230	183	260	230	0	148			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	230	230	183	260	230	0	148			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			97		
cM capacity (veh/h)	709	653	861	681	653	1091	1439			1636		

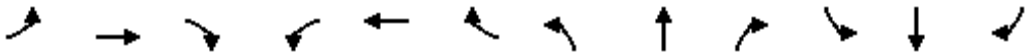
Direction, Lane #	EB 1	SB 1
Volume Total	0	184
Volume Left	0	41
Volume Right	0	0
cSH	1700	1636
Volume to Capacity	0.00	0.03
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	1.8
Lane LOS	A	A
Approach Delay (s)	0.0	1.8
Approach LOS	A	

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	26.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	529	131	0	0	0	0
Future Volume (Veh/h)	529	131	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.99	0.99	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	534	132	0	0	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			666		603	333
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			666		603	333
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			933		434	669

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	356	310	0
Volume Left	0	0	0
Volume Right	0	132	0
cSH	1700	1700	1700
Volume to Capacity	0.21	0.18	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

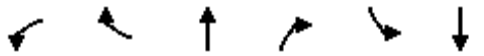
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	86	25	0	0	0	0	0	73	20
Future Volume (Veh/h)	0	0	0	86	25	0	0	0	0	0	73	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	91	27	0	0	0	0	0	79	22
Pedestrians		11			11			10			13	
Lane Width (ft)		0.0			12.0			0.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	40			10			292	232	21	233	232	51
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	40			10			292	232	21	233	232	51
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			94			100	100	100	100	87	98
cM capacity (veh/h)	1563			1616			557	626	1051	673	626	1010

Direction, Lane #	WB 1	SB 1
Volume Total	118	101
Volume Left	91	0
Volume Right	0	22
cSH	1616	682
Volume to Capacity	0.06	0.15
Queue Length 95th (ft)	4	13
Control Delay (s)	5.8	11.2
Lane LOS	A	B
Approach Delay (s)	5.8	11.2
Approach LOS		B

Intersection Summary				
Average Delay	8.3			
Intersection Capacity Utilization	27.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	36	61	0	0	0
Future Volume (Veh/h)	0	36	61	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	41	69	0	0	0
Pedestrians	16		3			2
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	2		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	88	87			85	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	88	87			85	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	901	954			1501	

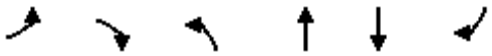
Direction, Lane #	WB 1	NB 1
Volume Total	41	69
Volume Left	0	0
Volume Right	41	0
cSH	954	1700
Volume to Capacity	0.04	0.04
Queue Length 95th (ft)	3	0
Control Delay (s)	8.9	0.0
Lane LOS	A	
Approach Delay (s)	8.9	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	49	0	0	0	0	97
Future Volume (Veh/h)	49	0	0	0	0	97
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.92	0.92	0.85	0.85
Hourly flow rate (vph)	63	0	0	0	0	114
Pedestrians					43	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					4	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			106		106	106
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			106		106	106
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	88
cM capacity (veh/h)			1436		860	912

Direction, Lane #	EB 1	NB 1
Volume Total	63	114
Volume Left	0	0
Volume Right	0	114
cSH	1700	912
Volume to Capacity	0.04	0.12
Queue Length 95th (ft)	0	11
Control Delay (s)	0.0	9.5
Lane LOS		A
Approach Delay (s)	0.0	9.5
Approach LOS		A

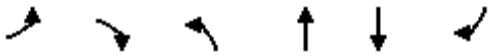
Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	23.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2	0	0	92	5
Future Volume (Veh/h)	0	2	0	0	92	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.92	0.92	0.94	0.94
Hourly flow rate (vph)	0	4	0	0	98	5
Pedestrians	7				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	3.5				3.5	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	108	108	110			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108	108	110			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	887	946	1483			

Direction, Lane #	EB 1	SB 1
Volume Total	4	103
Volume Left	0	0
Volume Right	4	5
cSH	946	1700
Volume to Capacity	0.00	0.06
Queue Length 95th (ft)	0	0
Control Delay (s)	8.8	0.0
Lane LOS	A	
Approach Delay (s)	8.8	0.0
Approach LOS	A	

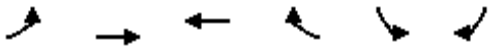
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	16.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1	0	0	92	2
Future Volume (Veh/h)	0	1	0	0	92	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.92	0.92	0.91	0.91
Hourly flow rate (vph)	0	4	0	0	101	2
Pedestrians	13					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	115	115	116			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	115	115	116			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	875	931	1467			

Direction, Lane #	EB 1	SB 1
Volume Total	4	103
Volume Left	0	0
Volume Right	4	2
cSH	931	1700
Volume to Capacity	0.00	0.06
Queue Length 95th (ft)	0	0
Control Delay (s)	8.9	0.0
Lane LOS	A	
Approach Delay (s)	8.9	0.0
Approach LOS	A	

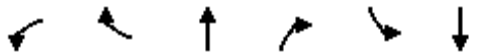
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	42	2	0	3
Future Volume (Veh/h)	0	0	42	2	0	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.75	0.75
Hourly flow rate (vph)	0	0	47	2	0	4
Pedestrians		1	1		12	
Lane Width (ft)		0.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	61				61	61
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	61				61	61
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1537				939	998

Direction, Lane #	WB 1	SB 1
Volume Total	49	4
Volume Left	0	0
Volume Right	2	4
cSH	1700	998
Volume to Capacity	0.03	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	8.6
Lane LOS		A
Approach Delay (s)	0.0	8.6
Approach LOS		A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	96	1	0	0
Future Volume (Veh/h)	0	1	96	1	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	4	107	1	0	0
Pedestrians	12		5			2
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	124	122			120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124	122			120	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	861	924			1463	

