August, 2018

L Street Station Redevelopment

776 Summer Street, Boston, MA 02127

Draft Environmental Impact Report/
Draft Project Impact Report

SUBMITTED TO

Executive Office of Environmental Affairs
Massachusetts Environmental Policy Office

Boston Planning and Development Agency

PROPONENTS

HRP 776 Summer Street LLC

Hilco Redevelopment Partners LLC and Redgate Capital Partners LLC

PREPARED BY

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IN ASSOCIATION WITH

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REDGATE
The Right Return on Real Estate

August 16, 2018

Brian Golden, Director

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

Re: **L Street Station Redevelopment Project**
Boston, MA

Dear Director Golden:

HRP 776 Summer Street, LLC, ("the Proponent"), is pleased to submit the enclosed Draft Project Impact Report ("DPIR") [as a joint filing which also includes a Draft Environmental Impact Report ("DEIR")] for the construction of the L Street Station Redevelopment Project (the "Project"), in the South Boston neighborhood of Boston, Massachusetts.

The Project includes the redevelopment of a 15-acre site along the Reserved Channel at 776 Summer Street on land formerly occupied by the Boston Edison L Street Power Station (the "Project Site"). As described in our previously filed Environmental Notification Form and Expanded Project Notification Form (the "ENF/EPNF"), the Project proposes the construction of a vibrant mixed use, transit-oriented development, which celebrates the industrial past of the Power Station through the adaptive reuse of some of its most historically significant buildings. As described in this DEIR/DPIR, the Project has evolved in several key ways since the ENF/EPNF, including:

- Better public transit service is proposed for the neighborhood;
- Street and intersection improvements are proposed with each development phase;
- Additional residential parking has been incorporated;
- Opportunities for community parking are being proposed;
- Height and density have been reduced;
- The design of the public outdoor open spaces networks has been advanced;
- The 1898 Building will be retained and reused as an integral part of the Project; and
- A broad range of housing opportunities will be provided.

The Project design has been shaped by a robust community engagement process and guided by hundreds of comments and recommendations by South Boston neighbors. It will bring new energy to the previously inaccessible site by providing a vibrant mix of uses, new public amenities, new "Arts and Industry" space for local artists, artisans, and makers, and flexible outdoor public open spaces. It will function to integrate and connect the South Boston neighborhood, serving as a transition point between the industrial uses to the north and east, and the residential areas to the south.

REDGATE
The Right Return on Real Estate

We look forward to working with you and your staff in your reviewing of the Project. The Proponent will publish notice of submission of the DPIR, as required by Section 80A-2(3) coincident with the filing of this DPIR. Based upon this tentative schedule, public comments will be due by October 30st. Requests for copies of the DPIR should be directed to Seth Lattrell at (617) 607-2973 or via email at slattrell@vhb.com.

Sincerely,

Ralph Cox
Principal, Redgate Capital Partners

Cc: Tim Czerwienski, BPDA

Introduction

HRP 776 Summer, LLC (the "Proponent") is planning and designing the L Street Station Redevelopment (the "Project") to be an attractive and welcoming part of the City Point neighborhood of South Boston in which it is located. The Project has the potential to be one of the great additions to the Boston Harbor waterfront in recent memory, not in isolation, but as an exciting addition to a great Boston neighborhood.

To that end, the Project has evolved in several key ways, all of which have the neighborhood experience – and preserving its history – front and center:

Better Public Transit Service for the Neighborhood

Although located only about 1.5 miles from South Station, the City Point neighborhood is not served by the Massachusetts Bay Transit Authority ("MBTA") Red Line and is experiencing gaps and shortfalls in its MBTA bus service. To help address this issue, the Proponent proposes to fund and operate, in partnership with the MBTA and as an element of the Project, an innovative supplemental bus service that is open to anyone with a Charlie Card or Charlie Ticket.

This supplemental service would be expressly designed to identify and address, in real time, gaps and shortfalls in established MBTA bus service caused by changes in transit demand, traffic patterns and usage and to assist in the capacity of current bus service. The service would create the opportunity to pilot potentially more efficient routes (such as inbound service to South Station along First Street, or inbound service to South Station along Summer Street that does not continue into the Financial District) that could both supplement existing MBTA bus service and also provide data to the MBTA to assist in its future service planning.

The Proponent has begun discussions with the MBTA regarding a public-private partnership to implement this supplemental bus service, which would advance the objectives of the MBTA's on-going "Better Bus Project" initiative. Once launched, the Proponent may enlist other private landowners to further leverage this service and assist in providing more transit capacity and options in the area. Due to the pressing neighborhood need for better transit service and as a demonstration of its commitment to this key Project element, the Proponent is prepared to begin a pilot of supplemental service upon receiving its master plan approvals for the Project and the commencement of demolition (currently planned for 2019), before any actual occupancy of the site.

Street and Intersection Improvements with Each Development Phase

The Project will be developed as multiple buildings across several phases of development, which are expected to occur over the next 12-15 years, allowing street and intersection improvements to be implemented at every stage. As further described in Chapter 5, *Transportation*, the Project will include street and intersection improvements (new traffic signal, dedicated turning lanes, etc.) that safely support additional use on Summer Street, First Street and L Street as the Project progresses.

Added Residential Parking

The Proponent has significantly increased the amount of residential parking in the Project (even while reducing the number of residential units in the Project). In addition, the Project will now contain additional surface residential parking as development progresses, as additional protection for the neighborhood during the development period.

Opportunity for Community Parking

In response to community concerns about the current unavailability of resident parking in the City Point neighborhood, the Proponent is prepared to work with the City of Boston to provide an opportunity for additional night, weekend and snow emergency parking for neighborhood residents on the site. This parking could be made available in surface parking areas as development progresses and within commercial parking structures as the Project is built out. It is expected that there is potential for as many as 50-75 spaces to be available for community use as a result of this effort.

Reduced Height and Density

To provide a more effective transition from the lower scale buildings of the City Point neighborhood of South Boston to the greater height and density of the Seaport District, the Proponent has reduced the heights and density of the Project overall and has also relocated height and density towards the location of the largest existing building massing, and away from First Street. Together these changes cause the revised Project to have a dramatic positive effect on the neighborhood, as illustrated by the attached “before and after” images along First Street and Summer. Further details on the Project’s urban design are provided in Chapter 3.

Connected Networks of Public Outdoor Open Spaces

The Project will include multiple public outdoor open spaces that are readily accessible to the neighborhood from L Street, M Street and First Street and through to the waterfront. The open spaces are designed to be welcoming morning, daytime and evening to everyone in the neighborhood, including families, children and seniors. They will easily connect with Thomas J. Butler Memorial Park, Medal of

Honor Park and other neighborhood open spaces. Further details on the Project's open spaces are provided in Chapter 3, *Urban Design*.

Preservation of More of South Boston's History

The Project will preserve, re-use and make open to the public some of the most spectacular historic buildings in all of New England. In addition to its previous preservation commitments, the Proponent has now determined that it can preserve and re-use a fourth turbine hall, the 1898 Building, which dates back to the earliest development of the site for power generation. The adaptive re-use of five buildings across the site will ensure that the proud industrial history of South Boston will be reflected throughout the Project. The restored buildings will become special gathering places for the entire neighborhood.

Range of Housing Opportunities

The City Point neighborhood is experiencing changing housing needs and demands. Long-time "empty nest" residents would like to downsize but stay in the neighborhood. New employees in the Raymond L. Flynn Marine Park or in the Seaport District would like to live within walking distance of work. To be a true part of the neighborhood, the Project will contain a broad range of housing opportunities, including both rental and ownership. All of the affordable housing required by the City of Boston's Inclusionary Development Policy will be located on-site. In addition, the Proponent is exploring on-site opportunities for senior housing and workforce housing (residents making 70-150 percent of Area Median Income).

BEFORE

AFTER

1st STREET

E. First Street looking west from Thomas Butler Dog Park

Project View Perspectives/
Renderings

BEFORE

AFTER

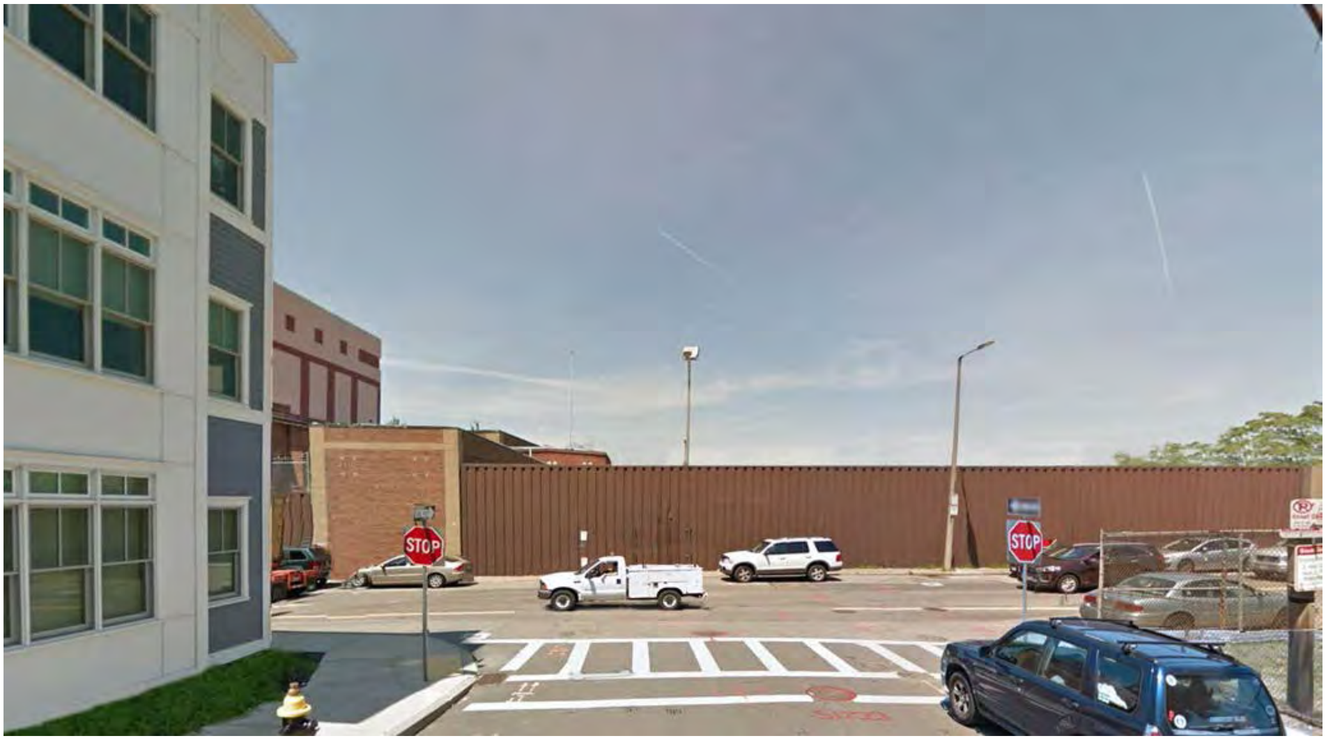
1st STREET

E. First Street looking West at Turbine Hall #3

Project View Perspectives/

Renderings

BEFORE



AFTER

M. STREET

M Street looking north to new M Street extension

Project View Perspectives/
Renderings

BEFORE

AFTER

1st STREET

E. First Street looking east at L Street/E. First Street intersection
Project View Perspectives/
Renderings

Stantec

L Street Station Redevelopment
Boston, Massachusetts

BEFORE

AFTER

ELKINS STREET/ SUMMER STREET

Elkins Street intersection looking east

Project View Perspectives/ Renderings

Stantec

L Street Station Redevelopment
Boston, Massachusetts

L Street Station Redevelopment

EEA No. 15692

Boston, Massachusetts

SUBMITTED TO **Executive Office of Energy and Environmental Affairs**
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Project Description

HRP 776 Summer, LLC (the "Proponent") submits this combined Draft Environmental Impact Report/Draft Project Impact Report ("DEIR/DPIR") to the Executive Office of Energy and Environmental Affairs ("EEA") and to the Boston Redevelopment Authority ("BRA"), d/b/a the Boston Planning and Development Agency ("BPDA"). The Draft Environmental Impact Report ("DEIR") is being filed to continue the state review process, in accordance with the Massachusetts Environmental Policy Act ("MEPA") M.G.L. c. 30, Sections 61-62I and the regulations promulgated thereunder set forth at 301 CMR 11.00. The Draft Project Impact Report ("DPIR") is being filed to continue the Article 80B, Large Project Review process required by the Boston Zoning Code (the "Code") for the L Street Station Redevelopment (the "Project").

On May 15, 2017, the Proponent filed an "expanded" Project Notification Form ("EPNF") with the BPDA and an Environmental Notification Form ("ENF") in accordance with MEPA. After a MEPA Scoping Session and public comment period, the Secretary of Energy and Environmental Affairs issued a Certificate on the ENF on July 14, 2017 (the "ENF Certificate"). In addition to a Scoping Session under Article 80, the Project team has collaborated closely with the Impact Advisory Group ("IAG") and members of the community, as well as BPDA staff, City agencies and elected officials. The BPDA issued its Scoping Determination on January 12, 2018.

This chapter provides an overview of the existing site conditions, describes the Project and the Project Site, summarizes Project-related public benefits, and identifies the anticipated permits and approvals. This chapter also summarizes ongoing public agency and community outreach, identifies the development team and provides relevant legal information regarding the Proponent and the Project site.

1.1 Site Context and Existing Conditions

The Project site includes approximately 15 acres of developed and formerly industrial land along the Reserved Channel in South Boston located at 776 Summer Street (the "Project Site" or "Site"). Refer to Figure 1.1 for the site location map.

The Site contains a series of buildings and legacy infrastructure related to the Boston Edison L Street Power Station (the "Power Plant"), which operated on the Project Site from 1898 until its decommissioning in 2007. As discussed in Chapter 10, *Historic Resources*, the Power Plant is recognized as an architectural and engineering landmark for the electrical power industry. Preserving and enhancing the public value of the Project Site's historic structures and equipment is a central theme of the Project.

As described in Chapter 6 of the previously reviewed ENF/EPNF, as a result of the prior usage, the site has a documented history of spills, leaks, and small releases of oil and/or hazardous materials. These conditions will be cleaned up by the Proponent under the direction of a Licensed Site Professional in accordance with the Massachusetts Contingency Plan.

The Project Site is bounded on the west by Summer Street, on the south by East 1st Street, on the east by a land parcel owned by the Massachusetts Bay Transportation Authority ("MBTA"), and on the north by the Reserved Channel and the Thomas J. Butler Dedicated Freight Corridor ("DFC"). The Project Site is located at the transition between the marine industrial and residential areas of South Boston, with the rapidly transforming Seaport neighborhood and Raymond L. Flynn Marine Park to the north.

The Project Site is located in close proximity to the Massachusetts Port Authority's ("Massport") Conley Terminal, as well as area destinations including the Boston Convention and Exhibition Center ("BCEC") and the Boston Innovation and Design Building. The Project Site is located approximately 0.5 miles from the Silver Line at Design Center Place, and 1.5 miles to South Station, which provides access to the Red Line, Silver Line, commuter and passenger rails, Amtrak, and local and regional bus service. The Project Site is also located along local bus routes which provide access to South Station. See Figure 1.2, Project Context Map, Figure 1.3, Urban Context, and Figure 1.4, Existing Conditions Site Plan.

Outside of the Power Plant structures, the site is comprised of compacted dirt, gravel, and deteriorated paved areas with limited vegetation. The Project Site is significantly sloped from east to west and from south to north with approximately 15 feet of grade change throughout the Project Site.

1.1.1 Designated Port Area Context

On June 20, 2017, the Proponent submitted a request to the Massachusetts Office of Coastal Zone Management ("CZM") requesting review of the South Boston Designated Port Area ("DPA") boundary. CZM responded to this request on July 12, 2017, with a determination that a broader review of the South Boston DPA planning area south of the Reserved Channel is warranted, consistent with CZM's ongoing initiative to update and modernize DPA boundaries.

Following a public review process, the CZM Director issued a Designation Decision on May 10, 2018, which modified the DPA to exclude the landward portions of the Project Site and include an existing water-dependent industrial planning unit along Day Boulevard, effectively increasing the DPA area from 137 to 140 acres. The CZM decision concluded that the presence of the DFC separates the Project Site from the navigable waterway, and that the site no longer possesses a functional connection with DPA watersheet to support water-dependent industrial uses.

1.2 Project Description

The Project proposes the construction of a vibrant mixed-use, transit-oriented development, that celebrates the industrial past of the Power Station through the adaptive reuse of some of its most historically significant buildings including the grand Turbine Halls, the 1898 Building, and the small entrance Administration Building along Summer Street. The Project will bring new energy to the previously inaccessible site with approximately 1.93 million gross square feet[1] of mixed-use redevelopment with a vibrant pedestrian environment connected in character and spirit to the industrial nature of the district, as well as inviting innovation and artful design through the development of much needed residential and commercial buildings.

The revised Project design has been and continues to be guided by City and community input and by the planning and development themes and public realm aspirations outlined below. Consistent with these planning and design themes and considerations, the Project proposes the following key components:

1. The cleanup and abatement of the Project Site and Power Plant buildings;
2. The adaptive reuse of the Turbine Halls, 1898 Building and Administration Building, and the preservation of significant portions of the historical turbine equipment;
3. The transformation of a previously fenced off and inaccessible site into a public waterfront destination with new dining and retail, as well as community arts and business uses;
4. The provision of approximately 5.5 acres of new outdoor public spaces including approximately 2.5 acres waterfront open space with inviting landscaping, waterfront activation, programmable open areas, and amenities, including a new publicly accessible waterfront open space; and
5. The construction of new residential and commercial buildings on the site to support the new district at a level of density and activity suitable for a safe, mixed-use neighborhood.

The Project will rejuvenate an abandoned site and re-integrate 15 acres of former industrial land into a thriving extension of the South Boston neighborhood. The Project will create active small-scale neighborhood retail uses, places for outdoor dining, bicycle and pedestrian oriented publicly accessible open spaces and streetscape enhancements such as street trees, seating and lighting. In addition, approximately 1,344 residential units, 344 hotel keys and 368,000 square feet of offices spaces are planned above active retail ground floor programs. The transformative Project will enliven the area on a 24/7 basis and help sustain economic growth that will extend to the South Boston neighborhood.

1.2.1 Changes since the ENF and EPNF Filings

The following section summarizes changes to the Project since the ENF/EPNF filing. Refer to Figure 1.5 for the current development block layout and Figure 1.6 for the updated site plan.

1 Exclusive of structured parking areas, consistent with the Code.

- **Program:** The Project *program has been reduced* from 2.1 million square feet to 1.93 million square feet. The updated program contains fewer housing units, more parking spaces, and more retail, hotel, and office use. These refinements build towards the Project's goal of creating an active live-work-play environment with a distinct identity.
- **Phasing:** The Project phasing has been further developed, and now contemplates *an approximately 12 to 15-year build-out* to allow the site to slowly grow and gradually become a part of the neighborhood.
- **Building Height:** The reduced density of the Project program also provides for *reductions in building height* reductions on the perimeter of the Project Site. This will help blend the buildings into their current neighborhood context.
  - Block C height reduced from 220 feet to 206 feet
  - Block D height reduced from 170 feet to 164 feet
  - Block F height reduced from 200 feet to 115 feet
- **Preservation:** Based on further structural analysis, and in response to strong interest by the community, the Project team has confirmed the ability to *retain the 1898 Building* as part of the Project. The 1898 Building was the original engine generator room for the Power Plant and will be reused and activated by innovative office uses and a flexible ground floor program of common spaces that could be shared with the adjoining hotel and residential building.
- **Transportation:** Traffic and *trip generation has been reduced* through changes in program, the incorporation of additional transportation demand management measures, and changes in trip generation rates. Additional transportation improvements under consideration include:
  - *Provide better bus service*, through an innovative supplemental bus service that is open to anyone with a Charlie Card or Charlie Ticket, in partnership with the MBTA. The Proponent is prepared to begin a pilot of supplemental service upon receiving its master plan approvals for the Project and the commencement of demolition (currently planned for 2019), even before any occupancy of the Project Site.
  - *Increased parking* availability to address community concerns with respect to overflow parking in the neighborhood and working with the City of Boston to provide an opportunity for additional night, weekend and snow emergency parking for neighborhood residents on the Project Site, both during the initial phases of the Project's development and on a more permanent basis.
  - *Connected Service Road* to the newly constructed DFC, bifurcating service traffic away from pedestrian activities.
  - *Improved vehicular and pedestrian accessibility* to Blocks G and H by providing a drop off round-about at the end of M Street, which also serves as an "overlook" at the end of the industrial waterfront.
- **Public Realm:** With the goal of creating an accessible, attractive, and active public realm and streetscape network, the Project team has continued to *advance the design of key pedestrian pathways*, including:

- A new greenspace and playground area has been created between the buildings on Block A and F at the top of Elkins Street Extension. A community space has been located on the ground floor of Block F that fronts this new greenspace.
- By removing building massing that wrapped around the south side of 1898 Building, the team has created a new pedestrian terrace and activity area along Elkins Street for public events and seating.
- A new plaza has been designed next to the Turbine Hall, where a pass-thru is proposed for the Elkins Street Extension, and adjacent to future potential exhibit space in the Turbine Halls, so student groups and visitors can have an outdoor gathering space.
- The sidewalks along Summer Street have been widened and now include room for dedicated bike lanes.
- The sidewalks along the Elkins Street Extension have been widened and have flushed curb conditions along most of the street. The sidewalks will also have separate bike lanes on either side of the Turbine Hall pass-thru.
- The sidewalks along M Street have been widened and will be tree-lined throughout its length from East 1st Street out to the bluff.
- A new pedestrian retail through-alley has been introduced at Block C running perpendicular to Summer Street, connecting Summer Street activities to a pedestrian alley running beside the Turbine Halls. This new connection will be further supported by moving the building massing away from summer street, creating a break in the street wall, thus providing another public space for the Project.

› **Sustainability:** The Proponent continues to be committed to providing a high-performance development by utilizing the LEEDv4 rating system (defined in Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*). As design has advanced, additional LEED credits have been achieved, *<u>upgrading the target LEED ratings from Certified to Silver or Gold</u>* depending on the primary building use.

› **Open Space:** The Project Team has continued to advance the design of the key open spaces and focused on the creation of a network of open spaces that make key connections to local assets such as Butler Park and Christopher Lee Playground to provide balanced activity options. Areas of focus and advanced design include:

- *<u>A</u>* *<u>terraced soft-scape area</u>* has been included in the waterfront design that accepts site stormwater, thereby holding, slowing and cleaning it before release. Access to this area is provided via a wooden boardwalk which connects into the waterfront open space at various points.
- An *<u>enlarged area of vegetated buffer</u>* between the waterfront open space and Block H and the DFC.
- *<u>Increased size of open space and improved connections</u>* between Blocks A and F and the eastern border of the Site, allowing pedestrians to connect from the adjacent MBTA land and Butler Dog Park and the interior of the Project Site.

1.2.2 Proposed Development Program

The Project includes seven new buildings and the renovation of the existing Turbine Halls, 1898 Building, and the Administration Building. Table 1-1 below summarizes the proposed development elements for the Project. Collectively, these buildings provide a total of 1,344 residential units in Blocks A, B C D and E, 368,070 square feet of office spaces in the Turbine Halls and Blocks H and G (1898 Building), and 344 hotel keys co-located with residential units in Blocks D and E.

The completed ground plane will be an active public realm supported by 85,630 square feet of retail and a series of pedestrian zones at the waterfront open space as well as a few smaller pedestrian plazas along the main walking zones.

Table 1-1 Proposed Development Program Summary

Project Element	Approximate Dimensions (SF[1])	Quantity
Rental	751,550	777 units
Condominium	552,200	567 units
Office	368,070	
Hotel	172,000	344 keys
Retail	85,630	
Parking	435,310	Up to 1,397 spaces
Total	**1,929,450**	

1 All areas provided as gross square feet (GSF) exclusive of structured parking, as defined in the Code
sf = square feet

1.2.3 Proposed Building Design Overview

The overall building designs for the Project will draw inspirations from the Project Site's industrial heritage, maritime surroundings and the South Boston neighborhood context. Façade expressions will adhere to a warm industrial district aesthetic and street character similar to new and existing buildings within the Fort Point Channel Historic District.

Near the ground, buildings will be designed to support the active mixed-use programs by introducing large storefront openings and outdoor seating areas. Outdoor spaces will be introduced at podium levels to provide open areas and views for residential, hotel and office users. As the building rise above, the taller massing blocks step away from East 1st Street and become recognizable objects in the Boston skyline.

1.2.4 Proposed Public Realm Improvements

The Project benefits both the immediate neighborhoods and the City by generating new retail vitality, enhancing the public realm, preserving and making public important historic features, and providing high quality residential space in a previously inaccessible area of South Boston. The Project design will dramatically improve the character of the public realm on Summer Street and First Street, provide neighborhood access to a previously inaccessible portion of the waterfront, and increase connectivity between the waterfront and existing parks and open spaces.

The following is a summary of the key urban design benefits:

- Improved connectivity of the Harborwalk between the Seaport and South Boston, through accessible waterfront open space with clear connections to the newly completed Butler Park and Castle Island area beyond.
- High-quality waterfront open space that allows for active and passive waterfront recreation and protects inland areas from future flooding as sea levels rise.
- An upgraded streetscape, including new sidewalks, street lighting, landscaping, where feasible, and other public amenities along Summer Street and 1st Street consistent with the Boston Transportation Department's ("BTD") Complete Streets Guidelines.
- A network of publicly accessible open space throughout the Site including small family-oriented play spaces, retail-oriented plazas, select landscaped streets, stormwater gardens and waterfront overlooks with unparalleled views of the City and the Reserved Channel.

1.2.5 Access and Loading

Access to the Project Site is designed to encourage bicycle and pedestrian use through improvements to adjacent roadways. The primary pedestrian and bicycle connections to the surrounding neighborhoods are envisioned to be north/south along Summer Street and east/west along East 1st Street. Perimeter sidewalks and bicycle accommodations will connect to a network of internal sidewalks and roadways to provide safe and efficient travel, with dedicated bike lanes on M Street Extension and between the Turbine Hall and M Street Extension on Elkins Street Extension before transitioning to shared bike lanes between the Turbine Hall and L Street.

Two vehicular access points/driveways are provided into the Project Site; one will be located on Summer Street near the intersection with Elkins Street, and a second will be located on East 1st Street near the intersection with M Street.

Loading access is provided for all building blocks and will be placed away from Summer Street and East 1st Street to avoid any disruption to the traffic flow on the exterior streets. In addition, loading entrances are placed away from pedestrian alleys and other major pedestrian areas. Internal service corridors are provided from loading bays to retail, residential and commercial back-of-house areas.

1.2.6 Parking

The Project includes a total of up to approximately 1,397 parking spaces located in above and below grade garages. Each block supplies the parking requirement for its own program, with the following ratios

- Rental Residential 0.5 per unit

- Condo Residential 1.0 per unit
- Office 0.8 per 1,000 square feet
- Hotel 0.33 per key
- Retail 0.4 per 1,000 square feet

Similar to loading entrances, parking garage entrances are located away from Summer Street and East 1st Street to avoid any disruption to the traffic flow on the exterior streets. In addition, most garage entrances are placed to minimize conflicts with major pedestrian paths of travel.

1.2.7 Project Schedule/Phasing

The Project will be developed in multiple phases spanning a 12 to 15-year period, with construction commencement anticipated in 2019. As summarized below, the strategic phasing of the Project allows for the development to gradually grow and become a real part of the neighborhood, and limits construction activity to individual blocks, reducing noise, disturbance, and construction traffic. The phasing plan also creates an opportunity for the Project to provide overflow parking opportunities for the community.

The five key phases of the Project are anticipated to be as follows. Detail phasing diagrams are provided in Figures 1.8a-g:

- <u>Demolition Phase:</u> 2019 (Figure 1.8b)

  During the demolition phase, the structures and buildings that are not being preserved will be dismantled and removed from the site. Environmental conditions on the Project Site will be addressed through this phase to prepare the site for future uses and interim activation. As discussed in Chapter 6, *Environmental Protection*, impacts associated with demolition, including noise, dust, air quality, pedestrian access, and vibration, will be closely monitored and controlled as the existing structures to be demolished are carefully cleared from the site, and soils are stabilized.
- <u>Phase 1A</u>: 2020 – 2022 (Figure 1.8c)

  After the completion of the site demolition and remediation, Phase 1A, will prioritize construction of low-rise residential along East 1st Street and the renovation of the Turbine Hall on First Street into office. The remaining two Turbine Halls will be renovated to an interim condition for public events and activities. The scale and use mix of this initial development phase is the first step to linking the Project Site to the neighborhood and creating an active edge along East 1st Street. Streetscape improvements like wider sidewalks and street trees will be made along the portions of East 1st Street fronting the Buildings A and B, and the Turbine Hall.
- <u>Phase 1B</u>: 2022 – 2024 (Figure 1.8d)

  Phase 1B will advance the goal of linking the Project Site to the neighborhood by introducing new types of program to the site, including a hotel, condominium units and creative office. Phase 1B will complete renovation of the historic 1898 Building and associated public plaza and expand site activity closer to the waterfront. This phase will also include the full extension of M Street through the Project Site.

- Phase 2: 2024 – 2030 (Figure 1.8e)

  Phase 2 will activate the site through considerable upgrades to the public realm, including; construction of the waterfront open space and streetscape improvements along Summer Street. Blocks C and D will also contain ground floor retail that will be neighborhood oriented and create an activated pedestrian alley that provides a direct connection from East 1st Street all the way down to the water. This phase also completes the renovation of the historic Turbine Halls and the Administration Building which will contain cultural spaces for the community.

- Phase 3: 2030 – Beyond (Figure 1.8f)

  With the majority of public realm and transportation improvements associated with the Project complete, Phase 3 will include the final office and residential buildings in the northeast corner of the site. Development of these Blocks will further activate the site and finalize the Project Site's connection to the waterfront.

1.3 Summary of Public Benefits

Public benefits for the surrounding neighborhoods and the City of Boston will include, but not be limited to, the following:

1.3.1 Urban Design

- **Enhancement of the Property –**
  - The transformation of a previously fenced off and inaccessible site into a public waterfront destination with new dining and retail, as well as community arts and business uses.
  - The adaptive reuse of the Turbine Halls, 1898 Building and Administration Building, and the preservation of significant portions of the historical turbine equipment.
- **Improved Street and Pedestrian Environment –**
  - Includes landscape and Project Site improvements such as active new open spaces with new amenities for a safe, secure, and inviting shopping, dining, and residential experience.
  - Provides approximately 5.5 acres of new outdoor public spaces with inviting landscaping, waterfront activation, programmable open areas, and amenities, including a new publicly accessible waterfront open space.
  - Enhances the pedestrian realm and connectivity from the South Boston neighborhood through and around the Turbine Hall to a newly created waterfront open space.

- **New Retail and Service Development –**
  - Improves area's urban design character through the provision of a human-scaled, mixed-use development, acting as a neighborhood hub for local cultural institutions and commercial activity within a live/work/play district.
- **New Housing –**
  - Increase diversity of the housing stock through the construction of approximately 1,344 new residential units.

1.3.2 Sustainability/Green Building and Climate Change Resiliency

- **Area Revitalization –**
  - Revitalizes and reuses a previously developed, underutilized urban site as opposed to an undeveloped open space.
  - Provides increased density with a mix of uses, including commercial office, residential, hotel, and retail in close proximity to public transit and walkable from the South Boston neighborhood.
  - Provides an efficient redevelopment plan with new open space, including approximately 5.5 acres of public open space and 2.5 acres of publicly accessible waterfront open space.
- **LEEDv4 Certifiable –**
  - Hotel and residential buildings currently demonstrate compliance using the LEEDv4 New Construction rating system at a LEEDv4 Gold level. The office portion will use the LEED v4 Core and Shell rating system with a goal of LEEDv4 Silver.
  - Incorporates a variety of sustainable design strategies that will improve water quality and reduce the urban heat island effect, among other environmental benefits.
- **Stormwater Management –**
  - Incorporates on-site stormwater management and treatment systems that are expected to improve water quality, reduce runoff volume, and control peak rates of runoff in comparison to existing conditions.
  - Is not expected to result in the introduction of any increased peak flows, pollutants, or sediments that would potentially impact the local drainage systems.
- **Environmental/Resource Conservation –**
  - Cleans up the Project Site and Power Plant buildings from the prior industrial use.
  - Maximizes the conservation of energy and water and minimizes impacts to regional infrastructure and water resources by utilizing sustainable design strategies and exceeding the minimum building energy code requirements.
  - Meets the requirements of the current Massachusetts Stretch Energy Code.

  - Reduces overall annual energy consumption by an estimated 17.5 percent through the implementation of energy optimizing building design and systems, which equates to an estimated 10.8 percent reduction in stationary source CO_2 emissions. (Note, the percentages of energy use are different than emission reductions due to emissions conversion factors.)
  - The Project-related mobile source CO_2 emissions are projected to be reduced by 892 tons per year with the implementation of the proposed TDM program and roadway improvements.
  - Intends to participate in local utility incentive programs to evaluate the cost benefit of various energy conservation measures and maximize building energy performance.
- **Climate Resilience** –
  - Proposes adaptive planning measures that reduce vulnerability to rising sea levels and changes in intensity and frequency of storms.
  - Provides protection to the Site relative to the FEMA 100-year and 500-year floodplain limits through site grading and landscaping.
  - Raises the Project Site grade so that the finished floor elevation for the Project is at +21.5 BCB, which includes taking into consideration sea level rise scenarios over the lifetime of the Project, making the Project resilient to current and future extreme storm events.

1.3.3 Transportation

- **Roadway Improvements** –
  - Includes significant functional and aesthetic improvements to the existing Project Site that will benefit the surrounding area.
  - Allows for potential improvements at the adjacent Summer Street/L Street intersection by setting the Project building back from the existing roadway.
- **Transit Improvements –**
  - Through an innovative supplemental bus service that is open to anyone with a Charlie Card or Charlie Ticket, in partnership with the MBTA, the Proponent endeavors to provide better bus service to the community. The Proponent is prepared to begin a pilot of supplemental service upon receiving its master plan approvals for the Project and the commencement of demolition in 2019, even before any occupancy of the Project Site.
- **Trip Reduction** –
  - Captures internal trips between different uses, resulting in the reduction of vehicle trips and creating opportunities to limit parking through sharing of parking spaces for different users by time of day.
- **Transportation Demand Management** –
  - Incorporates bicycle accommodations in compliance with BTD's guidelines to encourage bicycling, as well as walking, as alternative transportation modes.

- Implements a robust program of TDM strategies to take full advantage of nearby public transportation options.

› **Parking –**

- In response to community concerns about the current unavailability of resident parking in the City Point neighborhood, the Proponent is prepared to work with the City of Boston to provide an opportunity for additional night, weekend and snow emergency parking for neighborhood residents on the Project Site.

1.3.4 Social and Economic Benefits

› **Additional Residential Opportunities** –

- Provides up to approximately 1,344 new units of housing, including a combination of rental units and for-sale condominiums.
- Promotes a vibrant mixed-use neighborhood that will draw customers to restaurants, stores, and services in the area.

› **Affordable Housing** –

- Establishes affordable housing opportunities consistent with the BPDA's Inclusionary Development Policy ("IDP") and is committed to fulfilling the IDP requirements on-site.

› **Enhanced Retail Opportunities** –

- Provides new and diverse retail opportunities for neighborhood residents, visitors, and the public at large.

› **New Job Creation** –

- Enhances the economy by providing new job opportunities and a source of customers for local retail and restaurant establishments.
- Creates permanent jobs relating to the hotels, retail, restaurant, parking and residential administration components, and creates approximately 1,500 construction jobs in a variety of trades.

› **Enhanced Tax Revenues** –

- Generates new real estate tax revenues for the City of Boston.

1.4 Compatibility with Industrial Port

Since filing the ENF/EPNF, the Proponent has worked closely with Massport and other stakeholders in the DPA to identify appropriate measures to minimize the potential for conflict between the Project and the industrial port, and to appropriately codify those commitments in order to maintain those protections throughout the life of the Project. The Proponent recognizes the importance of these industrial uses to the local economy as well as the character of the neighborhood, and endeavors to deliver a project that is respectful of its context and enhances these surrounding uses.

As described in further detail in Chapter 5, *Transportation*, the Project will not adversely impact truck traffic associated with the DFC, nor are any changes proposed to the signal timing or geometry of the Summer Street/DFC intersection. Priority at this intersection will continue to be given to truck traffic associated with Conley Terminal. The Project's shared use of the DFC will be limited to service vehicles, and appropriate signage will be incorporated to deter passenger vehicles and pedestrians from accessing the DFC.

Key elements of the Project which enhance compatibility with the marine-industrial uses in the port are summarized blow.

- **Building Design –** The Project Team has adjusted and refined the design of the Project to create an arrangement of buildings that is compatible with the uses of an industrial port. Residential uses are buffered from the DFC by commercial uses and offset from the waterfront. Additionally, all for-sale residential condominiums are located away from the east edges of the Project Site. Rental residential units on Block F have been raised above a multi-story structured parking garage and the previous taller portions of the building that fronted the east property line have been removed. The taller height buildings in the Project have been moved toward the center of the Project Site and away from the east and north edges of the property to further provide acoustic and visual buffers from the movement of trucks and vehicles happening at grade along the DFC.
- **Landscape / Open Space Design –** The waterfront landscape strategy embraces the urban, industrial nature of this section of the waterfront and seeks to provide moments of respite and buffering from these elements. At its core, the waterfront is understood as an urban/industrial edge with a rich history of productivity. Elements of this history, such as the gantry and pump structures, remain on-site and are integrated into the waterfront design as elements of wonder and spaces for artful expression, for example through lighting. The design seeks to both provide people with visual access to the waterfront and physical passage along it while also keeping the majority of the activity away from the DFC. This is achieved through a tiered stormwater management area along the existing seawall and a sloped and heavily planted landscape buffer along the northeast edge of the property where the DFC comes closest to the Project Site. The stormwater management area is accessible only through a boardwalk intended as a slower pass-through option for visitors, while the landscaped buffer zone is sloped to

accommodate the grade change between the DFC and the overlook at the end of M Street, creating both a visual and physical barrier between the DFC and site users. The high canopy of trees along this buffer further separates visitors on the overlook from the activity on the DFC, focusing their views downtown and toward the turbine halls and waterfront itself. Plaza areas are located closest to the buildings and provide space for cafe seating, gathering, markets, and other activities at times of day and evening when compatible with the active industrial nature of the waterfront.

1.5 Community/Agency Outreach

Prior to filing the ENF/EPNF, the Proponent and members of the Project Team met with City and State agencies, elected officials, members of the IAG, abutting owners, neighborhood groups, community leaders, business owners, area residents, and other stakeholders to seek input and feedback on the development plan as it progressed. The Proponent hosted a series of meetings including an open house, two walking tours of the Project Site, and two design charrettes in early 2017 prior to this filing. Through this engagement process, the City received hundreds of recommendations from the community expressing their aspirations for the Project Site, and thoughts and ideas regarding the overall development.

Since the filing of the ENF/EPNF, several additional public community meetings were held during the public review and comment periods for the filing. In accordance with MEPA regulations, a public on-site consultation was held on June 21, 2017. During the public review, three community meetings and three IAG meetings were held during the public comment period:

- June 7, 2017 – Public Meeting
- June 12, 2017 – IAG Meeting
- June 21, 2017 – Public Meeting
- July 18, 2017 – IAG Meeting
- July 24, 2017 – Public Meeting
- July 31, 2017 – IAG Meeting

The Proponent will continue to meet with City and State agencies, elected officials, the IAG, abutting owners, neighborhood groups, community leaders, business owners, area residents and other stakeholders regarding this DEIR/DPIR during its review period and will continue to interface and consult with such parties during implementation of the Project.

1.6 Regulatory Context

This section lists the anticipated permits and approvals, as well as the local planning and regulatory controls applicable to the Project.

1.6.1 Local Zoning and Regulatory Controls (PDA)

The Project Site is located within the South Boston Marine Economy Reserve Subdistrict of the Harborpark Dorchester Bay/Neponset River Waterfront District, which is governed by Article 42A of the Code and shown on Zoning Map 4B/4C. The entire Project Site is also located within the Restricted Parking Overlay District ("RPOD").

Given a number of factors, particularly the size of the Project Site, the scale and complexity of the Project, and the proposed mix of uses, the Proponent intends to pursue approval of a Planned Development Area ("PDA") pursuant to Article 3-1A and Section 80C of the Code and the Proponent intends to submit a PDA Development Plan application. Once approved, the PDA Development Plan will set forth the relevant use, dimensional and other requirements applicable to the development of the Project in full compliance with the Code, including any relief which may be required from any of the above-referenced zoning districts. Discussions with the BPDA Staff have indicated that this approach to project permitting is appropriate. Approval of a PDA Development Plan for the Project will be coordinated with Large Project Review in accordance with Article 80B of the Code (and with MEPA).

Due to the Project location being within the Harborpark District, demolition or partial demolition of buildings may require review in accordance with the provisions of Article 85 of the Code. The need for Article 85 review will be determined through consultation with Boston Landmarks Commission staff in accordance with the provisions of Section 85-5 of the Code. If such review is required, it will be coordinated with the Article 80B and 80C approvals required for the Project.

1.6.2 Massachusetts Environmental Policy Act

The Project is subject to MEPA review because it exceeds a review threshold pursuant to:

1. **301 CMR 11.03(3)(a)(5)** – Project requires a new Chapter 91 license for a non-water dependent use which occupies more than one acre of tidelands;
2. **301 CMR 11.03(6)(a)(6)** – Generation of 3,000 or more new average daily trips on roadways providing access to a single location;
3. **301 CMR 11.03(6)(b)(15)** – Construction of 300 or more new parking spaces at a single location;
4. **301 CMR 11.03(10)(b)(a)** – Demolition of any exterior part of any Historic Structure listed in or located in any Historic District listed in the State Register of Historic Places or in the Inventory of Historic and Archaeological Assets of the Commonwealth; and
5. Requires the state actions described in Section 1.7 below.

1.6.3 Public Benefits Determination

The regulations at 301 CMR 13.02 require a public benefits determination be made by the Secretary for any project that:

- Files an Environmental Notification Form after November 15, 2007;
- Requires an Environmental Impact Report ("EIR"); and,
- Is completely or partially located in tidelands or landlocked tidelands.

The Project meets these criteria and therefore, requires a Public Benefit Determination. The regulations require the EEA Secretary to consider the following when making a Public Benefits Determination:

- Purpose and effect of the development;
- Impact on abutters and the surrounding community;
- Enhancement of the property;
- Benefits to the public trust rights in tidelands or other associated rights;
- Community activities on the development site;
- Environmental protection and preservation;
- Public health and safety; and,
- General welfare.

A description of the Project's public benefits as they relate to the above categories is provided in Chapter 8, *Wetlands and Waterways*.

1.7 List of Anticipated Permits and Approvals

Table 1-4 below presents a list of permits and approvals from local, state, and federal governmental agencies, which may be required for the Project. It is possible that not all permits or actions listed will be required, or that additional permits or actions may be needed, based on determinations during Project design and development.

Table 1-4 List of Anticipated Project Permits and Approvals

Agency/Department	Permit/Approval/Action
Federal	
Federal Aviation Administration	Determination of no hazard to air navigation (buildings and cranes), as necessary
Environmental Protection Agency	National Pollutant Discharge Elimination System ("NPDES")
	NPDES Construction General Permit
	NPDES Dewatering General Permit
	NPDES Remediation General Permit
	Stormwater Pollution Prevention Plan Preparation
Army Corps of Engineers	Section 10 / Section 404 Permit(s) (*if required*)

Commonwealth of Massachusetts	
Executive Office of Energy and Environmental Affairs	Massachusetts Environmental Policy Act Review
	Public Benefits Determination
Massachusetts Historical Commission	State Register Review
	Memorandum of Understanding ("MOU") (*if required*)
Massachusetts Office of Coastal Zone Management	Federal Consistency Review
Massachusetts Port Authority	Abutter Agreements
Massachusetts Department of Environmental Protection	Chapter 91 License
	Permit for discharge to groundwater (*if required*)
	Filings/approvals for remediation of hazardous materials
	Water Quality Certification (*if required*)
	Sewer Connection Permit (*if required*)
	Water/Sewer Cross Connection Permit (*if required*)
	Clean Air Act Permit(s) (*if required*)
Architectural Access Board	Regulation Variances (M.G.L. c.22, §13A; 521 CMR 3.00 *et. seq.*) (*if required*)
Massachusetts Water Resources Authority	Permit for Construction Dewatering *(if required)*
	Sewer Discharge Permit (*if required*)
City of Boston	
Boston Planning and Development Agency	Article 80B Large Project Review
	Article 80B-8 Disclosure of Beneficial Interests
	Article 80C Review – PDA Development Plan Approval
	Article 85 Demolition Day
	Conditional Use Permit (Restricted Parking Overlay District)
	BPDA Cooperation Agreement
	Development Impact Project ("DIP") Agreement
	Affordable Housing Agreement
	Boston Resident Construction Employment Plans
	City of Boston Jobs MOU
	First Source Agreement
Boston Civic Design Commission	Design Review
Public Improvement Commission	Licenses for earth retention, groundwater observation wells and street and sidewalk improvements, as necessary
Boston Conservation Commission	Order of Conditions
Boston Water & Sewer Commission	Site Plan Approval
Boston Transportation Department	Transportation Access Plan Agreement
	Construction Management Plan
Committee on Licenses, Public Safety Commission	Garage Permit and Fuel Storage License

Air Pollution Control Commission	Modified Parking Permit under South Boston Parking Freeze (*if required*)
Inspectional Services Department	Building Permit
	Certificate of Occupancy
Boston Parks Department	Permission required for erection or alteration of buildings or structures within 100 feet of Christopher Lee Playground/Medal of Honor Park (*if required*)

* This is a preliminary list of local, state and federal permits and approvals that may be sought for the Project. This list is based on current information about the Project and is subject to change as the design of the Project evolves.

1.8 Development Team

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

Proponent	HRP 776 Summer Street LLC, c/o Hilco Real Estate LLC in conjunction with Redgate Capital Partners Redgate 265 Franklin Street Boston, MA 02210 Ralph Cox ralph.cox@redgate-re.com Greg Bialecki gregory.bialecki@redgate-re.com Megha Vadula megha.vadula@redgate-re.com Hilco Real Estate, LLC 99 Summer Street, Suite 500 Boston, MA 02110 Benjamin Spera bspera@hilcoglobal.com Andrew Chused achused@hilcoglobal.com
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1.9 Legal Information

1.9.1 Legal Judgements or Actions Pending Concerning the Project

To the Proponent's knowledge, there are no legal judgements or actions pending concerning the Project.

1.9.2 History of Tax Arrears on Property Owned in Boston by the Applicant

There are no known tax arrears on property in Boston owned by the Proponent.

1.9.3 Evidence of Site Control

The Proponent owns fee title to the real property upon which the Project will be developed pursuant to a Quitclaim Deed granted to the Proponent by Exelon New Boston, LLC, dated April 21, 2016 and recorded at the Suffolk County Registry of Deeds in Book 56031, Page 130.

1.9.4 Public Easements

The Project Site is not subject to any easements for use by the public.

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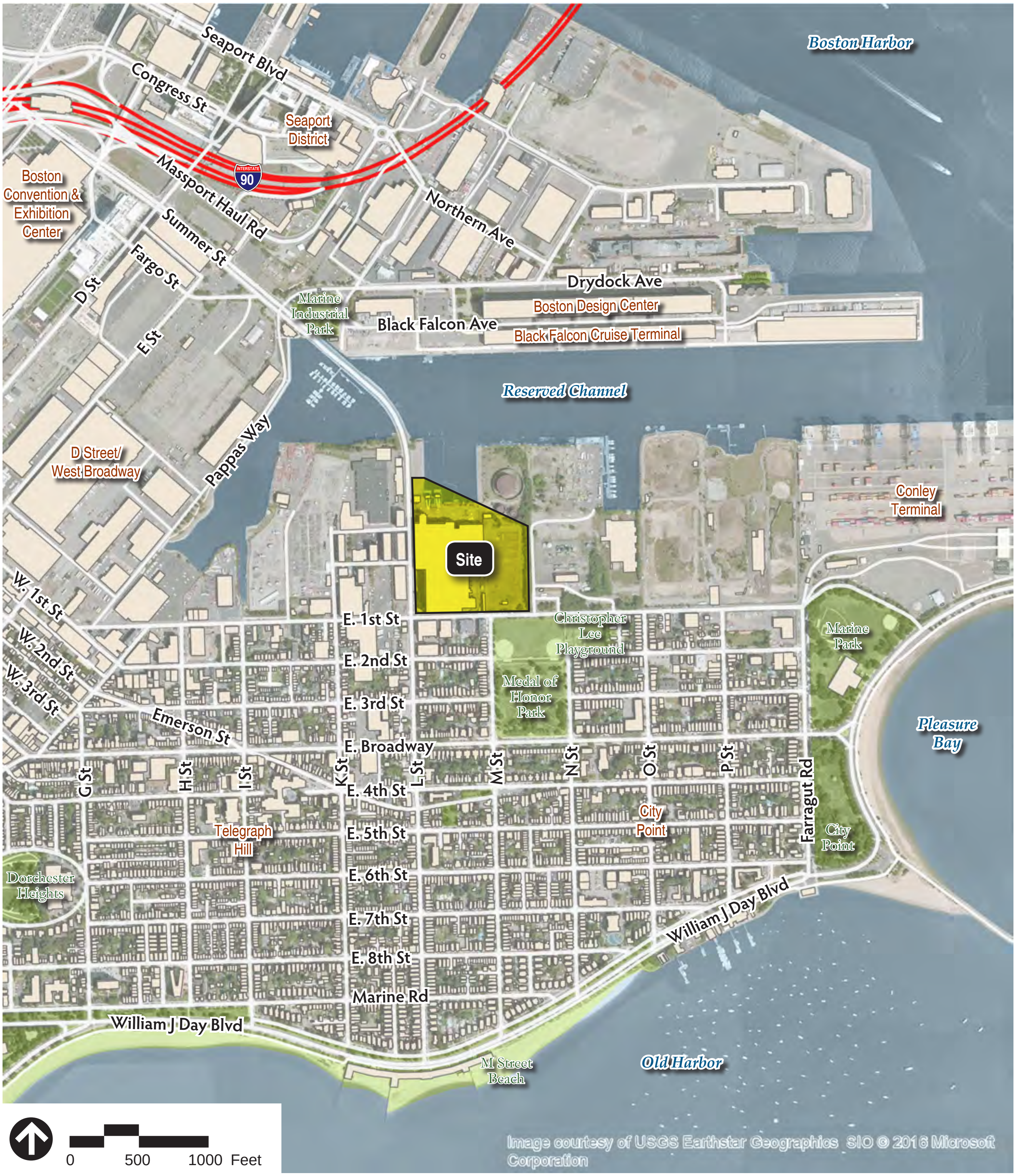
Source: 2015 USGS Topo Boston South

Figure 1.1

Project Location Map

L Street Station Redevelopment
Boston, Massachusetts



Source: ArcGIS Bing Aerial, MassGIS

Figure 1.2

Project Context Map

L Street Station Redevelopment
Boston, Massachusetts

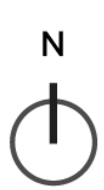


Figure 1.3
Urban Context

Source: MassGIS

Figure 1.4

Existing Conditions Site Plan

L Street Station Redevelopment
Boston, Massachusetts

Stantec

Figure 1.5
PROPOSED SITE DEVELOPMENT PARCELS

L Street Station Redevelopment
Boston, Massachusetts

Figure 1.6

Proposed Conditions Plan

L Street Station Redevelopment
Boston, Massachusetts

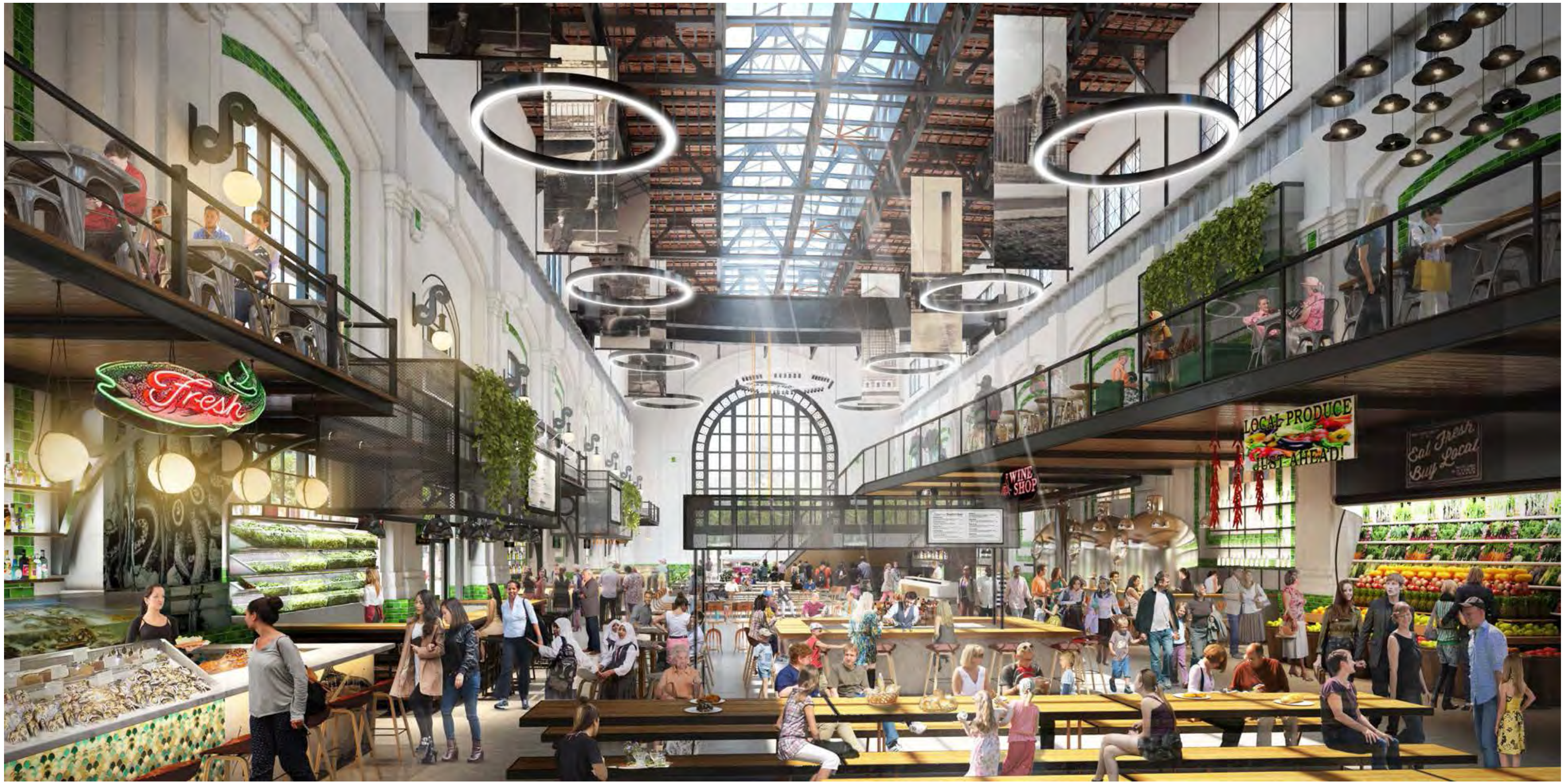
STOSS

TURBINE HALL 1: LOOKING SOUTH TOWARDS TURBINE HALL 2

Figure 1.7a
Project Renderings

L Street Station Redevelopment
Boston, Massachusetts

Stantec



TURBINE HALL 1: LOOKING NORTH TOWARDS WATERFRONT

Figure 1.7b
Project Renderings

L Street Station Redevelopment
Boston, Massachusetts

TURBINE HALL 2: LOOKING NORTH OF PASS-THRU TOWARDS EXHIBITION HALL

Figure 1.7c
Project Renderings

TURBINE HALL 2: LOOKING SOUTH OF PASS-THRU TOWARDS MUSEUM

Figure 1.7d
Project Renderings

L Street Station Redevelopment
Boston, Massachusetts

Stantec

1898 BLDG: FROM ELKINS STREET TOWARDS 1898 BLDG

Figure 1.7e
Project Renderings

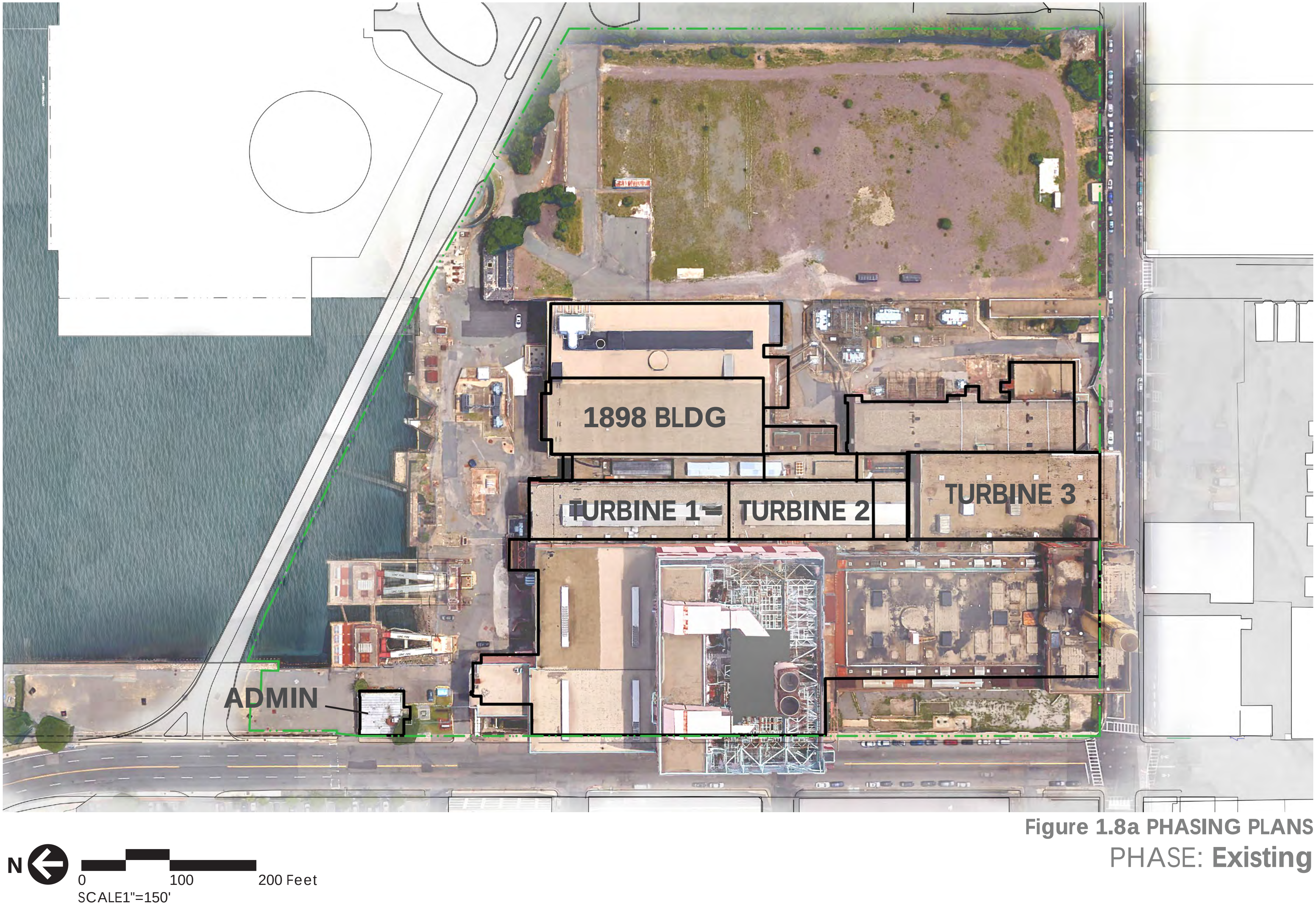
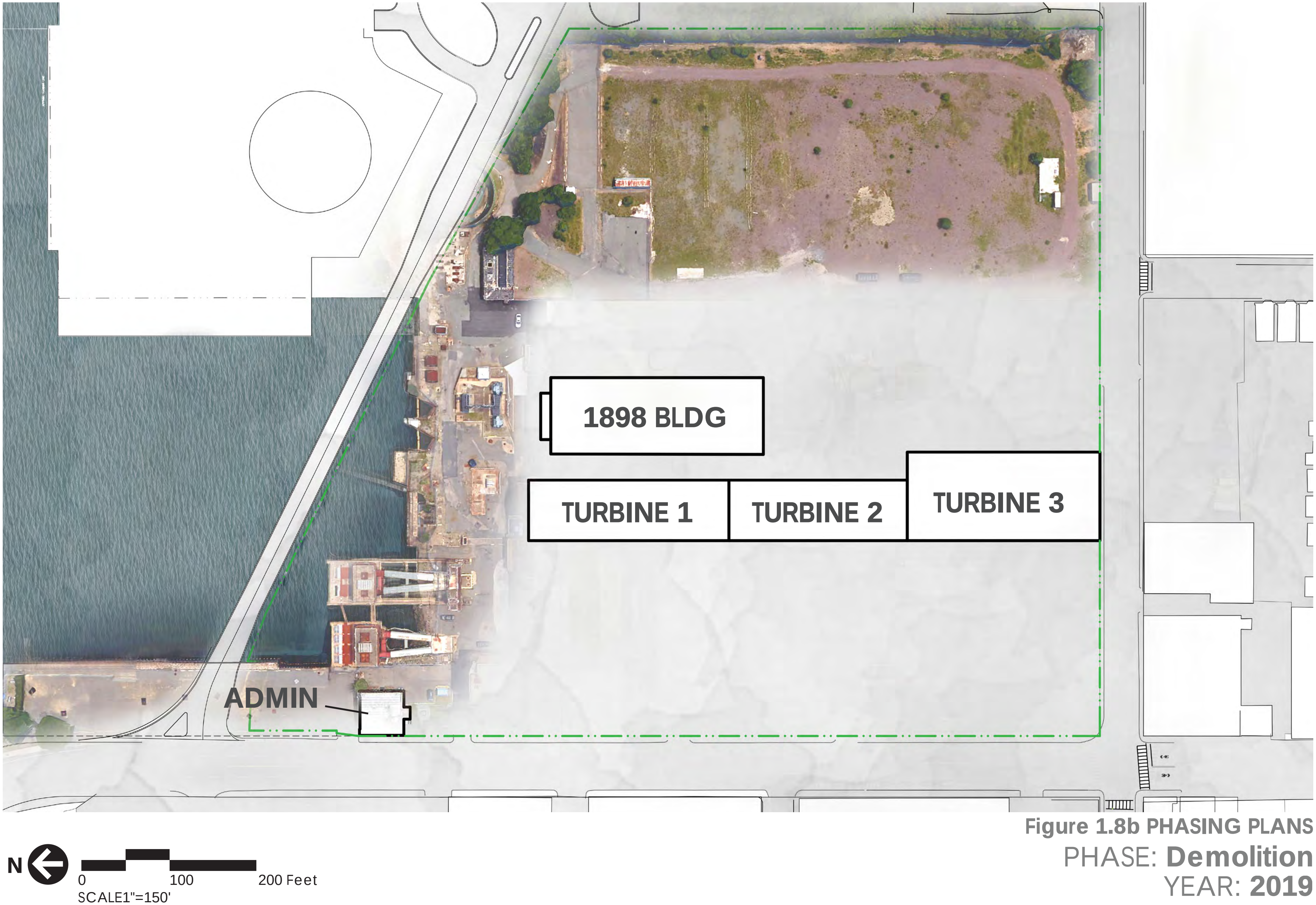


Figure 1.8a PHASING PLANS

PHASE: Existing

Stantec

L Street Station Redevelopment
Boston, Massachusetts



Stantec

Figure 1.8b PHASING PLANS

PHASE: **Demolition**

YEAR: **2019**

L Street Station Redevelopment
Boston, Massachusetts

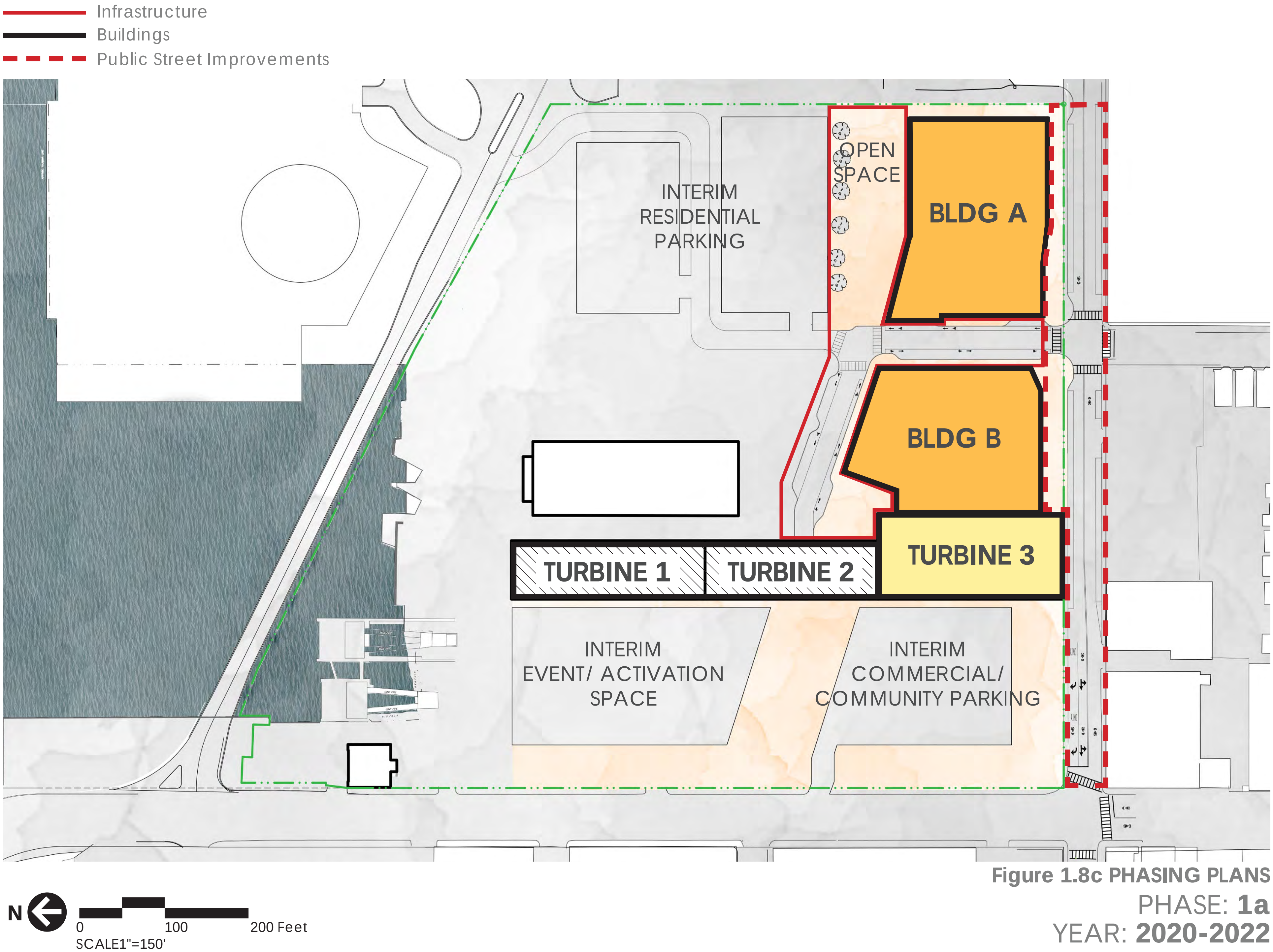


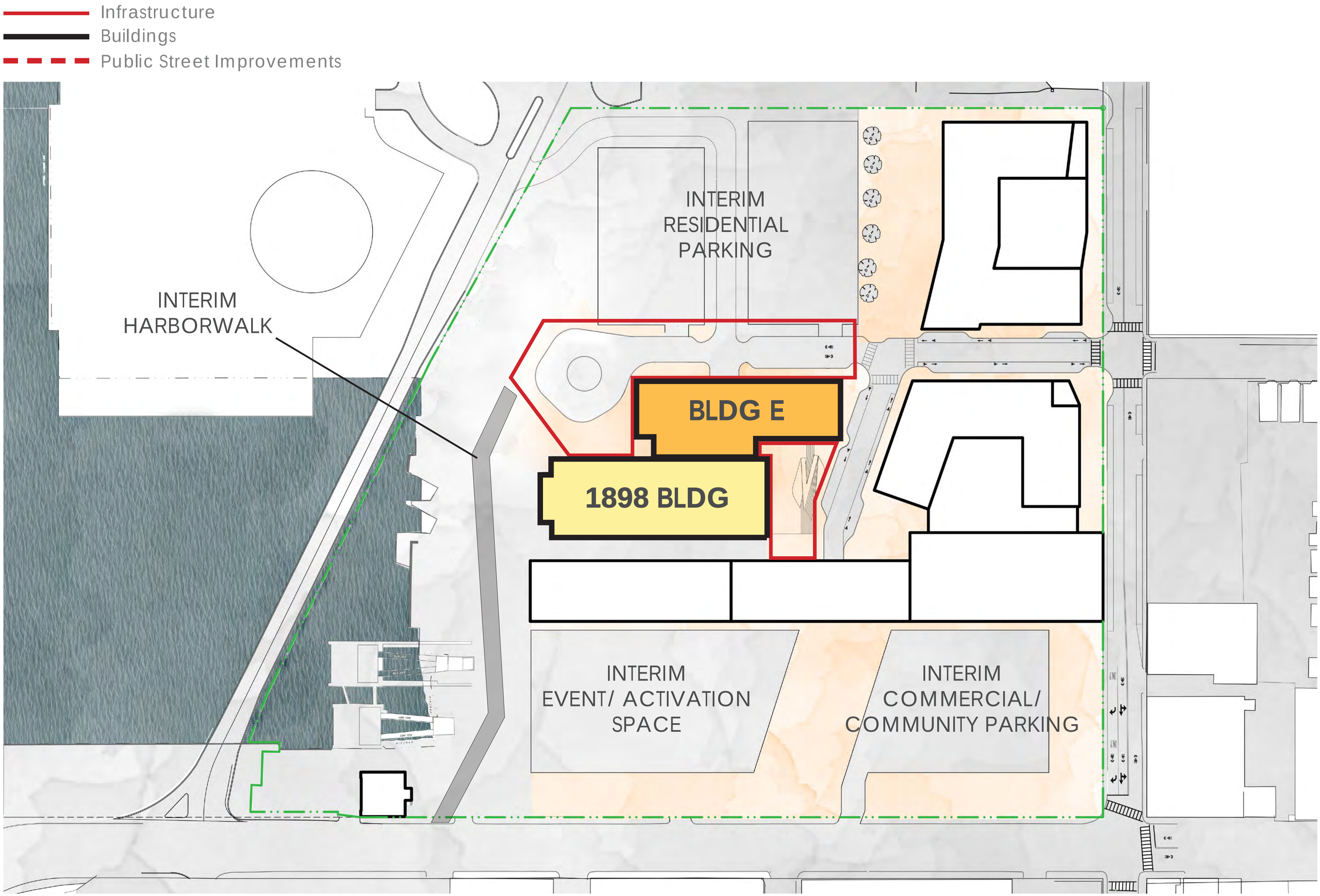
Figure 1.8c PHASING PLANS

PHASE: **1a**

YEAR: **2020-2022**

L Street Station Redevelopment
Boston, Massachusetts

Stantec



N

0 100 200 Feet

SCALE1"=150'

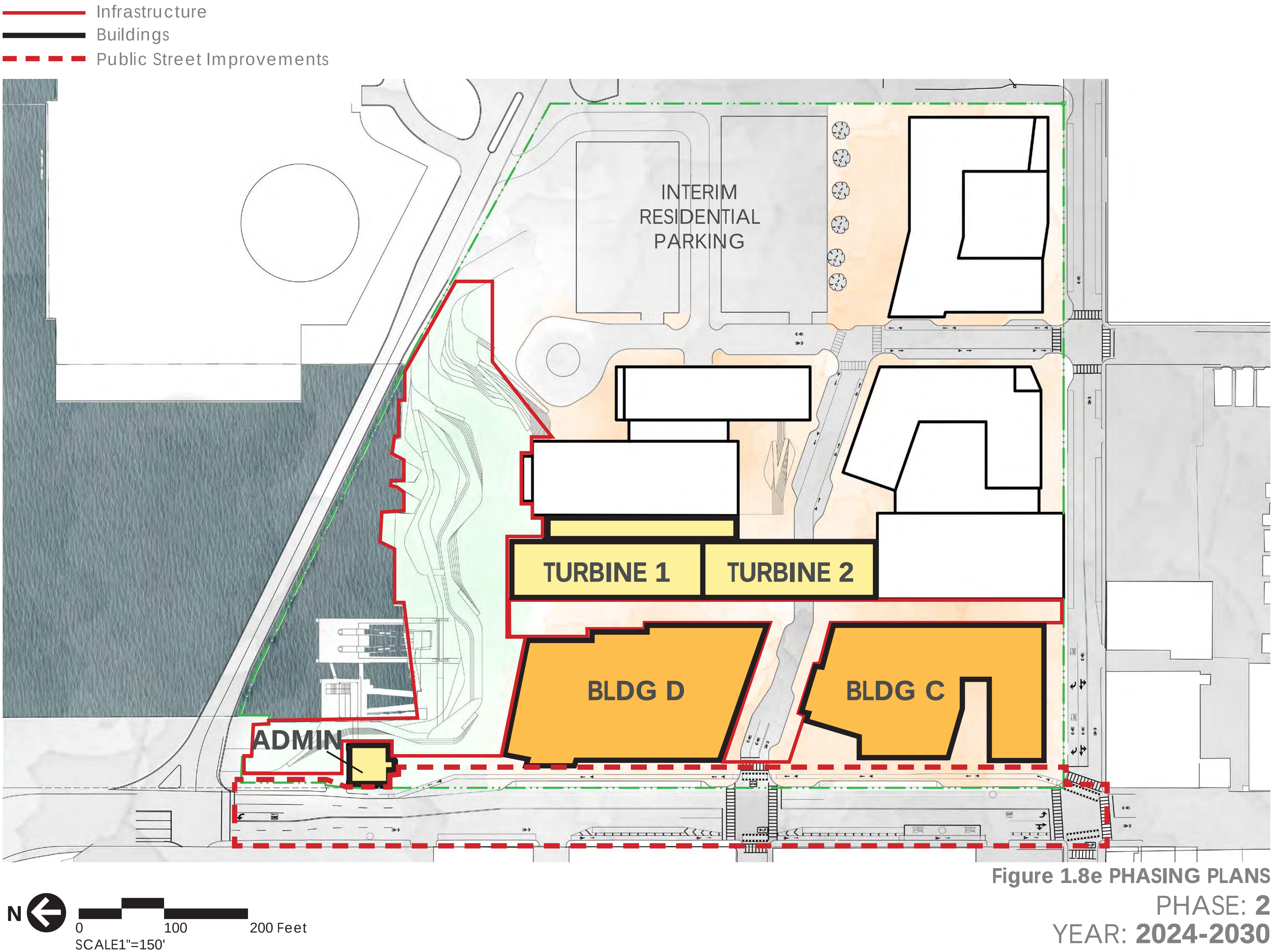
Stantec

Figure 1.8d PHASING PLANS

PHASE: **1b**

YEAR: **2022-2024**

L Street Station Redevelopment
Boston, Massachusetts



Stantec

Figure 1.8e PHASING PLANS

PHASE: **2**

YEAR: **2024-2030**

L Street Station Redevelopment
Boston, Massachusetts

Stantec

Figure 1.8f PHASING PLANS

PHASE: **3**

YEAR: **2030-BEYOND**

L Street Station Redevelopment
Boston, Massachusetts

Figure 1.8g PHASING PLANS

FULL BUILD SITE PLAN

Stantec

L Street Station Redevelopment
Boston, Massachusetts

2

Alternatives Analysis

In accordance with 301 CMR 11.07(6)(f) of the MEPA regulations, the ENF Certificate, and the BPDA Scoping Determination, four site development alternatives were considered in this DEIR/DPIR. This section provides a summary of the four site development alternatives considered:

1) a DPA Compliant Alternative;
2) a DPA Compatible Alternative which assumes construction of new buildings for commercial use ("DPA Compatible Alternative A");
3) a DPA Compatible Alternative which assumes reuse of the existing buildings for commercial use ("DPA Compatible Alternative B", and previously reviewed in the ENF/EPNF as Alternative B); and
4) a Reduced Density Alternative which comprises the current proposal (the "Project" or "Preferred Alternative").

Note that following issuance of the ENF Certificate and the BPDA Scoping Determination, the landward area of the Project Site has been removed from the DPA.

2.1 Project Goals and Objectives

The following Project goals have been evaluated to reflect the City, State, and community planning and objectives for development of the Project Site within the South Boston neighborhood, including 2017 BPDA Planning Process for the Project Site and input received during the ENF/EPNF comment periods. These goals have served as the framework for the Project Team's evaluation of the various alternatives considered:

Address Civic Vision

- Respond to prior planning initiatives that relate to the area, including the 1999 Seaport Public Realm Plan, which envisioned First Street as more residential in scale and use, and the 2011 East & West First Street Planning and Rezoning effort (Article 68), which focused on use and dimensional standards to facilitate the development of a mixed-use district that reflects the changes in the community and protects both growing residential uses and existing commercial and industrial uses.
- Provide for the adaptive reuse of the 1903 Edison Turbine Hall and 1898 Building and new opportunities for new arts, civic and cultural uses, while creating new opportunities for jobs, housing, and businesses that can function with the adjacent port related uses along the Reserved Channel.
- Allow for expanded access to the waterfront and create new, active open spaces.

- Develop the site in a way that will serve community needs for gathering space, civic and cultural facilities, as well as new food and retail options.
- Create an "Arts and Industry" themed district as the heart and soul of the site which defines the look and feel of the development and preserves the historic industrial and port-related attributes of the site.
- Provide a mixed-use development program which attracts a variety of communities and demographics through ground floor public uses which serve community needs, and support and complement local businesses.
- Build a roadway, sidewalk and open space design that is legible and welcoming to the public, and which takes cues from the site's former industrial uses and scale.
- Avoid adverse impacts to traffic congestion and parking, and where possible, improve access to transit, mobility conditions, and multi-modal infrastructure.

Balance Community Input

- Incorporate various design elements that are respectful to the scale and character of the neighborhood.
- Minimize any potential adverse effect on the continued viability of Conley Terminal and the Raymond Flynn Cruiseport, and keep the long-term sustainability of the port in mind as the Project evolves.
- Avoid adverse impacts to traffic congestion and parking, and where possible, improve access to transit, mobility conditions, and multi-modal infrastructure.
- Provide a range of rental and homeownership opportunities to help meet the needs of middle-income households who are having difficulty finding housing in the South Boston neighborhood.
- Clean up past industrial contamination and improve environmental conditions for the surrounding neighborhood.

Minimize Environmental Impacts

- Incorporate sustainable concepts in all aspects of planning, design, construction and operation.
- Exceed minimum energy performance requirements.
- Improve stormwater and effluent quality.
- Encourage alternative transportation modes by improving bicycle and pedestrian accommodations.

Create Financially Feasible Development on a Large, Intensively Used Industrial Site

- Recognizing the engineering and financial challenges associated with demolition and environmental cleanup and remediation, and the existing site grading challenges, create successful development which will meet requirements of lenders, investors and condominium purchasers.

2.2 Project Alternatives

The following Project alternatives have been considered, consistent with the ENF Certificate and the BPDA Scoping Determination:

DPA Compliant Alternative

The DPA Compliant Alternative envisions the repair and rehabilitation of the existing buildings to resume the prior use of the site for power generation. This alternative assumes that the site will continue to be inaccessible to the public and that all existing buildings would remain. This alternative is compliant with the DPA and Chapter 91 regulations as it relies on seawater intake for cooling.

The DPA Compliant Alternative would not include any of the community benefits associated with the Project (see Section 1.3, *Summary of Public Benefits*) This alternative anticipates that the existing buildings would be reused for water-dependent power generation as it is the most feasible land use option that could potentially offset the cost of the necessary rehabilitation and maintain water-dependency. It is assumed that the rehabilitated power generation facility would continue to run on oil since the existing infrastructure is in place and it is the most viable water-dependent power generation option. For the purposes of the impact analysis presented below, this comparison assumes that the existing structures could, and would, be rehabilitated and reused.

Under this scenario, the existing buildings, surrounding open spaces, and the waterfront would remain inaccessible to the public. The DPA Compliant Alternative would not include the major environmental benefits anticipated by the cleanup of the Project Site and improvements to stormwater management. Supported by the lack of meaningful proposals over the past decade to reoccupy the site for power generation, it is unlikely that a water-dependent industrial use could justify the costs necessary to reoccupy the buildings and restore functionality. Furthermore, many of the more modern forms of power generation, including natural gas, are not considered to be water-dependent as they do not rely on proximity to the water. Aside from power generation, most water-dependent industrial uses rely on access to navigable waters. The presence of the DFC and shallow draft along the Project shoreline severely inhibit potential water-dependent uses on the site. It is for these reasons that the site has been removed from the DPA through CZM review.

DPA Compatible Alternative A

The first DPA Compatible Alternative, DPA Compatible Alternative A, contemplates redevelopment of the Project Site for office and retail uses. This alternative would mimic the massing of the Preferred Alternative (the Project); however, by removing residential and hotel uses on the site, it reduces the potential conflict between residents and the adjacent industrial DPA users. As requested by the EEA Secretary in the MEPA Certificate, the Project Team considered opportunities to reposition open space away from the DFC; however, Chapter 91 regulations prohibit nonwater-dependent uses within 100 feet of the shoreline. Therefore, substantial reorientation of open space was not further explored.

The density of this alternative mimics that of the Preferred Alternative as it is the level of density necessary to offset the high cost of site remediation and development. The demolition of existing buildings triggers the need for substantial investment into the Project Site. This alternative would include new ground floor retail and publicly accessible open space; however, it would fail to meet the desire for mixed-use and neighborhood scale development along 1st Street and would not satisfy the need for additional housing opportunities in the South Boston neighborhood. It would also result in considerably higher trip generation rates during peak hours of travel.

Due to the heavy office uses, the retail associated with DPA Compatible Alternative A would likely be tailored to serve those uses rather than neighborhood-scaled retail with night and weekend activity (i.e. the Financial District). The site would receive little activity outside of typical office hours.

DPA Compatible Alternative B

The second DPA Compatible Alternative, DPA Compatible Alternative B, presented as Alternative B in the ENF/EPNF, contemplates infill development of the existing structures to accommodate 1.5 million square feet of office development along with a new 1,500 space parking garage to the east of the existing buildings. Alternative B contemplates the reoccupation of the existing structures by redeveloping the Project Site for general office uses. Refer to Figure 2.1.

Alternative B would reactivate the site and provide new jobs and tax revenue; however, it would fail to meet the stated goals of the City and community for a mixed-use development on the site. While Alternative B may include some improvement of the existing Turbine Hall to stabilize the existing structures for use, the structures would remain inaccessible to the public and would be repaired for functionality rather than rehabilitated to highlight their period significance (as is proposed by the Project). Lastly, Alternative B would not lead to the degree of environmental cleanup proposed on the Project Site by the Proponent, nor would it remove the existing activity and use limitation.

Reduced Density Alternative (Preferred Alternative)

The Reduced Density Alternative consists of the Project, or Preferred Alternative, as described in Section 1.2, *Project Description*. The Project minimizes impacts by reducing the density and increasing the proportion of uses that generate fewer trips as compared to the program contemplated in the ENF/EPNF. Additionally, this alternative remains compatible with the adjacent DPA by focusing residential uses away from the DFC and closest to the established residential neighborhood along East 1st Street. The Project will also incorporate acoustic and vibration mitigation, as needed, to minimize the likelihood of any disruption to residents from adjacent industrial uses.

Table 2-1 below defines the programs of the four development alternatives.

Table 2-1 Project Build Alternatives

	DPA Compliant Alternative	DPA Compatible Alternative A	DPA Compatible Alternative B	Preferred Alternative
Total Square Footage	185,800 SF	1.93 Million SF	1.50 Million SF	1.93 Million SF
Parking Spaces	275	1,544	1,500	1,397
Number of New Buildings/GFA	0	7	1	7
Primary Ground Floor Use	Industrial	Retail/Office	Office	Public Uses/ Hotel/Residential/ Commercial/Retail
Primary Upper Floor Use	Industrial	Office	Office	Hotel, Residential, Commercial

2.3 Qualitative and Quantitative Comparison Analysis

The sections below compare potential environmental impacts of the Project alternatives. Table 2-2 below provides a quantitative impact analysis comparing the DPA Compliant Alternative, DPA Compatible Alternatives A and B and the Preferred Alternative.

Height and Massing

The DPA Compliant Alternative would maintain the existing conditions at the Site with the existing buildings, poor quality open spaces, and the waterfront remaining inaccessible to the public and cut off from the surrounding neighborhood. The height and massing of the DPA Compatible Alternative A is similar to the massing of the Preferred Alternative. DPA Compatible Alternative B would maintain the existing structures on the site but would include construction of a parking garage on the eastern portion of the site.

In accordance with the Boston Zoning Code, heights are measured from “Grade” consisting of the average elevation of the nearest sidewalk at the lines of the streets on which the Project abuts, to the top of the highest occupied structure. Under the DPA Compliant Alternative and DPA Compatible Alternative B, the height is measured to the top of the existing building as 166 feet; however, the smoke stacks reach a total height of approximately 330 feet above the average grade. The DPA Compatible Alternative B and Preferred Alternative propose building heights of approximately 210 feet. Refer to Chapter 3, *Urban Design*, for additional information on the height and massing of the Project and how the massing has been scaled based on the context of the neighborhood and surrounding buildings.

Table 2-2 Comparison of Project Alternatives

Impact Category	DPA Compliant Alternative	DPA Compatible Alternative A	DPA Compatible Alternative B	Preferred Alternative
Program and Building Height				
Total GFA	185,800	1.93 Million SF	1.50 Million SF	1.93 Million SF
Total Building Height	185 Feet	210 Feet	185 Feet	210 Feet
Land				
Total Impervious Surface Area (building footprint and paved area)	9.8 ac	12 ac	13 ac	12 ac
Water & Wastewater				
Water Use (GPD)	15,329	156,108	123,750	329,890
Wastewater Generation (GPD)	13,935	141,916	112,500	299,900
Traffic				
Peak Hour AM Trips	47	787	627	375
Peak Hour PM Trips	41	827	621	433
Parking				
Parking Spaces	275	1,544	1,500	1,397
Waterways/Public Benefits				
Ch. 91 Compliant FPAs[1]	NA	Yes[2]	No[2]	Yes
Public Open Space	NA	Yes	Limited	Yes
Restoration of Historic Buildings	No	Yes	Limited	Yes

GFA Gross Floor Area
ac Acres PLOS
GPD Gallons per day
SF Square feet
1 Facilities of Public Accommodation ("FPAs") as defined under 310 CMR 9.02.
2 FPAs are not required beyond 100 feet of the Project Shoreline in Private Tidelands under Chapter 91.

Land

The DPA Compliant Alternative would result in no increase in impervious area; however, existing pervious areas on the Project Site are comprised of compacted dirt and gravel with limited vegetation and poor infiltration capacity. DPA Compatible Alternative B would result in an increase in impervious area due to the construction of the parking garage on the eastern portion of the site. Given the anticipated use as an office building, public access to the Site would be extremely limited, and landscape/green space improvements would be geared toward the benefit of the employees rather than the public. The DPA Compatible Alternative A and the Preferred Alternative result in an increase in impervious area (lesser than under DPA Compatible Alternative B), primarily due to the development of the eastern half of the parcel which is currently undeveloped, but will improve the quality, accessibility, and functionality of the Project Site. DPA Compatible Alternative A and the Preferred Alternative also result in the clean-up and remediation of the Project Site to ensure it is safe and accessible for all anticipated uses, however in the absence of residential uses, the activity of on the Project Site would be dispersed throughout

Water and Wastewater

Due to the larger development program and inclusion of residential and hotel uses, the Preferred Alternative is expected to require more potable water and result in more sanitary sewage than the DPA Compliant Alternatives. However, the DPA Compliant Alternative and DPA Compatible Alternative B would not be expected to include the improvements to stormwater management that will be included in the Preferred Alternative. Improved stormwater management helps to control runoff and improve water quality within Boston Harbor. The Preferred Alternative proposes low-flow fixtures and additional water conservation measures to reduce water demand and wastewater generation.

Traffic and Parking

The Preferred Alternative minimizes traffic impacts by providing a mix of uses that reduce peak hour trip generation in each direction. DPA Compatible Alternative A results in considerably more vehicle trips during the peak commuting hours of travel due to the higher proportion of office uses, which is a higher trip generator than residential uses. Similarly, the proportionally high amount of office in DPA Compatible Alternative B results in more vehicle trips during the peak hours than the Preferred Alternative. The Preferred Alternative would generate fewer vehicle trips as a result of the mix of office and residential uses, and as discussed in Chapter 5, *Transportation*, proposes TDM measures to discourage single occupant vehicle trips and provide new transit opportunities to the neighborhood.

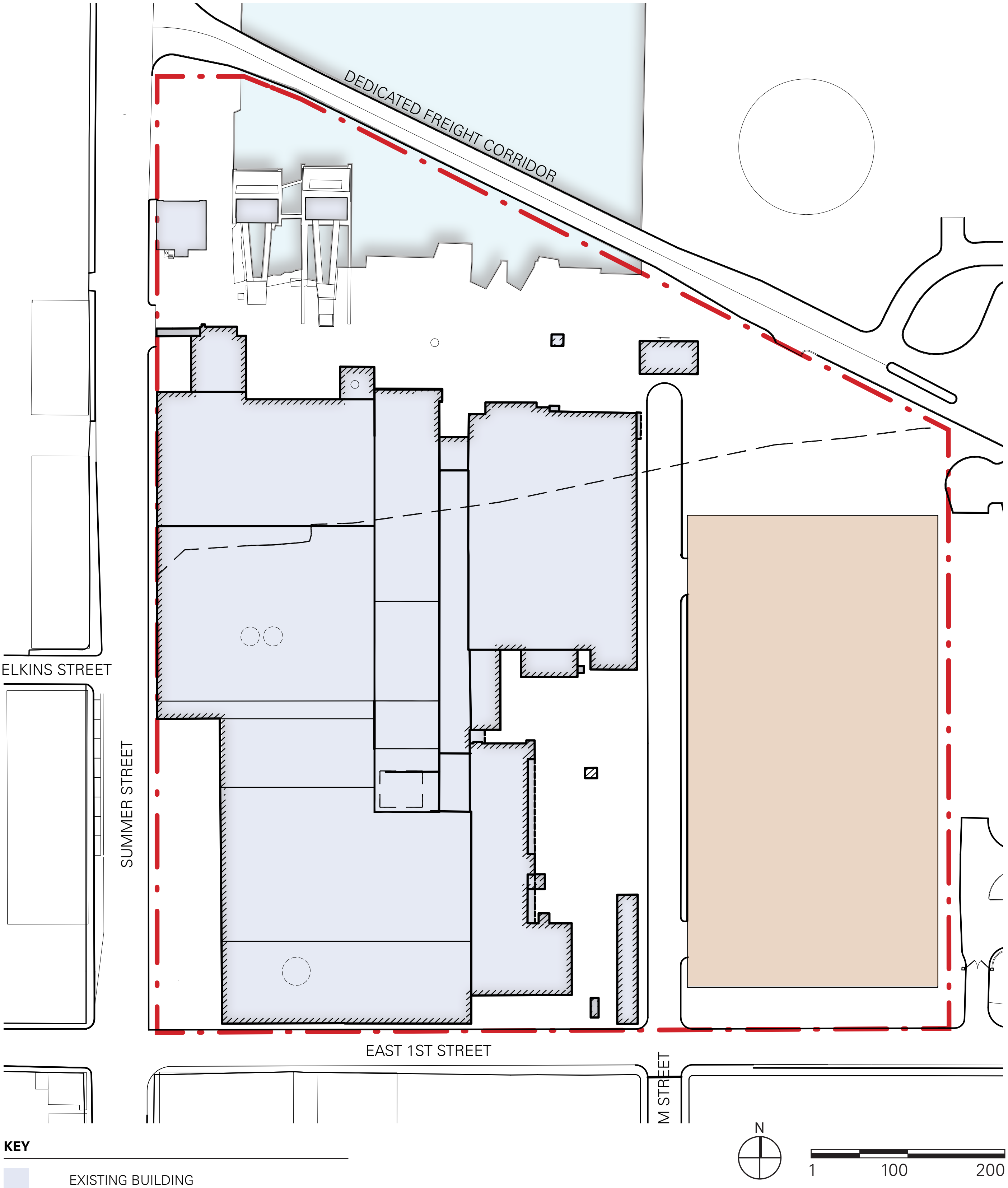
Under the DPA Compliant Alternative and DPA Compatible Alternative B, the parking would be anticipated to serve the development and no parking would be made available to the public. The high parking count for DPA Compatible Alternative be is based on one parking space per 1,000 square feet of office, which assumes less TDM than the Preferred Alternative and DPA Compatible Alternative B. The Preferred Alternative and DPA Compatible Alternative B utilize the same parking ratios (as described in Chapter 1, *Project Description*); however, the Preferred Alternative requires fewer spaces due to the mix of uses and ability to share parking.