Direction, Lane #	WB 1	NB 1
Volume Total	4	108
Volume Left	0	0
Volume Right	4	1
cSH	924	1700
Volume to Capacity	0.00	0.06
Queue Length 95th (ft)	0	0
Control Delay (s)	8.9	0.0
Lane LOS	A	
Approach Delay (s)	8.9	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	18.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	33	98	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	33	98	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	35	104	0
Pedestrians		3						50				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	177	177	157	224	177	0	107			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	177	177	157	224	177	0	107			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			98		
cM capacity (veh/h)	773	703	891	722	703	1091	1492			1636		

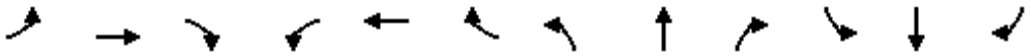
Direction, Lane #	EB 1	SB 1
Volume Total	0	139
Volume Left	0	35
Volume Right	0	0
cSH	1700	1636
Volume to Capacity	0.00	0.02
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	1.9
Lane LOS	A	A
Approach Delay (s)	0.0	1.9
Approach LOS	A	

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	25.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	894	167	0	0	0	0
Future Volume (Veh/h)	894	167	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	922	172	0	0	0	0
Pedestrians	5					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1094		1013	547
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1094		1013	547
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			645		237	486

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	615	479	0
Volume Left	0	0	0
Volume Right	0	172	0
cSH	1700	1700	1700
Volume to Capacity	0.36	0.28	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

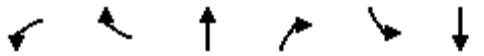
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	57	12	0	0	0	0	0	122	18
Future Volume (Veh/h)	0	0	0	57	12	0	0	0	0	0	122	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.92	0.92	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	69	14	0	0	0	0	0	137	20
Pedestrians		6			9			17			8	
Lane Width (ft)		0.0			12.0			0.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	22			17			264	177	26	169	177	28
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	22			17			264	177	26	169	177	28
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			100	100	100	100	80	98
cM capacity (veh/h)	1594			1613			554	684	1047	756	684	1045

Direction, Lane #	WB 1	SB 1
Volume Total	83	157
Volume Left	69	0
Volume Right	0	20
cSH	1613	716
Volume to Capacity	0.04	0.22
Queue Length 95th (ft)	3	21
Control Delay (s)	6.1	11.4
Lane LOS	A	B
Approach Delay (s)	6.1	11.4
Approach LOS		B

Intersection Summary				
Average Delay	9.6			
Intersection Capacity Utilization	26.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	51	131	0	0	0
Future Volume (Veh/h)	0	51	131	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	57	152	0	0	0
Pedestrians	15		2			8
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	169	175			167	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	169	175			167	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	813	861			1403	

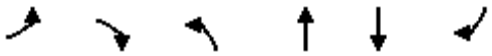
Direction, Lane #	WB 1	NB 1
Volume Total	57	152
Volume Left	0	0
Volume Right	57	0
cSH	861	1700
Volume to Capacity	0.07	0.09
Queue Length 95th (ft)	5	0
Control Delay (s)	9.5	0.0
Lane LOS	A	
Approach Delay (s)	9.5	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	36	0	0	0	0	184
Future Volume (Veh/h)	36	0	0	0	0	184
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.51	0.51	0.92	0.92	0.88	0.88
Hourly flow rate (vph)	71	0	0	0	0	209
Pedestrians					33	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					3	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			104		104	104
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			104		104	104
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	77
cM capacity (veh/h)			1453		871	926

Direction, Lane #	EB 1	NB 1
Volume Total	71	209
Volume Left	0	0
Volume Right	0	209
cSH	1700	926
Volume to Capacity	0.04	0.23
Queue Length 95th (ft)	0	22
Control Delay (s)	0.0	10.0
Lane LOS		B
Approach Delay (s)	0.0	10.0
Approach LOS		B

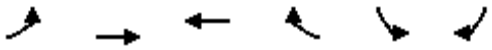
Intersection Summary				
Average Delay	7.5			
Intersection Capacity Utilization	28.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	11	0	0	129	5
Future Volume (Veh/h)	0	11	0	0	129	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.92	0.92	0.83	0.83
Hourly flow rate (vph)	0	44	0	0	155	6
Pedestrians	7				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	3.5				3.5	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	166	165	168			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	166	165	168			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	100			
cM capacity (veh/h)	823	879	1412			

Direction, Lane #	EB 1	SB 1
Volume Total	44	161
Volume Left	0	0
Volume Right	44	6
cSH	879	1700
Volume to Capacity	0.05	0.09
Queue Length 95th (ft)	4	0
Control Delay (s)	9.3	0.0
Lane LOS	A	
Approach Delay (s)	9.3	0.0
Approach LOS	A	

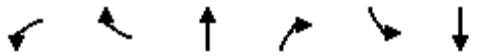
Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	18.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	26	4	0	13
Future Volume (Veh/h)	0	0	26	4	0	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.83	0.83	0.50	0.50
Hourly flow rate (vph)	0	0	31	5	0	26
Pedestrians		1			12	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	48				46	46
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48				46	46
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	97
cM capacity (veh/h)	1554				959	1017

Direction, Lane #	WB 1	SB 1
Volume Total	36	26
Volume Left	0	0
Volume Right	5	26
cSH	1700	1017
Volume to Capacity	0.02	0.03
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	8.6
Lane LOS		A
Approach Delay (s)	0.0	8.6
Approach LOS		A

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	3	181	1	0	0
Future Volume (Veh/h)	0	3	181	1	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	4	201	1	0	0
Pedestrians	5		3			1
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	210	208			207	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	210	208			207	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	777	834			1370	

Direction, Lane #	WB 1	NB 1
Volume Total	4	202
Volume Left	0	0
Volume Right	4	1
cSH	834	1700
Volume to Capacity	0.00	0.12
Queue Length 95th (ft)	0	0
Control Delay (s)	9.3	0.0
Lane LOS	A	
Approach Delay (s)	9.3	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	36	131	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	36	131	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	41	149	0
Pedestrians		5						35				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	236	236	189	266	236	0	154			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	236	236	189	266	236	0	154			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			97		
cM capacity (veh/h)	703	648	854	675	648	1091	1432			1636		

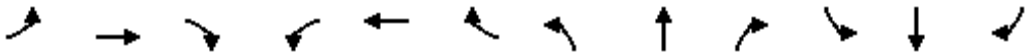
Direction, Lane #	EB 1	SB 1
Volume Total	0	190
Volume Left	0	41
Volume Right	0	0
cSH	1700	1636
Volume to Capacity	0.00	0.03
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	1.7
Lane LOS	A	A
Approach Delay (s)	0.0	1.7
Approach LOS	A	

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	26.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	531	142	0	0	0	0
Future Volume (Veh/h)	531	142	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.99	0.99	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	536	143	0	0	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			679		610	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			679		610	340
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			923		429	662

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	357	322	0
Volume Left	0	0	0
Volume Right	0	143	0
cSH	1700	1700	1700
Volume to Capacity	0.21	0.19	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0		0.0
Approach LOS			A

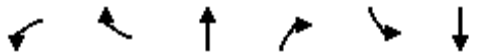
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	86	37	0	0	0	0	0	84	20
Future Volume (Veh/h)	0	0	0	86	37	0	0	0	0	0	84	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	91	39	0	0	0	0	0	91	22
Pedestrians		11			11			10			13	
Lane Width (ft)		0.0			12.0			0.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	52			10			310	244	21	245	244	63
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	52			10			310	244	21	245	244	63
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			94			100	100	100	100	85	98
cM capacity (veh/h)	1548			1616			533	616	1051	661	616	995

Direction, Lane #	WB 1	SB 1
Volume Total	130	113
Volume Left	91	0
Volume Right	0	22
cSH	1616	666
Volume to Capacity	0.06	0.17
Queue Length 95th (ft)	4	15
Control Delay (s)	5.3	11.5
Lane LOS	A	B
Approach Delay (s)	5.3	11.5
Approach LOS		B

Intersection Summary				
Average Delay	8.2			
Intersection Capacity Utilization	28.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	42	63	0	0	0
Future Volume (Veh/h)	0	42	63	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	48	72	0	0	0
Pedestrians	16		3			2
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	2		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	91	90			88	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	91	90			88	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	898	950			1497	

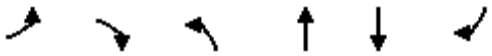
Direction, Lane #	WB 1	NB 1
Volume Total	48	72
Volume Left	0	0
Volume Right	48	0
cSH	950	1700
Volume to Capacity	0.05	0.04
Queue Length 95th (ft)	4	0
Control Delay (s)	9.0	0.0
Lane LOS	A	
Approach Delay (s)	9.0	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	49	0	0	0	0	105
Future Volume (Veh/h)	49	0	0	0	0	105
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.92	0.92	0.85	0.85
Hourly flow rate (vph)	63	0	0	0	0	124
Pedestrians					43	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					4	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			106		106	106
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			106		106	106
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	86
cM capacity (veh/h)			1436		860	912

Direction, Lane #	EB 1	NB 1
Volume Total	63	124
Volume Left	0	0
Volume Right	0	124
cSH	1700	912
Volume to Capacity	0.04	0.14
Queue Length 95th (ft)	0	12
Control Delay (s)	0.0	9.6
Lane LOS		A
Approach Delay (s)	0.0	9.6
Approach LOS		A

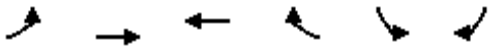
Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	7	0	0	97	11
Future Volume (Veh/h)	0	7	0	0	97	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.92	0.92	0.94	0.94
Hourly flow rate (vph)	0	14	0	0	103	12
Pedestrians	7				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	3.5				3.5	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	117	116	122			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	117	116	122			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	877	935	1468			

Direction, Lane #	EB 1	SB 1
Volume Total	14	115
Volume Left	0	0
Volume Right	14	12
cSH	935	1700
Volume to Capacity	0.01	0.07
Queue Length 95th (ft)	1	0
Control Delay (s)	8.9	0.0
Lane LOS	A	
Approach Delay (s)	8.9	0.0
Approach LOS	A	

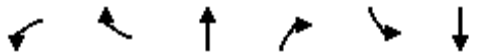
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	42	14	0	9
Future Volume (Veh/h)	0	0	42	14	0	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.75	0.75
Hourly flow rate (vph)	0	0	47	16	0	12
Pedestrians		1	1		12	
Lane Width (ft)		0.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	75				68	68
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	75				68	68
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1520				930	989

Direction, Lane #	WB 1	SB 1
Volume Total	63	12
Volume Left	0	0
Volume Right	16	12
cSH	1700	989
Volume to Capacity	0.04	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	8.7
Lane LOS		A
Approach Delay (s)	0.0	8.7
Approach LOS		A