Greenhouse Gas Emissions/Air Quality

As discussed above, given the reduction in vehicle trips as compared to the DPA Compatible Alternatives, the Preferred Alternative is expected to result in reduced GHG and other air emissions associated single-occupancy vehicles (mobile sources) as compared to such other alternatives. The Preferred Alternative also reduces stationary source emissions, as compared to the DPA Compliant Alternative by replacing the former power-generation facility with modern, efficient, and sustainable buildings. Refer to Chapter 6, *Environmental Protection,* for additional detail on Project measures to improve air quality and Chapter 7, *Greenhouse Gas Emissions Assessment,* for a discussion on measures to reduce GHG emissions.

2.3.1 Conclusion

The Preferred Alternative avoids or minimizes environmental impacts to a greater extent than the other alternatives. The Preferred Alternative will provide a modern and sustainable development that is consistent with planning recommendations, and which strongly supports the economic development and sustainable goals of the City and State. Analysis of the Preferred Alternative, including its existing site characteristics, development costs, and mitigation requirements did not identify a practical alternative that would significantly reduce the environmental impacts over the Preferred Alternative. The Preferred Alternative offers substantial public and environmental benefits that are expected to extend to the broader community, City, and region, providing new opportunities for housing, employment, and recreation. Consequently, the Preferred Alternative is carried forward for further analysis in this document.



KEY

EXISTING BUILDING

PARKING GARAGE

PROJECT SITE

CHAPTER 91 JURISDICTION

Figure 2.1

DPA Compatible
Alternative B

L Street Station Redevelopment
Boston, Massachusetts

3

Urban Design

This chapter describes the existing urban context of the Project Site and discusses the planning principles and design goals for the Project. It also describes urban design characteristics (i.e., height and massing) and public realm improvements proposed as part of the Project. Supporting graphics are provided, including massing diagrams, building floorplans, building sections, building elevations and view perspectives.

As requested in the BPDA Scoping Determination, specifically the Planning and Urban Design comments on the ENF/EPNF, this chapter provides information on the following topics:

› Open space network and connections beyond the Project Site;
› Neighborhood context and scale; and
› Architecture.

3.1 Summary of Key Findings and Benefits

The Project will provide a range of public and community benefits to promote neighborhood enrichment, usable new open space, access to the waterfront, environmental remediation, economic activity, improved circulation, and a mix of uses and housing options. Some of the public and community benefits of the Project are described below:

› The currently inaccessible Project Site will be resized into neighborhood scale street and block dimensions that continue the connections to existing roads and pedestrian/bicycle desire lines that exist at the edges of the site.
› All of the existing sidewalks that border the property will be significantly increased in both size and quality:
  - Improvements along East 1st Street include large building setbacks, wide sidewalks with planting strips and street trees, and a new pedestrian passage through the Turbine Halls that will allow shared bike lanes to be created within the existing roadway width.
  - Summer Street improvements include much wider sidewalks than existing with dedicated bike lanes, planting strips and street trees. New public seating plazas and retail courts along with planting areas and bus shelters have been introduced.
  - Building massing has been pulled back from the Summer Street edge to create more daylight, more comfortable pedestrian wind conditions and better connectivity through retail passages to the pedestrian alley near the Turbine Hall.

- The continuation of M Street from the neighborhood south of the Project Site will provide a visual and practical corridor down to the waterfront along a tree-lined street with active ground floor café retail and restaurant uses.
- A richly landscaped greenspace and playground area has been designed along M Street in between Blocks A and F as a place for families and small children.
- A new landscaped bluff with seating and greenspace has been designed at the end of M Street to provide a place to relax with views back the Seaport and downtown Boston. The bluff has a vehicular turnaround for easy drop-off to the overlook area for those coming by car, and ample bicycle parking for those riding.
- The Elkins Street connection from M Street down to Summer Street is now lined with a series of pedestrian terraces and piazzas to accommodate groups and events. The terrace in front of the 1898 Building has multiple locations for sitting or gathering and is landscaped with decorative urban planters and large shade trees.
- The large waterfront open space that spans across the width of the Project Site is easily accessible from multiple directions and entrance points from the existing neighborhood. Bicycle paths, dedicated pedestrian streets and active corridors allow safe, easy travel down the water's edge from East 1st Street.
- New bike lanes have been created that allow travel through the Project Site from the existing neighborhood, providing cyclists the opportunity to bypass the intersection of Summer and East 1st Street.
- The urban plan places a priority on both through-site connections and through-building passageways that allow the public to move seamlessly throughout the site. The multiple options for walking, biking, shopping, sitting and meandering will create a pleasurable day and evening experience and will be a draw for those living nearby.

3.2 Neighborhood Context

The Project sits at a very important transition point between what has been described as the finer-grained density of the neighborhood to the south and the South Boston Waterfront District to the north. The Project Team has studied the scale and context of the site within this larger framework in both physical and digital three-dimensional models. Working with the BPDA over a series of meetings, the Project Team has refined and relocated both the positions and heights of buildings to allow for greater porosity, daylight exposure and connections through the Project Site and into the neighboring areas.

The Project Team has come to understand that the quality of connections through the Project Site is as important as the number of connections. As mentioned above, the current master plan for the Project affords many new ways to traverse the Project Site in pedestrian scale experiences and travel routes.

The larger blocks along Summer Street have been subdivided into smaller masses with cross-connections through them. The taller buildings have been brought in to the center of the Project Site and away from the direct street edges. The existing tall Power Plant building that sits six-feet off the curb on Summer Street will be replaced with multiple buildings of various heights and setbacks from the street that will maximize daylight, views and activity.

Building height at the edge of the neighborhood has been set along East 1st Street to be lower than the existing Power Plant structure to be demolished and only slightly higher than the existing Turbine Halls to be preserved.

3.3 Planning Principles and Design Goals

The following guiding principles have been used to help form the shape and character of the Project and will be an integral part of the design guidelines as the Project moves through its various phases of design and construction.

› Recognize the neighborhood's rich history and the history of the L Street Power Plant and surrounding industrial uses.
› Preserve and enhance some of the most significant existing site buildings including the Turbine Halls, the 1898 Building, and the Administration Building.
› Create a singular unified public realm/landscape plan that will be the datum of the district providing consistency and continuity.
› Develop a vibrant retail environment connected in character and spirit to the industrial nature of the district.
› Create a series of pedestrian oriented experiences unlike any other in the City of Boston.
› Invite innovation and artful design in the development of much needed residential and commercial buildings.
› Create internal and outdoor event space for community functions, markets, history exhibits and art happenings.
› Create a porous, easily accessible street and block network that connects the South Boston community to the waterfront and to the Seaport District.
› Create highly sustainable buildings and landscape.

3.4 Site Layout and Open Space

The currently large and publicly inaccessible Project Site is broken down into a series of street, block and open space arrangements that have been organized to promote physical connections to the existing fabric of the adjacent neighborhood and to invite pedestrian, vehicular and bicycle passage through the site and down to the waterfront. The hierarchy of this network prioritizes movement across the site from the neighborhood to the south out to the waterfront to the north, but also promotes connections from the long Summer Street edge diagonally up and through the site to East 1st Street and the directionality of the Thomas Butler Park and Castle Island connections. Unique exterior and interior destinations and open spaces are linked by a series of circulation routes crisscrossing the site. These spaces include:

- A new waterfront open space and event space;
- A landscaped bluff and overlook at the end of M Street;
- A new family-oriented green space and children's playground;
- New urban terraces and piazzas along Elkins Street;
- The grand interiors of the Turbine Halls;
- New Summer Street sidewalk and gathering space zones and courtyards; and
- New retail lined pedestrian passage along the Turbine Halls.

Refer to Figure 3.1 for Neighborhood Connectivity and Figure 3.2 for the Conceptual Landscape Plan.

3.4.1 Open Space/Landscape Approach

The landscape approach focuses on the creation of a network of open spaces that links existing adjacent neighborhoods, parks and open space to the waterfront, provide a diversity of fully accessible open space types, and allow for public access to the historic Turbine Halls and newly created retail centers. Refer to Figure 3.3 for an overview plan of the proposed public open spaces and Figures 3.4a-g for conceptual detail plans for each location. Provided below is a summary of the Project's open space and landscape approach.

- The waterfront open space celebrates the heritage and industrial character of the shoreline, while providing stormwater collection gardens which serve to reduce upland runoff while also providing flood protection due to anticipated sea level rise. This area encourages opportunities for both larger programmed gatherings and events, casual seating and passive recreation throughout the seasons.
- At the easternmost edge of the waterfront the existing topography rises and provides an unobstructed view across the DFC and Reserved Channel to Downtown Boston. This topography is incorporated into the landscape approach, providing an overlook with views to the waterfront and the City. Stairs and ramps integrated into the slope to create amphitheater-like seating where people can watch events and sunsets or simply socialize. This topography is also taken advantage of to create a landscaped buffer between the waterfront, Block H and the DFC.
- The pedestrian walkway to the west of Turbine Hall provides opportunities for temporary and permanent art installations as well as a unique retail experience. Visitors and residents can move freely between the Turbine Hall itself and lower level retail in Blocks C and D. This walkway connects East 1st Street and the neighborhood beyond to the waterfront.
- The upland area surrounding the residential buildings is a distinctive area that makes strong connections to Butler Park, Christopher Lee Playground and Medal of Honor Park. The feeling within this area is one of community and passive recreational uses. Industrial heritage is incorporated more subtly through occasional artifacts turned into play objects or recycled surfacing. Street trees

are prevalent here, distinguishing it from the more industrial areas surrounding the Turbine Halls. A large open, softscape area between Blocks A and F serves to connect the interior of the site to Butler Park and provides play space for families. This play space is of a smaller scale and type than the large athletically focused fields across East 1st Street at Christopher Lee Park.

- Smaller café terraces and plazas associated with the Turbine Halls are located throughout the Project Site, allowing opportunities for small scale socializing, eating and simply relaxing.

3.4.2 Street Layouts and Block Planning

The large line of internally linked Turbine Halls that run from East 1st Street to the waterfront were used as a datum to create a south/north '*site bias*' directing the flow of the pedestrian experience with the desire lines of the neighborhood to be more connected to the waterfront as a community destination. This 'bias' or directionality was reinforced by creating two major south/north spines: an exterior pedestrian passage running parallel to the Turbine Halls with multiple entrances running down its length that allows for interior and exterior retail activity; and a new street that extends M Street across the site to a raised 'bluff' overlooking the waterfront with views to downtown.

Each of these new spines are lined with ground level commercial or public uses that are suitable and complimentary to the scale of the experience. The alley along the Turbine Halls is more intimate in scale and width of travel than the M Street extension that allows both cars and pedestrian travel. M Street will have residential and hotel lobby entrances as well as larger restaurant and office uses, while the pedestrian alley will focus on smaller retailers and cross-connections to the Turbine Hall markets and community retailers. Refer to Figure 3.5 for the streetscape improvement plan.

A new street extending east from the existing Elkins Street intersection with Summer Street further divides the site into smaller building blocks. Elkins Street extension runs diagonally from Summer Street in between Blocks C and D, through a double height passageway cut into Turbine Hall 2 and up to M Street, where it ends in a pedestrian only open space, children's playground and path that runs between Blocks A and F and up the MBTA City Point Bus Terminal and to the Thomas J. Butler Dog Park area.

In addition to Elkins Street, there are pedestrian circulation routes and passageways that run in an east-west direction across the site breaking it down into a variety of paths that create a walkable, safe and porous district experience. These include the wide retail passageway running from Summer Street through Block C to the pedestrian alley, the waterfront open space, greenspace, bluff and event spaces on the north side of the site and the street running between Blocks F and H east of M Street.

3.4.3 Pedestrian and Bicycle Networks and Accessibility

The ground plane design and circulation layout will prioritize and strengthen pedestrian movements over vehicular or bike movements within the site boundaries. Vehicular paths will have flush curbs with bollards and be paved with the same materials as the walking paths to slow down vehicular speeds with the goal of providing a pedestrian focused, safe walking environment. Refer to Figure 3.6 for pedestrian access and circulation and Figure 3.7 for emergency and service circulation.

As described above in Section 3.4.1, *Open Space/Landscape Approach*, the walking surface of the Project will be consistent in its material using pavers in lieu of asphalt and will provide a uniform level of quality and detail that will tie the various parts of the district together in a singular fashion.

In addition to the overall landscape gesture, the size and character of the public open spaces will vary. Planting zones and streetscapes will also support a variety of neighborhood experiences ranging from a tree-lined street, wall murals, and a children's park, to terrace concepts, lighting installations, etc. These may be a combination of landscape, furniture, architecture and/or art elements.

3.4.4 On-Street Parking

In addition to garage parking at each block, on-street parking spaces are proposed to support the mixed-use programs. These on-street parking spaces will be located along Summer Street, East 1st Street, and M street.

Refer to Figures 3.8a-e for street sections.

3.5 Building Design Concept and Development

The following sections describe the initial design intent of the proposed buildings. As discussed in Chapter 1, *Project Description,* the Project is envisioned as a mixed-use, pedestrian scaled development, that brings new energy to the previously inaccessible site. Refer to Figures 3.9a-c for proposed floor plans.

3.5.1 Historic Preservation

The Project Team values the historic importance of the Project Site and has evaluated each of the existing buildings for potential reuse based on their overall condition and utility, as well their historic character. As described in greater detail in Chapter 10, *Historic Resources*, the most historically significant buildings, including the Turbine Halls, 1898 Building, and Administration Building, will be reused, and will serve to define the rest of the Project.

The neo-classical architecture and materiality of the existing Turbine Halls will serve as a reflexive point of inspiration for new buildings on the site which will not try to mimic the 19^{th} Century architectural style, but rather capture the innovation and warmth of the buildings through new complimentary expressions. Many of the buildings in the Fort Point Channel Historic District, such as 315 on A Street, have created a dialogue with the history of the site but have done so in a more modern, expressive language.

Design Guidelines for the creation of new buildings will be developed that capture the spirit of the district in both building and street design with an emphasis on artful, innovative but reflexive design that creates a dialogue with the strong historic character of the site.

3.5.2 Height and Massing

The heights of the proposed buildings comply with Federal Aviation Administration ("FAA") airspace restrictions for Logan Airport Runway 22R and Chapter 91 height limitations, and are respectful of the neighborhood context along East 1st Street. The Project consists of eight new neighborhood blocks with buildings ranging from 82 to 210 feet in zoning height. Refer to Figure 3.10 for height/massing diagrams.

Maximum anticipated buildings heights for new buildings are as follows:

- Block A – 82 feet – Residential, 7 stories
- Block B – 82 feet – Residential, 7 stories
- Block C – 84/206 feet – Residential, 21 stories
- Block D – 84/164 feet – Residential/Hotel, 15 stories
- Block E – 210 feet – Residential, 20 stories
- Block F – 115 feet – Residential, 9 stories
- Block H – 139 feet – Office, 12 stories

3.5.3 Character and Exterior Materials

The Project will be designed with a focus on the pedestrian experience. Buildings will have a variety of textures, patterns, and colors, all of which will respect the historic context of the Project Site. Mixtures of industrial as well as traditional residential materials will be used to blend the character of the South Boston neighborhood and the urban and industrial nature of the site. Building materials will include brick, painted brick, concrete, stone, wood, metal, tile, fiber cement clapboards and panels, glass, and metal canopies. Sidewalks will have concrete, brick and stone surfaces, and will include flush curbs at Turbine Street and M Street to enhance accessibility and reinforce the shared street concept, artful landscaping, and creative bench and lighting designs.

Refer to Figures 3.11 and 3.12 for building elevations and building sections, respectively.

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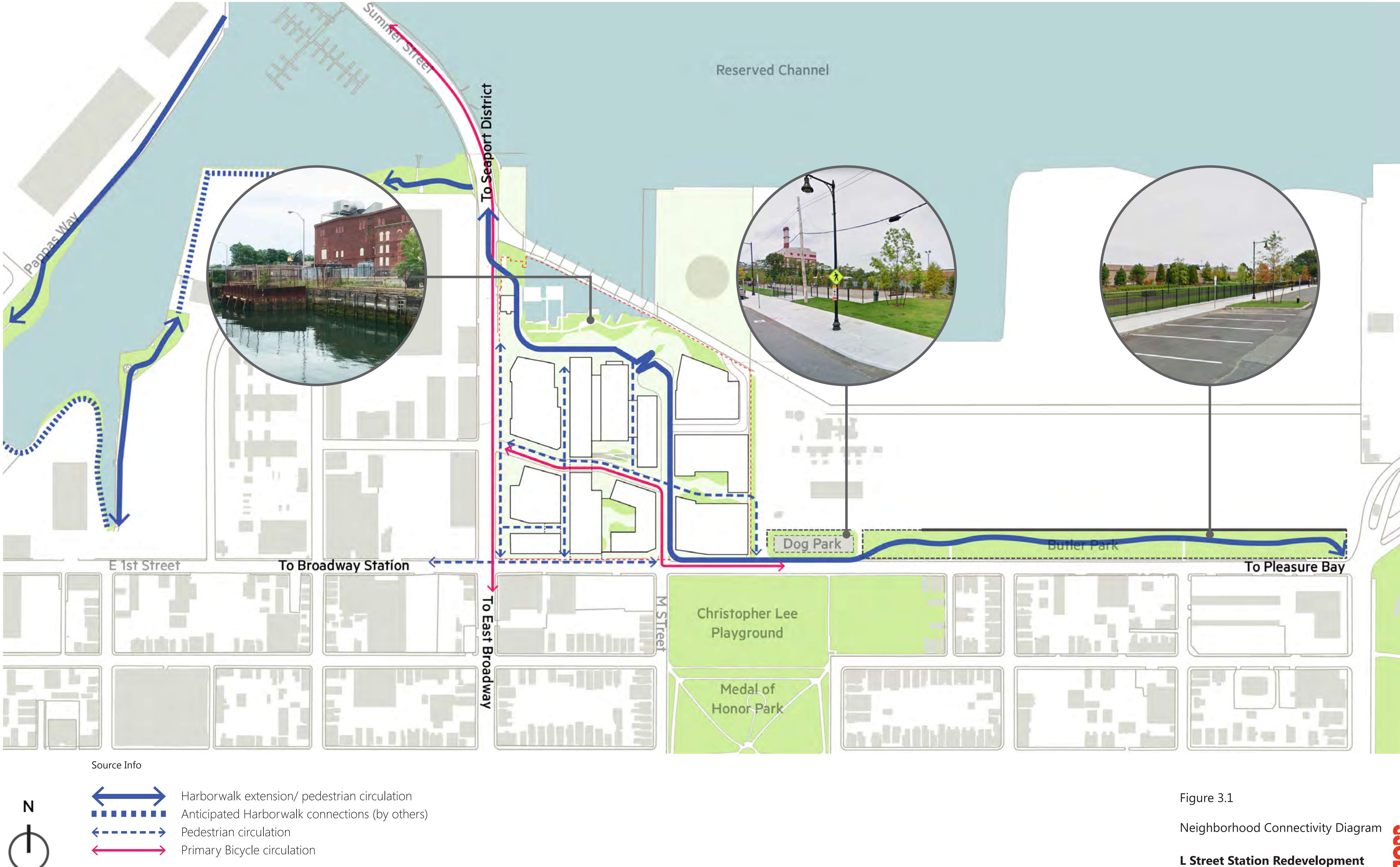

Figure 3.1

Neighborhood Connectivity Diagram

L Street Station Redevelopment
Boston, Massachusetts

STOSS

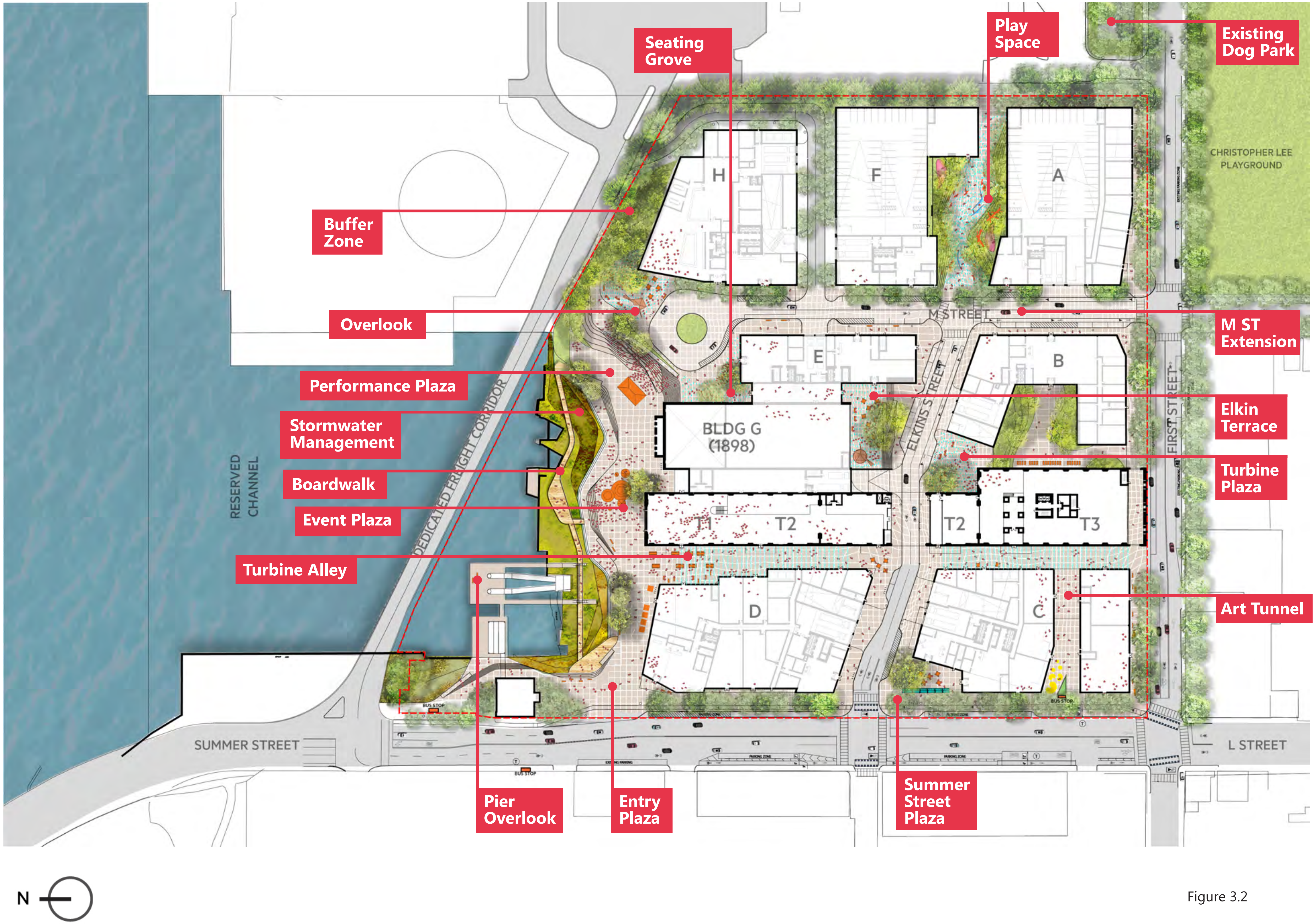

Figure 3.2

Conceptual Landscape Plan

L Street Station Redevelopment
Boston, Massachusetts

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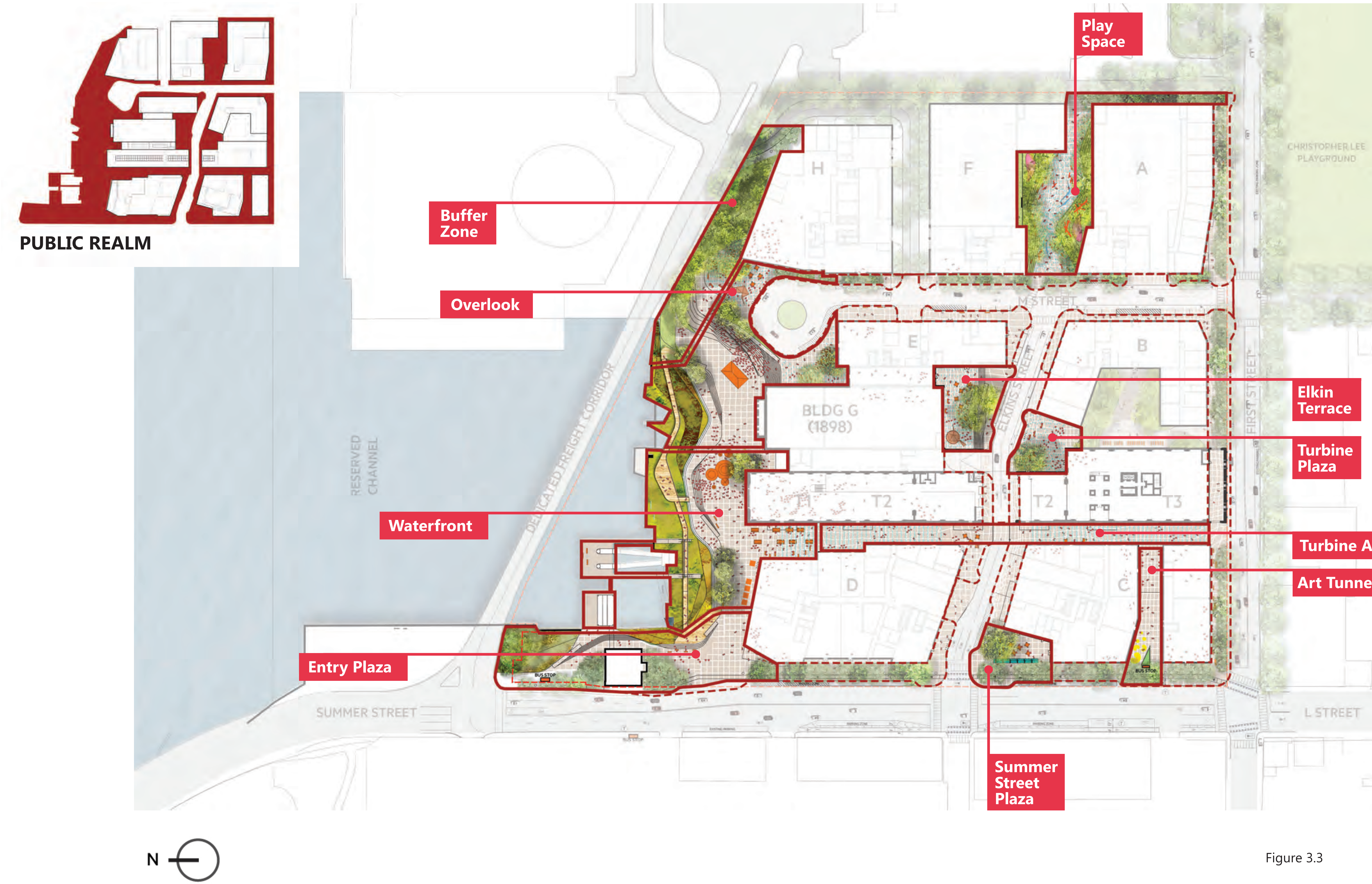

Figure 3.3

Public Open spaces plan

L Street Station Redevelopment
Boston, Massachusetts

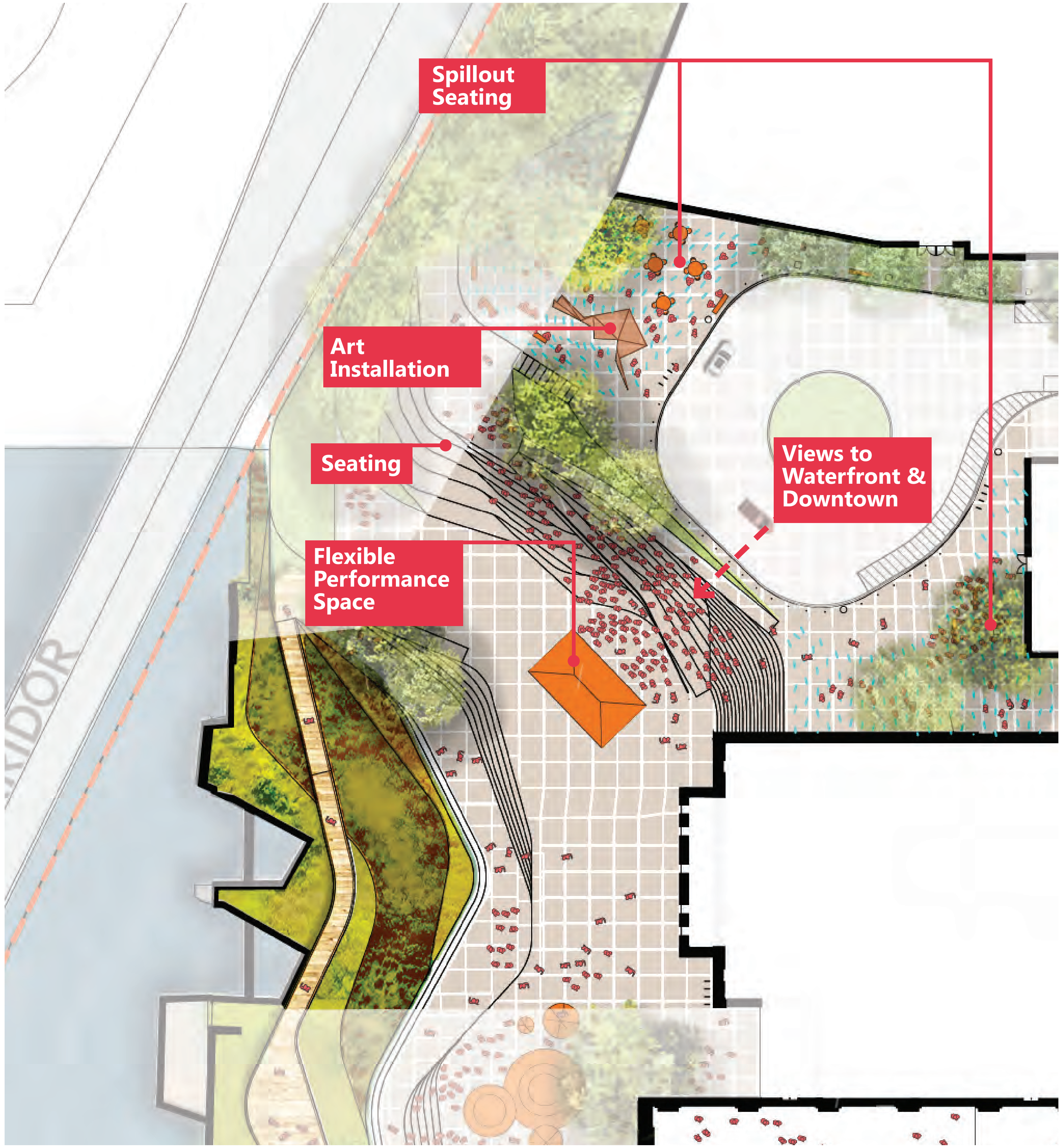

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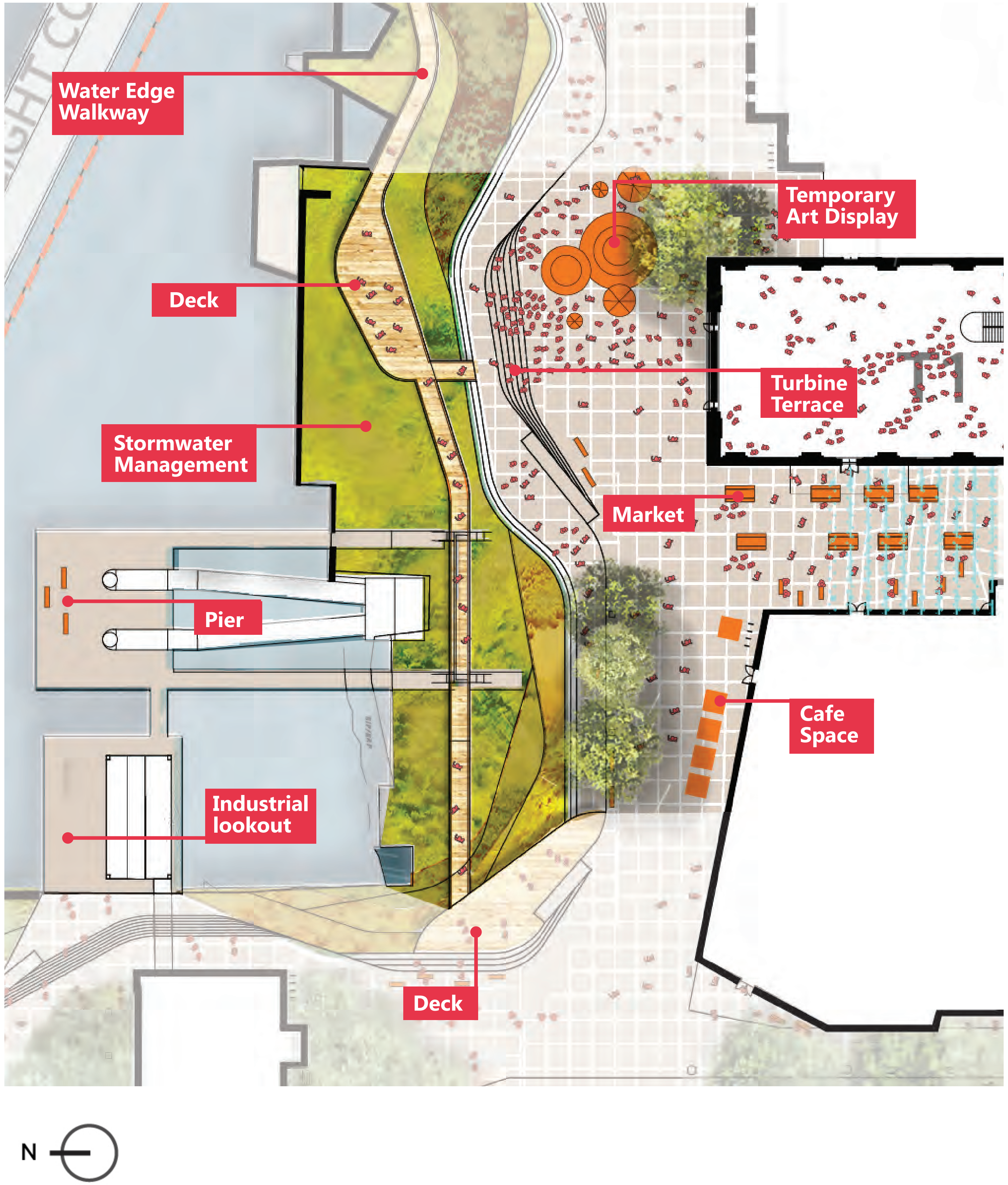
Figure 3.4A

Detail Plan - Overlook

L Street Station Redevelopment
Boston, Massachusetts



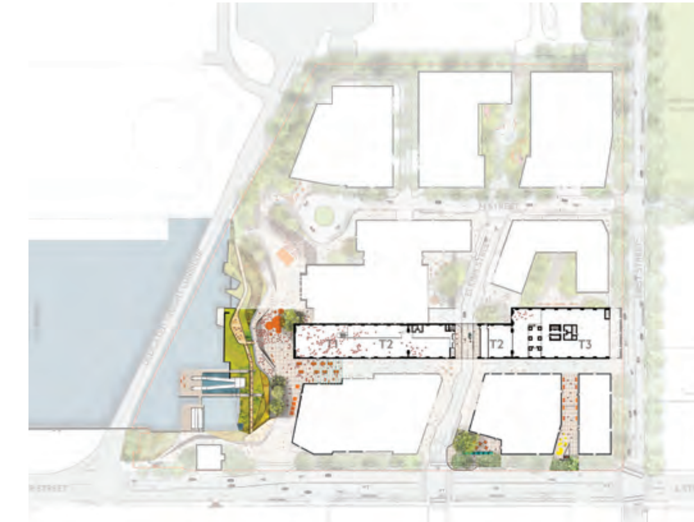
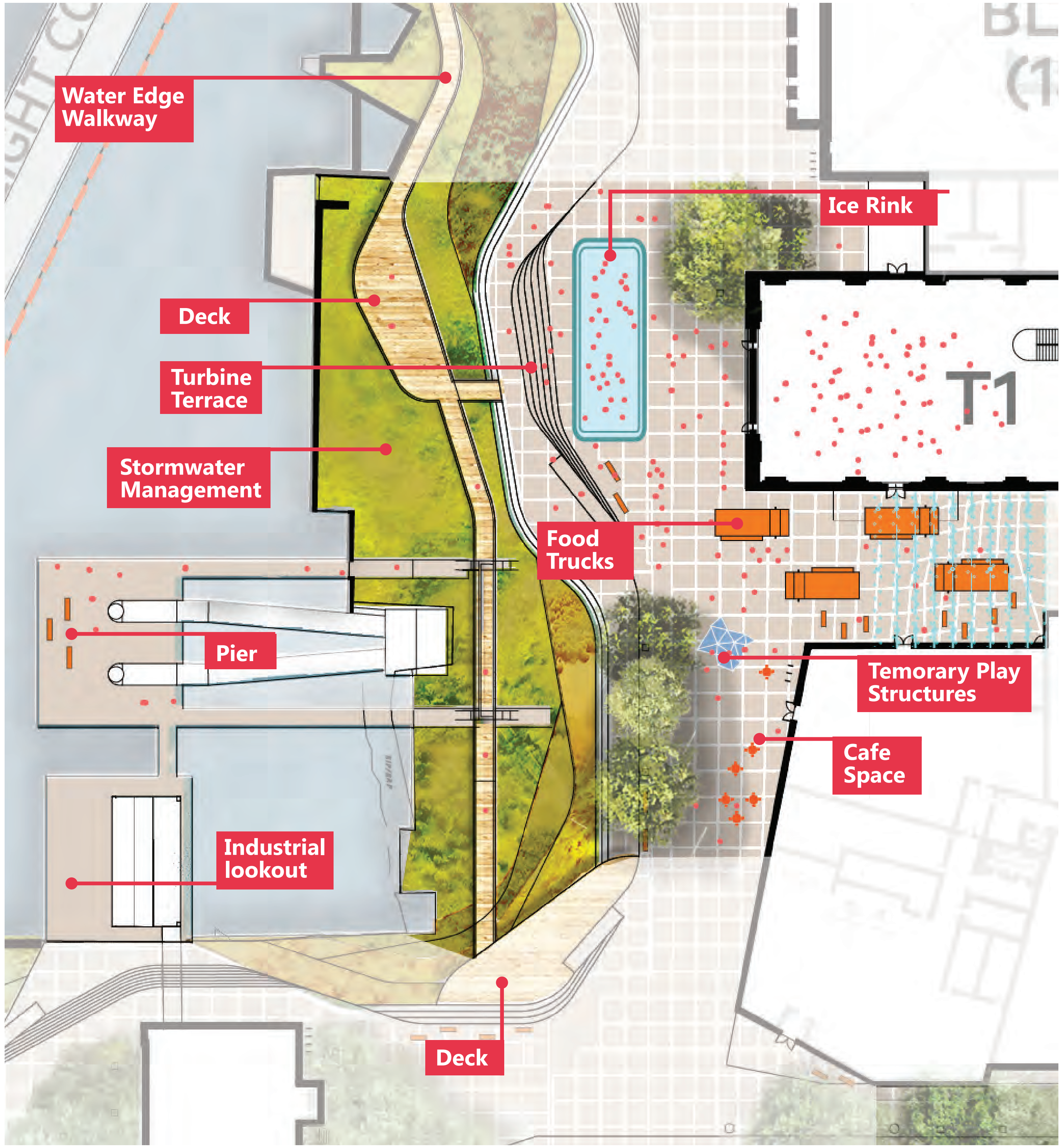


Figure 3.4B-1

Detail Plan - Waterfront

L Street Station Redevelopment
Boston, Massachusetts

STOSS



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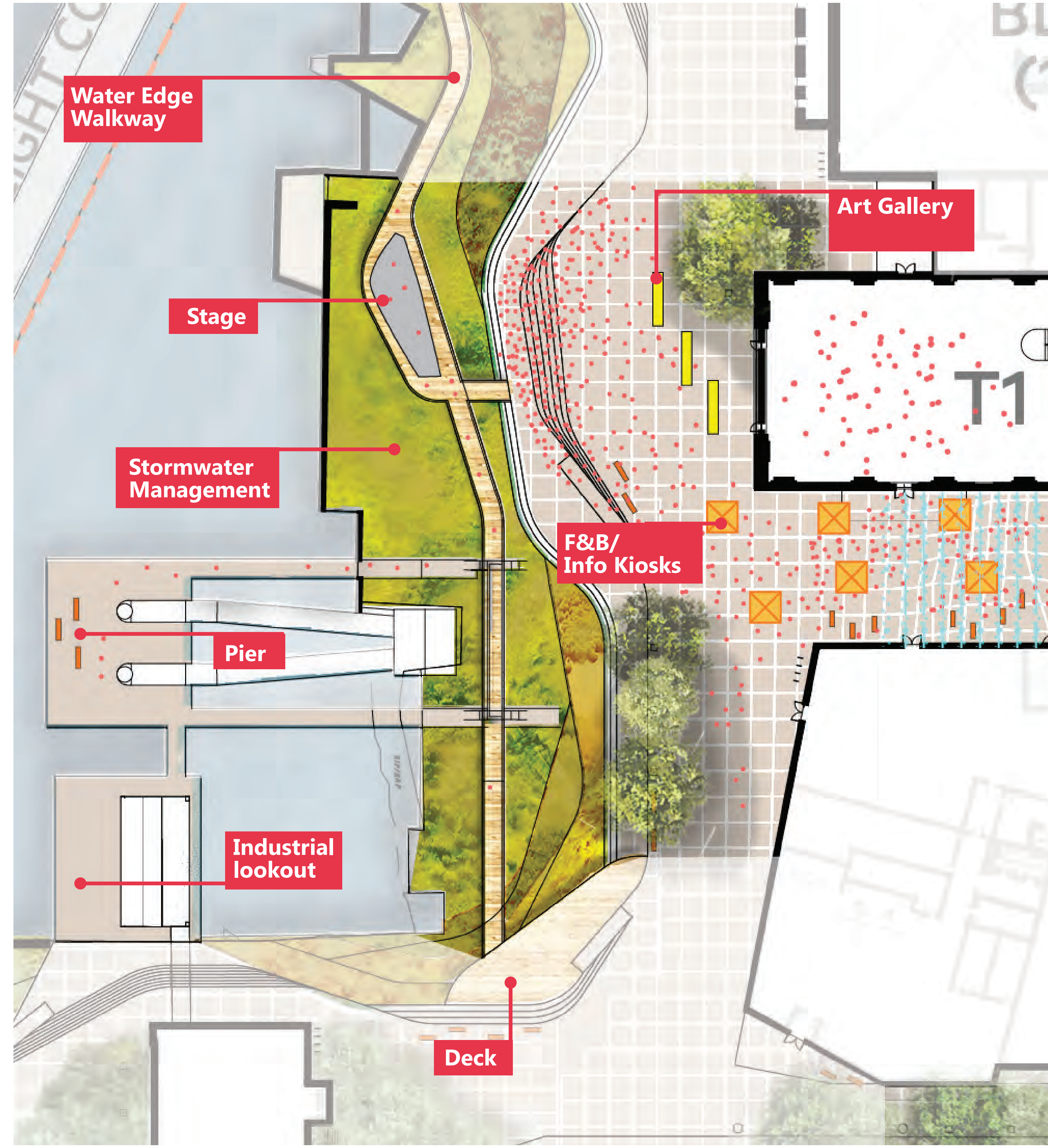
Winter Activites

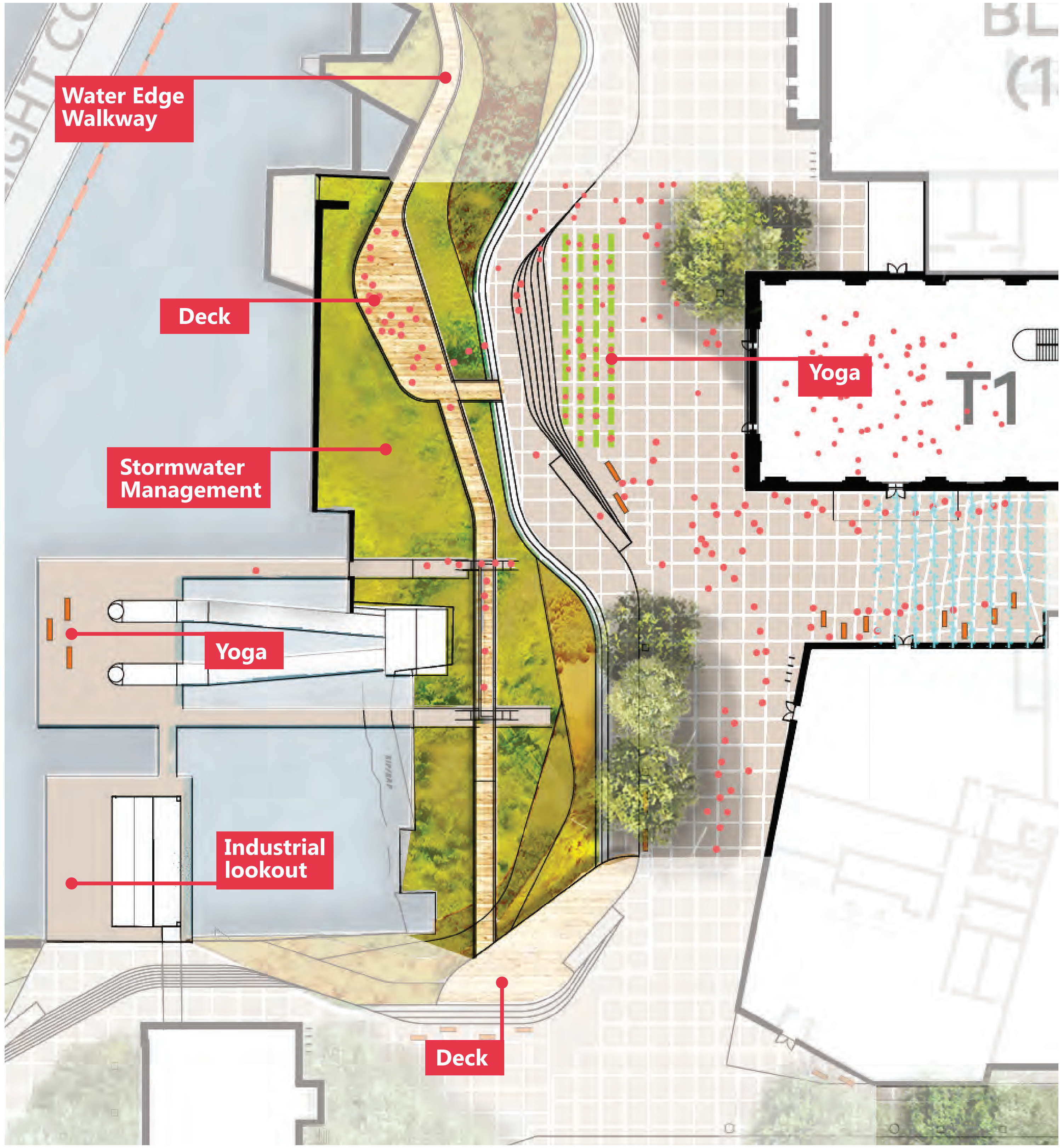


Festival / Community Event

Figure 3.4B-2

Detail Plan - Waterfront Program Possibilities

L Street Station Redevelopment
Boston, Massachusetts



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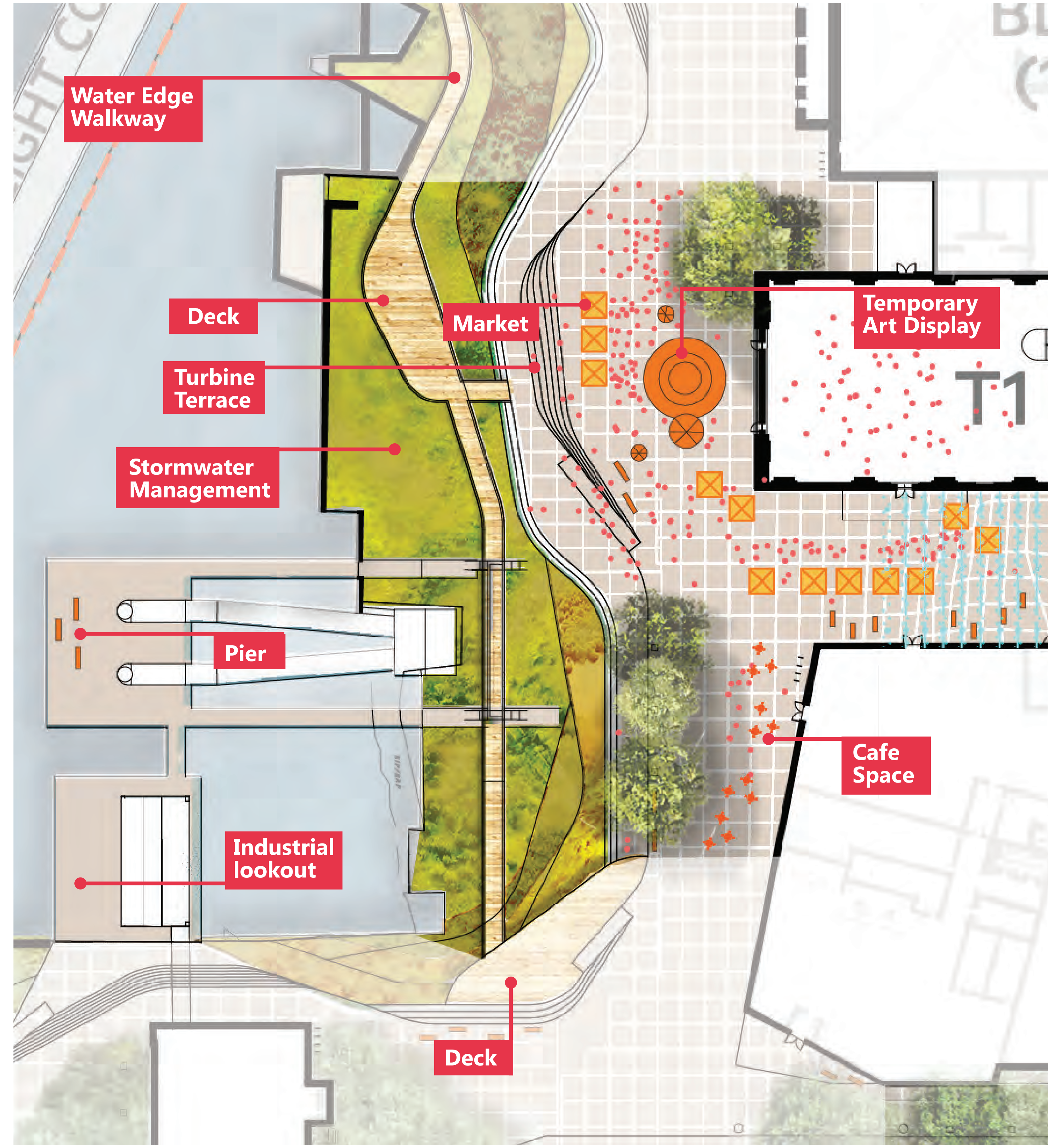
Community Fitness



Market

Figure 3.4B-3

Detail Plan - Waterfront Program Possibilities

L Street Station Redevelopment
Boston, Massachusetts

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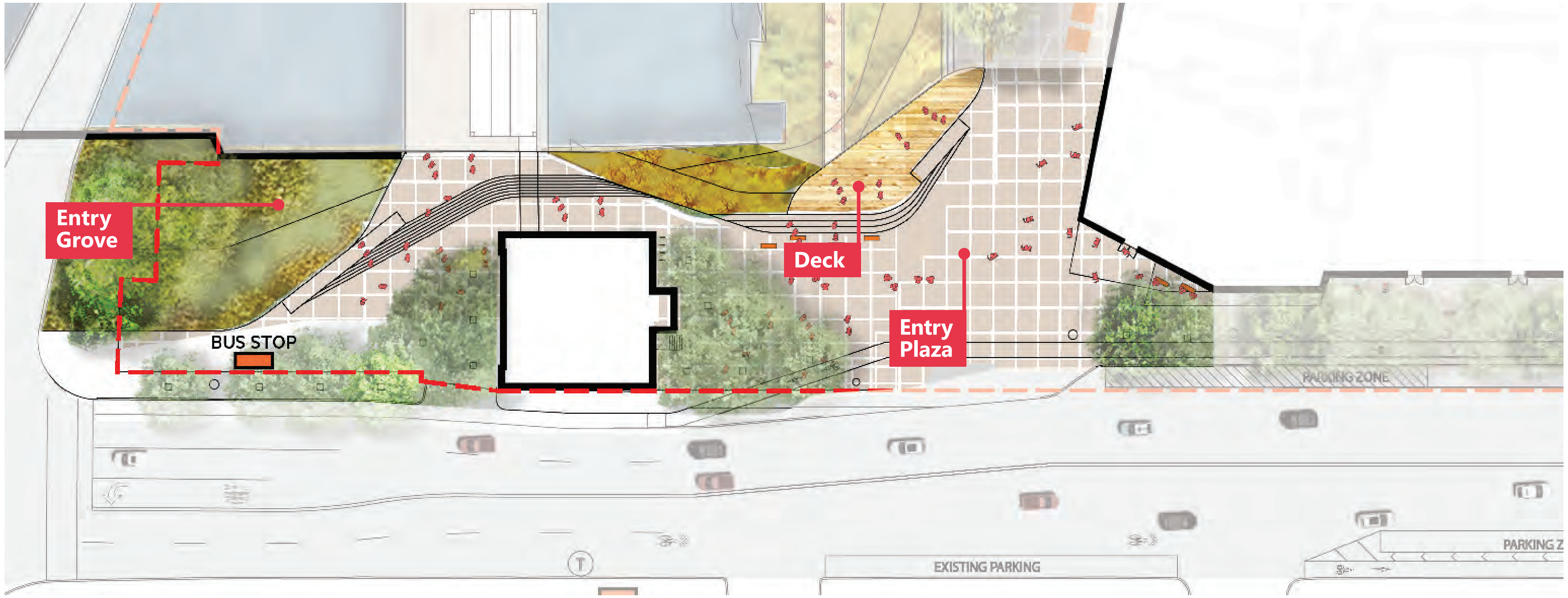

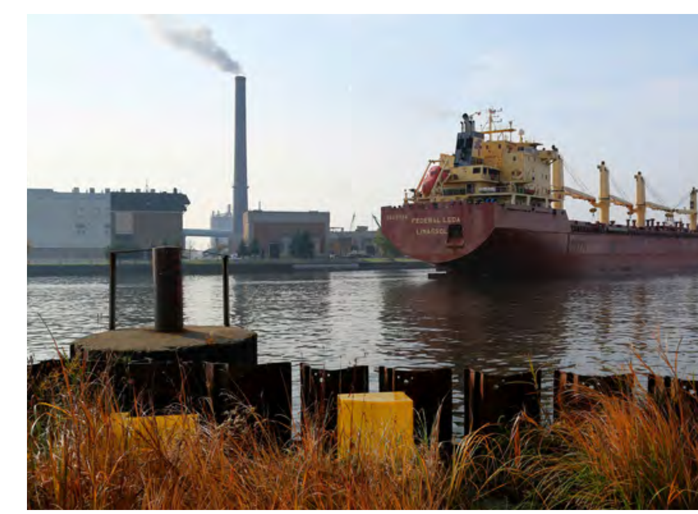

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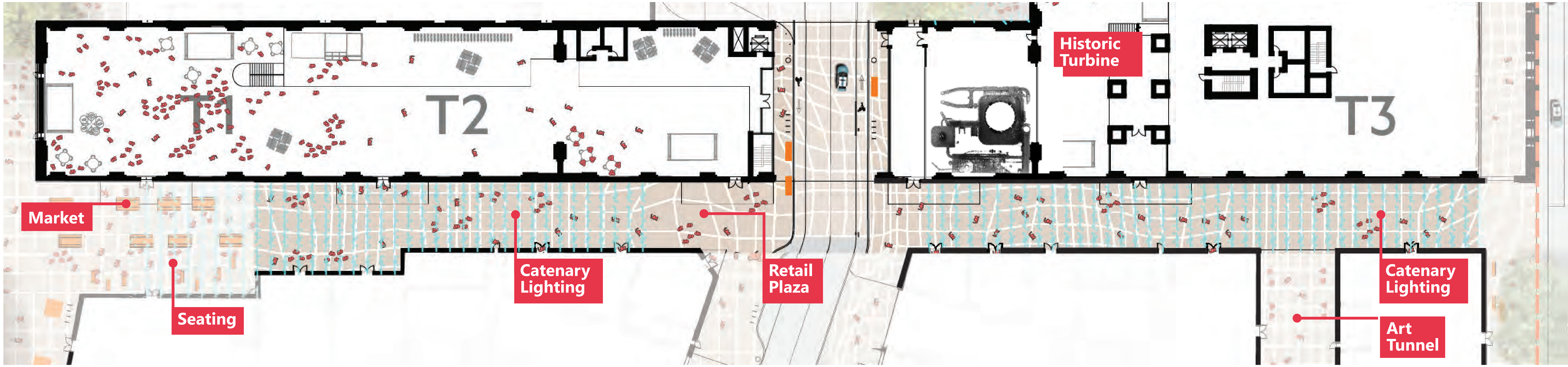
Figure 3.4C

Detail Plan - Entry Plaza

L Street Station Redevelopment
Boston, Massachusetts



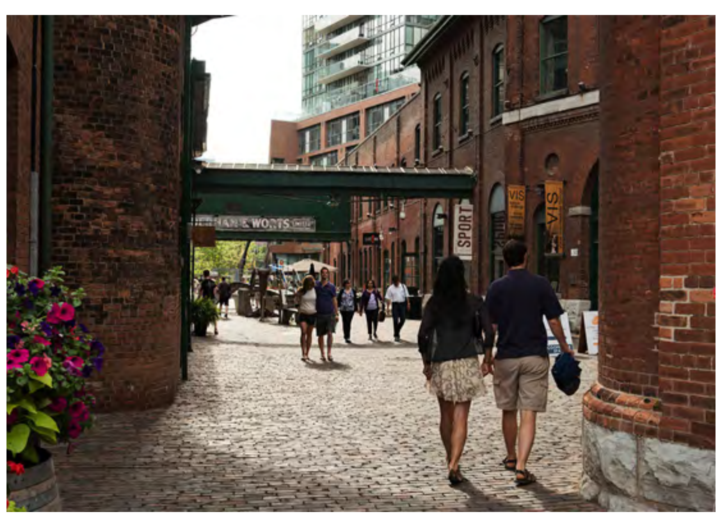


Figure 3.4D

Detail Plan - Turbine Alley

L Street Station Redevelopment
Boston, Massachusetts

STOSS

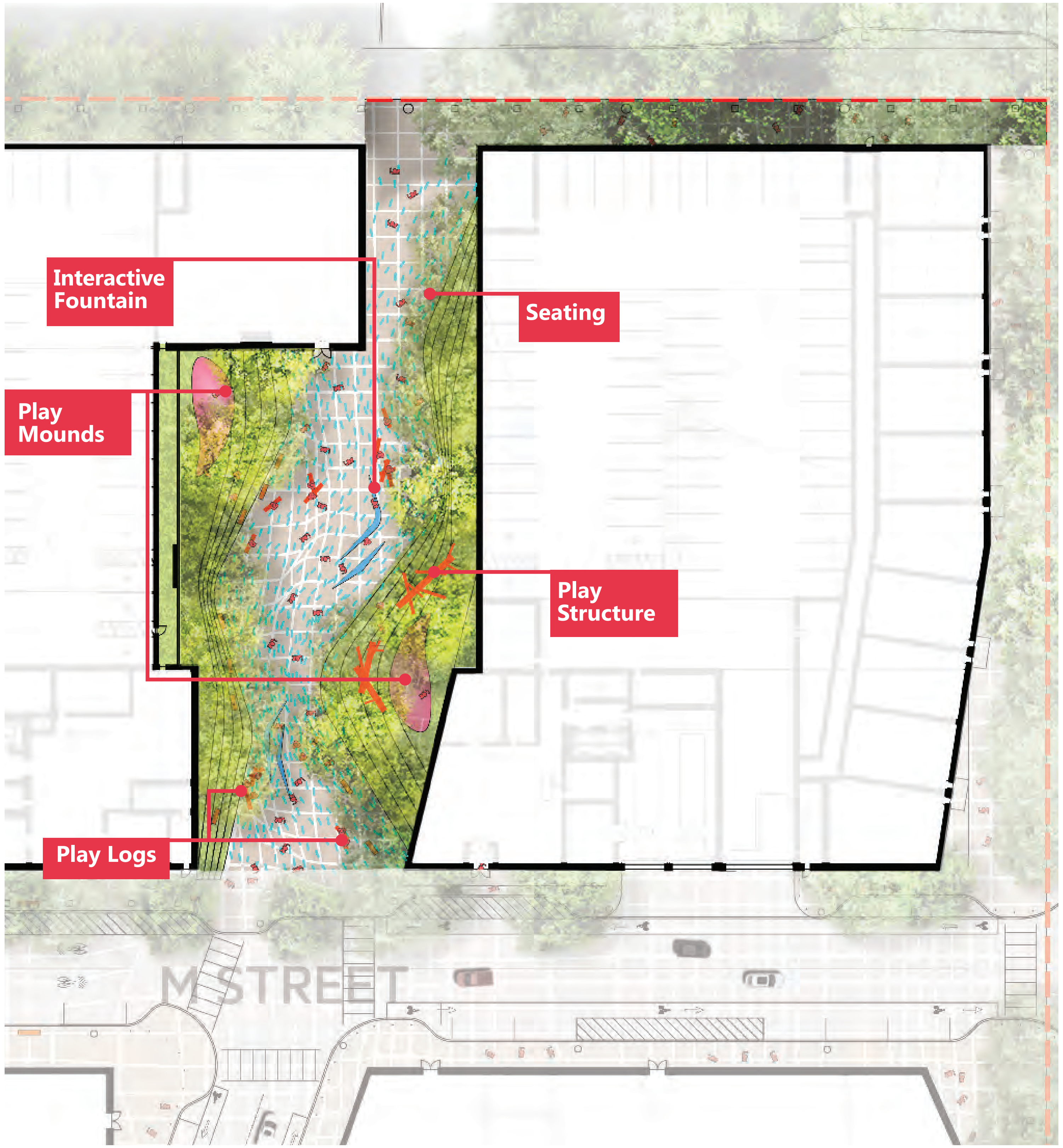


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Figure 3.4E

Detail Plan - Play space

L Street Station Redevelopment
Boston, Massachusetts

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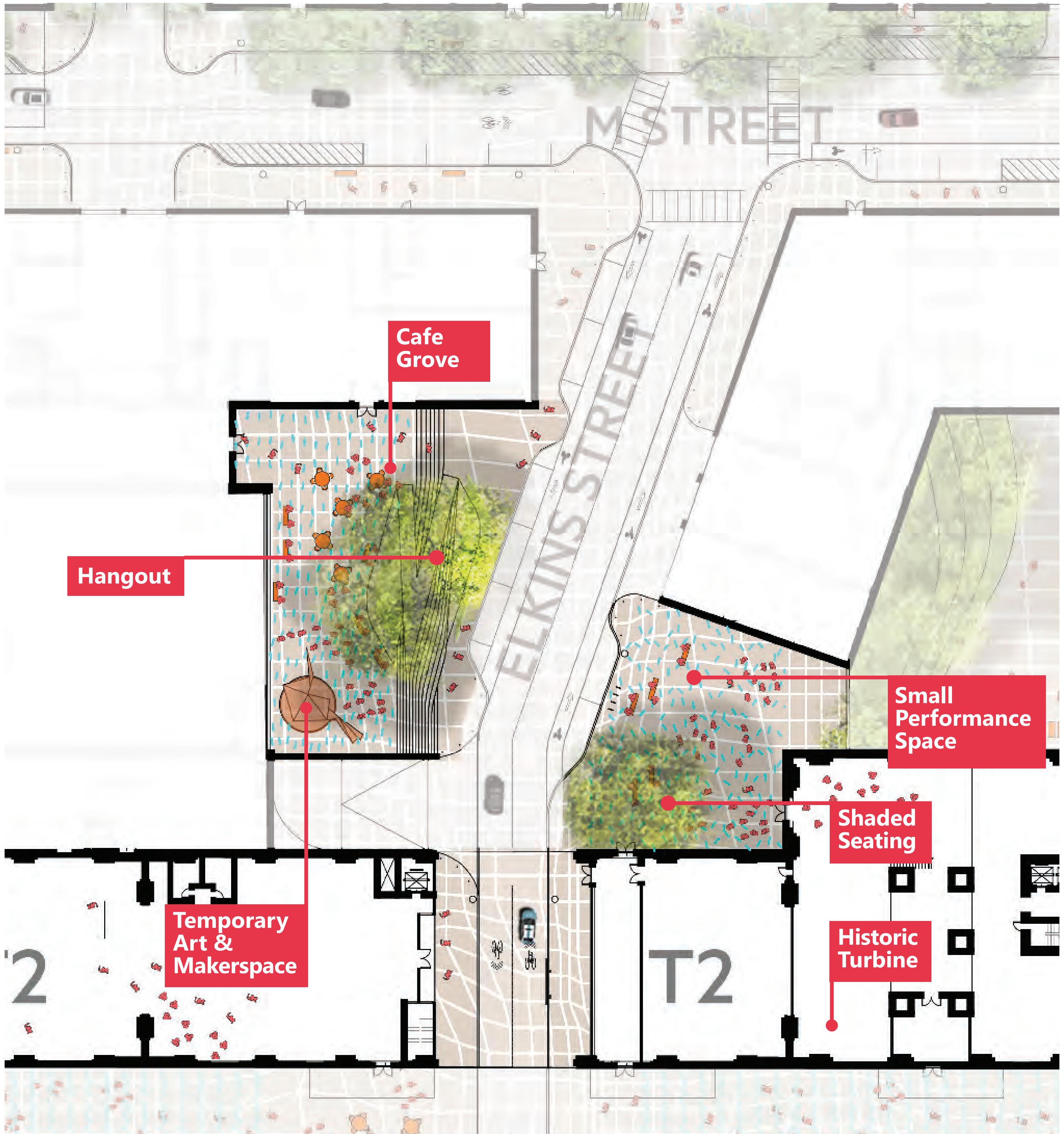

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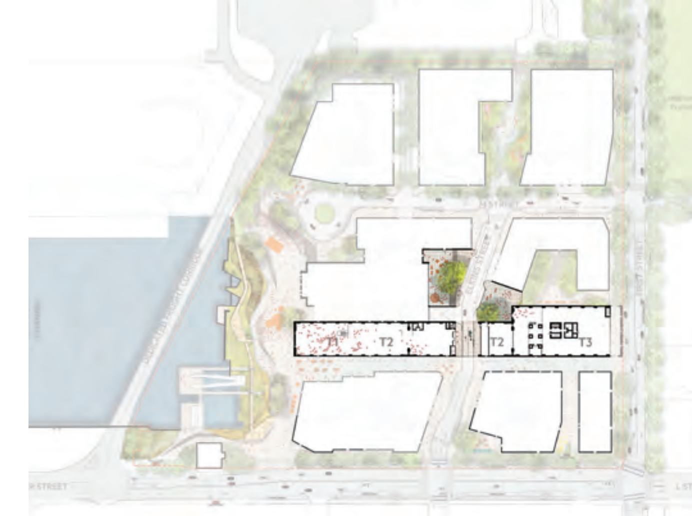
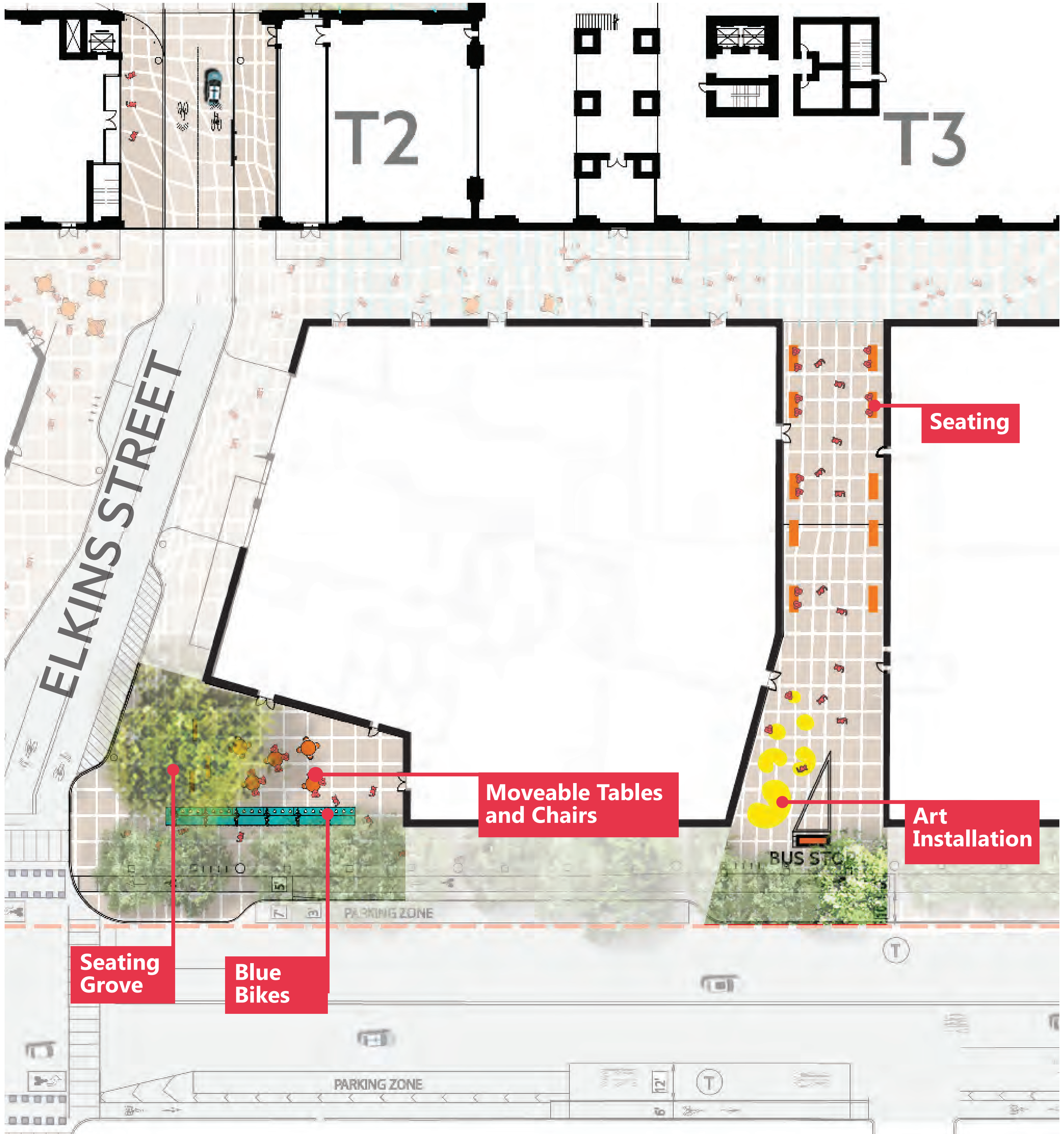


Figure 3.4F

Detail Plan - Elkin Terrace and Turbine Plaza

L Street Station Redevelopment
Boston, Massachusetts



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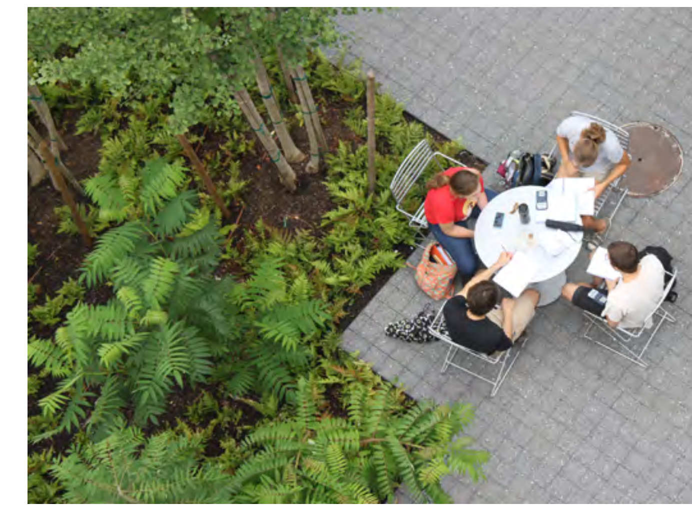


Figure 3.4G

Detail Plan - Summer st Plaza and Art Tunnel

L Street Station Redevelopment
Boston, Massachusetts

STOSS

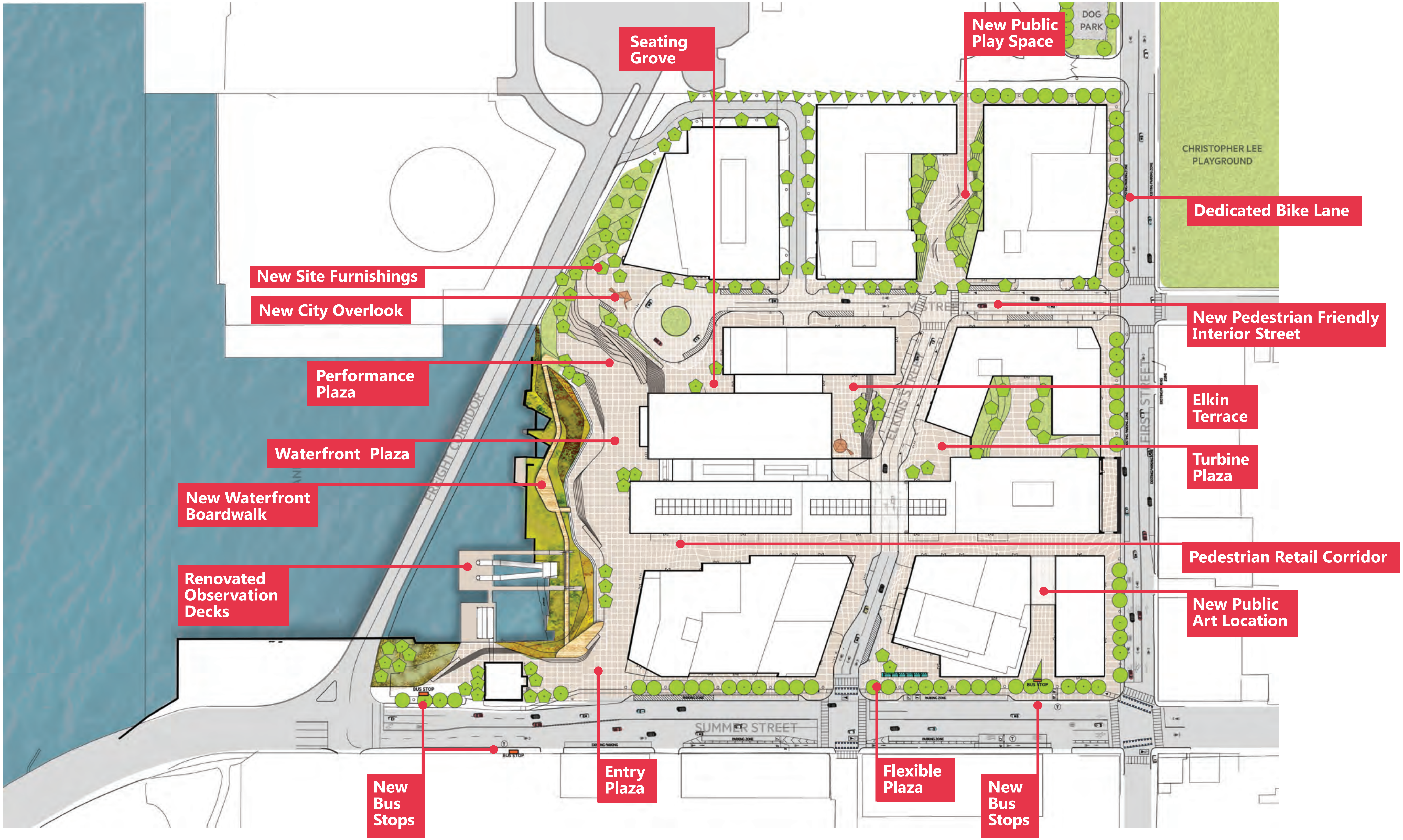
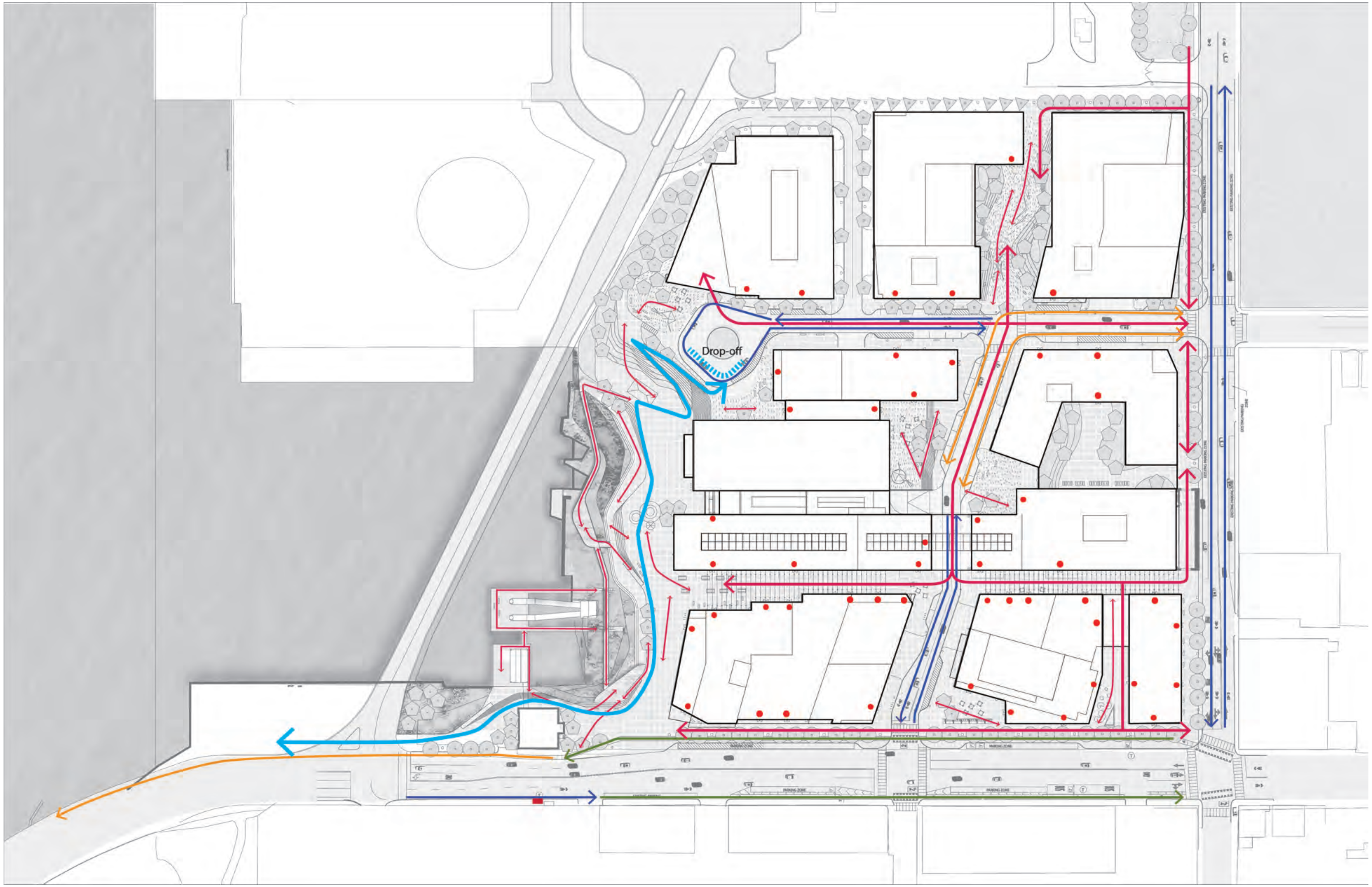


Figure 3.5

Streetscape Improvement Plan

L Street Station Redevelopment
Boston, Massachusetts

STOSS



- Building Entry
- Key Pedestrian Routes
- Secondary Pedestrian Routes
- Route to Waterfront
- Dropoff
- Dedicated Protected Bike Lane
- Sharrows
- Dedicated Bike Lane

Figure 3.6

Pedestrian Access and Circulation

L Street Station Redevelopment
Boston, Massachusetts

STOSS

N

Building Entry

Parking and Service Circulation

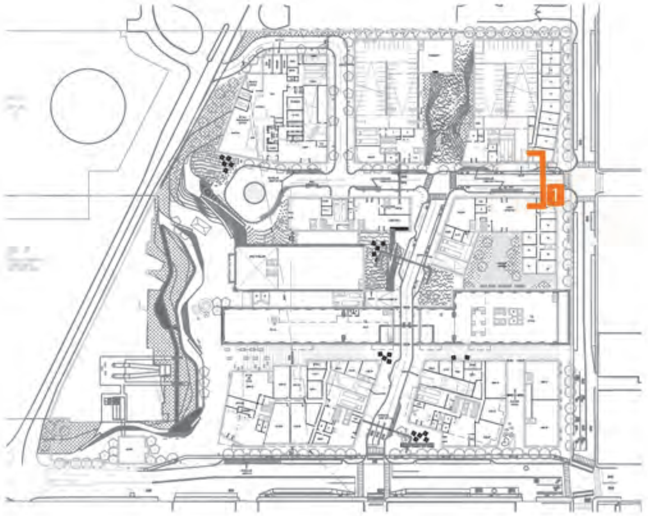
Emergency Access

Figure 3.7

Emergency and Service Circulation

L Street Station Redevelopment
Boston, Massachusetts

STOSS



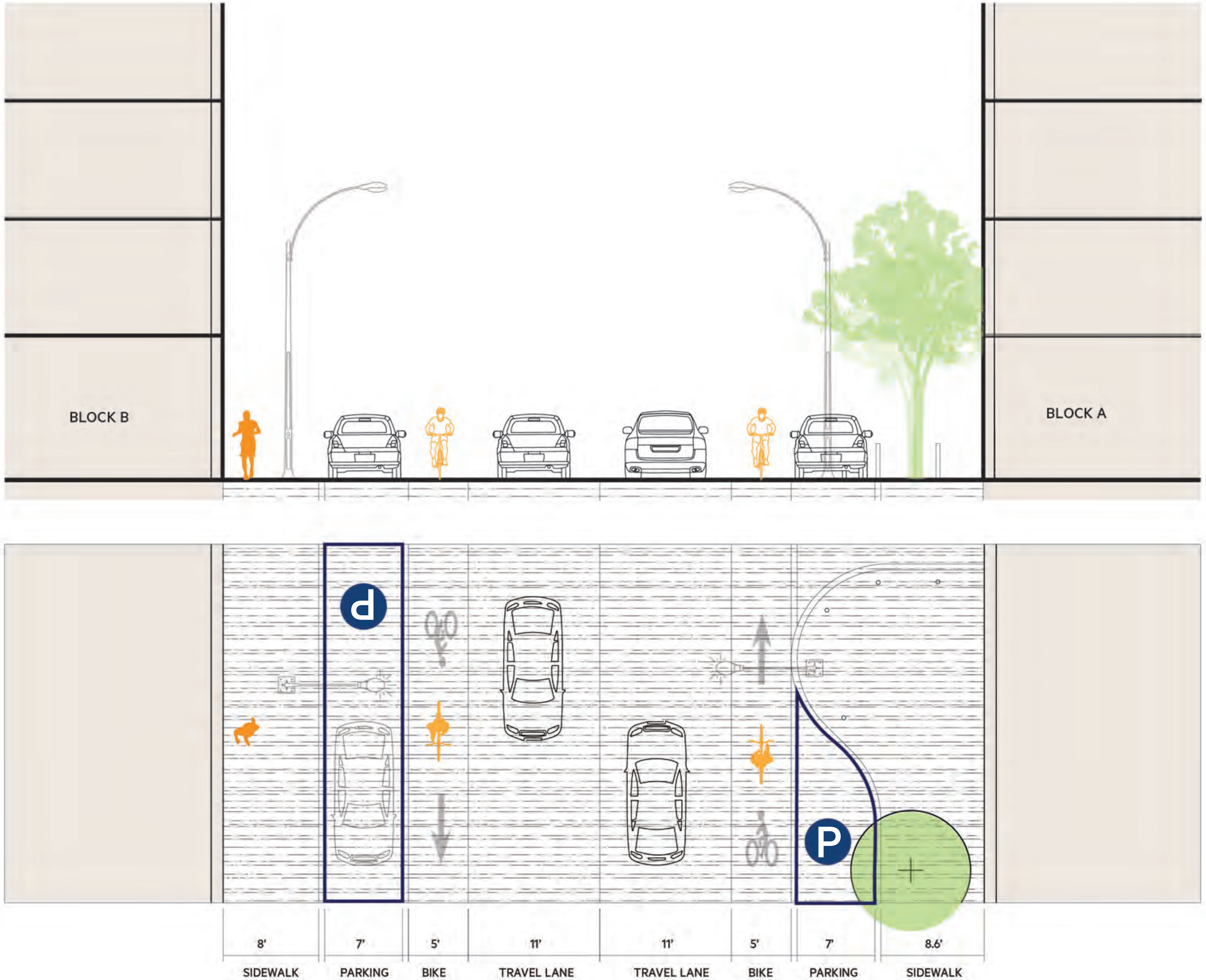
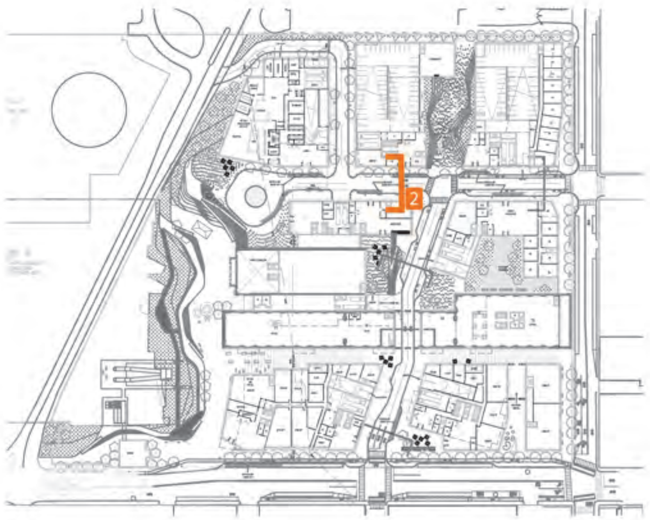


Figure 3.8A

Section - A-B At M Street

L Street Station Redevelopment
Boston, Massachusetts

STOSS



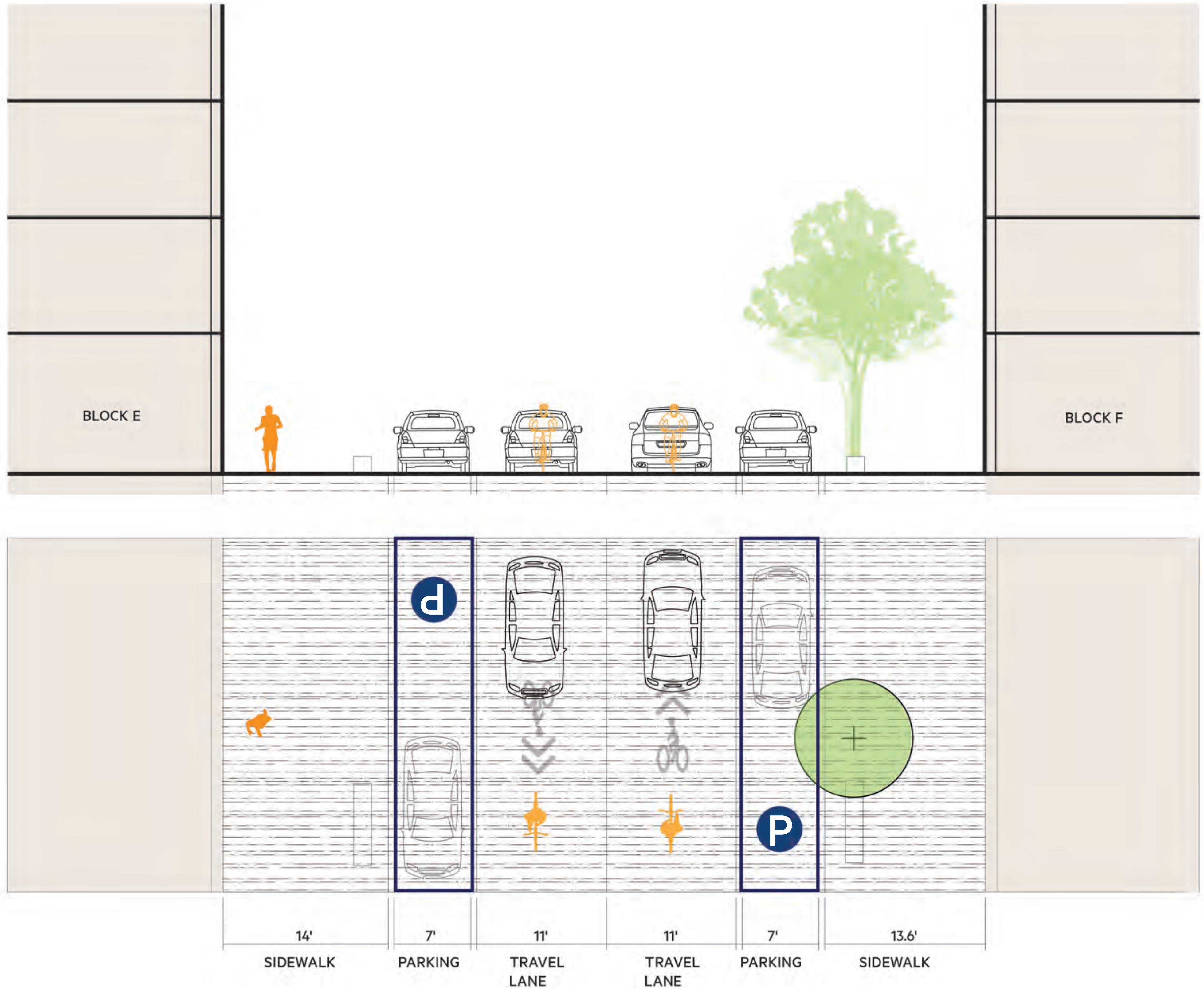


Figure 3.8B

Section - E-F At M Street

L Street Station Redevelopment
Boston, Massachusetts

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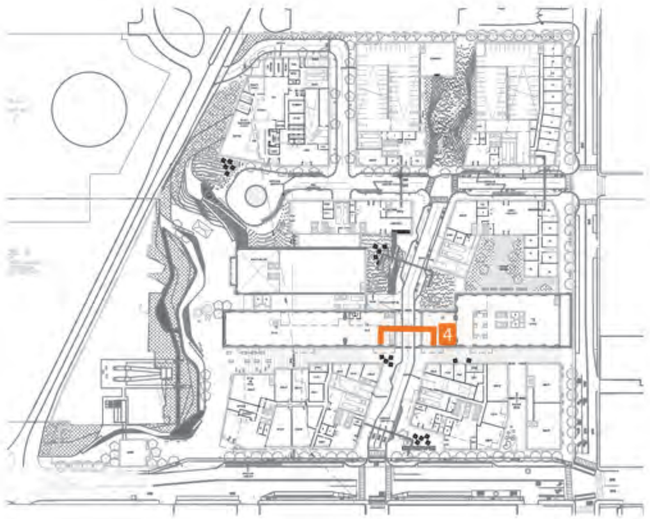


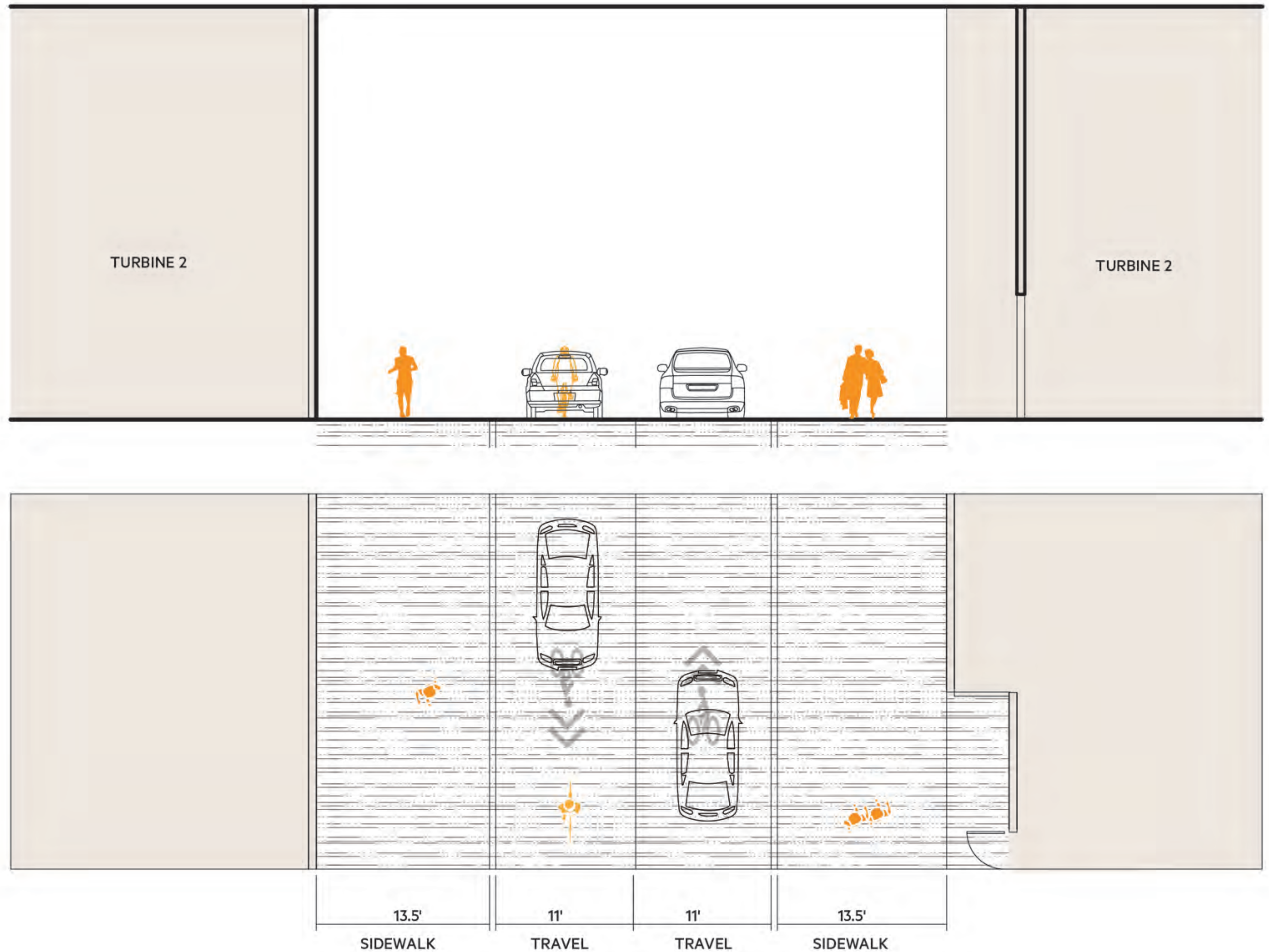
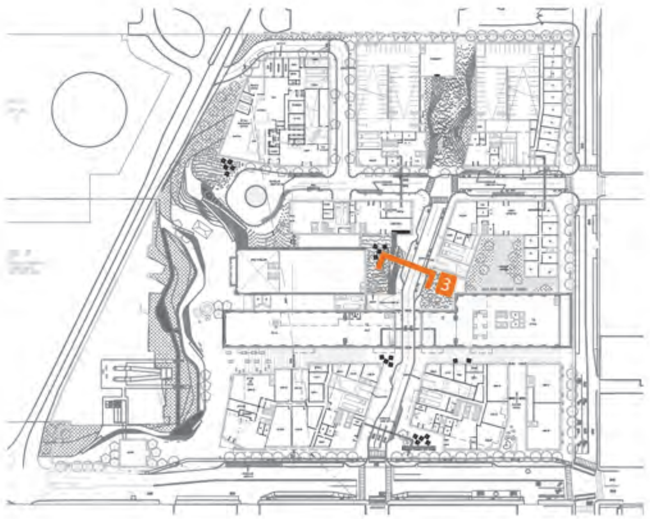


Figure 3.8C

Section - Turbine Hall At Elkins Street

L Street Station Redevelopment
Boston, Massachusetts

STOSS



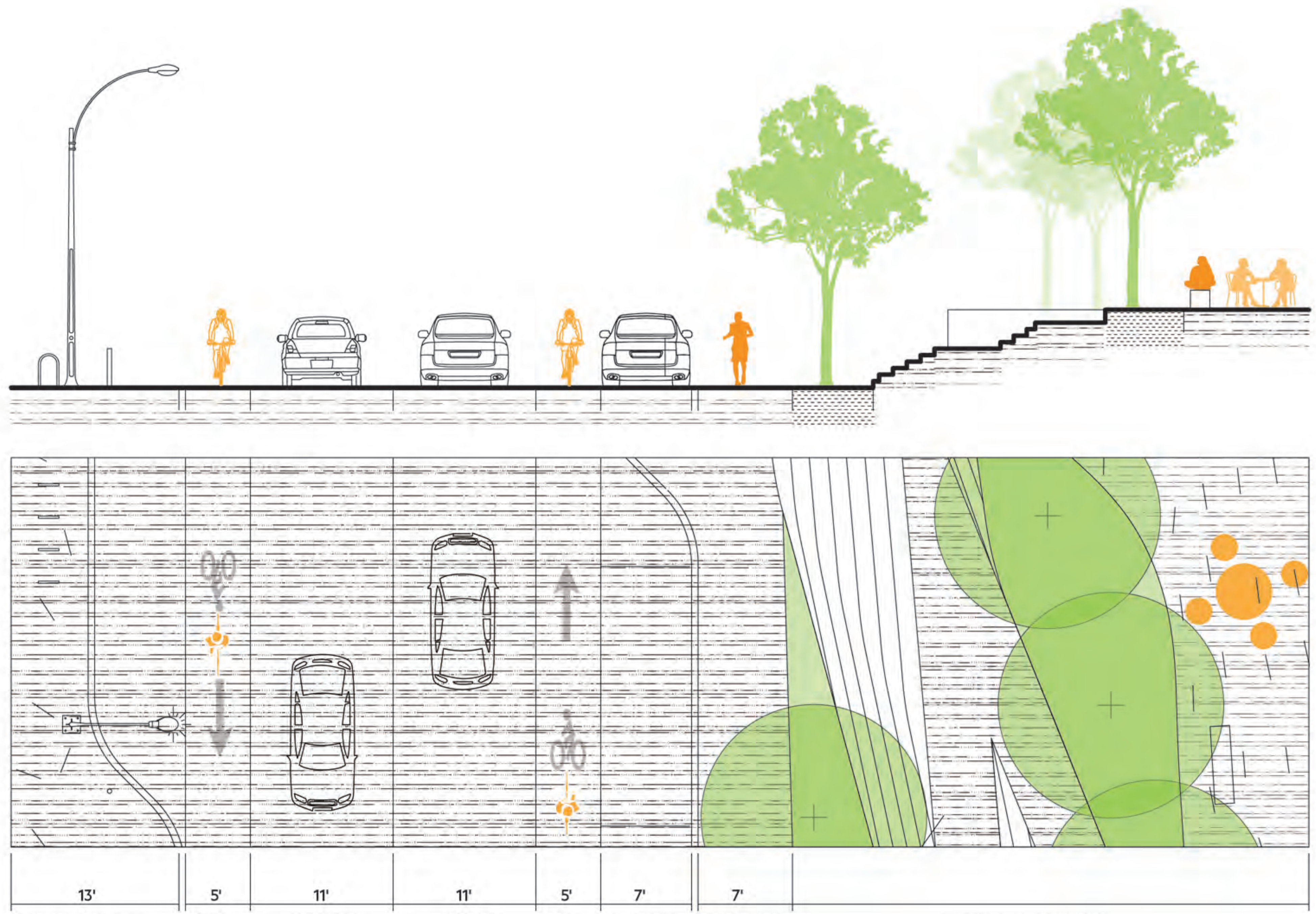


Figure 3.8D

Section - Elkins Street

L Street Station Redevelopment
Boston, Massachusetts

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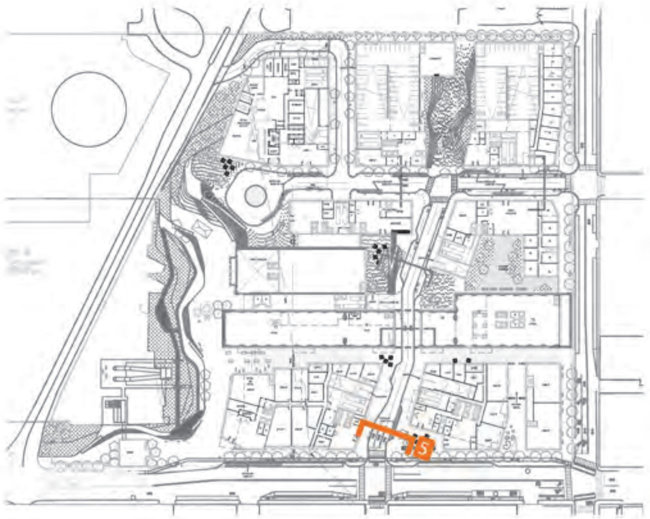


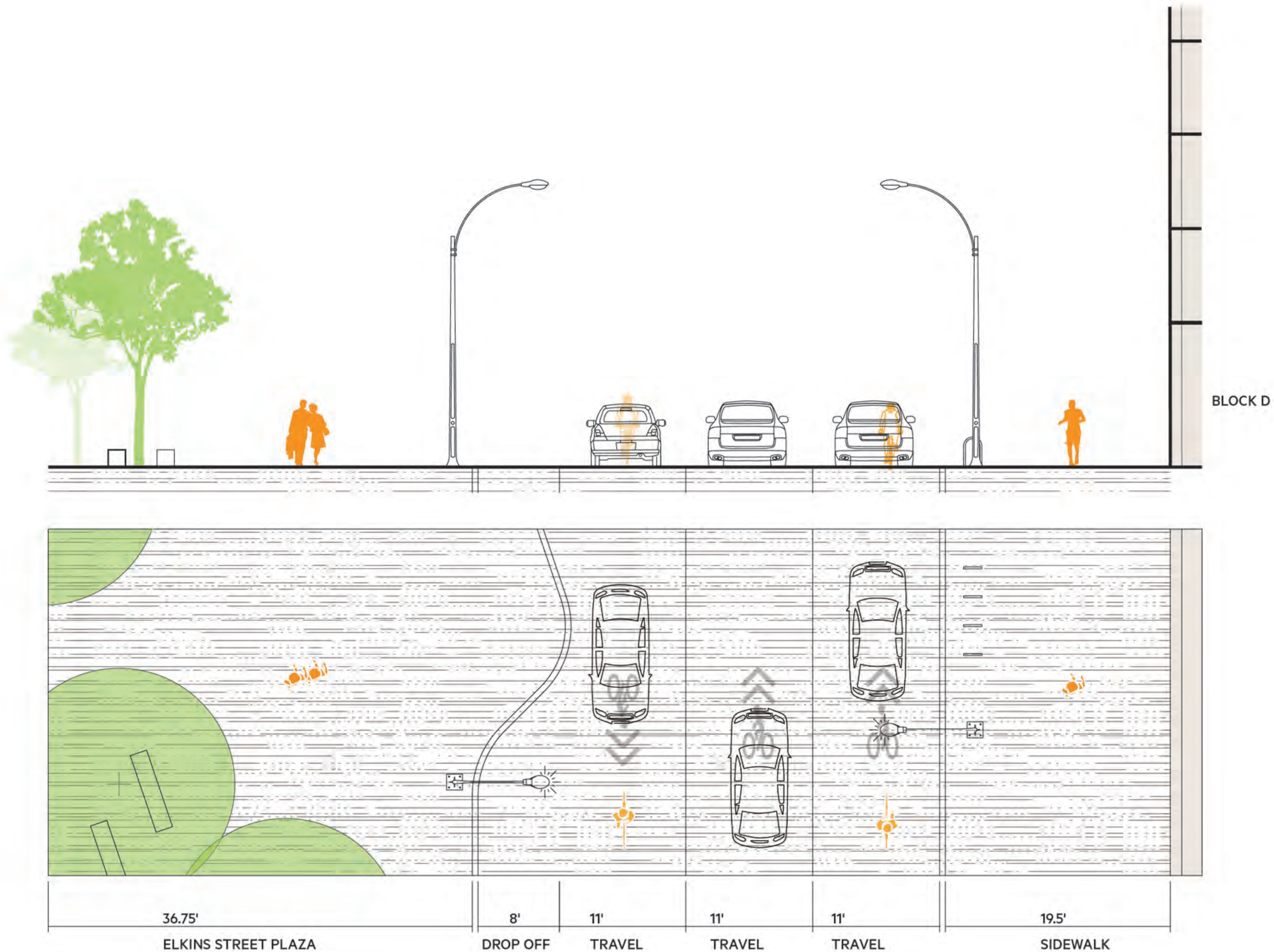


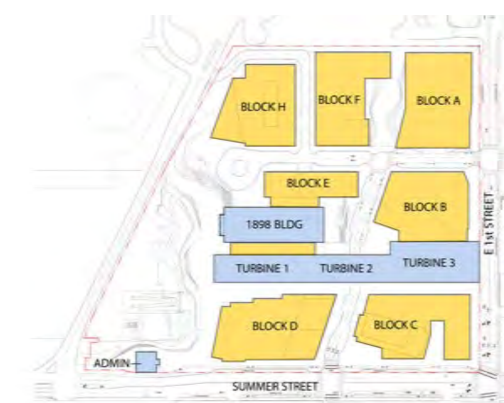
Figure 3.8E

Section - D At Elkins Street

L Street Station Redevelopment
Boston, Massachusetts

STOSS

Note: 1898 bldg Turbine1, Turbine2, Turbine3 and Admin Building are existing historical power plant buildings that will be retained and renovated.

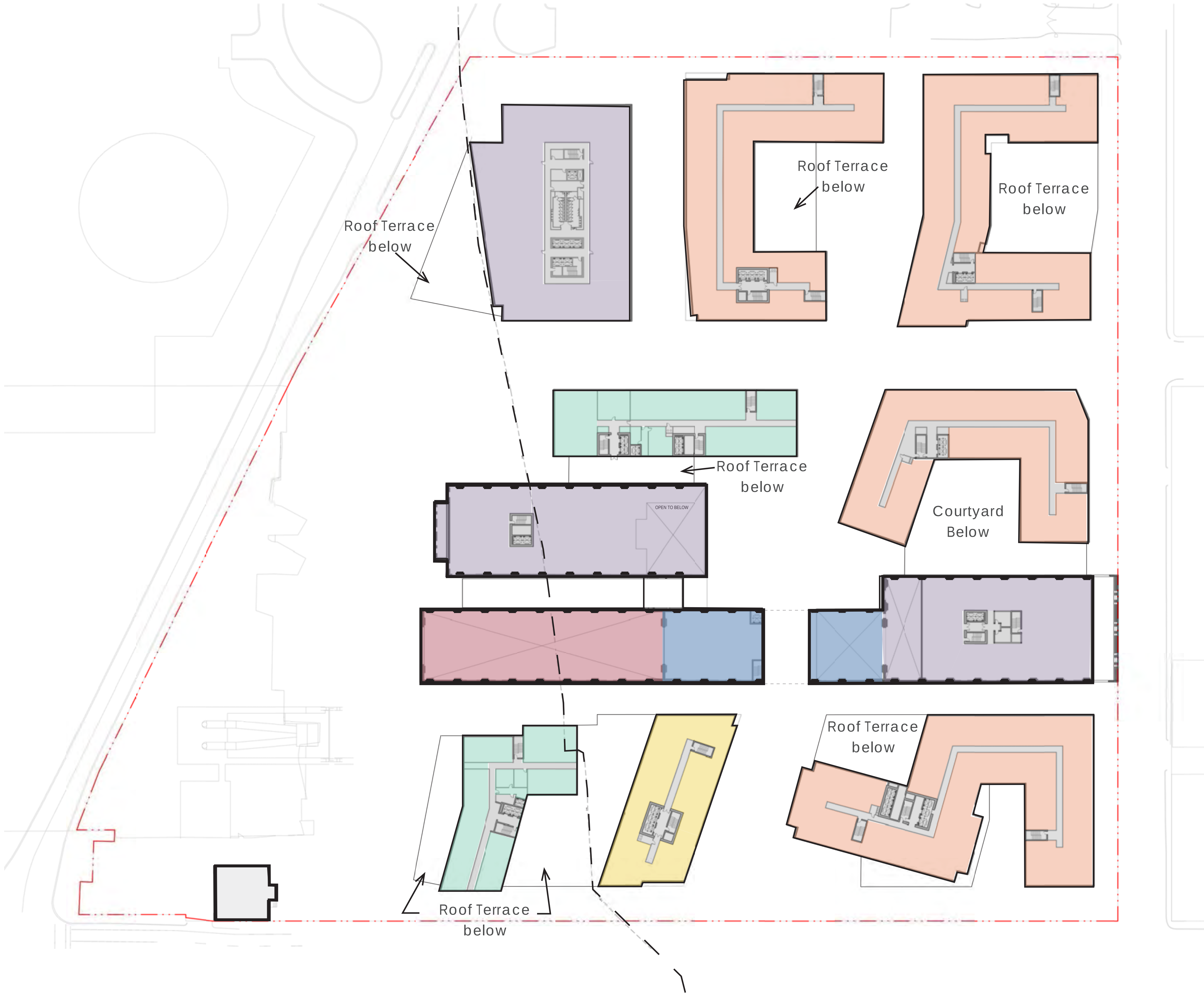


CHAPTER 91
HOTEL
RETAIL
RENTAL
CONDO
OFFICE
CIVIC/ CULTURAL
LOADING,BOH & MECH.
PARKING
BUILDING ENTRANCE

Figure 3.9a- GROUND LEVEL

L Street Station Redevelopment
Boston, Massachusetts

Stantec



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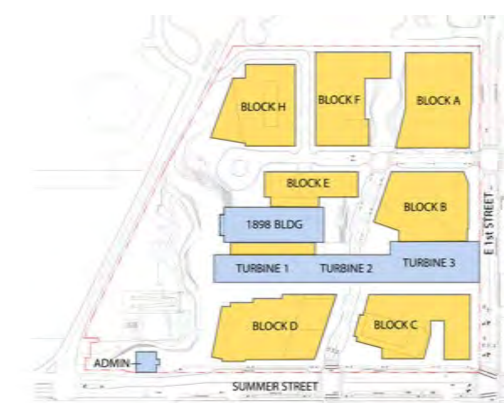
Note: 1898 bldg Turbine1, Turbine2, Turbine3 and Admin Building are existing historical power plant buildings that will be retained and renovated.

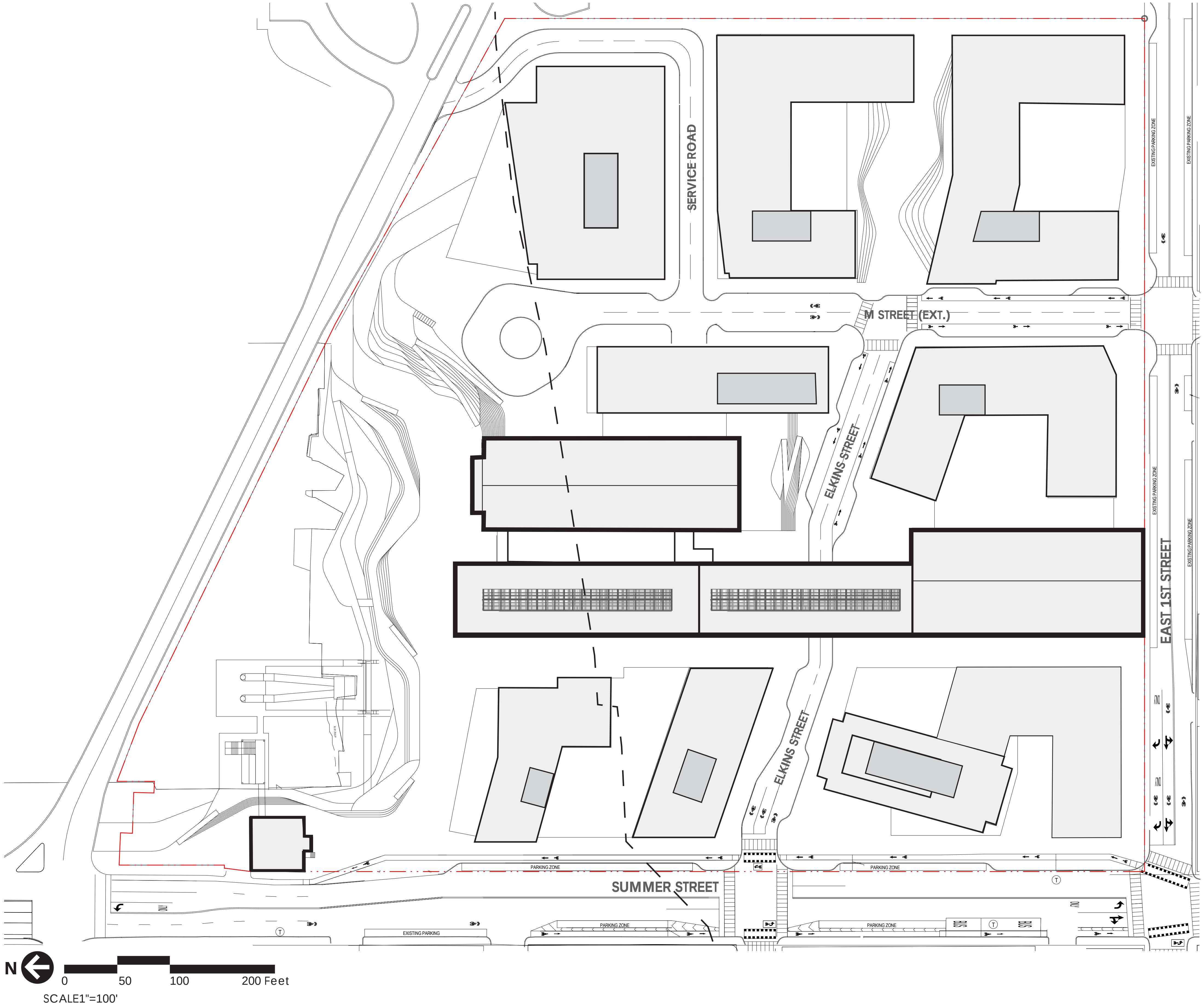


CHAPTER 91
HOTEL
RETAIL
RENTAL
CONDO
OFFICE
CIVIC/ CULTURAL
LOADING,BOH & MECH.
PARKING

Figure 3.9b- 3rd LEVEL

Stantec

L Street Station Redevelopment
Boston, Massachusetts



Note: 1898 bldg Turbine1, Turbine2, Turbine3 and Admin Building are existing historical power plant buildings that will be retained and renovated.

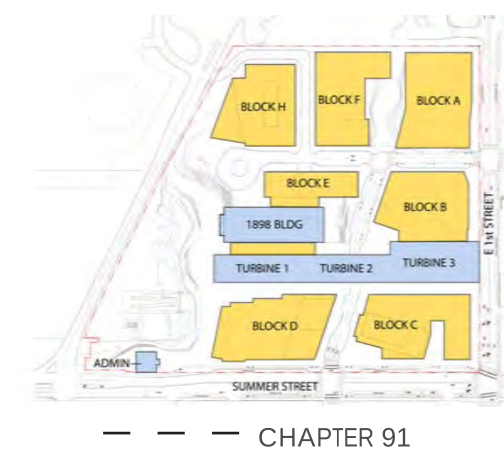


Figure 3.9c- ROOF PLAN

L Street Station Redevelopment
Boston, Massachusetts

Stantec

Height as per Boston zoning code

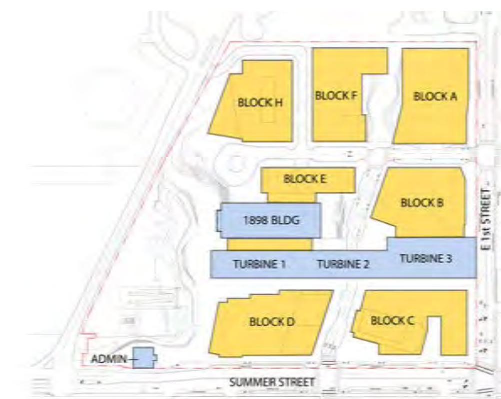
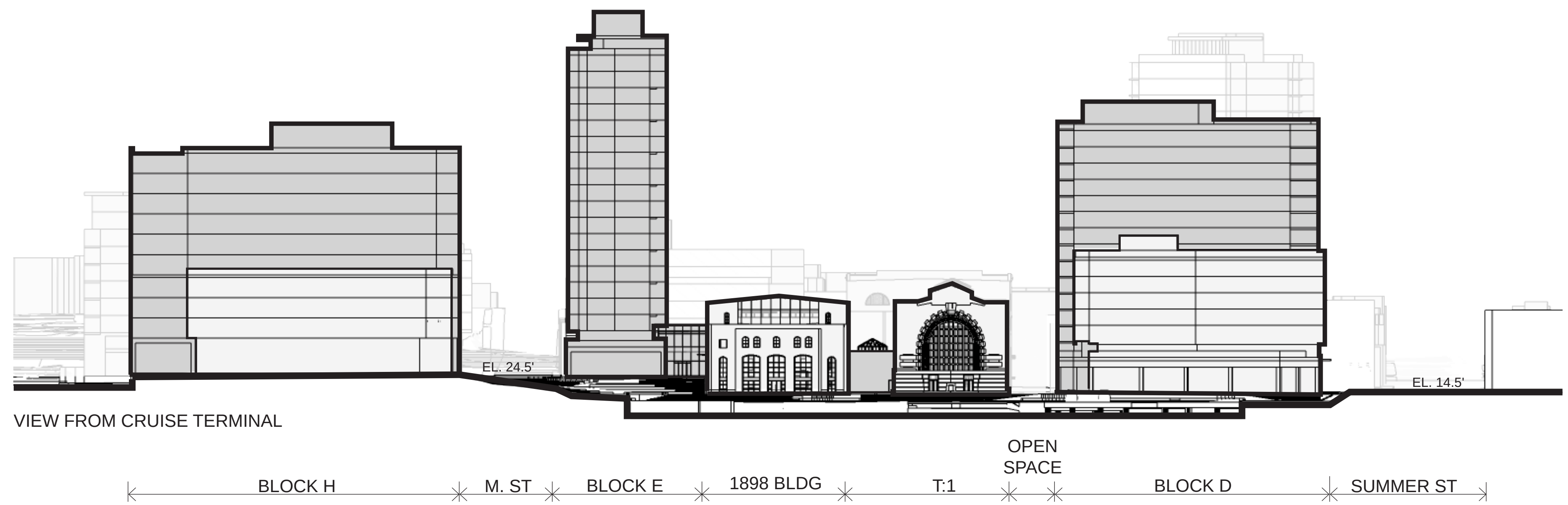
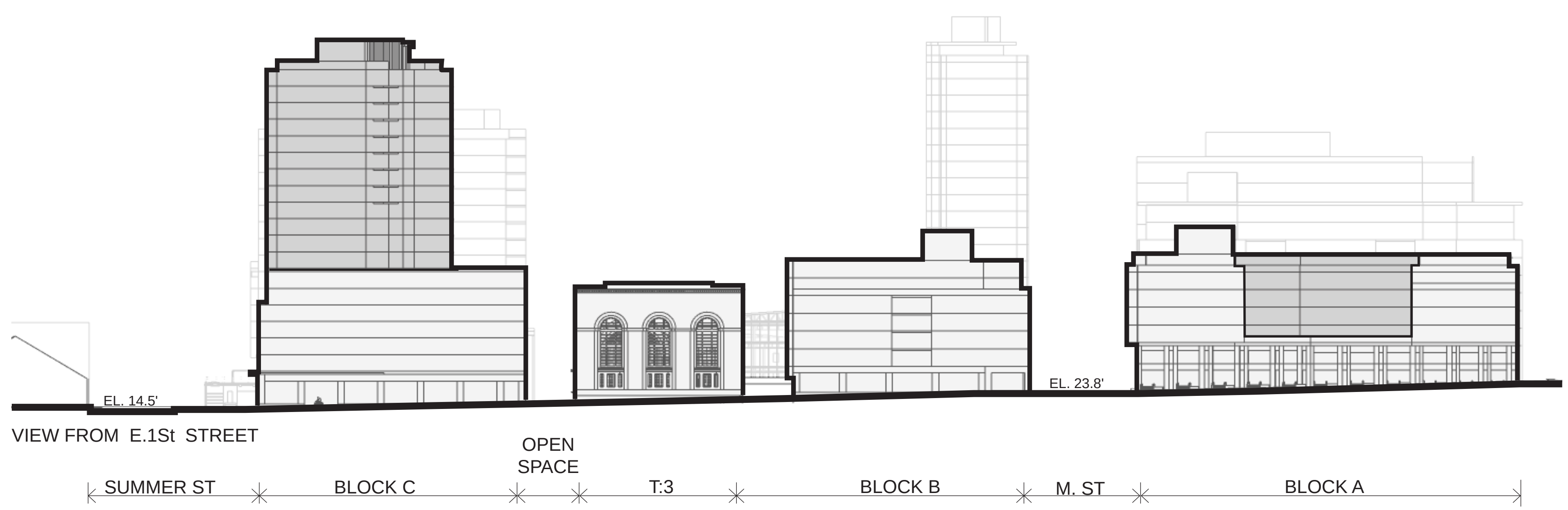


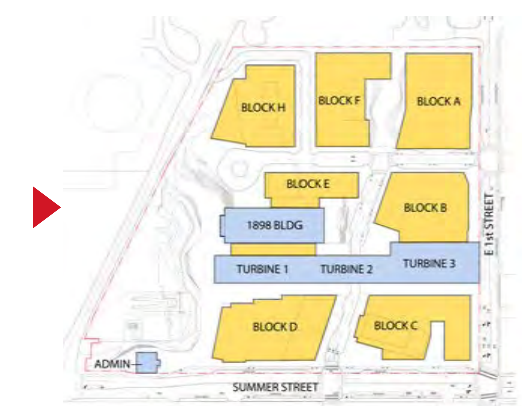
Figure 3.10

Massing Diagram

L Street Station Redevelopment
Boston, Massachusetts







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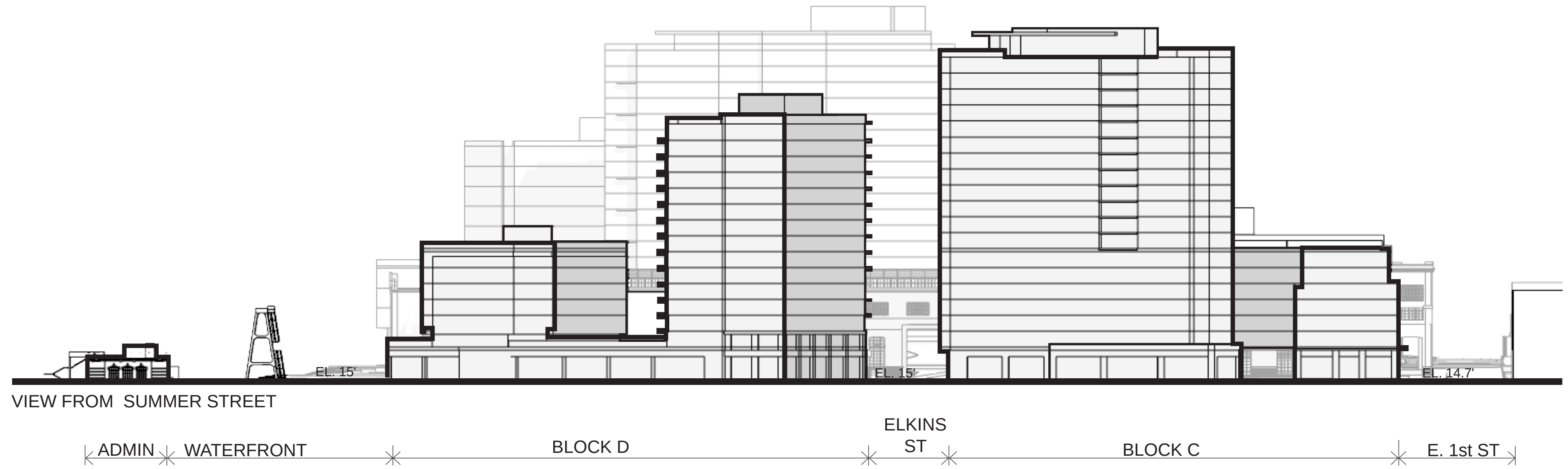
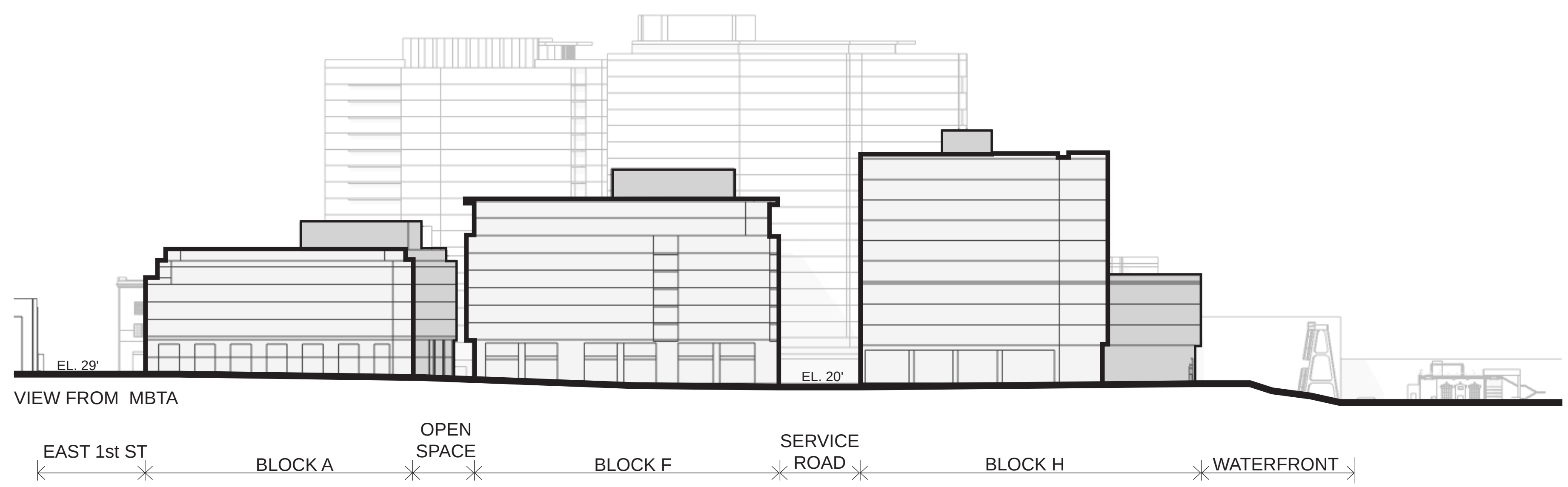
Stantec

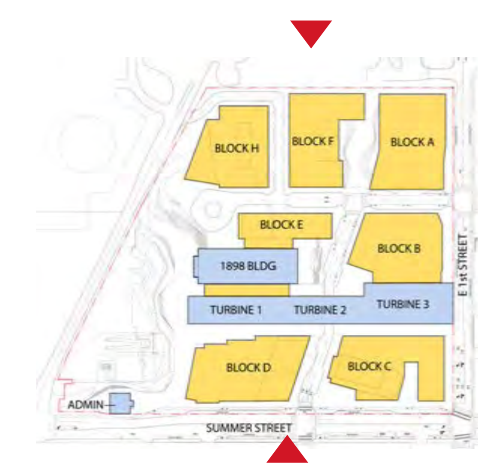
Figure 3.11a

Elevations

L Street Station Redevelopment
Boston, Massachusetts







0 50 100 200 Feet
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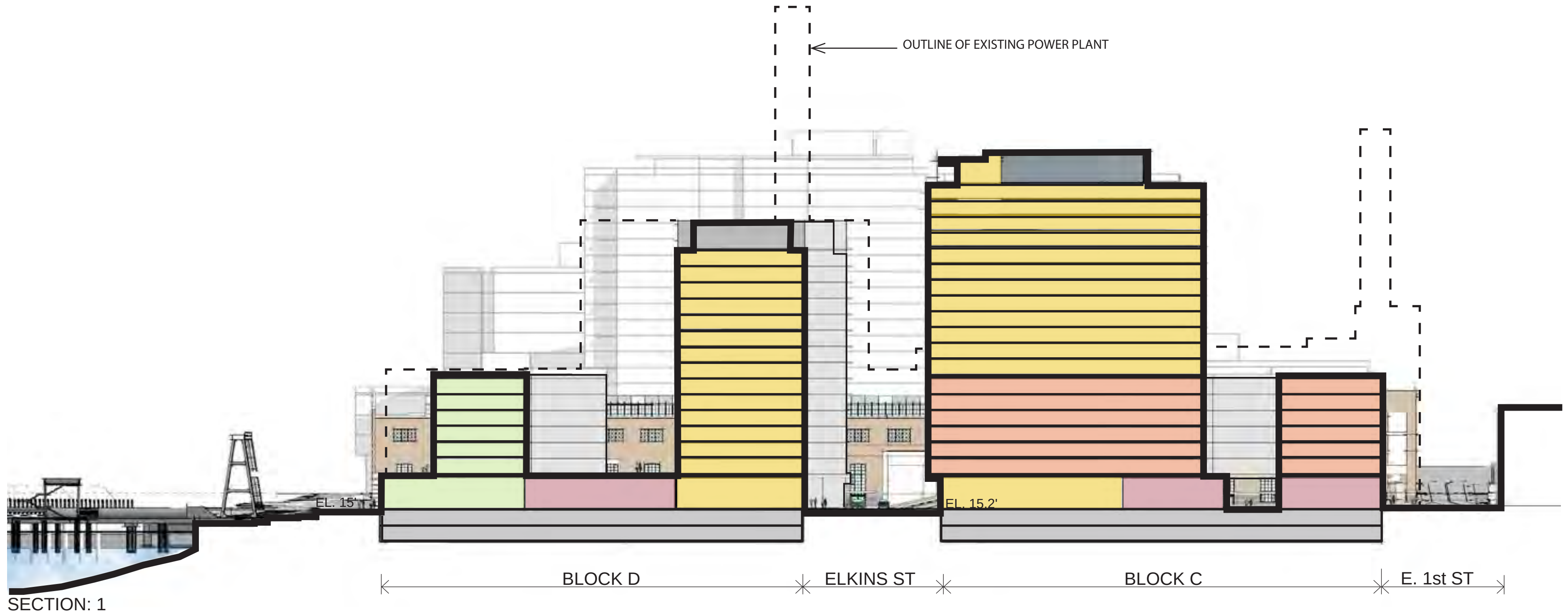
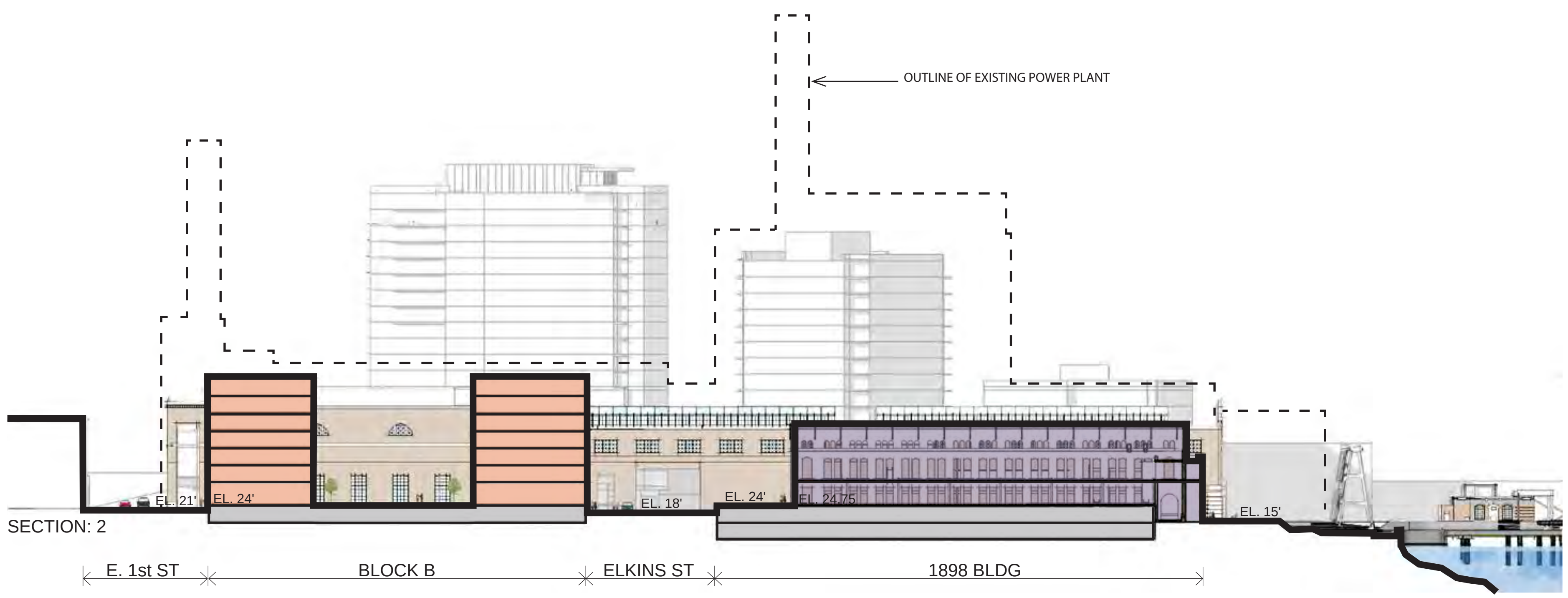
Stantec

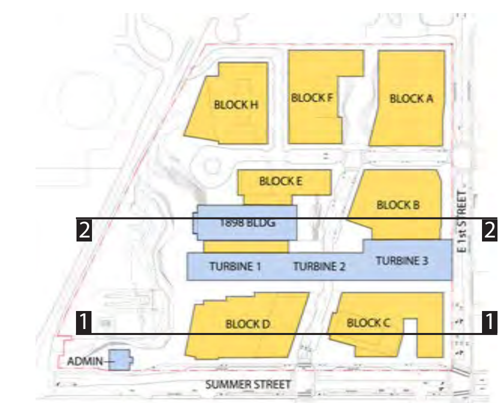
Figure 3.11b

Elevations

L Street Station Redevelopment
Boston, Massachusetts







HOTEL
RETAIL
RENTAL
CONDO
OFFICE
CIVIC
LOADING & BOH
PARKING

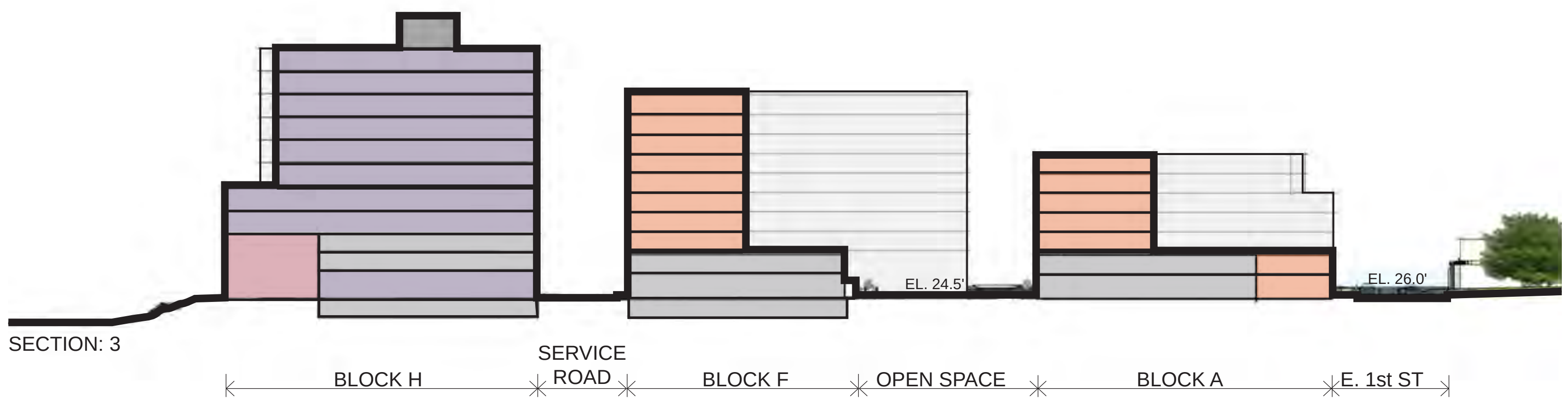
0 50 100 200 Feet
SCALE1"=100'

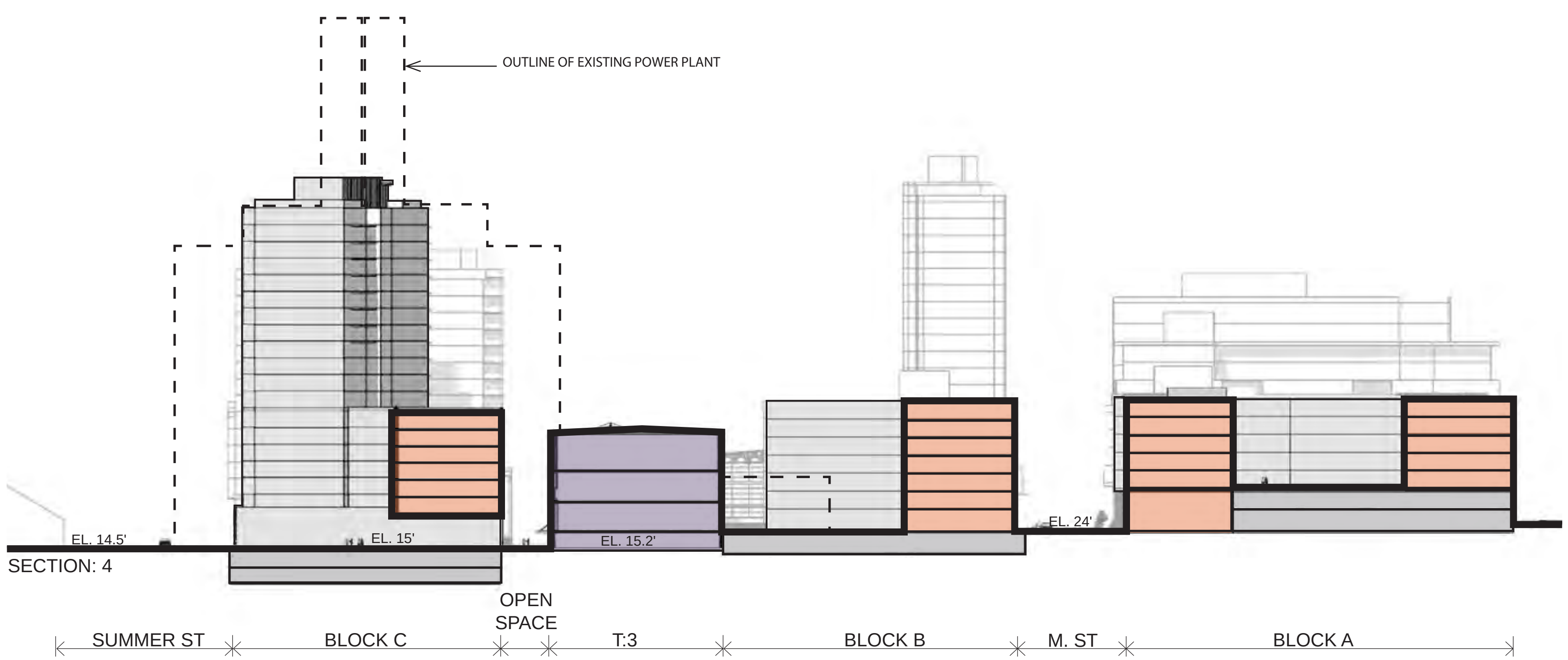
Stantec

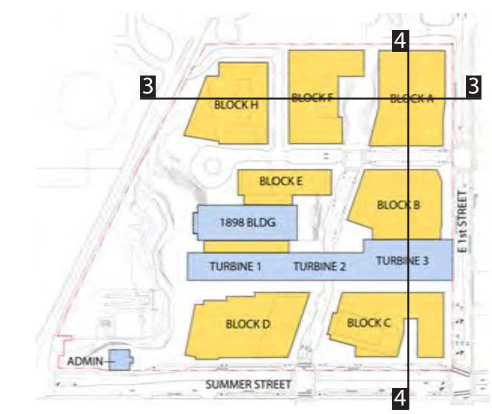
Figure 3.12a

Sections

L Street Station Redevelopment
Boston, Massachusetts







HOTEL
RETAIL
RENTAL
CONDO
OFFICE
CIVIC
LOADING & BOH
PARKING

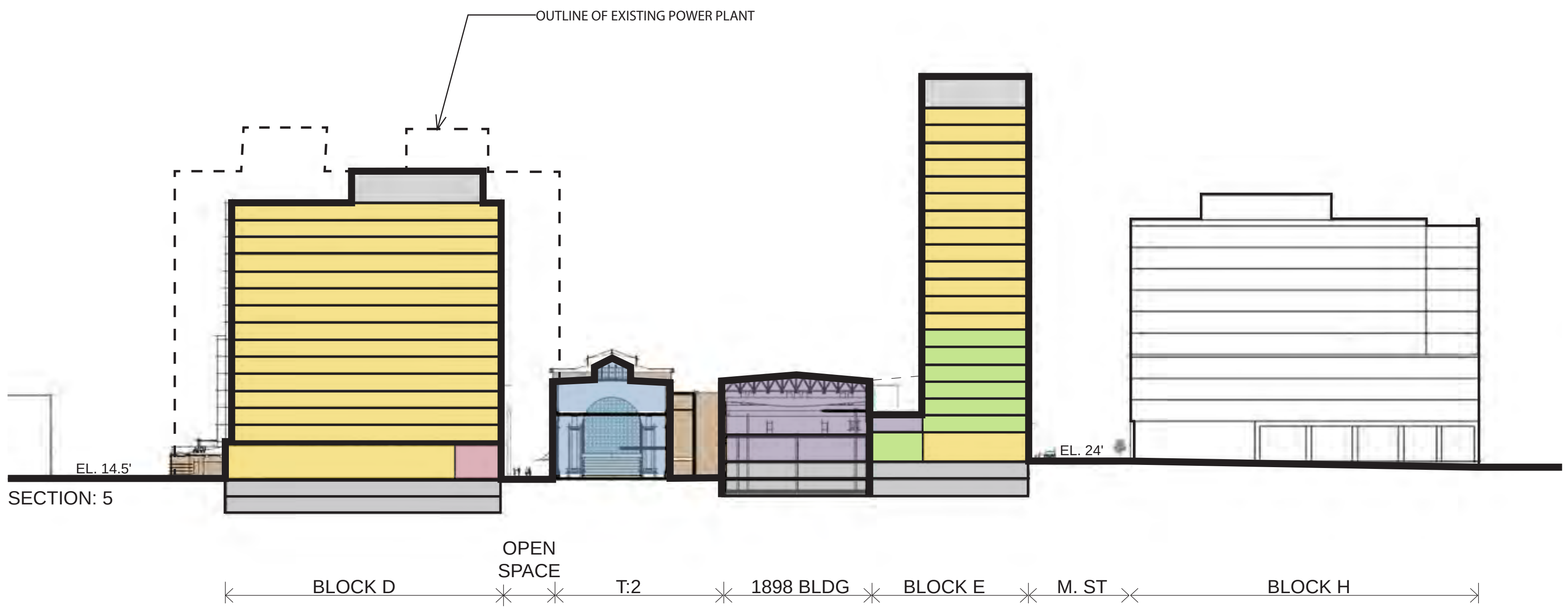
0 50 100 200 Feet
SCALE1"=100'

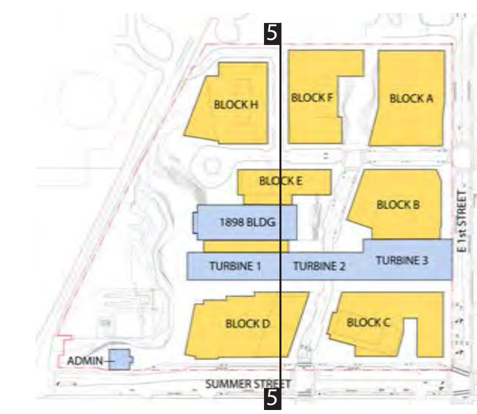
Stantec

Figure 3.12b

Sections

L Street Station Redevelopment
Boston, Massachusetts





HOTEL
RETAIL
RENTAL
CONDO
OFFICE
CIVIC
LOADING & BOH
PARKING

Figure 3.12c

Sections

0 50 100 200 Feet
SCALE1"=100'

Stantec

L Street Station Redevelopment
Boston, Massachusetts

4

Sustainability/Green Building Design and Climate Change Resiliency

This chapter provides preliminary information regarding the Project's sustainability/ green building design, and climate change preparedness and resiliency strategies, as applicable. It identifies the proposed U.S. Green Building Council's ("USGBC") Leadership in Energy and Environmental Design ("LEED™") version 4 ("v4") rating system level based on early design, describes building-specific strategies for each LEED category, and explains how key credits are proposed to be achieved. It also discusses a framework for considering present and future climate conditions in project design.

In support of Boston's Greenhouse Gas ("GHG") emissions reductions goals, this chapter also presents the estimated Project energy usage and GHG emissions reductions. Refer to Chapter 7, *Greenhouse Gas Emissions Assessment* for additional detail on the Project energy model assumptions and results, as well as an evaluation of on-site clean/renewable energy opportunities and private utility company energy efficiency assistance programs that may be available to the Project.

4.1 Summary of Key Findings and Benefits

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

- Reuses an existing, previously developed Project Site in a dense urban setting as opposed to an undeveloped open space.
- Provides a mix of uses, including commercial office, residential, hotel, and retail, near public transit and within walking distance from the South Boston neighborhood.
- Hotel and residential buildings currently demonstrate compliance using the LEEDv4 New Construction rating system at a LEEDv4 Gold level. The office portion will use the LEEDv4 Core and Shell rating system with a goal of LEEDv4 Silver.
- Incorporates a variety of sustainable design strategies that will improve water quality and reduce the urban heat island effect, among other environmental benefits.
- Provides an efficient redevelopment plan with parking both at- and below-grade, and 5.5 acres of open space including a new 2.5-acre publicly accessible waterfront open space.
- Provides protection to the Site relative to the Federal Emergency Management Agency ("FEMA") 100-year and 500-year floodplain limits through site grading

and landscaping. By raising the Project Site grade so that the finished floor elevation for the Project is at +21.5 Boston City Base ("BCB"), which takes into consideration sea level rise scenarios over the lifetime of the Project, the Project will be resilient to both current and future extreme storm events.

- Complies with Article 37, Green Buildings of the Code by demonstrating compliance with the LEEDv4 program at the certifiable level, as demonstrated by the draft LEEDv4 scorecards attached.
- Utilizes sustainable design strategies and exceeds the minimum building energy code requirements, thereby maximizing the conservation of energy and water, and minimizing impacts to regional infrastructure and water resources.
- Reduces overall annual energy consumption by an estimated 17.5 percent through the implementation of energy optimizing building design and systems, which equates to an estimated 10.8 percent reduction in stationary source CO_2 emissions. (Note, the percentages of energy use are different than emission reductions due to emissions conversion factors.)
- Meets the Massachusetts Stretch Energy Code requirement to be 10 percent better than ASHRAE 90.1-2013.
- Intends to participate in local utility incentive programs to evaluate the cost benefit of various energy conservation measures and maximize building energy performance.

4.2 Regulatory Context

The following section provides an overview of the state and local regulatory context related to energy efficiency and GHG emissions.

4.2.1 Article 37 Green Buildings

Through Article 37 – Green Buildings, the City of Boston encourages major building projects to be "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." Any project that is subject to Article 80, Large Project Review is also subject to the requirements of Article 37.

Article 37 requires all projects over 50,000 gross square feet to meet LEED certification standards by either certifying the proposed project or demonstrating that the project would meet the minimum requirements to achieve a LEED Certified level (all LEED pre-requisites and at least 40 points associated with credits listed on the LEED project checklist) without registering the project with the USGBC ("LEED certifiable"). With the LEED v4 rating system effective as of October 31, 2016, the BPDA requires initial Article 80 Large Project Review submissions on or after November 1st, 2016, to demonstrate compliance with Article 37 using LEEDv4.

Boston Green Building Credits

Appendix A of Article 37 lists "Boston Green Building Credits," which are credits that may be included in the calculation toward achieving a LEEDv4 certifiable project. These credits, along with the prerequisites, were developed by the City and are intended to address local issues unique to development within Boston.

4.2.2 BPDA Climate Change Preparedness and Resiliency Policy

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

4.2.3 MEPA Draft Climate Adaptation and Resiliency Policy

In September 2014, the MEPA Office issued a draft policy for addressing potential impacts associated with climate change. The policy's intent is to facilitate the consideration and assessment of risk and vulnerabilities of a project or action under foreseeable scenarios or conditions associated with climate change in order to identify potential mitigation measures.

4.3 Sustainability/Energy Conservation Approach

The goal for the Project is to enhance the neighborhood, minimize adverse environmental impacts, and maximize occupant health and comfort. These goals will continue to guide future decisions regarding design and operations as design and construction of this development advances. In an effort to support the surrounding neighborhood and enhance the community, the Project Team is evaluating Project certifiability under the LEED for Neighborhood Development and a Campus Approach, both of which optimize the sustainable potential of the Project Site and help promote a cohesive and efficient surrounding community.

At the master plan level, the Project's LEED approach has been assessed at a Project component level, which categorizes buildings by use; hotel, residential, and office. Each Project component will separately show LEED compliance, as required by Article 37 of the Code. The hotel and residential buildings will show compliance using the LEEDv4 New Construction rating system, while the office portion will use the LEEDv4 Core and Shell rating system. Both New Construction Project components have the goal of meeting the LEED Gold level, and the Office building has the goal of a LEED Silver certification as shown in the LEED checklists included in Figures 4.1a-c.

4.3.1 Hotel Building (LEED v4 New Construction)

The Project is targeting 63 LEEDv4 points and has identified 47 additional potential targets. Based on the current target credits, a LEED Gold rating is anticipated. The Project incorporates a holistic approach to sustainability, while mitigating the environmental impacts of energy, water and material use. The LEED Gold certifiability is contingent on the final design, outcome of calculations, material procurement, and Project Team decisions. A summary on the preliminary approach to the credit categories are outlined below and shown in the LEED checklist provided at the end of this section.

› ***Location and Transportation***

The Project Team has identified 14 achievable points within the Location and Transportation credit category along with two points that may be feasible with additional investigation. The Project Site is in the densely populated South Boston neighborhood that offers a range of amenities, and convenient public and alternative transportation options. The diversity in public transportation options encourages building occupants and visitors to utilize these modes, as opposed to taking single occupant vehicles. Facilitating public transportation access both reduces the number of vehicles traveling to and from the building, and thus the GHG emissions linked to this building, and reduces commuting costs to help attract and retain employees.

› ***Sustainable Sites***

The Project Team has identified eight achievable points within the Sustainable Sites category. The Project is designed to minimize rainwater runoff and reduce the impact of highly absorptive surfaces contributing to the urban heat island effect. The Project will also eliminate exterior up-lighting and utilize native species in landscaping to minimize the impact on the natural environment of the site. The Project Team has also identified two points that may be feasible and require further investigation to determine achievability. The team will track and continue to evaluate the potential to pursue credits related to the Project's continued habitat restoration strategy and ability to incorporate elements of pedestrian-oriented open space.

› ***Water Efficiency***

The Project Team identified six points that are attainable, along with an additional five points that may be feasible and require additional investigation. The proposed hotel is designed to incorporate high-efficiency water fixtures to reduce indoor water consumption, incorporate advanced water meters to help the project consistently track water usage data. The Project Team will track and continue to evaluate the potential to pursue the maybe credits to achieve additional water savings through the reduction of indoor water use demands and cooling tower efficiency.

› ***Energy and Atmosphere***

The Project Team has identified 13 points within the Energy and Atmosphere category that are attainable, and another 20 points that may be feasible with some further investigation. The 13 attainable credits in the Energy and Atmosphere category will be sought through reductions in overall energy consumption by cost, the purchase of offsite renewables to offset energy consumption, and advanced metering of energy subsystems to help the Project understand and manage use. The Project will also perform Enhanced Commissioning. To benefit the claimed savings for the Project, the Alternative Energy Performance Metric was utilized. This metric allows the comparison of source energy, GHG emissions, and time-dependent valuation ("TDV") energy in addition to energy cost.

The potential maybe credits will be monitored by the Project Team to determine if additional improvements to energy performance, incorporating enhanced commissioning, and renewable energy production strategies can be utilized for the Project.

› ***Materials and Resources***

The Project Team has identified five points that are attainable within the Materials and Resources category and an additional eight points as potential target credits. The Project will also reduce the overall footprint of the materials and resources by utilizing sustainable waste management strategies and maximizing the declarations of environmental products, raw material sourcing and chemical ingredient of the permanently installed products. Additionally, the Project Team has identified five points that are feasible with an added cost or effort. The Project Team will continue to investigate the possibilities for maximizing points under Building Product Disclosure Optimization credits.

› ***Indoor Environmental Quality***

The Project Team has recognized nine points in this category that are likely to be attainable for the Project, and seven points that may be feasible. Strategies such as enhanced indoor air quality control strategies, construction indoor air quality management planning and low-emitting materials are incorporated to design to provide a healthy indoor environment for all occupants and visitors. The Project Team will continue to investigate the possibilities of pursuing Daylight, Quality Views, and incorporation of low emitting material to further enhance the indoor environment of the space.

› ***Innovation***

The Project Team has implemented Innovation and Design initiatives involving exemplary performance of some credits, as well as innovative ways to address topics not touched on in the existing credits.

The Innovation in Design Credits include: Developing an Education Outreach program that provides information on sustainable design and uses this project as an example; designing a walkable Project Site to encourage visitors to walk, increasing health and environmental benefits; purchasing lamps that contain minimal to zero mercury to reduce toxic materials on-site; and one credit for having a LEED Accredited Professional on the Project Team.

› ***Regional Priority***

The four points available in the Regional Priority Category are contingent on the Project meeting certain thresholds for credits in previous categories as determined by the USGBC. The Project will achieve one Regional Priority credit for its Rainwater Management strategy. The four points in this category are automatically awarded pending an award of original credits to which they are linked.

4.3.2 Residential Building (LEED v4 New Construction)

The Project is targeting 63 LEED v4 points and has identified 47 additional potential targets. Based on the current target credits, a LEED Gold rating is anticipated. The Project incorporates a holistic approach to sustainability, while mitigating the environmental impacts of energy, water and material use. The LEED Gold certifiability is contingent on the final design, outcome of calculations, material procurement, and Project Team decisions. A summary on the preliminary approach to the credit categories are outlined below and shown in the LEED checklist provided in Figure 4.1b.

› ***Location and Transportation***

The Project Team has identified 14 achievable points within the Location and Transportation credit category along with two points that may be feasible with additional investigation. The Project Site is in the densely populated South Boston neighborhood that offers a range of amenities, and convenient public and alternative transportation options. The diversity in public transportation options encourages building occupants and visitors to utilize these modes, as opposed to taking single occupant vehicles. Facilitating public transportation access both reduces the number of vehicles traveling to and from the building, and thus the GHG emissions linked to this building and can also reduce commuting costs which helps to and retain employees.

› ***Sustainable Sites***

The Project Team has identified eight achievable points within the Sustainable Sites category. The Project is designed to minimize rainwater runoff and reduce the impact of highly absorptive surfaces contributing to the urban heat island effect. The Project will also eliminate exterior up-lighting and utilize native species in landscaping to minimize the impact on the natural environment of the Project Site. The Project Team has also identified two points that may be feasible and require further investigation to determine achievability. The Project Team will track and continue to evaluate the potential to pursue the maybe credits related to the Project’s continued habitat restoration strategy and ability to incorporate elements of pedestrian oriented open space.

› ***Water Efficiency***

The Project Team identified six points that are attainable, along with an additional five points that may be feasible and requires additional investigation. The Project is designed to incorporate high-efficiency water fixtures to reduce indoor water consumption and incorporate advanced water meters to help the Project consistently track water usage data. The Project Team will track and continue to evaluate the potential to pursue credits to achieve additional water savings through the reduction of indoor water use demands and cooling tower efficiency.

- ***Energy and Atmosphere***

  The Project Team has identified 13 points within the Energy and Atmosphere category that are attainable, and another 20 points that may be feasible with some further investigation.

  The 13 attainable credits in the Energy and Atmosphere category will be sought through reductions in overall energy consumption by cost, the purchase of offsite renewables to offset energy consumption, and advanced metering of energy subsystems to help the Project understand and manage use. The Project will also perform Enhanced Commissioning. To benefit the claimed savings for the Project, the Alternative Energy Performance Metric was utilized. This metric allows the comparison of source energy, GHG emissions, and time-dependent valuation (TDV) energy in addition to energy cost.

  The potential maybe credits will be monitored by the Project Team to determine if additional improvements to energy performance and renewable energy production strategies can be utilized for the Project.

- ***Materials and Resources***

  The Project Team has identified five points that are attainable within the Materials and Resources category and an additional eight points as potential target credits. The Project will also reduce the overall footprint of the materials and resources by utilizing sustainable waste management strategies and maximizing the declarations of environmental products, raw material sourcing and chemical ingredient of the permanently installed products. Additionally, the Project Team has identified five points that are feasible with an added cost or effort. The Project will continue to investigate the possibilities for maximizing points under Building Product Disclosure Optimization credits.

- ***Indoor Environmental Quality***

  The Project Team has recognized nine points in this category that are likely to be attainable for the Project, and seven points that may be feasible. Strategies such as enhanced indoor air quality control strategies, construction indoor air quality management planning and low-emitting materials are incorporated to design to provide a healthy indoor environment for all occupants and visitors. The Project Team will continue to investigate the possibilities of pursuing Daylight, Quality Views, and incorporation of low emitting material to further enhance the indoor environment of the space.

- ***Innovation***

  The Project Team has implemented Innovation and Design initiatives involving exemplary performance of some credits, as well as innovative ways to address topics not touched on in the existing credits.

  The Innovation in Design Credits include: Developing an Education Outreach program that provides information on sustainable design and uses this Project as an example; designing a walkable Project Site to encourage visitors to walk, increasing public health and environmental benefits; purchasing lamps that contain minimal to zero mercury to reduce toxic materials on site; and one ID credit for having a LEED Accredited Professional on the Project Team.

- ***Regional Priority***

  The four points available in the Regional Priority Category are contingent on the Project meeting certain thresholds for credits in previous categories as determined by the USGBC. The Project will achieve one Regional Priority credit for its Rainwater Management strategy. The four points in this category are automatically awarded pending an award of original credits to which they are linked.

4.3.3 Office Building (LEED v4 Core and Shell)

The Project is targeting 54 LEED v4 points and has identified 32 additional potential targets. Based on the current target credits, a LEED Silver rating is anticipated. The Project incorporates a holistic approach to sustainability, while mitigating the environmental impacts of energy, water and material use. The LEED Silver certification is contingent on the final design, outcome of calculations, material procurement, and Project Team decisions. A summary on the preliminary approach to the credit categories are outlined below and shown in the LEED checklist provided at the end of this section.

- ***Location and Transportation***

  The Project Team has identified 17 achievable points within the Location and Transportation credit category along with three points that may be feasible with additional investigation. The Project Site is in the densely populated South Boston neighborhood that offers a range of amenities, and convenient public and alternative transportation options. The diversity in public transportation options encourages building occupants and visitors to utilize these modes, as opposed to taking single occupant vehicles. Facilitating public transportation access both reduces the number of vehicles traveling to and from the building, and thus the GHG emissions linked to this building and reduce commuting costs which helps attract and retain employees.

- ***Sustainable Sites***

  The Project Team has identified six achievable points within the Sustainable Sites category. The Project is designed to minimize rainwater runoff and reduce the impact of highly absorptive surfaces contributing to the urban heat island effect. The Project Team has also identified five points that may be feasible and require further investigation to determine achievability. The team will track and continue to evaluate the potential to pursue the maybe credits related to the Project's continued rainwater management strategy and ability to incorporate elements of pedestrian oriented open space.

- ***Water Efficiency***

  The Project Team identified seven points that are attainable, along with an additional two points that may be feasible and requires additional investigation. The Project is designed to incorporate high-efficiency water fixtures to reduce indoor water consumption, incorporate advanced water meters and reduced cooling tower water use to help the Project consistently track water usage data. The team will track and continue to evaluate the potential to pursue the maybe credits to achieve additional water savings through the reduction of indoor water use demands.

› ***Energy and Atmosphere***

The Project Team has identified seven points within the Energy and Atmosphere category that are attainable, and another 14 points that may be feasible with some further investigation.

The seven attainable credits in the Energy and Atmosphere category will be sought through reductions in overall energy consumption by cost, the purchase of offsite renewables to offset energy consumption, and advanced metering of energy subsystems to help the Project understand and manage use.

The potential maybe credits will be monitored by the Project Team to determine if additional improvements to energy performance, incorporating enhanced commissioning, and renewable energy production strategies can be utilized for the Project.

› ***Materials and Resources***

The Project Team has identified five points that are attainable within the Materials and Resources category and an additional three points as potential target credits. The Project will also reduce the overall amount of the materials and resources by utilizing sustainable waste management strategies and maximizing the declarations of environmental products, raw material sourcing and chemical ingredient of the permanently installed products. Additionally, the Project Team has identified 5 points that are feasible with an added cost or effort. The Project will continue to investigate the possibilities for maximizing points under Building Product Disclosure Optimization credits.

› ***Indoor Environmental Quality***

The Project Team has recognized five points in this category that are likely to be attainable for the Project, and five points that may be feasible. Strategies such as enhanced indoor air quality control strategies, construction indoor air quality management plan and low-emitting materials are incorporated to design to provide a healthy indoor environment for all occupants and visitors. The Project Team will continue to investigate the possibilities of pursuing Daylight, Quality Views, and incorporation of low emitting material to further enhance the indoor environment of the space.

› ***Innovation***

The Project Team has implemented Innovation and Design initiatives involving exemplary performance of some credits, as well as innovative ways to address topics not touched on in the existing credits.

The Innovation in Design Credits include: developing an education outreach program that provides information on sustainable design and uses this Project as an example; designing a walkable Project Site to encourage visitors to walk, increasing health and environmental benefits; Purchasing lamps that contain minimal to zero mercury to reduce toxic materials on-site; and one credit for having a LEED Accredited Professional on the Project Team.

› ***Regional Priority***

The four points available in the Regional Priority Category are contingent on the Project meeting certain thresholds for credits in previous categories as determined by the USGBC. The Project will achieve one Regional Priority credit for its Rainwater Management strategy. The four points in this category are automatically awarded pending an award of original credits to which they are linked.

4.4 Climate Change Preparedness and Resiliency

This section discusses recent changes to climate change adaptation guidance, the Project's approach to complying with this guidance, and additional Site and building design features that will improve the Project's resiliency and support adaptation under future climate scenarios. The required BPDA Climate Change Resiliency and Preparedness Checklist is provided in Appendix B.

4.4.1 Updated Climate Change Adaptation Guidance

In March 2018, the Executive Office of Energy and Environmental Affairs published the Massachusetts Climate Change Projections – Statewide and for Major Drainage Basins, authored by the Northeast Climate Science Center. The projections for expected total rainfall, number of days receiving over one-, two-, and four-inches of rainfall, and consecutive dry days are variable for the Boston Harbor basin, fluctuating seasonally between loss and gain of days. The Boston Harbor basin is expected to experience increased average, seasonal, and extreme high temperatures throughout the 21st century.

In December 2017, the BPDA released an updated Climate Resiliency Guidance document that identifies scenarios that the City believes represent reasonable SLR risk thresholds for evaluating impacts to new development. The BPDA used the Boston Harbor Flood Risk Model ("BH-FRM") to create its Sea Level Rise – Flood Hazard Area ("SLR-FHA") map, which depicts the one-percent annual chance flood event with 40 inches (3.3 feet) of SLR. This represents a combination of the mean SLR (3.2 feet above 2013 MSL) plus 2.5 inches of local subsidence that is projected to occur by 2070.

The BPDA's Climate Resiliency Guidance document states that projects within the FEMA Special Flood Hazard Area ("SFHA") or the BPDA SLR-FHA should use its recommended Sea Level Rise-Design Flood Elevation ("SLR-DFE") for the year 2070 as the minimum performance target for assessing SLR impacts and for reducing or eliminating flood risk, potential damage, and related adverse impacts. The projected

SLR-DFEs are comprised of two components: the SLR-BFE and freeboard. The BFE is based on the BH-FRM results, which include 40-inches of SLR, 2.5 inches of local subsidence, and the one percent annual chance coastal flood event in 2070.

As described below, the Project has taken this updated guidance into account in the evaluation and selection of resiliency measures. Refer to Figure 4.2 for site vulnerability.

4.4.2 Potential Resiliency Measures

The Project Team plans to evaluate potential design elements to mitigate the effects of climate change as the design of each Project component progresses. Refer to Figure 4.3 for proposed resiliency measures.

Site Design Measures

- The Project Site benefits tremendously from existing topography which rises from the waterfront to the east and southern edge of the Project Site, with the southeast corner being well above the current and predicted future one-percent flood limits. At the waterfront, the Project seeks to mitigate sea-level rise related flooding through a stepped landscape which begins just behind the existing seawall and is raised up to an elevation of +15 NAVD88 (approximately 21.5 BCB) in keeping with the City of Boston Resiliency Checklist. This approach allows for publicly accessible open space at the waterfront while also creating clear protection for the existing buildings and new construction beyond.
- The waterfront landscape is designed to assist in stormwater collection from the upland areas. As possible, stormwater from Project Site will be directed to this area to slow its entry into storm systems and limit storm-related flooding. Permeable paving along streets in planting zones and where possible at plazas and along Turbine Alley will be included to decrease runoff.
- Use of light-colored materials as paving in public open spaces will be encouraged to reduce heat-island impacts and shade trees will be planted along Summer Street, East 1st Street, M Street and along the Waterfront Open Space to mitigate heat.

Building Design Measures

- According to the SLR-FHA Mapping Tool, the SLR-BFE for the Project Site is 19.4 BCB for the year 2070. The BPDA guidance also recommends adding 12-inches of freeboard for non-critical, non-residential uses and 24-inches for critical buildings, infrastructure and ground floor residential to reach the recommended SLR-DFE.
- The Project is targeting a minimum Finished Floor Elevation (“FFE”) of 21.5 BCB for all uses, which is above the highest recommended SLR-DFE of 21.4 BCB and over two feet above the SLR-BFE of 19.4 BCB.
- To understand the potential impacts of extreme weather conditions, the Proponent will use Whole Building Energy Simulation to analyze the performance

of heating and cooling equipment under extreme cold (0º F) and heat events (95º F) and will assess occupant thermal comfort under extreme conditions lasting up to three consecutive days, including thermal comfort in the event of a power outage and loss of heating and cooling capacity.

- To assist with reducing heat island effect, the Project Team will consider high albedo roofing where practical.

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

Project Checklist

Project Name: 776 Summer Residential
3/5/2018

Y	?	N			
1			Credit	Integrative Process	1
14	**2**	**0**		**Location and Transportation**	**16**
		N	Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
	2		Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
5			Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
1			Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1
8	**2**	**0**		**Sustainable Sites**	**10**
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
1	1		Credit	Site Development - Protect or Restore Habitat	2
	1		Credit	Open Space	1
3			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
5	**4**	**2**		**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	2	2	Credit	Indoor Water Use Reduction	6
	2		Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1
14	**19**	**0**		**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
6			Credit	Enhanced Commissioning	6
5	13		Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
	2		Credit	Demand Response	2
	3		Credit	Renewable Energy Production	3
	1		Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

Y	?	N			
5	**8**	**0**		**Materials and Resources**	**13**
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	5		Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2
9	**7**	**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
1	2		Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		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
6	**0**	**0**		**Innovation**	**6**
5			Credit	Innovation	5
1			Credit	LEED Accredited Professional	1
1	**3**	**0**		**Regional Priority**	**4**
	1		Credit	Regional Priority: Indoor Water Use Reduction	1
	1		Credit	Regional Priority: Optimize Energy Performance	1
	1		Credit	Regional Priority: High Priority Site	1
1			Credit	Regional Priority: Rainwater Management	1
63	**45**	**2**		**TOTALS** Possible Points:	**110**

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

Figure 4.1a

LEED Scorecard

L Street Station Redevelopment
Boston, Massachusetts

LEED v4 for BD+C: New Construction - Hotel
Project Checklist

Project Name: 776 Summer Hotel
Project Number: B1706872.000

Y	?	N			
1			Credit	Integrative Process	1

Y	?	N			
14	2	0		**Location and Transportation**	**16**
		N	Credit	LEED for Neighborhood Development Location	16
1			Credit 1	Sensitive Land Protection	1
	2		Credit 2	High Priority Site	2
5			Credit 3	Surrounding Density and Diverse Uses	5
5			Credit 4	Access to Quality Transit	5
1			Credit 5	Bicycle Facilities	1
1			Credit 6	Reduced Parking Footprint	1
1			Credit 7	Green Vehicles	1

Y	?	N			
8	2	0		**Sustainable Sites**	**10**
Y			Prereq 1	Construction Activity Pollution Prevention	Required
1			Credit 1	Site Assessment	1
1	1		Credit 2	Site Development - Protect or Restore Habitat	2
	1		Credit 3	Open Space	1
3			Credit 4	Rainwater Management	3
2			Credit 5	Heat Island Reduction	2
1			Credit 6	Light Pollution Reduction	1

Y	?	N			
6	5	0		**Water Efficiency**	**11**
Y			Prereq 1	Outdoor Water Use Reduction	Required
Y			Prereq 2	Indoor Water Use Reduction	Required
Y			Prereq 3	Building-Level Water Metering	Required
2			Credit 1	Outdoor Water Use Reduction	2
3	3		Credit 2	Indoor Water Use Reduction	6
	2		Credit 3	Cooling Tower Water Use	2
1			Credit 4	Water Metering	1

Y	?	N			
13	20	0		**Energy and Atmosphere**	**33**
Y			Prereq 1	Fundamental Commissioning and Verification	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Building-Level Energy Metering	Required
Y			Prereq 4	Fundamental Refrigerant Management	Required
3	3		Credit 1	Enhanced Commissioning	6
7	11		Credit 2	Optimize Energy Performance	18
1			Credit 3	Advanced Energy Metering	1
	2		Credit 4	Demand Response	2
	3		Credit 5	Renewable Energy Production	3
	1		Credit 6	Enhanced Refrigerant Management	1
2			Credit 7	Green Power and Carbon Offsets	2

Y	?	N			
5	8	0		**Materials and Resources**	**13**
Y			Prereq 1	Storage and Collection of Recyclables	Required
Y			Prereq 2	Construction and Demolition Waste Management Planning	Required
	5		Credit 1	Building Life-Cycle Impact Reduction	5
1	1		Credit 2	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit 3	Building Product Disclosure and Optimization - Sourcing Raw Materials	2
1	1		Credit 4	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit 5	Construction and Demolition Waste Management	2

Y	?	N			
9	7	0		**Indoor Environmental Quality**	**16**
Y			Prereq 1	Minimum Indoor Air Quality Performance	Required
Y			Prereq 2	Environmental Tobacco Smoke Control	Required
2			Credit 1	Enhanced Indoor Air Quality Strategies	2
1	2		Credit 2	Low-Emitting Materials	3
1			Credit 3	Construction Indoor Air Quality Management Plan	1
1	1		Credit 4	Indoor Air Quality Assessment	2
1			Credit 5	Thermal Comfort	1
2			Credit 6	Interior Lighting	2
	3		Credit 7	Daylight	3
	1		Credit 8	Quality Views	1
1			Credit 9	Acoustic Performance	1

Y	?	N			
6	0	0		**Innovation**	**6**
5			Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

Y	?	N			
1	3	0		**Regional Priority**	**4**
	1		Credit 1	Regional Priority: Indoor Water Use Reduction	1
	1		Credit 2	Regional Priority: Optimize Energy Performance	1
	1		Credit 3	Regional Priority: High Priority Site	1
1			Credit 4	Regional Priority: Rainwater Management	1

Y	?	N			
63	47	0		**TOTALS** Possible Points:	**110**

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

vhb

Figure 4.1b

LEED Scorecard

L Street Station Redevelopment
Boston, Massachusetts

LEED v4 for BD+C: Core and Shell
Project Checklist

Project Name: 776 Summer Street - CS
Date: 3/5/2018

Y	?	N			
		1	Credit	Integrative Process	1

17	3	0	**Location and Transportation**		**20**
		N	Credit	LEED for Neighborhood Development Location	20
2			Credit 1	Sensitive Land Protection	2
	3		Credit 2	High Priority Site	3
6			Credit 3	Surrounding Density and Diverse Uses	6
6			Credit 4	Access to Quality Transit	6
1			Credit 5	Bicycle Facilities	1
1			Credit 6	Reduced Parking Footprint	1
1			Credit 7	Green Vehicles	1

6	5	0	**Sustainable Sites**		**11**
Y			Prereq 1	Construction Activity Pollution Prevention	Required
	1		Credit 1	Site Assessment	1
	2		Credit 2	Site Development - Protect or Restore Habitat	2
	1		Credit 3	Open Space	1
2	1		Credit 4	Rainwater Management	3
2			Credit 5	Heat Island Reduction	2
1			Credit 6	Light Pollution Reduction	1
1			Credit 7	Tenant Design and Construction Guidelines	1

7	2	2	**Water Efficiency**		**11**
Y			Prereq 1	Outdoor Water Use Reduction	Required
Y			Prereq 2	Indoor Water Use Reduction	Required
Y			Prereq 3	Building-Level Water Metering	Required
2			Credit 1	Outdoor Water Use Reduction	2
2	2	2	Credit 2	Indoor Water Use Reduction	6
2			Credit 3	Cooling Tower Water Use	2
1			Credit 4	Water Metering	1

7	14	12	**Energy and Atmosphere**		**33**
Y			Prereq 1	Fundamental Commissioning and Verification	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Building-Level Energy Metering	Required
Y			Prereq 4	Fundamental Refrigerant Management	Required
	6		Credit 1	Enhanced Commissioning	6
4	2	12	Credit 2	Optimize Energy Performance	18
1			Credit 3	Advanced Energy Metering	1
	2		Credit 4	Demand Response	2
	3		Credit 5	Renewable Energy Production	3
	1		Credit 6	Enhanced Refrigerant Management	1
2			Credit 7	Green Power and Carbon Offsets	2

5	3	6	**Materials and Resources**		**14**
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		6	Credit	Building Life-Cycle Impact Reduction	6
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

5	5	0	**Indoor Environmental Quality**		**10**
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
2	1		Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
	3		Credit	Daylight	3
	1		Credit	Quality Views	1

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

1	0	3	**Regional Priority**		**4**
		1	Credit	Regional Priority: Indoor Water Use Reduction (Min 4 Points)	1
1			Credit	Regional Priority: Rainwater Management (Min 2 Points)	1
		1	Credit	Regional Priority: High Priority Site (Min 2 Points)	1
		1	Credit	Regional Priority: Renewable Energy Production (Min 2 Points)	1

54	32	24	**TOTALS**	Possible Points:	**110**

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

Figure 4.1c

LEED Scorecard

L Street Station Redevelopment
Boston, Massachusetts

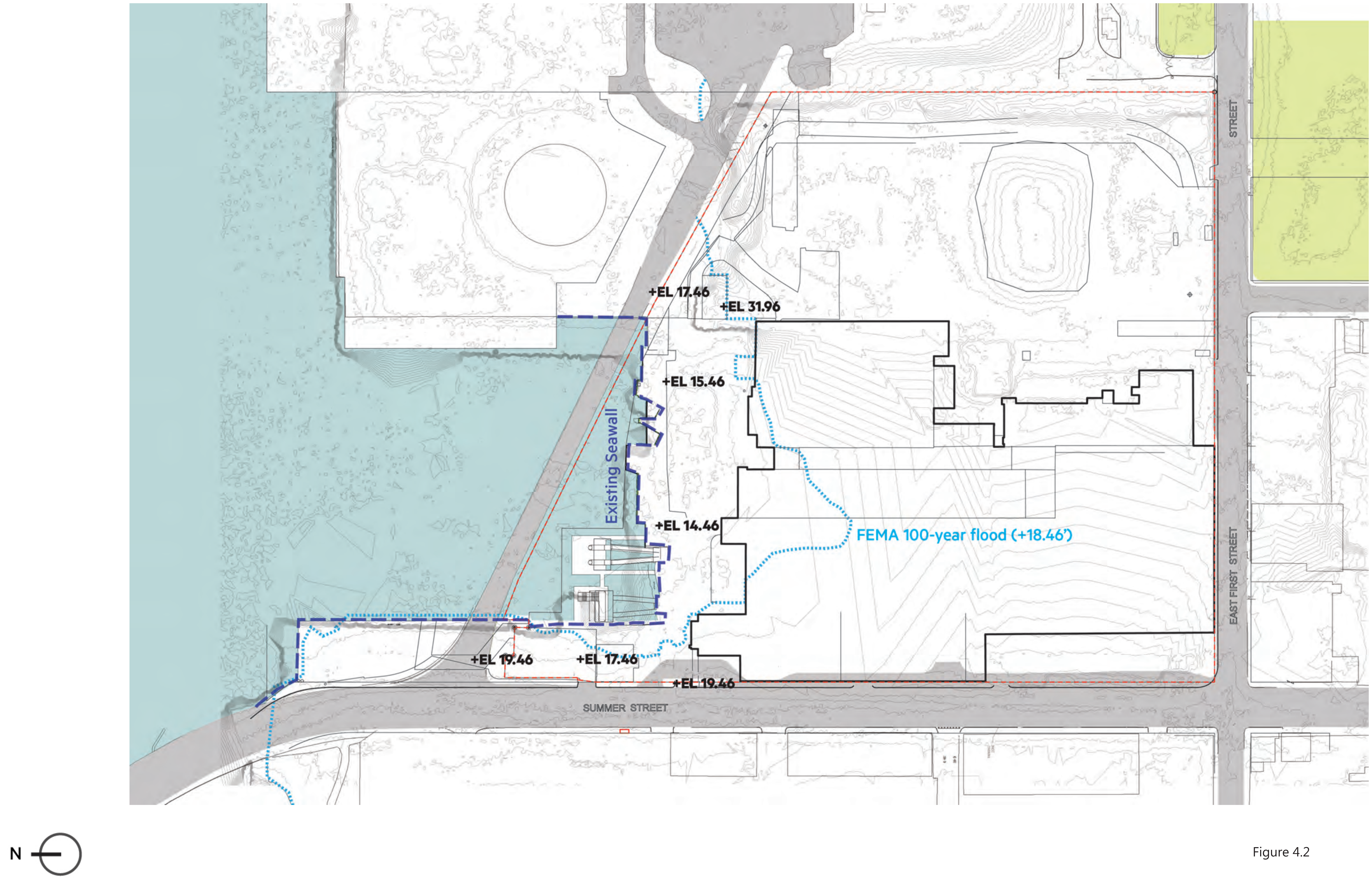


Figure 4.2

Climate Change Vulnerability

L Street Station Redevelopment
Boston, Massachusetts

STOSS

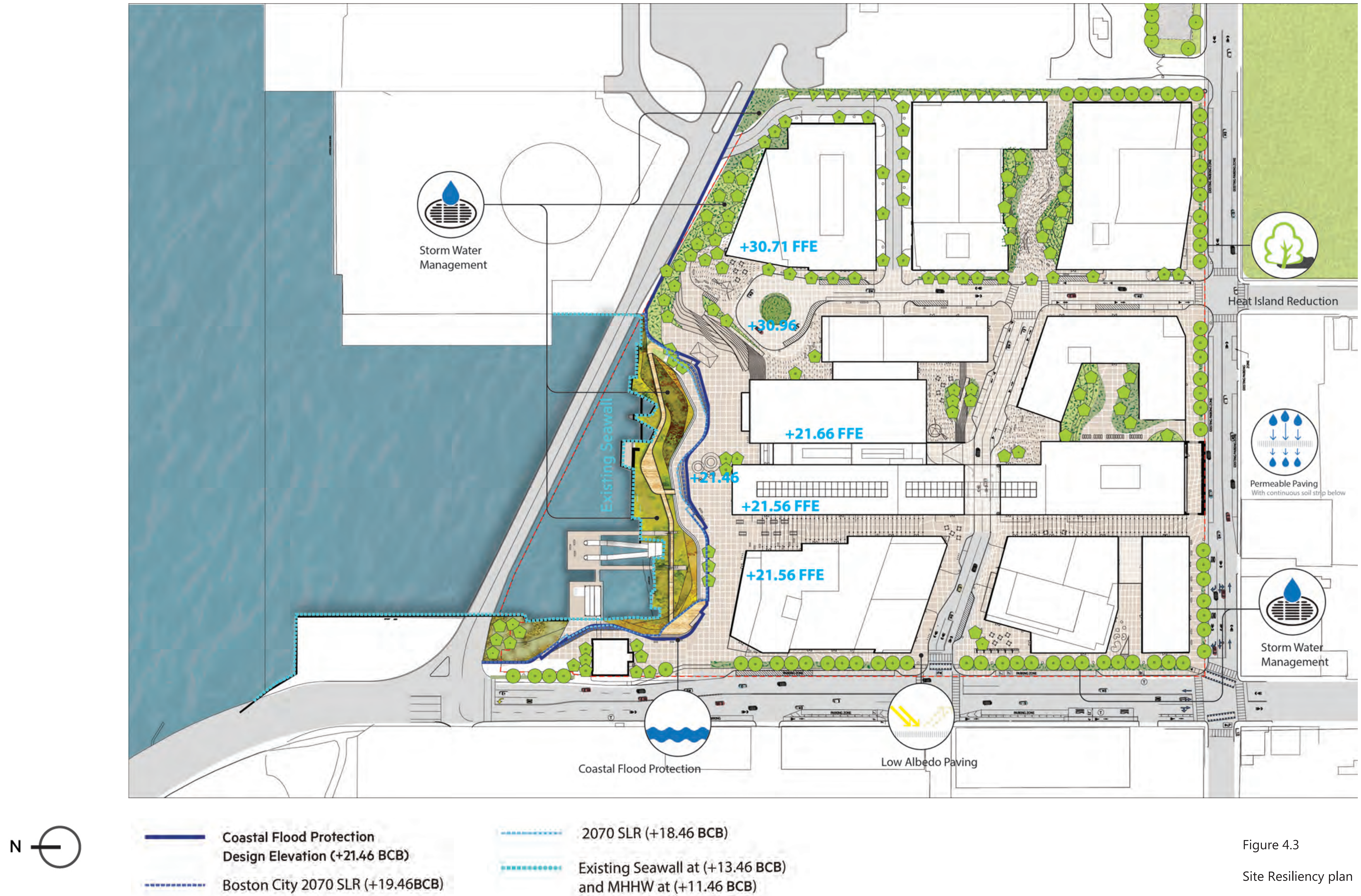


Figure 4.3

Site Resiliency plan

L Street Station Redevelopment
Boston, Massachusetts

STOSS

5

Transportation

This chapter presents the analysis of the transportation and parking aspects of the Project. Specifically, this evaluation includes the following elements:

- Definition and presentation of existing traffic, including roadway capacities, parking, transit, pedestrian and bicycle circulation, loading and overall Project Site conditions.
- An evaluation of the Project's long-term transportation impacts on those same topics.
- A summary of the proposed transportation mitigation and improvements the Project will contribute to the South Boston neighborhood to help reduce Project transportation impacts and improve overall accessibility to and from the area.

Additional detail and supporting information is provided in Appendix D of this DEIR/DPIR.

The Project will consist of approximately 1.93[1] million gross square feet of mixed-use development inclusive of the rehabilitation of the Turbine Hall and the 1898 Building. The Project proposes a mix of uses, including residential, office, hotel, and retail. The mix of residential and commercial uses in the Project will benefit from an enhanced bus service and an expanded pedestrian and bicycle network, resulting in a higher proportion of alternative mode trips rather than vehicle trips. Further, the capture of internal trips between different Project uses will support reduced vehicle trip-making and opportunities to control parking demand through parking sharing strategies that take into consideration the needs of different users by time of day.

Although located approximately 1.5 miles from South Station, the growing City Point neighborhood of South Boston, which is not served by the MBTA Red Line, is experiencing gaps and shortfalls in its MBTA public transit service (bus service). To help address this issue, the Proponent proposes to fund and operate, in partnership with the MBTA, an innovative supplemental bus service that is open to anyone with a Charlie Card.

This supplemental service would be expressly designed to identify and address, in real time, gaps and shortfalls in established MBTA bus service caused by changes in transit demand, traffic patterns and usage. The service would create the opportunity to pilot potentially more efficient routes (such as inbound service to South Station along First Street, or inbound service to South Station along Summer Street that does not continue into the Financial District) that could both supplement existing

1 Excluding structured parking.

MBTA bus service and also provide real-time evidence supporting changes to existing service.

The Proponent has begun discussions with the MBTA regarding a public-private partnership to implement this proposed supplemental bus service, which would advance the objectives of the MBTA's on-going "Better Bus Project" initiative. Once launched, the Proponent may enlist other private landowners to further leverage this service and assist in providing more transit capacity and options in the area. Due to the pressing neighborhood need for better transit service and as a demonstration of its commitment to this key Project element, the Proponent is prepared to begin a pilot of supplemental service upon receiving its master plan approvals for the Project and the commencement of demolition (currently planned for 2019), before any actual occupancy of the site.

There will be two access roads into the Project Site; one access driveway will be located off Summer Street near its intersection with Elkins Street, and a second driveway will be located off East 1st Street near its intersection with M Street. Internal streets will also be constructed as part of the Project to allow for efficient internal trip distribution, circulation, servicing and loading. An important component of the Project's design is the incorporation of bicycle accommodations within the sites and internal roadway network, in compliance with BTD Bicycle Guidelines. The Project will encourage transit, bicycling, as well as walking, as strong alternative transportation modes.

Additionally, the Project will implement a robust program of Transportation Demand Management ("TDM") strategies to take full advantage of its mobility options and its synergy with the surrounding neighborhoods.

5.1 Summary of Key Findings and Benefits

The following are key findings related to transportation:

- Through an innovative supplemental bus service that is open to anyone with a Charlie Card or Charlie Ticket, in partnership with the MBTA, the Proponent endeavors to provide better bus service to the community. The Proponent is prepared to begin a pilot of supplemental service upon receiving its master plan approvals for the Project and the commencement of demolition (currently planned for 2019), before any actual occupancy of the Project Site.
- The Proponent will make significant functional and aesthetic improvements to the existing Project Site that will benefit the surrounding area by providing pedestrian and bicycle access within and through the Project Site.
- The mix of uses (office, residential, retail, and hotel) will result in the reduction of new vehicle trips due to employees, residents, and patrons using multiple elements of the Project, such as the retail stores and restaurants.
- Improvements in vehicle technology, such as autonomous vehicles and rideshare services, such as Uber and Lyft, are expected to reduce parking demand for private vehicles through carsharing and use of other alternative modes of travel.