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	104	1	0	0
Future Volume (Veh/h)	0	1	104	1	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.90	0.90	0.92	0.92
Hourly flow rate (vph)	0	4	116	1	0	0
Pedestrians	12		5			2
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	134	130			129	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	134	130			129	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	851	914			1452	

Direction, Lane #	WB 1	NB 1
Volume Total	4	117
Volume Left	0	0
Volume Right	4	1
cSH	914	1700
Volume to Capacity	0.00	0.07
Queue Length 95th (ft)	0	0
Control Delay (s)	9.0	0.0
Lane LOS	A	
Approach Delay (s)	9.0	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	18.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	33	109	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	33	109	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	35	116	0
Pedestrians		3						50				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	189	189	169	236	189	0	119			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	189	189	169	236	189	0	119			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			98		
cM capacity (veh/h)	759	692	878	709	692	1091	1477			1636		

Direction, Lane #	EB 1	SB 1
Volume Total	0	151
Volume Left	0	35
Volume Right	0	0
cSH	1700	1636
Volume to Capacity	0.00	0.02
Queue Length 95th (ft)	0	2
Control Delay (s)	0.0	1.8
Lane LOS	A	A
Approach Delay (s)	0.0	1.8
Approach LOS	A	

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	26.2%	ICU Level of Service	A	
Analysis Period (min)	15			

40 Mount Hood

Trip Generation Assessment

HOWARD STEIN HUDSON
27-Nov-2017

xx HARD CODED TO BALANCE

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	Private Auto Person-Trips	Assumed Local Auto Occupancy Rate[3]	Total Adjusted Private Auto Trips
Daily Peak Hour																
Multifamily Housing (Mid Rise)[4]	178	Total		5.440	968	1.13	**1,094**	19%	**208**	22%	**240**	59%	**646**	646	1.13	**572**
	units	In	50%	2.720	484	1.13	**547**	19%	**104**	22%	**120**	59%	**323**	323	1.13	**286**
		Out	50%	2.720	484	1.13	**547**	19%	**104**	22%	**120**	59%	**323**	323	1.13	**286**
AM Peak Hour																
Multifamily Housing (Mid Rise)[4]	178	Total		0.360	64	1.13	**72**		**19**		**16**		**37**	37	1.13	**33**
	units	In	26%	0.094	17	1.13	**19**	18%	**3**	30%	**6**	52%	**10**	10	1.13	**9**
		Out	74%	0.266	47	1.13	**53**	30%	**16**	19%	**10**	51%	**27**	27	1.13	**24**
PM Peak Hour																
Multifamily Housing (Mid Rise)[4]	178	Total		0.440	79	1.13	**89**		**22**		**21**		**46**	46	1.13	**41**
	units	In	61%	0.268	48	1.13	**54**	30%	**16**	19%	**10**	51%	**28**	28	1.13	**25**
		Out	39%	0.172	31	1.13	**35**	18%	**6**	30%	**11**	52%	**18**	18	1.13	**16**

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational
2. Mode shares based on peak-hour BTD Data for Area 10 - Brighton
3. Local vehicle occupancy rates based on 2009 National vehicle occupancy rates
4. ITE Trip Generation Manual, 10th Edition, LUC 221 (Multifamily Housing Mid-Rise (3-10 floors)), average rate

Appendix D

Climate Change Preparedness Checklist

Boston Planning & Development Agency
Climate Resiliency Report Summary

boston planning & development agency

Submitted: 02/28/2018 10:08:40

A.1 - Project Information

Project Name:	40 Mount Hood Road			
Project Address:	40 Mount Hood Road			
Filing Type:	Initial (PNF, EPNF, NPC or other substantial filing)			
Filing Contact:	Talya Moked	Epsilon Associates	tmoked@epsilonassociates.com	(978) 461-6223
Is MEPA approval required?	No	MEPA date:		

A.2 - Project Team

Owner / Developer:	1650 Commonwealth, LLC
Architect:	Stantec Architecture
Engineer:	Nitsch Engineering
Sustainability / LEED:	Stantec Architecture
Permitting:	Epsilon Associates
Construction Management:	

A.3 - Project Description and Design Conditions

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

Site and Building:

Site Area (SF):	75074	Building Area (SF):	163000
Building Height (Ft):	85	Building Height (Stories):	7
Existing Site Elevation – Low (Ft BCB):	162	Existing Site Elevation – High (Ft BCB):	191
Proposed Site Elevation – Low (Ft BCB):	162	Proposed Site Elevation – High (Ft BCB):	181
Proposed First Floor Elevation (Ft BCB):	166	Below grade spaces/levels (#):	1

Article 37 Green Building:

LEED Version - Rating System:	LEED v4 for BD+C	LEED Certification:	No
Proposed LEED rating:	Silver	Proposed LEED point score (Pts.):	51

Boston Planning & Development Agency
Climate Resiliency Report Summary

boston planning & development agency

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:		Exposed Floor :	
Foundation Wall:		Slab Edge (at or below grade):	

Vertical Above-grade Assemblies (%'s are of total vertical area and together should total 100%):

Area of Opaque Curtain Wall & Spandrel Assembly:		Wall & Spandrel Assembly Value:	
Area of Framed & Insulated / Standard Wall:		Wall Value:	
Area of Vision Window:		Window Glazing Assembly Value:	
		Window Glazing SHGC:	
Area of Doors:		Door Assembly Value :	

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined	Trane Trace 700		
Annual Electric (kWh):	1440	Peak Electric (kW):	1801
Annual Heating (MMbtu/hr):	1.6668	Peak Heating (MMbtu):	
Annual Cooling (Tons/hr):	149	Peak Cooling (Tons):	
Energy Use - Below ASHRAE 90.1 - 2013 (%):	10	Have the local utilities reviewed the building energy performance?:	No
Energy Use - Below Mass. Code (%):	10	Energy Use Intensity (kBtu/SF):	28.9

Back-up / Emergency Power System

Electrical Generation Output (kW):	350	Number of Power Units:	1
System Type (kW):	Combustion Engine	Fuel Source:	Diesel

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

Electric (kW):	350	Heating (MMbtu/hr):	
		Cooling (Tons/hr):	

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 team has had a meeting to discuss performance targets for the building, and supporting analysis will be completed as the design progresses.