- Current MBTA bus services near the Project Site are oversubscribed and residents experience overcrowded buses during the peak commuting hours. The Project proposes to provide additional bus service to/from South Station to alleviate existing overcrowding and serve both residents and employees of the site as well as the neighborhood.
- Since the Project will be constructed over the course of approximately 15 years, transportation serving South Boston will continue to evolve to accommodate changes in technology, commuting, work-life and parking trends.
- The Project proposes possible improvements at the adjacent Summer Street/L Street intersection which may include geometric changes to the intersection, sidewalk reconstruction, and bicycle accommodations.
- The Project will incorporate bicycle accommodations in compliance with BTD's Guidelines to encourage bicycling, as well as walking, as strong transportation modes to and from the Project Site.
- The Project will implement a robust program of TDM strategies to take full advantage of its mobility options and its synergy with the surrounding neighborhood.
- In response to community concerns about the current unavailability of resident parking in the City Point neighborhood, the Proponent is prepared to work with the City of Boston to provide an opportunity for additional night, weekend and snow emergency parking for neighborhood residents on the Project Site.

5.2 Project Description

As described in Chapter 1, *Project Description*, the Project is composed of residential, retail, office and hotel space to create a mixed-use development. The Project program, by phase, is summarized in Table 5-1.

While the development and construction of the full program is expected to take approximately 12 to 15 years, for the purposes of the transportation analysis, a conservative approach was assumed which takes into account buildout and occupancy of Phases 1 and 2 by year 2024 and full buildout of all three phases by year 2030.

Table 5-1 Proposed Development Program

Project Element	Phase 1	Phase 2	Phase 3	Total
Residential	538 units	571 units	235 units	1,344 units
Retail	4,000 sf	63,200 sf	18,430 sf	85,630 sf
Office	120,390 sf	-	247,680 sf	368,070 sf
Hotel	189 keys	155 keys	-	344 keys

5.3 Existing Conditions Assessment

The Project Site is in the South Boston neighborhood of Boston with direct access to the Summer Street corridor, public transit alternatives and an evolving system of sidewalks and bike lanes to connect the Site with the surrounding community, the Seaport and Downtown. The Site has close access to the City Point Bus Terminal and MBTA bus services. South Station is approximately 1.4 miles northwest of the Project Site with additional services, including AMTRAK, Commuter Rail lines, and the MBTA Red Line. Broadway Station is just over 1 mile west of the Site with Red Line and bus access. The following sections provide details on the existing transportation infrastructure supporting the Project Site.

5.3.1 Roadways

The Project Site is bound by Summer Street/L Street to the west, East 1st Street to the south, Massport's Thomas J. Butler Dedicated Freight Corridor (DFC) to the north and the City Point Bus Terminal to the east, as described further in the sections below.

Summer Street/L Street

Summer Street is a north/south roadway west of the Project Site that extends from Downtown Boston in the north, to East 1st Street, where it becomes L Street. Adjacent to the Project Site, Summer Street provides wide vehicular travel lanes and on-street parking on both sides. Sidewalks are provided along both sides of the street, and crosswalks are available at nearly all of the intersection approaches.

L Street

L Street is a north/south roadway connecting Summer Street in the north to William J. Day Boulevard in the south. L Street is signed as "South Boston Resident Parking" except for portions near the East 2nd Street and East Broadway intersections, signed for 2-hour and 15-minute parking, respectively. Sidewalks are provided along both sides of the street, and crosswalks are available at signalized intersections.

East 1st Street

East 1st Street is an east/west roadway connecting West 1st Street in the west to Farragut Road in the east. Adjacent to the Project Site, East 1st Street provides general travel lanes for two-way traffic. East 1st Street is signed as "South Boston Resident Parking" except for a portion of the north side of the street, signed as "2-hour parking from 8:00 AM to 6:00 PM". Sidewalks are provided along both sides of the street.

5.3.2 Study Intersections

Based on functional evaluation of Project trips, their potential impacts to the roadway network, and preliminary input from the City BTD and BPDA, a study area comprising the following fourteen (14) intersections was analyzed, as presented in Figure 5.1:

1. Summer Street at Drydock Avenue/ Pappas Way
2. Summer Street at DFC
3. Summer Street at Elkins Street *(unsignalized)*
4. L Street at East 1st Street
5. L Street at East 2nd Street *(unsignalized)*
6. L Street at East 3rd Street *(unsignalized)*
7. L Street at East Broadway
8. East 1st Street at K Street *(unsignalized)*
9. East 1st Street at M Street *(unsignalized)*
10. East 1st Street at West 1st Street/ Pappas Way *(unsignalized)*
11. L Street at East 5th Street
12. L Street at East 8th Street
13. L Street at William J. Day Boulevard
14. L Street at Columbia Road

Existing vehicular traffic data was collected for the study area intersections during the morning and evening weekday peak hours. Vehicle, bicycle, and pedestrian data was collected in June 2017. Since the counts were taken in June, there was no need to apply a MassDOT Seasonal Adjustment factor to the vehicle volumes. Based on the vehicular traffic count data, the existing weekday morning peak hour occurs between 8:00 AM and 9:00 AM, while the existing weekday evening peak hour occurs between 5:00 PM and 6:00 PM.

Figures 5.2a and 5.2b present the 2017 Existing Conditions weekday peak hour vehicle traffic volumes.

5.3.3 Parking

Limited parking was previously available on-site for employees when the Power Plant was in full operation. A total of 275 parking spaces are allocated to the Project Site through the South Boston Parking Freeze Bank as part of the parking freeze industrial zone.

Figure 5.3a presents existing on-street parking regulations within 0.25-mile (approximately a 5-minute walk) radius of the Project Site. The majority of on-street curbside uses within the study area are signed as “South Boston Resident Parking”.

The Project Site is served by the car-sharing service ZipCar. Figure 5.3b identifies ZipCar locations within 0.25-mile (approximately a 5-minute walk) radius of the Project Site.

5.3.4 Transit Facilities and Service

The Project Site is currently served by public transportation, including the following:

› MBTA Bus Routes 5, 7, 9, 10, 11

The transit services are summarized in Table 5-2 and Figure 5.4 shows the Project Site in the context of the wider MBTA system.

An analysis of the transit system is presented in Section 5.12 of this Chapter.

5.3.5 Bicycle Facilities

In the vicinity of the Project Site, existing bicycle accommodations are provided within the Thomas J. Butler Park along the northern side of East 1st Street. The Project will incorporate bicycle accommodations in compliance with BTD's Guidelines to encourage bicycling and walking as strong transportation modes to and from the Project Site.

The closest Blue Bike station (formally known as Hubway) is located approximately 0.25 mile southwest of the Project Site at the South Boston Library with a second station within 1 mile east of the Project Site at the William J. Day Boulevard at Murphy Skating Rink, as noted in Figure 5.5. As part of the Project, the Proponent is committing to installing one additional Blue Bike Station within the Project Site in a location that will be easily accessible for residents, employees and visitors of the Project as well as other members of the neighborhood.

Table 5-2 Transit Service Summary

Transit Service	Origin-Destination	Major Stops	Nearest Stop to Project Site	Peak Hour Headway (minutes)	Weekday Daily Ridership	Hours of Service
MBTA Bus Services						
Route 5	City Point – McCormack Housing via Andrew Station	City Point Bus Terminal Andrew Station Busway McCormack Housing	City Point Bus Terminal	60	161	Weekday: 9:05 AM – 3:24 PM Saturday: 10:05 AM – 3:24 PM Sunday: No Service
Route 7	City Point – Otis & Summer Streets via Summer Street and South Station	City Point Bus Terminal South Station Otis Street	East 1st Street at L Street	2 – 4	4,452	Weekday: 5:15 AM – 10:33 PM Saturday: 5:15 AM – 10:31 PM Sunday: No Service
Route 9	City Point – Copley Square via Broadway Station	City Point Bus Terminal Broadway Station Copley Square	City Point Bus Terminal	5 – 8	5,604	Weekday: 5:13 AM – 12:51 AM Saturday: 5:10 AM – 1:14 AM Sunday: 6:00 AM – 1:12 AM
Route 10	City Point – Copley Square via Andrew Station & B.U. Medical Center	City Point Andrew Station B.U. Medical Center	City Point Bus Terminal	21 – 25	3,387	Weekday 4:55 AM – 1:31 AM Saturday: 6:15 AM – 1:14 AM Sunday: 6:00 AM – 1:11 AM
Route 11	City Point – Downtown	City Point Bus Terminal Broadway Station Tufts Medical Center	City Point Bus Terminal	6 – 12	3,413	Weekday: 5:11AM – 1:24 AM Saturday: 5:10 AM – 1:20 AM Sunday: 6:15 AM – 1:28 AM

1 Based on the schedule provided on the MBTA website in June 2018 (Summer Schedule)
2 Ridership data from MBTA Ridership and Service Statistics, Fourteenth Edition, 2014

Bicycle Parking

Bicycle racks and short-term bicycle parking are currently not provided along the streets surrounding the Project Site. As part of the Project, the Proponent will provide a variety of bicycle parking options for employees, residents and visitors of the Project, as required by the BTD Bicycle Parking Guidelines.

Bicycle Usage

Bicycle volumes were collected in June 2017 and are presented in Figures 5.6a and 5.6b for the morning and evening peak hours, respectively. Bicycle activity within the study area is heaviest along Summer Street/L Street. On Summer Street, in the vicinity of the Project Site, there were approximately 26 bicycles traveling northbound during the morning peak hour and 23 bicycles traveling southbound during the evening peak hour.

5.3.6 Pedestrian Facilities

The existing pedestrian infrastructure consists of sidewalks along the roads bordering the Project and crosswalks at the approaches of the Summer Street and L Street/East 1st Street intersection. The sidewalk along Summer Street, adjacent to the Project, is in acceptable condition. The sidewalk along East 1st Street, is narrow and in poor condition. As part of the Project, sidewalks surrounding the Site will be improved as illustrated in Chapter 3, *Urban Design*.

Pedestrian volumes were collected in June 2017 and are presented in Figures 5.7a and 5.7b for the morning and evening peak hours, respectively. A walking distance map with 0.25-mile and 0.5-mile radii around the Project Site is illustrated in Figure 5.7c.

5.3.7 Truck Network

According to an interactive map of the trucking network within Massachusetts on the MassDOT website, there are specified truck restrictions on L Street, K Street, M Street, East 2nd Street, East 3rd Street, and East Broadway within the study area. On these segments, there is a 24-hour exclusion for vehicles weighing 2.5 tons or more.

With the opening of the Massport DFC, heavy vehicle activity has shifted from East 1st Street to the DFC north of the Project Site. The relocation of the trucks is reflected in the existing condition intersection operations analysis.

5.3.8 Crash Analysis

A detailed crash analysis was conducted to identify potential vehicle crash trends and/or roadway deficiencies in the study area. The most current vehicle crash data for the traffic study area intersections for the latest available 5 years were obtained from MassDOT for the years 2011 to 2015. A summary of the study area intersections vehicle crash history is presented in Table 5-3.

The MassDOT database may not fully account for all crashes reported to the Boston Police Department ("BPD") or Boston Emergency Medical Services ("EMS"). A request for additional data from these sources has been made but, as of the time of filing this document, no additional information has been received.

MassDOT has six districts within Massachusetts, and the study area falls under District 6[2]. The District 6 average crash rate, per million entering vehicles, for signalized intersections is 0.70, and the average crash rate for unsignalized intersections is 0.53. Using the data from the MassDOT database only, all the study area intersections have a calculated crash rate that falls below the District 6 average values for signalized and unsignalized intersections.

The crash analysis based on the MassDOT data shows a relatively low number of crashes in the immediate area surrounding the Project Site. The intersection of L Street at William J. Day Boulevard, the intersection furthest south from the Project Site, showed the largest number of crashes with 15 crashes in the past 5 years. Only one crash occurred during a weekday morning peak hour. Six crashes occurred during a weekday outside of the peak hours, and eight occurred on the weekend during off-peak times.

At the nearby intersection of Summer Street/L Street at East 1st Street, all crashes between 2011 and 2015 occurred outside of peak hours. None of the crashes involved a non-motorist, and none of the crashes resulted in a fatal injury.

Additionally, the study area intersections were compared to the MassDOT Highway Safety Improvement Plan ("HSIP") map of the Commonwealth's top crash locations. None of the study area intersections were found to be included in the HSIP map.

Crash analysis worksheets are provided in Appendix D.

2 MassDOT District 6 includes the following cities and towns as defined on the MassDOT website: Boston, Braintree, Brookline, Cambridge, Canton, Chelsea, Dedham, Dover, Milton, Needham, Newton, Quincy, Randolph, Watertown, Wellesley, Weston, Westwood, Weymouth, Winthrop.

Table 5-3 Crash Summary (2011-2015)

	Summer Street/ Drydock Avenue/ Pappas Way	Summer Street/ DFC	Summer Street/ Elkins Street	Summer Street/ L Street/ East 1st Street	L Street/ East 2nd Street	L Street/ East 3rd Street	L Street/ East Broadway	East 1st Street/ K Street	East 1st Street/ M Street	East 1st Street/ West 1st Street/ Pappas Way	L Street/ East 5th Street	L Street/ East 8th Street	L Street/ William J Day Boulevard
Currently Signalized	Yes	Yes	No	Yes	No	No	Yes	No	No	No	Yes	Yes	Yes
MassDOT ACR[1]	0.70	0.70	0.53	0.70	0.53	0.53	0.70	0.53	0.53	0.53	0.70	0.70	0.70
MassDOT CCR[2]	0.06	0.00	0.03	0.10	0.00	0.00	0.06	0.00	0.00	0.00	0.09	0.00	0.48
Exceeds	No	No	No	No	No	No	No	No	No	No	No	No	No
Year													
2011	1	0	0	0	0	0	0	0	0	0	0	0	4
2012	2	0	1	2	0	0	1	0	0	0	1	0	4
2013	0	0	0	0	0	0	0	0	0	0	1	0	3
2014	0	0	0	0	0	0	1	0	0	0	0	0	3
2015	0	0	0	2	0	0	0	0	0	0	0	0	1
Total	3	0	1	4	0	0	2	0	0	0	2	0	15
Average	0.6	0.0	0.2	0.8	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.0	3.0
Collision Type													
Angle	0	0	1	1	0	0	0	0	0	0	0	0	4
Head-on	1	0	0	0	0	0	0	0	0	0	0	0	2
Rear-end	0	0	0	1	0	0	2	0	0	0	1	0	3
Rear-to-Rear	0	0	0	0	0	0	0	0	0	0	0	0	0
Sideswipe, opposite direction	0	0	0	0	0	0	0	0	0	0	0	0	0
Sideswipe, same direction	0	0	0	1	0	0	0	0	0	0	1	0	3
Single vehicle crash	2	0	0	1	0	0	0	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
Not reported	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	0	1	4	0	0	2	0	0	0	2	0	15
Crash Severity													
Fatal injury	0	0	0	0	0	0	0	0	0	0	0	0	1
Non-fatal injury	2	0	0	2	0	0	0	0	0	0	0	0	5
Property damage only	1	0	1	1	0	0	2	0	0	0	2	0	7
Not Reported	0	0	0	1	0	0	0	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	1	4	0	0	2	0	0	0	2	0	15

1 Average Crash Rate, per million entering vehicles by intersection type (MassDOT crash information queried on October 2, 2017 by MassDOT).
2 Calculated Crash Rate, by intersection type based on average daily traffic, average number of crashes per year, and "K" Factor ("K" Factor is the portion of annual average daily traffic occurring in an hour).

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Table 5-3 Crash Summary (2011-2015) - CONTINUED

	Summer Street/ Drydock Avenue/ Pappas Way	Summer Street/DFC	Summer Street/Elkins Street	Summer Street/ L Street/ East 1st Street	L Street/ East 2nd Street	L Street/ East 3rd Street	L Street/ East Broadway	East 1st Street/ K Street	East 1st Street/ M Street	East 1st Street/ West 1st Street/ Pappas Way	L Street/ East 5th Street	L Street/ East 8th Street	L Street/ William J Day Boulevard
Time of Day													
Weekday, 7:00 AM - 9:00 AM	2	0	0	0	0	0	1	0	0	0	0	0	1
Weekday, 4:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Saturday, 11:00 AM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Weekday, other time	0	0	1	4	0	0	0	0	0	0	1	0	6
Weekend, other time	0	0	0	0	0	0	1	0	0	0	1	0	8
Total	2	0	1	4	0	0	2	0	0	0	2	0	15
Pavement Conditions													
Dry	1	0	1	2	0	0	0	0	0	0	2	0	12
Wet	0	0	0	2	0	0	1	0	0	0	0	0	3
Snow	0	0	0	0	0	0	0	0	0	0	0	0	0
Ice	0	0	0	0	0	0	0	0	0	0	0	0	0
Sand, mud, dirt, oil, gravel	2	0	0	0	0	0	0	0	0	0	0	0	0
Water (standing, moving)	0	0	0	0	0	0	0	0	0	0	0	0	0
Slush	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	1	0	0	0	0	0	0
Not reported	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	1	4	0	0	2	0	0	0	2	0	15
Non-Motorist (Bike, Pedestrian)													
Total	0	0	0	0	0	0	0	0	0	0	0	0	3

1 Average Crash Rate, per million entering vehicles by intersection type (MassDOT crash information queried on October 2, 2017 by MassDOT)
2 Calculated Crash Rate, by intersection type based on average daily traffic, average number of crashes per year, and "K" Factor ("K" Factor is the portion of annual average daily traffic occurring in an hour)

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5.3.9 Intersection Operations

An intersection capacity analysis was conducted for the 2017 Existing Conditions morning and evening peak hours to determine how well the roadway facilities serve the existing traffic demand. Intersection operating conditions are classified by a quantified level-of-service ("LOS").

LOS is a qualitative measure of control delay at an intersection providing an index to the operational qualities of a roadway or intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the poorest operating conditions. LOS D is typically considered acceptable in a downtown, urban environment, while LOS E indicates that vehicles experience significant delay and queuing, while LOS F condition suggest extremely long delays for the average driver. LOS designation is reported differently for signalized and unsignalized intersections. Longer delays at signalized intersections than at unsignalized intersections are perceived by most drivers as being acceptable.

For signalized intersections, the analysis considers the operations of each lane or lane group entering the intersection and the LOS designation is for the overall conditions at the intersection. For unsignalized intersections, however, this analysis assumes the traffic on the mainline is not affected by traffic on the side streets. The LOS is only determined for left turns from the main street and all movements from the minor street. The LOS designation is for the most critical movement, which is most often the left-turn out of the side street.

Synchro 9.0 software was used to evaluate the LOS operations at the study area intersection. This analysis is based on the 2000 Highway Capacity Manual ("HCM"). Table 5-4 below presents the LOS delay threshold criteria as defined in the HCM.

Table 5-4 Level of Service Criteria

Level of Service	Signalized Intersection Control Delay (seconds/vehicle)	Unsignalized Intersection Control Delay (seconds/vehicle)
LOS A	0 – 10	0 – 10
LOS B	> 10 – 20	> 10 – 15
LOS C	> 20 – 35	> 15 – 25
LOS D	> 35 – 55	> 25 – 35
LOS E	> 55 – 80	> 35 – 50
LOS F	> 80	> 50

The Synchro model was calibrated to include the characteristics of each intersection, such as geometry, signal timings, heavy vehicles, bus operations, parking activity, bicycle conflicts, and pedestrian crossings. The overall intersection LOS results of the 2017 Existing Conditions analysis for the morning and evening peak hours are summarized in Tables 5-5 and 5-6 for signalized and unsignalized intersections, respectively. More detailed LOS tables are provided in Tables 5-31a through 5-31d at the end of Section 5.8 that shows additional information including V/C ratio, delay (seconds), LOS, 50th percentile queue (feet) and 95th percentile queue (feet).

Table 5-5 2017 Existing Conditions Signalized Intersection Vehicle LOS Morning and Evening Peak Hours

Node/Intersection		AM Peak	PM Peak
1.	Summer Street at Drydock Ave/Pappas Way	F	D
2.	Summer Street at DFC	A	A
4.	Summer Street/L Street at East 1st Street	D	D
7.	L Street at East Broadway	D	E
11.	L Street at East 5th Street	C	C
12.	L Street at East 8th Street	B	B
13.	L Street at William J. Day Boulevard	A	A
14.	L Street at Columbia Road	C	C

Note: Intersection numbers correspond to numbering shown on Figure 5.1.

Of the eight signalized intersections that have been analyzed, the following intersections had existing overall intersection LOS of D or worse.

- **#1 Summer Street at Drydock Avenue/Pappas Way –** The Summer Street at Drydock Ave/Pappas Way intersection currently operates at LOS F during the morning peak hour due to heavy volumes traveling northbound toward the City and southbound left onto Drydock Avenue. Additionally, Pappas Way eastbound movement has a significant number of left-turning vehicles that conflict with the Drydock Avenue westbound vehicles causing delay.
- **#7 L Street at East Broadway –** The L Street at East Broadway intersection currently operates at a LOS E during the evening peak hour due to heavy volumes on the southbound left/thru/right movement. The East Broadway westbound left/thru/right movement also has heavy vehicle volumes in both directions with conflicting turning-movements in the eastbound direction.

Table 5-6 2017 Existing Conditions Unsignalized Intersection Vehicle LOS Morning Peak Hour

Node/Intersection	Approach	AM Peak	PM Peak
3. Summer Street at Elkins Street	Elkins Eastbound	C	D
5. L Street at East 2nd Street	East 2nd Eastbound	C	C
	East 2nd Westbound	B	C
6. L Street at East 3rd Street	East 3rd Eastbound	B	C
	East 3rd Westbound	B	C
8. East 1st Street at K Street	K Street Northbound	C	B
	K Street Southbound	B	B
9. East 1st Street at M Street	M Street Northbound	C	C
10. East 1st Street at West 1st Street/ Pappas Way	West 1st Northbound	F	C
	Pappas Southbound	F	F

Note: Intersection numbers correspond to numbering shown on Figure 5.1.

Of the six unsignalized intersections that have been analyzed, the following intersection had an existing overall intersection LOS of D or worse.

- **#10 East 1st Street at West 1st Street/Pappas Way –** This intersection currently operates at LOS F during the morning hour due to heavy left turn volumes at the stop-controlled approaches and the wide intersection geometry. During the evening peak hour, the West 1st Street approach operates at LOS C while the Pappas Way approach remains LOS F.

5.3.10 Queue Analysis

A queue length analysis for the 2017 Existing morning and evening peak hour conditions was conducted in conjunction with the LOS analysis using Synchro software. Queue lengths for the 50th percentile and 95th percentile are provided in Table 5-7 for signalized intersections and Table 5-8 for unsignalized intersections for the 2017 Existing Condition. The 50th percentile queue represents the average queue length, and the 95th percentile queue represents the queue that theoretically occurs only five percent of the time. Figures 5.17a through 5.17h provide a graphical representation of the modeled queue lengths for the mitigated analysis conditions.

Table 5-7 2017 Existing Conditions Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour		PM Peak Hour	
Intersection	Approach	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)
1. Summer Street at Drydock Ave/ Pappas Way	Pappas Way EB Left/Thru/Right	117	#349	78	#163
	Drydock Avenue WB Left/Thru	80	#252	~283	#455
	Drydock Avenue WB Right	0	30	0	54
	Summer Street NB Left	5	21	5	22
	Summer Street NB Thru/Right	~602	#727	254	#375
	Summer Street SB Left	~163	#324	22	47
	Summer Street SB Thru/Right	135	187	370	#524
2. Summer Street at DFC	Fed Ex Driveway EB Left/Thru/Right	12	47	9	27
	DFC WB Left/Thru	6	28	6	22
	DFC WB Right	9	41	0	3
	Summer Street NB Left	-	-	-	-
	Summer Street NB Thru/Right	179	461	41	192
	Summer Street SB Left	6	34	-	-
	Summer Street SB Thru/Right	28	86	81	258
4. Summer Street/L Street at East 1st Street	East 1st Street EB Left/Thru/Right	75	#220	137	#250
	East 1st Street WB Left/Thru/Right	~219	#462	95	169
	L Street NB Left/Thru/Right	135	292	157	206
	Summer Street SB Left/Thru/Right	57	148	~415	#640
7. L Street at East Broadway	East Broadway EB Left/Thru/Right	95	136	103	144
	East Broadway WB Left/Thru/Right	227	#396	190	278
	L Street NB Left/Thru/Right	218	276	202	240
	L Street SB Left/Thru/Right	192	240	~467	#600
11. L Street at East 5th Street	East 5th Street EB Left/Thru/Right	44	75	26	53
	East 5th Street WB Left/Thru/Right	24	58	35	33
	L Street NB Left/Thru/Right	321	#543	299	#509
	L Street SB Left/Thru/Right	143	219	279	#451
12. L Street at East 8th Street	East 8th Street EB Left/Thru/Right	19	41	19	49
	East 8th Street WB Left/Thru/Right	19	30	8	29
	L Street NB Left/Thru/Right	123	200	127	194
	L Street SB Left/Thru/Right	39	69	109	178
13. L Street at William J. Day Boulevard	Day Boulevard EB Left/Thru	0	175	0	178
	Day Boulevard WB Thru/Right	0	43	0	54
14. L Street at Columbia Road	Columbia Road EB Left/Thru/Right	0	1	0	3
	Columbia Road WB Left/Thru/Right	0	5	0	7

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal
Note: Intersection numbers correspond to numbering found on Figure 5.1.

Table 5-8 2017 Existing Conditions Unsignalized Intersection Queues Morning Peak Hour and Evening Peak Hour

Intersection	Approach	2017 Existing Condition AM Peak Hour 95th % Queue (feet)	2017 Existing Condition PM Peak Hour 95th % Queue (feet)
3. Summer Street at Elkins Street	Elkins Eastbound	16	16
5. L Street at East 2nd Street	East 2nd Eastbound	15	11
	East 2nd Westbound	18	6
6. L Street at East 3rd Street	East 3rd Eastbound	8	21
	East 3rd Westbound	14	12
8. East 1st Street at K Street	K Street Northbound	69	4
	K Street Southbound	18	9
9. East 1st Street at M Street	M Street Northbound	33	17
10. East 1st Street at West 1st Street/ Pappas Way	East 1st Northbound	203	28
	Pappas Southbound	278	526

The 50th percentile queue represents the average queue length, and the 95th percentile queue represents the queue that theoretically occurs only five percent of the time. At the intersection of Summer Street/L Street at East 1st Street, the L Street northbound approach experiences 95th percentile queues of 292 feet (approximately 12 vehicles) during the morning peak hour, and the Summer Street southbound approach experiences 95th percentile queues of 640 feet (approximately 26 vehicles) during the evening peak hour. Summer/L Street is a heavily used north/south connecting road for this area, and the analysis results echo the travel desire lines.

For unsignalized intersections, only the 95th percentile is reported by the Synchro software. The unsignalized intersections have relatively short queues due to consistent gaps in vehicular traffic that allow vehicles to turn on to the major roadway from the minor approach. Directly adjacent to the Project Site, the intersection of Summer Street at Elkins Street experiences queues of 16 feet (approximately one vehicle) during both the morning and evening peak hours.

5.4 Future No-Build Conditions

The Future No-Build Conditions analyze the future transportation conditions within the Project study area absent of the Project. The future condition analysis looks at both seven years and thirteen years into the future and adjusts the traffic conditions to estimate the vehicle volumes and infrastructure improvements within the area.

The 2024 No-Build Condition projects the background growth for the next seven years, as outlined by MassDOT guidelines. The 2030 No-Build Condition, 13 years out from the existing condition, was an analysis year requested by the City of Boston Staff to align with the City's Go Boston 2030 report which outlines planning goals and an overall vision plan for Boston. Traffic conditions for 2024 and 2030 were forecast and analyzed to better understand the effects of non-Project-related traffic volume growth on intersection operations.

5.4.1 Background Growth

A two-step process was used to estimate traffic impacts from other projects and from general traffic growth in the study area. First, a list of approved development projects was identified, along with others that are in the development pipeline ahead of the Project. The list of background projects presented below was confirmed with BPDA and BTD staff. Their traffic impact was estimated and applied to develop the 2024 and 2030 forecasts. Secondly, a general traffic growth estimate was identified and applied to the 2017 Existing Conditions networks to account for other traffic growth that is not clearly associated with one of the known projects listed below.

The list of background projects includes:

- **2 H Street –** a multi-family residential development with 135 residential units and a 1,600-square foot retail space
- **Parcel Q1 –** a 13-story commercial building that includes approximately 8,400 square feet of ground floor retail
- **Marine Wharf –** a 320,000 square foot hotel with 411 rooms and 3,500 square feet of retail space
- **Stavis Seafood –** a 201,000 square foot building for housing the Stavis Seafoods fish processing facility
- **25 Fid Kennedy –** a 157,000 square foot building for use as a plumbing, HVAC, fire-protection, and related construction product assembly plant
- **Innovation Square at Northern Avenue –** a 360,000 square foot multi-tenanted research and development/manufacturing facility
- **Summer Street Hotel –** a 788,500 square foot hotel with approximately 1,054 hotel rooms, ballrooms, function rooms, meeting spaces, and restaurant/retail space

Several projects did not complete traffic studies as part of their filing process or were outside of the immediate study area, so instead of using one-quarter percent per year background growth rate (the rate that was recommended by BTD), a one-half percent per year growth rate was used to accommodate for projects that do not provide traffic studies or are outside of the study area intersections. The projects included in this background growth rate are the following:

- **Seaport Square** – a mixed-use development consisting of residential, retail, office, hotel, and restaurant uses along with open public space
- **Parcel K** – a mixed-use development consisting of 293 hotel rooms, 304 apartment units, 14,400 square feet of office, 17,928 retail/restaurant, and up to 420 parking spaces. The Notice of Project Change (NPC) documentation claims the net-new project trips would show a reduction from the site's current use

- **45 L Street** – a mixed-use development consisting of 30 residential units and 1,000 square feet of retail
- **57 L Street** – a five story residential building with up to 13 condominium units and 2 affordable units
- **728 East Broadway** – a mixed-use development consisting of 18 condominiums and 6,400 square feet of ground floor commercial space
- **545 East Third Street** – a five-story residential building with 18 condominium units
- **609 East Fourth Street Condominiums –** rehabilitation of the existing Gate of Heaven School building into 26 condominium units
- **Distillery Project –** a mixed-use development consisting of 65 residential units, an art gallery, greenhouse, and small-scale retail space.
- **11 Dorchester Street -** a mixed-use development consisting of 30 residential units and a 2,230 square feet ground floor restaurant. Construction is now complete, but the project was still under construction when the traffic counts were conducted
- **377 West First Street -** a multi-family residential development with 9 residential units and 360 square feet of retail space
- **340 West Second Street –** a new 4-story building with 29 residential units and 1,000 square feet of retail space
- **902 East Second Street –** a residential development with 36 rental units
- **933 East Second Street Residential Project –** a residential development with 20 new condominium units

The annual growth rate of one-half percent per year was applied to the 2017 Existing Conditions vehicle volumes. These two sets of procedures were combined to create both the 2024 and 2030 No-Build Condition traffic networks described in the following sections.

5.4.2 2024 No-Build Condition

The 2024 No-Build Condition includes the seven-year general area-wide background growth and the traffic associated with other developments in the area. Figures 5.8a and 5.8b present the 2024 No-Build Condition traffic volumes for the morning and evening peak hours, respectively.

2024 No-Build Condition Intersection Operations

An intersection capacity analysis was conducted for the 2024 No-Build Condition for the morning and evening peak hours. The results have been compared to the 2017 Existing Condition LOS and are presented in Tables 5-9 and 5-10. More detailed LOS results including volume to capacity ("V/C") ratio and delay for the lane groups and approaches are provided in Tables 5-31a through 5-31d, at the end of the chapter.

Table 5-9 2024 No-Build Condition Signalized Intersection Vehicle LOS Morning and Evening Peak Hour

	AM Peak Hour		PM Peak Hour	
Node/Intersection	**2017 Existing Condition**	**2024 No-Build Condition**	**2017 Existing Condition**	**2024 No-Build Condition**
1. Summer Street at Drydock Ave/Pappas Way	F	F	D	E
2. Summer Street at DFC	A	B	A	A
4. Summer Street/L Street at East 1st Street	D	E	D	E
7. L Street at East Broadway	D	D	E	F
11. L Street at East 5th Street	C	C	C	C
12. L Street at East 8th Street	B	B	B	B
13. L Street at William J. Day Boulevard	A	A	A	A
14. L Street at Columbia Road	C	C	C	C

Of the eight signalized intersections, the following intersections reported 2024 No-Build Conditions with LOS D or worse.

- **#1 Summer Street at Drydock Avenue/Pappas Way –** During the morning peak hour, the intersection is expected to continue to perform at LOS F under the 2024 No-Build Conditions, and during the evening peak hour, the intersection performance is expected to change from LOS D to LOS E. This is due to added volumes in the northbound and southbound directions in addition to volumes at Drydock Avenue from the proposed projects in the RLFMP.
- **#4 Summer Street/L Street at East 1st Street –** During the morning peak hour, the intersection is expected to change from LOS D to LOS E under the 2024 No-Build Conditions during both the morning and evening peak hours. This is due to added volumes in the northbound and southbound directions in addition to volumes along Summer Street and L Street from surrounding projects and general background growth.
- **#7 L Street at East Broadway –** During the morning peak hour, the intersection is expected to continue to perform at LOS D under the 2024 No-Build Conditions, and during the evening peak hour, the intersection performance is expected to change from LOS E to LOS F. This is due to added volumes in the northbound and southbound directions along L Street due to surrounding projects and general background growth.

Table 5-10 2024 No-Build Condition Unsignalized Intersection Vehicle LOS Morning and Evening Peak Hour

		AM Peak Hour		PM Peak Hour	
Node/Intersection	Approach	2017 Existing Condition	2024 No-Build Condition	2017 Existing Condition	2024 No-Build Condition
3. Summer Street at Elkins Street	Elkins Eastbound	C	D	D	C
5. L Street at East 2nd Street	East 2nd Eastbound	C	C	C	C
	East 2nd Westbound	B	C	C	C
6. L Street at East 3rd Street	East 3rd Eastbound	B	C	C	C
	East 3rd Westbound	B	C	C	C
8. East 1st Street at K Street	K Street Northbound	D	D	B	B
	K Street Southbound	B	B	B	B
9. East 1st Street at M Street	M Street Northbound	C	C	C	C
10. East 1st Street at West 1st Street/Pappas Way	West 1st Northbound	F	F	C	C
	Pappas Southbound	F	F	F	F

Of the six unsignalized intersections in Table 5-10 above, the following intersection reported LOS D or worse.

- **#10 East 1st Street at West 1st Street/Pappas Way –** During both the morning and evening peak hours, the intersection approaches are expected to continue operating at the same LOS as the 2017 Existing Conditions. The Pappas Way southbound approach is expected to operate at LOS F during both peak hours, and the West 1st Street approach is expected to operate at LOS F during the morning peak hour only.

2024 No-Build Condition Queue Analysis

A queue length analysis for the 2024 No-Build Condition, morning and evening peak hour, was conducted in conjunction with the LOS analysis using Synchro software. The queue lengths for the 50th percentile and 95th percentile are provided in Table 5-11 for signalized intersections and Table 5-12 for unsignalized intersections for the 2017 Existing Condition and 2024 No-Build Condition. The 50th percentile queue represents the average queue length, and the 95th percentile queue represents the queue that theoretically occurs only 5 percent of the time. Figures 5.17a through 5.17h provide a graphical representation of the modeled queue lengths at study area intersections where mitigation measures are proposed.

Table 5-11 2024 No-Build Conditions Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour				PM Peak Hour			
		2017 Existing Condition		2024 No-Build Condition		2017 Existing Condition		2024 No-Build Condition	
Intersection	Approach	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)
1. Summer Street at Drydock Ave/ Pappas Way	Pappas Way EB Left/Thru/Right	117	#349	128	#379	78	#163	~105	#212
	Drydock Avenue WB Left/Thru	80	#252	99	#308	~283	#455	~415	#603
	Drydock Avenue WB Right	0	30	0	35	0	54	0	60
	Summer Street NB Left	5	21	5	21	5	22	5	22
	Summer Street NB Thru/Right	~602	#727	~677	#803	254	#375	276	#410
	Summer Street SB Left	~163	#324	~313	#495	22	47	37	70
	Summer Street SB Thru/Right	135	187	143	197	370	#524	394	#557
2. Summer Street at DFC	Fed Ex Driveway EB Left/Thru/Right	12	47	17	48	9	27	0	0
	DFC WB Left/Thru	6	28	8	29	6	22	7	25
	DFC WB Right	9	41	12	41	0	3	0	4
	Summer Street NB Left	-	-	-	-	-	-	1	4
	Summer Street NB Thru/Right	179	461	247	#573	41	192	44	201
	Summer Street SB Left	6	34	9	75	-	-	-	-
	Summer Street SB Thru/Right	28	86	32	95	81	258	95	419
4. Summer Street/ L Street at East 1st Street	East 1st Street EB Left/Thru/Right	75	#220	80	#234	137	#250	145	#269
	East 1st Street WB Left/Thru/Right	~219	#462	~266	#507	95	169	102	178
	L Street NB Left/Thru/Right	135	292	153	331	157	206	174	228
	Summer Street SB Left/Thru/Right	57	148	63	162	~415	#640	~552	#751
7. L Street at East Broadway	East Broadway EB Left/Thru/Right	95	136	101	144	103	144	107	148
	East Broadway WB Left/Thru/Right	227	#396	241	#424	190	278	199	289
	L Street NB Left/Thru/Right	218	276	243	303	202	240	217	257
	L Street SB Left/Thru/Right	192	240	214	267	~467	#600	~541	#675
11. L Street at East 5th Street	East 5th Street EB Left/Thru/Right	44	75	45	77	26	53	27	55
	East 5th Street WB Left/Thru/Right	24	58	25	60	35	33	39	36
	L Street NB Left/Thru/Right	321	#543	371	#616	299	#509	331	#560
	L Street SB Left/Thru/Right	143	219	160	243	279	#451	318	#538
12. L Street at East 8th Street	East 8th Street EB Left/Thru/Right	19	41	20	43	19	49	20	51
	East 8th Street WB Left/Thru/Right	19	30	19	30	8	29	9	30
	L Street NB Left/Thru/Right	123	200	141	230	127	194	140	214
	L Street SB Left/Thru/Right	39	69	44	76	109	178	123	203
13. L Street at William J. Day Boulevard	Day Boulevard EB Left/Thru	0	175	0	198	0	178	0	196
	Day Boulevard WB Thru/Right	0	43	0	45	0	54	0	56
14. L Street at Columbia Road	Columbia Road EB Left/Thru/Right	0	1	0	2	0	3	0	4
	Columbia Road WB Left/Thru/Right	0	5	0	6	0	7	0	8

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal
Note: Intersection numbers correspond to numbering found on Figure 5.1.

Table 5-12 2024 No-Build Conditions Unsignalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour		PM Peak Hour	
		2017 Existing Condition	2024 No-Build Condition	2017 Existing Condition	2024 No-Build Condition
Intersection	**Approach**	95th % Queue (feet)	95th % Queue (feet)	95th % Queue (feet)	95th % Queue (feet)
3. Summer Street at Elkins Street	Elkins Eastbound	16	19	16	16
5. L Street at East 2nd Street	East 2nd Eastbound	15	18	11	13
	East 2nd Westbound	18	21	6	7
6. L Street at East 3rd Street	East 3rd Eastbound	8	9	21	26
	East 3rd Westbound	14	16	12	9
8. East 1st Street at K Street	K Street Northbound	69	79	4	13
	K Street Southbound	18	19	9	10
9. East 1st Street at M Street	M Street Northbound	33	38	17	19
10. East 1st Street at West 1st Street/ Pappas Way	East 1st Northbound	203	249	28	32
	Pappas Southbound	278	351	526	698

The 50th percentile queue represents the average queue length, and the 95th percentile queue represents the queue that theoretically occurs only five percent of the time. The signalized intersections with the longest 95th percentile queue lengths in the 2024 No-Build Condition are Summer Street at Drydock Avenue/Pappas Way and Summer Street/L Street at East 1st Street. The intersection of Summer Street at Drydock Avenue/Pappas Way shows the longest queues in the northbound (29 vehicles) and eastbound (14 vehicles) approaches in the morning peak hour and in the southbound (22 vehicles) and westbound (24 vehicles) approaches in the evening peak hour. At the intersection of Summer Street/L Street at East 1st Street, the L Street northbound approach experiences 95th percentile queues of approximately 331 feet (13 vehicles) during the morning peak hour, and the southbound approach experiences 95th percentile queues of approximately 751 feet (30 vehicles) during the evening peak hour. Summer/L Street is a heavily used north/south connecting road for this area, and the analysis results echo the travel desire line.

For unsignalized intersections, only the 95th percentile is reported by the Synchro software. The unsignalized intersections have relatively short queues due to consistent gaps in vehicular traffic that allow vehicles to turn on to the major roadway from the minor approach. Directly adjacent to the Site, the intersection of Summer Street at Elkins Street experiences queues of 19 feet (approximately one vehicle) during both the morning peak hour and 16 feet during the evening peak hours, which is similar to the 2017 Existing Condition queue lengths.

5.4.3 2030 No-Build Condition

The 2030 No-Build Condition includes a thirteen-year general area-wide background growth and the traffic associated with specific trips from other development projects in the area. Figures 5.9a and 5.9b present the 2030 No-Build Base Condition traffic volumes for the morning and evening peak hours, respectively.

2030 No-Build Condition Intersection Operations

An intersection capacity analysis was conducted for the 2030 No-Build Condition for the morning and evening peak hours. The results have been compared to the 2017 Existing Condition LOS and are presented in Tables 5-13 and 5-14.

Table 5-13 2030 No-Build Conditions Signalized Intersection Vehicle LOS Morning and Evening Peak Hour

	AM Peak Hour			PM Peak Hour		
Intersection	2017 Existing Condition	2024 No-Build Condition	2030 No-Build Condition	2017 Existing Condition	2024 No-Build Condition	2030 No-Build Condition
1. Summer Street at Drydock Ave/Pappas Way	F	F	F	D	E	E
2. Summer Street at DFC	A	B	B	A	A	A
4. Summer Street/L Street at East 1st Street	D	E	E	D	E	F
7. L Street at East Broadway	D	D	E	E	F	F
11. L Street at East 5th Street	C	C	C	C	C	C
12. L Street at East 8th Street	B	B	B	B	B	B
13. L Street at William J. Day Boulevard	A	A	A	A	A	A
14. L Street at Columbia Road	C	C	C	C	C	C

While not Project related, the future background growth in vehicle traffic in the study area is expected to have an impact on the signalized study area intersections under 2030 No-Build Conditions. The two locations where the LOS is expected to drop from the 2024 No-Build Condition to the 2030 No-Build Condition as a result of traffic growth from other projects are: L Street at Broadway (during the morning peak hour) and Summer Street at East 1st Street (during the evening peak hour).

Table 5-14 2030 No-Build Condition Unsignalized Intersection Vehicle LOS Morning and Evening Peak Hour

		AM Peak Hour			PM Peak Hour		
Intersection	**Approach**	**2017 Existing Condition**	**2024 No-Build Condition**	**2030 No-Build Condition**	**2017 Existing Condition**	**2024 No-Build Condition**	**2030 No-Build Condition**
3. Summer Street at Elkins Street	Elkins Eastbound	C	D	D	D	D	D
5. L Street at East 2nd Street	East 2nd Eastbound	C	C	C	C	C	C
	East 2nd Westbound	B	C	C	C	C	C
6. L Street at East 3rd Street	East 3rd Eastbound	B	C	C	C	C	D
	East 3rd Westbound	B	C	C	C	C	C
8. East 1st Street at K Street	K Street Northbound	C	D	D	B	B	B
	K Street Southbound	B	B	B	B	B	B
9. East 1st Street at M Street	M Street Northbound	C	C	C	C	C	C
10. East 1st Street at West 1st Street/ Pappas Way	East 1st Northbound	F	F	F	C	C	C
	Pappas Southbound	F	F	F	F	F	F

The six unsignalized intersections had no LOS change from the 2024 No-Build Condition to the 2030 No-Build Condition.

2030 No-Build Condition Queue Analysis

A queue length analysis for the 2030 No-Build morning and evening peak hour conditions was conducted in conjunction with the LOS analysis using Synchro software. Queue lengths for the 50th percentile and 95th percentile are provided in Table 5-15 for signalized intersections and Table 5-16 for unsignalized intersections for the 2030 No-Build Condition. The 50th percentile queue represents the average queue length, and the 95th percentile queue represents the queue that theoretically occurs only five percent of the time. Figures 5.17a through 5.17h provide a graphical representation of the modeled queue lengths for all analyzed conditions.

Table 5-15 2030 No-Build Condition Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour				PM Peak Hour			
		2024 No-Build		2030 No-Build		2024 No-Build		2030 No-Build	
Intersection	Approach	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)
1. Summer Street at Drydock Ave/ Pappas Way	Pappas Way EB Left/Thru/Right	128	#379	133	#390	~105	#212	~113	#222
	Drydock Avenue WB Left/Thru	99	#308	103	#318	~415	#603	~427	#618
	Drydock Avenue WB Right	0	35	0	35	0	60	0	60
	Summer Street NB Left	5	21	6	22	5	22	6	23
	Summer Street NB Thru/Right	~677	#803	~706	#831	276	#410	~291	#430
	Summer Street SB Left	~313	495	~324	#507	37	70	38	72
	Summer Street SB Thru/Right	143	197	149	205	394	#557	~423	#585
2. Summer Street at DFC	Fed Ex Driveway EB Left/Thru/Right	17	48	18	49	0	0	0	0
	DFC WB Left/Thru	8	29	9	29	7	25	7	25
	DFC WB Right	12	41	14	44	0	4	0	4
	Summer Street NB Left	-	-	-	-	1	4	1	4
	Summer Street NB Thru/Right	247	#573	261	#602	44	201	46	209
	Summer Street SB Left	9	75	9	76	-	-	-	-
	Summer Street SB Thru/Right	32	95	33	98	95	419	100	441
4. Summer Street/ L Street at East 1st Street	East 1st Street EB Left/Thru/Right	80	#234	~93	#246	145	#269	152	#284
	East 1st Street WB Left/Thru/Right	~266	#507	~287	#533	102	178	110	#191
	L Street NB Left/Thru/Right	153	331	161	347	174	228	183	241
	Summer Street SB Left/Thru/Right	63	162	65	168	~552	#751	~613	#786
7. L Street at East Broadway	East Broadway EB Left/Thru/Right	101	144	104	147	107	148	111	153
	East Broadway WB Left/Thru/Right	241	#424	~254	#441	199	289	209	#305
	L Street NB Left/Thru/Right	243	303	253	316	217	257	226	266
	L Street SB Left/Thru/Right	214	267	225	280	~541	#675	~570	#704
11. L Street at East 5th Street	East 5th Street EB Left/Thru/Right	45	77	46	77	27	55	27	55
	East 5th Street WB Left/Thru/Right	25	60	26	62	39	36	39	35
	L Street NB Left/Thru/Right	371	#616	392	#644	331	#560	346	#582
	L Street SB Left/Thru/Right	160	243	166	252	318	#538	333	#562
12. L Street at East 8th Street	East 8th Street EB Left/Thru/Right	20	43	21	44	20	51	21	52
	East 8th Street WB Left/Thru/Right	19	30	20	31	9	30	9	31
	L Street NB Left/Thru/Right	141	230	147	240	140	214	146	223
	L Street SB Left/Thru/Right	44	76	46	79	123	203	128	211
13. L Street at William J. Day Boulevard	Day Boulevard EB Left/Thru	0	198	0	209	0	196	0	207
	Day Boulevard WB Thru/Right	0	45	0	46	0	56	0	58
14. L Street at Columbia Road	Columbia Road EB Left/Thru/Right	0	2	0	2	0	4	0	4
	Columbia Road WB Left/Thru/Right	0	6	0	6	0	8	0	9

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal

Table 5-16 2030 No-Build Condition Unsignalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour		PM Peak Hour	
		2024 No-Build	2030 No-Build	2024 No-Build	2030 No-Build
Intersection	**Approach**	**95th % Queue (feet)**	**95th % Queue (feet)**	**95th % Queue (feet)**	**95th % Queue (feet)**
3. Summer Street at Elkins Street	Elkins Eastbound	19	20	16	17
5. L Street at East 2nd Street	East 2nd Eastbound	18	19	13	15
	East 2nd Westbound	21	23	7	8
6. L Street at East 3rd Street	East 3rd Eastbound	9	10	26	29
	East 3rd Westbound	16	17	9	10
8. L Street at K Street	K Street Northbound	79	89	13	14
	K Street Southbound	19	20	10	10
9. East 1st Street at M Street	M Street Northbound	38	42	19	20
10. East 1st Street at West 1st Street/ Pappas Way	East 1st Northbound	249	283	32	36
	Pappas Southbound	351	403	698	768

The 50th percentile queue represents the average queue length, and the 95th percentile queue represents the queue that theoretically occurs only five percent of the time. For the 2030 No-Build Condition, the signalized intersections with the longest 95th percentile queue lengths continue to be Summer Street at Drydock Avenue/Pappas Way and Summer Street/L Street at East 1st Street. All other signalized intersections experience a modest growth in queue lengths due to background projects and general background growth for the area.

For unsignalized intersections, only the 95th percentile is reported by the Synchro software. The unsignalized intersections have relatively short queues due to consistent gaps in vehicular traffic that allow vehicles to turn on to the major roadway from the minor approach. When comparing the 2024 No-Build Condition to the 2030 No-Build Condition, the differences in queue lengths are relatively minor.

5.5 Project Travel Forecast

The Project generated trips were estimated using the methodologies outlined in the Institute of Transportation Engineers ("ITE") Trip Generation Handbook, 10th Edition (published September 2017) and then refined through the application of Boston-specific travel data. The steps taken to estimate the number of Project-generated trips are as follows:

- Step 1 – Identify Project Land Use Codes ("LUC") and estimate ITE Unadjusted Trips
- Step 2 – Convert ITE Unadjusted Trips into Person Trips
- Step 3 – Calculate Internal Capture Person Trips (2024 and 2030 Full Build)
- Step 4 – Convert Person Trips to Vehicle Trips (2024 and 2030 Full Build)
- Step 5 – Route Vehicle Trips to and from the Site (2024 and 2030 Full Build)

The following sections detail the inputs and calculations used to determine the Project generated trips.

5.5.1 Step 1 – Unadjusted ITE Trip Generation

The Project is a mixed-use development comprised of residential, retail, hotel, and office land uses. The ITE Trip Generation Manual 10th Edition categorizes these land uses and provides daily, morning, and evening peak hour unadjusted vehicle trip generation rates at a national average level. These ITE rates (as published in 2017) reflect the most updated trip generation numbers that incorporate additional urban data. The average rates for each land use were used in estimating the unadjusted ITE vehicle trips. Unadjusted trips do not take into account the vehicle occupancy rates (number of people in a vehicle) or methods of travel such as walk, bike, or transit—which are covered at a future step in this trip generation analysis process. Table 5-17 documents the applicable land use codes used and their respective trip generation rates. The ITE average rates were used to better reflect the phased nature of the development.

Table 5-17 ITE Land Use Codes and Trip Rates

			ITE Average Trip Rate		
Land Use	ITE LUC	Units	Daily	AM Peak Hour	PM Peak Hour
Residential	LUC 221 Multifamily Housing	Residential Units	5.44	0.36	0.44
Retail	LUC 820 Shopping Center	ksf[1]	37.75	0.94	3.81
Hotel	LUC 310 Hotel	Keys	8.36	0.47	0.60
Office	LUC 710 Office	ksf	9.74	1.16	1.15

1 Thousand Square Feet

These rates were used to calculate the unadjusted ITE trips for the Project. The detailed trip generation calculations are included in Appendix D.

5.5.2 Step 2 – Person Trips

The unadjusted ITE trips were then converted into person trips, after internal capture reduction, by applying the national average vehicle occupancy rate ("VOR"). The VOR is the average number of persons occupying a car, including the driver. Based on industry data from the 2009 National Household Travel Survey, a VOR of 1.13 was applied to residential and office uses, 1.78 was applied to retail uses, and 2.2 was applied to hotel uses.

Once the trips have been calculated into person trips, the number of shared trips or "internal" trips were calculated. Because the proposed development is a mix of residential, retail, hotel, and office land uses, the trip generation characteristics of the site will be different from a single-use project. Some of the trips generated by the Project will be contained on-site as internal trips. For example, the retail portion of the development will provide goods and services that are attractive to the residents, hotel users, and employees, which will reduce the need to travel off-site.

To account for shared trips between the proposed uses, the shared trip methodology outlined in the National Cooperative Highway Research Program ("NCHRP") Report 684 (Enhancing Internal Trip Capture Estimation for Mixed-Use Developments) was used. Internal capture trips were proportioned for each land use to develop net-new unadjusted ITE trips generated by the Project.

5.5.3 Step 3 – Mode Share

Mode share rates were established based on reports from surrounding developments in addition to the Project's strong TDM plan and commitment to transit/shuttle improvements for the area. As confirmed with BTD and BPDA, the mode shares used for this transportation analysis are presented in Table 5-18

Table 5-18 Future Project Mode Shares

Mode	Residential	Retail	Hotel	Office
Vehicle	34%	20%	40%	36%
Transit	42%	40%	37%	40%
Walk/Bike/Other	24%	40%	23%	24%

Source: Comparative analysis of Seaport Square NPC, Innovation & Design Building, Winthrop Square DPIR, South Boston Waterfront Sustainable Transportation Plan, Seaport TMA Survey, Summer Street Hotel, Back Bay/South End Gateway, West Square, Parcel Q, BTD Area 13, Census Data (2006-2010)

5.5.4 Step 4 – Adjusted Project Trips

To account for alternative modes of transportation, mode shares and VORs, as discussed in previous sections, were applied to the net-new unadjusted ITE trip generation results. Additionally, a pass-by rate of 20 percent was applied to the retail trips, as confirmed by BTD.

With the application of the mode shares, the unadjusted trips were broken down into vehicle trips, transit trips, and walk/bike/other trips. Because the transportation analysis shows Project impacts at two future years (2024 and 2030), this process was completed for both the 2024 Build Condition (includes Phase 1 and Phase 2 program components) and the 2030 Full Build Condition (includes full buildout, i.e., Phase 1, Phase 2, and Phase 3 program components).

Project-Generated Trips 2024 Build Condition

Since the Project Site is currently vacant, there are no existing trips generated by the Project Site and therefore no trip credits were applied to the traffic analysis.

Table 5-19 shows the adjusted Project-generated trips, separated by mode, for the 2024 Build Condition AM and PM peak hours.

Table 5-19 Project Generated Trips for 2024 Build Condition (Phase 1 and Phase 2)

	Vehicle			Transit			Walk/Bike/Other		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour									
Residential	35	98	133	48	137	185	28	78	106
Retail	6	4	10	21	14	35	21	14	35
Hotel	38	25	63	78	51	129	48	32	80
Office	39	5	44	49	6	56	29	4	33
Total Trips	**118**	**132**	**250**	**196**	**208**	**405**	**126**	**128**	**254**
PM Peak Hour									
Residential	83	54	137	116	75	191	66	43	109
Retail	19	17	36	66	60	126	66	60	126
Hotel	39	40	79	79	81	160	49	50	99
Office	4	35	39	5	45	50	3	27	30
Total Trips	**145**	**146**	**291**	**266**	**261**	**527**	**184**	**180**	**364**

As part of the 2024 Build Condition (Phase 1 and Phase 2), the Project is expected to generate approximately 250 vehicle trips during the morning peak hour and 291 vehicle trips during the evening peak hour. These peak hour vehicle volumes translate to approximately four to five vehicle trips entering or exiting the driveway per minute.

Project-generated Trips 2030 Full Build Condition

Similar to the previous section, Table 5-20 below shows the adjusted Project-generated vehicle, transit, and walk/bike/other trips for the 2030 Full Build Condition.

Table 5-20 Project Generated Trips for 2030 Full Build Condition (Phase 1, Phase 2, and Phase 3)

	Vehicle			Transit			Walk/Bike/Other		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour									
Residential	43	123	166	60	171	231	35	98	133
Retail	6	4	10	23	14	37	23	14	37
Hotel	38	24	62	77	48	125	48	30	78
Office	121	16	137	152	20	171	91	12	103
Total Trips	**208**	**167**	**375**	**312**	**253**	**564**	**197**	**154**	**351**
PM Peak Hour									
Residential	102	70	172	142	97	239	81	56	137
Retail	24	22	46	86	77	163	86	77	163
Hotel	38	39	77	77	80	157	48	50	98
Office	19	119	138	24	149	173	14	90	104
Total Trips	**183**	**250**	**433**	**329**	**403**	**732**	**229**	**273**	**502**

As part of the 2030 Full Build Condition, the Project is expected to generate approximately 375 vehicle trips during the morning peak hour and 433 vehicle trips during the evening peak hour. These peak hour vehicle volumes translate to approximately seven vehicle trips entering or exiting the driveway per minute. Step 5 – Trip Distribution and Assignment

The adjusted Project vehicle trips are assigned to the study area roadway network following the Project trip distribution, as developed based on the origin-destination data from BTD using the Area 13 rates. BTD's guidelines, sourcing 2000 census data, provide information on where area residents work and where area employees live.

Table 5-21 and Figure 5.10 presents the Project trip distribution for the residential, office, and retail/hotel trips. These resulting distributed Project-generated trips are shown in Figures 5.11a and 5.11b for the morning and evening peak hours, for year 2024, while Figures 5.14a and 5.14b show morning and evening peak hour Project trips for year 2030.

Table 5-21 Project Trip Distribution

	Residential Distribution		Office Distribution		Retail/Hotel Distribution	
Primary Corridor	**In**	**Out**	**In**	**Out**	**In**	**Out**
Summer Street Northbound	60%	56%	59%	59%	65%	65%
L Street Southbound	29%	29%	32%	29%	27%	27%
East 1st Street Westbound	11%	15%	9%	12%	8%	8%
Total	100%	100%	100%	100%	100%	100%

5.6 2024 Build Condition

The future 2024 Build Condition assessment builds upon the 2024 No-Build Conditions with the addition of the Project generated trips. The cumulative 2024 Build Condition vehicle volumes are presented in Figures 5.13a and 5.13b for the morning and evening peak hours, respectively.

5.6.1 2024 Build Condition Intersection Operational Analysis

Intersection capacity analyses were conducted for the 2024 Build Condition morning and evening peak hours. The results have been compared to the 2017 Existing Condition and 2024 No-Build Condition LOS and are presented in Table 5-22 for signalized intersections and Table 5-23 for unsignalized intersections. Figures 5.13a and 13.b show a graphical representation of the level of service analysis for 2024.

Table 5-22 2024 Build Condition Signalized Intersection Vehicle LOS Morning and Evening Peak Hour

	AM Peak Hour			PM Peak Hour		
Intersection	**2017 Existing Condition**	**2024 No-Build Condition**	**2024 Build Condition**	**2017 Existing Condition**	**2024 No-Build Condition**	**2024 Build Condition**
1. Summer Street at Drydock Ave/Pappas Way	F	F	F	D	E	F
2. Summer Street at DFC	A	B	B	A	A	A
4. Summer Street/ L Street at East 1st Street	D	E	F*	D	E	F*
7. L Street at East Broadway	D	D	D*	E	F	F*
11. L Street at East 5th Street	C	C	C	C	C	C
12. L Street at East 8th Street	B	B	B	B	B	B
13. L Street at William J. Day Boulevard	A	A	A	A	A	A
14. L Street at Columbia Road	C	C	C	C	C	D

* Proposed mitigation at this location

Table 5-23 2024 Build Condition Unsignalized Intersection Vehicle LOS Morning and Evening Peak Hour

		AM Peak Hour			PM Peak Hour		
Intersection	Approach	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition
3. Summer Street at Elkins Street/ Elkins Street Extension	Elkins Eastbound	C	D	F*	D	D	E*
	Elkins Westbound	-	-	E*	-	-	C*
5. L Street at East 2nd Street	East 2nd Eastbound	C	C	C	C	C	C
	East 2nd Westbound	B	C	C	C	C	C
6. L Street at East 3rd Street	East 3rd Eastbound	B	C	C	C	C	D
	East 3rd Westbound	B	C	C	C	C	C
8. East 1st Street at K Street	K Street Northbound	C	D	D	B	B	C
	K Street Southbound	B	B	B	B	B	B
9. East 1st Street at M Street/ M Street Extension	M Street Northbound	C	C	E	C	C	D
	M Street Southbound	-	-	B	-	-	B
10. East 1st Street at West 1st Street/ Pappas Way	East 1st Northbound	F	F	F	C	C	C
	Pappas Southbound	F	F	F	F	F	F

* Proposed mitigation at this location

The Project-generated vehicle trips are expected to have some impacts on the surrounding study area intersections. In the 2024 Build Condition, six intersections experience a change in LOS from the 2024 No-Build Condition. In urban areas, a LOS grade of D or better is generally considered to be acceptable. Based on this criterion, most study intersections operate at acceptable overall levels of service under the 2017 Existing, 2024 No-Build, and 2024 Build Conditions with the exception of the following intersections:

- **#1: Summer Street at Drydock Avenue/Pappas Way –** The signalized intersection of Summer Street at Drydock Avenue/Pappas Way decreases from LOS E to LOS F in the 2024 Build Condition during the evening peak hour. The change is caused by added vehicles traveling northbound and southbound along Summer Street.
- **#3: Summer Street at Elkins Street –** The unsignalized intersection of Summer Street at Elkins Street (Elkins Street eastbound approach) changes from LOS D to LOS F in the 2024 Build Condition during the morning peak hour, and it changes from LOS D to LOS E during the evening peak hour. This is caused by added vehicles on Summer Street and reduced opportunities to have vehicles pull out onto Summer Street. This intersection is unsignalized in the 2024 Build Condition, but the 2024 Build Mitigated Condition proposes signal installation at this location to allow vehicles at Elkins Street and the Site Driveway to enter Summer Street.
- **#4: Summer Street/L Street at East 1st Street –** The signalized intersection of Summer Street/L Street at East 1st Street changes from LOS E to LOS F in the

2024 Build Condition during both the morning and evening peak hours. This change in LOS is caused by vehicles turning to and from East 1st Street. Without the roadway through the Turbine Halls in the 2024 Build Condition, more vehicles are expected to access the Phase 1 and 2 buildings via East 1st Street in 2024.

- **#9: East 1st Street at M Street/M Street Extension –** The unsignalized intersection of East 1st Street at M Street/M Street Extension changes from LOS C to LOS E during the morning peak hour and LOS C to LOS D during the evening peak hour in the 2024 Build Condition. The left turns into the site and right turns out of the site are expected to cause a slight increase in delay for vehicles at the M Street northbound approach.

5.6.2 2024 Build Condition Queue Analysis

A queue length analysis for the 2024 Build Condition, morning and evening peak hour, was conducted in conjunction with the LOS analysis using Synchro software. Queue lengths for the 50th percentile and 95th percentile are provided in Table 5-24 for signalized intersections and Table 5-25 for unsignalized intersections for the 2024 Build Condition. Figures 5.17a through 5.17h provide a graphical representation of the modeled queue lengths for the analyzed conditions.

Table 5-24 2024 Build Condition Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour				PM Peak Hour			
		2024 No-Build Condition		2024 Build Condition		2024 No-Build Condition		2024 Build Condition	
Intersection	Approach	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)
1. Summer Street at Drydock Ave/ Pappas Way	Pappas Way EB Left/Thru/Right	128	#379	128	#379	~105	#212	~105	#212
	Drydock Avenue WB Left/Thru	99	#308	99	#308	~415	#603	~415	#603
	Drydock Avenue WB Right	0	35	0	35	0	60	0	60
	Summer Street NB Left	5	21	5	21	5	22	5	22
	Summer Street NB Thru/Right	~677	#803	~741	#866	276	#410	~356	#484
	Summer Street SB Left	~313	#495	~313	#495	37	70	37	70
	Summer Street SB Thru/Right	143	197	170	230	394	#557	~488	#626
2. Summer Street at DFC	Fed Ex Driveway EB Left/Thru/Right	17	48	18	48	0	0	0	0
	DFC WB Left/Thru	8	29	9	29	7	25	7	25
	DFC WB Right	12	41	13	41	0	4	0	4
	Summer Street NB Left	-	-	-	-	1	4	1	4
	Summer Street NB Thru/Right	247	#573	276	#638	44	201	52	233
	Summer Street SB Left	9	75	10	79	-	-	108	477
	Summer Street SB Thru/Right	32	95	37	109	95	419	-	-
4. Summer Street/L Street at East 1st Street	East 1st Street EB Left/Thru/Right	80	#234	~100	#260	145	#269	~198	#336
	East 1st Street WB Left/Thru/Right	~266	#507	~379	#647	102	178	170	#320
	L Street NB Left/Thru/Right	153	331	164	355	174	228	194	256
	Summer Street SB Left/Thru/Right	63	162	75	#216	~552	#751	~740	#880
7. L Street at East Broadway	East Broadway EB Left/Thru/Right	101	144	101	144	107	148	107	148
	East Broadway WB Left/Thru/Right	241	#424	241	#424	199	289	199	289
	L Street NB Left/Thru/Right	243	303	258	322	217	257	237	279
	L Street SB Left/Thru/Right	214	267	243	301	~541	#675	~588	#723
11. L Street at East 5th Street	East 5th Street EB Left/Thru/Right	45	77	45	77	27	55	27	55
	East 5th Street WB Left/Thru/Right	25	60	25	60	39	36	39	36
	L Street NB Left/Thru/Right	371	#616	411	#668	331	#560	375	#622
	L Street SB Left/Thru/Right	160	243	189	284	318	#538	356	#596
12. L Street at East 8th Street	East 8th Street EB Left/Thru/Right	20	43	20	43	20	51	20	51
	East 8th Street WB Left/Thru/Right	19	30	19	30	9	30	9	30
	L Street NB Left/Thru/Right	141	230	156	255	140	214	159	242
	L Street SB Left/Thru/Right	44	76	54	92	123	203	139	230
13. L Street at William J. Day Boulevard	Day Boulevard EB Left/Thru	0	198	0	213	0	196	0	213
	Day Boulevard WB Thru/Right	0	45	0	45	0	56	0	56
14. L Street at Columbia Road	Columbia Road EB Left/Thru/Right	0	2	0	2	0	4	0	4
	Columbia Road WB Left/Thru/Right	0	6	0	7	0	8	0	10

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal

Table 5-25 2024 No-Build Condition Unsignalized Intersection Queues Morning Peak Hour and Evening Peak Hour

Intersection	Approach	AM Peak Hour 2024 No-Build Condition 95th % Queue (feet)	AM Peak Hour 2024 Build Condition 95th % Queue (feet)	PM Peak Hour 2024 No-Build Condition 95th % Queue (feet)	PM Peak Hour 2024 Build Condition 95th % Queue (feet)
3. Summer Street at Elkins Street/Elkins Street Extension	Elkins Eastbound	19	35	16	26
	Elkins Westbound	-	49	-	18
5. L Street at East 2nd Street	East 2nd Eastbound	18	18	13	16
	East 2nd Westbound	21	22	7	9
6. L Street at East 3rd Street	East 3rd Eastbound	9	10	26	33
	East 3rd Westbound	16	17	9	11
8. L Street at K Street	K Street Northbound	79	8	13	14
	K Street Southbound	19	20	10	10
9. East 1st Street at M Street/ M Street Extension	M Street Northbound	38	93	19	34
	M Street Southbound	-	10	-	10
10. East 1st Street at West 1st Street/ Pappas Way	East 1st Northbound	249	274	32	37
	Pappas Southbound	351	381	698	759

5.7 2030 Full Build Condition

The future 2030 Full Build Condition assessment builds upon the 2030 No-Build Conditions with the addition of the Project generated trips. The cumulative 2030 Build Condition vehicle volumes are presented in Figures 5.15a and 5.15b for the morning and evening peak hours, respectively.

5.7.1 2030 Full Build Condition Intersection Operational Analysis

Intersection capacity analyses were conducted for the 2030 Full Build Condition morning and evening peak hours. The results have been compared to the 2017 Existing Condition and 2030 No-Build Condition LOS and are presented in Table 5-26 for signalized intersections and Table 5-27 for unsignalized intersections. Figures 5.16a and 5.16b show a graphical representation of the level of service for year 2030.

Table 5-26 2030 Full Build Condition Signalized Intersection Vehicle LOS Morning and Evening Peak Hour

	AM Peak Hour			PM Peak Hour		
Intersection	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition
1. Summer Street at Drydock Ave/Pappas Way	F	F	F	D	E	F
2. Summer Street at DFC	A	B	B	A	A	A
4. Summer Street/ L Street at East 1st Street	D	E	F*	D	F	F*
7. L Street at East Broadway	D	E	E*	E	F	F*
11. L Street at East 5th Street	C	C	D	C	C	D
12. L Street at East 8th Street	B	B	B	B	B	B
13. L Street at William J. Day Boulevard	A	A	A	A	A	A
14. L Street at Columbia Road	C	C	C	C	C	D

* Proposed mitigation at this location

Table 5-27 2030 Full Build Condition Unsignalized Intersection Vehicle LOS Morning and Evening Peak Hour

		AM Peak Hour			PM Peak Hour		
Intersection	Approach	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition
3. Summer Street at Elkins Street/ Elkins Street Extension	Elkins Eastbound	C	D	F*	D	D	F*
	Elkins Westbound	-	-	F*	-	-	C*
5. L Street at East 2nd Street	East 2nd Eastbound	C	C	C	C	C	D
	East 2nd Westbound	B	C	C	C	C	C
6. L Street at East 3rd Street	East 3rd Eastbound	B	C	C	C	D	D
	East 3rd Westbound	B	C	C	C	C	C
8. East 1st Street at K Street	K Street Northbound	C	D	D	B	B	C
	K Street Southbound	B	B	B	B	B	B
9. East 1st Street at M Street/ M Street Extension	M Street Northbound	C	D	D	C	C	C
	M Street Southbound	-	-	B	-	-	B
10. East 1st Street at West 1st Street/ Pappas Way	East 1st Northbound	F	F	F	C	C	C
	Pappas Southbound	F	F	F	F	F	F

*Proposed mitigation at this location

The Project-generated vehicle trips are expected to have some impacts on the surrounding study area intersections. In the 2030 Full Build Condition, five intersections experience a change in LOS from the 2030 No-Build Condition. In urban areas, a LOS grade of D or better is generally considered to be acceptable. Based on this criterion, most study intersections operate at acceptable overall levels of service under the 2017 Existing, 2024 No-Build, and 2024 Build Conditions with the exception of the following intersections:

- **#1: Summer Street at Drydock Avenue/Pappas Way –** The signalized intersection of Summer Street at Drydock Avenue/Pappas Way decreases from LOS E to LOS F in the 2030 Full Build Condition during the evening peak hour. The change is caused by added vehicles traveling northbound and southbound along Summer Street. The morning peak hour operations are expected to continue to operate at LOS F in the 2030 Full Build Condition.
- **#3: Summer Street at Elkins Street –** The unsignalized intersection of Summer Street at Elkins Street (Elkins Street eastbound approach) changes from LOS D to LOS F in the 2030 Full Build Condition during both the morning and evening peak hours. This is caused by added vehicles on Summer Street and reduced opportunities to have vehicles pull out onto Summer Street. This intersection is unsignalized in the 2030 Full Build Condition, but the 2030 Full Build Mitigated Condition proposes signal installation at this location to allow vehicles at Elkins Street and the Elkins Street Extension to enter Summer Street.
- **#4: Summer Street/L Street at East 1st Street –** The signalized intersection of Summer Street/L Street at East 1st Street changes from LOS E to LOS F in the 2030 Full Build Condition during both the morning and evening peak hours. The evening peak hour is expected to remain at LOS F during the evening peak hour in the 2030 Full Build Condition. This change in LOS is caused by vehicles turning to and from East 1st Street. The 2030 Full Build Mitigated Condition proposes to optimize the signal timing at this location since the existing signal timing plan was previously designed to accommodate for the many Massport heavy vehicles entering and exiting East 1st Street.

5.7.2 2030 Full Build Condition Queue Analysis

A queue length analysis for the 2030 Full Build Condition, morning and evening peak hour, was conducted in conjunction with the LOS analysis using Synchro software. Queue lengths for the 50th percentile and 95th percentile are provided in Table 5-28 for signalized intersections and Table 5-30 for unsignalized intersections for the 2030 Full Build Condition. Figures 5.17a through 5.17h provide a graphical representation of the modeled queue lengths for the analyzed conditions.

Table 5-28 2030 Full Build Condition Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour				PM Peak Hour			
		2030 No-Build Condition		2030 Full Build Condition		2030 No-Build Condition		2030 Full Build Condition	
Intersection	Approach	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)
1. Summer Street at Drydock Ave/ Pappas Way	Pappas Way EB Left/Thru/Right	133	#390	133	#390	~113	#222	~113	#222
	Drydock Avenue WB Left/Thru	103	#318	103	#318	~427	#618	~427	#618
	Drydock Avenue WB Right	0	35	0	35	0	60	0	60
	Summer Street NB Left	6	22	6	22	6	23	6	23
	Summer Street NB Thru/Right	~706	#831	~787	#912	~291	#430	~423	#554
	Summer Street SB Left	~324	#507	~324	#507	38	72	38	72
	Summer Street SB Thru/Right	149	205	196	264	~423	#585	~533	#671
2. Summer Street at DFC	Fed Ex Driveway EB Left/Thru/Right	18	49	18	49	0	0	0	0
	DFC WB Left/Thru	9	29	9	29	7	25	7	25
	DFC WB Right	14	44	14	44	0	4	0	4
	Summer Street NB Left	-	-	-	-	1	4	1	4
	Summer Street NB Thru/Right	261	#602	300	#684	46	209	60	266
	Summer Street SB Left	9	76	14	84	-	-	-	-
	Summer Street SB Thru/Right	33	98	43	124	100	441	117	#572
4. Summer Street/ L Street at East 1st Street	East 1st Street EB Left/Thru/Right	~93	#246	~125	#290	152	#284	~202	#342
	East 1st Street WB Left/Thru/Right	~287	#533	~359	#623	110	#191	~176	#322
	L Street NB Left/Thru/Right	161	347	182	394	183	241	209	275
	Summer Street SB Left/Thru/Right	65	168	71	182	~613	#786	~712	#852
7. L Street at East Broadway	East Broadway EB Left/Thru/Right	104	147	104	147	111	153	111	153
	East Broadway WB Left/Thru/Right	~254	#441	~254	#441	209	#305	209	#305
	L Street NB Left/Thru/Right	253	316	284	353	226	266	253	295
	L Street SB Left/Thru/Right	225	280	263	#347	~570	#704	~652	#788
11. L Street at East 5th Street	East 5th Street EB Left/Thru/Right	46	77	46	77	27	55	27	55
	East 5th Street WB Left/Thru/Right	26	62	26	62	39	35	39	35
	L Street NB Left/Thru/Right	392	#644	~512	#738	346	#582	407	#663
	L Street SB Left/Thru/Right	166	252	203	306	333	#562	409	#666
12. L Street at East 8th Street	East 8th Street EB Left/Thru/Right	21	44	21	44	21	52	21	52
	East 8th Street WB Left/Thru/Right	20	31	20	31	9	31	9	31
	L Street NB Left/Thru/Right	147	240	177	291	146	223	172	263
	L Street SB Left/Thru/Right	46	79	59	99	128	211	160	265
13. L Street at William J. Day Boulevard	Day Boulevard EB Left/Thru	0	209	0	241	0	207	0	231
	Day Boulevard WB Thru/Right	0	46	0	46	0	58	0	58
14. L Street at Columbia Road	Columbia Road EB Left/Thru/Right	0	2	0	2	0	4	0	5
	Columbia Road WB Left/Thru/Right	0	6	0	8	0	9	0	11

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal

Table 5-29 2030 No-Build Condition Unsignalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour		PM Peak Hour	
		2030 No-Build Condition	2030 Full Build Condition	2030 No-Build Condition	2030 Full Build Condition
Intersection	Approach	95th % Queue (feet)	95th % Queue (feet)	95th % Queue (feet)	95th % Queue (feet)
3. Summer Street at Elkins Street	Elkins Eastbound	20	52	17	37
5. L Street at East 2nd Street	East 2nd Eastbound	19	21	15	18
	East 2nd Westbound	23	25	8	9
6. L Street at East 3rd Street	East 3rd Eastbound	10	11	29	35
	East 3rd Westbound	17	19	10	12
8. East 1st Street at K Street	K Street Northbound	89	104	14	15
	K Street Southbound	20	22	10	11
9. East 1st Street at M Street/ M Street Extension	M Street Northbound	42	74	20	28
	M Street Southbound	-	4	-	5
10. East 1st Street at West 1st Street/ Pappas Way	East 1st Northbound	283	323	36	42
	Pappas Southbound	403	446	768	847

5.8 Future Mitigated Conditions

Based on the vehicle LOS results previously discussed, there are a few intersections that are forecast to decline in operations as a result of the Project-generated trips. To address and minimize these impacts, a "mitigated conditions" analysis has been developed to test and consider possible traffic mitigation improvements as potential options for further evaluation in coordination with the Boston Transportation Department.

5.8.1 2024 Build Mitigated Condition

Throughout the buildout of the Project, mitigation measures will be implemented in stages. Some initial mitigation will occur in the beginning phases of the Project, while other mitigation is expected to take a little further into the development buildout. These initial mitigation options are outlined below:

- The reconstruction of Summer Street from East 1st Street to the DFC
- The signalization of the intersection of Summer Street at Elkins Street/ Elkins Street Extension
- Signal timing improvements at the intersection of Summer Street/L Street at East 1st Street
- Signal optimization at L Street/East Broadway

With these mitigation measures in place, the impact of Project-generated vehicle trips along this segment of Summer Street are expected to be lessened as the performance of the intersections is improved, as compared in Table 5-30.

Table 5-30 2024 Build Mitigated Condition Intersection LOS Morning and Evening Peak Hour

	AM				PM			
Intersection	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition	2024 Build Mitigated Condition	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition	2024 Build Mitigated Condition
3. Summer Street at Elkins Street/ Elkins Street Extension	C	D	F	C	D	C	E	D
4. Summer Street/ L Street at East 1st Street	D	E	F	D	D	E	F	C
7. L Street at East Broadway	D	D	D	D	E	F	F	D

With the implementation of the initial mitigation items outlined above, impacts estimated at the 2024 Buildout Condition, are nearly eliminated. The intersection of Summer Street at Elkins is expected to go to a LOS C in the morning and LOS D in the evening, with the installation of the signal. Changes in signal timing splits and pedestrian phasing (exclusive vs. concurrent phasing) effectively allocates more green time to the major approach, reducing LOS at Summer Street and East 1st Street to a D in the morning and C in the evening peak hours. Similarly, signal timing adjustments help bring the intersection of L Street at Broadway into a LOS D during both the morning and evening peak hours. The Proponent will work with the BTD to implement the signal timing improvements, as needed.

5.8.2 2030 Full-Build Mitigated Condition

As part of the Full-Build scenario, additional mitigation measures will be implemented to improve the surrounding area and the flow of vehicles to and from South Boston. In addition to the mitigation items included in the 2024 condition, the following mitigation will occur as part of the 2030 Full-Build Mitigated Condition:

- The reconstruction of Summer Street from East 1st Street to the DFC
- The signalization of the intersection of Summer Street at Elkins Street/Elkins Street Extension
- Signal timing improvements at the intersection of Summer Street/L Street at East 1st Street
- Signal optimization at L Street/East Broadway
- Additional improvements to the signalization at Summer Street at Elkins Street/Elkins Street Extension

- Additional improvements to the signalization at Summer Street/L Street at East 1st Street
- Additional improvements to the signalization at L Street/East Broadway

These improvements are projected to help improve future vehicle demand processing more efficiently through the study intersections, as summarized in Table 5-31 below.

Table 5-31 2030 Full Build Mitigated Condition Intersection LOS Morning and Evening Peak Hour

	AM				PM			
Intersection	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition	2030 Full Build Mitigated Condition	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition	2030 Full Build Mitigated Condition
3. Summer Street at Elkins Street/ Elkins Street Extension	C	D	F	D	D	D	F	D
4. Summer Street/ L Street at East 1st Street	D	E	F	D	D	F	F	C
7. L Street at East Broadway	D	E	E	D	E	F	F	E

Intersections of Summer Street at Elkins Street, Summer Street at East 1st Street and L Street at Broadway are expected to be improved to LOS D or better, with the implementation of the outlined improvement measures.

5.8.3 Summer Street at Elkins Street Signal Warrant Analysis

To determine if the installation of a traffic signal is warranted, a Signal Warrant Analysis was conducted for the intersection of Summer Street at Elkins Street.

The US Department of Transportation's Federal Highway Administration Manual on Uniform Traffic Control Devices ("MUTCD") methodology was used for conducting the traffic analysis.

To support the analysis process, 12-hours of traffic volumes were collected on Summer Street near the intersection with Elkins Street, and adjusted for future growth.

Table 5-32 shows the results of the signal warrant analysis, while detailed calculation sheets are included in the Appendix D.

Table 5-32 Warrant Analysis Summary for Elkins Street Intersection

Warrant Number	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes (1B)
Warrant 2, Four-Hour Vehicular Volume	Yes
Warrant 3, Peak Hour	Yes
Warrant 4, Pedestrian Volume	No
Warrant 5, School Crossing	No
Warrant 6, Coordinated Signal System	No
Warrant 7, Crash Experience	No
Warrant 8, Roadway Network	Yes
Warrant 9, Intersection Near a Grade Crossing	No

Source: Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition, Chapter 4C.

While five of the nine warrants were not met, the remaining four warrants are sufficient to be considered for a signal installation. The installation of the signal will be coordinated with BTD.

5.9 Access and Circulation

The Project proposes two access points/driveways into the Project Site; one will be located off Summer Street at its intersection with Elkins Street, and a second will be located off East 1st Street at its intersection with M Street. As a mitigation measure, a traffic signal is proposed to be installed at the Elkins Street intersection to allow for the vehicles on Elkins Street and at the Project Site driveway (Elkins Street Extension) to enter onto Summer Street more easily. Internal streets will also be constructed as part of the Project to allow for efficient internal trip distribution, circulation, servicing and loading.

5.9.1 Loading, Service and Deliveries

Truck Loading

The truck loading is proposed to take place at various locations internal to the Project Site. All loading is expected to take place within designated docks and areas to minimize truck idling on the internal roadways. Residential move-in and move-out will be scheduled to create an organized flow of residents and moving trucks to and from the Project Site. Truck loading is not proposed to occur anywhere on East 1st Street or Summer Street.

Daily Deliveries

Daily deliveries are expected to vary based on the land use. For residential use, deliveries may include dry cleaning services, food delivery, mail, and package delivery among others. Delivery schedules will be set to optimize the use of the designated loading areas and reduce on-street vehicle idling.

5.9.2 Pedestrian Access

The internal roadways are proposed to have pedestrian accommodations such as ADA compliant sidewalks and ramps, crosswalks, and pedestrian roadway signage. The development parcels along Summer Street will have ground floor retail that will be accessible from Summer Street while the other blocks will have their main access via the internal roadway system.

5.10 Vehicle Parking

5.10.1 Project Vehicle Parking Supply

The Project proposes to provide up to 1,397 parking spaces within the Project Site. The parking is proposed to be allocated to the individual uses based on the ratios displayed in Table 5-33, with some uses sharing parking. This parking analysis is based on the 1.93 million square feet of development program as described in Chapter 1, *Project Description*.

Table 5-33 Project Parking Summary

Land Use	Program[1]	Parking Ratio	Parking Supply
Residential Condos	567	1.50 per unit	567
Residential Apartments	777	0.5 per unit	389
Retail	85.6 ksf	0.4 per ksf	34
Hotel	344 keys	0.33 per key	113
Office	368.1 ksf	0.8 per ksf	294
Total Spaces			1,397 spaces

1 Program used for parking demand analysis is the current 1.93M square feet of mixed land uses as shown above.

The Project will seek to reduce dependence on auto travel and will implement a comprehensive package of TDM strategies to reduce auto trip and parking demand. Parking will be provided at each block for the various land uses, and it is also intended that the Project will share parking between uses. During the early phases of the Project, it is anticipated that the structured parking constructed in the residential buildings will be supplemented with temporary surface parking to increase the residential parking space ratio.

The Project proposes to implement a shared parking strategy between its commercial and residential components. Implementing a shared parking philosophy within the garages allows the project to limit the overall number of parking spaces to be built. The Project will supplement garage parking built with on-site temporary surface parking as necessary to meet the changes in parking demands over the build out of the project. It is anticipated that the demand for parking spaces, primarily through reduced vehicle ownership by residents and employees using alternatives to commute by private vehicle, will continue the downward City trend with changing travel behaviors and increased access to transportation network companies ("TNC's") such as Lyft and Uber, car sharing services such as Zip-Car, and autonomous vehicles, as well as increased availability of alternative travel modes services and infrastructure, such as bicycle lanes and improved sidewalks.

5.10.2 Project Parking Demand

The dynamic of parking supply to meet demand in an urban location presents certain challenges because available methodologies are generally based on data from situations where there is low transit and limited alternative mode choice. Further, they do not reflect the goals of minimizing auto use by not providing unlimited supply to satisfy demand, as reflected in the restrictive zoning requirements and goals of the City of Boston to reduce the number of parking spaces required for development.

ITE Parking Generation Analysis

ITE has published a Parking Generation Handbook to guide developments on the amount of parking that should be provided. This handbook is similar to the ITE Trip Generation Handbook used for estimating the number of unadjusted vehicle trips a development will generate. Like the Trip Generation Handbook, the ITE Parking Generation Handbook has a primary use for estimating parking generation in suburban areas rather than urban areas with extensive alternative modes of transportation available.

This disparity is recognized on page four of the MassDOT ENF comment letter, which states that "The Institute of Transportation Engineers' *Parking* Generation generally provides a reasonable basis for comparison to parking requirements under local zoning, but this reference does not present parking rates for this type of mixed-use." The estimate, like the ITE Trip Generation estimate, does not account for the urban environment of the Project Site. Therefore, the unadjusted ITE Parking Generation estimate dramatically overstates the parking demand for this Project. Similar to the ITE Trip Generation, the unadjusted parking demand estimate was adjusted for VOR and mode share to more accurately reflect the Project's urban transportation characteristics. Table 5-34 provides the adjusted ITE parking demand of the Project.

Table 5-34 Adjusted ITE Parking Generation Estimate

Land Use	Program	Unadjusted Parking Spaces	Auto Mode Share	Adjusted Parking Demand
Residential	1,344 units	1,577	34%	536
Retail	85.6 ksf	268	20%	54
Hotel	344 keys	319	40%	128
Office	368.1 ksf	862	36%	310
Total Spaces		**3,026 spaces**		**1,028 spaces**

The adjusted ITE Parking Generation estimates, suggest that the Project is expected to have a peak parking demand of 1,028 spaces, which is lower than the ULI Shared Parking Generation Analysis estimate as shown below and fewer spaces than the Proponent is proposing.

ULI Parking Generation Analysis

As discussed above, the Project proposes to implement a shared parking strategy between the office, retail, hotel and residential components of the development. A shared parking analysis was conducted following the standard practices suggested in the Urban Land Institute's (ULI) Shared Parking report, second edition (latest available report). The current standard practices suggested in the ULI Shared Parking report use specific parking demand rates (a ratio of the number of parking spaces needed over a standard measure, e.g., per unit, per 1,000 square feet, etc.) needed to support a similar stand-along use. The ULI ratios used in this analysis are shown in Table 5-35.

Table 5-35 ULI Shared Parking Ratios

Land Use	Employees	Visitor	Residents	Units
Residential Condos	-	-	0.74	Per unit
Residential Apartments	-	-	0.5	Per unit
Retail	0.7	2.9	-	Per 1,000 sf
Hotel	0.25	1.0	-	Per 1,000 sf
Office	2.78	0.22	-	Per 1,000 sf

Based on the standard ULI methodology these factors are adjusted using three factors:

- **Mode split –** represents the percentage of users that drive to the site. For residences this percentage was assumed to be at 100 percent, conservatively assuming that while residents may choose to utilize alternative modes for commute to/from work, they will still be using the parking space to store their vehicle.
- **Non-captive factors -** represent parking demand reductions due to users visiting multiple uses on-site during a single visit and therefore only one parking space is needed for multiple trips to various land uses. The factors are based on

percentages provided by ULI Shared Parking report and are provided in Appendix D.

- **Temporal variations -** hourly parking demand variations that happen throughout the day and year, as provided by the ULI shared parking report. For this analysis the month of October was selected as the base month because it represents a month where typical commuting patterns are expected (school is in session and no major holidays).

The concept of shared parking recognizes that peaking for different land uses occurs at different times. For example, the office demand peaks during the middle of the work day when most employees are at work and residential demand peaks overnight when most residents are home. So, instead of building sufficient parking to support each individual land use's peak demand, the site supplies enough parking to support the entire site's peak, assuming that each land use will draw from a common parking supply.

Table 5-36 shows the shared parking demand for the Project at 8:00 AM, 2:00 PM, 5:00 PM, and 10:00 PM.

Table 5-36 ULI Parking Generation Estimate

Land Use	Unadjusted Parking Spaces	Auto Mode Share	Unshared Demand	Shared Parking Demand (8AM)	Shared Parking Demand (2PM)	Shared Parking Demand (5PM)	Shared Parking Demand (10PM)
Residential Condo[1]	567	100%	567	567	567	567	567
Residential Apartment	389	100%	389	331	272	331	389
Retail – Employee	60	20%	12	4	10	9	4
Retail - Visitor	248	20%	50	2	16	16	5
Hotel – Employee	86	40%	34	31	34	24	7
Hotel - Visitor	344	35*%	120	89	67	78	106
Office – Employee	1,023	36%	368	270	361	180	4
Office - Visitor	81	36%	29	6	29	3	0
Total Spaces	**2,798**	-	**1,569**	**1,300**	**1,356**	**1,208**	**1,082**

1 Assumed that condo parking will not be shared with the other uses.

The hotel mode share used for vehicle trip generation in this DEIR/DPIR includes drop off trips. A 5 percent reduction of the vehicle mode share was taken to account for taxis and ride-share trips that will not require parking.

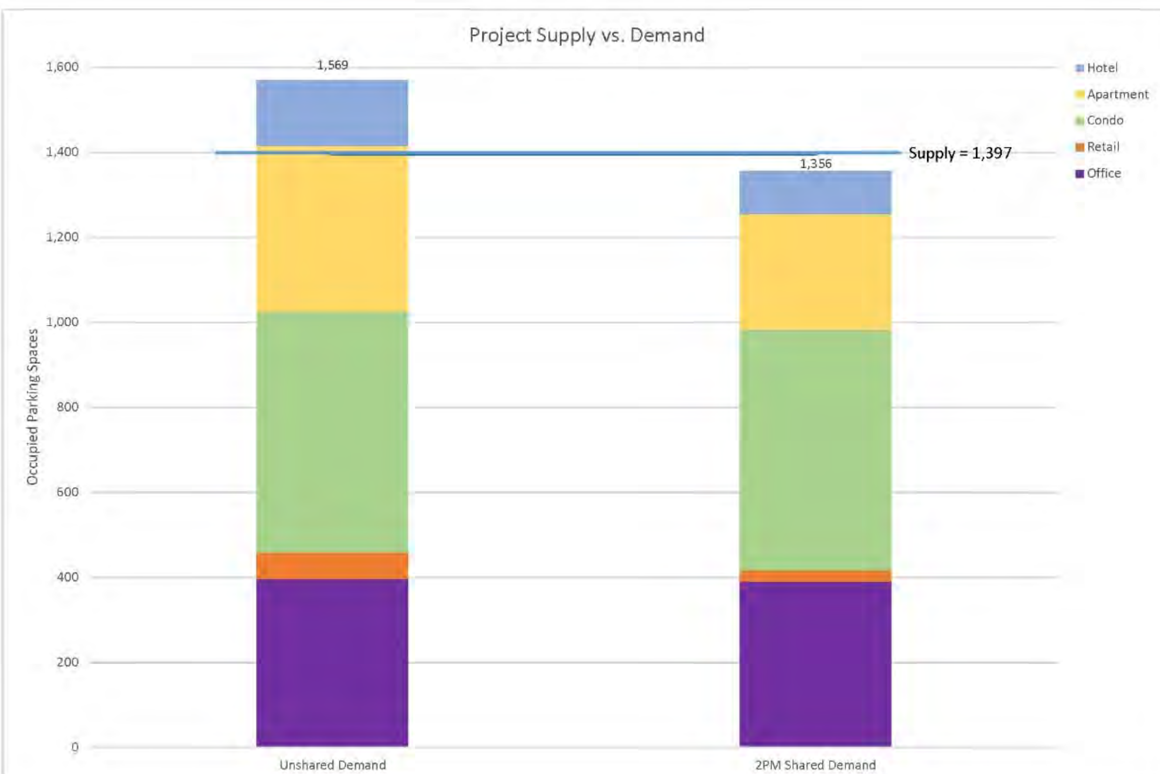
As shown in the table above, the ULI Shared parking analysis estimates the peak parking demand to be 1,356 spaces at 2:00 PM on a weekday. During the beginning and end of a traditional workday, the analysis estimates that the parking demand would be 1,300 at 8:00 AM and 1,208 at 5:00 PM. At 10:00 PM, the parking demand is expected to be 1,082.

Table 5-37 and the graphic below show the relationship between each land uses' demand and the total supply of parking that the Project is providing.

Table 5-37 Project Supply vs. Demand Analysis

Land Use	Size	Parking Ratio	Supply	Site Peak Hour Demand (2PM) Demand	Site Peak Hour Demand (2PM) Surplus/ (Shortfall)
Residential Condos	567 units	1.00	567	567	0
Residential Apartments	777 units	0.5	389	272	117
Retail	86 ksf	0.4	34	26	8
Hotel	344 keys	0.33	113	101	12
Office	368.1 ksf	0.8	294	390	(95)
Total	-	-	1,397	1,356	41

Project Parking Supply vs. Demand Graphic



As shown above, with a shared parking program in place, the Project provides sufficient parking to satisfy its peak demand of 1,356 spaces during a typical day and accounts for the residential condo parking spaces not being part of the shared parking supply. The proposed parking supply of up to 1397 spaces also accounts for hotel visitors' arrival and departure times and parking management.

Other Project Approved Parking Ratios

For comparison purposes, a list of recent BPDA approved projects and their corresponding parking ratios are shown in Table 5-38.

Table 5-38 BPDA Approved Project Parking Ratios

Project Name	Location	Approval Year	Project Type	Parking Ratio
399 Congress Street	Seaport	2013	Residential	0.37 per unit
Innovation Square at Northern Avenue	Seaport	2013	Office/Retail	0.17 per ksf for all uses – assumes parking in garage across the street
Marine Wharf	South Boston	2016	Hotel	0.18 per room – assumes available area parking
Parcel K	Seaport	2016	Hotel/Office/ Residential/Retail	1.1 per ksf for all uses
Summer Street Hotel	Seaport	2017	Hotel	0.38 per room
Washington Village	South Boston	2016	Residential/retail	0.8 per residential unit
West Square	South Boston	2011	Residential	0.55 per unit
Winthrop Square	Downtown	2018	Residential	0.65 – 1.03 per unit
			Office/Retail	0.20 – 0.34 per ksf

5.10.3 Parking Management Strategy

The Project proposes to implement a shared parking strategy between its commercial and residential components. Implementing a shared parking philosophy within the garage allows the Project to limit the need to build more parking spaces than are needed.

To help ensure that residential parking will be accommodated on-site, the Proponent has increased the amount of residential parking in the Project above what was originally planned (even while reducing the number of residential units in the Project). In addition, the Project will now contain additional at-grade residential parking as development progresses, as additional protection for the neighborhood during the development period.

Opportunity for Community Parking

In response to community concerns about the current unavailability of resident parking in the City Point neighborhood, the Proponent is prepared to work with the City of Boston to provide an opportunity for additional night, weekend and snow emergency parking for neighborhood residents on the site. This parking could be made available in at-grade parking areas as development progresses and within commercial parking structures as the Project is built out. It is expected that there is potential for 50-75 spaces available on this basis.

5.10.4 Electric Vehicle Charging Stations

The Project's garages will initially provide fast EV charging stations for five percent of the total spaces with an additional ten percent equipped to be converted into EV spaces. This equates to up to 70 EV spaces with up to an additional 140 spaces to be EV-ready. The garages are being designed to allow this number to expand as the demand increases over time.

5.11 Transit Analysis

The Project is served by several MBTA bus routes. The 2024 Project trip generation analysis estimates an additional 404 transit trips during the morning peak hour (196 in, 208 out) and 527 transit trips during the evening peak hour (266 in, 261 out) over the existing 2017 transit volumes. The 2030 Project trip generation analysis estimates an additional 565 transit trips during the morning peak hour (312 in, 253 out) and 732 transit trips during the evening peak hour (329 in, 403 out) over the existing 2017 transit volumes. Because the Project has residential, office, hotel and retail uses on site, the transit trips during the peak hours are travelling both to and from the site, for example, during the morning commuting hours residents will be travelling away from the site and employees will be travelling to the site. This mix of uses helps to balance the demands on the transportation networks surrounding the Project Site.

5.11.1 MBTA Analysis Methodology

To understand the Project trip impacts on the existing and future transit system, an in-depth transit analysis was conducted following these steps:

1. Review of the Existing Transit System's Capacity and Utilization
2. Assessment of the Future Conditions without Project (No-Build Conditions)
3. Assessment of the Future Conditions with Project (Build Conditions)

5.11.2 Step 1 - 2017 Existing Transit Conditions

The existing capacity and ridership was quantified using data provided by the MBTA. The capacity of a bus line depends on the number of buses operating during a specified time period (frequency) and the number of people that can be accommodated on a bus (policy load).

This transit analysis for the Project focused on an assessment of MBTA Bus Routes 7, 9, 10, and 11. MBTA Bus Route 5 was omitted from the study because its service does not run during the morning and evening peak hours. The analysis was based on a review of the volume to capacity (v/c) ratio review at the bus stop closest to the

Project Site. Route 7 was analyzed at the Summer Street at East 1st Street bus stop, while Routes 9 and 10 were analyzed at the L Street at Broadway bus stop, and Route 11 was analyzed at the City Point bus stop.

The ridership (or load of passengers) on a bus as it arrives to a bus stop was reviewed, as well as the load of a bus as it leaves a stop, to better understand capacity constraints. The analysis focused on the morning peak hour of 8:00 AM to 9:00 AM and evening peak hour of 5:00 PM to 6:00 PM.

Bus frequencies were compiled using the latest published MBTA schedules[3] and MBTA Bus ridership data from Fall of 2017. For the purposes of this study, the vehicle load standards (i.e., number of people safely and comfortably riding on a bus) are based on the MBTA Blue Book 14th Edition data (MBTA Bus policy capacity of 54 passengers per vehicle).

Following the outlined methodology, resulting bus line system capacities for the four analyzed bus routes (in both the inbound and outbound directions) are presented Table 5-39. It should be noted that bus routes travelling from South Boston to Downtown are considered "Inbound" routes, while bus routes travelling from Downtown to City Point are considered "Outbound" routes.

Table 5-39 System Peak Hour Capacity (per MBTA data)

	Morning Peak Hour			Evening Peak Hour		
Mode	Frequency[1]	# Passengers/ Vehicle[2]	Resulting Capacity[3] (# Passengers/ Peak Hour)	Frequency[1]	# Passengers/ Vehicle[2]	Resulting Capacity[3] (# Passengers/ Peak Hour)
MBTA Bus						
Route 7 Inbound	19	54	1,026	11	54	594
Route 7 Outbound	11	54	594	11	54	594
Route 9 Inbound	11	54	594	8	54	432
Route 9 Outbound	10	54	540	9	54	486
Route 10 Inbound	3	54	162	2	54	108
Route 10 Outbound	2	54	108	2	54	108
Route 11 Inbound	9	54	486	5	54	270
Route 11 Outbound	4	54	216	5	54	270

1 Number of vehicles per hour, per MBTA Ridership Data fall 2017
2 Policy capacity per MBTA Blue Book 14th Edition
3 Calculated Capacity = # of Buses x # passengers per vehicle, shown as number of passengers per peak hour

3 MBTA Summer 2018 schedules accessed from mbta.com.

After the capacity is established, the utilization is defined through the v/c ratio. For the purposes of this analysis, ridership data from fall 2017 was compared to capacity. The resulting utilization levels are presented in Table 5-40 below. A utilization rate, or v/c ratio, of 1.0 or higher suggests that there are more passengers than available space on the bus.

Table 5-40 Existing Transit Service Utilization (per MBTA data)

	Morning Peak Hour			Evening Peak Hour		
Mode	**Capacity**	**Ridership**	**V/C**	**Capacity**	**Ridership**	**V/C**
MBTA Bus						
Route 7 Inbound Entering	1,026	714	0.70	594	20	0.03
Route 7 Inbound Exiting	1,026	748	0.73	594	46	0.08
Route 7 Outbound Entering	594	26	0.04	594	462	0.78
Route 7 Outbound Exiting	594	10	0.02	594	439	0.74
Route 9 Inbound Entering	594	108	0.18	432	26	0.06
Route 9 Inbound Exiting	594	150	0.25	432	37	0.09
Route 9 Outbound Entering	540	30	0.06	486	134	0.28
Route 9 Outbound Exiting	540	11	0.02	486	102	0.21
Route 10 Inbound Entering	162	8	0.05	108	4	0.04
Route 10 Inbound Exiting	162	10	0.06	108	6	0.05
Route 10 Outbound Entering	108	6	0.06	108	13	0.12
Route 10 Outbound Exiting	108	4	0.04	108	11	0.10
Route 11 Inbound Entering	486	0	0.00	270	0	0.00
Route 11 Inbound Exiting	486	7	0.02	270	4	0.02
Route 11 Outbound Entering	216	9	0.04	270	9	0.03
Route 11 Outbound Exiting	216	0	0.00	270	0	0.00

The existing data shows v/c ratios below 1.0 for the studied bus routes, suggesting that theoretically on an average day, during the peak hours of 8:00 AM to 9:00 AM and 5:00 PM to 6:00 PM, the demand is satisfied with the currently available number of buses. Due to congestion and other factors, it is difficult to keep the buses on schedule, causing bus delays and bus bunching which is not reflected in this data.

Although the data may show acceptable v/c ratios and availability on the buses over the course of the peak hour, Project Team observations[4] of Route 7 in the field showed that during both the morning and evening peak hours, multiple buses were over policy capacity traveling inbound during the morning and outbound during the evening—a key travel route for South Boston residents who work in the City. There were many buses that reached or exceed seated capacity during the morning and evening peak hours. Some buses were observed as approaching crush capacity during the morning runs when full buses drove past the bus stop at Summer Street/

4 VHB staff conducted observations on Tuesday March 21, 2017 between the hours of 7-9am and 4-6pm at the South Station Stop and the Summer Street at East 1st Street stop.

East 1st Street. The buses were not running as scheduled, and bus bunching occurred causing long wait times of up to 20 minutes to board a bus.

Based on reported field observations and anecdotal references from South Boston residents, there is general agreement that the buses do not run on schedule, and therefore do not necessarily meet all the demand that is currently requested by the neighborhood. With the construction of the Project, that demand is only expected to increase, which suggests that additional transit services will be required for this area to appropriately manage the levels of projected ridership.

The current transit analysis methodology used in this filing focuses on peak hours and v/c ratios. The MBTA has recently developed a separate metric to reflect the passenger experience as described in the MBTA's most recent publishing of the 2017 Service Delivery Policy. The new metric considers the amount of time that riders experience comfortable conditions on a bus, defined as passenger-comfortable-minutes. At the time of the filing of this document, the MBTA is working to define how the new metric can be incorporated into transit capacity analyses for environmental impact/permitting document filings with the City and State, and the new methodology, therefore, was not included in this document.

5.11.3 Step 2: Future No-Build Condition Transit Analysis

The next step of the transit analysis includes an evaluation of the Future No-Build Transit Condition. Based on the Boston Region Metropolitan Transportation Organization ("MPO") Long Range Transportation Plan, as referenced in Appendix D, an annual growth rate of 0.68 percent per year was applied to the existing condition ridership numbers to estimate the future 2024 No-Build ridership levels as well as the 2030 No-Build ridership levels.

The resulting ridership levels and projected utilization rates for the 2024 No-Build Condition are reflected in Table 5-41.

The No-Build V/C ratios provide a baseline to which the future Project impacts can be compared.

In the resulting 2024 No-Build Condition, ridership volumes at the stops servicing the Project Site increase as expected after applying the 0.68-percent yearly growth factor. While utilization rates also see a small increase from existing conditions, none of the routes serving the area are projected to be over capacity. Route 7 projects to have 73 to 76 percent utilization in the morning and 78 to 82 percent utilization in the evening peak hours.

Table 5-41 2024 No-Build Condition Transit Utilization

	Morning Peak Hour			Evening Peak Hour		
Mode	**Capacity**	**Ridership**	**V/C**	**Capacity**	**Ridership**	**V/C**
MBTA Bus						
Route 7 Inbound Entering	1,026	749	0.73	594	21	0.04
Route 7 Inbound Exiting	1,026	785	0.76	594	48	0.08
Route 7 Outbound Entering	594	28	0.05	594	484	0.82
Route 7 Outbound Exiting	594	10	0.02	594	460	0.78
Route 9 Inbound Entering	594	114	0.19	432	27	0.06
Route 9 Inbound Exiting	594	157	0.26	432	39	0.09
Route 9 Outbound Entering	540	32	0.06	486	141	0.29
Route 9 Outbound Exiting	540	12	0.02	486	107	0.22
Route 10 Inbound Entering	162	8	0.05	108	4	0.04
Route 10 Inbound Exiting	162	11	0.07	108	6	0.06
Route 10 Outbound Entering	108	7	0.06	108	13	0.12
Route 10 Outbound Exiting	108	4	0.04	108	11	0.11
Route 11 Inbound Entering	486	0	0.00	270	0	0.00
Route 11 Inbound Exiting	486	8	0.02	270	5	0.02
Route 11 Outbound Entering	216	10	0.05	270	10	0.04
Route 11 Outbound Exiting	216	0	0.00	270	0	0.00

The resulting ridership levels and projected utilization rates for the 2030 No-Build Condition are reflected in Table 5-42.

In the resulting 2030 No-Build Condition, ridership volumes at the stops servicing the Project Site increase as expected after applying the 0.68-percent yearly growth factor for 13 years, to year 2030. While utilization rates also see a small increase from existing conditions, none of the routes serving the area are projected to be over capacity using this methodology. However, as noted above, the average utilization over the course of an hour does not accurately reflect the passenger experience or the field observations recorded by VHB staff. Route 7 projects to have 76 to 80 percent utilization in the morning and 81 to 85 percent utilization in the evening peak hours.

Table 5-42 2030 No-Build Condition Transit Utilization

	Morning Peak Hour			Evening Peak Hour		
Mode	**Capacity**	**Ridership**	**V/C**	**Capacity**	**Ridership**	**V/C**
MBTA Bus						
Route 7 Inbound Entering	1,026	780	0.76	594	22	0.04
Route 7 Inbound Exiting	1,026	817	0.80	594	50	0.08
Route 7 Outbound Entering	594	29	0.05	594	504	0.85
Route 7 Outbound Exiting	594	11	0.02	594	480	0.81
Route 9 Inbound Entering	594	118	0.20	432	28	0.07
Route 9 Inbound Exiting	594	164	0.28	432	41	0.09
Route 9 Outbound Entering	540	33	0.06	486	147	0.30
Route 9 Outbound Exiting	540	12	0.02	486	111	0.23
Route 10 Inbound Entering	162	8	0.05	108	4	0.04
Route 10 Inbound Exiting	162	11	0.07	108	6	0.06
Route 10 Outbound Entering	108	7	0.06	108	14	0.13
Route 10 Outbound Exiting	108	4	0.04	108	12	0.11
Route 11 Inbound Entering	486	0	0.00	270	0	0.00
Route 11 Inbound Exiting	486	8	0.02	270	5	0.02
Route 11 Outbound Entering	216	10	0.05	270	10	0.04
Route 11 Outbound Exiting	216	0	0.00	270	0	0.00

5.11.4 Step 3: Future Build Condition Transit Analysis

To create the 2024 and 2030 Build Conditions, estimated Project-generated trips were distributed among the bus routes proportionally based on existing ridership and utilization trends of the routes.

Table 5-43 provides a summary of the transit trip distributions assumed for the purposes of this analysis. The distributions are based on bus ridership at the closest stops.

Table 5-44 provides the resulting Project-generated transit trips for year 2024.

Table 5-43 Transit Trip Distribution

Route and Direction	Morning Peak Hour % OUT	Morning Peak Hour % IN	Evening Peak Hour % OUT	Evening Peak Hour % IN
MBTA Bus				
Route 7 Inbound	83%	0%	55%	0%
Route 7 Outbound	0%	42%	0%	86%
Route 9 Inbound	13%	0%	26%	0%
Route 9 Outbound	0%	27%	0%	13%
Route 10 Inbound	1%	0%	8%	0%
Route 10 Outbound	0%	8%	0%	1%
Route 11 Inbound	3%	0%	11%	0%
Route 11 Outbound	0%	23%	0%	0%
Total	**100%**	**100%**	**100%**	**100%**

Table 5-44 2024 Project-Generated Transit Trips by Route

	Morning Peak Hour			Evening Peak Hour		
Route and Direction	Trips OUT (Boardings)	Trips IN (Alightings)	Trips Total	Trips OUT (Boardings)	Trips IN (Alightings)	Trips Total
MBTA Bus						
Route 7 Inbound	172	0	172	143	0	143
Route 7 Outbound	0	84	84	0	230	230
Route 9 Inbound	27	0	27	68	0	68
Route 9 Outbound	0	53	53	0	35	35
Route 10 Inbound	2	0	2	21	0	21
Route 10 Outbound	1	16	17	0	3	3
Route 11 Inbound	6	0	6	29	0	29
Route 11 Outbound	0	45	45	0	0	0
Total	**208**	**196**	**404**	**261**	**266**	**527**

The distributed 2024 Project-generated trips are added to the 2024 No-Build Condition trips to obtain 2024 Build Condition, as presented in Table 5-45.

Table 5-45 2024 Build Condition Transit Utilization

	Morning Peak Hour			Evening Peak Hour		
Mode	**Capacity**	**Ridership**	**V/C**	**Capacity**	**Ridership**	**V/C**
MBTA Bus						
Route 7 Inbound Entering	1,026	749	0.73	594	21	0.04
Route 7 Inbound Exiting	1,026	957	0.93	594	191	0.32
Route 7 Outbound Entering	594	112	0.19	594	714	1.20
Route 7 Outbound Exiting	594	10	0.02	594	460	0.78
Route 9 Inbound Entering	594	114	0.19	432	27	0.06
Route 9 Inbound Exiting	594	184	0.31	432	107	0.25
Route 9 Outbound Entering	540	85	0.16	486	176	0.36
Route 9 Outbound Exiting	540	12	0.02	486	107	0.22
Route 10 Inbound Entering	162	8	0.05	108	4	0.04
Route 10 Inbound Exiting	162	13	0.08	108	27	0.25
Route 10 Outbound Entering	108	23	0.21	108	16	0.15
Route 10 Outbound Exiting	108	5	0.05	108	11	0.11
Route 11 Inbound Entering	486	0	0.00	270	0	0.00
Route 11 Inbound Exiting	486	14	0.03	270	34	0.12
Route 11 Outbound Entering	216	55	0.25	270	10	0.04
Route 11 Outbound Exiting	216	0	0.00	270	0	0.00

In the resulting 2024 Build Condition, ridership volumes and utilization rates increase at the stops servicing the Project Site. While utilization rates see some increase from the existing and No-Build conditions, only Route 7 in the outbound direction experiences overcapacity at 1.20, when entering the stop, during the evening peak hour.

To create the 2030 Build Conditions, estimated Project-generated trips were distributed among the bus routes proportionally based on existing ridership and utilization trends of the routes, as noted previously.

Table 5-46 provides the resulting Project-generated transit trips for year 2030.

Table 5-46 2030 Project-Generated Transit Trips by Route

	Morning Peak Hour			Evening Peak Hour		
Route and Direction	Trips OUT (Boardings)	Trips IN (Alightings)	Trips Total	Trips OUT (Boardings)	Trips IN (Alightings)	Trips Total
MBTA Bus						
Route 7 Inbound	208	0	208	222	0	222
Route 7 Outbound	0	131	131	0	283	283
Route 9 Inbound	33	0	33	105	0	105
Route 9 Outbound	0	84	84	0	43	43
Route 10 Inbound	3	0	3	32	0	32
Route 10 Outbound	1	25	26	0	3	3
Route 11 Inbound	8	0	8	44	0	44
Route 11 Outbound	0	72	72	0	0	0
Total	**253**	**312**	**565**	**403**	**329**	**732**

The distributed Project-generated trips are added to the 2030 No-Build Condition trips, to obtain the 2030 Full Build Condition, as presented in Table 5-47.

Table 5-47 2030 Full Build Condition Transit Utilization

	Morning Peak Hour			Evening Peak Hour		
Mode	Capacity	Ridership	V/C	Capacity	Ridership	V/C
MBTA Bus						
Route 7 Inbound Entering	1,026	780	0.76	594	22	0.04
Route 7 Inbound Exiting	1,026	1,026	1.00	594	272	0.46
Route 7 Outbound Entering	594	160	0.27	594	787	1.33
Route 7 Outbound Exiting	594	11	0.02	594	480	0.81
Route 9 Inbound Entering	594	118	0.20	432	28	0.07
Route 9 Inbound Exiting	594	197	0.33	432	146	0.34
Route 9 Outbound Entering	540	117	0.22	486	190	0.39
Route 9 Outbound Exiting	540	12	0.02	486	111	0.23
Route 10 Inbound Entering	162	8	0.05	108	4	0.04
Route 10 Inbound Exiting	162	14	0.09	108	38	0.35
Route 10 Outbound Entering	108	32	0.30	108	17	0.16
Route 10 Outbound Exiting	108	5	0.05	108	12	0.11
Route 11 Inbound Entering	486	0	0.00	270	0	0.00
Route 11 Inbound Exiting	486	16	0.03	270	49	0.18
Route 11 Outbound Entering	216	82	0.38	270	10	0.04
Route 11 Outbound Exiting	216	0	0.00	270	0	0.00

In the resulting 2030 Full Build Condition, ridership volumes and utilization rates increase at stops the Project Site. While utilization rates see some increase from the existing and No-Build conditions, only Route 7 in the outbound direction experiences overcapacity at 1.33, when entering the stop, during the evening peak hour. Route 7, during the morning peak hour, in the inbound direction (towards Downtown Boston), sees utilization levels at 1.00, which suggests that the bus route has reached policy capacity.

5.11.5 Summary of Transit Analysis

The transit analysis shows that the MBTA bus routes 9, 10 and 11 are expected to be able to accommodate the additional ridership generated by background growth and the Project-generated transit trips, when considering theoretical average conditions, with buses running on schedule.

Assuming that additional service is not added to the Route 7 during the morning and evening peak hours between now and 2030, the Route 7 Inbound buses during the morning peak hour and Route 7 Outbound buses during the evening peak hour are not expected to have sufficient capacity to meet the future ridership demands, according to the v/c bus analysis.

Although the data may show acceptable v/c ratios and available capacity over the course of the peak hour, reported field observations and anecdotal references from South Boston residents suggest that there is general agreement that the buses do not run on schedule, and therefore do not necessarily meet all the demand that is currently required by the neighborhood. With the construction of the Project, that demand is only expected to increase, which suggests that additional transit services may be required for this area to appropriately manage the levels of projected ridership.

Based on the transit analysis findings and comments from the community, the Proponent has focused their transit mitigation efforts on increasing the amount and quality of transit services in the City Point neighborhood, particularly the Route 7. The Proponent has begun discussions with the MBTA regarding a public-private partnership, which would advance the objectives of the MBTA's on-going "Better Bus Project" initiative. Although other approaches have been suggested by reviewers, working with the MBTA to improve transit services in the near future has been the priority of the Proponent's efforts.

5.11.6 Supplemental Transit Services

Although located only about 1.5 miles from South Station, the growing City Point neighborhood of South Boston, which is not served by the MBTA Red Line, is experiencing gaps and shortfalls in its MBTA bus service. To help address this issue, the Proponent proposes to fund and operate, in partnership with the MBTA and as an element of the Project, an innovative supplemental bus service that is open to anyone with a Charlie Card or Charlie Ticket.

This supplemental service would be expressly designed to identify and address, in real time, gaps and shortfalls in established MBTA bus service caused by changes in transit demand, traffic patterns and usage and to assist in the capacity of current bus service. The service would create the opportunity to pilot potentially more efficient routes (such as inbound service to South Station along First Street, or inbound service to South Station along Summer Street that does not continue into the Financial District) that could both supplement existing MBTA bus service and also provide data to the MBTA to assist in its service planning.

The Proponent has begun discussions with the MBTA regarding a public-private partnership, which would advance the objectives of the MBTA's on-going "Better Bus Project" initiative. Once launched, the Proponent may enlist other private landowners to further leverage this service and assist in providing more transit capacity and options in the area. Due to the pressing neighborhood need for better transit service and as a demonstration of its commitment to this key Project element, the Proponent is prepared to begin a pilot of supplemental service upon receiving its master plan approvals for the Project and the commencement of demolition in 2019, before any actual occupancy of the site.

Potential bus routes currently being developed and discussed with the City and the MBTA are illustrated in Figure 5.18.

- One option includes supplementing the existing Route 7—to have the bus service South Station then turn around at the Federal Reserve Building via Congress Street and travel back to South Boston. The MBTA currently implements this route modification with some inbound morning buses. Options to be explored may include the following: expanding the number of buses using the shortened route in the morning, adopting the shortened route for some buses in the evening, and providing a new bus stop along the supplemental outbound route on Congress Street or Dorchester Avenue.
- An alternative option contemplates a new bus route between South Boston/City Point and South Station, using West 1st Street and A Street.

5.12 Bicycle Analysis

5.12.1 Summary of Existing Bicycle Conditions

In the vicinity of the Project Site, bicycle accommodations are provided within Thomas J. Butler Park, along the northern side of East 1st Street. The Project will incorporate bicycle accommodations in compliance with BTD's Guidelines to encourage bicycling, as well as walking, as strong transportation modes to and from the Site.

The closest Blue Bike station (formally known as Hubway) is located approximately 0.25 mile southwest of the Site at the South Boston Library with a second station within 1 mile east of the Site at the William J Day Boulevard at Murphy Skating Rink, as noted in Figure 5.5. As part of the Project, the Proponent is committing to installing one additional Blue Bike station within the Project Site, that will be easily accessible for residents, employees and visitors of the Project as well as other members of the neighborhood.

5.12.2 Project Bicycle Parking

The Project will provide a variety of bicycle parking options for employees, residents and visitors of the Project, as required by the Boston Transportation Department Bicycle Parking Guidelines.

Approximately 279 short-term, outdoor bicycle parking spaces and 1,532 long-term, secured/covered bicycle parking spaces are proposed as part of the Project. The bicycle parking spaces for both short-term and long-term per land use are shown in Table 5-48.

Table 5-48 Bicycle Parking Summary

Land Use	Bicycle Parking Ratio[1]	Number of Spaces
Residential – Secured/Covered	1 per unit	1,344
Residential – Outdoor	1 per 5 units	267
Retail – Secured/Covered	0.3 spaces per ksf	26
Retail – Outdoor	no fewer than 4	4
Hotel – Secured/Covered	0.3 spaces per ksf	52
Hotel – Outdoor	no fewer than 4	4
Office – Secured/Covered	0.3 spaces per ksf	110
Office – Outdoor	no fewer than 4	4
Total Secured/Covered		**1,532 spaces**
Total Outdoor		**279 spaces**

1 Source: Boston Transportation Department, Boston Bikes: Bicycle Parking Guidelines

5.12.3 Future Bicycle Infrastructure

Bicycle infrastructure improvements are planned to be implemented along Summer Street adjacent to the Project Site. The Project proposes a redesign of the section of Summer Street from East 1st Street to the DFC to accommodate vehicles and separated bike lanes along Summer Street. The Project proposes to install a new Blue Bike station for the use of the residents, employees, and the neighborhood. The site's internal roadways are proposed to also provide bicycle accommodations in combination with shared lanes and bike lanes.

The Proponent will continue to work with the City to implement the bicycle infrastructure improvements described herein and others as the City formulates its long-term plans for bicycle improvements for the area.

5.13 Pedestrian Analysis

The Project Site is bounded by existing sidewalks that are proposed to be widened as part of the Project. The Project's building massing is proposed to be set back from the roadway to provide additional sidewalk and streetscape dimensions, as illustrated in Chapter 3, *Urban Design*. The widening of sidewalks will improve pedestrian conditions in the area both on Summer Street and on East 1st Street.

5.13.1 Summary of Existing Pedestrian Conditions

As identified in Section 5.3.6, the Project Site is served by pedestrian facilities including sidewalks along local roadways and crosswalks at study area intersections. Sidewalks near the Project Site are in a fair condition, and striped crosswalks and pedestrian signals are available at study area signalized approaches.

5.13.2 Future Pedestrian Facilities/Infrastructure

The pedestrian improvements will be a substantial design and functional upgrade to the Project Site and provide a number of benefits to both the immediate neighborhood and the City of Boston.

Refer to Chapter 3, *Urban Design*, for additional information.

5.13.3 Pedestrian LOS

Pedestrian level-of-service ("PLOS") was analyzed using the methodology outlined in the 2000 HCM. PLOS at signalized intersections is dictated by the portion of the signal cycle dedicated to the pedestrian crossing. Accordingly, increasing pedestrian volumes does not alter PLOS at signalized intersections. As walk times and cycle lengths are not expected to change between Existing, No-Build, and Build Conditions, PLOS is expected to remain the same for signalized crosswalks under all conditions.

For unsignalized intersections, the PLOS is calculated using the crosswalk length and the conflicting vehicular flow rates for the morning and evening peak hours. Intersection geometry measurements and crosswalk lengths were documented on June 26, 2017. The 2000 HCM pedestrian level-of-service criteria are outlined in Table 5-49 below.

PLOS at signalized intersections is dictated by the portion of the signal cycle dedicated to the pedestrian crossing. Accordingly, increasing pedestrian volumes does not alter PLOS at signalized intersections, and if walk times and signal lengths do not change, PLOS is expected to remain the same under any condition.

Table 5-49 Pedestrian Level of Service Criteria at Intersections

	Pedestrian Delay (sec/P)		Likelihood of
Level of Service	Signalized	Unsignalized	Risk-taking of Noncompliance
PLOS A	<10	<5	Low
PLOS B	≥ 10 – 20	≥5 – 10	
PLOS C	>20 – 30	>10 – 20	Moderate
PLOS D	>30 – 40	>20 – 30	
PLOS E	>40 – 60	>30 – 45	High
PLOS F	>60	>45	Very High

Source: 2000 HCM

2024 Pedestrian LOS

Table 5-50 and 5-51 presents the PLOS during the morning and evening peak hours at each signalized and unsignalized intersection for the 2024 analysis, respectively.

Under the 2024 Build condition, all crosswalks at signalized intersections operate at PLOS D or better with the exception crosswalks at the intersection of Summer Street at East 1st Street, and L Street at East Broadway. The intersection of Summer Street at Elkins Street/Elkins Street Extension is not currently signalized, but it is proposed be signalized under the Build Mitigated scenario. The pedestrian phase is proposed to run concurrent to vehicle traffic and the PLOS at the crosswalks is expected to be PLOS D or better.

For unsignalized intersections, the PLOS is calculated using the crosswalk length and the conflicting vehicular flow rates for the morning and evening peak hours. The analysis was completed for locations that have striped crosswalks only; illegal crossing movements were not analyzed. Table 5-52 presents the PLOS for each unsignalized intersection crosswalk for the morning and evening peak hours.

Whereas the unsignalized intersections take the vehicle volumes and crosswalk lengths into consideration when calculating the pedestrian delay and LOS, drivers in this area are likely to let pedestrians cross the street since it is the law to yield to pedestrians in Massachusetts. The minor roadway approaches such as the east and west crosswalk at L Street at East 2nd Street function at PLOS A since there are lower vehicle volumes traveling through these crosswalk locations.

Table 5-50 Signalized Intersection – Pedestrian LOS Summary 2024

		AM Peak Hour				PM Peak Hour			
Intersection	Crosswalk	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition	2024 Build Mitigated Condition	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition	2024 Build Mitigated Condition
1. Summer Street at Drydock Avenue/ Pappas Way	East	D	D	D	D	D	D	D	D
	West	D	D	D	D	D	D	D	D
	North	D	D	D	D	D	D	D	D
	South	D	D	D	D	D	D	D	D
2. Summer Street at DFC	East	C	C	C	C	B	B	B	B
	West	C	C	C	C	B	B	B	B
	North	D	D	D	D	D	D	D	D
	South	D	D	D	D	D	D	D	D
3. Summer Street at Elkins Street/ Elkins Street Extension	East	-	-	-	B	-	-	-	B
	West	-	-	-	B	-	-	-	B
	North	-	-	-	D	-	-	-	D
	South	-	-	-	D	-	-	-	D
4. Summer Street/ L Street at East 1st Street	East	E	E	E	B	E	E	E	B
	West	E	E	E	B	E	E	E	B
	North	E	E	E	E	E	E	E	E
	South	E	E	E	E	E	E	E	E
7. L Street at East Broadway	East	F	F	F	F	F	F	F	F
	West	F	F	F	F	F	F	F	F
	North	F	F	F	F	F	F	F	F
	South	F	F	F	F	F	F	F	F
11. L Street at East 5th Street	East	D	D	D	D	D	D	D	D
	West	D	D	D	D	D	D	D	D
	North	D	D	D	D	D	D	D	D
	South	D	D	D	D	D	D	D	D
12. L Street at East 8th Street	East	A	A	A	A	A	A	A	A
	West	A	A	A	A	A	A	A	A
	North	C	C	C	C	C	C	C	C
	South	C	C	C	C	C	C	C	C
13. L Street at William J. Day Boulevard	East	C	C	C	C	C	C	C	C
	West	C	C	C	C	C	C	C	C
14. L Street at Columbia Road	East	A	A	A	A	A	A	A	A
	West	A	A	A	A	A	A	A	A
	North	F	F	F	F	F	F	F	F

Table 5-51 Unsignalized Intersection – Pedestrian LOS Summary 2024

		AM Peak Hour			PM Peak Hour		
Intersection	**Crosswalk**	**2017 Existing Condition**	**2024 No-Build Condition**	**2024 Build Condition**	**2017 Existing Condition**	**2024 No-Build Condition**	**2024 Build Condition**
3. Summer Street at Elkins Street/ Elkins Street Extension	East	-	-	A	-	-	A
	West	A	A	A	A	A	A
5. L Street at East 2nd Street	East	A	A	A	A	A	A
	West	A	A	A	A	A	A
	North	F	F	F	F	F	F
	South	F	F	F	F	F	F
6. L Street at East 3rd Street	East	A	A	A	A	A	A
	North	F	F	F	F	F	F
	South	F	F	F	F	F	F
8. East 1st Street at K Street	East	D	D	D	D	E	E
	West	E	F	E	E	F	F
	South	A	A	A	A	A	A
9. East 1st Street at M Street/ M Street Extension	North	-	-	A	-	-	A
	South	A	A	A	A	A	A
10. East 1st / West 1st at Pappas Street	East	D	E	E	C	D	D
	Southeast	E	E	E	E	F	F

2030 Pedestrian LOS

Table 5-52 and 5-53 present the PLOS during the morning and evening peak hours at each signalized and unsignalized intersection for the 2030 analysis, respectively.

Under the 2030 Full Build condition, all crosswalks at signalized intersection operate at PLOS D or better except for the crosswalks at the intersection of Summer Street/L Street at East 1st Street, and L Street at East Broadway. The intersection of Summer Street at Elkins Street/Elkins Street Extension is not currently signalized, but it is proposed to be signalized under the Build Mitigated scenario. The pedestrian phase is proposed to run concurrent with vehicle traffic and the PLOS at the crosswalks is expected to be PLOS D or better during the morning peak hour. The PLOS for the evening peak hour on north and south crosswalks across Summer Street are expected to improve through signal coordination with Summer Street/L Street at East 1st Street.

Table 5-52 Signalized Intersection – Pedestrian LOS Summary 2030

		AM Peak Hour				PM Peak Hour			
Intersection	Crosswalk	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition	2030 Full-Build Mitigated Condition	2017 Existing Condition	2030 No-Build Condition	2030 Full-Build Condition	2030 Full-Build Mitigated Condition
1. Summer Street at Drydock Avenue/ Pappas Way	East	D	D	D	D	D	D	D	D
	West	D	D	D	D	D	D	D	D
	North	D	D	D	D	D	D	D	D
	South	D	D	D	D	D	D	D	D
2. Summer Street at DFC	East	C	C	C	C	B	B	B	B
	West	C	C	C	C	B	B	B	B
	North	D	D	D	D	D	D	D	D
	South	D	D	D	D	D	D	D	D
3. Summer Street at Elkins Street/ Elkins Street Extension	East	-	-	-	B	-	-	-	B
	West	-	-	-	B	-	-	-	B
	North	-	-	-	D	-	-	-	F
	South	-	-	-	D	-	-	-	F
4. Summer Street/ L Street at East 1st Street	East	E	E	E	B	E	E	E	B
	West	E	E	E	B	E	E	E	B
	North	E	E	E	E	E	E	E	E
	South	E	E	E	E	E	E	E	E
7. L Street at East Broadway	East	F	F	F	F	F	F	F	F
	West	F	F	F	F	F	F	F	F
	North	F	F	F	F	F	F	F	F
	South	F	F	F	F	F	F	F	F
11. L Street at East 5th Street	East	D	D	D	D	D	D	D	D
	West	D	D	D	D	D	D	D	D
	North	D	D	D	D	D	D	D	D
	South	D	D	D	D	D	D	D	D
12. L Street at East 8th Street	East	A	A	A	A	A	A	A	A
	West	A	A	A	A	A	A	A	A
	North	C	C	C	C	C	C	C	C
	South	C	C	C	C	C	C	C	C
13. L Street at William J. Day Boulevard	East	C	C	C	C	C	C	C	C
	West	C	C	C	C	C	C	C	C
14. L Street at Columbia Road	East	A	A	A	A	A	A	A	A
	West	A	A	A	A	A	A	A	A
	North	F	F	F	F	F	F	F	F

For unsignalized intersections, the PLOS is calculated using the crosswalk length and the conflicting vehicular flow rates for the morning and evening peak hours. The analysis was completed for locations that have striped crosswalks only, and illegal crossing movements were not analyzed. Table 5-53presents the PLOS for each unsignalized intersection crosswalk for the morning and evening peak hours.

Table 5-53 Unsignalized Intersection – Pedestrian LOS Summary 2030

		AM Peak Hour			PM Peak Hour		
Intersection	Crosswalk	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition	2017 Existing Condition	2030 No-Build Condition	2030 Full Build Condition
3. Summer Street at Elkins Street/ Elkins Street Extension	East	-	-	A	-	-	A
	West	A	A	A	A	A	A
5. L Street at East 2nd Street	East	A	A	A	A	A	A
	West	A	A	A	A	A	A
	North	F	F	F	F	F	F
	South	F	F	F	F	F	F
6. L Street at East 3rd Street	East	A	A	A	A	A	A
	North	F	F	F	F	F	F
	South	F	F	F	F	F	F
8. East 1st Street at K Street	East	D	D	D	D	E	E
	West	E	F	F	E	F	F
	South	A	A	A	A	A	A
9. East 1st Street at M Street/ M Street Extension	North	-	-	A	-	-	A
	South	A	A	A	A	A	A
10. East 1st / West 1st at Pappas Street	East	F	F	F	F	F	F
	Southeast	A	A	A	A	A	A

Similar to the 2024 conditions, the pedestrian delay is high at many of the unsignalized intersections, as the methodology does not reflect drivers yielding to pedestrians in the crosswalk. In the 2030 Full Build Condition, the PLOS does not change from the 2017 Existing and 2030 No-Build Conditions. The Project is expected to have limited impact on the PLOS upon completion.

5.14 Transportation Mitigation Measures

5.14.1 Phasing of Proposed Physical and Operational Improvements

As previously discussed, the Project proposes certain physical and operational transportation improvements to mitigate the transportation related Project impacts. These mitigation measures include the following:

Signal Timing Adjustments

- Summer Street/L Street at East 1st Street
- L Street at East Broadway

Signalization of Intersection

- Summer Street at Elkins Street/Elkins Street Extension

Roadway Modifications

- Summer Street from East 1st Street to the DFC
- East 1st Street from Summer Street to M Street/M Street Extension

As the Project has been designed to be completed in phases, the implementation of the mitigation measures described above are proposed to be appropriately phased. The transportation improvements to be implemented in association with each phase are summarized in Table 5-54 below. Please note that public realm improvements and their phasing are described in Chapter 1, *Project Description*.

Table 5-54 Phasing of Potential Transportation Mitigation

Proposed Mitigation	Implementation Timeline
Additional MBTA Bus Service (Private/Public Partnership)	Q1 2019
M Street Extension and crosswalks	2020 – 2024
East 1st Street bike accommodations	2020 – 2024
East 1st Street sidewalk widening	2020 – 2024
East 1st Street right-turn lane striping	2020 – 2024
Signal Timing Changes at Summer Street/L Street at East 1st Street	2020 – 2024
Signal Timing Changes at L Street at East Broadway	2020 – 2024
Summer Street reconstruction (separated bike lanes, sidewalks widened, bus stop improvements)	2024 – 2030
Signal installation at Summer Street at Elkins Street/Elkins Street Extension	2024 – 2030
Signal equipment and phasing updates at Summer Street/ L Street at East 1st Street	2024 – 2030
Blue Bike station installation	2024 – 2030
Turbine Hall Road Connection	2030 and beyond
Service drive to DFC Connection	2030 and beyond
Signal Timing Changes at L Street at East Broadway	2030 and beyond

5.14.2 Transportation Demand Management (TDM)

The proposed TDM measures aim to reduce drive-alone trips, or single occupancy vehicles ("SOVs"), by encouraging employees, residents, and visitors to use alternative modes of transportation. The following general TDM measures apply to all Project Components:

- One new Blue Bike station located on the public way.
- Designate a Transportation Coordinator to oversee the implementation of the TDM measures. The Transportation Coordinator will act as the contact and liaison

for the City, local Transportation Management Association ("TMA"), and tenants/residents of the Project.

- Post and make available transit maps, schedules, and other information relevant to commuting options in the office and residential building lobbies.
- Provide real-time transportation information in all new lobbies within each Project component using Transit Screen or other similar products including online platforms.
- Provide preferential parking to carpool and vanpool participants.
- Join Seaport TMA which provides a variety of commuter benefits.
- Participate in transportation awareness events including: Car-Free Week, MassCommute Bicycle Challenge, and Lunchtime Walking Series.
- On-site transportation fairs and commuter related events.

5.14.3 Residential TDM Measures

The proposed residential TDM measures outlined below will be available to all residents of the Project:

- Residents of the Project are proposed to have access to up to 1,391 long-term covered and secured bicycle parking spaces located in the garages.

5.14.4 Office TDM Measures

The proposed office tenant TDM measures outlined below will be available to all Project office tenants:

- Employees of the Project are proposed to have access up to 110 long-term covered and secured bicycle parking spaces located in the garages.

5.14.5 Monitoring Program

The Proponent is committed to conducting a Transportation Monitoring Program. The intent of the monitoring program is to confirm that the post-development impacts of the Project are consistent with the forecast estimates and to ensure that the mitigation measures are completed and/or maintained. The monitoring program is expected to include the following elements:

- **Employee and Resident Survey –** A survey will be distributed to determine commuting modes to/from the Project Site, transit ridership, bicycle parking utilization, occupancy of car-sharing parking spaces, occupancy of alternative fueled vehicle parking spaces, electric vehicle charging station demand and usage, and overall parking demands.
- **Garage Volume Data –** Collection of traffic volume information will be collected over a continuous seven-day period at each garage entrance/exit.

- **Verification of Mitigation Measures –** The implementation of the proposed mitigation measures, TDM measures, parking accommodations, and on-site amenities will be verified.
- **Traffic Data Collection –** Traffic data (i.e., turning movement counts for vehicles, pedestrians, bicycles) will be collected during the weekday morning peak period (7:00 AM – 9:00 AM) and evening peak period (4:00 PM – 6:00 PM) and operations analysis performed at "mitigated" intersections, including those involving garage entrances.
- **Monitoring Program Schedule and Reporting –** This monitoring will be performed annually commencing six months after full completion and occupancy of the first building will continue for a period of five years after occupancy of the full build-out of the Project. Should subsequent phases extend beyond five years, the traffic monitoring program will cease until the next phase of the Project is completed. Results of the monitoring program will be summarized in a technical memorandum, including an update on TDM effectiveness and transit ridership, and will be provided to the MassDOT and BTD.

5.14.6 Construction Management Plans

Refer to Section 6.6 of Chapter 6, *Environmental Protection*, for additional detail on construction management. A draft Construction Management Plan is provided in Appendix G.

5.15 Transportation Access Plan Agreement (TAPA)

The Proponent will enter into one or more Transportation Access Plan Agreements ("TAPAs") with the Boston Transportation Department for each Project Component which will formalize and document all transportation mitigation and TDM commitments. The TAPAs will assign TDM implementation to the appropriate responsible entity within each of the Project Components be that the building owner, an employer, or tenant.

Mitigation commitments are the result of the detailed transportation analyses and identification of Project impacts, as documented in the above chapter, and specific agreements made between the Proponent and the City of Boston. Specific mitigation measures have not been discussed with the City at this time. Upon the City's review of this transportation analysis and assessment of Project impacts, TDM commitments will be discussed and agreed upon for each phase of the Project. A TAPA will be executed for each Project component in advance of its building permit issuance.

Source: ArcGIS Bing Aerial, MassGIS

Figure 5.1

Study Area Intersections

L Street Station Redevelopment
Boston, Massachusetts

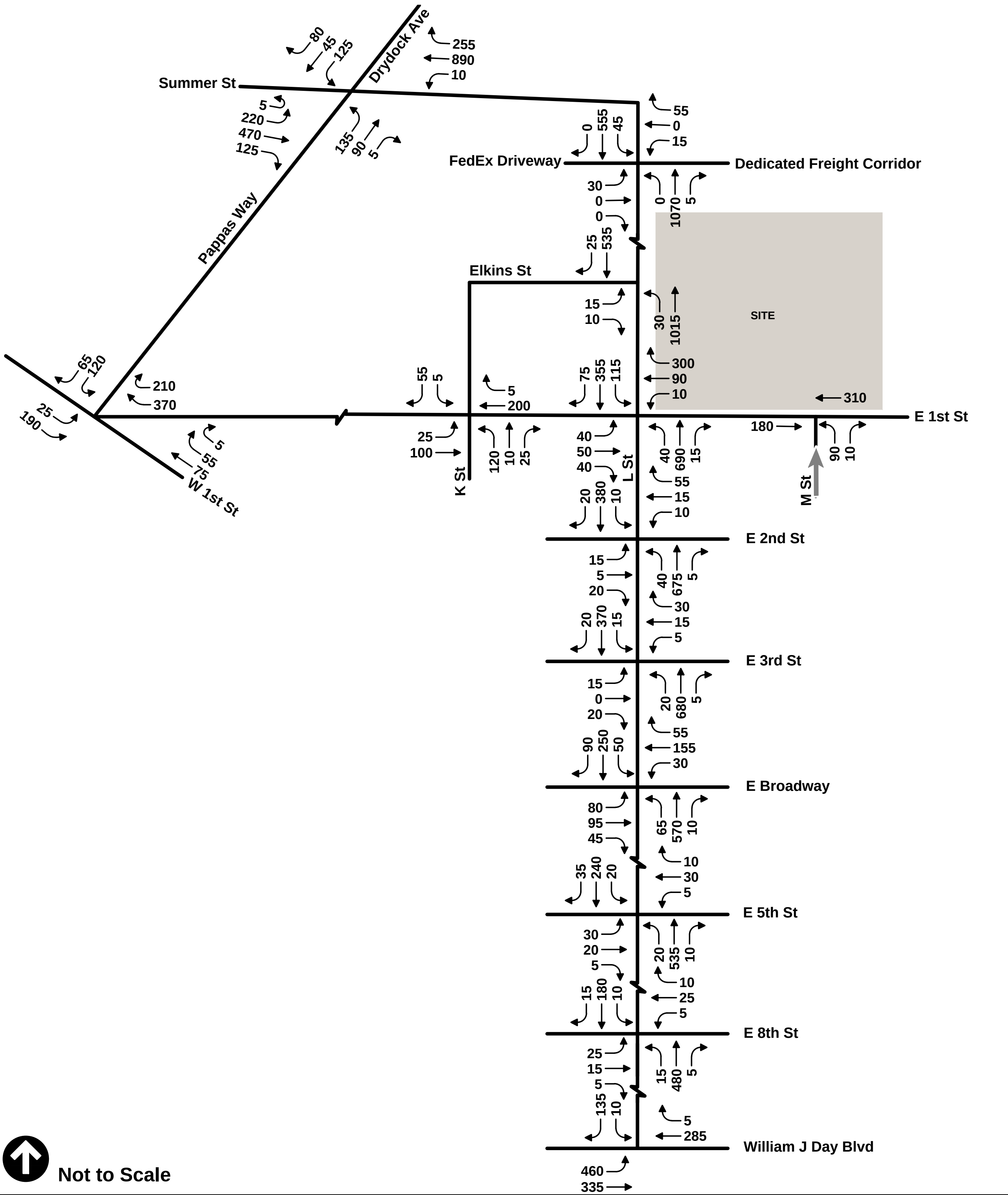


Figure 5.2a

2017 Existing Condition Traffic Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

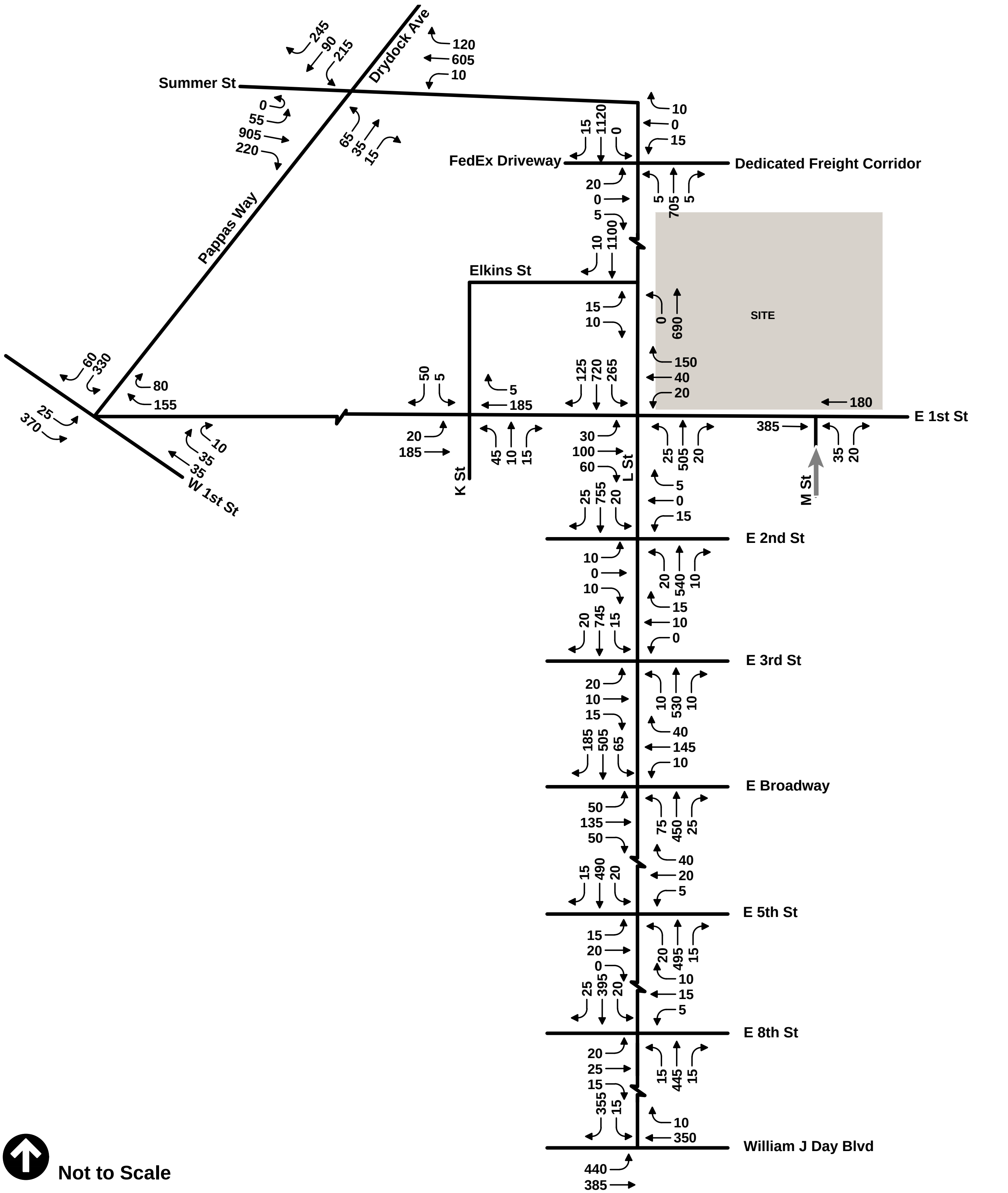
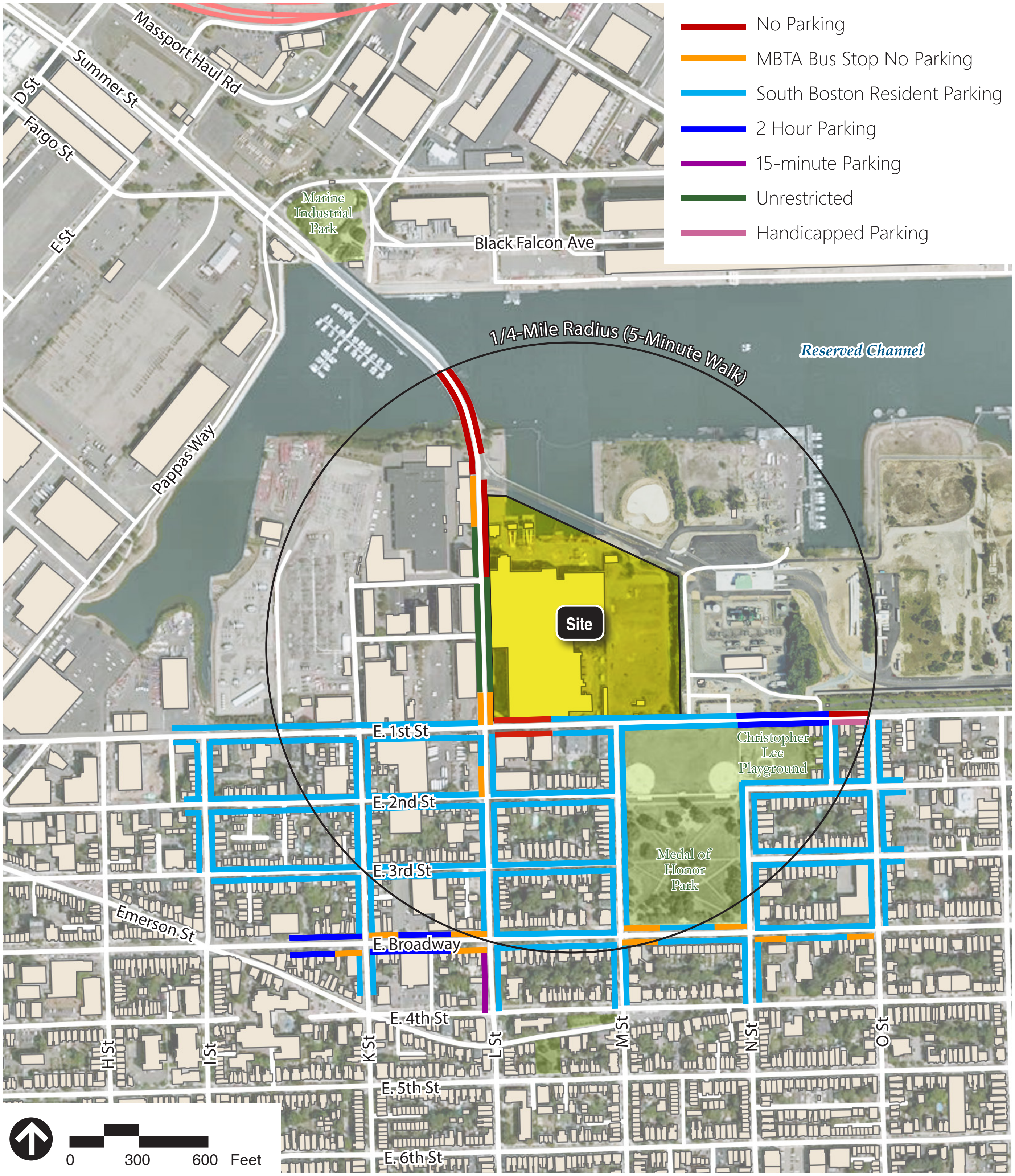


Figure 5.2b

2017 Existing Condition Traffic Volumes
PM Peak Hour (5:00 PM - 6:00 PM)

L Street Station Redevelopment
South Boston, Massachusetts

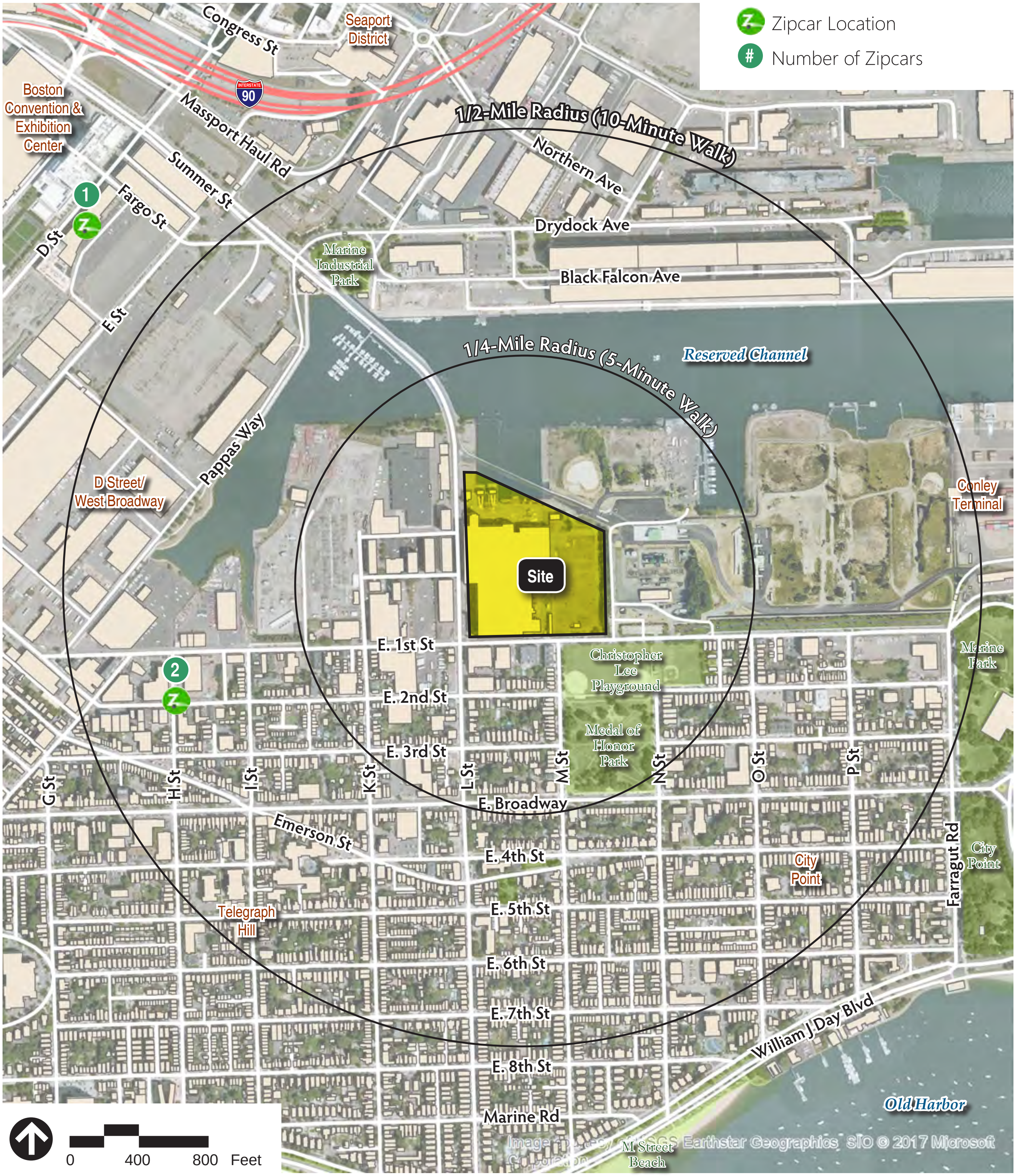


Source: ArcGIS Bing Aerial, MassGIS

Figure 5.3a

On-Street Parking Inventory

L Street Station Redevelopment
Boston, Massachusetts

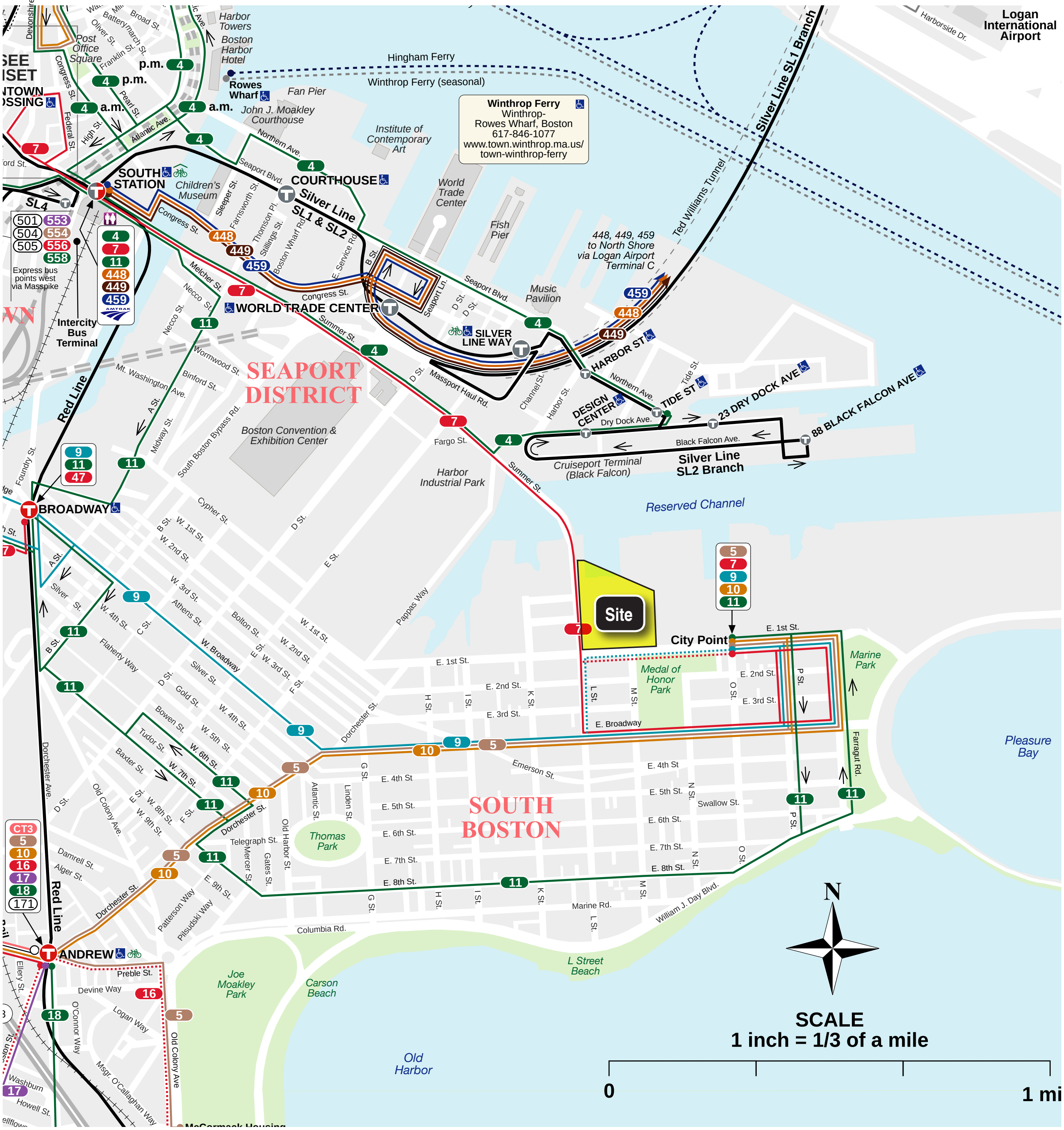


Source: ArcGIS Bing Aerial, MassGIS

Figure 5.3b

Car Sharing Locations

L Street Station Redevelopment
Boston, Massachusetts

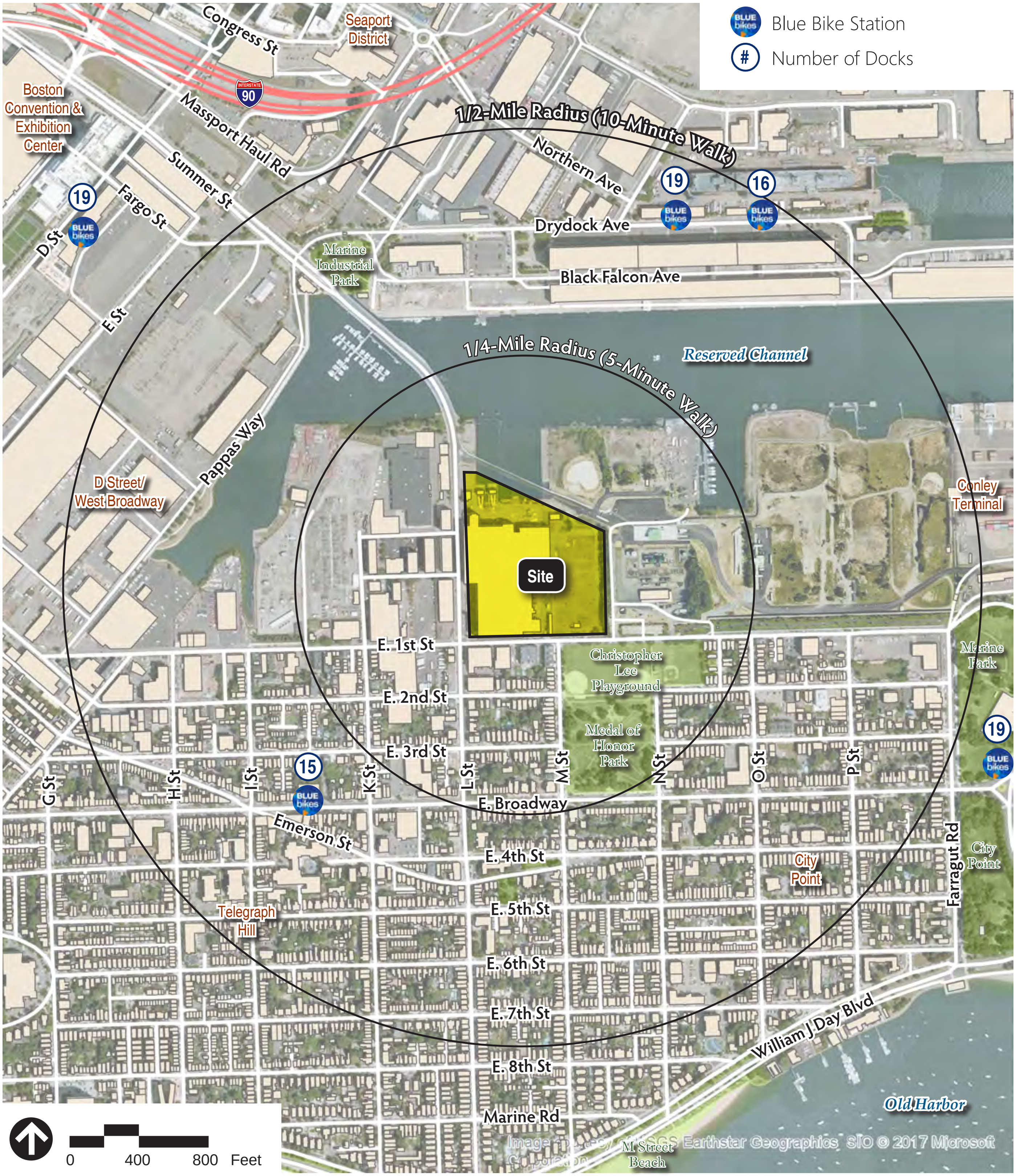


Source: MBTA.com

Figure 5.4

Public Transportation

L Street Station Redevelopment
Boston, Massachusetts



Source: ArcGIS Bing Aerial, MassGIS

Figure 5.5

Blue Bike Station Map

L Street Station Redevelopment
Boston, Massachusetts

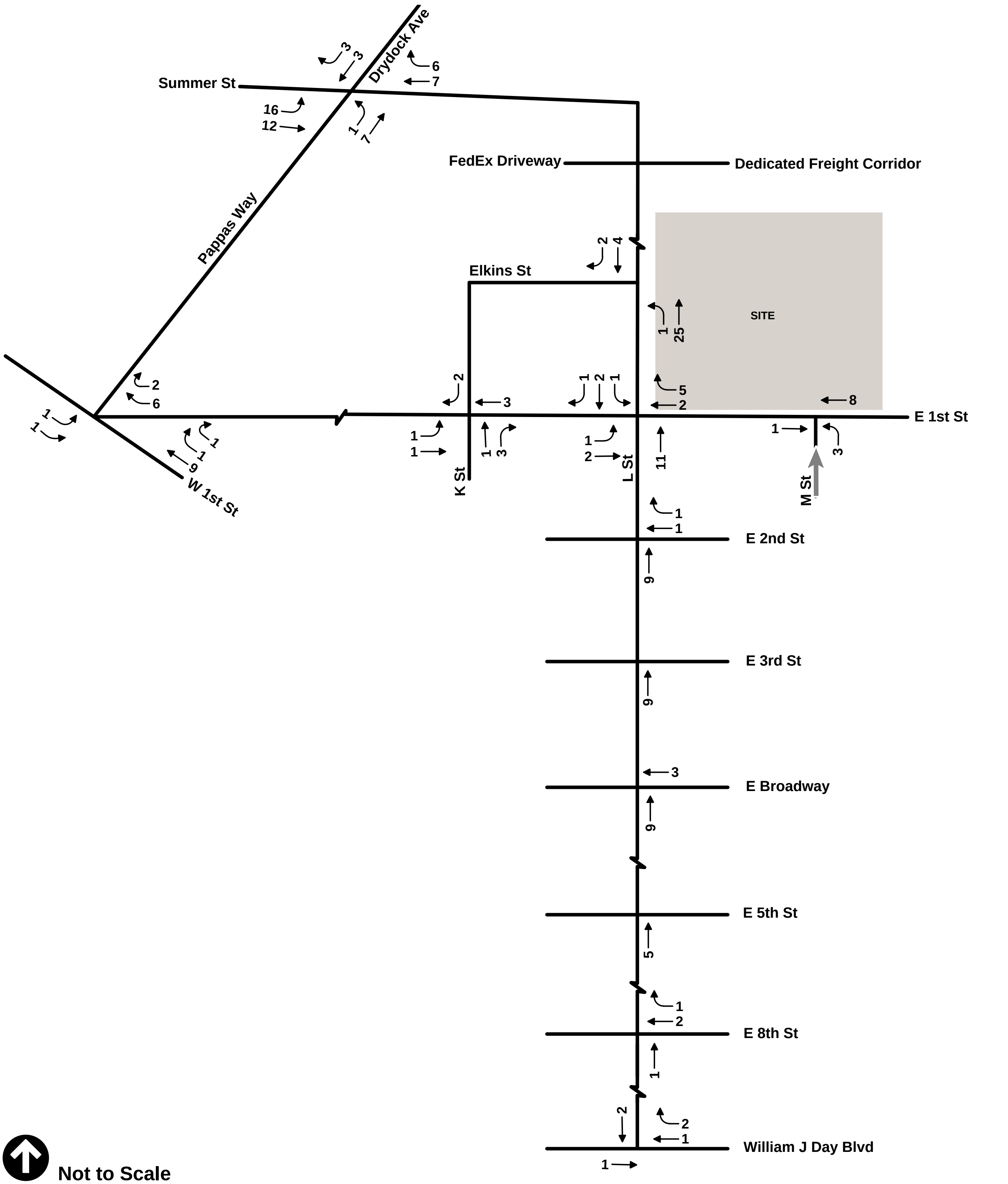


Figure 5.6a

2017 Existing Condition Bicycle Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

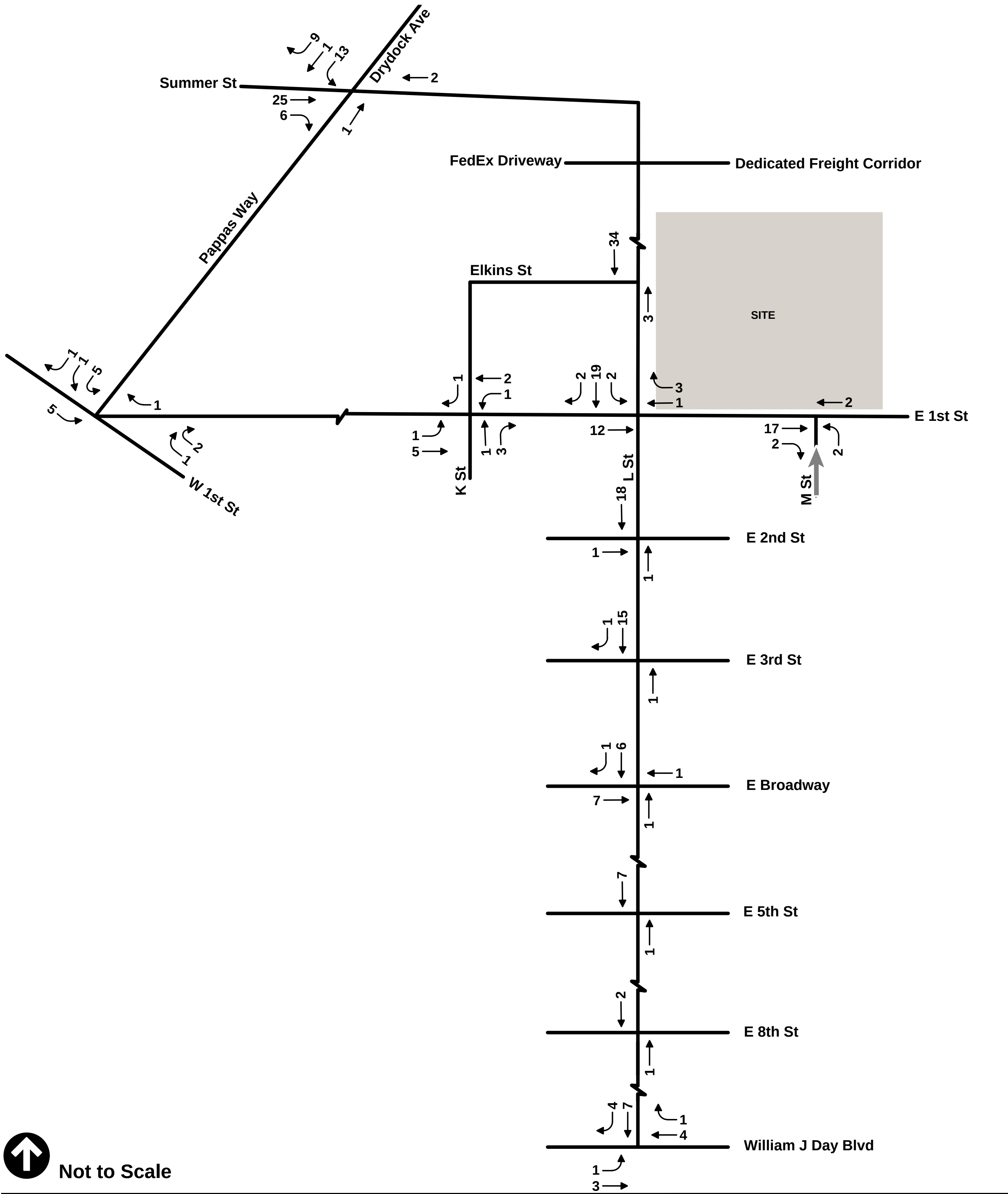


Figure 5.6b

2017 Existing Condition Bicycle Volumes
PM Peak Hour (5:00 PM - 6:00 PM)

L Street Station Redevelopment
South Boston, Massachusetts

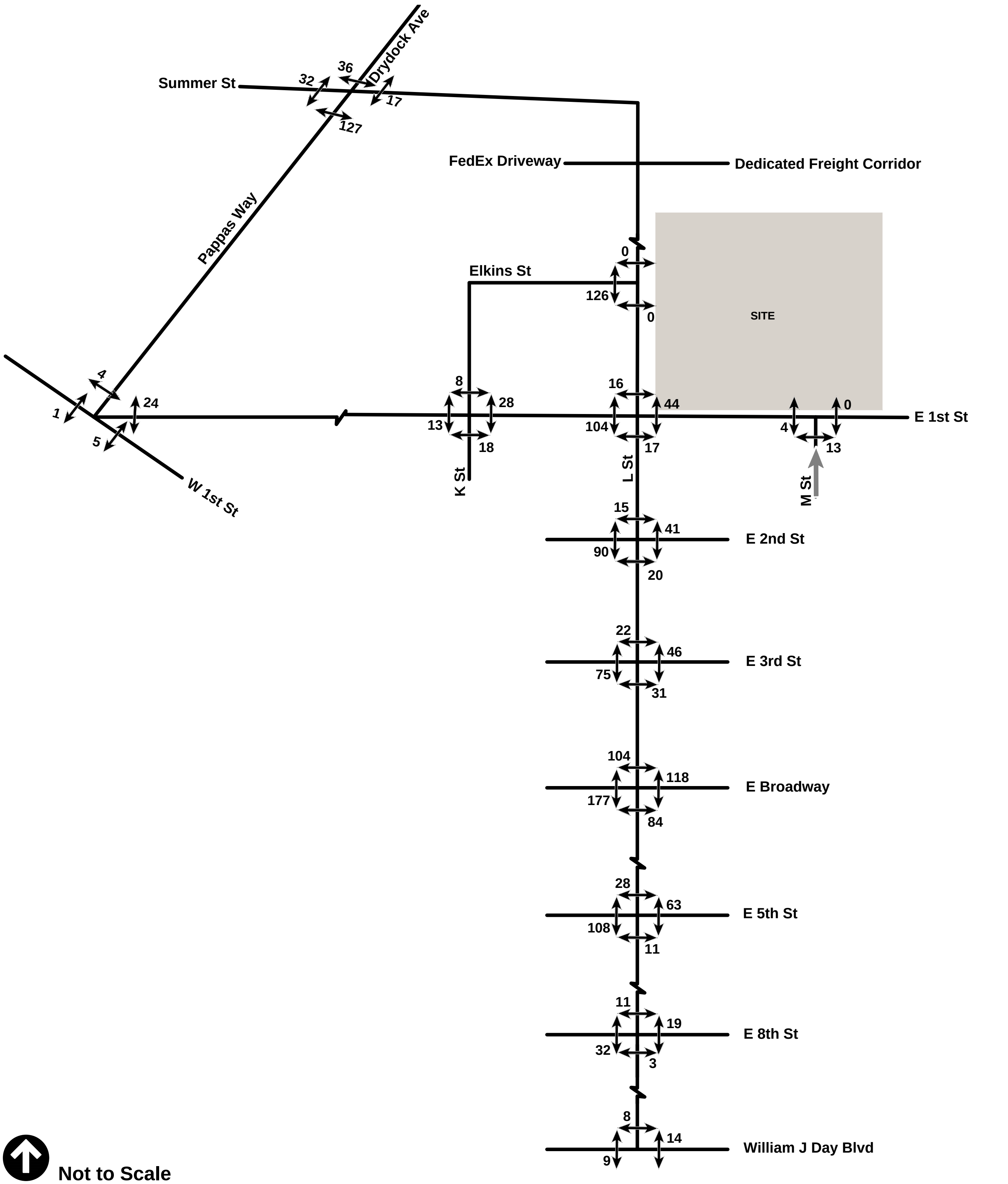


Figure 5.7a

2017 Existing Condition Pedestrian Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

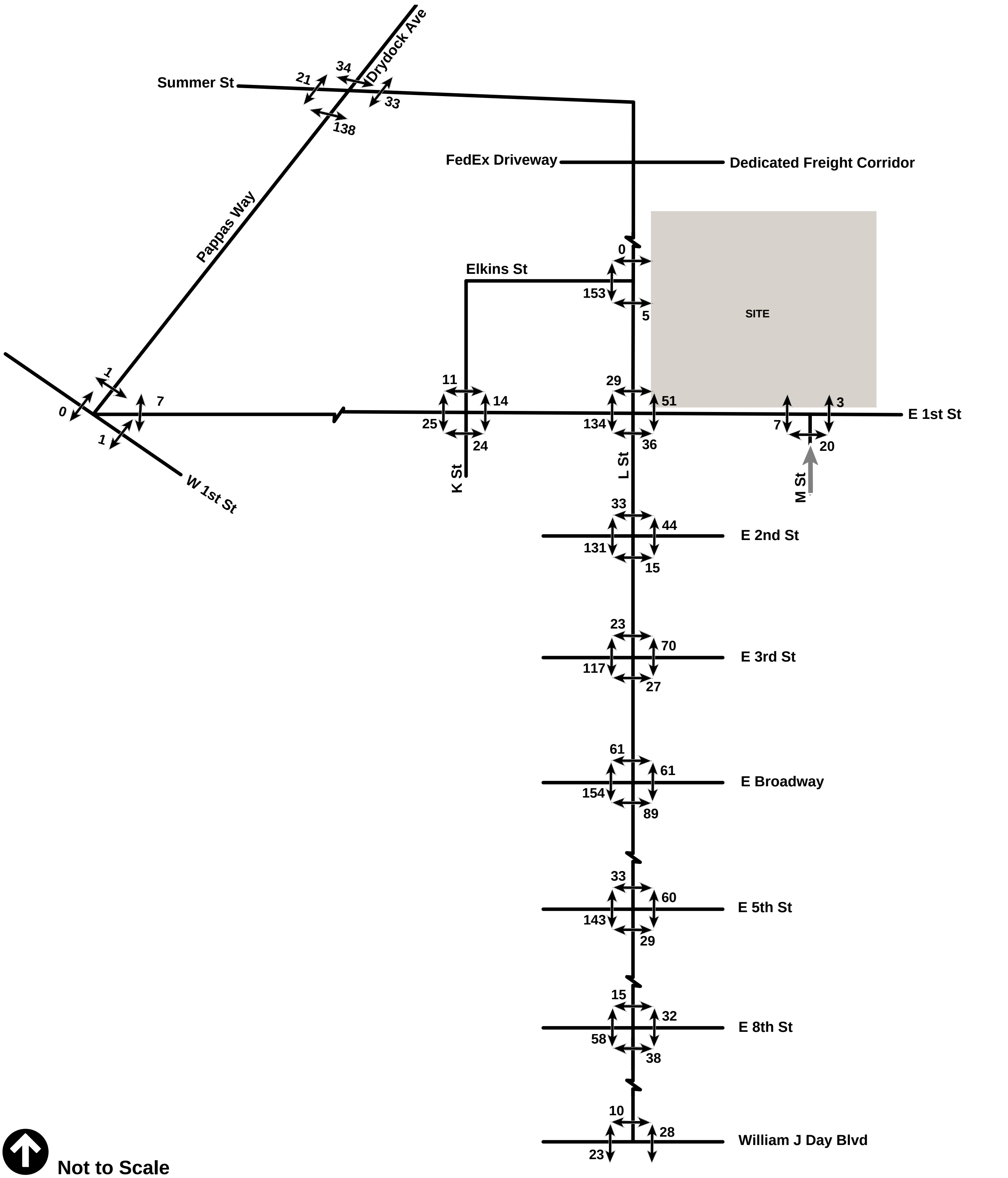
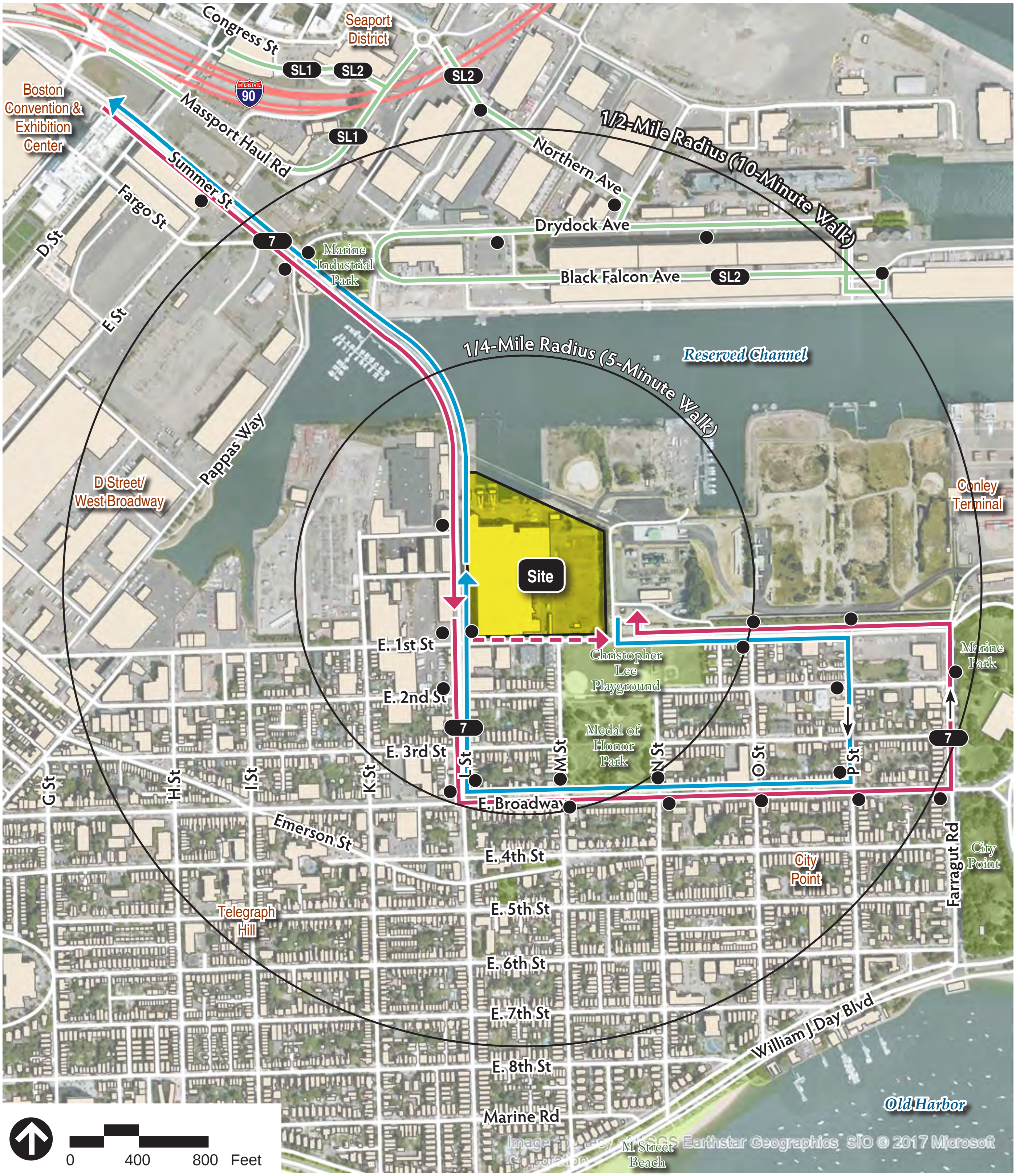


Figure 5.7b

2017 Existing Condition Pedestrian Volumes
PM Peak Hour (5:00 PM - 6:00 PM)

L Street Station Redevelopment
South Boston, Massachusetts



Source: ArcGIS Online Bing Aerial

Inbound Service (City Point to Downtown)

Outbound Service (Downtown to City Point)

Reduced Route for AM Outbound Trips

Bus Stop

vhb

Figure 5.7c

Walking Distance Map

L Street Station Redevelopment
Boston, Massachusetts

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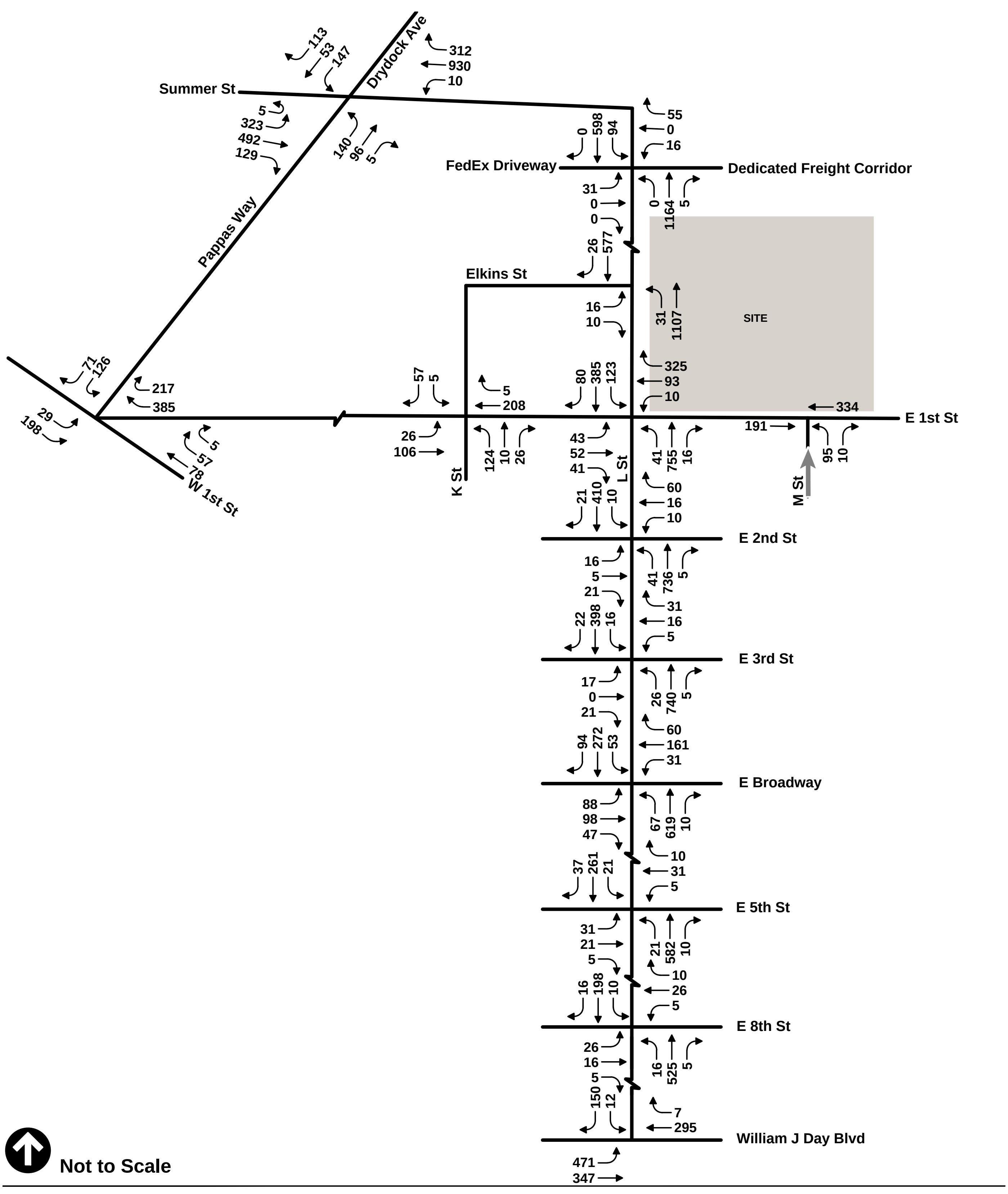