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

The Project will include high performance building envelope, HVAC equipment, and lighting and controls. EnergyStar equipment and appliances will be installed.

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

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

The project team will continue to evaluate energy conservation strategies during the design phase of the project.

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

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

The project team will meet with the utility companies as the design progresses.

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/systems may evolve to further reduce GHG over time through inclusion of metering, tenant guidelines, energy conservation measures, opportunities for renewables, and exploring energy storage options as they emerge and as systems get upgraded. The project team will continue to evaluate energy conservation strategies during the design phase of the project. It is anticipated that the building will be PV-ready, and may be installed if found to be economically feasible.

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:	295.9	Annual Cooling Degree Days	1783

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 will include new landscaping on the site.

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. Measures to reduce the heat island effect include high-albedo rooftops, the courtyard above the one-story podium will be landscaped, and ground level landscaping.

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 building will include a generator for life safety systems. Also, units will feature operable windows for passive ventilation in case of ventilation system failures and/or extreme heat. The terraces can be used as areas of refuge for sheltering in place securely for prolonged periods.

D - Extreme Precipitation Events

Boston Planning & Development Agency
Climate Resiliency Report Summary

boston planning & development agency

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 building will include an infiltration system for the first one inch of 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):

The Project includes new landscaping on both the ground floor and the courtyard.

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)?

First Floor Elevation (Ft BCB):

What are the Site Elevations at Building (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:

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 E

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

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

Accessibility Analysis Information Sources:

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

Glossary of Terms:

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

Article 80 | ACCESSIBILTY CHECKLIST

1. Project Information:

If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.

Project Name:	40 Mount Hood Road
Primary Project Address:	40 Mount Hood Road
Total Number of Phases/Buildings:	1 Building
Primary Contact (Name / Title / Company / Email / Phone):	John M. Matteson/Proponent/1650 Commonwealth, LLC/ JMatteson44@gmail.com
Owner / Developer:	1650 Commonwealth, LLC
Architect:	Stantec Architecture
Civil Engineer:	Nitsch Engineering
Landscape Architect:	T.B.D.
Permitting:	Epsilon Associates, Inc.
Construction Management:	T.B.D.

At what stage is the project at time of this questionnaire? Select below:

	☑PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BPDA Board Approved
	BPDA Design Approved	Under Construction	Construction Completed:

Do you anticipate filing for any variances with the Massachusetts Architectural Access Board (MAAB)? ***If yes,*** identify and explain.	521 CMR 43.3.2 & 45.4.5 – Variance for kitchen sink depths. Required to be 6.5" in depth for all Group 1 and 2a units – request for deeper sinks with intent that should an ADA compliant sink be needed it will be provide. 521 CMR 39.3.1 – Variance for outlets below windows. Required to be 15" AFF to centerline of lowest receptacle. Request for outlets to be allowed lower on walls below windows, provided an adjacent accessible outlet is included.

2. Building Classification and Description:

This section identifies preliminary construction information about the project including size and uses.

What are the dimensions of the project?

Site Area:	*75,084 SF*	Building Area:	*163,000 GSF*
Building Height:	*83'-4" FT.*	Number of Stories:	*7 Flrs.*
First Floor Elevation:	166'-0" BCB	Is there below grade space:	*Yes*

What is the Construction Type? (Select most appropriate type)

*NOTE: Wood Frame on Non-combustible podium	☑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:	*Townhomes, Lobby, Parking and Services and Amenity Space*			

3. Assessment of Existing Infrastructure for Accessibility:

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

Provide a description of the neighborhood where this development is located and its identifying topographical characteristics:	The Project is located in the Allston -Brighton Neighborhood District and the Aberdeen Architectural Conservation District. It is a steeply sloped site with rocky, undulating terrain. The perimeter sidewalk on Mt. Hood Road and Egremont Road slopes gradually with an elevation change of approximately 16 feet.
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	MBTA Green line "B" at Sutherland Road and Washington Street Stops are less than 0.1 miles. Green line "C" Dean Road stop is less than 0.5 miles. The MBTA Bus 65 is less than 0.2 miles away.
List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others:	Boston College, Kollell of Greater Boston, Boston International Academy, New Ashkenaz Minyan, Providence House Senior Living Community, Seton Manor, St. Elizabeth's Medical Center, Brighton High School, Providence House Senior Living Community, All Saints Parish.
List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	Beacon Hill Athletic Club, Baldwin Early Learning Center, Camp Cedar, Jean B. Waldstein Playground

4. Surrounding Site Conditions – Existing:

This section identifies current condition of the sidewalks and pedestrian ramps at the development site.

Is the development site within a historic district? ***If yes,*** identify which district:	Yes, the Aberdeen Architectural Conservation District
Are there sidewalks and pedestrian ramps existing at the development site? ***If yes***, list the existing sidewalk and pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:	Yes, existing sidewalks surround the site. They are concrete and in fair condition.