Figure 5.8a

2024 No-Build Condition Traffic Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

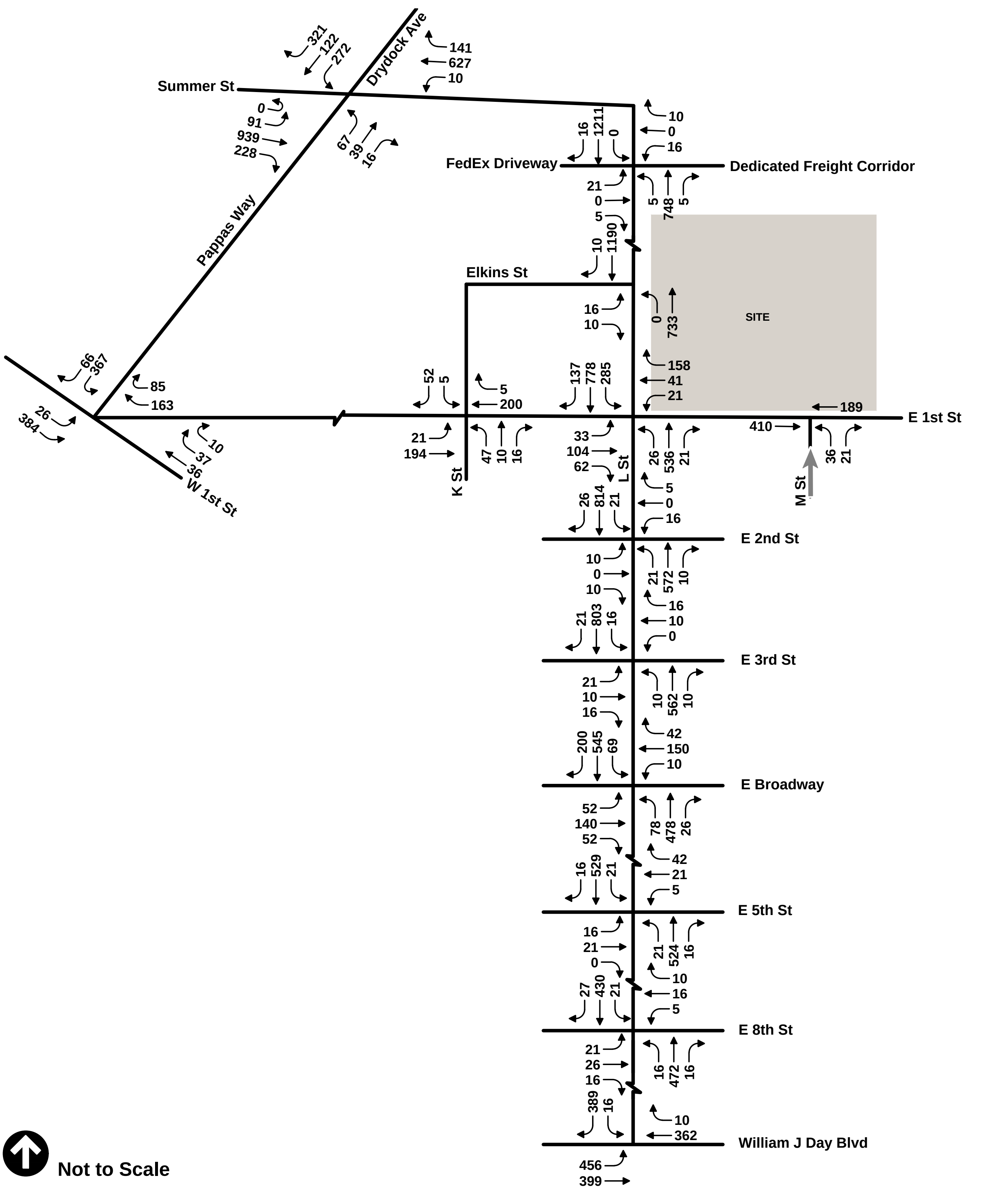


Figure 5.8b

2024 No-Build Condition Traffic Volumes
PM Peak Hour (5:00 PM - 6:00 PM)

L Street Station Redevelopment
South Boston, Massachusetts

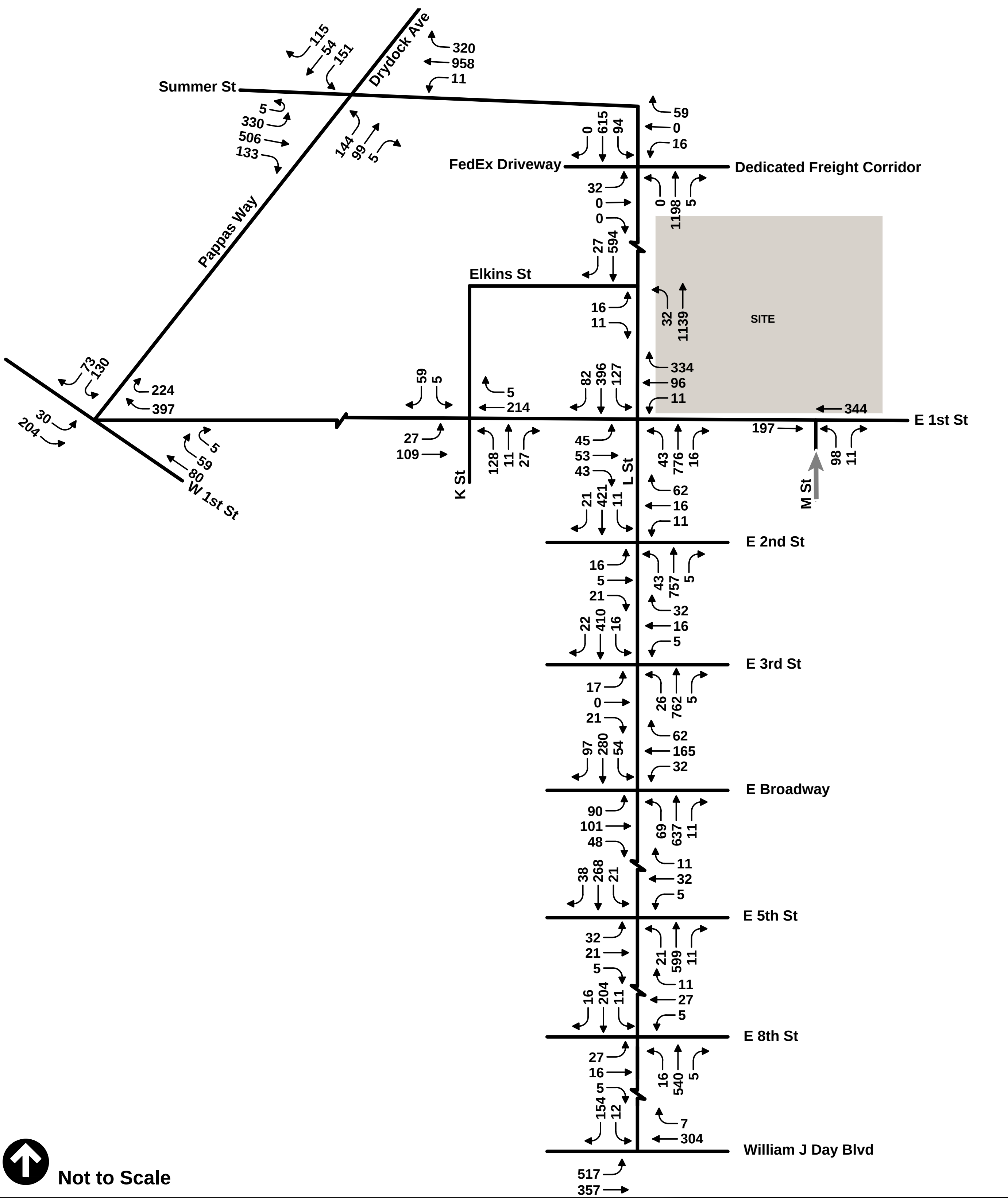


Figure 5.9a

2030 No-Build Condition Traffic Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

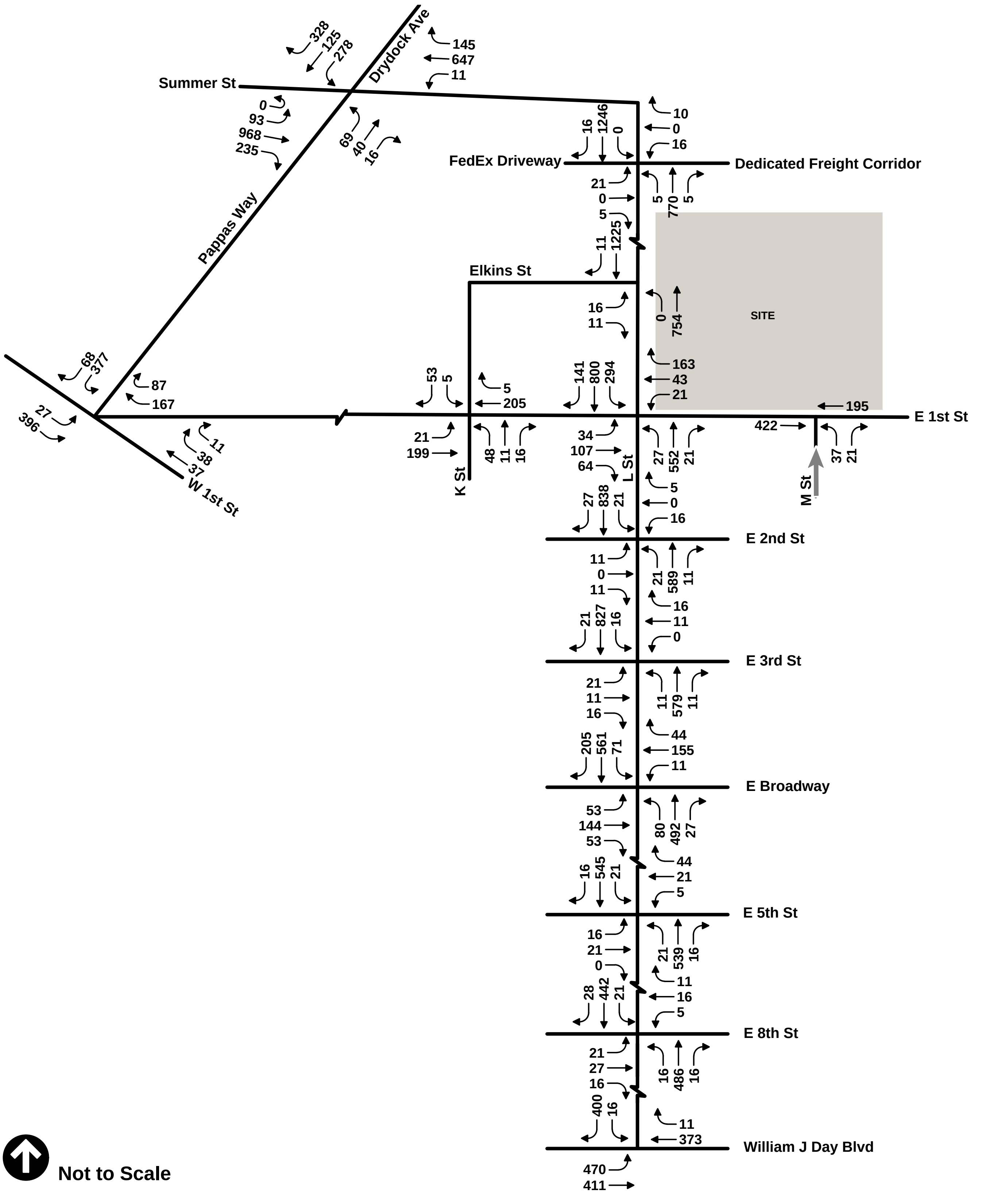


Figure 5.9b

2030 No-Build Condition Traffic Volumes
PM Peak Hour (5:00 PM - 6:00 PM)

L Street Station Redevelopment
South Boston, Massachusetts

Source: ArcGIS Bing Aerial, MassGIS

Figure 5.10

Project Trip Distribution

L Street Station Redevelopment
Boston, Massachusetts

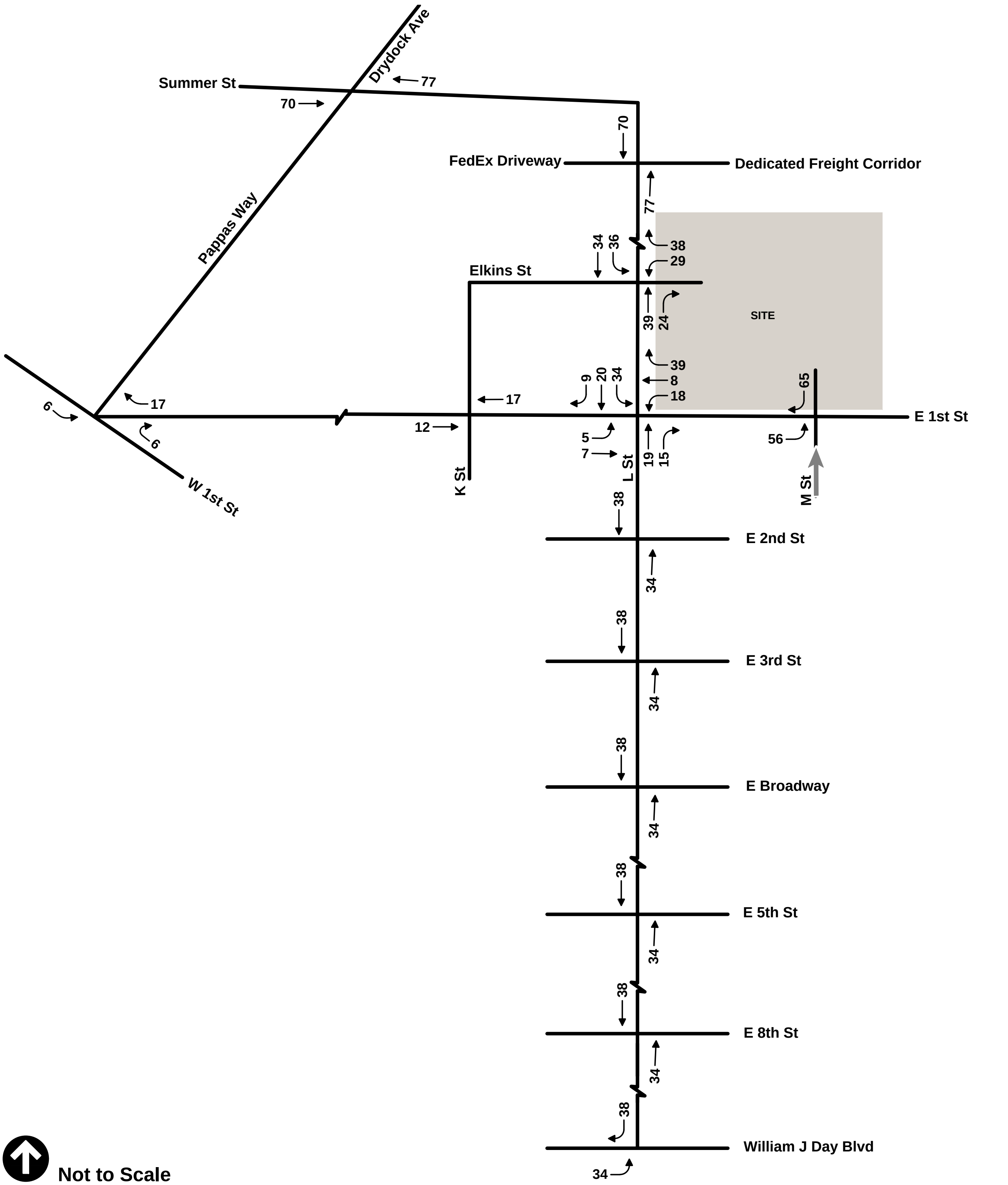


Figure 5.11a

2024 Project-Generated Trips
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

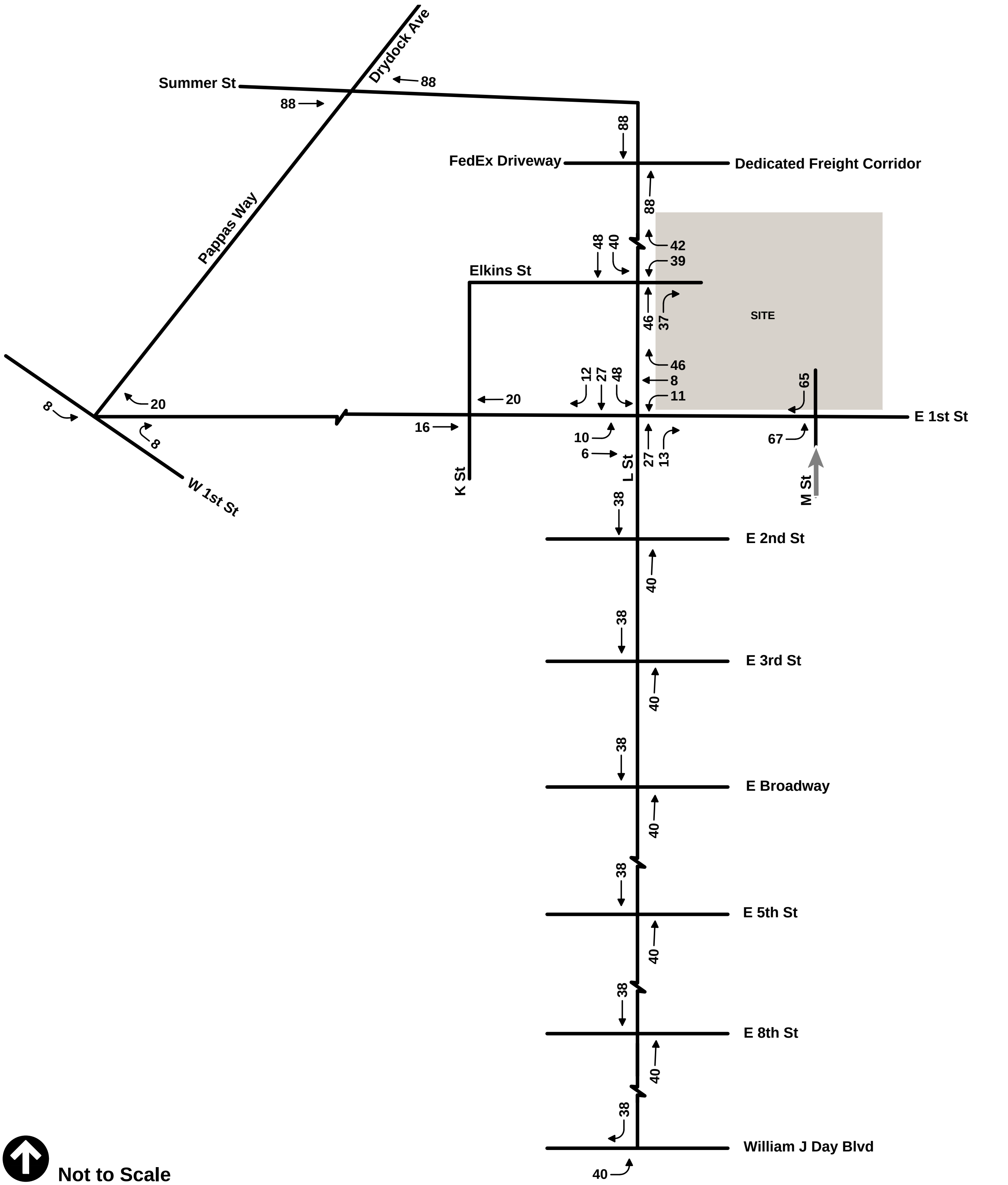


Figure 5.11b

2024 Project-Generated Trips
PM Peak Hour (5:00 PM - 6:00 PM)

L Street Station Redevelopment
South Boston, Massachusetts

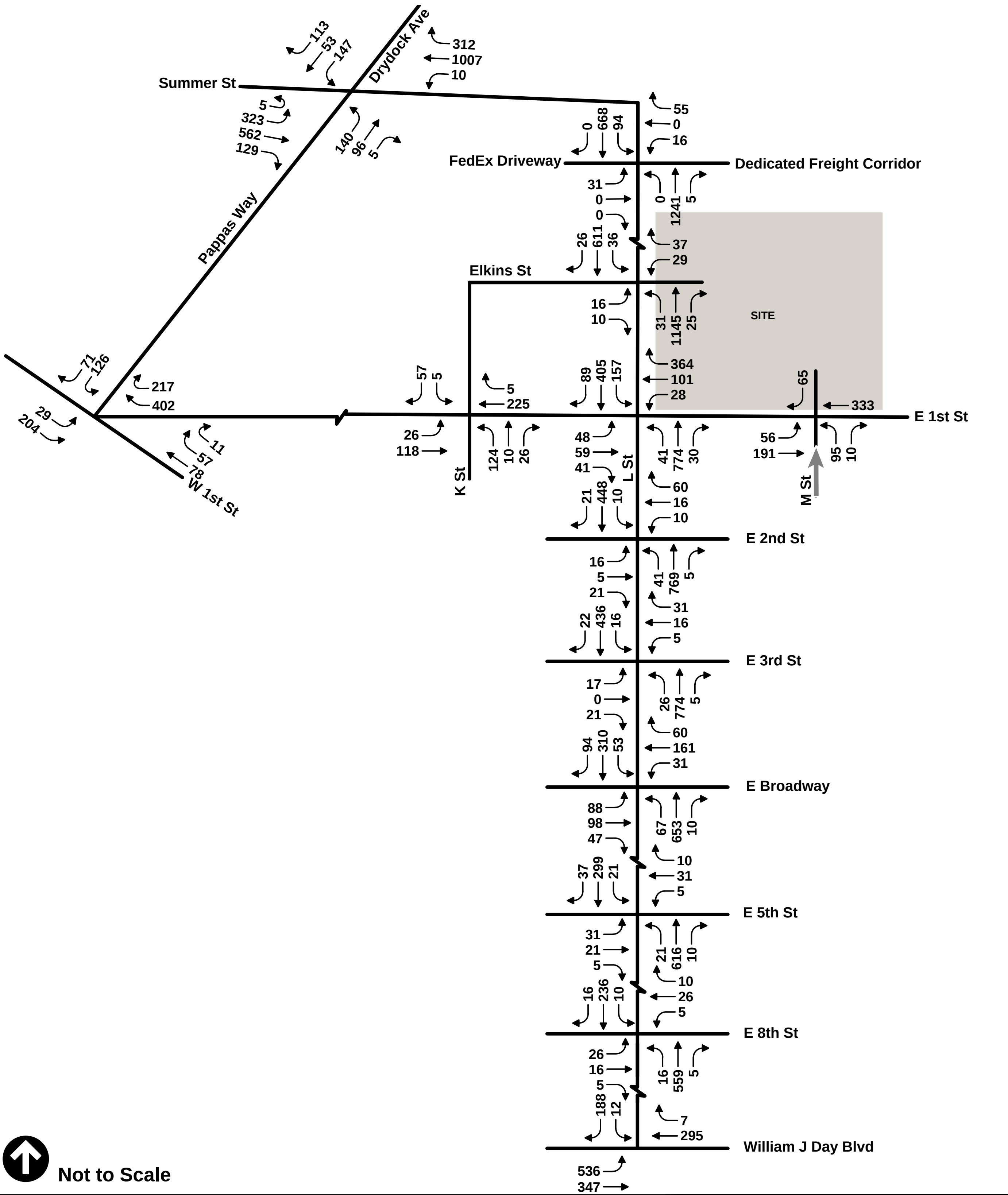


Figure 5.12a

2024 Build Condition Traffic Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

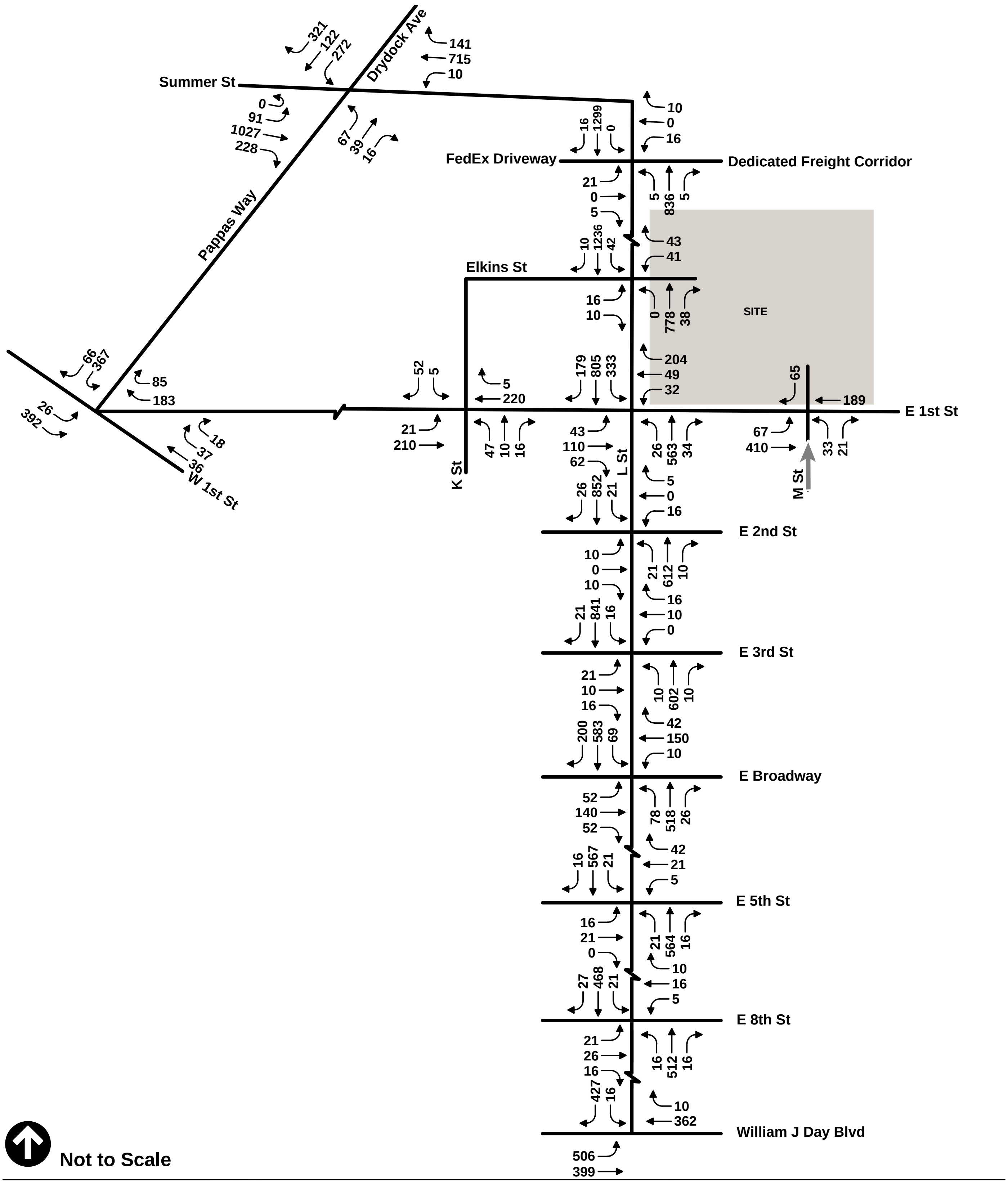


Figure 5.12b

2024 Build Condition Traffic Volumes
PM Peak Hour (5:00 PM - 6:00 PM)

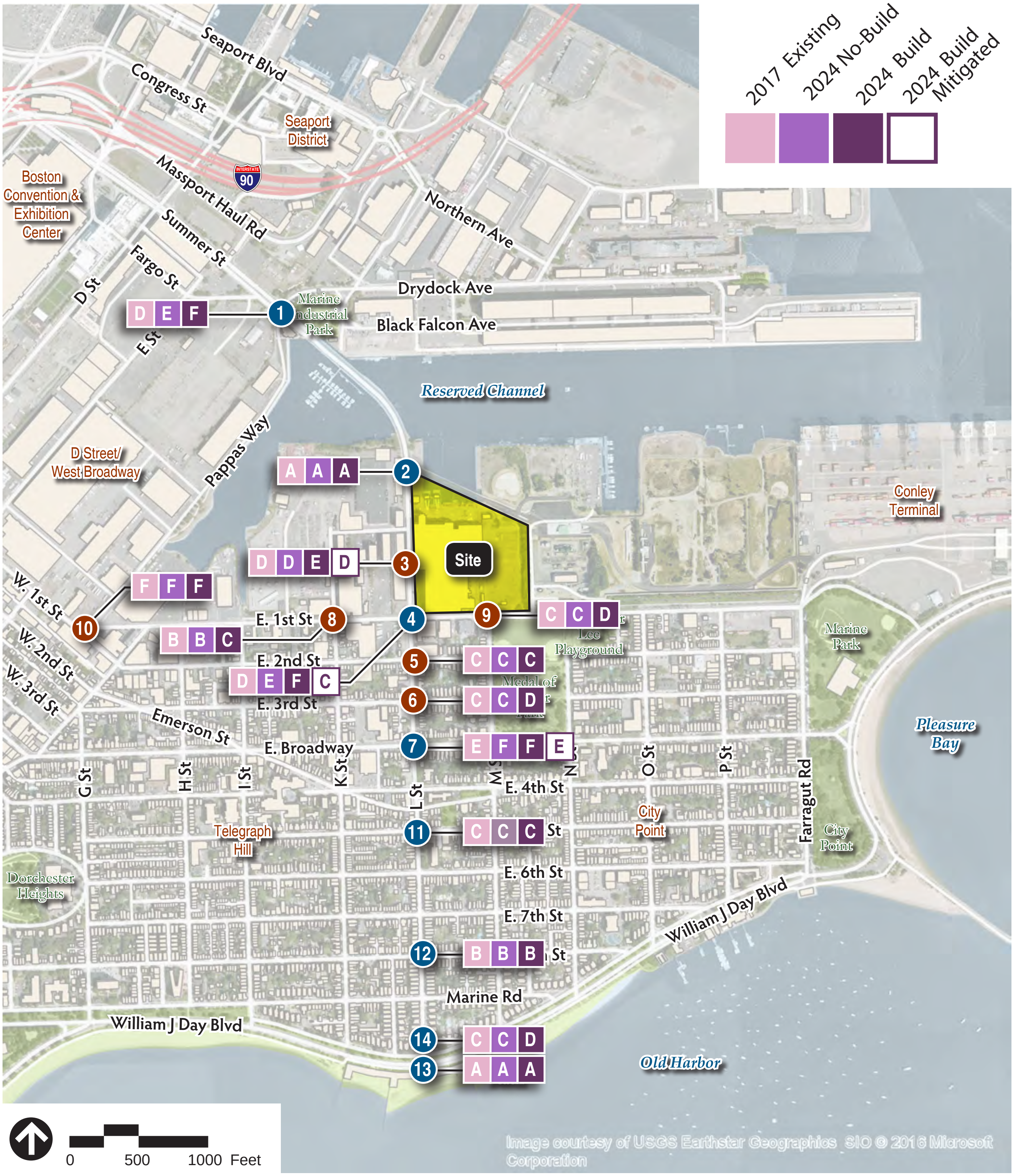
L Street Station Redevelopment
South Boston, Massachusetts

Source: ArcGIS Bing Aerial, MassGIS

Figure 5.13a

2024 Overall Intersection LOS Results
AM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



Source: ArcGIS Bing Aerial, MassGIS

Figure 5.13b

2024 Overall Intersection LOS Results
PM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts

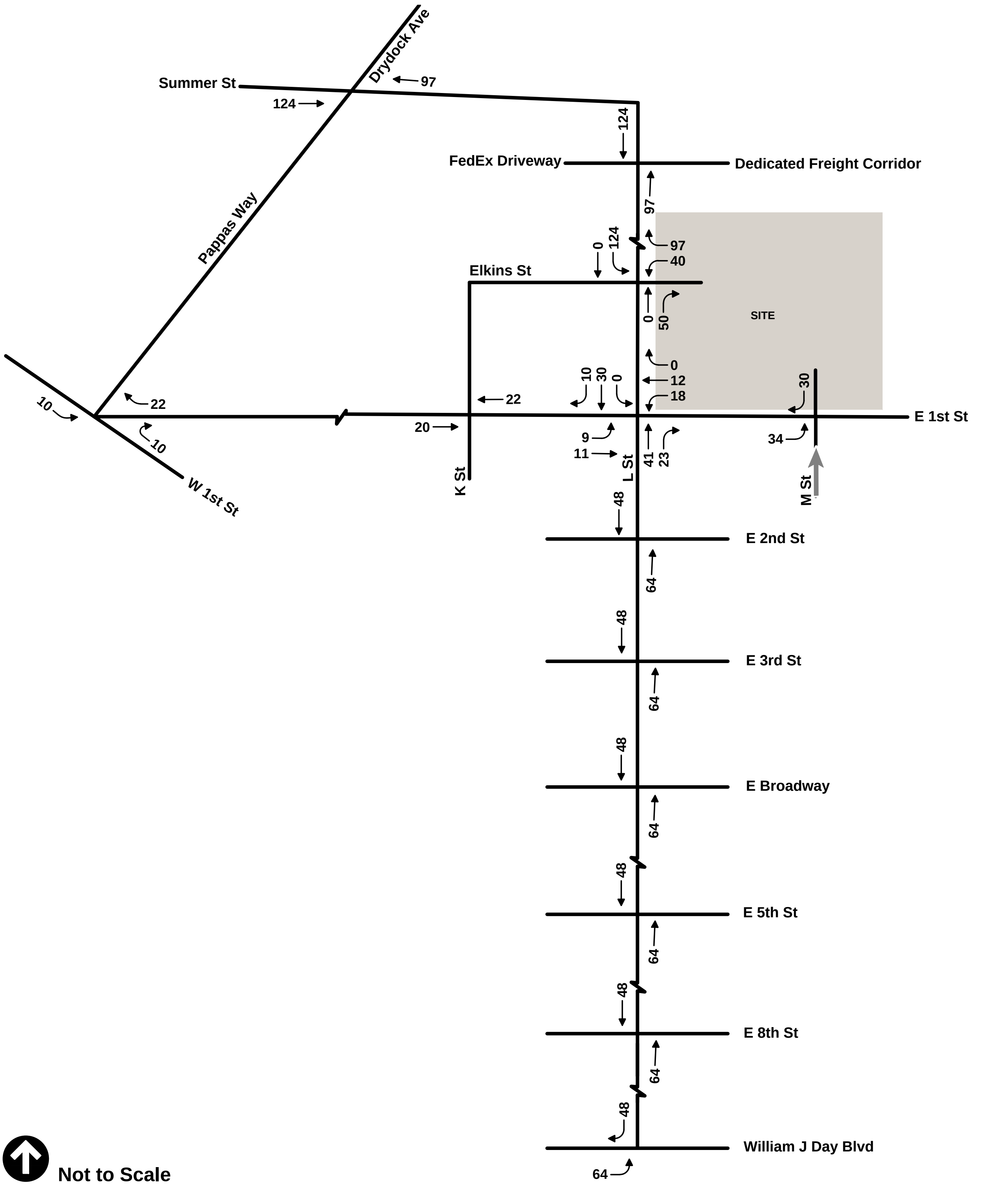


Figure 5.14a

2030 Project-Generated Trips
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

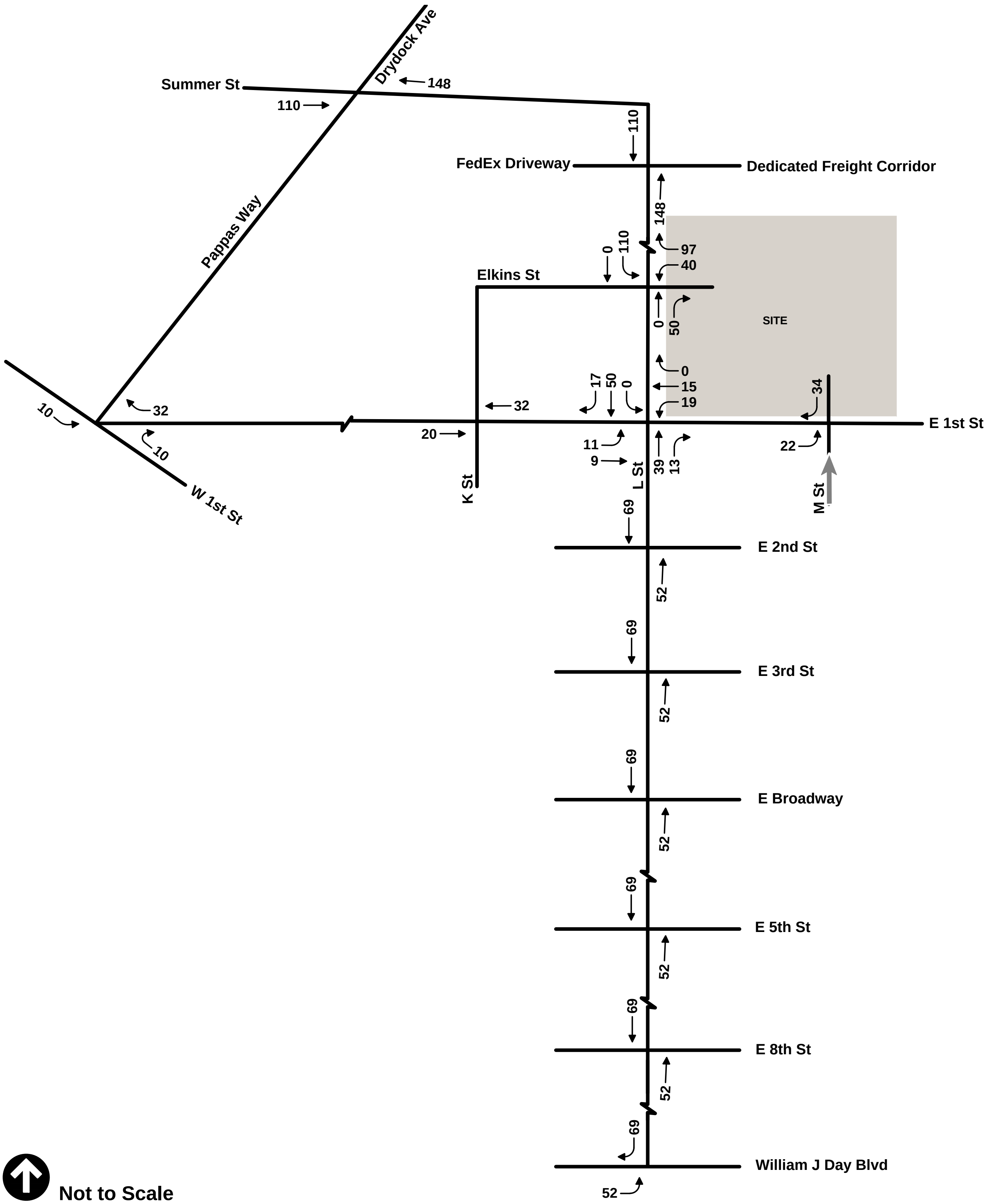


Figure 5.14b

2030 Project-Generated Trips
PM Peak Hour (5:00 PM - 6:00 PM)

L Street Station Redevelopment
South Boston, Massachusetts

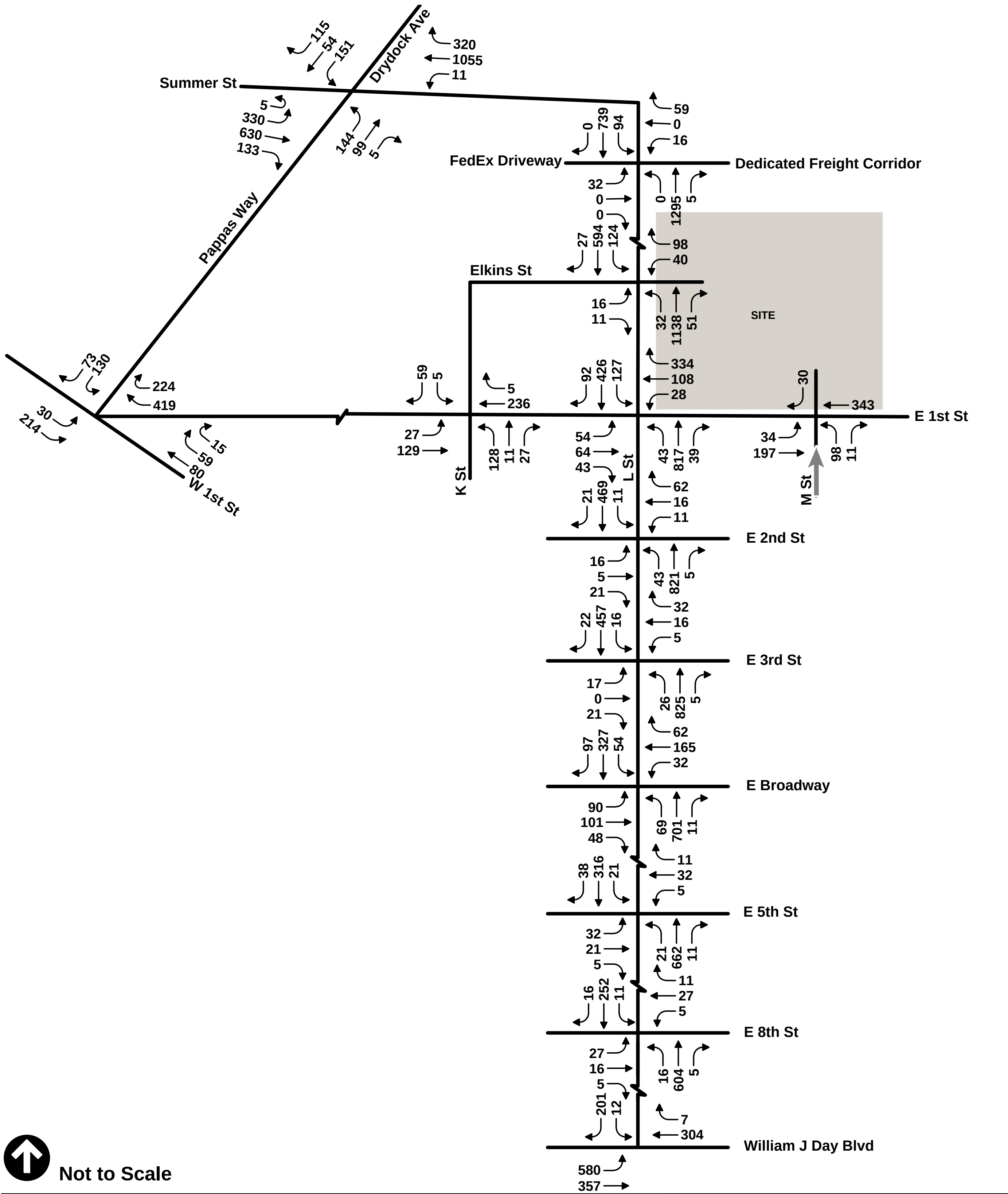


Figure 5.15a

2030 Build Condition Traffic Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

L Street Station Redevelopment
South Boston, Massachusetts

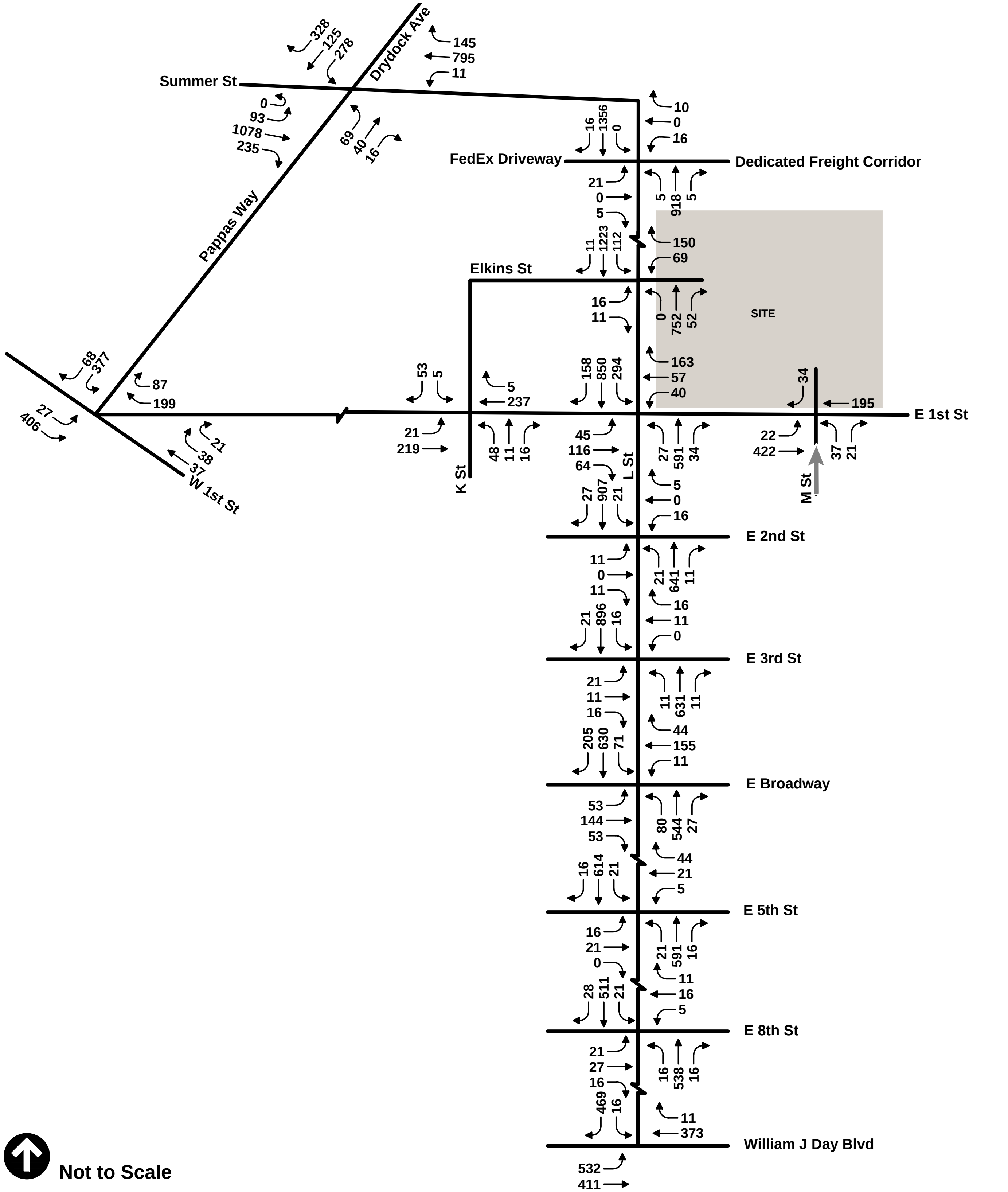


Figure 5.15b

2030 Build Condition Traffic Volumes
PM Peak Hour (5:00 PM - 6:00 PM)

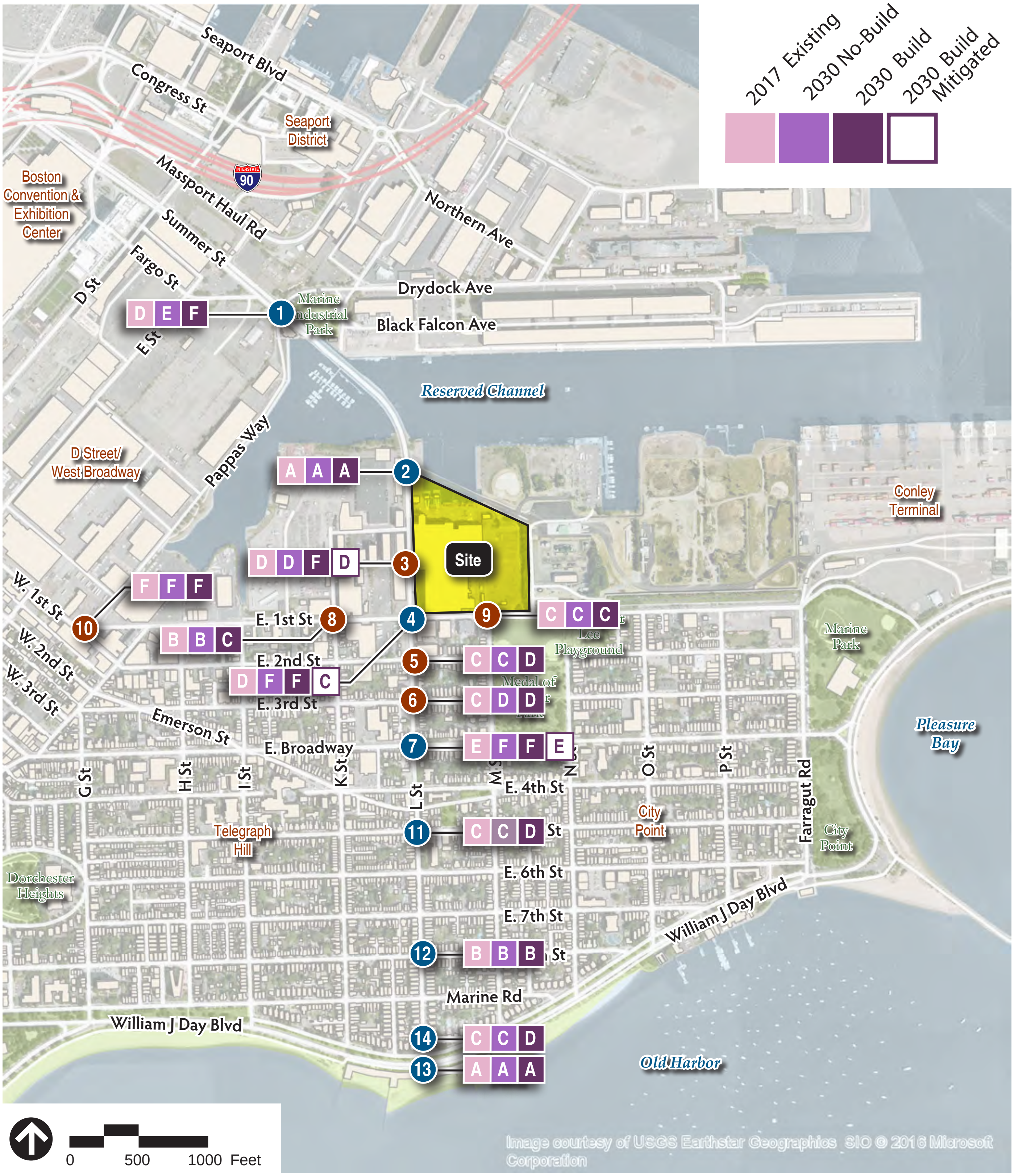
L Street Station Redevelopment
South Boston, Massachusetts

Source: ArcGIS Bing Aerial, MassGIS

Figure 5.16a

2030 Overall Intersection LOS Results
AM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



Source: ArcGIS Bing Aerial, MassGIS

vhb

Figure 5.16b

2030 Overall Intersection LOS Results
PM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts

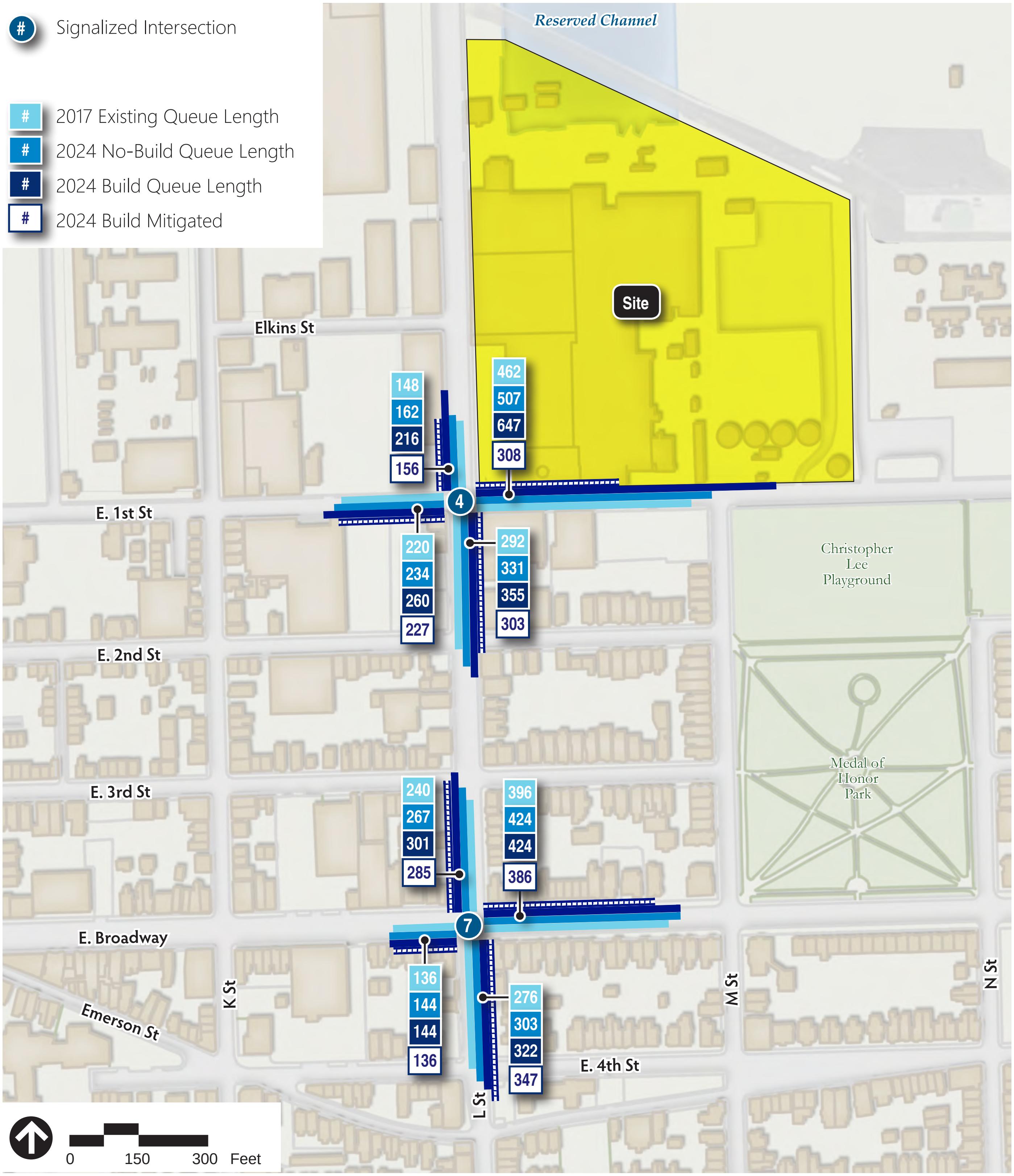
Source: Boston Planning & Development Agency

Note 50% queue length represents a modeled average condition

Figure 5.17a

2017 Existing, 2024 No-Build, 2024 Build
50th Percentile Queues, AM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



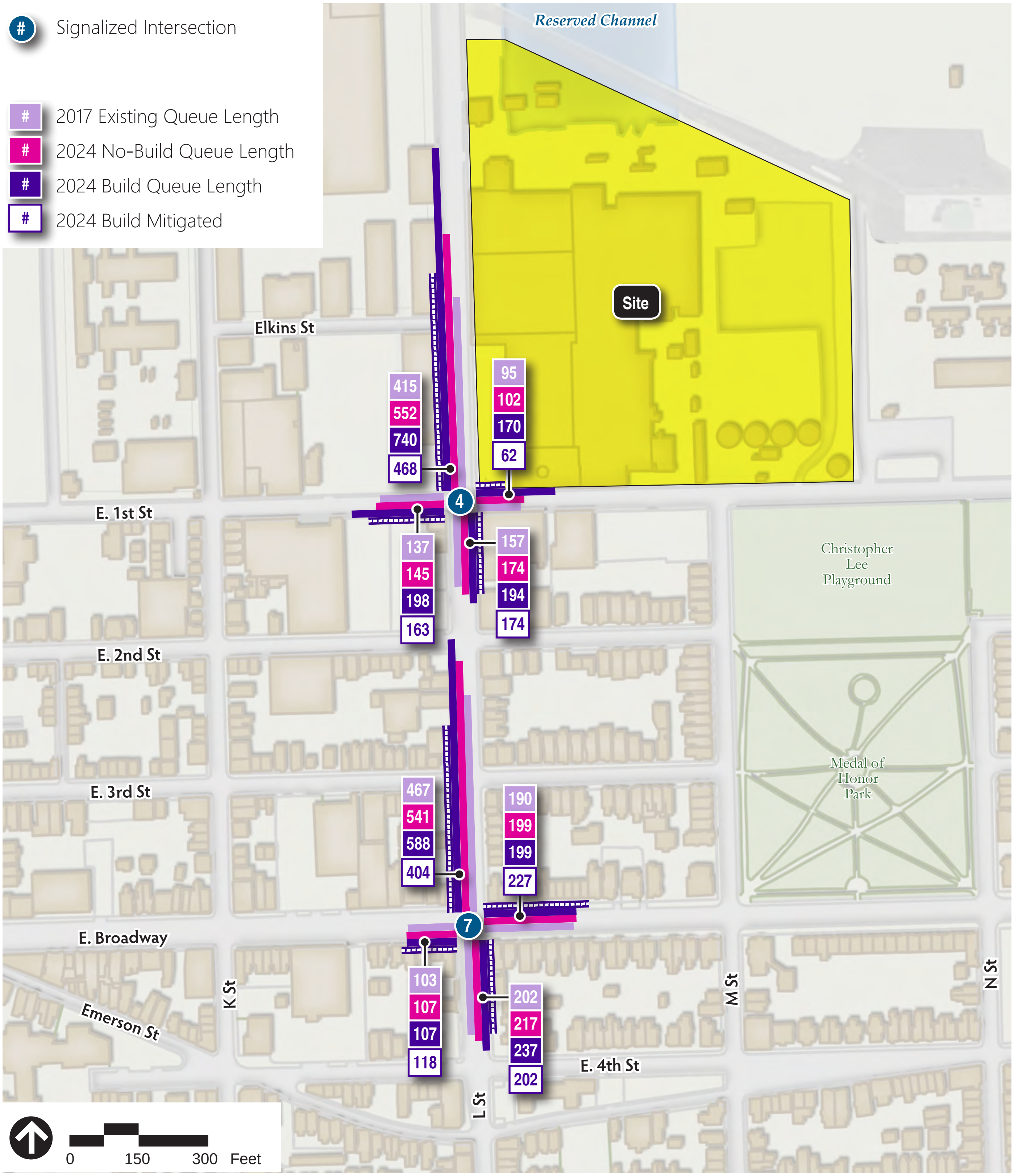
Source: Boston Planning & Development Agency

Note 95% queue length represents a modeled average condition that theoretically is occurring only 5% of the time, but is shown here as the maximum possible queue to reflect a conservative worst case scenario.

Figure 5.17b

2017 Existing, 2024 No-Build, 2024 Build 95th Percentile Queues, AM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



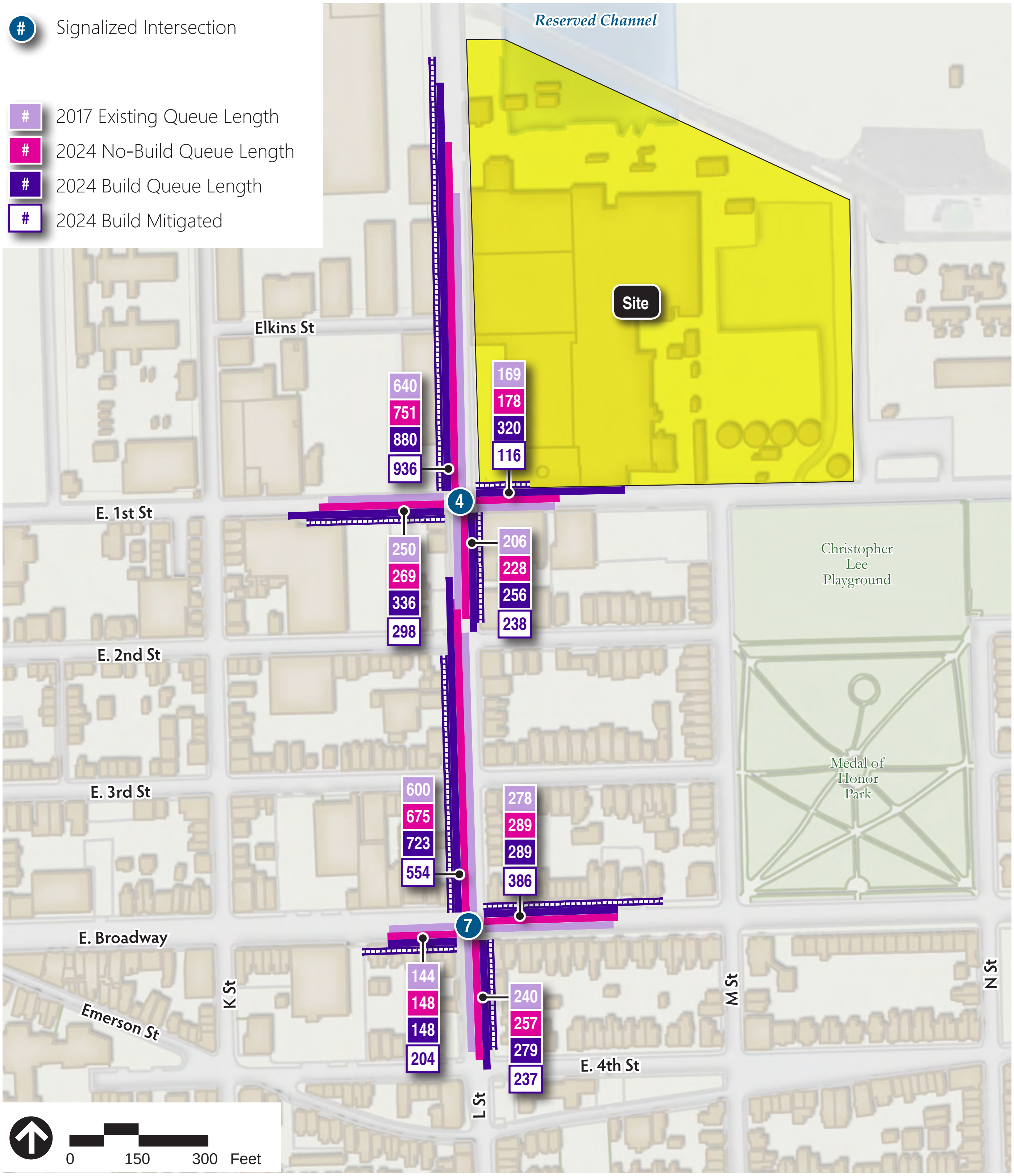
Source: Boston Planning & Development Agency

Note 50% queue length represents a modeled average condition

Figure 5.17c

2017 Existing, 2024 No-Build, 2024 Build 50th Percentile Queues, PM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



Source: Boston Planning & Development Agency

Note 95% queue length represents a modeled average condition that theoretically is occurring only 5% of the time, but is shown here as the maximum possible queue to reflect a conservative worst case scenario.

Figure 5.17d

2017 Existing, 2024 No-Build, 2024 Build 95th Percentile Queues, PM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts

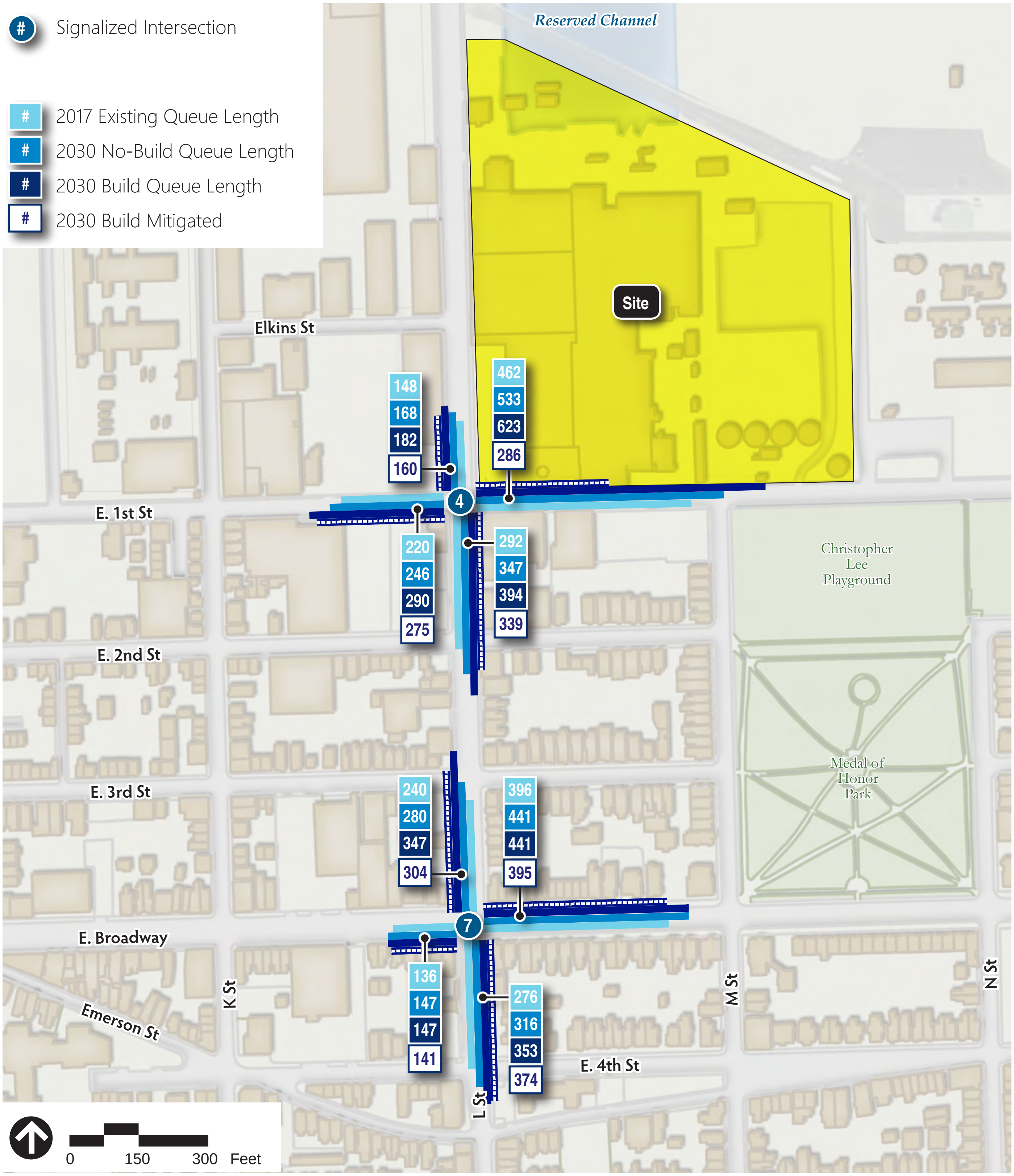
Source: Boston Planning & Development Agency

Note 50% queue length represents a modeled average condition

Figure 5.17e

2017 Existing, 2030 No-Build, 2030 Build 50th Percentile Queues, AM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



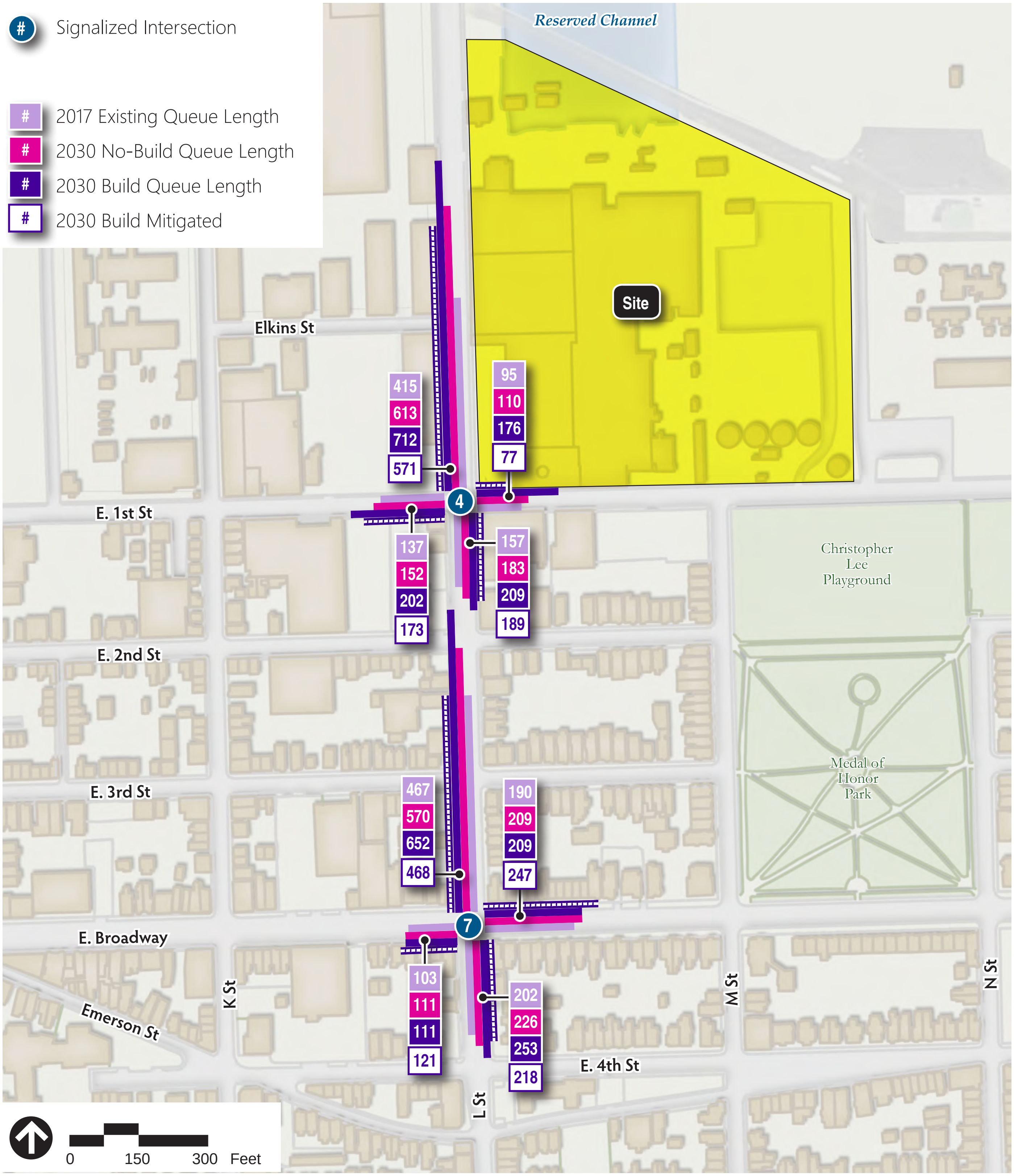
Source: Boston Planning & Development Agency

Note 95% queue length represents a modeled average condition that theoretically is occurring only 5% of the time, but is shown here as the maximum possible queue to reflect a conservative worst case scenario.

Figure 5.17f

2017 Existing, 2030 No-Build, 2030 Build 95th Percentile Queues, AM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



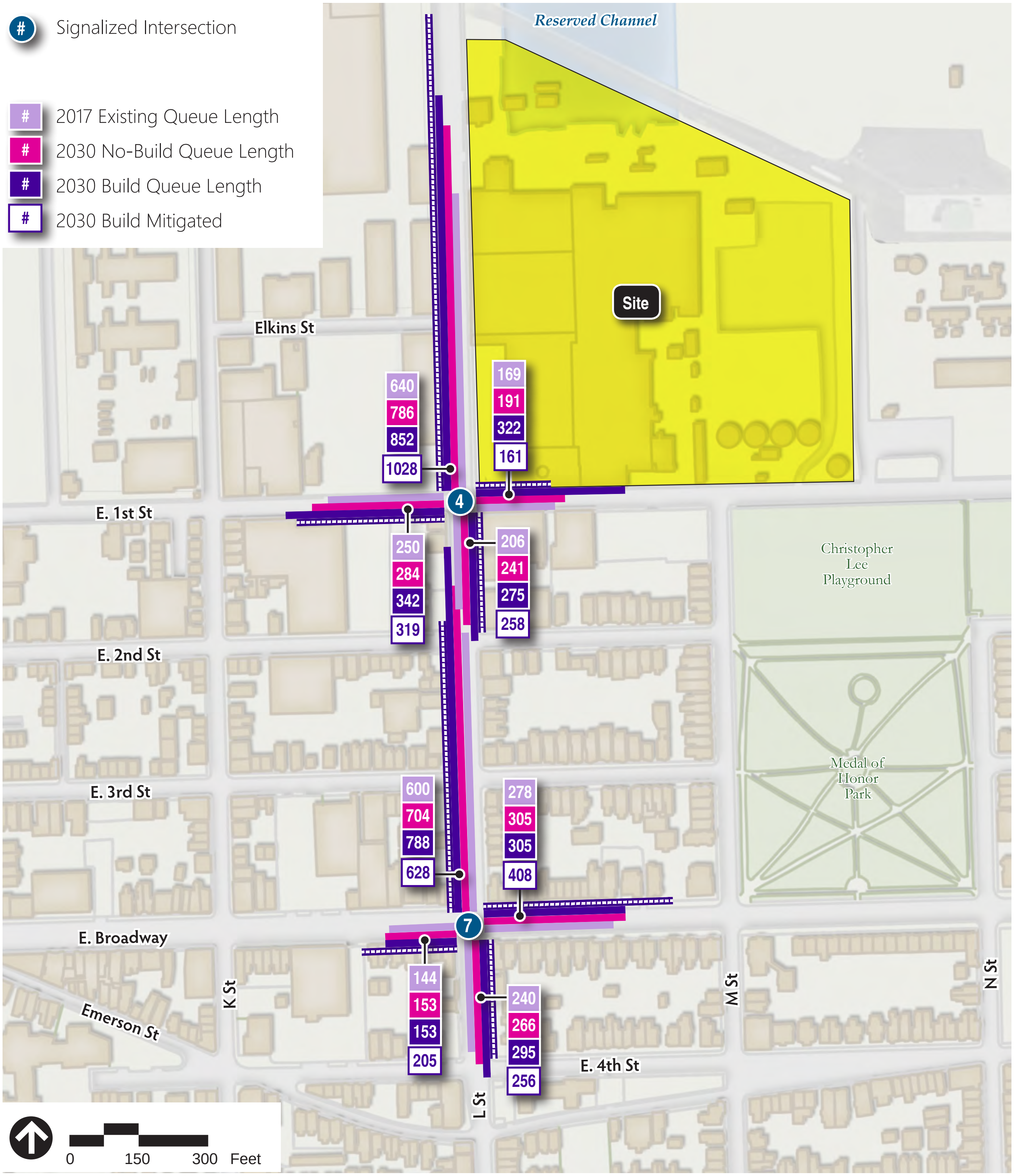
Source: Boston Planning & Development Agency

Note 50% queue length represents a modeled average condition

Figure 5.17g

2017 Existing, 2030 No-Build, 2030 Build 50th Percentile Queues, PM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



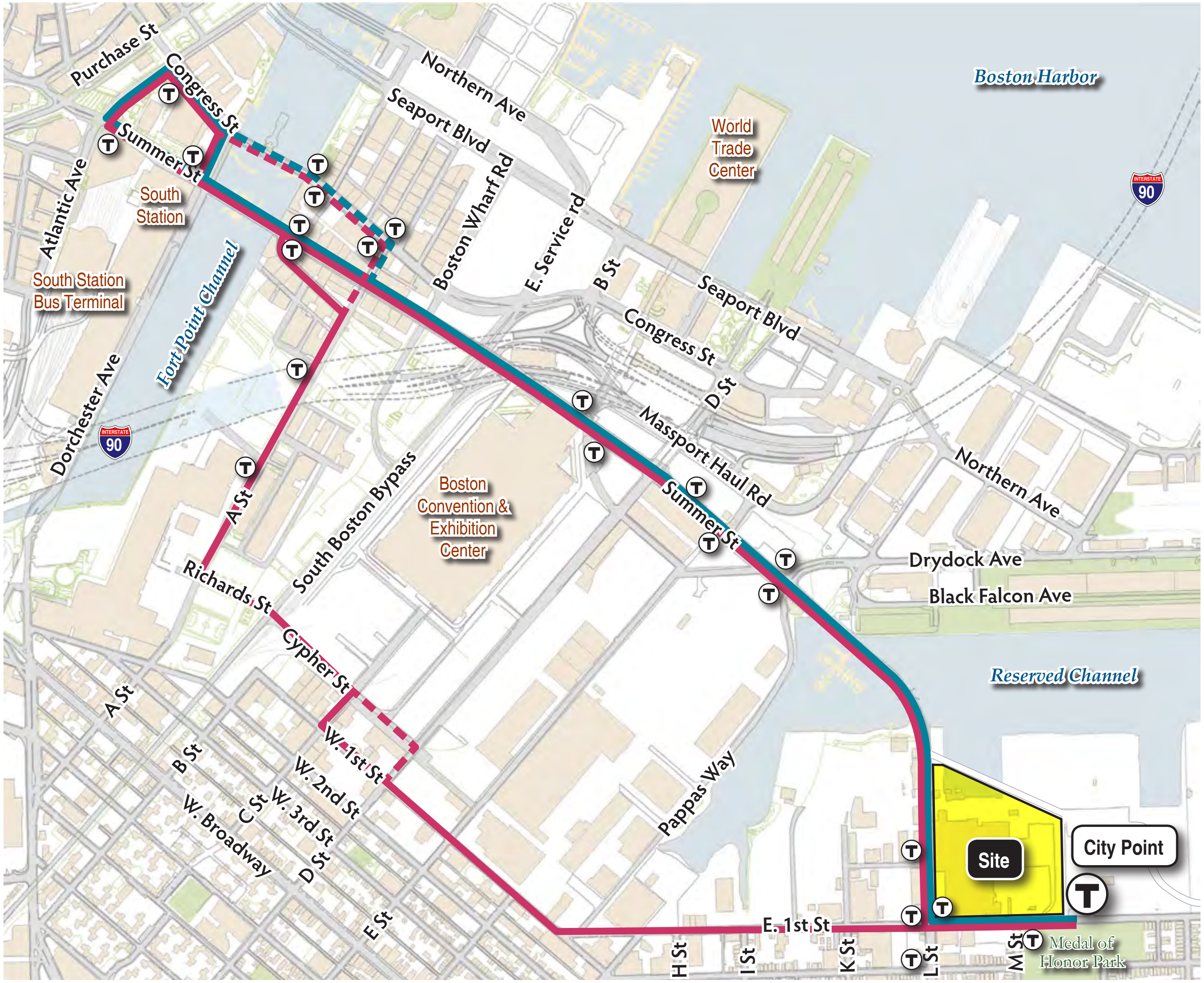
Source: Boston Planning & Development Agency

Note 95% queue length represents a modeled average condition that theoretically is occurring only 5% of the time, but is shown here as the maximum possible queue to reflect a conservative worst case scenario.

Figure 5.17h

2017 Existing, 2030 No-Build, 2030 Build 95th Percentile Queues, PM Peak Hour

L Street Station Redevelopment
Boston, Massachusetts



Source: MassGIS, City of Boston

HOWARD STEIN HUDSON

vhb

Figure 5.18

Proposed Bus Routes

L Street Station Redevelopment
Boston, Massachusetts

6

Environmental Protection

This chapter presents information on the environmental conditions in the vicinity of the Project Site and the potential changes that may occur as a result of the Project. A key goal of the Project is to redevelop the Project Site for more efficient and improved uses, while avoiding or minimizing potential adverse environmental impacts.

As discussed in more detail below, the Project-related impacts, which are to be expected in urban development of this scale, are counterbalanced by the significant benefits for the adjacent neighborhood and the City. The following sections identify Project impacts and discuss steps that have been or will be taken through design and management to avoid, minimize, and/or mitigate adverse effects. Temporary construction-period impacts will be managed to minimize disruption to the surrounding neighborhoods.

As requested in the EEA Secretary's Certificate ENF and in the BPDA Scoping Determination on the EPNF, this chapter provides information on the following categories:

- Pedestrian Wind
- Shadow
- Air Quality
- Noise
- Construction

No additional solid and hazardous waste sampling or site assessment activities have occurred since the EENF/EPNF filing.

6.1 Summary of Key Findings and Benefits

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

- **Wind –** With appropriate mitigation, the Project will <u>not result in any new unacceptable or unsafe wind conditions in or around the Project Site</u>. Preliminary wind analysis results indicate that the majority of the surrounding area will <u>remain comfortable at the pedestrian level</u>, with some areas experiencing improved wind conditions due to the Project. The Project will continue to explore additional wind mitigation options, including landscape treatments and building elements to ensure pedestrian comfort at the Project Site and surrounding area by reducing wind speed and gusts.
- **Shadow –** Shadow impacts have been <u>minimized to the extent practicable</u> to avoid noticeable pedestrian impacts. The majority of the Project-generation shadow fall within the site or east across the MBTA property and adjacent DPA properties.

- **Air Quality –** The air quality analysis demonstrates that the Project will conform to the National Ambient Air Quality Standards and will not have an adverse impact on local air quality.
- **Noise –** The sound levels associated with the Project's mechanical equipment will be attenuated with mechanical enclosures and screening located on the roof, as necessary, and therefore will have no adverse noise impacts at nearby sensitive receptor locations. Potential noise impacts associated with deliveries are expected to be negligible as the majority of loading will primarily be internal to the Project Site and will be managed.
- **Construction –** The Project has been designed to avoid, minimize and mitigate potential construction-related impacts. The Project Team will work with the City to reduce potential construction period impacts.

6.2 Wind

Pursuant to Section B.1 of the BPDA Development Review Guidelines, a pedestrian wind tunnel study was conducted to assess the potential effect of the Project on pedestrian-level wind conditions around the Project Site and to provide recommendations for minimizing any potential adverse effects. The following conditions were simulated:

- **No-Build:** Existing site with existing surrounding.
- **Phase 1A:** Proposed Phase 1A buildings with existing surroundings as well including 10 feet tall, 70 percent solid windscreens beneath the Turbine Hall cut through1.
- **Phase 1B:** Proposed Phase 1B building and previous phases with existing surroundings, including 15 feet deep, 70 percent solid canopies along the southeast and northwest Phase 1B building corners and coniferous landscaping throughout the Project Site.
- **Phase 2:** Proposed Phase 2 buildings and previous phases with existing surroundings, including mitigation measures from previous phases.
- **Phase 3:** Proposed Phase 3 buildings and previous phases with existing surroundings, including additional coniferous landscaping in conjunction with mitigation measures from previous phases.

6.2.1 Methodology

To assess the wind environment around the Project, a 1:300 scale model of the Project Site and surroundings was constructed for the wind tunnel test with the above configurations tested. The wind tunnel model included all relevant surrounding buildings and topography within an approximate 1200-foot radius of the study site. The mean speed profile and turbulence of the natural wind

1 This cut through is not anticipated to be made until later phases of the Project but was included in the analysis for conservative purposes. The wind screen, or similar mitigation would include staggered screening along the sidewalks to maintain clear passage.

approaching the modelled area were also simulated in RWDI's boundary layer wind tunnel. The scale model was equipped with 248 specially designed wind speed sensors that were connected to the wind tunnel's data acquisition system to record the mean and fluctuating components of wind speed at a full-scale height of 5 feet above grade in pedestrian areas throughout the study site. Wind speeds were measured for 36 wind directions, in 10-degree increments, starting from true north. The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the reference wind speed in the free stream above the model. The placement of wind measurement locations was based on the wind consultant's experience and understanding of the pedestrian usage for this site and may be modified as design advances for elements with similar functionality. These measurements were recorded for 36 equally incremented wind directions.

It is important to note, that this analysis was run with limited landscape or building details, and therefore presents a conservative analysis of the potential pedestrian experience on the Project Site. As the team continues to advance the individual design of the buildings, they will build upon this analysis to maintain a comfortable and welcoming pedestrian wind condition.

Pedestrian 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 to determine the acceptability of specific locations is based on the work of Melbourne[2]. 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, presented in Table 6-1 below, are expressed in terms of benchmarks for the 1-hour mean wind speed exceeded one-percent of the time (i.e., the 99-percentile mean wind speed).

Table 6-1 BPDA Mean Wind Criteria*

Comfort Category	Mean Wind Speed (mph)
Dangerous	> 27
Uncomfortable for Walking	> 19 and ≤ 27
Comfortable for Walking	> 15 and ≤ 19
Comfortable for Standing	> 12 and ≤ 15
Comfortable for Sitting	≤ 12

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

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

The wind climate found in a typical downtown location in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares and meets the BPDA effective gust velocity criterion of 31 miles per hour. However, without any mitigation measures, this wind climate is likely to be frequently uncomfortable for more passive activities, such as sitting.

6.2.2 Pedestrian Wind Study Findings

The predicted wind comfort and safety conditions pertaining to the No-Build, Phase 1A, Phase 1B, Phase 2, and Phase 3 configurations assessed are graphically depicted on site plans in Figures 6.1a-j. These conditions and the associated wind speeds are also presented in Tables 1 and 2, located in the "Tables" section of Appendix E. 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. The following summary of pedestrian wind comfort is based on the annual winds for each configuration tested.

The following is a detailed discussion of the suitability of the predicted wind comfort and safety conditions for the anticipated pedestrian use of each area of interest.

No-Build

Existing mean speeds are typically comfortable for walking in areas of the Project Site that are more exposed to prevailing winds. Winds immediately to the east of the existing building are generally comfortable for sitting or standing. Conditions are uncomfortable for walking around the northeast, southwest, and northwest corners of the existing building due to northwesterly, westerly, and northeasterly winds, respectively, accelerating around the corresponding corners. No dangerous conditions or unacceptable wind speeds were identified for this phase.

Phase 1A

In the Phase 1A configuration, mean speeds are generally expected to be similar to existing, with wind speeds typically comfortable for walking or better around the Project Site. Although conditions close to the Phase 1A buildings are anticipated to be comfortable for sitting or standing, elevated wind speeds may require additional mitigation near the building corners and between the two buildings. This is due to prevailing winds from the northwest and northeast directions accelerating around those corners and channel between the buildings.

Mean speeds are higher than desired for some entrance locations. Potential mitigation in these areas may include windscreens or landscaping on either side of the affected entrance locations. Some building entrances may also be recessed into building façades, if feasible. No dangerous conditions or unacceptable wind speeds were identified for this phase.

Phase 1B

In the Phase 1B configuration, mean speeds are typically predicted to be comfortable for walking or better throughout the Project Site with the proposed landscaping. Conditions uncomfortable for walking may occur closer to the Phase 1B building around some of the building corners. Canopies may be added above the southeast and northwest corners and west façade of the Phase 1B building to help disperse downwashing winds and improve conditions. Mean speeds uncomfortable for walking predicted for the Phase 1A configuration are generally predicted to remain with the addition of the Phase 1B building. Wind speeds marginally exceed the effective gust criterion at one location under the Phase 1B configuration, but mitigation measures will be put in place to reduce effective gust speeds, and the exceedance is not present under the Full Build configuration. No dangerous conditions or unacceptable wind speeds were identified for this phase.

Phase 2

The addition of the Phase 2 buildings (north and south buildings) is expected to increase local wind activity near the Phase 2 buildings themselves and toward the west end of the Project Site. Some areas uncomfortable for walking are predicted near the northwest, west, and southeast of the north building, and near the north, northeast, southwest, and beneath the passageway of the south building.

Mitigation to improve these conditions may include landscaping planted near areas of higher wind activity. Similar to Phase 1A, higher wind speeds near any main building entrances can be reduced by placing windscreens or landscaping on either side of the affected entrance locations, or by recessing the entrance into the building façade. For the passageway through the south Phase 2 building, an improvement in conditions can be achieved using staggered wind screens.

The addition of the Phase 2 buildings is anticipated to improve wind conditions to the northeast of the Phase 1B building. Wind speeds still marginally exceed the effective gust criterion at one location under the Phase 2 configuration, but this exceedance will be mitigated and is not present under the Full Build configuration.

Phase 3

Phase 3 consists of the addition of two buildings (north and south), and trees along the north façade of the south Phase 3 building. The addition of Phase 3 is generally anticipated to reduce mean speeds close to the Phase 1A, Phase 1B, and Phase 3 buildings to being comfortable for sitting or standing, with some areas comfortable for walking. Areas uncomfortable for walking are predicted near some corners of the north Phase 3 building and near the southeast corner of the south Phase 3 building.

Although a general improvement in mean speeds is anticipated with the addition of the Phase 3 buildings, some uncomfortable conditions may remain. As with previous phases, uncomfortable mean speeds can be reduced through the use of additional landscaping or other wind control features recommended for the building perimeter and main entrances. No dangerous conditions or unacceptable wind speeds were identified for this phase.

6.3 Shadow

An analysis of the shadow impact under the No-Build and Build Conditions is a requirement of the Article 80, Large Project Review (Section 80B-2(c) of the Code). The shadow analysis was prepared in accordance with the requirements of Section B.2. of the BPDA Development Review Guidelines.

6.3.1 Methodology

A shadow impact analysis was conducted at regular time intervals to investigate the effect that the Project will have throughout the year. A computer model of the Project and surrounding urban area was developed. A number of days and times were analyzed, as required by the Code. The analysis used “clear sky” solar data at Boston’s Logan International Airport, meaning the assumption that no cloud cover ever occurs; therefore, providing a “worst case” scenario showing the full extent of when and where shadow could occur.

In order to represent a variety of shadow conditions at various times of the day, and times of the year, three time intervals (9:00 AM, 12:00 PM, 3:00 PM) are represented for March 21 (see Figure 6.2a), June 21 (see Figure 6.2b), September 21 (see Figure 6.2c), and December 21 (see Figure 6.2d). Per the BPDA Development Review Guidelines, 6:00 PM has been added to the June 21 and September 21 shadow study. The study shows both existing shadows in and around the Project Site, and the shadow impact of the Project. The analysis focuses on the shadow cast onto existing pedestrian areas, open spaces, and sidewalks adjacent to and in the vicinity of the Project Site.

As a result of the demolition of a portion of the existing buildings and the shift in massing to individual blocks, the Project will eliminate some existing shadows and create new unshaded open space where there is currently building. Shown in orange on the figures listed above, this “gained daylight” will enhance both new and existing spaces and create a more welcoming environment around the site.

6.3.2 Article 80 Shadow Study Results

March 21

The future No-Build and net new shadows associated with the Project for March 21 are illustrated in Figure 6.2a. March 21 is the vernal equinox and the length of daytime and nighttime are equal. The sun rises at 6:31 AM EDT in the southeastern sky and sets at 6:42 PM EDT.

At 9:00 AM the morning shadow is generally contained within the Project Site, with shadows falling to the west onto existing buildings. There is a net gain in daylight near the intersection of Summer and Elkins. Across Summer Street from the Project

Site, daylight is gained north of Elkins Street while some new shadow is cast on Elkins and south.

At 12:00 PM, shadows fall to the north and are generally contained within the Project Site and shifting off the waterfront open space. There is a net gain in daylight within the Project Site along the internal street network.

At 3:00 PM the Project casts net new shadow to the northeast onto the DFC and to the east on the MBTA parcel. New daylight is gained on the western portion of the internal Project Site, and along the waterfront open space.

June 21

The future No-Build and net new shadows associated with the Project for June 21 are illustrated in Figure 6.2b. June 21 is the summer solstice and the longest day of the year. The sun rises at 5:08 AM EDT in the southeastern sky and sets at 8:25 PM EDT.

At 9:00 AM the morning shadow is generally contained within the Project Site, with some new shadow falling along Summer Street south of Elkins Street and a net gain in daylight on Summer Street north of Elkins Street. There is also a considerable amount of new daylight gained within the Project Site. Due to the higher angle of the sun, the shadows quickly shorten and rotate eastward.

At 12:00 PM, shadows are generally contained within the Project Site. There is a net gain of daylight throughout the Project street network, and the majority of public open spaces experience sunlight.

At 3:00 PM shadows extend eastward, with net new shadow falling on the adjacent MBTA parcel. New daylight is gained on the western portion of the internal Project Site.

At 6:00 PM the sun begins to set, and the Project casts net new shadow on a portion of Butler Park and the MBTA parcel, as well as portions of East 1st Street. During the summer the waterfront open space is anticipated to remain generally open to sunlight throughout the day.

September 21

The future No-Build and net new shadows associated with the Project for September 21 is illustrated in Figure 6.2c. September 21 is the fall equinox and the length of daytime and nighttime are equal. The sun rises at 6:31 AM EDT in the southeastern sky and sets at 6:42 PM EDT.

At 9:00 AM the morning shadow is generally contained within the Project Site, with shadows falling to the west onto existing buildings. There is a net gain in daylight along a portion of Summer Street and along a portion of the internal east-west roadway.

At 12:00 PM, shadows fall to the north and are generally contained within the Project Site. There is a net gain in daylight within the Project Site along the internal street network.

At 3:00 PM the Project casts net new shadow to the northeast onto the adjacent properties to the east of the Project Site, as well as internally onto the street network. New daylight is gained on the eastern portion of the internal Project Site.

At 6:00 PM, as a result of the low sun angle, shadows are long, and net new shadow falls to the east on the already heavily shaded MBTA and Massport parcels.

December 21

The future No-Build and net new shadows associated with the Project on December 21 are depicted on Figure 6.2d. December 21 is the winter solstice and the shortest day of the year. The sun is at its lowest inclination above the horizon at each hour of the day. Even low buildings cast long shadows in northerly latitudes such as Boston. The sun rises at 7:10 AM EST and sets at 4:15 PM EST in December.

At 9:00 AM, due to the low sun angle, morning shadows extend to the northwest with some net new shadow falling onto and across Summer Street, the waterfront open space and the DFC. There is some net gained daylight on the properties to the west of Summer Street.

At 12:00 PM there are new shadows cast internally on the Project Site, and on the eastern side of the DFC. There is a net gain in daylight along the internal street network, the waterfront open space, and a small portion of the DFC to the west.

At 3:00 PM, there are new shadows cast on a small portion of the Project Site, and new shadows cast to the northeast over the MBTA and Massport properties. Although net new shadow is greatest at this period, the days during this time of year are less bright and there is much less contrast between shaded and unshaded areas.

6.4 Noise

The noise assessment evaluated the potential noise impacts associated with the Project’s activities including proposed mechanical equipment and loading/service operations. This section includes discussions on the fundamentals of noise, noise impact criteria, noise analysis methodology, and potential noise impacts. The analysis demonstrates that the Project will comply with City of Boston noise regulations and the U.S. Department of Housing and Urban Development’s (“HUD’s”) policy.

6.4.1 Fundamentals of Noise

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

- Intensity. Sound intensity is often equated to loudness.
- Frequency. Sounds are comprised of acoustic energy distributed over a variety of frequencies. Acoustic frequencies, commonly referred to as tone or pitch, are

typically measured in Hertz. Pure tones have all their energy concentrated in a narrow frequency range.

Sound levels are most often measured on a logarithmic scale of decibels ("dB"). The decibel scale compresses the audible acoustic pressure levels, which can vary from the threshold of hearing (zero dB) to the threshold of pain (120 dB). Because sound levels are measured in dB, the addition of two sound levels is not linear. Adding two equal sound levels creates a 3 dB increase in the overall level. Research into the general relationships between sound level and human perception indicates that a 3 dB increase is a doubling of acoustic energy and is the threshold of perceptibility to the average person, and that a 10 dB increase is a tenfold increase in acoustic energy, but is perceived as a doubling in loudness to the average person.

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

presents a list of common outdoor and indoor sound levels.

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

- L90 is the sound level which is exceeded for 90 percent of the time during the time period. L90 sound level is generally considered to be the ambient or background sound level.
- Leq is the A-weighted sound level, which averages the background sound levels with short-term transient sound levels and provides a uniform method for comparing sound levels that vary over time.
- Ldn or DNL is the day-night average sound level representative of a 24-hour period with a penalty adjustment for sound levels occurring between 10:00 PM and 7:00 AM.

Table 6-2 Common Outdoor and Indoor Sound Levels

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

Source: Highway Noise Fundamentals. Federal Highway Administration, September 1980.
* μPA – MicroPascals, which describe pressure. The pressure level is what sound level monitors measure.
** dB(A) – A-weighted decibels, which describe pressure logarithmically with respect to 20 μPa (the reference pressure level).