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:	Yes, they are to remain. Any updates will be made to complete ADA / MAAB compliance, including addition of yellow composite detectable warning surfaces, cast in concrete.
5. Surrounding Site Conditions – Proposed *This section identifies the proposed condition of the walkways and pedestrian ramps around the development site. Sidewalk width contributes to the degree of comfort walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Wider sidewalks allow people to walk side by side and pass each other comfortably walking alone, walking in pairs, or using a wheelchair.*	
Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? ***If yes***, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.	Yes, Neighborhood Residential
What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:	Sidewalks are approximately 7 feet wide. The existing sidewalks are to remain.
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?	Existing sidewalks are concrete with granite curbs.
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?	No
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	TBD

Will any portion of the Project be going through the PIC? ***If yes,*** identify PIC actions and provide details.	TBD
6. Accessible Parking: *See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability – Disabled Parking Regulations*.	
What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?	142 garage parking spaces
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?	5 total with one being classified as a van accessible space
Will any on-street accessible parking spaces be required? ***If yes,*** has the proponent contacted the Commission for Persons with Disabilities regarding this need?	No
Where is the accessible visitor parking located?	Located in the garage near one of the lobby entrances
Has a drop-off area been identified? ***If yes,*** will it be accessible?	Yes and Yes
7. Circulation and Accessible Routes: *The primary objective in designing smooth and continuous paths of travel is to create universal access to entryways and common spaces, which accommodates persons of all abilities and allows for visitability with neighbors*.	
Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	The two main entry points off of Mount Hood Road are both flush conditions.
Are the accessible entrances and standard entrance integrated? ***If yes,*** *describe.* ***If no,*** what is the reason?	Yes

If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.	Providing signage when accessible route is not in direct view of pedestrians. Will include wayfinding for any vertical transportation as necessary.
8. Accessible Units (Group 2) and Guestrooms: (If applicable) *In order to facilitate access to housing and hospitality, this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing and hotel rooms.*	
What is the total number of proposed housing units or hotel rooms for the development?	178 units
If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP (Inclusionary Development Policy) units?	Currently 114 units are anticipated to be for sale and 64 units for rent. Breakdown of market value units vs. IDP units is to be determined but will comply with minimum IDP requirements.
If a residential development, how many accessible Group 2 units are being proposed?	Five percent of the total unit count will be Group 2 units in accordance with MAAB.
If a residential development, how many accessible Group 2 units will also be IDP units? ***If none***, describe reason.	Number of Group 2 units that will also be IDP units will be consistent with IDP requirements.
If a hospitality development, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? ***If yes,*** provide amount and location of equipment.	N/A
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs / thresholds at entry, step to balcony, others. ***If yes,*** provide reason.	No
Are there interior elevators, ramps or lifts located in the development for access around architectural barriers	Yes, there are two sets of elevators

and/or to separate floors? ***If yes,*** describe:	
9. Community Impact: *Accessibility and inclusion extend past required compliance with building codes. Providing an overall scheme that allows full and equal participation of persons with disabilities makes the development an asset to the surrounding community.*	
Is this project providing any funding or improvements to the surrounding neighborhood? Examples: adding extra street trees, building or refurbishing a local park, or supporting other community-based initiatives?	The project is creating approximately 9,000 sf of landscaoed space.
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?	The development plans to be inclusionary with designated and convertible spaces in all common social spaces. This includes the interior lounge areas, fitness facilities, public courtyard amenities including the pool, patio, greenspace and barbeque grills.
Are any restrooms planned in common public spaces? ***If yes,*** will any be single-stall, ADA compliant and designated as "Family"/ "Companion" restrooms? ***If no***, explain why not.	Yes and Yes
Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff? ***If yes,*** did they approve? ***If no,*** what were their comments?	No review at this time
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?	No presentation at this time

10. Attachments *Include a list of all documents you are submitting with this Checklist. This may include drawings, diagrams, photos, or any other material that describes the accessible and inclusive elements of this project.*
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. Included
Provide a diagram of the accessible route connections through the site, including distances. Included
Provide a diagram the accessible route to any roof decks or outdoor courtyard space? (if applicable) Included
Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry. Not Included – locations not determined at this time.
Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible

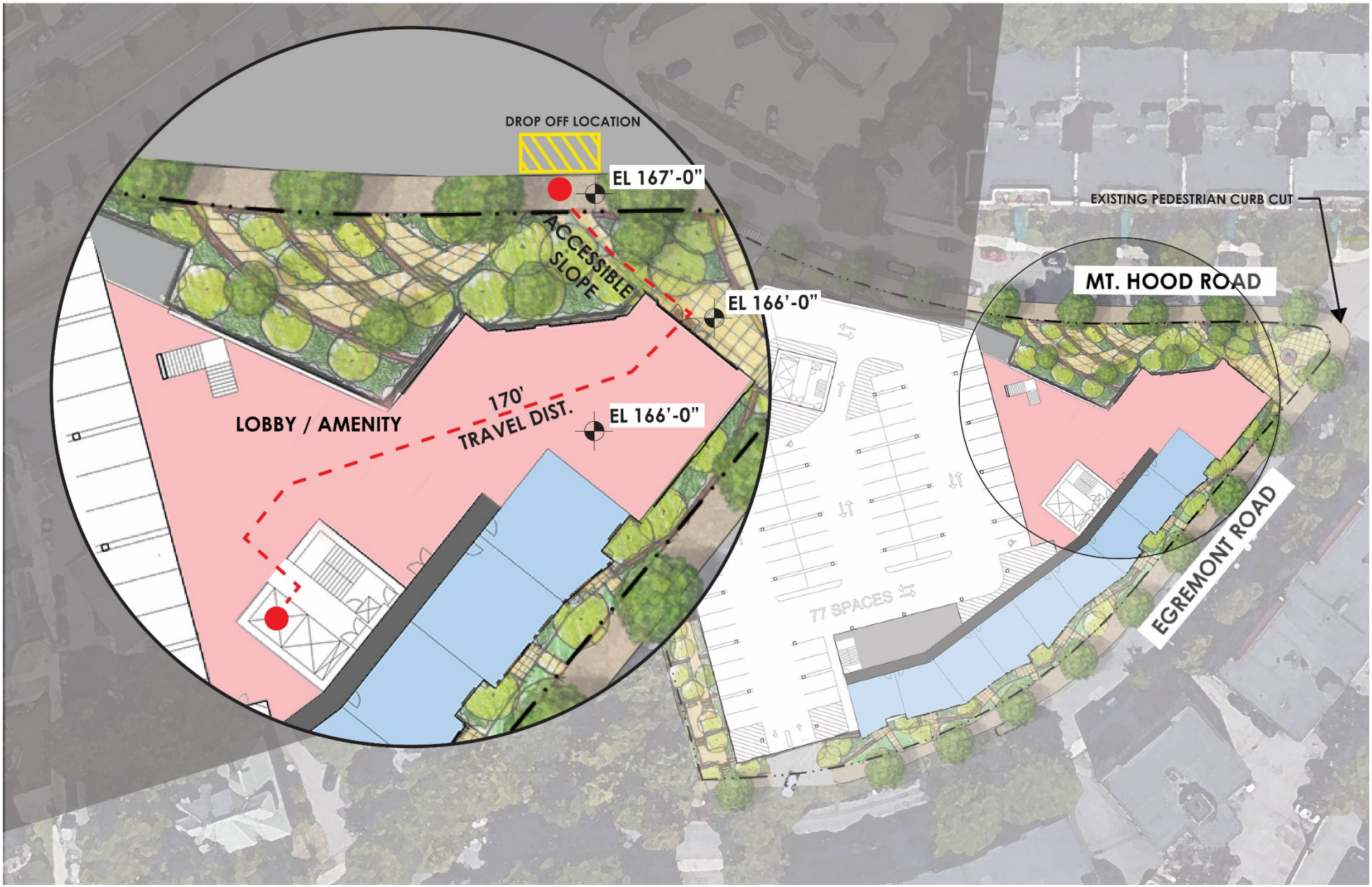
This completes the Article 80 Accessibility Checklist required for your project. Prior to and during the review process, Commission staff are able to provide technical assistance and design review, in order to help achieve ideal accessibility and to ensure that all buildings, sidewalks, parks, and open spaces are usable and welcoming to Boston's diverse residents and visitors, including those with physical, sensory, and other disabilities.

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

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

Architectural Access staff can be reached at:

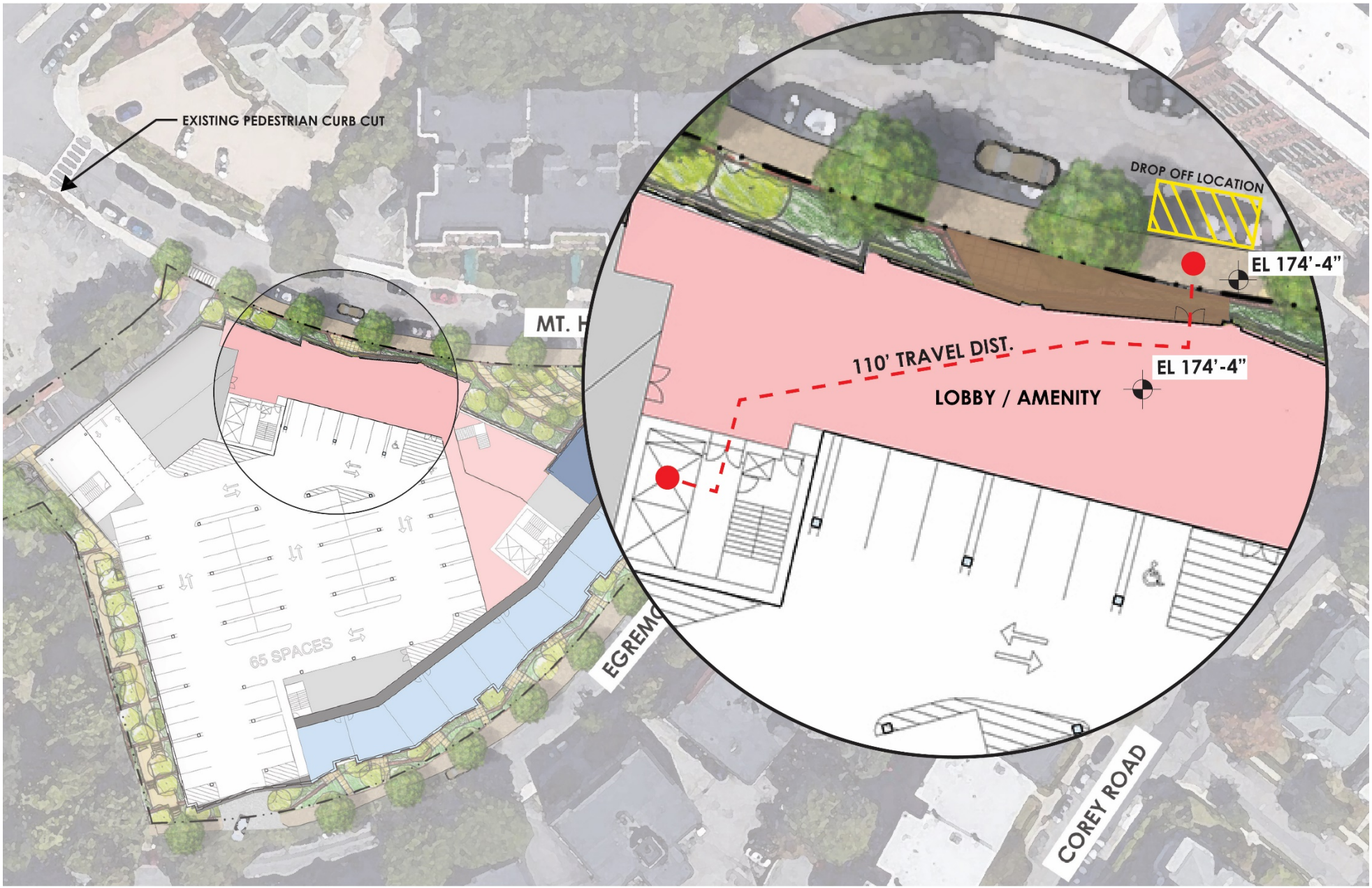
accessibility@boston.gov | patricia.mendez@boston.gov | sarah.leung@boston.gov | 617-635-3682