6.4.2 Methodology

The noise analysis evaluated the potential noise impacts associated with the Project's operations which include proposed mechanical equipment located on the rooftop of the proposed buildings. The noise analysis includes measurements of existing ambient background sound levels and a qualitative evaluation of potential noise impacts associated with the proposed mechanical equipment (e.g., HVAC units, cooling tower, generators). The study area was evaluated and sensitive receptor locations in the vicinity of the Project were identified and examined. The noise analysis considered the site layout and building design, as it relates to the proposed mechanical equipment. The analysis considered sound level reductions due to distance, proposed building design, and obstructions from surrounding structures.

In addition, the noise study includes an assessment of potential impacts on the proposed residential use. The assessment followed HUD guidelines and procedures outlined in The Noise Guidebook ("Guidebook")[3]. The noise study utilized HUD's DNL Calculator, which is a model used to calculate the Day-Night Noise Level ("DNL") associated with nearby transportation facilities, such as roadway traffic, rail activities, and aircrafts. The DNL Calculator takes into consideration traffic volume, travel speed, and the distance between the receptor and noise source.

Receptor Locations

The noise analysis included an evaluation of the study area to identify nearby sensitive receptor locations, which typically include areas of sleep and areas of outdoor activities. The noise analysis identified 40 receptor locations in the vicinity of the Project as shown in Figure 6.3a-b. These receptor locations, selected based on land use considerations, represent the most sensitive receptors in the vicinity of the Project Site. A complete list of the receptor locations is included in Appendix E.

6.4.3 Noise Impact Criteria

The City of Boston and HUD have developed policies that establish noise thresholds deemed to result in adverse impacts. The noise analysis compared existing and future sound levels to these criteria in assessing the potential impacts on nearby sensitive receptor locations and proposed residential uses.

City of Boston Noise Impact Criteria

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

3 Section 51.103, The Noise Guidebook, U.S. Department of Housing and Urban Development, Office of Environment and Energy.

Under Chapter 40 Section 21 of the General Laws of the Commonwealth of Massachusetts and Title 7 Section 50 of the City of Boston Code, the Air Pollution Control Commission of the City of Boston has adopted Regulations for the Control of Noise in the City of Boston. These regulations establish maximum allowable sound levels based upon the land use affected by the Project. Table 6- summarizes the allowable sound levels that should not be exceeded.

Table 6-3 City of Boston Noise Standards by Zoning District, dB(A)

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

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

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

The City of Boston noise control regulation considers construction sound levels to be an impact to residential land uses if the L_{10} sound level is in excess of 75 dB(A) or the Lmax sound level is in excess of 86 dB(A).

HUD Noise Goals

The HUD standard is intended to protect residential receptor locations from noise sources, such as highways, rail lines, and airports that may cause interference with normal activities, such as sleep and conversation. The HUD Guidebook states that a noise assessment is required if a proposed residential development is located within 15 miles of an airport, within 3,000 feet of a railway, or within 1,000 feet of a major roadway.

HUD uses a day-night average sound level ("DNL" or "Ldn") as the value for establishing goals for determining acceptable sound levels. The DNL levels are based on a multitude of factors and provides a noise indicator of a 24-hour weighted average sound level. The DNL is derived from hourly sound level values and includes a nighttime penalty that accounts for increased annoyance during these hours. Studies have shown that additional annoyance occurs during the nighttime since background sound levels are typically at their minimum and many people are noise sensitive while trying to sleep.

HUD considers a DNL of 65 decibels or lower as an acceptable exterior sound level and 45 decibels as an acceptable interior goal. Exterior sound levels above 65 decibels but not exceeding 75 decibels is normally unacceptable. However, a waiver may be granted if noise attenuation measures (such as noise barriers and/or special building construction material) are provided. HUD considers exterior sound levels above 75 decibels to be unacceptable. Residential buildings are constructed such that the walls are expected to reduce the outdoor sound levels by a minimum of 20 decibels. Therefore, indoor sound levels for residential buildings of 45 decibels or less are considered acceptable.

6.4.4 Existing Noise Conditions

Noise monitoring was conducted to establish existing ambient sound levels in vicinity of the Project Site. Noise measurements conducted on-site in October of 2017[4] were used to characterize the existing noise environment of the Project area. Four short-term daytime measurements and one long-term measurement were conducted and shown in Table 6- below. Supplemental measurements by VHB were conducted along East 1st Street to characterize the daytime and nighttime sound levels of the abutting residential neighborhood during typical ambient conditions.

The existing sound levels conducted by VHB were measured using a Type 1 sound analyzer (Larson Davis SoundExpert LxT). Measurements were conducted between July 19, 2018 and July 20, 2018 to capture sound levels representative of typical existing ambient conditions. The measurements during the daytime period was conducted between 12:00 PM to 1:00 PM. The nighttime period measurements were conducted between 12:00 AM to 1:00 AM. During the daytime period, the measured sound levels data were composed of noise from vehicles traveling on Summer Street and East 1st Street, activities associated with the Conley Terminal, and aircrafts associated with Logan Airport operations. The nighttime period sound levels were generally associated with local roadway traffic and airplanes flying overhead.

Table 6-4 Existing Ambient Sound Levels, dB(A)

	City of Boston Noise Standard		Measured L90 Sound Levels	
Monitoring Location	Residential District Daytime/Nighttime	Business District Daytime/Nighttime	Daytime	Nighttime
M1 – East 1st Street	60/50	65	54	45
M2 – Project Site Location 1 (A)	60/50	65	59	-
M3 – Project Site Location A (A)	60/50	65	70	52
M4 – Project Site Location 2 (A)	60/50	65	56	-
M5 – Project Site Location 3 (A)	60/50	65	56	-
M6 – Project Site Location 4 (A)	60/50	65	53	-

Note: Refer to Figure 6.3a-b for monitoring locations.
Measurements designated with an (A) are obtained from the Acentech report.

The L90 sound levels at sensitive receptors along East First Street during the daytime period was measured at approximately 54 dB(A), and approximately 45 dB(A) during

4 Boston Edison Background Noise Monitoring Report, Acentech, November 20, 2017

the nighttime period. The data from the noise measurements indicate that the daytime sound levels within the residential area are currently below the City of Boston's daytime standard of 60 dB(A) and nighttime standard of 50 dB(A) for a residential district. The existing sound levels are primarily due to local roadways noise and airplane noise during the nighttime. During the daytime, the activities from the Conley Terminal was also audible.

6.4.5 Future Noise Conditions

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

Mechanical Equipment

Since the Project is in the early stages of the design process, the specific details related to the final selection of mechanical equipment are not confirmed at the time of this noise assessment. Based on preliminary design plans, the anticipated mechanical equipment associated with the Project may include the following:

- energy recovery units;
- cooling towers;
- stair pressure fans; and
- emergency generators.

The mechanical systems would be located on the rooftop, utilizing the height of the buildings in providing noise attenuation. Noise attenuation could be achieved by the Project's building design as the heights of the proposed buildings range from 4-stories to 21-stories high, which is greater than the height of the surrounding sensitive receptors. The rooftops of the Project's buildings will serve as a barrier and break the direct line of exposure between the noise sources and nearby receptors. As such, the sound levels associated with the Project's mechanical equipment are expected to be negligible compared to the existing noise environment.

A quantitative analysis was conducted for the external equipment, using the manufacturer's specifications. The reference sound level data for the rooftop mechanical equipment were analyzed using the industry accepted noise modeling program Cadna-A. The sound levels associated with the equipment were projected to the receptor locations using the properties of sound propagation following the ISO 9613 methodology[5]. These sound levels were adjusted to reflect the distances to the sensitive receptor locations, propagation path, and applicable blockages (such as building structures). The calculated sound levels, presented in Table 6-, represent the exterior sound levels at the nearby sensitive receptor locations.

5 ISO 9613-2:1996 "Acoustics-Attenuation of sound during propagation outdoors-Part: 2" International Organization for 8Standardization. Reviewed 2012.

Table 6-5 Future External Nighttime Sound Levels, dB(A)

Monitoring Location	Existing Sound Levels (L90)	Project Sound Levels	Future Sound Levels
R1 - 836 Summer St	44.6	46.8	48.8
R2 - 621 East 1st St	44.6	47.0	49.0
R3 - 637 East 1st St	44.6	45.5	48.1
R4 - 3 M St	44.6	47.7	49.4
R5 - 9 M St	44.6	41.4	46.3
R6 - 706 East 1st St	44.6	47.9	49.6
R7 - 15 M St	44.6	40.5	46.0
R8 - 17 M St	44.6	40.4	46.0
R9 - 19 M St	44.6	42.8	46.8
R10 - 21 M St	44.6	42.8	46.8
R11 - 23 M St	44.6	42.6	46.7
R12 - 736 E 2nd St	44.6	41.9	46.5
R13 - 734 E 2nd St	44.6	42.2	46.6
R14 - 732 E 2nd St	44.6	38.5	45.6
R15 - 730 E 2nd St	44.6	39.5	45.8
R16 - 728 E 2nd St	44.6	45.7	48.2
R17 - 726 E 2nd St	44.6	44.7	47.7
R18 - 724 E 2nd St	44.6	42.1	46.5
R19 - 722 E 2nd St	44.6	41.6	46.4
R20 - 720 E 2nd St	44.6	37.6	45.4
R21 - 718 E 2nd St	44.6	42.7	46.8
R22 - 28-38 L St	44.6	42.4	46.6
R23 - 701 E 2nd St	44.6	42.5	46.7
R24 - 703 E 2nd St	44.6	42.5	46.7
R25 - 705 E 2nd St	44.6	45.3	48.0
R26 - 707 E 2nd St	44.6	43.6	47.1
R27 - 709 E 2nd St	44.6	42.4	46.6
R28 - 711 E 2nd St	44.6	42.6	46.7
R29 - 715 E 2nd St	44.6	41.5	46.3
R30 - 717 E 2nd St	44.6	41.8	46.4
R31 - 719-721 E 2nd St	44.6	41.1	46.2
R32 - 723 E 2nd St	44.6	41.7	46.4
R33 - 725 E 2nd St	44.6	41.1	46.2
R34 - 27 M St	44.6	45.2	47.9
R35 - 29 M St	44.6	43.8	47.2
R36 - 31 M St	44.6	44.0	47.3
R37 - 33 M St	44.6	43.8	47.2
R38 - 7 Elkins St	44.6	47.3	49.2
R39 – Christopher Lee Playground	44.6	46.1	48.4
R40 – Medal of Honor Park	44.6	48.0	49.6

Note: Refer to Figure 6.3a-b for receptor locations.

The Project-generated sound levels are expected to be the same during both daytime and nighttime periods, as the equipment are assumed to be operating at full load during both daytime and nighttime periods. As shown in Table 6-, the overall project-generated sound levels due to rooftop equipment ranged from approximately 38 dB(A) to 49 dB(A) at the nearby receptor locations. The cumulative sound levels, with existing ambient sound levels and the operation of the rooftop equipment, are expected to range from 45 dB(A) to 50 dB(A) during the nighttime period. These sound levels will remain within the City of Boston's noise standards of 60 dB(A) during the daytime, and 50 dB(A) during the nighttime.

Loading and Service Activities

The truck loading is proposed to take place at various locations internal to the Project Site. All loading is expected to take place within designated docks and areas to minimize truck idling on the internal roadways. Residential move-in and move-out will be scheduled to create an organized flow of residents and moving trucks to and from the Project Site. Truck loading is not proposed to occur anywhere on East 1st Street or Summer Street.

The loading activities will be managed so that service and loading operations do not impact traffic on the adjacent public roadways. Since loading activities will be internal to the site and will be managed, potential noise impacts to nearby sensitive receptor locations are expected to be negligible.

Mobile Source

Mobile noise sources, such as vehicular traffic on local adjacent roadways were considered in the noise assessment. As previously stated above, adding two similar noise sources would result in an increase of approximately 3 decibels. A change in sound level of 3 decibels or less is considered not perceivable by the human ear. Traffic along the roadway network in the vicinity the Project is a contributing noise source to the neighborhood. The Project is expected to generate approximately 380 peak hour vehicle trips to the site. In comparing traffic volumes representing the 2030 No-Build and 2030 Build Conditions, these additional vehicles would result in an increase of approximately 21 percent traffic at the roadway intersections. This change in traffic volumes, attributed to the Project, is expected to have an insignificant effect on the overall sound levels as traffic volumes are not expected to double along the roadway system near the Project Site.

Impacts on Proposed Residential Use

Since the City of Boston does not have noise standards for assessing interior sound levels, HUD guidelines and thresholds were used to evaluate the proposed residential uses for potential noise impacts. HUD requires a noise assessment of noise sources that are located within certain distances of major transportation facilities, such as major roadways, rail lines, and airports. The Project is located approximately:

› 1.5 miles from Logan International Airport;
› 65 feet from Summer Street (Block D); and
› 230 feet from the DFC (Block E).

Based on HUD procedures and guidelines, the Project is located within nearby major transportation facilities; therefore, the noise analysis evaluated noise associated with these roadways. No railway was identified within 3,000 feet of the Project Site.

The noise evaluation gathered information associated with Logan Airport from Massport and obtained traffic data from the MassDOT's Transportation Data Management System. The analysis was conducted using HUD's DNL Calculator for determining the sound levels at the Project Site. The Project is a mixed-use development consisting of multiple buildings with residential units. The noise assessment considered noise sources from all buildings but focused on the proposed residential buildings nearest to the noise sources. The remaining proposed buildings are located further away and would experience lower sound levels as sound dissipates over distance and would be reduced by the impeding building structures serving as barriers.

The noise assessment considered Summer Street and the DFC as the nearest major roadways in the vicinity of the Project Site. Both the northern and western facades of Block D were reviewed as part of the HUD noise assessment to evaluate the noise contributions of both Summer Street and the DFC. The western facade is presented in Table 6-6, as the dominant noise contribution is associated with traffic on Summer Street. The western facade of Block D is located approximately 65 feet from the center line of Summer Street and the northern facade is located approximately 310 feet from the center line of the DFC. Block E is located approximately 230 feet from the center line of DFC. Block E does not abut Summer Street and is sufficiently shielded from Summer Street traffic by Blocks C and D. Therefore, the HUD analysis only considered the DFC as a major roadway noise source at Block E. Table 6-6 and Table 6-7 summarizes the traffic parameters for the HUD analysis for each of the buildings.

In addition, the noise assessment reviewed the noise contours developed for Logan International Airport. The noise contours represent operations during the year 2016. Based on the noise contours, the Project Site is located beyond the 60 dB DNL contour.[6] Following HUD's Noise Assessment Guidelines[7], aircraft noise was interpolated from the 2016 Logan Contour lines. A DNL of 58.5 dB was used in the HUD noise assessment.

The results from the DNL Calculator indicate that Block D will experience an overall DNL of approximately 73.9 decibels. Since Summer Street is located closest to the proposed building, the sound level associated with Summer Street traffic is approximately 73.5 dBA at Block D. The sound level associated with the DFC at Block D is approximately 60 dBA. Block E would experience approximately 64.2 decibels, which is attributed to traffic associated with the DFC. Sound levels at Building E are below HUD's exterior goal of 65 decibels and are considered acceptable levels. However, Building D would experience sound levels above HUD's exterior goal.

6 60-75 DNL Contours for 2016 Operations using AEDT 2c. Boston-Logan International Airport 2016 EDR, The Massachusetts Port Authority. http://www.massport.com/media/2817/2016_loganairport_edr_cd_.pdf . Accessed July 2018.

7 Chapter 5: Noise Assessment Guidelines. HUD Noise Guidebook. U.S Department of Housing and Urban Development. https://www.hudexchange.info/onecpd/assets/File/Noise-Guidebook-Chapter-5.pdf . Accessed August 2018.

Table 6-6 HUD Building D Assessment Parameters

	Summer Street		
Vehicle Type	Cars	Medium Trucks	Heavy Trucks
Effective Distance	65 ft.	65 ft.	65 ft.
Average Speed	30 mph	30 mph	30 mph
Average Daily Trips [1a]	40,578	2,396	2,288
Night Fraction of ADT	9%	7%	3%
Road Gradient	0%	0%	0%

1a Traffic data taken from Precision Data Industries Counts in June, 2017. Traffic breakdown available in Appendix D.

	Dedicated Freight Corridor		
Vehicle Type	Cars	Medium Trucks	Heavy Trucks
Effective Distance	-	-	310 ft.
Average Speed	-	-	15 mph
Average Daily Trips [1b]	-	-	1,753
Night Fraction of ADT	-	-	0%
Road Gradient	-	-	0%

1b Traffic data taken from freight corridor projections presented in the 2013 *Conley Terminal Improvements, Dedicated Freight Corridor, and Buffer Open Space* report prepared by VHB.

Table 6-7 HUD Building E Assessment Parameters

	Dedicated Freight Corridor		
Vehicle Type	Cars	Medium Trucks	Heavy Trucks
Effective Distance	-	-	230 ft.
Average Speed	-	-	15 mph
Average Daily Trips [1b]	-	-	1,753
Night Fraction of ADT	-	-	0%
Road Gradient	-	-	0%

1b Traffic data taken from freight corridor projections presented in the 2013 *Conley Terminal Improvements, Dedicated Freight Corridor, and Buffer Open Space* report prepared by VHB.

The facades of the proposed buildings abutting the major roadways will be designed to incorporate building material with noise attenuation properties necessary to reduce interior sound levels below HUD's interior goal of 45 dB(A). More specifically, Block D would need to incorporate building material and techniques to achieve a minimum of 30 to 35 decibels of reduction to achieve an interior sound level of 45 dB(A). These reduction levels are considered achievable based on the typical sound transmission class of general construction material and techniques in accordance with HUD guidance.[8] All other buildings associated with the Project

8 Sound Transmission Class Guidance. HUD Noise Guidebook Supplement. U.S. Department of Housing and Urban Development. https://www.hudexchange.info/onecpd/assets/File/Noise-Guidebook-Chapter-4-Supplement.pdf . Accessed August 2018.

would experience quieter sound levels because they are located further from the major roadways and/or sheltered by other buildings.

6.4.6 Conclusion of Noise Impact Assessment

The noise analysis determined that the residential receptor locations in the vicinity of the Project Site currently experience sound levels within the City of Boston's nighttime noise criteria. With the proposed equipment located on the building rooftops, the sound levels associated with the Project's mechanical equipment are expected to have minimal adverse noise impacts at the nearby sensitive receptor locations. The Project's loading operations will have no adverse noise impacts at nearby sensitive receptor locations. Therefore, the Project will adhere to the City of Boston's noise impact criteria.

The noise evaluation also demonstrates that the proposed residential buildings abutting the major roadways will experience sound levels that are considered acceptable according to HUD's interior goals. Additionally, the building will be designed to incorporate sufficient building material and techniques to reduce interior sound levels for the proposed residential units.

6.5 Air Quality

This section presents an overview of the air quality assessment for the Project. The purpose of the air quality assessment is to demonstrate that the Project will not result in a violation of applicable local, state, and federal air quality standards. Boston, in Suffolk County, is in attainment for all National Ambient Air Quality Standards ("NAAQS") criteria pollutants except for the 8-hour (1997 Revoked) and 1-hour (1979 Revoked) Ozone standards. The county is also in maintenance for carbon monoxide ("CO"). As such, the air quality analysis calculated emission inventories of the two pollutants that contribute to the violation of the Ozone NAAQS from mobile sources- volatile organic compounds ("VOCs") and nitrogen oxide ("NO_x").

The Project will include reasonable and feasible mitigation measures to reduce VOC and NO_x emissions for the Build Condition, including TDM measures and intersection improvements. Additionally, the air quality study considers the local effects of CO emissions from the parking garage and a microscale analysis of intersection emissions.

6.5.1 Mesoscale Analysis

The mesoscale analysis evaluated the change in emissions from Project-related traffic for the Existing, No-Build, and Build Conditions. The air quality analysis demonstrates that the Project will meet DEP air quality criteria of including all reasonable and feasible emission reduction mitigation measures.

Background

The purpose of the mesoscale analysis is to estimate the area-wide emissions of VOC and NO_x during a typical day in the peak ozone season (summer), consistent with the requirements of the State Implementation Plan ("SIP"). The mesoscale analysis evaluates the change in VOC and NO_x emissions from the average daily traffic volumes and vehicle emission rates. To demonstrate compliance with the SIP criteria, the air quality study must show the Project's change in daily (24-hour period) VOC and NO_x emissions.

DEP has established guidelines that define the modeling and review criteria for air quality studies prepared pursuant to review under the MEPA. These guidelines require that mesoscale analyses be prepared for proposed development projects to determine the change in project-related ozone precursor emissions. The predominant source of ozone precursor emissions anticipated from the Project is emissions from Project-related traffic. Ozone is not directly emitted by motor vehicles but is generated when VOC and NO_x emissions from motor vehicles, stationary sources, and area sources react in the atmosphere with sunlight and heat. Project-related ozone impacts are determined by assessing the changes in VOC and NO_x emissions of motor vehicles. DEP criteria require that proposed development projects include all reasonable and feasible emission reduction mitigation measures if the ozone emissions from the Build Condition are greater than the No-Build Condition. Massachusetts has incorporated this criterion into the SIP.

Methodology

The mesoscale analysis evaluates the change in emissions with and without the Project, specifically, daily (24-hour period) VOC and NO_X emissions from the average daily traffic volumes and vehicle emission rates. DEP guidelines require that the air quality study utilizes traffic and emissions data for existing and future (No-Build and Build) conditions. The traffic and emissions data are incorporated into the EPA and DEP air quality models to generate emission's estimates that demonstrate whether the Project will have air quality impacts.

The mesoscale air quality analysis utilizes developed traffic data (volumes, speeds, and roadway geometry) and emission factor data for Existing, No-Build, Build, and Build with Mitigation Conditions. The mesoscale study area includes all links studied by the traffic analysis. Some of the major roadways that were included in the mesoscale analysis include Summer Street, L Street, Broadway, and Day Boulevard.

The mesoscale analysis calculates the changes in VOC and NO_x emissions for the existing and future conditions within the study area. Traffic and emission factor data were developed for the conditions. These data were incorporated into air quality model to evaluate the changes in VOC and NO_x emissions.

Analysis Conditions

Consistent with the traffic analysis, the following conditions were analyzed: the 2017 Existing Condition; and 2030 future No-Build and Full Build Conditions. The analysis compares the future No-Build and Build Conditions in order to identify the anticipated changes in traffic conditions and mobile source VOC and NO_x emissions as a result of the Project. Where applicable, the Existing Condition is considered for comparison purposes only.

Emission Factor Modeling

EPAs Office of Transportation and Air Quality (OTAQ) has developed the Motor Vehicle Emission Simulator ("MOVES").[9] MOVES2014a is EPAs latest motor vehicle emissions model for state and local agencies to estimate VOCs, NO_x, and other emissions from cars, trucks, buses, and motorcycles.

All the vehicle emission factors used in the mesoscale analysis were obtained using EPAs MOVES2014a emissions model. MOVES2014a calculates emission factors from motor vehicles in mass per distance format (often grams per mile) for existing and future conditions. and applies these factors to Vehicle Miles Travelled ("VMT") data to obtain emissions inventories. The emissions calculated for this air quality assessment include Tier 3 emission standards, which is an EPA program that sets new vehicle emissions standards, including lowering the sulfur content of gasoline, heavy-duty engine, and vehicle greenhouse gas regulations (2014-2018), and the second phase of light-duty vehicle GHG regulations (2017-2025). It also includes Massachusetts-specific conditions, such as the state vehicle registration age distribution and the statewide Inspection and Maintenance ("I/M") Program.[10] These stringent emissions regulation programs often result in smaller emissions inventories with the passage of time when comparing similar scenarios.

The MOVES2014a model was run at a project-level to obtain emission factors for each link of the mesoscale analysis. The model was set to calculate the emissions burden by choosing to model emissions processes that are specifically related to on-road travel. Links were created that used the appropriate speeds and grades for each roadway segment.

Traffic Data

The air quality study used traffic data (volumes) developed for each analysis condition. The mesoscale analysis uses typical daily peak and off-peak traffic volumes for the ozone summer season. The VMT data used in the air quality analysis were developed based on the traffic data analyzed in this DEIR/DPIR.

9 MOVES2014a (Motor Vehicles Emission Simulator), November 2016, US EPA, Office of Mobile Sources, Ann Arbor, MI.

10 The Stage II Vapor Recovery System is the process of collecting gasoline vapors form vehicles as they are refueled. This requires the use of a special gasoline nozzle at the fuel pump.

Existing Mesoscale Emissions

The mesoscale analysis calculated the existing VOC and NO_X emissions for the Project inventory. These emissions, estimated to be 31.3 kilograms per day (kg/day) of VOCs and 20.7 kg/day of NO_X, establish an Existing Condition to which future emissions can be compared.

Future Mesoscale Emissions

Future Project-related emission calculations are based upon changes in traffic and emission factor data. The traffic data includes traffic volumes that were used to calculate VMT on the study network. The emission factor data included emission reduction programs, shifts in vehicle populations, and other factors. Under the No-Build Condition, VOC emissions were estimated to be 19.7 kg/day and NO_x emissions were estimated to be 6.5 kg/day. The 2030 VOC and NO_X emission factors are lower than the 2017 emissions due to the implementation of emission control programs, such as the Federal Motor Vehicle Emission Control Program (Tier 3), the Stage II Vapor Recovery System, and the Massachusetts Vehicle Inspection and Maintenance program.

Under the Build Condition, as presented in Table 6-8, the VOC emissions are estimated to be 22.1 kg/day and the NO_X emissions are estimated to be 7.3 kg/day. The Build Condition emissions inventory was developed by considering the effects of the Project generated trips on the No-Build network. The SIP requires that proposed projects with VOC and NO_X emissions under the Build Condition that are greater than the No-Build Condition include all reasonable and feasible emission reduction measures.

Table 6-8 Mesoscale Air Quality Analysis Results (kg/day)

Pollutant	Existing Condition	No-Build Condition[1]	Build Conditions	Project-related Emissions[2]
Volatile Organic Compounds (VOCs)	31.3	19.7	22.1	2.4
Oxides of Nitrogen (NOX)	20.7	6.5	7.3	0.8

1 The future No-Build condition emission factors are lower than the Existing conditions emission factors due to the implementation of state and federal emission control programs, such as the Federal Motor Vehicle Emission Control Program (Tier 3) and the Stage II Vapor Recovery System, and the Massachusetts Inspection and Maintenance program.
2 Represents the difference in emissions between the Build and No-Build Conditions

Proposed Mitigation Measures

As discussed in Chapter 5, *Transportation and Parking,* the traffic improvements include signal improvements and timing modifications to the intersections of Summer Street at Elkins Street, Summer Street at East 1st Street, and L Street at East Broadway.

In addition to the intersection improvements the Proponent anticipates implementing a TDM program. A full description of these measures is provided in Chapter 5, *Transportation and Parking*.

The signal optimization improvements result in delay savings and consequentially a 2.4 kg/day reduction of VOCs and a 0.8 kg/day reduction of NO_X. Previous estimates of similar TDM programs in a suburban area have ranged on the order of a two to five percent reduction in VMT, which is assumed to result in comparable pollutant emission savings. Assuming a two percent reduction, the TDM plan is expected to provide a 0.05 kg/day reduction of VOCs and a 0.02 kg/day reduction of NO_X. This results in final Project-related emissions of 1.9 kg/day of VOCs and 0.5 kg of NO_X. A summary of the mitigation emissions reduction is provided in Table 6-9.

Table 6-9 Mitigation Analysis Results (kg/day)

Pollutant	Project-related Emissions[1]	Estimated Reductions Due to TDM Measures[2]	Estimated Reductions Due to Roadway Improvements[3]	Resulting Project-related Emissions
Volatile Organic Compounds (VOCs)	2.4	-0.5	-0.05	1.9
Oxides of Nitrogen (NO_x)	0.8	-0.3	-0.02	0.5

1 Represents the difference in pollutant emissions between the Build and No-Build Conditions.
2 Mitigation from TDM Measures estimated as 2 percent of unmitigated Project-related emissions.
3 Mitigation from roadway improvement measures, such as signal optimization.

6.5.2 Microscale Analysis

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

The air quality assessment conducted for this Project includes a localized analysis of CO concentrations. The microscale analysis evaluated CO concentrations from vehicles traveling through congested intersections in the area around the Project Site under the future conditions. The results from this evaluation were compared to the NAAQS.

Background

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

The Project is located in the City of Boston, which under the EPA designation, is a CO maintenance area. As such, CO concentrations need to be evaluated for this Project.

Air Quality Standards

The EPA has established the NAAQS to protect the public health. Massachusetts has adopted similar standards as those set by the EPA. Table 6-10 presents the NAAQS for carbon monoxide.

Table 6-10 National Ambient Air Quality Standards

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

Carbon monoxide is directly emitted by motor vehicles, and the predominant source of air pollution anticipated from typical developments is emissions from project-related motor vehicle traffic. A product of incomplete combustion, CO is a colorless and odorless gas that prevents the lungs from passing oxygen to the blood stream. According to the EPA, 60 percent of CO emissions result from motor vehicle exhaust, while other sources of CO emissions include industrial processes, non-transportation fuel combustion and natural sources (i.e., wildfires). In cities, as much as 95 percent of CO emissions may come from automobile exhaust.[11]

Background Concentrations

The total CO concentrations that receptor locations will experience include background concentrations from other existing surrounding emission sources. Background concentrations are ambient pollution levels from other stationary, mobile, and area sources. DEP maintains a network of air quality monitors to measure background CO concentrations. Background concentrations are ambient pollution levels from all stationary, mobile, and area sources. Background CO concentrations are determined by choosing the maximum of the 2nd-highest annual values from the previous three years. Looking at the air quality monitor closest to and most representative of the Project Site (the Von Hillern monitor for the years 2014-2016), the CO background values are 1.7 ppm for the 1-hour averaging time and 0.9 ppm for the 8-hour averaging time. These values are much less than the 1-hour and 8-hour NAAQS. The background values are presented in Table 6-11.

Table 6-11 Air Quality Background Concentrations

	Background Concentrations		NAAQS	
Pollutant	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide (CO)	0.9 ppm	8-hour	9 ppm	8-hour
	1.7 ppm	1-hour	35 ppm	1-hour

Monitoring Location: Von Hillern, Boston, MA. Years 2014-2016.

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

BPDA Development Review Guidelines

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

› "Project traffic would impact intersections or roadway links currently operating at Level of Service ("LOS") D, E, or F or would cause LOS to decline to D, E, or F; or

11 U.S. EPA. 2003. National air quality and emissions trends report – 2003 special studies edition. EPA/454/R-03/005. Research Triangle Park, NC.

- Project traffic would increase traffic volumes on nearby roadways by 10 percent or more (unless the increase in traffic volume is less than 100 vehicles per hour); or
- The Project will generate 3,000 or more new average daily trips on roadways providing access to a single location."

As presented in Chapter 5, traffic analysis indicates that the LOS at multiple study intersections will remain at or decline to D, E, or F under the build condition. As such, a microscale analysis was conducted pursuant to the BPDA Development Review Guidelines.

Microscale ("Hot Spot") Analysis Methodology

The modeling for the microscale analysis followed the EPAs guidelines. The traffic data was evaluated and locations were selected based on the requirements of the BPDA Development Review Guidelines and the EPA modeling guidance. Figure 6.4 shows the locations of the air quality study area intersections and receptors.

The microscale analysis calculates maximum 1-hour and 8-hour CO concentrations in the Project area during the peak CO season (winter). EPA's Office of Transportation and Air Quality ("OTAQ") has developed the Motor Vehicle Emission Simulator ("MOVES2014a"). Emission factors were developed using the MOVES2014a program and were combined with the traffic data in EPA's computer model CAL3QHC Version 2.0[12] model to calculate the CO worst-case concentrations. EPA's CAL3QHC is an air quality dispersion model that applies emission factors obtained from MOVES2014a to projected traffic conditions in order to obtain localized pollutant concentrations at real-world locations.

The microscale analysis utilized the traffic (volumes and speeds) and emission factor data for the 2030 No-Build and 2030 Build Conditions. These data were incorporated into air quality models and demonstrate that the Project will meet the CAAA criteria. The microscale analysis calculated CO concentrations at congested intersections near the Project Site under the No-Build and Build conditions for comparison purposes. The worst-case CO concentrations were added to the background levels to determine if the Project's concentrations complied with the NAAQS.

Receptor locations were selected near the congested intersections based upon areas where the public may have access. The intersection receptors were placed at the edge of the roadway, but not closer than 10 feet (3 meters) from the nearest travel lane; as required by the EPA. The results calculated at these receptor locations represent the highest concentrations at each intersection. Receptor locations were grouped into receptor quadrants, as presented in Figure 6.4, to simplify the presentation of the results. Receptor locations farther away from the intersections will have lower concentrations because of the dispersion characteristics. The receptor locations that are along other portions of the roadways in the study area are expected to have lower concentrations than the receptor locations at the intersection as the emission rates for vehicles traveling along these roadways are much lower than the emission rates for vehicles queuing at intersections.

12 User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations Near Roadway Intersections, US Environmental Protection Agency, Office of Air Quality Planning and Standards, Technical Support Division; Research Triangle Park, NC; EPA-454/R-92-005; November 1992

Emission Rates

All the vehicle emission factors used in the microscale analysis were obtained using the EPA's MOVES2014a emissions model. MOVES2014a is EPA's latest motor vehicle emissions model for state and local agencies to estimate pollutants from cars, trucks, buses, and motorcycles. MOVES2014a calculates CO emission factors from motor vehicles for free-flow conditions in grams per vehicle mile and for idling conditions in grams per vehicle hour. The emission rates used in this study were developed with the data provided by DEP. The emission factors for the microscale analysis were based upon a morning peak hour on a typical weekday in the winter for Suffolk County and were calculated for idle and free-flow conditions based upon roadway travel speeds and grades.

The emissions calculated for this air quality assessment include Tier 3 emission standards, which is an EPA program that sets new vehicle emissions standards, including lowering the sulfur content of gasoline, heavy-duty engine, and vehicle GHG regulations (2014-2018), and the second phase of light-duty vehicle GHG regulations (2017-2025). It also includes Massachusetts specific conditions, such as the state vehicle registration age distribution and the statewide Inspection and Maintenance ("I/M") Program. These stringent emissions regulation programs often result in smaller emissions inventories with the passage of time when comparing similar scenarios.

Traffic Data

The air quality study evaluates the air quality impacts of vehicular traffic associated with the Project on the environment. The vehicle traffic represents the worst-case conditions, which includes the increase in traffic volumes due to specific developments proposed for the study area, projected traffic growth over time, and future traffic associated with the Project. The air quality study utilizes traffic and emissions data for the future No-Build and future Build Conditions. These data are incorporated into the EPA air quality models to generate air pollutant concentrations that demonstrate whether or not the Project would have air quality impacts. The scenarios modeled include:

› **No-Build Condition (2030):** reflects background growth associated with other planned projects and general background regional growth.
› **Build Condition (2030):** assuming the 2030 No-Build Condition background growth with the Project fully constructed and in operation.

Traffic data (volumes, delays, and speeds) was developed for each analysis condition. The traffic volumes and level of-service for the study area were evaluated, and based on the BPDA Development Review Guidelines and EPA Guidelines, four intersections were selected for analysis:

› Summer Street at Drydock Ave/Pappas Way
› Summer Street at Dedicated Freight Corridor
› Summer Street/L Street at East 1st Street
› L Street at East Broadway

The analysis considered the evening peak hour traffic conditions as intersection volumes and delays are generally larger. The intersections represent the top-ranking intersections in the study area based on intersection volumes and level of service. If these intersections show concentrations below the NAAQS, then it is expected that all intersections would be below the NAAQS.

Microscale Air Quality Study Results

The CO concentrations for each intersection under the No-Build and Build Conditions are presented in Table 6-12 and Table 6-13 The results show that there are minimal to no increases for 1-hour and 8-hour CO concentrations between the 2030 No-Build and Build conditions due to the minor traffic volume increase and minimal intersection delays experienced at the study intersections. The 1-hour CO concentrations ranged from 1.8 to 1.9 parts per million (ppm), and the 8-hour CO concentrations were 1.0 ppm for the 2030 No-Build and Build conditions. The results of the microscale analysis demonstrate that the 2030 No-Build and Build CO concentrations (both 1-hour and 8-hour values) for the Project are well below the NAAQS.

Table 6-12 Predicted Maximum 1-Hour CO Concentrations[1, 2]

No.	Intersection	Receptor Quadrant[3]	1-Hour CO Concentrations (ppm)	
			2030 No-Build	2030 Build
1	Summer Street at Drydock Ave/ Pappas Way	North	1.9	1.9
		East	1.9	1.9
		South	1.9	1.9
		West	1.9	1.9
2	Summer Street at Dedicated Freight Corridor	Northwest	1.9	1.9
		Northeast	1.9	1.9
		Southeast	1.9	1.9
		Southwest	1.8	1.9
3	Summer Street/ L Street at East 1st Street	Northwest	1.8	1.9
		Northeast	1.8	1.8
		Southeast	1.8	1.9
		Southwest	1.8	1.9
4	L Street at East Broadway	Northwest	1.9	1.9
		Northeast	1.8	1.9
		Southeast	1.8	1.8
		Southwest	1.9	1.9

Source: VHB, Inc.

1 See Figure 6.4 for intersection and receptor locations.

2 The concentrations are expressed in parts per million (ppm) and include a 1-hour background concentration of 1.7 ppm. The 1-hour NAAQS for CO is 35 ppm.

3 Concentrations represent maximum concentrations within the grouping of receptors placed in the respective directions of each intersection.

Table 6-13 Predicted Maximum 8-Hour CO Concentration[1, 2]

No.	Intersection	Receptor Quadrant [3]	8-Hour CO Concentrations (ppm) 2030 No-Build	2030 Build
1	Summer Street at Drydock Ave/ Pappas Way	North	1.0	1.0
		East	1.0	1.0
		South	1.0	1.0
		West	1.0	1.0
2	Summer Street at Dedicated Freight Corridor	Northwest	1.0	1.0
		Northeast	1.0	1.0
		Southeast	1.0	1.0
		Southwest	1.0	1.0
3	Summer Street/ L Street at East 1st Street	Northwest	1.0	1.0
		Northeast	1.0	1.0
		Southeast	1.0	1.0
		Southwest	1.0	1.0
4	L Street at East Broadway	Northwest	1.0	1.0
		Northeast	1.0	1.0
		Southeast	1.0	1.0
		Southwest	1.0	1.0

Source: VHB, Inc.
1 See Figure 6.4 for intersection and receptor locations.
2 The concentrations are expressed in parts per million ("ppm") and include an 8-hour background concentration of 0.9 ppm and a persistence factor of 0.7. The 8-hour NAAQS for CO is 9 ppm.
3 Concentrations represent maximum concentrations within the grouping of receptors placed in the respective directions of each intersection

Conclusion of Microscale Analysis

The air quality evaluation demonstrated that the development of the Project would not result in adverse localized air quality impacts. The microscale analysis evaluated Project-related vehicles traveling through congested intersections in the study area. This analysis demonstrates that all existing and future CO concentrations are below the NAAQS. Specifically:

› All the 1-hour CO concentrations ranged from 1.8 to 1.9 ppm and are well below the CO NAAQS of 35 ppm.
› All the 8-hour CO concentrations were 1.0 ppm and are below the CO NAAQS of 9 ppm.

The microscale study demonstrates that the Project conforms to the CAAA and the SIP because:

› No violation of the NAAQS is expected to be created.
› No increase in the frequency or severity of any existing violations (none of which are related to this development) is anticipated to occur.

› No delay in attainment of any NAAQS is expected to result due to the implementation of the proposed action.

Based upon the analysis presented herein and the conclusions summarized above, no significant adverse air quality impacts from the Project are anticipated on the microscale level.

6.5.3 Stationary Source Emissions and Permitting

Sizable combustion equipment (emergency generators, boilers, etc.) with the potential to emit air pollutants at the Proposed Project may be subject to air permitting under 310 CMR 7.00. DEP has established the "Environmental Results Program" ("ERP") to streamline the certification process of smaller combustion equipment subject to permitting regulations.

The exact sizes, makes, models of equipment to be used by the Project is currently unknown and will be determined throughout the design process. However, equipment that is likely to be used at the Project, such as boilers or emergency generators, may be subject to permitting regulations. If a boiler with a rated capacity between 10 to 40 MMBtu per hour is used on the site, the Proponent will submit the appropriate self-certification forms under the ERP process before the installation of the boiler. Additionally, if an emergency generator with a rated capacity equal to or greater than 37 kW is used on the site, the Proponent will submit the appropriate self-certification forms under the ERP process within 60 days of generator startup. During the ERP process, the stationary sources will be required to show compliance with all applicable air quality regulations in order to ensure public health and safety.

6.6 Construction

Construction impacts are temporary in nature and are typically related to air (dust), noise, and stormwater runoff. Temporary construction-period impacts will be managed to minimize disruption to the surrounding neighborhoods. Construction Management Plans ("CMPs") will be prepared for each phase of the Project to address temporary construction-related impacts. As requested in the MEPA ENF Certificate, the Proponent has developed a conceptual CMP presented in Appendix G. It must be noted that as each phase progresses in design, the respective construction managers will be refining and expanding the CMPs in order to address sub-phases and reflect the input of the regulatory authorities having jurisdiction over CMPs.

The purpose of the conceptual CMP is to develop a proactive approach to identify and address the potential impacts on the community that may arise during construction and to minimize these impacts where possible. The Proponent will meet with local elected officials, as needed, during the development and implementation of the CMPs to address specific local concerns. The conceptual CMP aims to address impacts of the Project construction activities. The CMPs to be developed for each phase of development will detail overall construction schedule, work hours, number of construction workers, worker transportation and parking, and number of construction vehicles and routes. The CMPs will also include additional information on the following.

6.6.1 Construction Management

The site preparation and construction staging for the Project will include several important steps. The trailers and staging areas will provide a location for erosion control equipment and supplies, documentation related to the Project's local permits and NPDES compliance, and spill control equipment.

The following are some general requirements that will apply to all contractors on the Project Site:

- Any refueling of construction vehicles and equipment shall take place outside of wetlands buffer zones and shall not be conducted in proximity to sedimentation basins or diversion swales.
- No on-site disposal of solid waste, including building materials, is allowed.
- No materials shall be disposed of into wetlands or existing and proposed drainage systems. All contractors shall be informed that the cleaning of equipment is prohibited in areas where wash water will drain directly into wetlands.
- The Contractor shall establish a water source to supply a "water truck," or other means, to provide moisture for dust control and irrigation. Water shall not be withdrawn from wetland areas.

Although specific construction and staging details have not been finalized, the Proponent will work with the construction contractor to verify that materials staging and storage areas will be located to minimize impacts. All staging and vehicular unloading will occur on-site.

6.6.2 Construction Waste Management

The CMP will include a Construction Waste Management Plan ("CWMP") with an overall goal of diverting at least 75 percent of construction debris from landfills. All demolition debris waste will be separated and legally disposed of in regional landfills. Any material which cannot be separated and recycled (structural steel, electrical, metal plumbing) will be sorted and recycled. Painted concrete from the demolition will be stockpiled on-site and processed under a DEP Beneficial Use Determination for use as fill during construction, or will be legally disposed of in out-of-state landfills. During construction, unpainted concrete will be crushed, and asphalt will be ground, and the crushed unpainted and ground asphalt will be reused on-site. DEP and the City Board of Health will be notified in accordance with 310 CMR 16.03 using the Exempt Recycling and Organics Management Notification Form at least 30 days prior to starting the crushing of concrete and masonry at the Project Site. Any steel located within concrete will be removed and recycled. During construction, wood, metals, gypsum, cardboard and plastic will be segregated and sent to recycling facilities. All construction debris will be sent to a solid waste sorting facility for separation of any recyclable materials.

6.6.3 Construction Noise/Vibrations

Construction period activities may temporarily increase nearby sound levels due to the intermittent use of heavy machinery during the construction of the Project. Construction activities will occur primarily during normal daytime hours (7:00 AM to 7:00 PM, Monday to Saturday).

The Project will generate typical sound levels from construction activities, including demolition, foundation construction, truck movements, heavy equipment operations, and general construction activities. No blasting activities are required to construct the Project. The Project will implement mitigation measures to reduce or minimize noise from construction activities.

Specific construction period noise mitigation measures may include:

- The Project Specifications will require that construction equipment will be required to have installed and properly operating appropriate noise muffler systems.
- The Project Specifications will require that construction vehicles and equipment will be required to maintain their original engine noise control equipment.
- All construction activities will typically be limited to normal working hours and off-hour work would be minimized, to the extent practicable.
- Appropriate traffic management techniques implemented during the construction period will mitigate roadway traffic noise impacts.
- Proper operation and maintenance, and prohibition of excessive idling of construction equipment engines, will be implemented as required by DEP regulation 310 CMR 7.11.
- Work hours and relevant noise generating activities will be reviewed further with the City of Boston to outline those construction activities which may occur prior to 7:00 AM and after 7:00 PM, Monday through Saturday, as well as those activities which may occur during weekend hours.
- Quieter-type (manually adjustable or ambient-sensitive) backup alarms on construction vehicles will be required.
- Additional noise control options will be evaluated during the design process for effectiveness and feasibility.
- Appropriate operational specifications and performance standards will be incorporated into the construction contract documents.

6.6.4 Air Quality and Dust

Construction and demolition activities are expected to result in a short-term increase in air pollution emissions. The primary source of potential construction air emissions is fugitive dust from construction operations (e.g., demolition) and vehicle emissions from construction equipment. Overall, potential impacts on ambient air quality from construction activities associated with site-specific development are temporary and not expected to be significant. Specific measures to be implemented by contractors to reduce potential emissions and minimize impacts include:

- Using wetting agents to control and suppress dust that may come from excavated and construction materials.
- Fully covering all trucks used for transportation of construction debris prior to leaving the site.
- No long-term site storage of construction debris.
- Daily cleaning of street and sidewalks by mechanical means so as to minimize dust and dirt accumulation.

Fugitive Dust

Fugitive dust consists of soil particles that become airborne when disturbed by heavy equipment operations or through wind erosion of exposed soil after groundcover (either lawn or pavement) is removed. This construction-related air-quality impact (i.e., fugitive dust) would be of relatively short duration.

Dust control measures during dry or windy periods will be implemented. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water and/or the use of stone in construction roads and staging areas. Additionally, regular sweeping of pavement of adjacent roadway surfaces during construction will be conducted to minimize the potential for vehicular traffic to create airborne dust and particulate matter.

Construction Vehicle Emissions

Emissions from the operation of construction machinery are short-term and not generally considered substantial. Emission controls for construction vehicle emissions will be employed, including, as appropriate, proper maintenance of all motor vehicles, machinery, and equipment associated with construction activities (i.e., the maintenance of manufacture's muffler equipment or other regulatory-required emissions control devices). The state's anti-idling law will be enforced during all construction phases of the Project with the installation of on-site anti-idling signage at loading and drop-off/pick-up/waiting areas. In addition, the Proponent is committed to meeting the requirements the DEP State Revolving Fund ("SRF") for diesel construction equipment. These require that all non- road diesel equipment rated 50 horsepower or greater that will be used meet EPAs Tier 4 emission limits or be retrofitted with appropriate emission reduction equipment.

Emission reduction equipment includes EPA-verified, CARB-verified or DEP-approved diesel oxidation catalysts or diesel particulate filters.

6.6.5 Soils Management

Soil management during construction and excavation will be conducted in accordance with a Massachusetts Contingency Plan ("MCP") Release Abatement Measure ("RAM") Plan. This section provides background on the MCP process and the activities that will be taken to assess and mange impacted soils during redevelopment.

Massachusetts Contingency Plan Process

Currently, the Project Site has been cleaned up and closed in accordance with the MCP process; however, the site was used for power generation since the late 1800s, and residual impacts from these past operations remain in soil. When soil is excavated and transported from the site as part of redevelopment, this work will need to be conducted in accordance with MCP requirements.

The MCP lays out a detailed process about how impacted soils must be assessed and handled, including provisions for public notification, risk reduction measures, assessment, risk characterization, and eventual regulatory closure. The MCP process is a semi-privatized regulatory program that incentivizes private parties to respond to contamination while also allowing DEP to focus its resources on matters of highest concern. Under the semi-privatized MCP process, Licensed Site Professionals ("LSP") manage site investigation and cleanup activities in accordance with performance standards specified in the MCP. The work overseen by LSPs is subject to review by DEP.

Soil Precharacterization

Previous assessment and cleanup work conducted by the prior owner (under the oversight of LSPs) provides good information about the nature and extent of residual impacts at the Project Site. Additional soil sampling will be conducted prior to excavation to identify options for on-site reuse or off-site disposal, recycling, or reuse of soil.

Prior to soil excavation, soil samples will be collected from areas and depths where excavation is planned to characterize soils for possible reuse, recycling, or disposal. These soil samples will be submitted to a laboratory for analysis of a broad list of chemical constituents. This sampling and analysis is referred to as "precharacterization" sampling because it is conducted before excavation occurs rather than after soil has been excavated and stockpiled. A benefit of precharacterization sampling and analysis is that soil receiving facilities can be identified prior to the start of excavation which can reduce the amount of time that stockpiles of soil need to remain on-site.

RAM Plan

Prior to excavation of impacted soil, a RAM Plan will be prepared by an LSP and submitted to DEP. The RAM Plan will include the results of the precharacterization sampling and analysis and will describe management procedures for handling of impacted soil and groundwater during excavation and construction. The RAM Plan will also include:

- An environmental monitoring plan;
- A health and safety plan;
- A human health risk characterization; and
- A soil management plan.

The environmental monitoring plan will describe air quality monitoring that may be warranted to confirm the safety of on-site workers and nearby residents and workers. The health and safety plan will include specific action levels for air quality monitoring and other safety measures. The human health risk assessment will evaluate health risks for on-site workers, nearby residents and workers, and future occupants of on-site buildings. The results of the human health risk assessment will be used to identify remediation activities, mitigation measures, or monitoring activities that may warranted. The soil management plan will describe specific procedures for soil handling.

Soil Management Procedures

Based on the results of precharacterization sampling and analysis, the soil management plan will describe the constituents that are present in soil. The soil will be organized into different groups based on constituent concentrations, and if different procedures are required for different groups, those procedures will be clearly described in the soil management plan.

The soil management plan will include the following procedures as well as additional warranted procedures based on the results of precharacterization sampling:

- Excavated material will be stored within the site's perimeter fence until transported offsite for proper disposal.
- Workers contacting soil will be informed of residual constituent concentrations and will use appropriate personal protective equipment, as described in site health and safety plans.
- Soil analytical results will be submitted with waste characterization profiles to approved facilities for ultimate disposal, recycling, or reuse.
- Soils transported from the site will be transported using appropriate shipping documentation, which could include an MCP Bill of Lading, a material shipping record and log, or a hazardous waste manifest, depending on the constituent concentrations present in the soil.
- Shipping containers and transport vehicles will be labeled and placarded in accordance with applicable requirements, including MassDOT specifications.

- Copies of the appropriate signed shipping documentation verifying acceptance at receiving facilities will be maintained and submitted to DEP in RAM Status or Completion Reports.
- Soil that is removed to create lay-back for excavations may be returned to its original location once excavation is complete.

If warranted based on the results of precharacterization sampling, additional procedures may include covering soil piles with plastic sheeting at the end of a work day and/or using a vapor suppressant to reduce concentrations of volatile constituents in air.

6.6.6 Sedimentation and Erosion Control

The Project will include implementation of erosion and sedimentation controls during each sequence of construction. This plan shall be adapted to fit the Contractor's equipment, weather conditions and specific construction activity. The following is a list of some specific sedimentation and erosion control measures to be employed as well as construction methods that minimize impacts.

Pre-Construction Erosion Control

- Erosion control barriers (silt fences and/or hay bales) shall be installed prior to the start of construction. These barriers shall remain in place until all tributary surfaces have been fully stabilized.
- The contractor shall maintain a stockpile of erosion control materials to supplement or repair on-site erosion control devices. These materials shall include, but are not limited to, hay bales, silt fence, erosion control matting and crushed stone.
- A temporary stone construction entrance is required to prevent vehicle tracking of silt, mud, etc., onto existing roads. The stone shall be replaced regularly as well as when stone is silt-laden.
- The contractor is responsible for erosion control on the site and shall utilize erosion control measures where needed, regardless of whether the measures are specified on the construction plans or in supplemental plans prepared for the SWPPP.

General Erosion Control Measures

The most important aspects of controlling erosion and sedimentation are limiting the extent of disturbance and limiting the size and length of the tributary drainage areas to the worksite and drainage structures. These fundamental principles shall be the key factors in the contractor's control of erosion on-site. If necessary, the contractor shall construct temporary diversion swales, settling basins or use a settling tank. If additional drainage or erosion control measures are needed, they shall be located in the upland, up-gradient from the hay bales and silt fences.

The Contractor is responsible for the maintenance and repair of all erosion control devices on-site. All erosion control devices shall be regularly inspected. At no time shall silt-laden water be allowed to enter sensitive areas (drainage systems). Any runoff from disturbed surfaces shall be directed through a sedimentation tank or other sediment removal BMPs that will be designed to control velocity and sediment. Points of discharge will be stabilized to minimize erosion.

Grass and Slope Cover Specifications

All disturbed areas not used for parking operations shall be graded and stabilized with plantings, sod, grass, riprap, or other suitable material as shown on the plans or as specified. A minimum of four inches of loam shall be applied to all surfaces to be seeded. Loam shall be uniformly applied, compacted, shaped, and smoothed prior to being seeded.

Seeding may be performed by hand, mechanical, or tractor-mounted spreader. Hydroseeding is also recommended. Seeding before April 15, or after October 15, shall be reapplied between these dates if a minimum germination of 90 percent of surface area coverage has not occurred, or if the surface has become unstable. Seed shall be lightly raked into a depth of ¼-inch to one inch, with raking to be perpendicular to slope. Seeded areas shall be mulched using seed-free straw, covering the area to a depth of one inch.

Utility Construction

Care shall be taken to assure that the utility trenches do not channel runoff toward wetlands or to drainage system openings.

Drainage System

The following will be employed in order to minimize impacts to the local drainage system:

- Inlet works shall be constructed to a point that will allow the stabilization of the area over the pipe, if the tributary drainage works are not to be immediately extended.
- Hay bales and check dams shall be used on roadways to divert runoff onto stabilized areas.
- The drainage system shall be installed from the downstream end up.
- Until tributary areas are stabilized, catch basin inlets shall be filtered with a Siltsack, or by placing filter fabric over catch basin grates and surrounding the grate with stone or sand bags. If intense rainfall is predicted before all tributary areas are stabilized, erosion control measures shall be reinforced for the duration of the storm. Downstream areas shall be inspected, and any sediment removed at the end of the storm.
- Unfiltered water shall not be allowed to enter pipes from unstabilized surfaces.

- Trench excavation shall be limited to the minimum length required for daily pipe installation. All trenches shall be backfilled as soon as possible. The ends of pipes shall be closed nightly with plywood.
- During construction of the Project, silt-laden waters shall be intercepted prior to reaching catch basins. Any gross depositions of materials on paved surfaces shall be removed.
- Streets shall be vacuum swept during the April-May period.
- Catch basins should be inspected monthly and cleaned in anticipation of the winter season in November and at the same time the roads are swept in the spring.

Maintenance of Erosion and Sedimentation Controls

Scheduled inspections and maintenance of erosion and sedimentation controls will be routinely performed by the Contractor and/or an Environmental Site Monitor to maintain the functional capacity of the stormwater system and to protect stormwater quality during construction. Sediment and erosion controls will be inspected within 12 hours following each storm event of 0.5-inch or greater. Immediate action will be taken to correct any failures that are observed, and repairs and/or adjustments made promptly to any erosion and sedimentation control measures found to be inadequately performing. Silt sacks or hay bales will be installed in or around existing and new catch basins and a supply of replacement materials such as silt fence, hay bales, etc., necessary to make repairs or for first response in the event of an accidental release or failure, will be stored on-site. Catch basins in work areas will be cleaned when the sump becomes one-half full and accumulated sediment and debris should be removed from the site.

6.6.7 National Pollutant Discharge Elimination System

The Project is subject to the provisions of the NPDES because the proposed development results in the disturbance of more than 1 acre of land. Prior to the start of construction, the property Owner and/or General Contractor must file a NOI with the EPA under the NPDES General Permit for Construction Activities. The NOI will include a SWPPP, largely consisting of the erosion and sedimentation control plan described herein. A SWPPP will be prepared by the general contractor prior to filing the NOI for the NPDES Phase II Stormwater General Permit. The general contractor is solely responsible for developing and implementing the SWPPP.

The SWPPP will be implemented prior to and during construction to comply with the requirements of the NPDES General Permit. The Contractor will be responsible for implementing and maintaining all erosion and sedimentation control measures.

Below are specific recording and inspection requirements:

NPDES Record Requirements

- A signed copy of the NPDES submittal and SWPPP must be kept on-site at all times during construction and shall be made available to all interested parties.

- Records must be maintained by the permitee for a period of three years from the date of stabilization of the site. Stabilization occurs when a site has over 70 percent vegetative growth and/or mechanical stabilization throughout.
- The detailed plans of completed work must be added to the NPDES and SWPPP information specified above as they become available.

NPDES Inspection Requirements

- All inspections shall be conducted by qualified personnel who shall produce written quantitative and qualitative reports on the construction methods, general condition of the site, the condition of erosion control measures, and the status of the installation of drainage structures.
- Inspections are required during land alteration a minimum of one of every seven days while surfaces are not stabilized.
- Inspections are required within 24 hours of storms which are 0.25-inches or greater of precipitation.

When the site is fully stabilized, inspections shall be conducted at monthly intervals for a period of three years.

6.6.8 Pedestrian Safety and Access

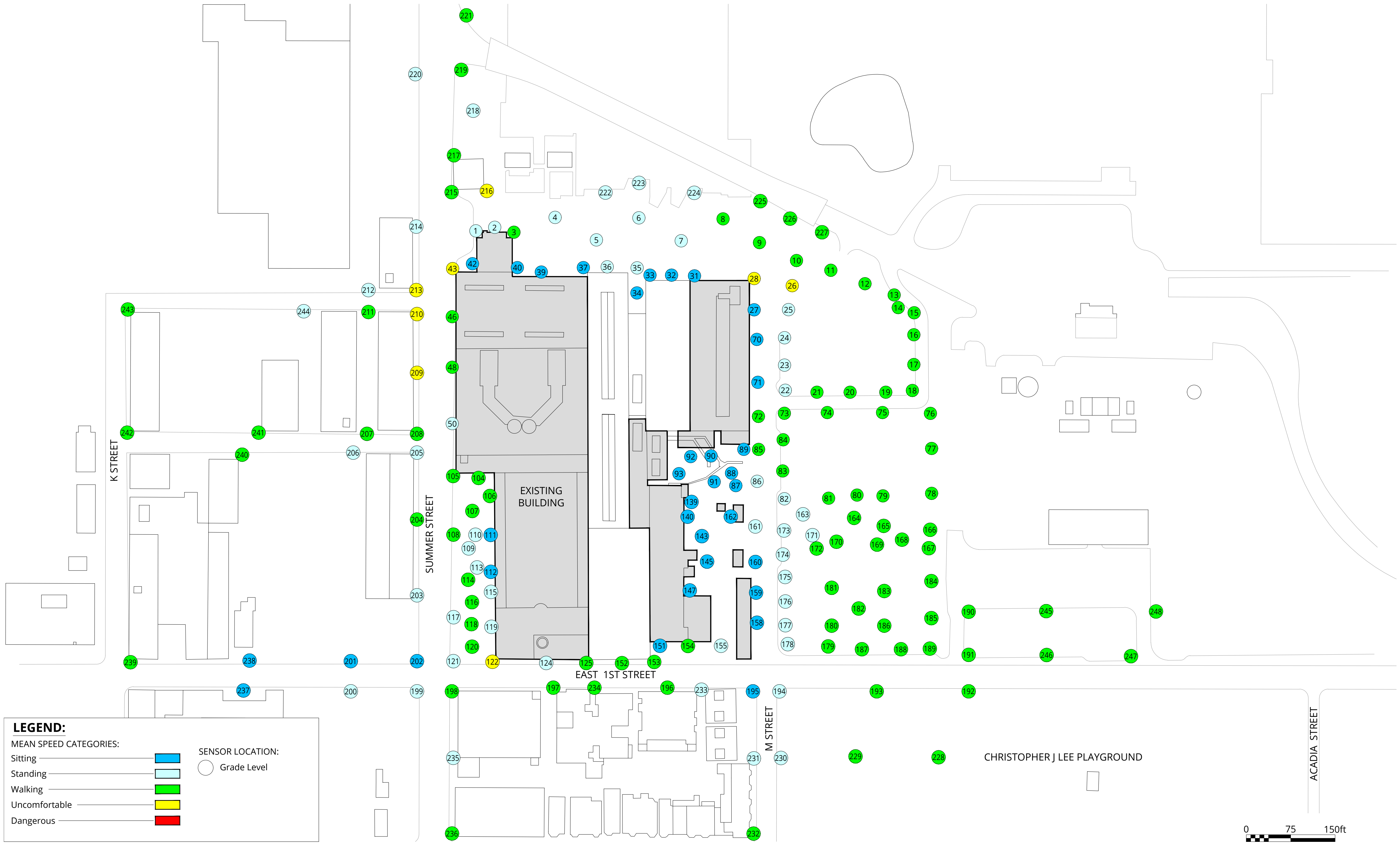
The Project is committed to ensuring that pedestrian and bicycle accommodations of equivalent width, quality, and accessibility be provided and protected throughout construction. All temporary sidewalk and/or bike lane accommodations will be treated as a normal sidewalk and bike lane with regards to winter weather operations (clearing of snow and ice) and extreme rain events (prevent/resolve large puddles), to the extent feasible. During construction, the Project will aim to not close any sidewalks and/or bike lanes but will relocate and/or protect such facilities. As the Project advances in design and moves into construction, the General Contractor will identify changes required in any bicycle and/or pedestrian routes as part of the CMP.

6.6.9 Construction Traffic and Parking

Construction period impacts on the local transportation system, including access points, truck routes and hours of construction and deliveries will be minimized by coordination with the City of Boston. Construction workers will be encouraged to car/vanpool and public transportation. Staging areas will be coordinated with the City to minimize impacts to the movement of vehicles and pedestrians in the area. Secure on-site storage for tools and materials will be provided in order to minimize the number of construction related trips and vehicles that access the site. Police details will be used as necessary to facilitate access to the Project Site for construction vehicles and to maintain safe and efficient passage for pedestrians and motor vehicles.

6.6.10 Odor and Rodent Control

The contractor will file a rodent extermination certificate as required with any building permit applications to the City. Rodent inspection, monitoring, and treatment will be carried out before, during, and at the completion of all construction work for the Project, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of areas throughout the Project Site. During the construction process, regular service visits will be made to maintain effective rodent control levels.

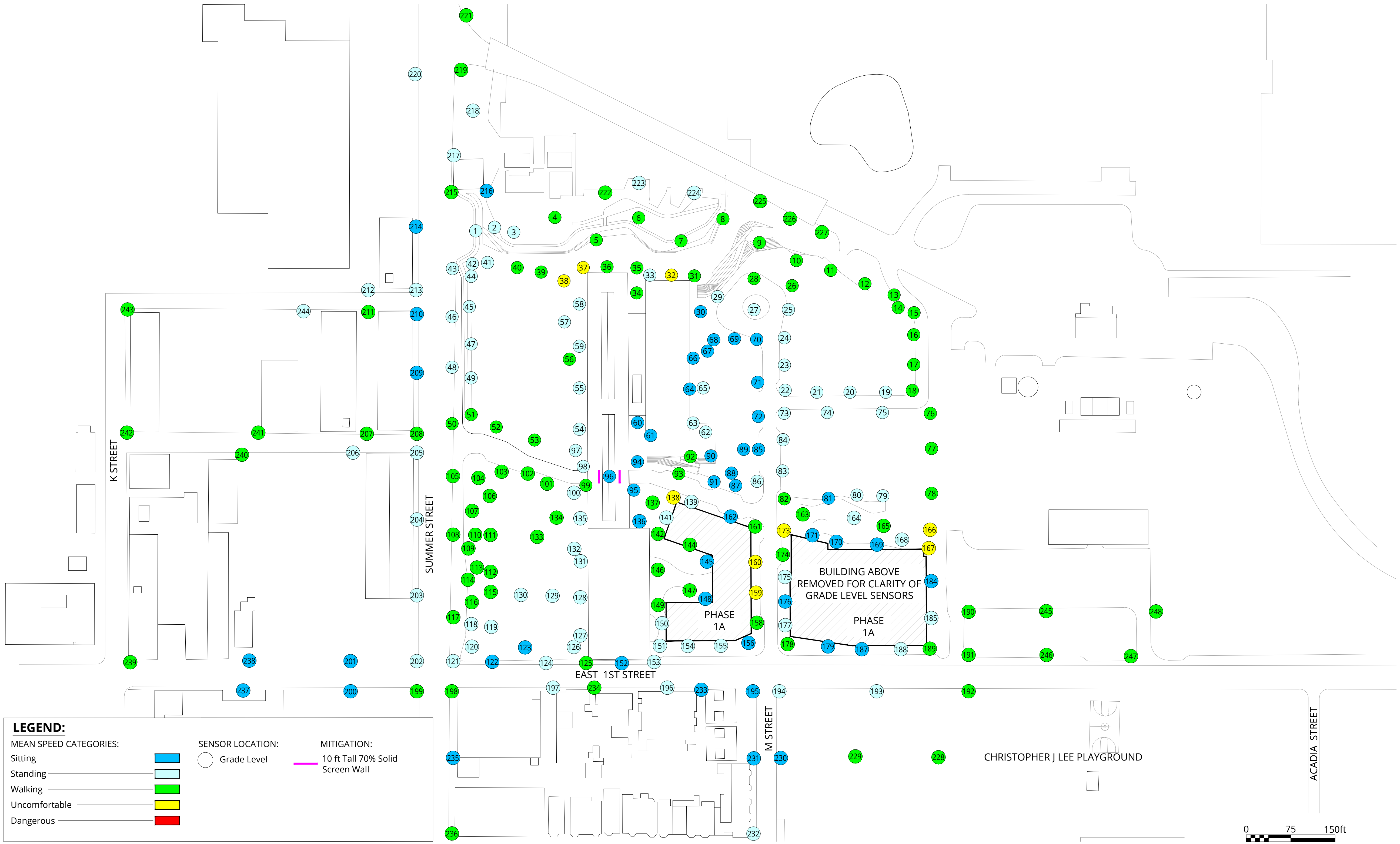


Source: RWDI

Figure 6.1a

Pedestrian Wind Conditions
Mean Speed - No Build

L Street Station Redevelopment
Boston, Massachusetts

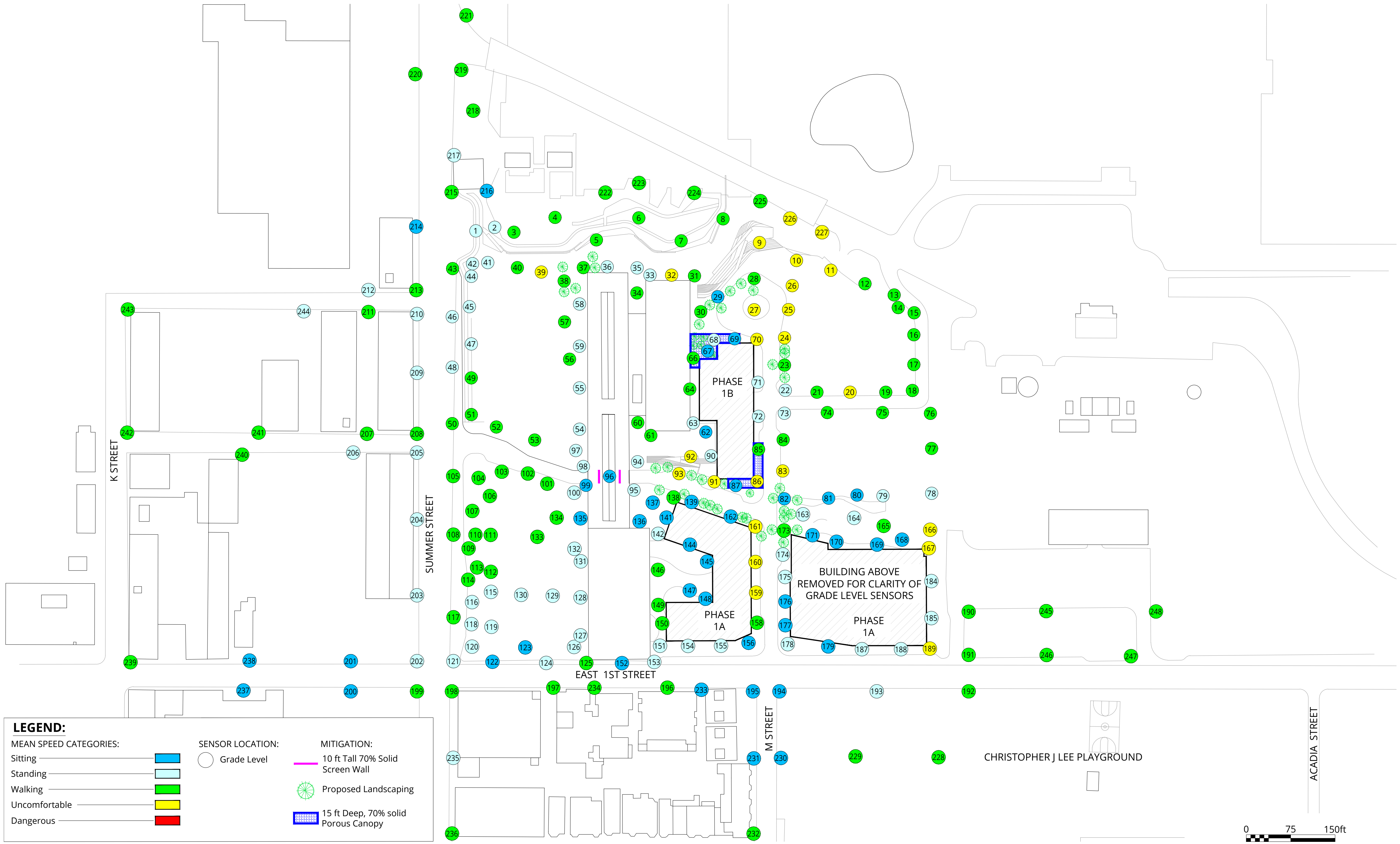


Source: RWDI

Figure 6.1b

Pedestrian Wind Conditions
Mean Speed - Phase 1A

L Street Station Redevelopment
Boston, Massachusetts

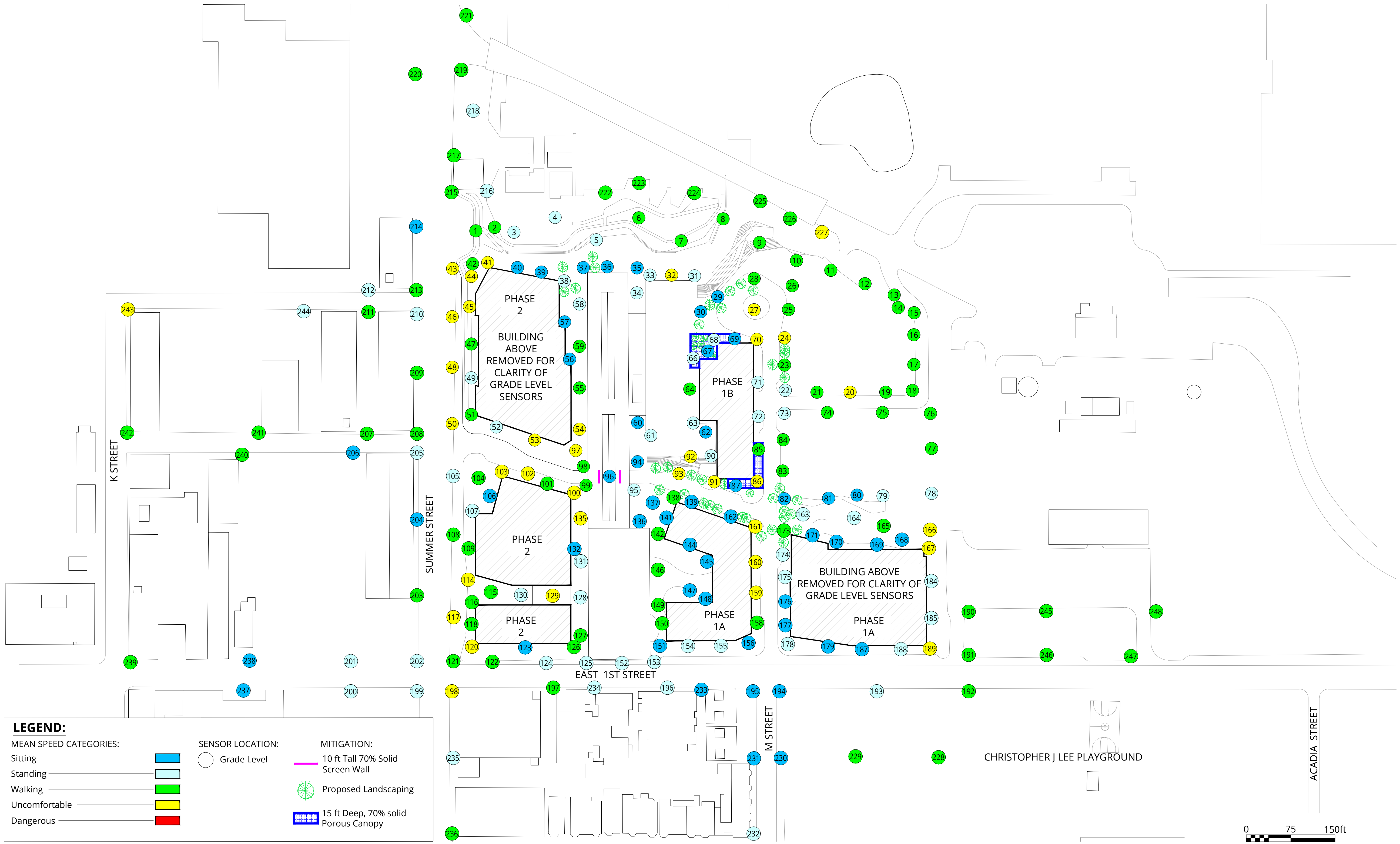


Source: RWDI

Figure 6.1c

Pedestrian Wind Conditions
Mean Speed - Phase 1B

L Street Station Redevelopment
Boston, Massachusetts

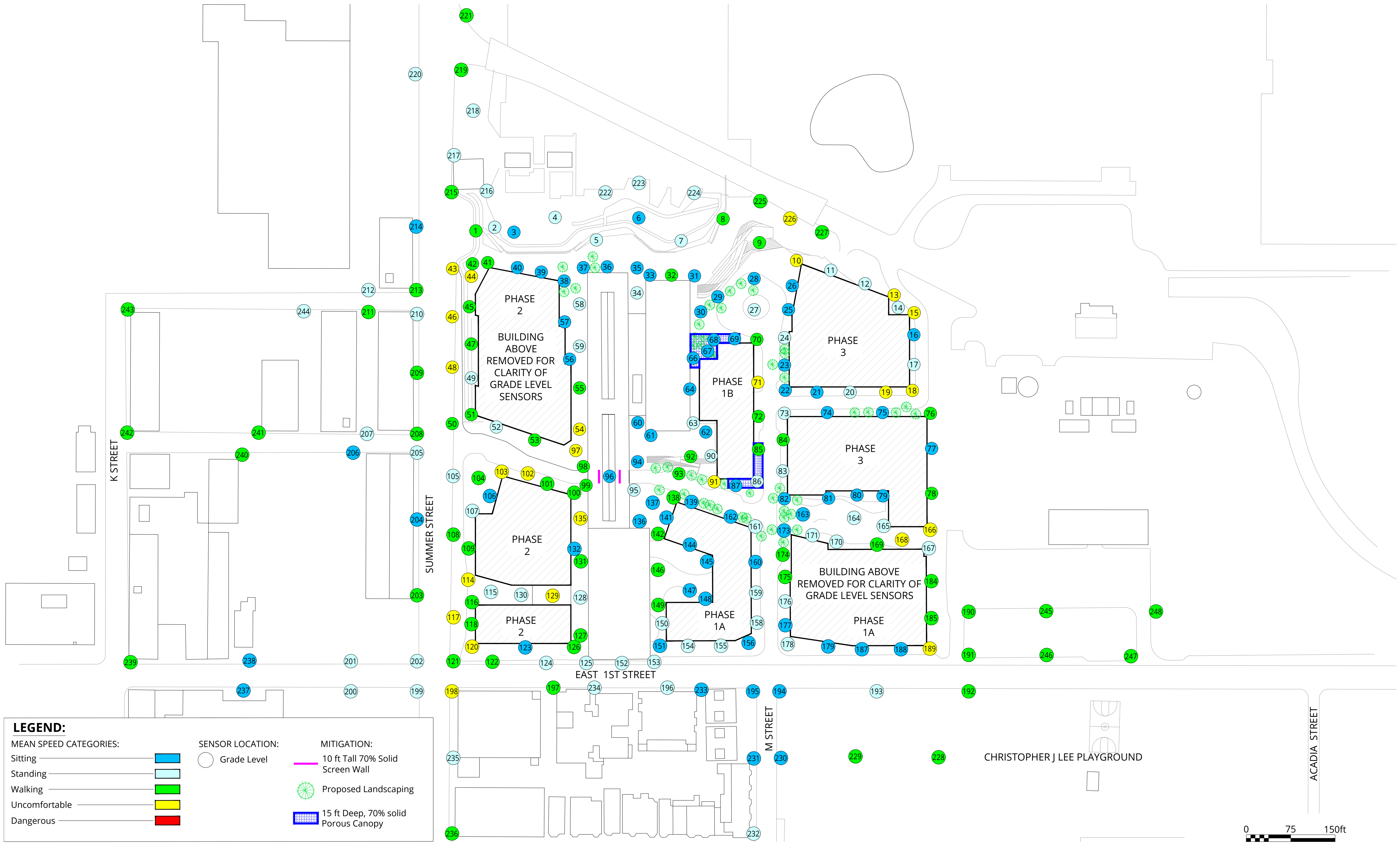


Source: RWDI

Figure 6.1d

Pedestrian Wind Conditions
Mean Speed - Phase 2

L Street Station Redevelopment
Boston, Massachusetts

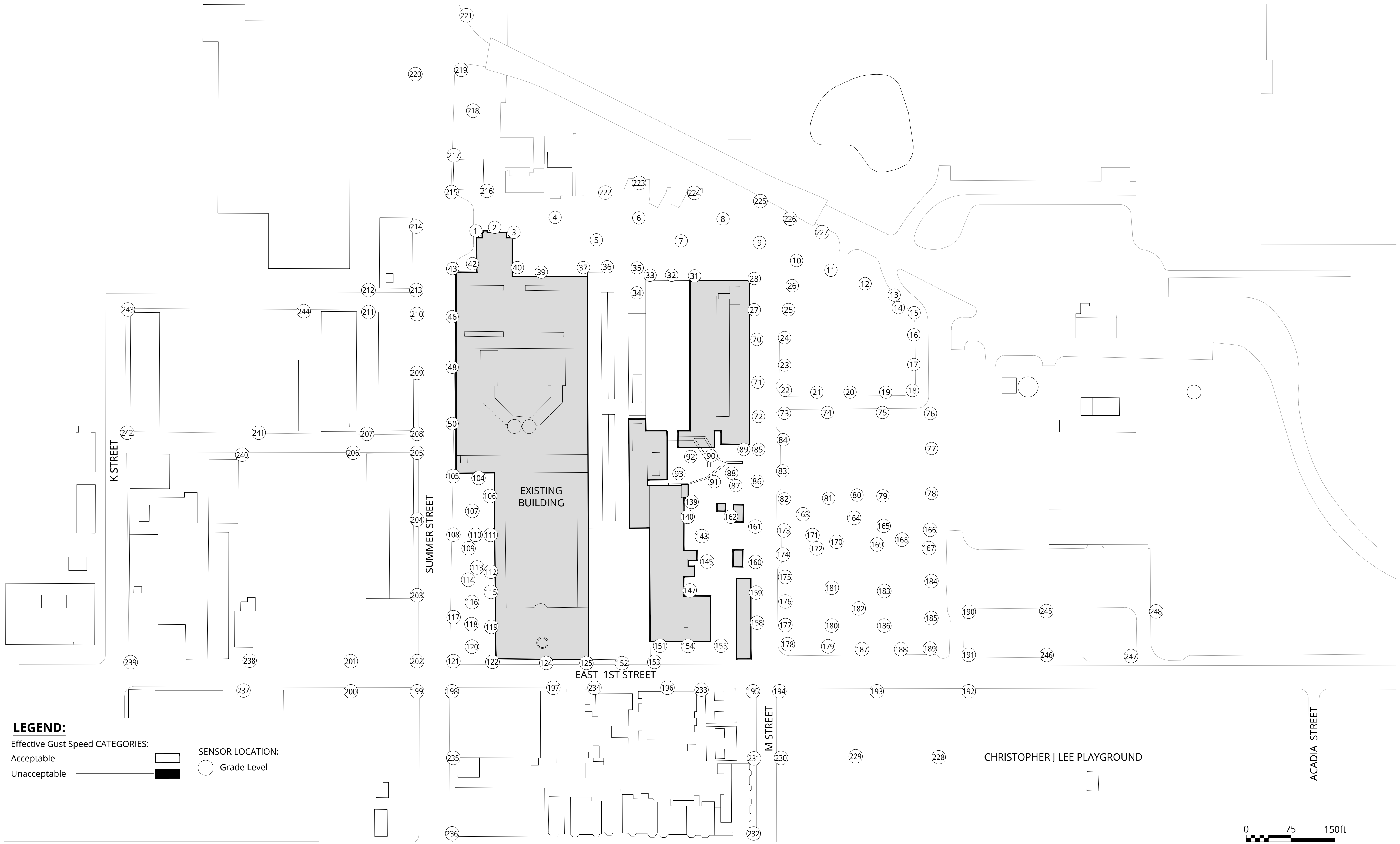


Source: RWDI

Figure 6.1e

Pedestrian Wind Conditions
Mean Speed - Phase 3

L Street Station Redevelopment
Boston, Massachusetts

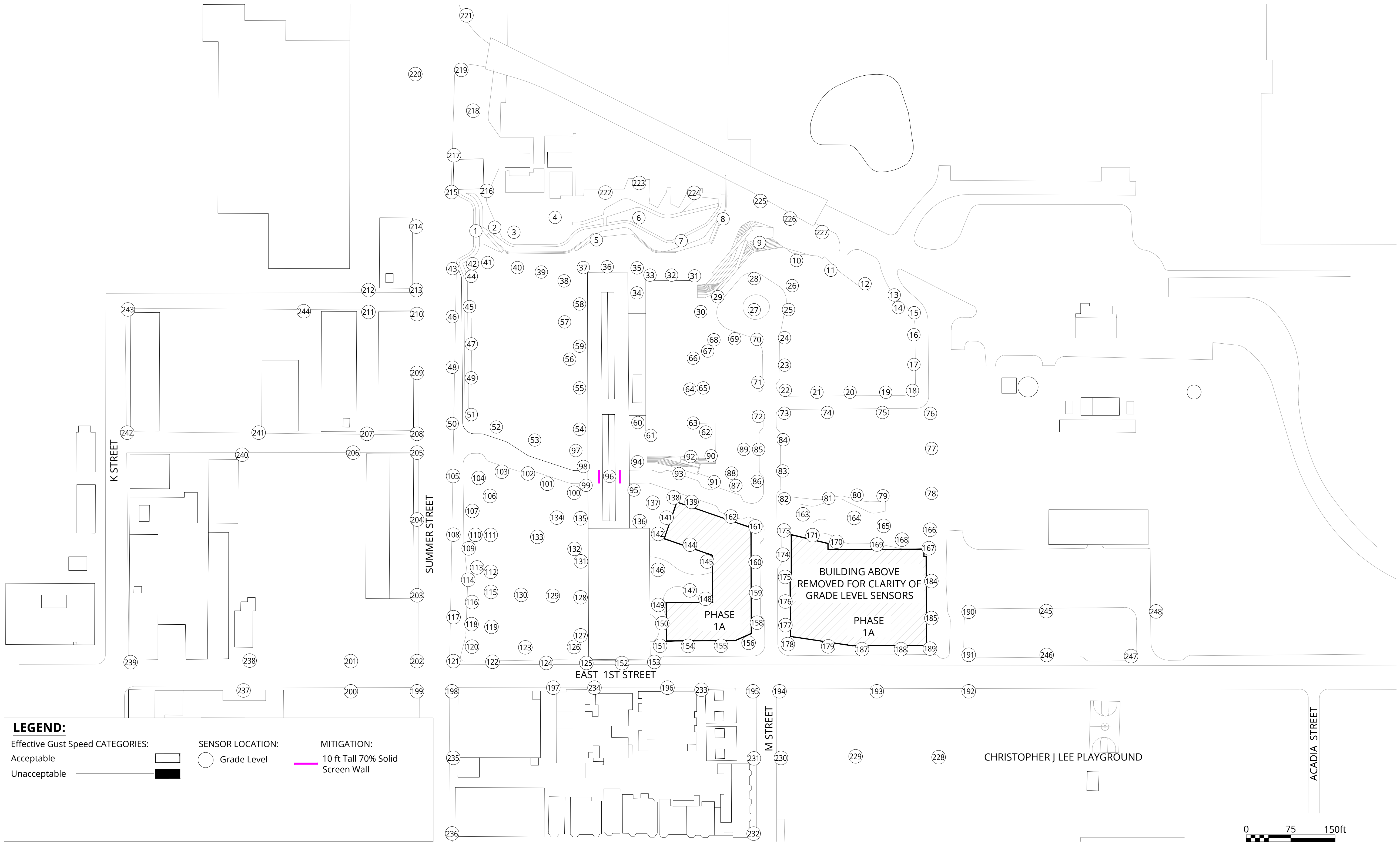


Source: RWDI

Figure 6.1f

Pedestrian Wind Conditions
Effective Gust Speed - No Buil

L Street Station Redevelopment
Boston, Massachusetts

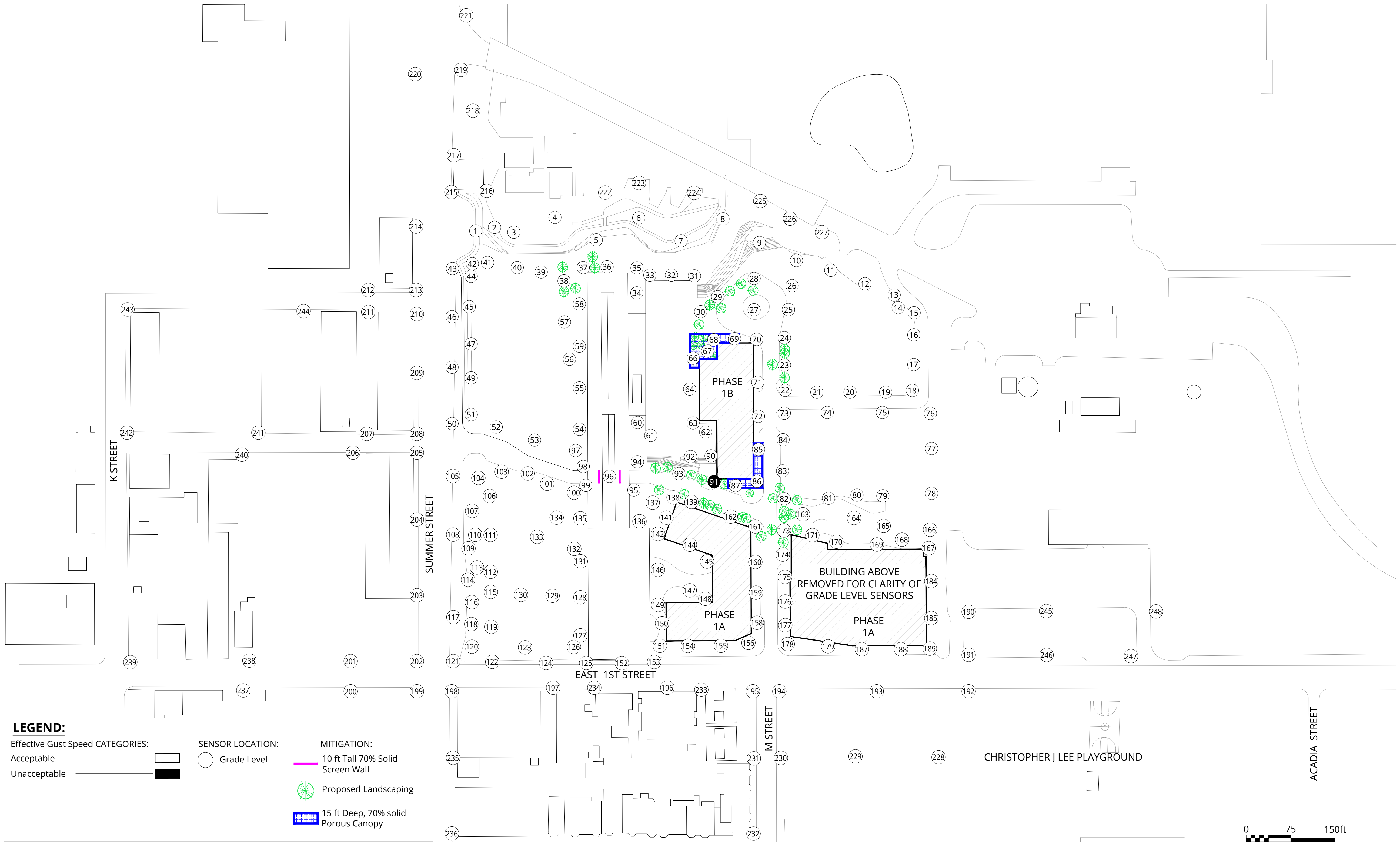


Source: RWDI

Figure 6.1g

Pedestrian Wind Conditions
Effective Gust Speed - Phase 1

L Street Station Redevelopment
Boston, Massachusetts

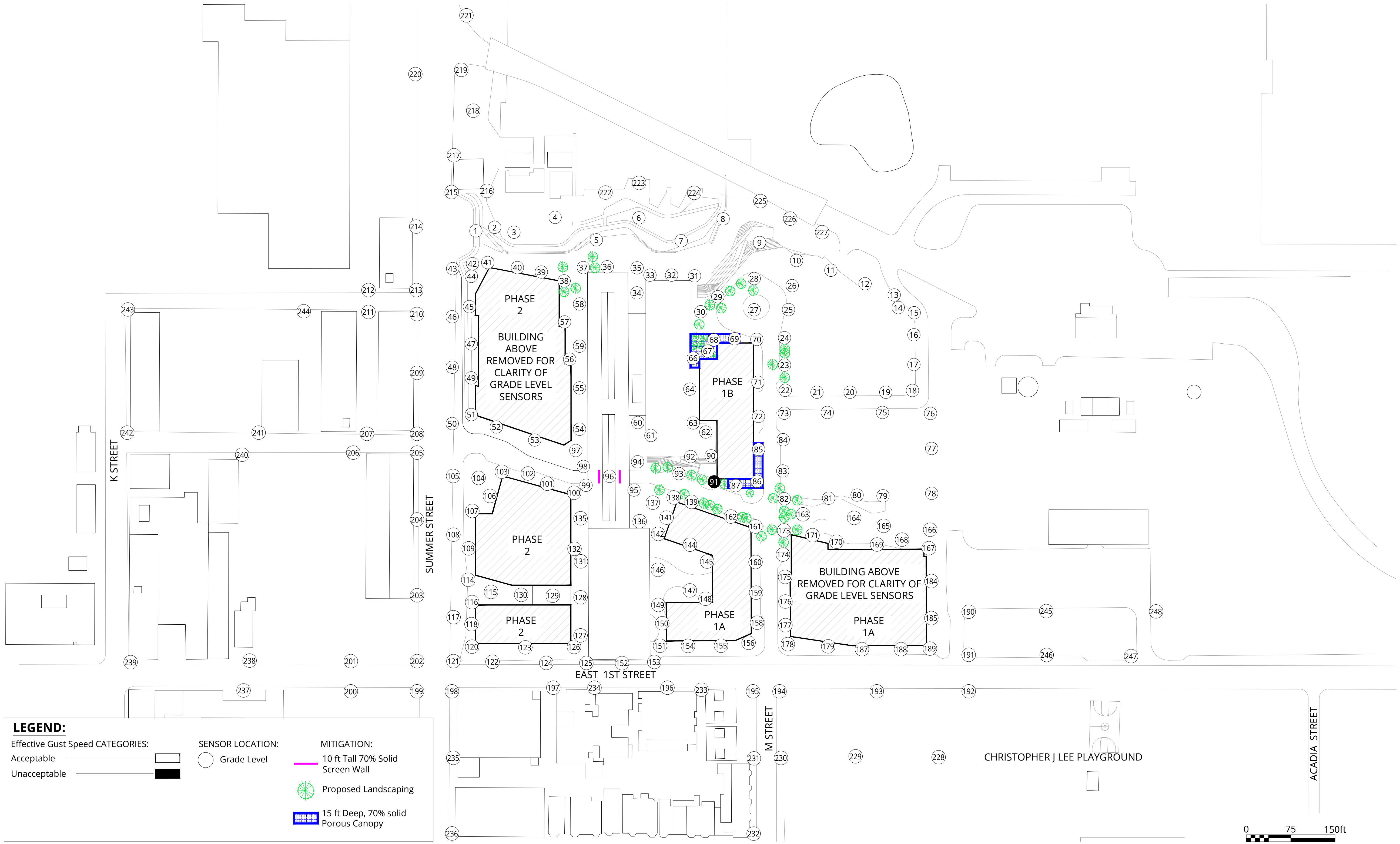


Source: RWDI

Figure 6.1h

Pedestrian Wind Conditions
Effective Gust Speed - Phase 1

L Street Station Redevelopment
Boston, Massachusetts

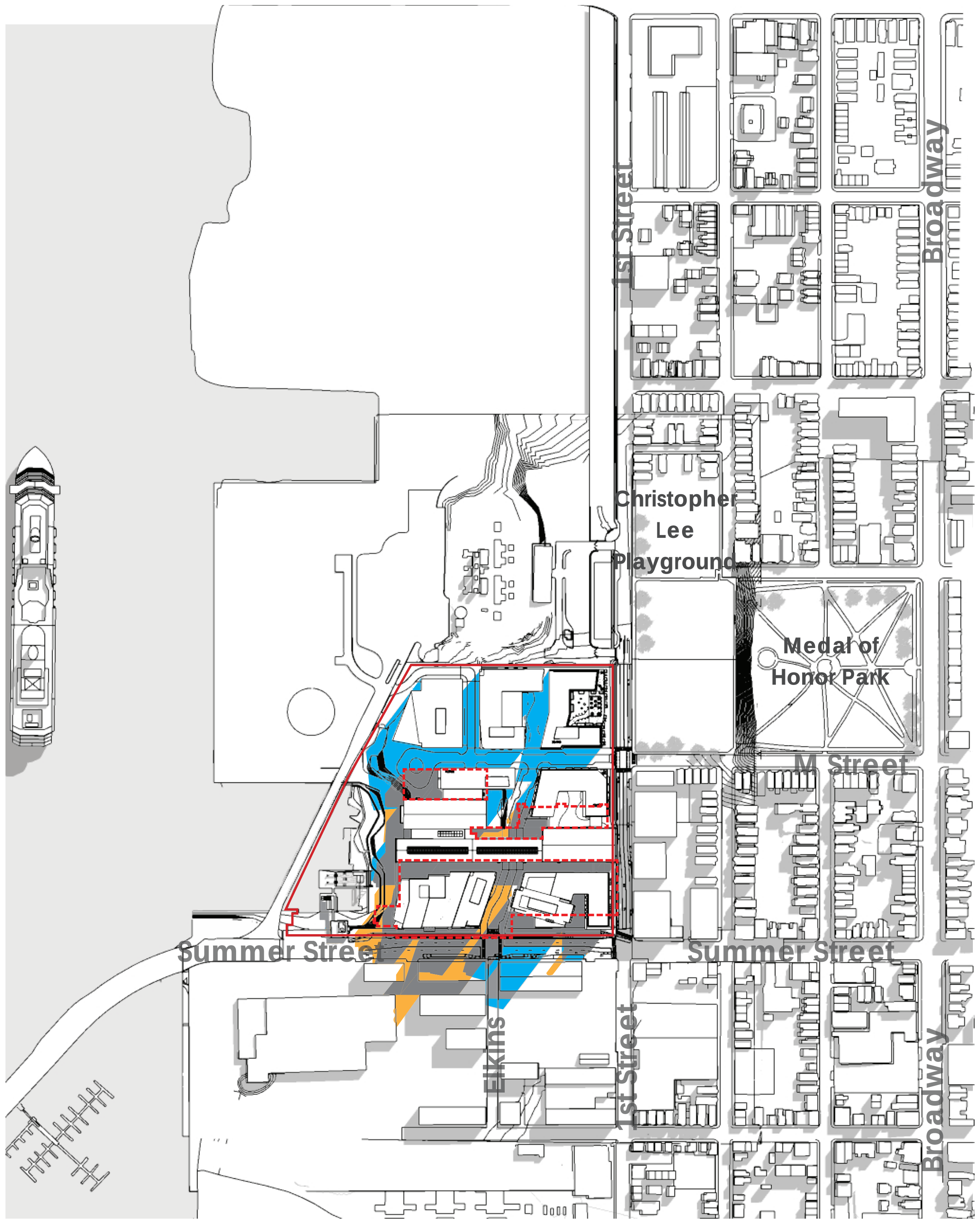


Source: RWDI

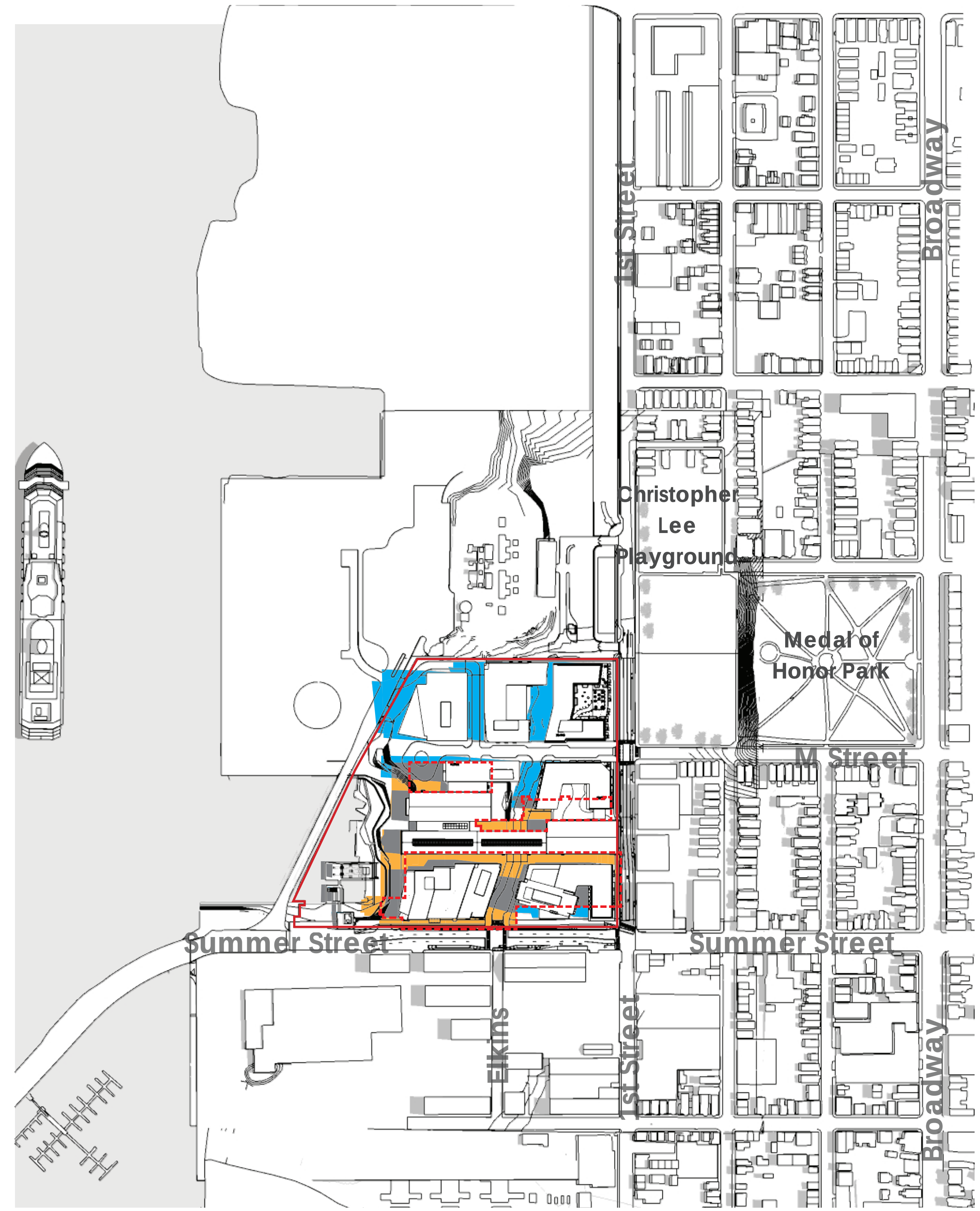
Figure 6.1i

Pedestrian Wind Conditions
Effective Gust Speed - Phase

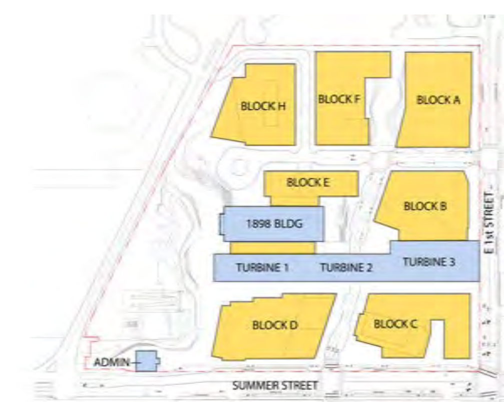
L Street Station Redevelopment
Boston, Massachusetts