40 Mount Hood Road Boston, Massachusetts

Stantec

Accessibility Diagram – Entry Point 1



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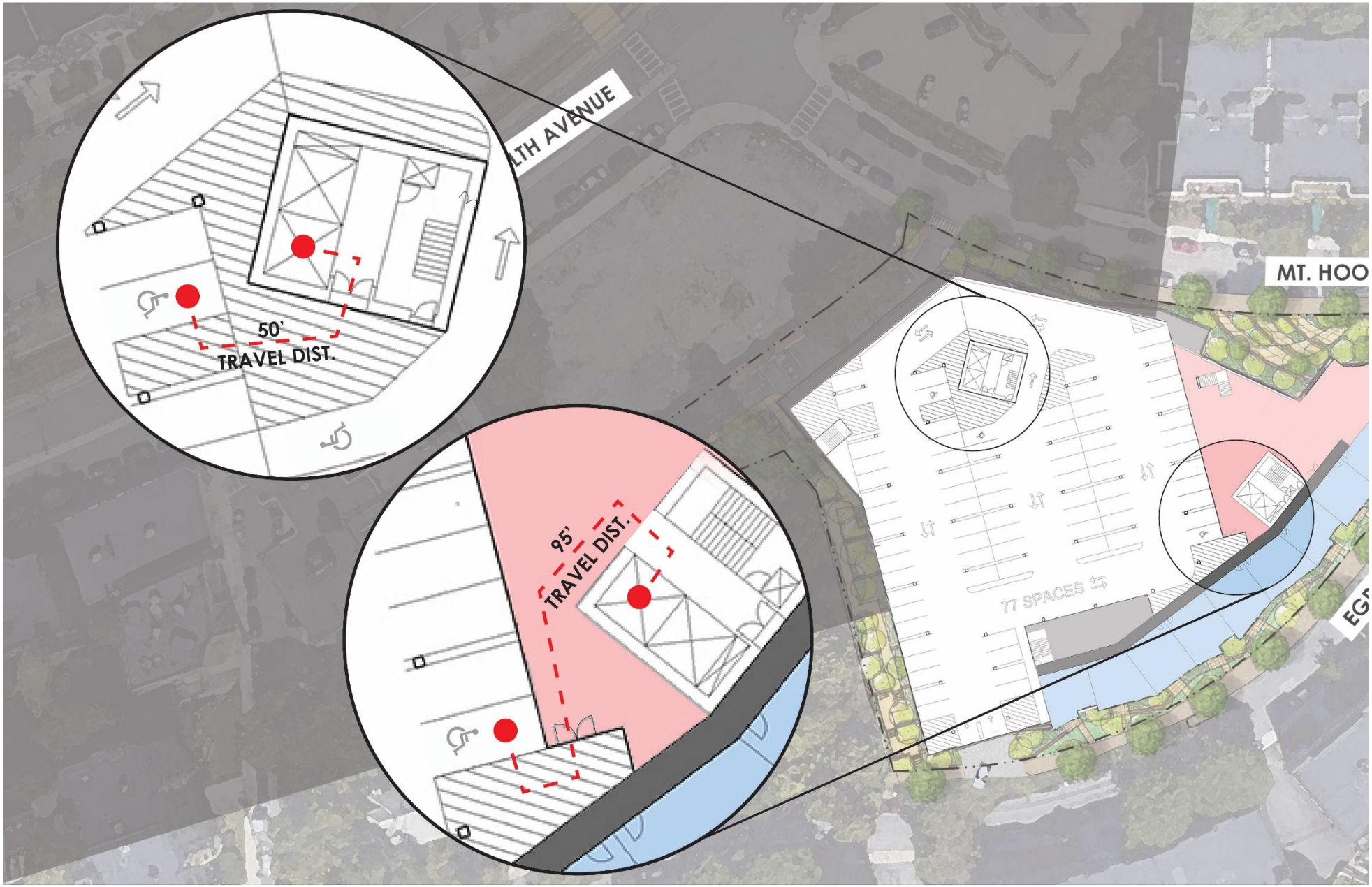
Accessibility Diagram – Entry Point 2



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Accessibility Diagram – Parking

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