9am-EDT



12pm-EDT



NEW GAINED DAYLIGHT
NET NEW SHADOWS
EXISTING SHADOWS
PROJECT SITE
EXISTING BUILDING FOOTPRINT

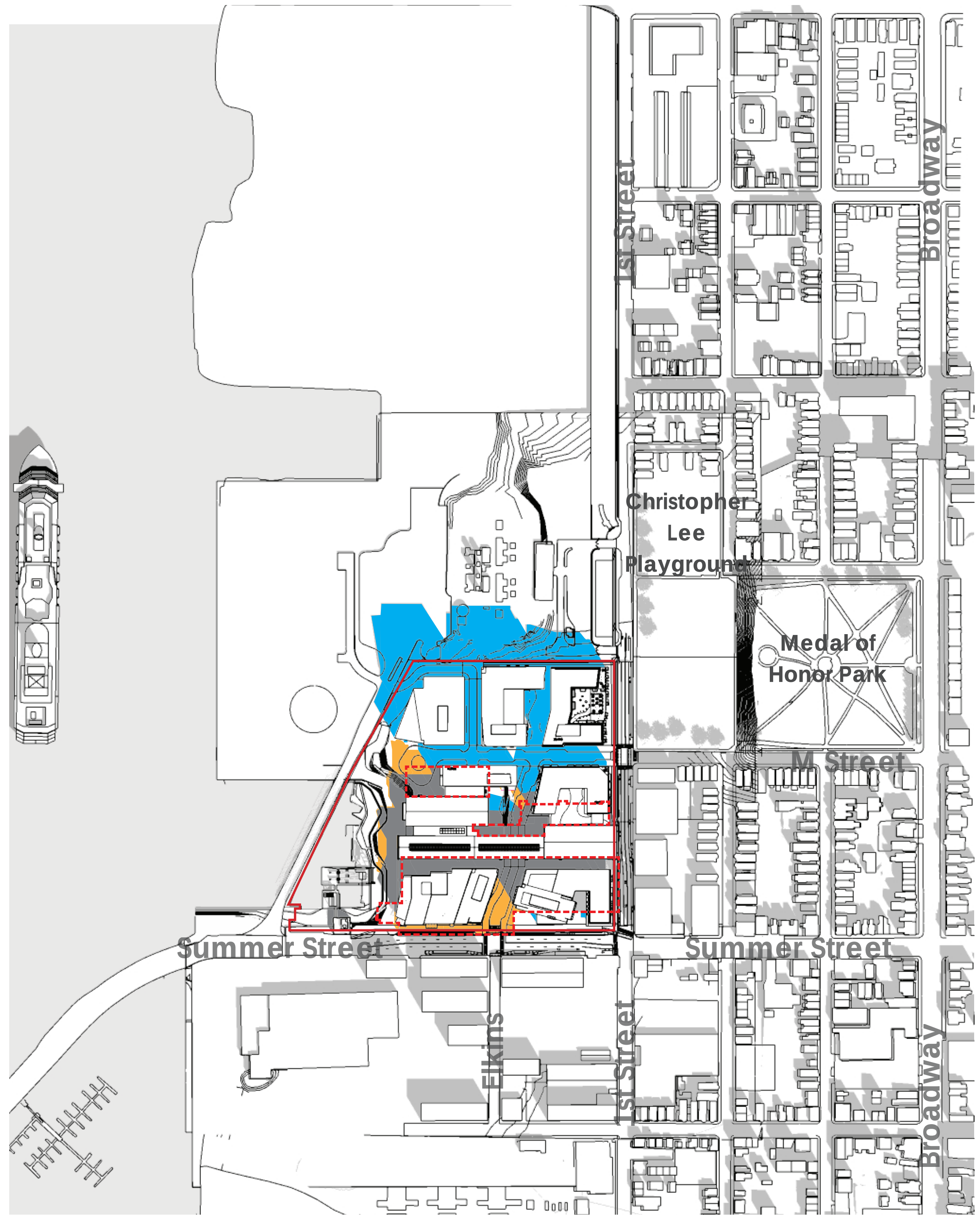
Figure 6.2a-Shadow Studies
March 21

L Street Station Redevelopment
Boston, Massachusetts

N

0 200 400 Feet

Stantec



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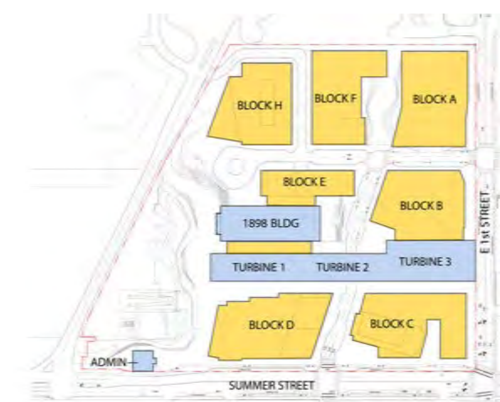


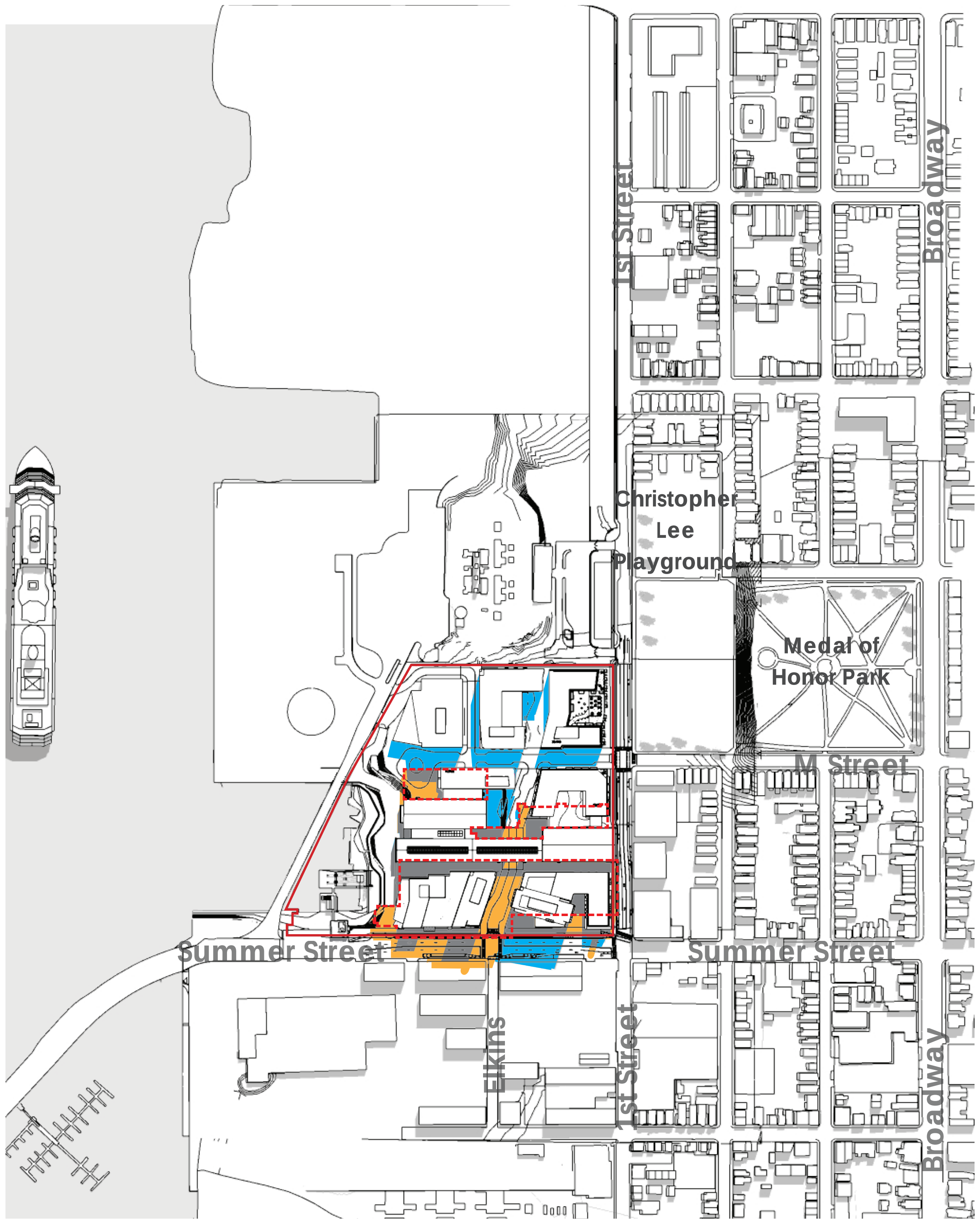
NEW GAINED DAYLIGHT
NET NEW SHADOWS
EXISTING SHADOWS
PROJECT SITE
EXISTING BUILDING FOOTPRINT

Figure 6.2a-Shadow Studies March 21 (Cont.)

L Street Station Redevelopment
Boston, Massachusetts

N 0 200 400 Feet

Stantec



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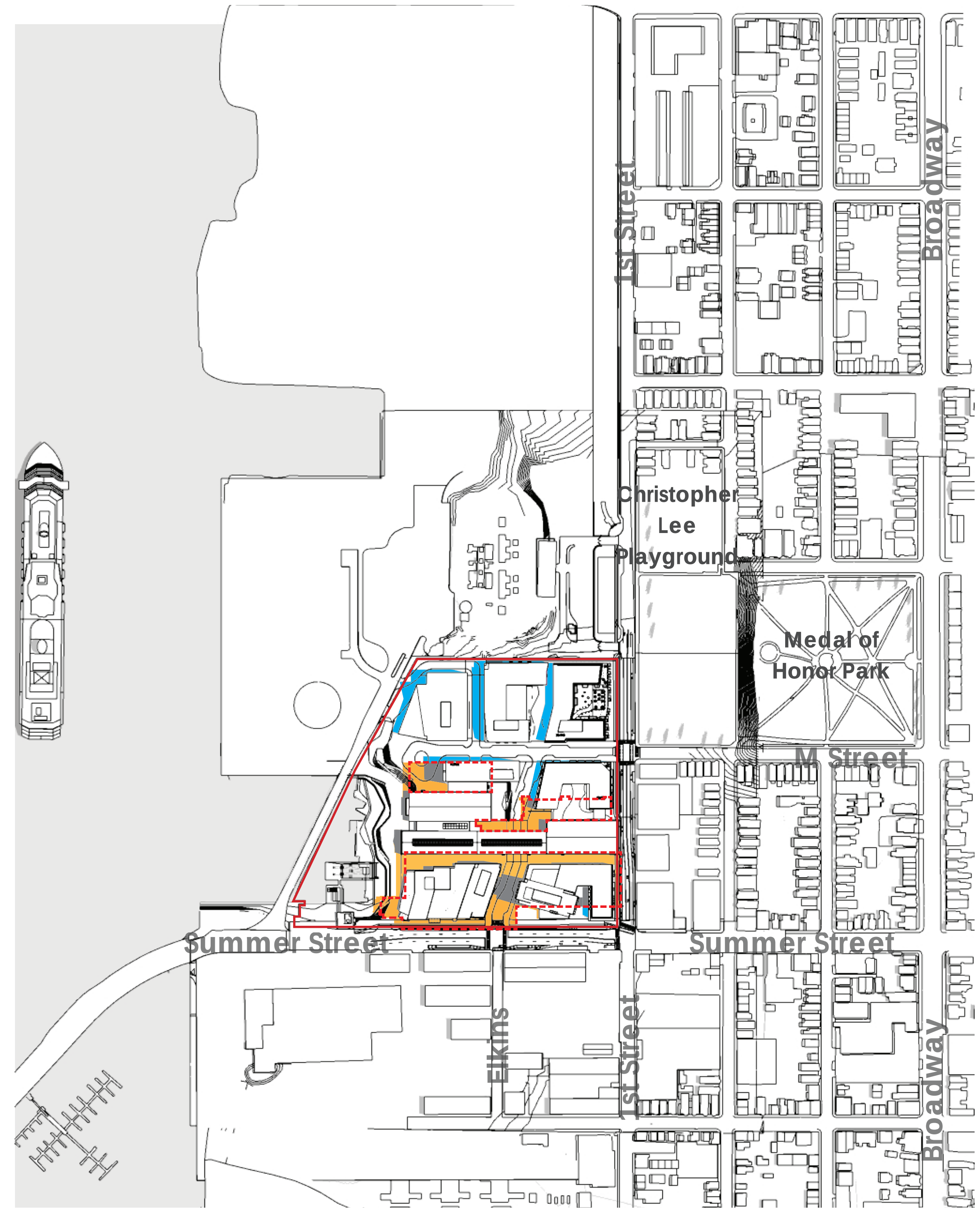

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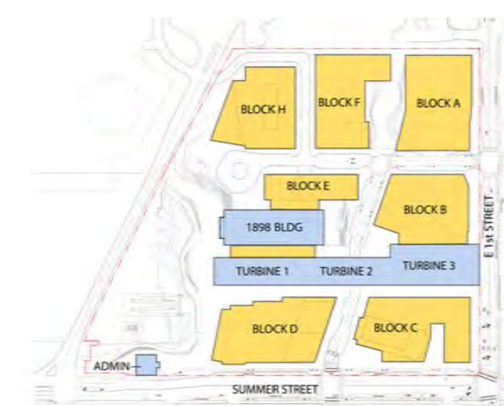


NEW GAINED DAYLIGHT
NET NEW SHADOWS
EXISTING SHADOWS
PROJECT SITE
EXISTING BUILDING FOOTPRINT

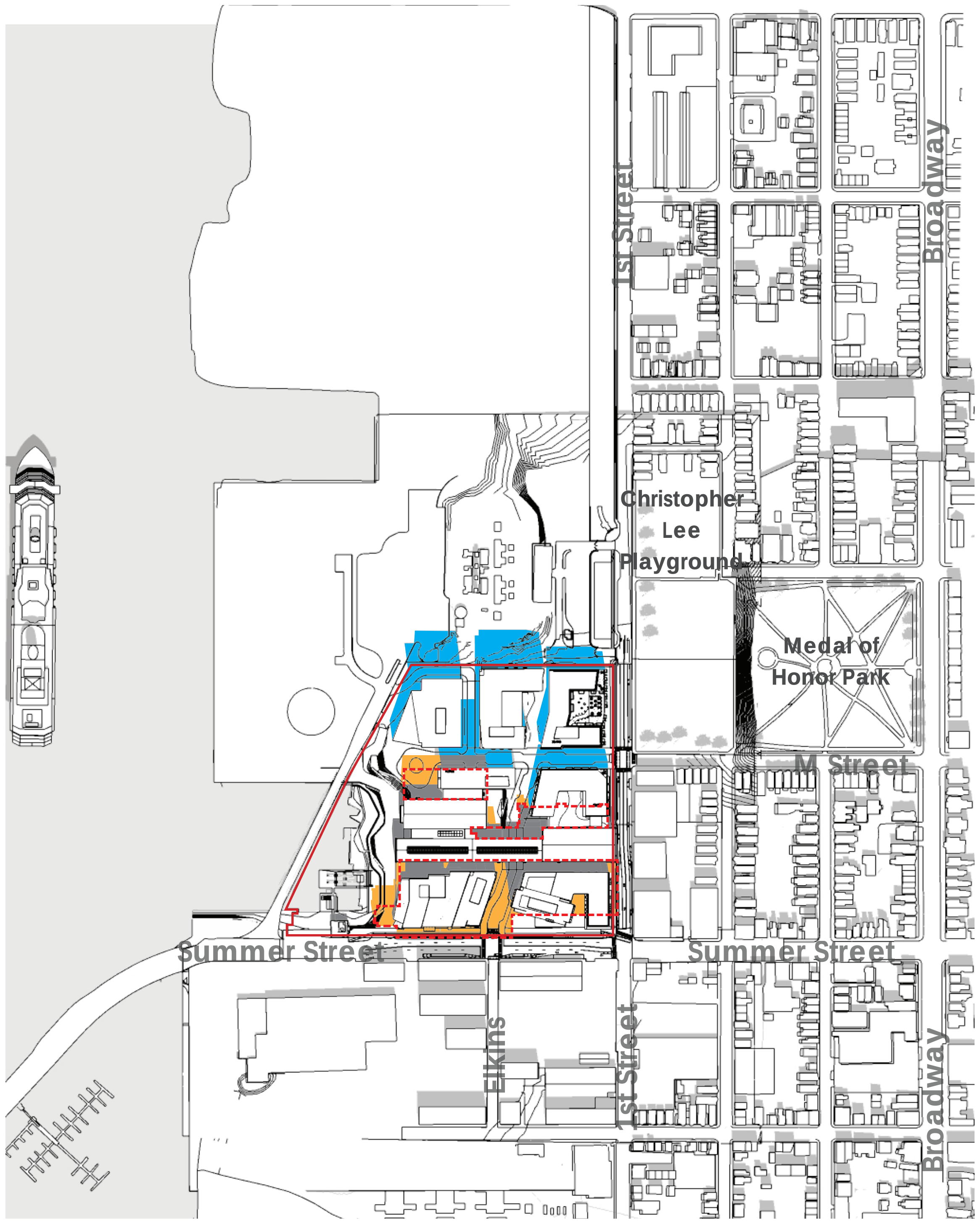
N

0 200 400 Feet

Stantec

Figure 6.2b-Shadow Studies
June 21

L Street Station Redevelopment
Boston, Massachusetts



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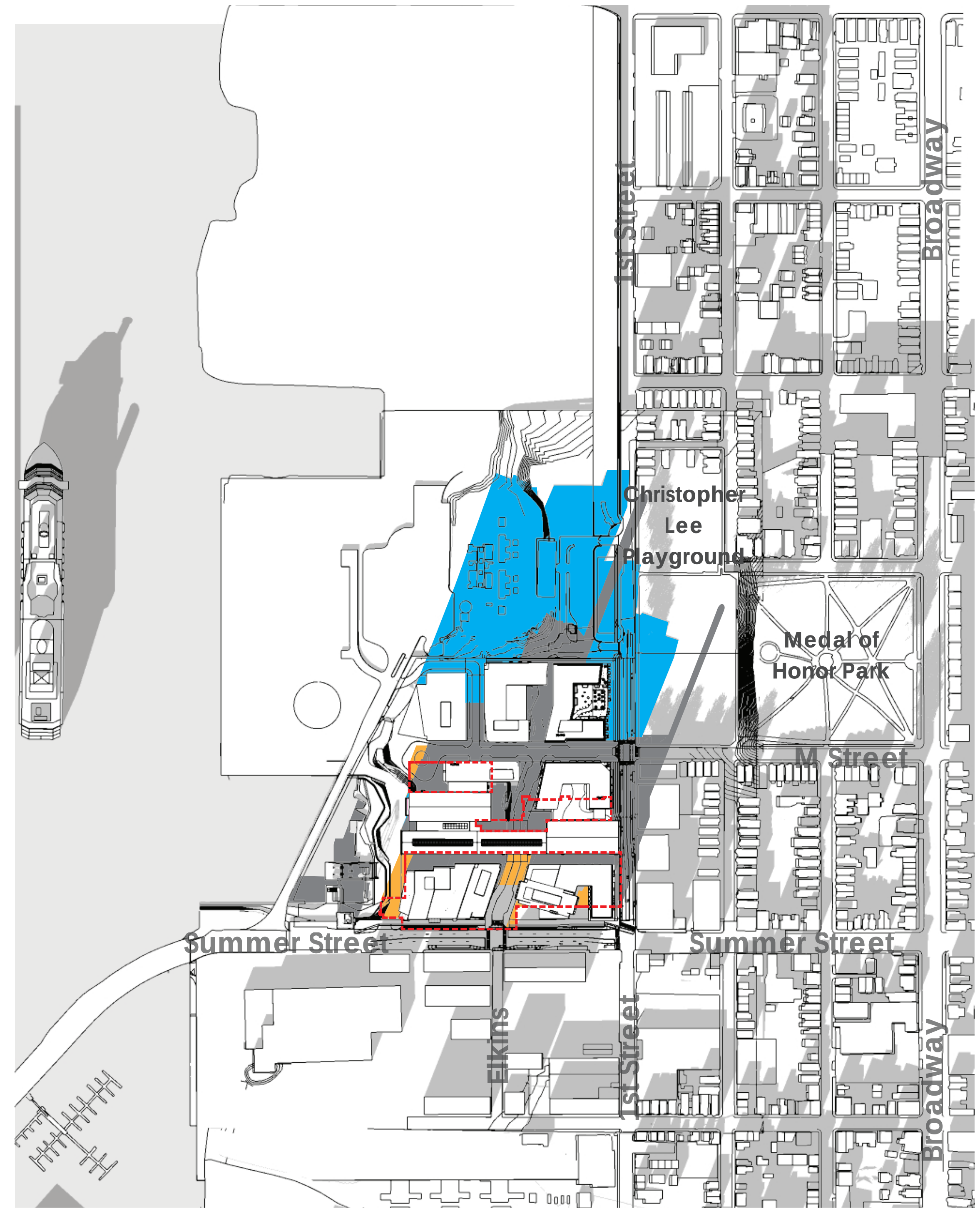
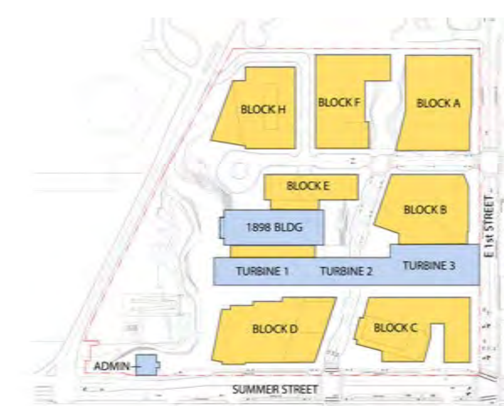


6pm-EDT



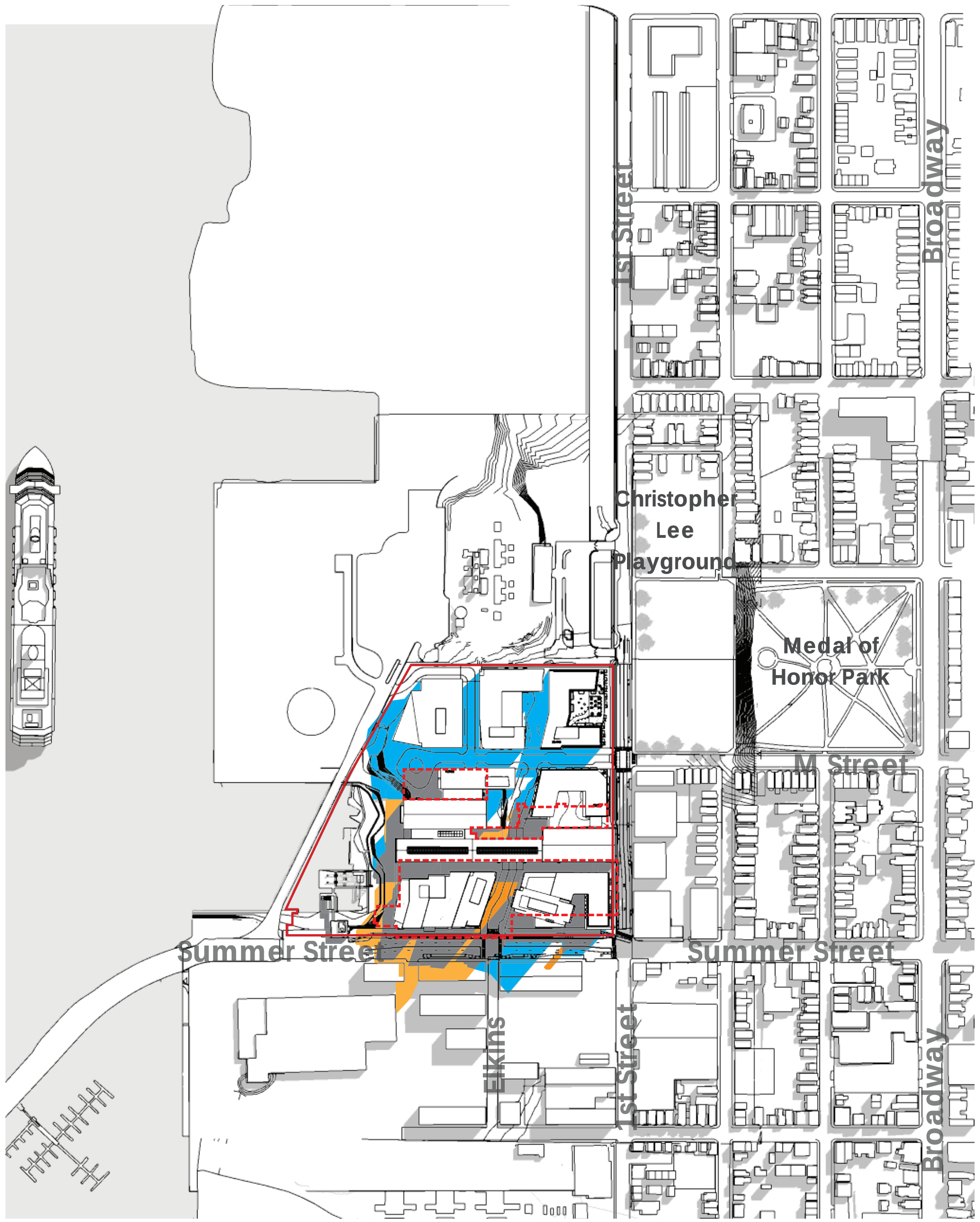
NEW GAINED DAYLIGHT
NET NEW SHADOWS
EXISTING SHADOWS
PROJECT SITE
EXISTING BUILDING FOOTPRINT

N
0 200 400 Feet

Stantec

Figure 6.2b-Shadow Studies June 21 (Cont.)

L Street Station Redevelopment
Boston, Massachusetts



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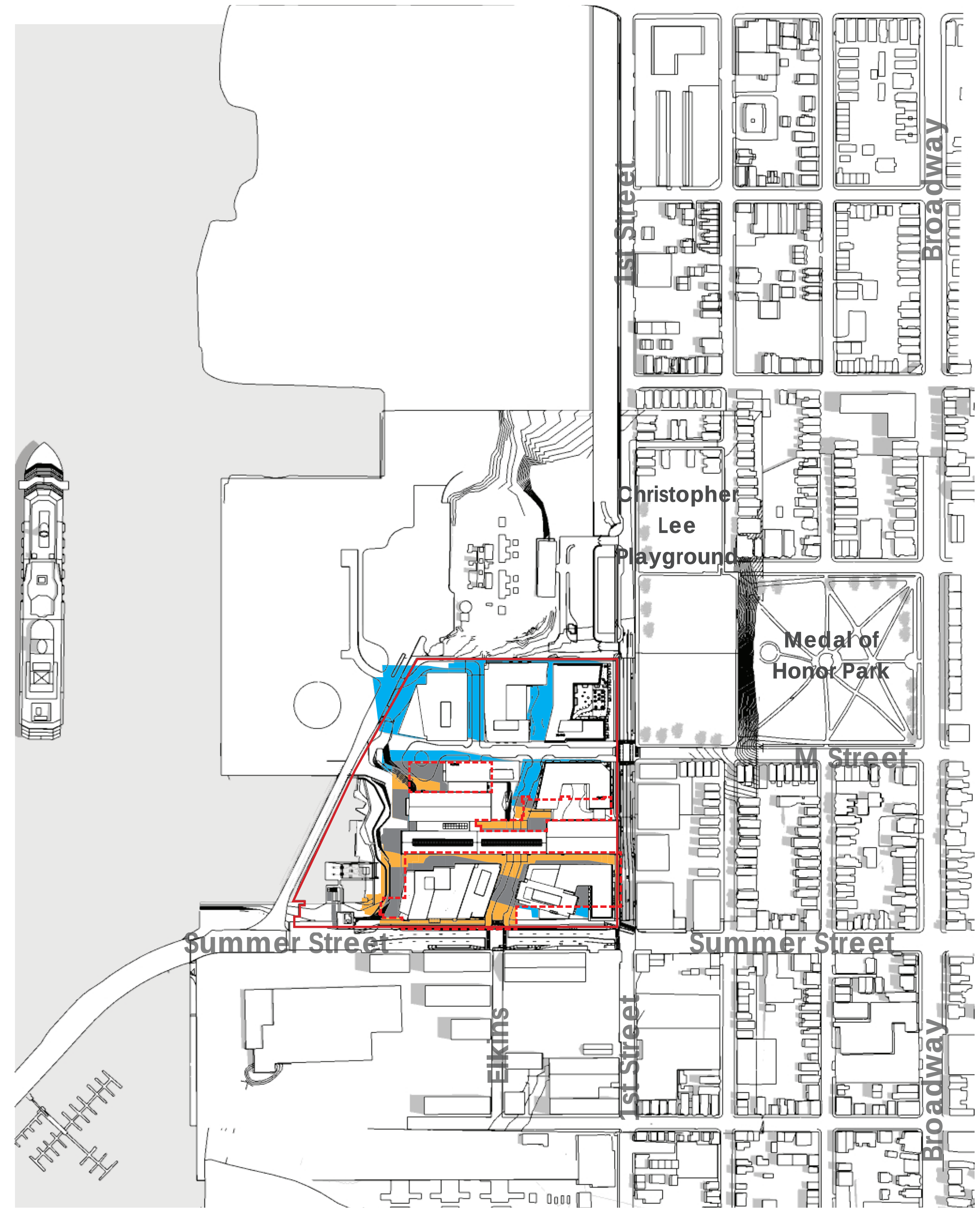

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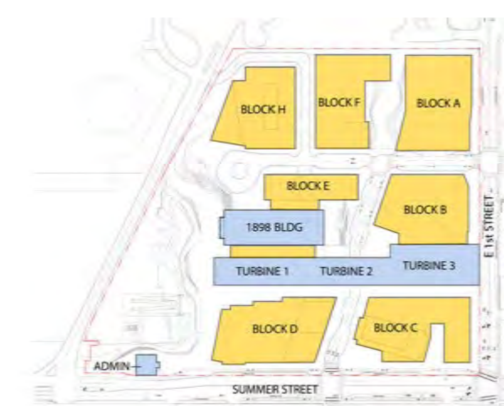


NEW GAINED DAYLIGHT
NET NEW SHADOWS
EXISTING SHADOWS
PROJECT SITE
EXISTING BUILDING FOOTPRINT

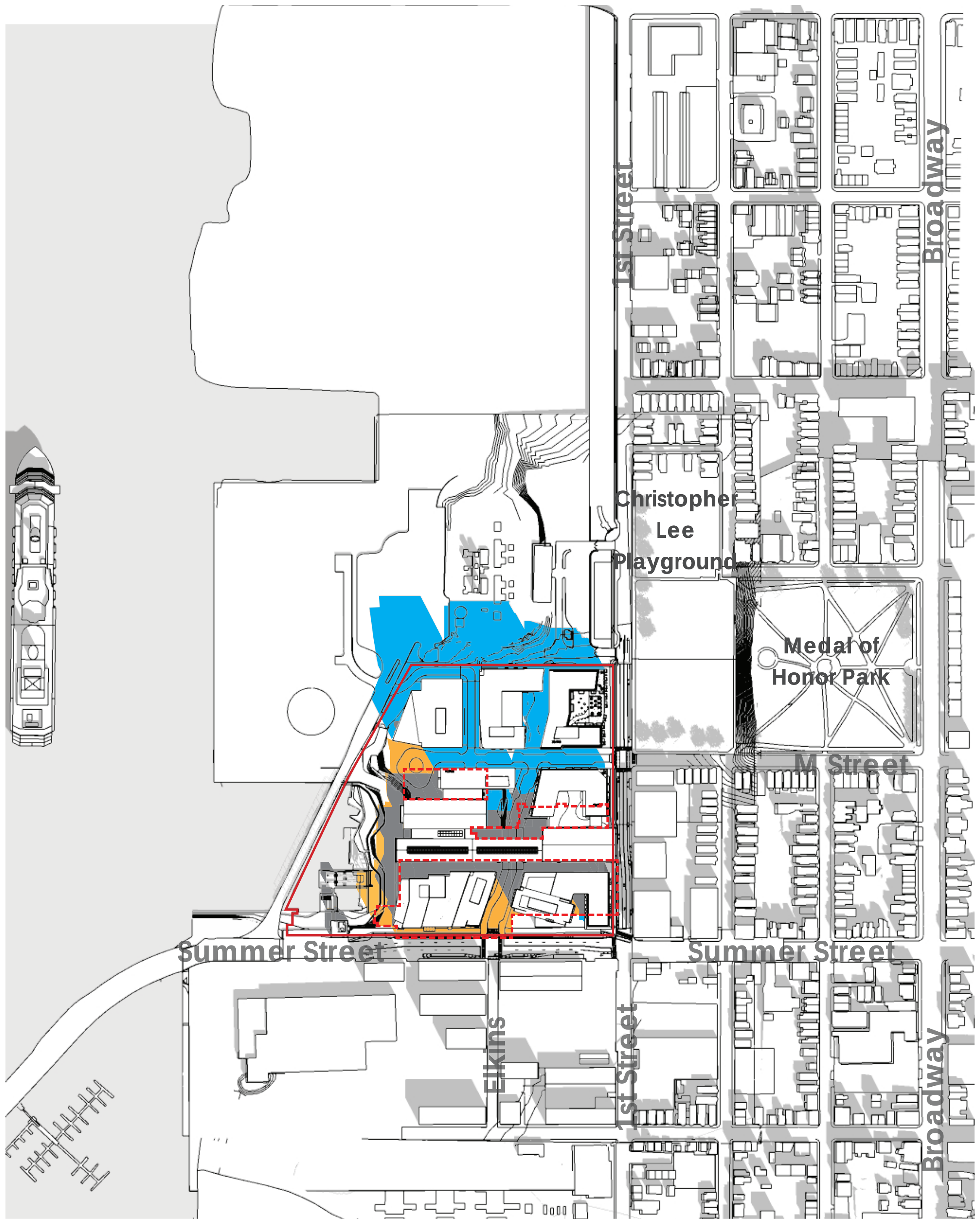
N

0 200 400 Feet

Figure 6.2c-Shadow Studies
September 21

L Street Station Redevelopment
Boston, Massachusetts

Stantec



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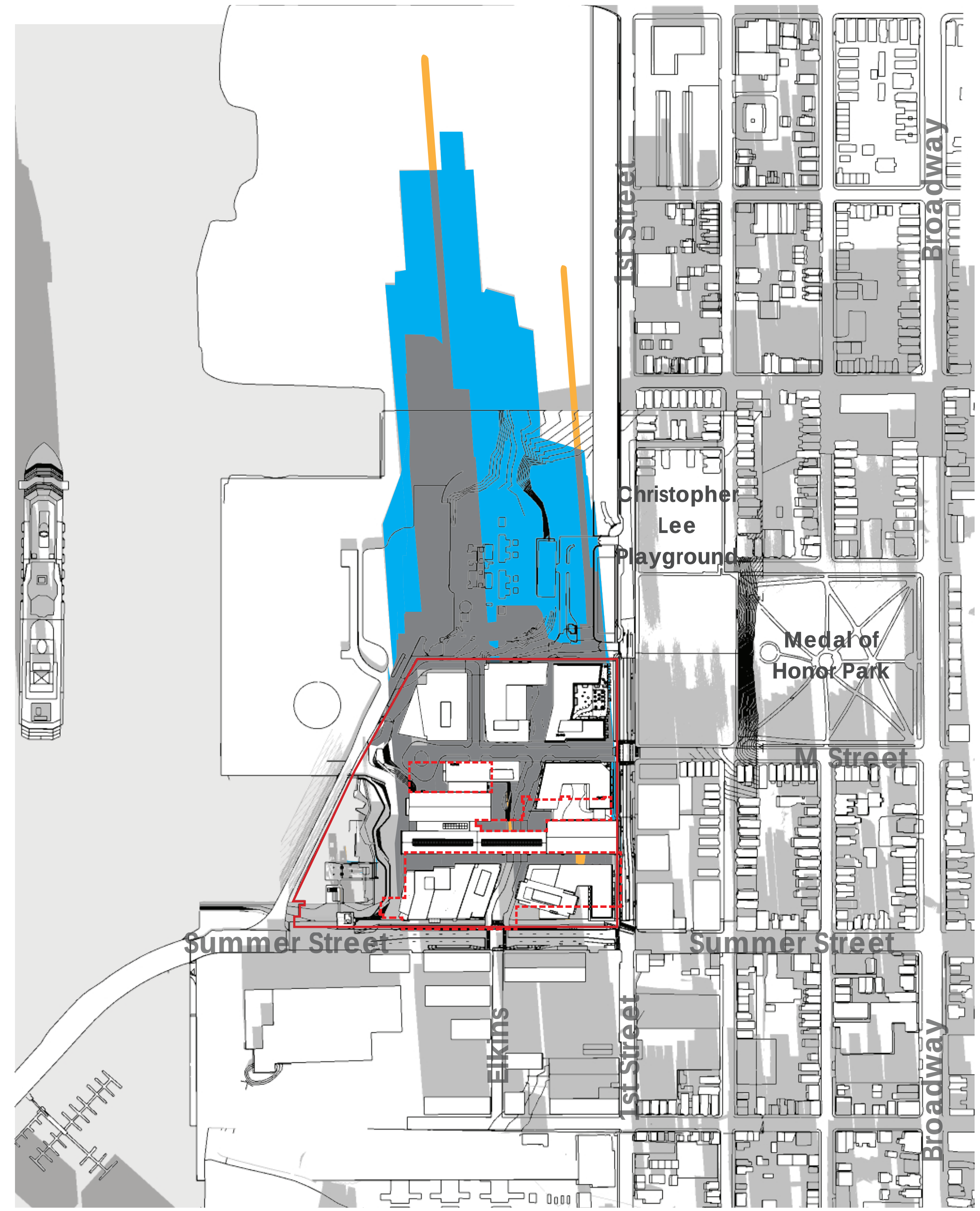

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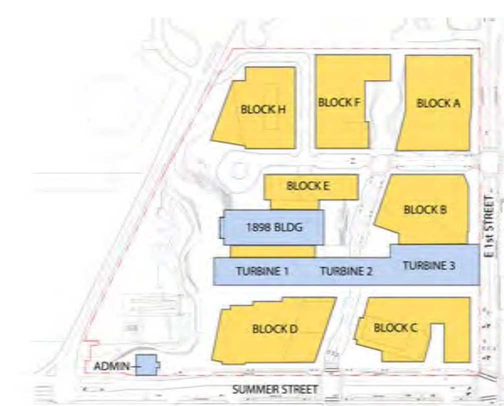


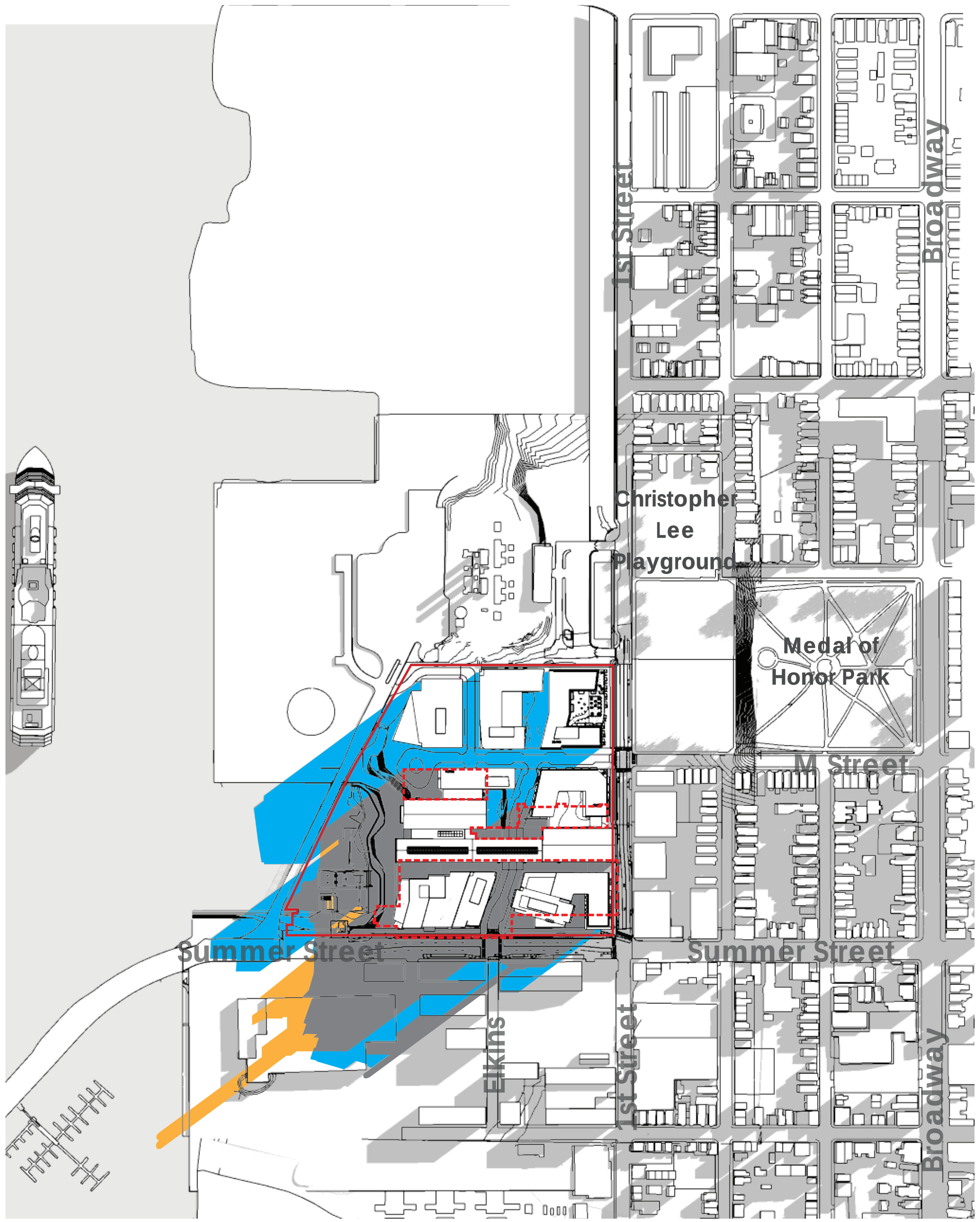
NEW GAINED DAYLIGHT
NET NEW SHADOWS
EXISTING SHADOWS
PROJECT SITE
EXISTING BUILDING FOOTPRINT

N
0 200 400 Feet

Figure 6.2c-Shadow Studies
September 21 (Cont.)

L Street Station Redevelopment
Boston, Massachusetts

Stantec



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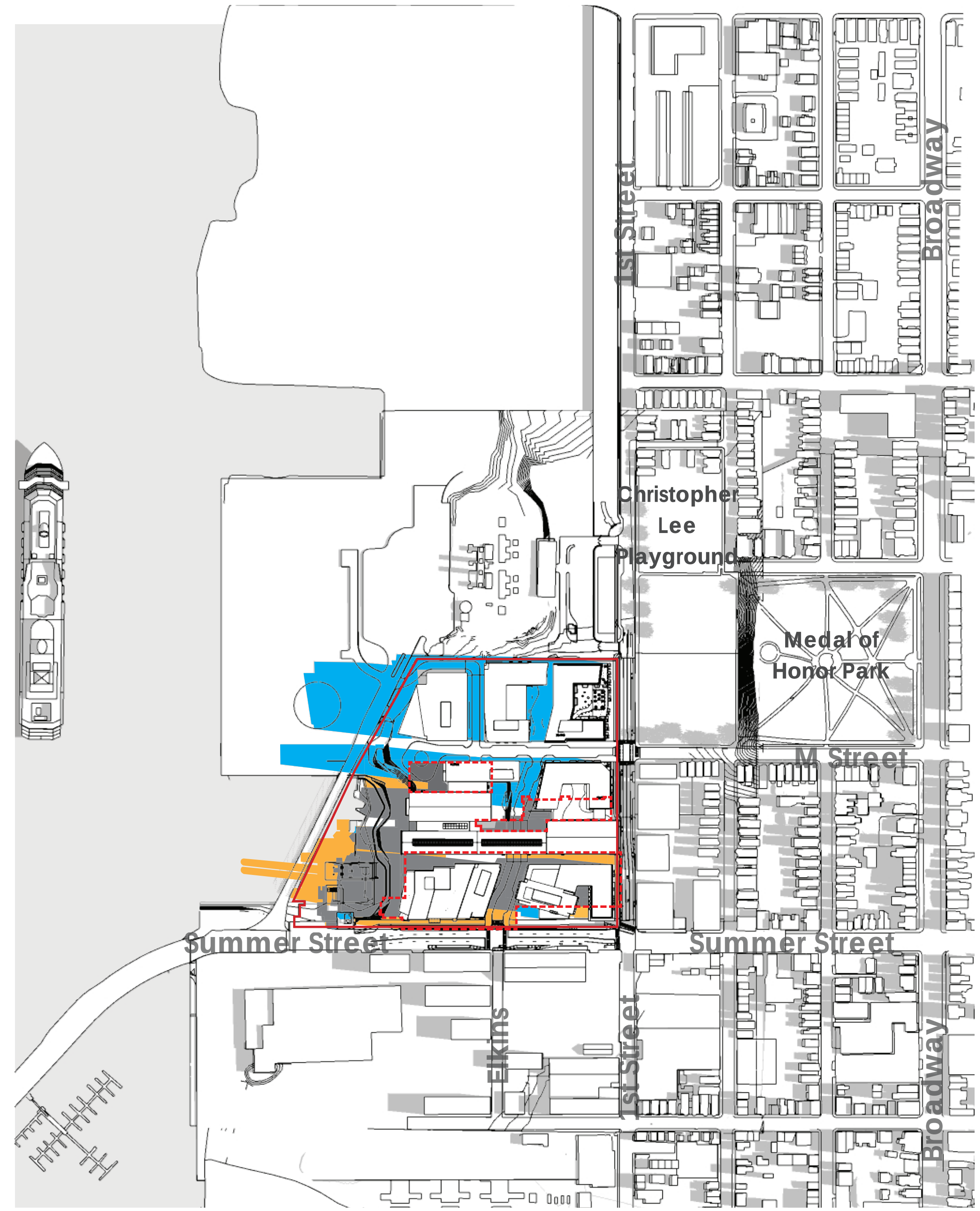
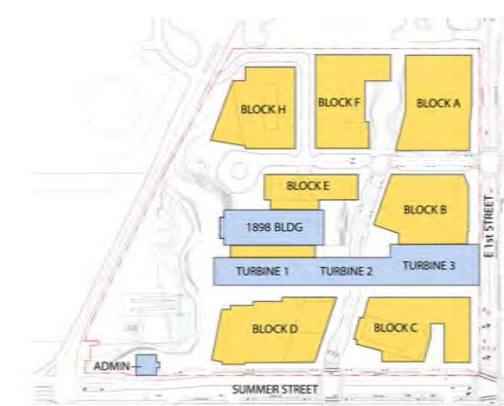


12pm-EST



NEW GAINED DAYLIGHT
NET NEW SHADOWS
EXISTING SHADOWS
PROJECT SITE
EXISTING BUILDING FOOTPRINT

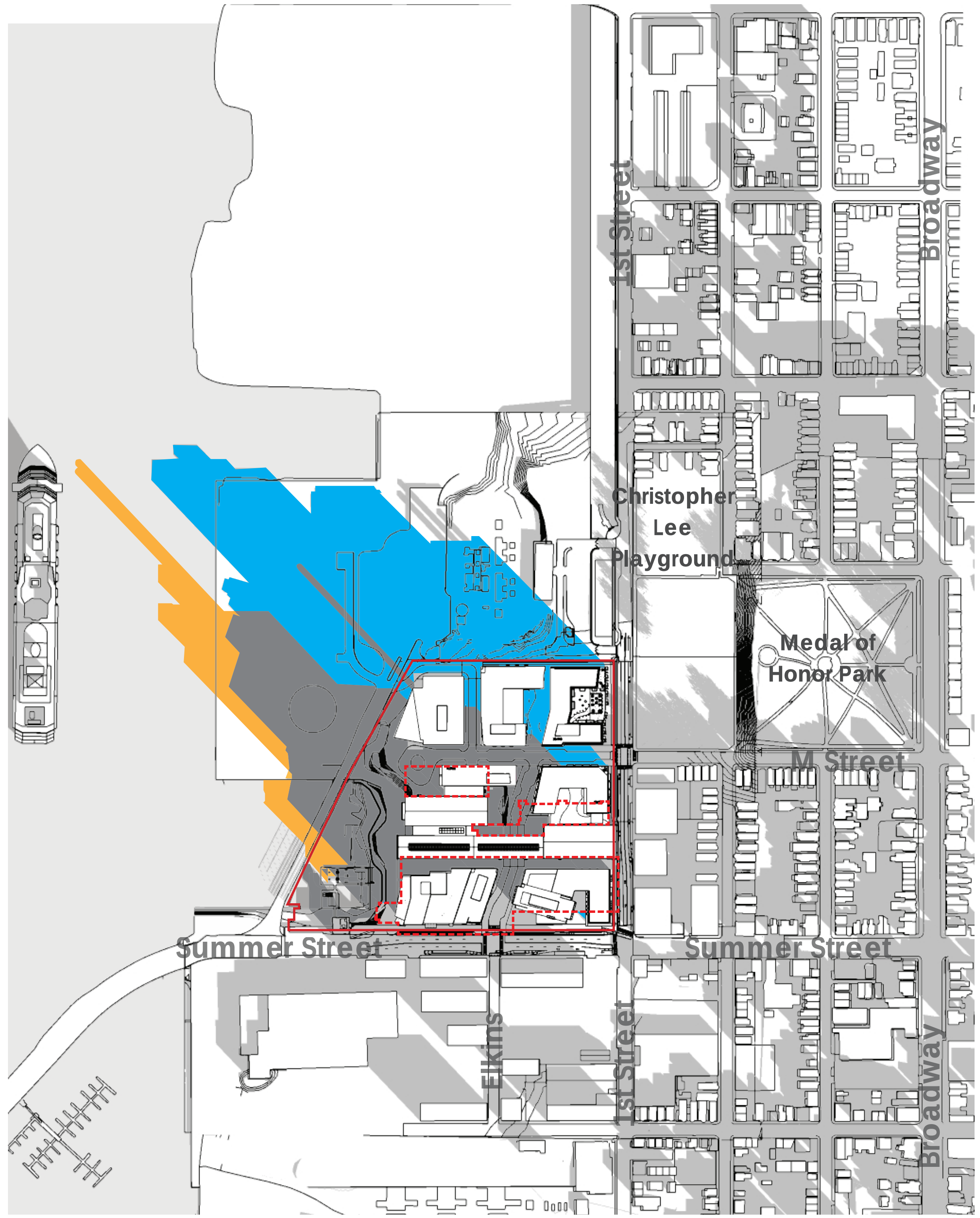
N

0 200 400 Feet

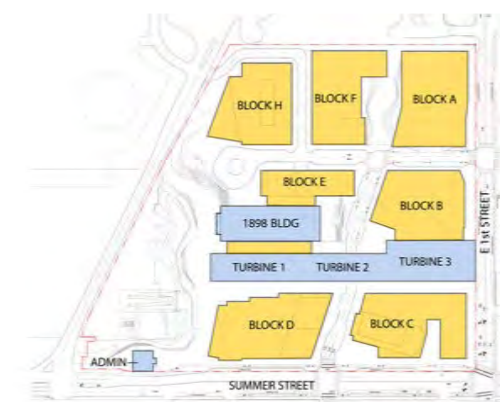
Figure 6.2d-Shadow Studies
December 21

L Street Station Redevelopment
Boston, Massachusetts

Stantec



3pm-EST



NEW GAINED DAYLIGHT
NET NEW SHADOWS
EXISTING SHADOWS
PROJECT SITE
EXISTING BUILDING FOOTPRINT

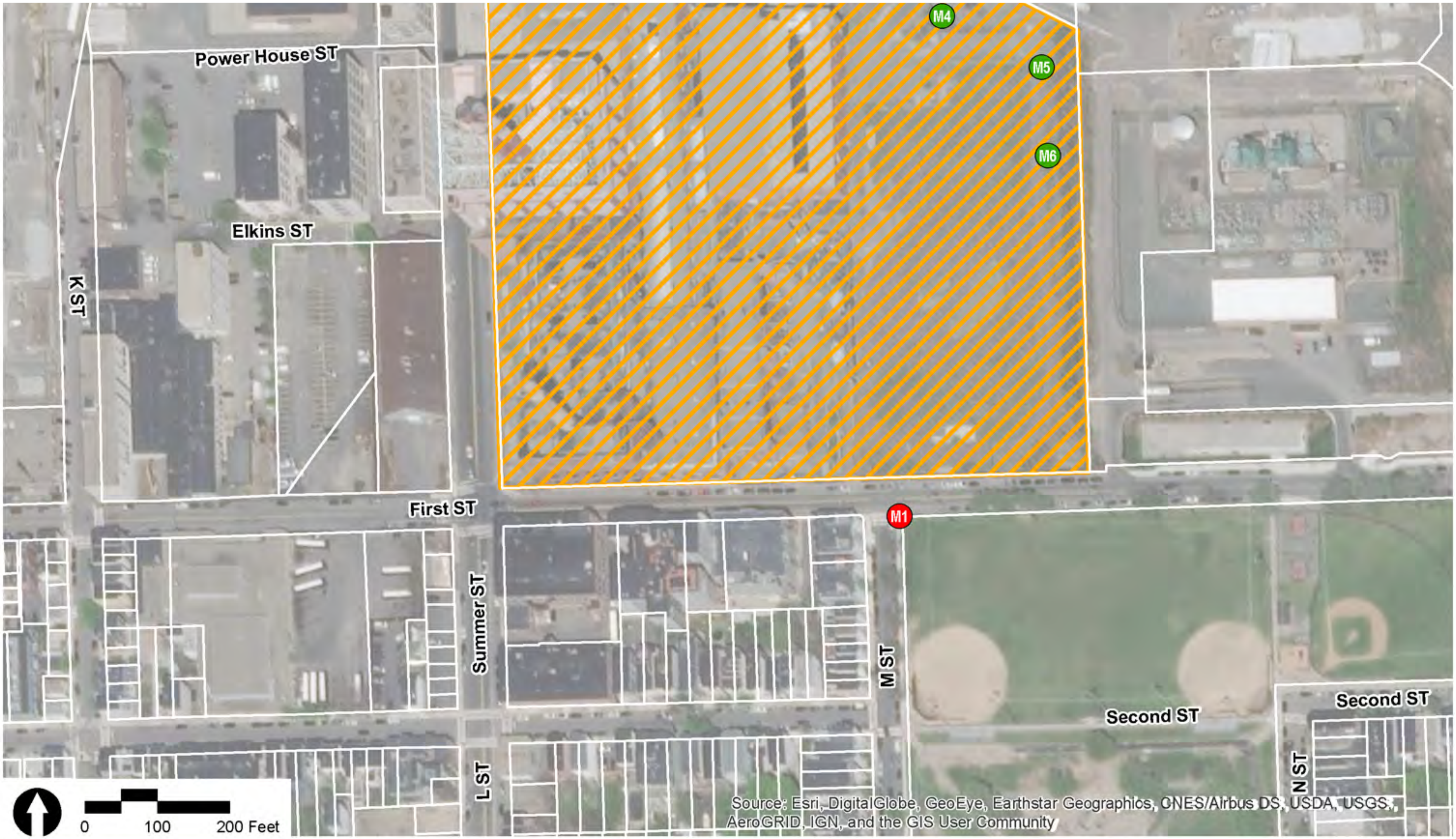
Figure 6.2d-Shadow Studies December 21(Cont.)

L Street Station Redevelopment
Boston, Massachusetts

N

0 200 400 Feet

Stantec



Supplemental Measurement

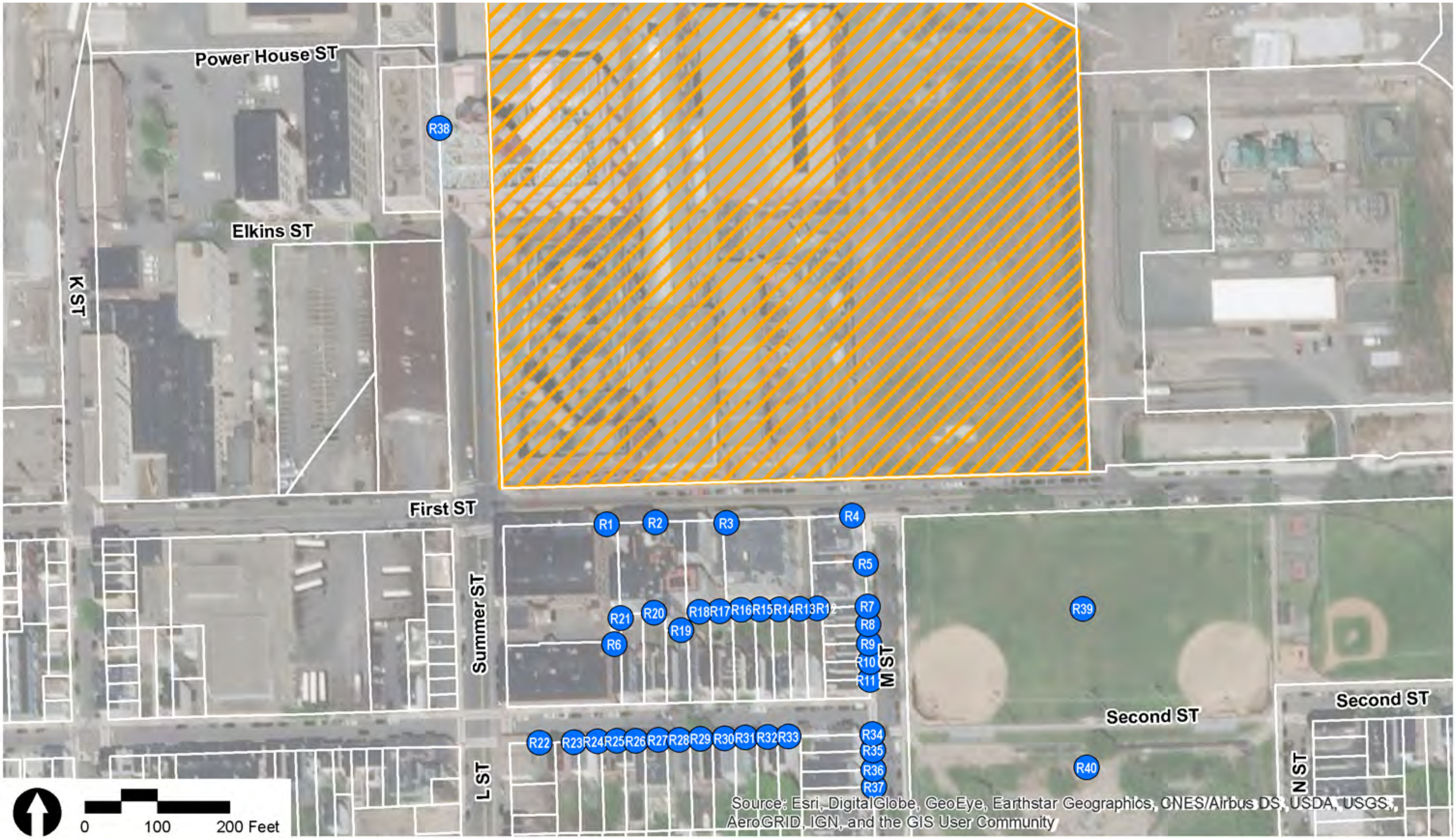
Acentech Measurement

Project Area

Figure 6.3a

Project Area and
Noise Measurement Locations

L Street Station Redevelopment
Boston, Massachusetts



Noise Receptor Locations

Project Area

Figure 6.3b

Project Area and Noise Receptor Locations

L Street Station Redevelopment
Boston, Massachusetts

Figure 6.4

Intersection Receptor Quadrants

L Street Station Redevelopment
Boston, Massachusetts

7

Greenhouse Gas Emissions Assessment

This chapter provides an overview of the local and state regulatory context related to sustainable design and presents the results of the Greenhouse Gas ("GHG") emissions assessment, in accordance with the MEPA Greenhouse Gas Emissions Policy and Protocol (the "MEPA GHG Policy").[1] The Proponent is committed to incorporating key aspects of sustainability and high-performance building design, as it is the Proponent's intent to operate the Project in a sustainable manner.

7.1 Summary of Key Findings and Benefits

The key findings related to sustainable, high-performance design and GHG emissions include:

- Based on the preliminary design parameters assumed in the Design Case, the Project would achieve an energy savings of 17.5 percent when compared to the Base Case (defined below). This would result in a GHG emissions reduction of 10.8 percent (994.6 tons per year).
- The Design Case (defined below) Energy Use Intensity ("EUIs") of the Project components are generally less than the EUIs for the prototype buildings in the US Department of Energy ("DOE") study. This would indicate that the Project is expected to perform better than prototype buildings of similar use.
- A variety of clean and renewable energy sources were analyzed including solar panels, wind, and cogeneration in the form of combined heat and power ("CHP").
- A variety of additional energy saving measures are proposed and being considered as part of the Project including: building commissioning, energy tracking and monitoring, plug load reductions, green tenant guidelines, and solid/construction & demolition ("C&D") waste reduction strategies.
- The Project-related mobile source CO_2 emissions are projected to be reduced by 892 tons per year with the implementation of the proposed TDM program and roadway improvements.

7.2 Regulatory Context

The following sections provide an overview of the state and local regulatory context related to sustainability/green building design, energy efficiency and GHG emissions, and climate change resiliency.

1 MEPA Greenhouse Gas Policy and Protocol, Executive Office of Energy and Environmental Affairs, effective November 1, 2007 (revised version effective May 5, 2010).

7.2.1 MEPA Greenhouse Gas Policy and Protocol

The EEA has developed the MEPA Greenhouse Gas Emissions Policy and Protocol (the "MEPA GHG Policy"), which requires project proponents to identify and describe the feasible measures to minimize both mobile and stationary source GHG emissions generated by their proposed project(s). Mobile sources include vehicles traveling to and from a project while stationary sources include on-site boilers, heaters, and/or internal combustion engines (direct sources) as well as the consumption of energy in the form of fossil fuels (indirect sources). Greenhouse gases include several air pollutants, such as carbon dioxide ("CO_2"), methane, hydrofluorocarbons, and perfluorocarbons. The MEPA GHG Policy calls for the evaluation of CO_2 emissions for a land development project because CO_2 is the predominant man-made contributor to global climate change. This evaluation makes use of the terms CO_2 and GHG interchangeably.

The MEPA GHG Policy states that all projects undergoing MEPA review requiring the submission of an EIR must quantify the project's GHG emissions and identify measures to avoid, minimize, or mitigate such emissions. In addition to quantifying project-related GHG emissions, the MEPA GHG Policy requires proponents to quantify the effectiveness of proposed improvements in terms of energy savings and, therefore, potential emissions reductions. The goal of the MEPA GHG Policy is to identify and implement measures to minimize or reduce the total GHG emissions anticipated to be generated by that respective project.

7.2.2 Stretch Energy Code

As part of the Green Communities Act of 2008, Massachusetts developed an optional building code, known as the "Stretch Energy Code," that gives cities and -towns the ability to choose stronger energy performance in buildings than otherwise required under the state building code. Codified by the Board of Building Regulations and Standards as 780 CMR Appendix 115.AA of the 8th edition Massachusetts Building Code, the Stretch Energy Code is an appendix to the Massachusetts building code, based on further amendments to the International Energy Conservation Code ("IECC"). The Stretch Energy Code increases the energy efficiency code requirements for new construction and major residential renovations or additions in municipalities that adopt it. The City of Boston adopted the Stretch Energy Code, which became mandatory on July 1, 2011.

Effective January 1, 2017, the Stretch Energy Code requires a 10 percent greater energy efficiency compared to the state's energy code (the "Base Code"). This DEIR/DPIR assesses the energy performance of the Project using the Stretch Energy Code requirements in effect as of January 1, 2017 in order to demonstrate the Project can meet such requirements.

7.3 Stationary Source GHG Emissions Assessment

In support of Boston's GHG reduction goals, the Proponent has evaluated and incorporated strategies to minimize energy consumption associated with the Project through building energy modeling based on conceptual design as well as considered clean/renewable energy sources. Also, the Proponent is planning to engage utility providers to better understand available alternative/cleaner energy sources and grants/rebates.

7.3.1 Methodology

To provide for energy efficiency and reduced stationary source GHG emissions, the Proponent has evaluated the following key planning and design criteria:

- Methods to reduce overall energy demand through appropriate design and sizing of systems; and
- Methods to improve building envelope materials.

Each Project typology was modeled with the proposed building geometry, HVAC system type, occupancy schedule, and ventilation rates.

Direct stationary source CO_2 emissions include those emissions from the facility itself, such as boilers, heaters, and internal combustion engines. Indirect stationary source CO_2 emissions are derived from the consumption of electricity, heat, or cooling from off-site sources, such as electrical utility or district heating and cooling systems. The direct and indirect stationary source CO_2 emissions from the proposed building sources are calculated through an energy analysis procedure that combines eQuest[2] models based on assumptions for the Project's building elements, such as (but not limited to) the specific type of use(s) and users of the buildings, building configuration and architecture type, building envelope (walls/windows), interior fit-out (where known), and HVAC equipment efficiency ratings with Excel spreadsheets for post-processing of emission conversion factors.

The GHG mitigation and energy conservation measures can be divided into the buildings' construction materials, architecture, and the heating and cooling processes. The following presents the specific proposed building improvements (and their correlating energy modeling parameters for reference, where applicable) that are assumed to be included as part of the Project for the purpose of this analysis. The specific proposed improvements will likely be subject to design modifications as necessary to achieve the GHG emissions reduction based on the final building program and tenants and design.

Energy Model and Analysis Conditions

The energy analysis is used to estimate the amount of annual energy consumption by simulating a year of building operations based on typical yearly weather and user

2 "eQuest, the Quick Energy Simulation Tool" Copyright © 1998-2009 James J. Hirsch.

inputs. The analysis modeled each of the use typologies proposed by the Project as they are currently designed. The exact makeup and equipment of each building is subject to change as the Project's design progresses.

The model estimates each buildings' electricity and gas usage based on building design and system assumptions using Appendix G of ASHRAE 90.1-2013. The amount of consumed energy is then converted into the amount of CO_2 emitted using the standardized conversion factors. CO_2 emissions were quantified for (1) the Base Case corresponding to the minimum requirements of ASHRAE 90.1-2013 and (2) the Design Case, which includes all energy saving measures that were deemed to be reasonable and feasible. The stationary source assessment calculated CO_2 emissions for the following build conditions:

› **Build Condition with Building Code (the "Base Case")** - The Project assuming typical construction materials and building equipment/systems that meet the minimum requirements of the base code. This baseline is established by the energy code as being defined by ASHRAE 90.1–2013.

› **Build Condition with Energy Conservation Measures (the "Design Case") -** The Project assuming building design and system improvements that meet the MEPA GHG Policy and Stretch Code.

7.3.2 Future Stationary Source GHG Emissions Measures

The Project includes the construction of new buildings and restoration of existing buildings with varying use types. The uses included in the energy assessment as typologies for the DEIR/DPIR include mid-rise and high-rise residential, hotel and office. The approach to modeling inputs for each typology and results for each building of the Project is presented below. The noteworthy improvements for the base use types are presented in the tables and sections below. While specific improvements may be subject to design modification as design progresses, the Proponent is committed to achieving the stationary-source GHG emissions-reduction targets estimated herein for the final building program and design.

Residential Mid-Rise

Table 7-1 provides a summary of the proposed building improvements assumed for the residential mid-rise typology. Key energy savings features include improved roof insulations, a low window-to-wall ratio, energy efficient windows and glazing and improved HVAC systems. This typology is expected to use multiple HVAC systems depending on the area being conditioned, including 100 percent outside air packaged rooftop energy recovery units for common spaces, water source heat pumps for residential units, and packaged single zone AC for retail spaces. The design scenario will make use of improved 70 percent effective enthalpy wheels and 95 percent efficient condensing boilers.

Table 7-1 Residential Mid-Rise Key Model Assumptions

Building Component	Base Case[1]	Design Case
Usage		
Operating Schedule	› 24/7/365	
Temperature Setpoints	› Cooling – Occupied: 75 °F; Heating – Occupied: 70 °F	
Building Exterior Envelope (Construction Assemblies)		
Roof Assembly	› R30ci Insulation Entirely Above Deck (U-0.032)	› R40ci Insulation Entirely Above Deck (U-0.025)
Wall Assembly	› Steel Framed R-18 (U-0.055)	› Steel Framed R-18 (U-0.055)
Wall-to-Wall Ratio	› 30% modeled (40% maximum)	› 30%
Windows and Glazing	› U-0.42	› U-0.38
Solar Heat Gain Coefficient	› 0.4	› 0.35
HVAC Systems and Controls		
HVAC System	› System #7: VAV Rooftop Unit with HW Reheat - System per Floor - for residential support spaces › System #1: Packaged Terminal A/C Units with HW - for residential units › System #3 - Packaged Single Zone AC (exception 2) for Retail Areas	› 100% Outside Air Packaged Rooftop Energy Recovery Unit with water-cooled DX cooling and gas furnace heating › Water Source Heat Pumps serving residential units System #3 - Packaged Single Zone AC (exception 2) for Retail Areas
Unitary Efficiency	› System #1 PTAC: 12.2 EER › System #3 PSZ: 11.7 - 12.1 EER	› ERU DX cooling: 11.0 EER › ERU Furnace Heating: 80% Efficiency › Split AC Cooling = 12.2 EER
Exhaust Air Energy Recovery	› 50% effective enthalpy wheel on all VAV Systems as required by ASHRAE 90.1-2013 Table 6.5.6.1	› 70% effective enthalpy wheel on RTU/ERU
Number of Chillers	› 1	› N/A
Chiller Efficiency	› 4.9 COP	› N/A
Number of Boilers	› 2	› 1 per unit - combo heating and domestic HW unit
Boiler Efficiency	› 90% Natural Draft (Per Stretch Code 2-of-6 Enhancements)	› 95% Condensing
Domestic Hot Water		
DHW System Type	› Natural Gas	› Natural Gas - combo heating and domestic HW unit
Equipment Efficiency	› 90%	› 95%
DHW Flow	› Standard Flow Fixtures	› Low Flow Fixtures / 30% Reduction in Flow Fixtures
Lighting		
Sensors	› Scheduled off during unoccupied hours	› Scheduled off during unoccupied hours
Calculation Method	› Building Area with 10% reductions (Per Stretch Code 2-of-6 Enhancements)	› Building Area
LPD (W/SF)	› Residential Common Areas = 0.46 W/sf Parking › Garage = 0.19 W/sf › Apartment Units = 1.0 W/sf (no credit taken)	› Residential Common Areas = 0.41 W/sf (20% reduction) › Parking Garage = 0.17 W/sf (20% reduction) › Apartment Units = 1.0 W/sf (no credit taken)
Miscellaneous		
Equipment	1.00 W/sf	1.00 W/sf
Garage Fans	› Assumes airflow= 0.75 CFM/SF of garage area and fan motor size = 0.3 Watts/CFM. Average operating setpoint = 50% speed.	› Assumes airflow= 0.75 CFM/SF of garage area and and fan motor size = 0.3 Watts/CFM. Average operating setpoint = 50% speed.
Elevators	› Average load = 25 HP per building	› Average load = 25 HP per building

1 Based case represents ASHRAE 90.1-2013 conditions.

Residential High-Rise

Table 7-2 provides a summary of the proposed building improvements assumed for the residential high-rise typology. Key energy savings features include improved roof insulations, a low window-to-wall ratio, energy efficient windows and glazing and improved HVAC systems. This typology is expected to use multiple HVAC systems depending on the area being conditioned, including 100 percent outside air packaged rooftop energy recovery units for common spaces, water source heat pumps for residential units, and packaged single zone AC for retail spaces. The design scenario will make use of improved 70 percent effective enthalpy wheels and 95 percent efficient condensing boilers.

Table 7-2 Residential High-Rise Key Model Assumptions

Building Component	Base Case[1]	Design Case
Usage		
Operating Schedule	› 24/7/365	
Temperature Setpoints	› Cooling – Occupied: 75 °F; Heating – Occupied: 70 °F	
Building Exterior Envelope (Construction Assemblies)		
Roof Assembly	› R30ci Insulation Entirely Above Deck (U-0.032)	› R40ci Insulation Entirely Above Deck (U-0.025)
Wall Assembly	› Steel Framed R-18 (U-0.055)	› Steel Framed R-18 (U-0.055)
Wall-to-Wall Ratio	› 30% modeled (40% maximum)	› 30%
Windows and Glazing	› U-0.42	› U-0.38
Solar Heat Gain Coefficient	› 0.4	› 0.35
HVAC Systems and Controls		
HVAC System	› System #7: VAV Rooftop Unit with HW Reheat - System per Floor - for residential support spaces › System #1: Packaged Terminal A/C Units with HW - for residential units › System #3 - Packaged Single Zone AC (exception 2) for Retail Areas	› 100% Outside Air Packaged Rooftop Energy Recovery Unit with water-cooled DX cooling and gas furnace heating › Water Source Heat Pumps serving residential units › System #3 - Packaged Single Zone AC (exception 2) for Retail Areas
Unitary Efficiency	› System #1 PTAC: 12.2 EER › System #3 PSZ: 11.7 - 12.1 EER	› ERU DX cooling: 14.0 EER › ERU Heat Pump Heating: 4.5 COP › WSHP Cooling: 15.0 EER › WSHP Heating: 4.5 COP
Exhaust Air Energy Recovery	› 50% effective enthalpy wheel on all VAV Systems as required by ASHRAE 90.1-2013 Table 6.5.6.1	› 70% effective enthalpy wheel on RTU/ERU
Number of Chillers	› 1	› N/A
Chiller Efficiency	› 4.9 COP	› N/A
Number of Boilers	› 2	› 2
Boiler Efficiency	› 90% Natural Draft (Per Stretch Code 2-of-6 Enhancements)	› 95% Condensing

1 Based case represents ASHRAE 90.1-2013 conditions.

Table 7-2 Residential High-Rise Key Model Assumptions (Continued)

Building Component	Base Case[1]	Design Case
Domestic Hot Water		
DHW System Type	› Natural Gas	› Natural Gas
Equipment Efficiency	› 90%	› 95%
DHW Flow	› Standard Flow Fixtures	› Low Flow Fixtures / 30% Reduction in Flow Fixtures
Lighting		
Sensors	Scheduled off during unoccupied hours	Scheduled off during unoccupied hours
Calculation Method	Building Area with 10% reductions (Per Stretch Code 2-of-6 Enhancements)	Building Area
LPD (W/SF)	› Residential Common Areas = 0.46 W/SF Parking Garage = 0.19 W/SF › Apartment Units = 1.0 W/SF (no credit taken)	› Residential Common Areas = 0.41 W/SF (20% reduction) › Parking Garage = 0.17 W/SF (20% reduction) › Apartment Units = 1.0 W/SF (no credit taken)
Miscellaneous		
Equipment	› 1.00 W/SF	› 1.00 W/SF
Garage Fans	› Assumes airflow= 0.75 CFM/SF of garage area and fan motor size = 0.3 Watts/CFM. Average operating setpoint = 50% speed.	› Assumes airflow= 0.75 CFM/SF of garage area and fan motor size = 0.3 Watts/CFM. Average operating setpoint = 50% speed.
Elevators	› Average load = 25 HP per building	› Average load = 25 HP per building

2 Based case represents ASHRAE 90.1-2013 conditions.

Hotel

Table 7-3 provides a summary of the proposed building improvements assumed for the hotel typology. Key energy savings features include improved roof insulations, a low window-to-wall ratio, energy efficient windows and glazing and improved HVAC systems. This typology is expected to use multiple HVAC systems depending on the area being conditioned, including 100 percent outside air packaged rooftop energy recovery units for common spaces, water source heat pumps for hotel units, and packaged single zone AC for retail spaces. The design scenario will make use of improved 70 percent effective enthalpy wheels and 95 percent efficient condensing boilers.

Table 7-3 Hotel Key Model Assumptions

Building Component	Base Case[1]	Design Case
Usage		
Operating Schedule	› 24/7/365	
Temperature Setpoints	› Cooling – Occupied: 75 °F; Heating – Occupied: 70 °F	
Building Exterior Envelope (Construction Assemblies)		
Roof Assembly	› R30ci Insulation Entirely Above Deck (U-0.032)	› R40ci Insulation Entirely Above Deck (U-0.025)
Wall Assembly	› Steel Framed R-18 (U-0.055)	› Steel Framed R-18 (U-0.055)
Wall-to-Wall Ratio	› Residential: 30% modeled (40% maximum) › Hotel: 34% maximum	› Residential: 30% › Hotel: 30%
Windows and Glazing	› U-0.42	› U-0.38
Solar Heat Gain Coefficient	› 0.4	› 0.35
HVAC Systems and Controls		
HVAC System	› System #7: VAV Rooftop Unit with HW Reheat - System per Floor - for residential support spaces › System #1: Packaged Terminal A/C Units with HW - for residential and hotel units › System #3 - Packaged Single Zone AC (exception 2) for Retail Areas	› 100% Outside Air Packaged Rooftop Energy Recovery Unit with water-cooled DX cooling and gas furnace heating › Water Source Heat Pumps serving residential and hotel units › System #3 - Packaged Single Zone AC (exception 2) for Retail Areas
Unitary Efficiency	› System #1 PTAC: 12.2 EER › System #3 PSZ: 11.7 - 12.1 EER	› ERU DX cooling: 14.0 EER › ERU Heat Pump Heating: 4.5 COP › WSHP Cooling: 15.0 EER › WSHP Heating: 4.5 COP
Exhaust Air Energy Recovery	› 50% effective enthalpy wheel on all VAV Systems as required by ASHRAE 90.1-2013 Table 6.5.6.1	› 70% effective enthalpy wheel on RTU/ERU
Number of Chillers	› 1	› N/A
Chiller Efficiency	› 4.9 COP	› N/A
Number of Boilers	› 2	› 2
Boiler Efficiency	› 90% Natural Draft (Per Stretch Code 2-of-6 Enhancements)	› 95% Condensing

Table 7-3 Hotel Key Model Assumptions (Continued)

Building Component	Base Case[1]	Design Case
Domestic Hot Water		
DHW System Type	› Natural Gas	› Natural Gas
Equipment Efficiency	› 90%	› 95%
DHW Flow	› Standard Flow Fixtures	› Low Flow Fixtures / 30% Reduction in Flow Fixtures
Lighting		
Sensors	› Scheduled off during unoccupied hours	› Scheduled off during unoccupied hours
Calculation Method	› Building Area with 10% reductions (Per Stretch Code 2-of-6 Enhancements)	› Building Area
LPD (W/SF)	› Residential Common Areas = 0.46 W/SF › Hotel Common Areas = 0.78 W/SF › Hotel Guest Units = 0.78 W/SF › Parking Garage = 0.19 W/SF › Apartment Units = 1.0 W/SF (no credit taken)	› Residential Common Areas = 0.41 W/SF (20% reduction) › Hotel Common Areas = 0.70 W/SF (20% reduction) › Hotel Guest Units = 0.70 W/SF (20% reduction) › Parking Garage = 0.17 W/SF (20% reduction) › Apartment Units = 1.0 W/SF (no credit taken)
Miscellaneous		
Equipment	› 1.00 W/sf	› 1.00 W/sf
Garage Fans	› Assumes airflow= 0.75 CFM/SF of garage area and fan motor size = 0.3 Watts/CFM. Average operating setpoint = 50% speed.	› Assumes airflow= 0.75 CFM/SF of garage area and fan motor size = 0.3 Watts/CFM. Average operating setpoint = 50% speed.
Elevators	› Average load = 25 HP per building	› Average load = 25 HP per building

1 Based case represents ASHRAE 90.1-2013 conditions.

Office

Table 7-4 provides a summary of the proposed building improvements assumed for the office typology. Key energy savings features include improved roof insulations, a code maximum window-to-wall ratio, energy efficient windows and glazing and improved HVAC systems. This typology uses a variable air volume rooftop unit with hot water reheat in the design scenario. The design scenario will make use of improved 65 percent effective enthalpy wheels and 95 percent efficient condensing boilers.

Table 7-4 Office Key Model Assumptions

Building Component	Base Case[1]	Design Case
Usage		
Operating Schedule	› M-F: 7am-6pm	
Temperature Setpoints	› Cooling – Occupied: 75 °F, Unoccupied: 80 °F; Heating – Occupied: 70 °F, Unoccupied: 65 °F	
Building Exterior Envelope (Construction Assemblies)		
Roof Assembly	› R30ci Insulation Entirely Above Deck (U-0.032)	› R40ci Insulation Entirely Above Deck (U-0.025)
Wall Assembly	› Steel Framed R-18 (U-0.055)	› Steel Framed R-18 (U-0.055)
Wall-to-Wall Ratio	› Office: 40% maximum	› 40%
Windows and Glazing	› U-0.42	› U-0.38
Solar Heat Gain Coefficient	› 0.4	› 0.35
HVAC Systems and Controls		
HVAC System	› System #7: VAV Rooftop Unit with HW Reheat - System per Floor	› VAV Rooftop Unit with HW Reheat
Exhaust Air Energy Recovery	› 50% effective enthalpy wheel on all VAV Systems as required by ASHRAE 90.1-2013 Table 6.5.6.1	› 65% effective enthalpy wheel on RTU
Number of Chillers	› 2 (No Variable Speed)	› 2 (Variable Speed)
Chiller Efficiency	› 0.56 kW/ton (full load); 0.52 IPLV	› 0.55 kW/ton
Number of Boilers	› 2	› 2
Boiler Efficiency	› 90% Natural Draft (Per Stretch Code 2-of-6 Enhancements)	› 95% Condensing
Domestic Hot Water		
DHW System Type	› Electric Resistance Storage Water Heater	› Electric Resistance Storage Water Heater
Equipment Efficiency	› Energy Factor = 0.963 per ASHRAE 90.1-2013 Table 7.8	› Energy Factor = 0.963 per ASHRAE 90.1-2013 Table 7.8
DHW Flow	› Standard Flow Fixtures	› Low Flow Fixtures

Based case represents ASHRAE 90.1-2013 conditions.

Table 7-4 Office Key Model Assumptions (Continued)

Building Component	Base Case[1]	Design Case
Lighting		
Sensors	› Scheduled off during unoccupied hours	› Scheduled off during unoccupied hours
Calculation Method	› Building Area with 10% reductions (Per Stretch Code 2-of-6 Enhancements)	› Building Area with 30% reduction
LPD (W/SF)	› Office Common Areas = 0.82 W/SF Office Tenant Areas = 0.82 W/SF Retail Area = 1.26 W/SF Parking Garage = 0.21 W/SF	› Office Common Areas = 0.57 W/SF (30% reduction) › Office Tenant Areas = 0.57 W/SF (30% reduction) › Retail Area = 1.26 W/SF › Parking Garage = 0.15 W/SF (30% reduction)
Miscellaneous		
Equipment	› 1.00 W/sf	› 1.00 W/sf
Garage Fans	› Assumes airflow= 0.75 CFM/SF of garage area and fan motor size = 0.3 Watts/CFM. Average operating setpoint = 50% speed.	› Assumes airflow= 0.75 CFM/SF of garage area and fan motor size = 0.3 Watts/CFM. Average operating setpoint = 50% speed.
Elevators	› Average load = 20 HP per building	› Average load = 20 HP per building

1 Based case represents ASHRAE 90.1-2013 conditions.

Overall Project Energy Consumption and GHG Emissions

The total estimated annual electricity use, natural gas consumption, and associated emissions for the Project (all buildings combined) are presented in Table 7-5. Under the Base Case, the CO_2 emissions for the Project are estimated to be 9,194.4 tpy. With the currently proposed building design and system improvements, the estimated CO_2 emissions are 8,199.8 tpy which is a savings of 994.6 tpy. The equivalent estimated energy use reduction for the Project is approximately 17.5 percent, which equates to an approximately 10.8 percent overall reduction in stationary source CO_2 emissions when compared to the Base Case. The reduction in stationary source energy is consistent with the energy conservation design goals of the Proponent.

Table 7-5 Stationary Source CO_2 Emissions for the Overall Project (Full Build)

		Energy Consumption (MMBtu/yr)			CO_2 Emissions (tons/yr) [1]		
Building Name	Type	Base Case	Design Case	Percent Savings	Base Case	Design Case	Percent Reduction
Building A	Mid-Rise Residential	9,142	7,561	17.3%	771.2	693.8	10.0%
Building B	Mid-Rise Residential	8,646	7,151	17.3%	729.3	656.1	10.0%
Building C	High-Rise Residential	21,478	17,721	17.5%	1,809.6	1,653.7	8.6%
Building D	High-Rise Res/Hotel	17,947	14,421	19.6%	1,474.4	1,306.4	11.4%
Building E	High-Rise Res/Hotel	18,013	14,474	19.6%	1,479.8	1,311.2	11.4%
Building G [1898 Bldg.]	Mixed (Office, Civic, Retail)	2,482	2,180	12.1%	221.8	186.6	15.9%
Turbine Hall 1	Mixed (Office, Civic, Retail)	1,099	966	12.1%	98.2	82.7	15.8%
Building F	High-Rise Residential	15,570	12,846	17.5%	1,311.8	1,198.8	8.6%
Building H	High-Rise Office	9,639	8,326	13.6%	935.9	805.5	13.9%
Turbine Hall 2	Mixed (Office, Civic, Retail)	1,034	908	12.1%	92.4	77.7	15.9%
Turbine Hall 3	Mixed (Office, Civic, Retail)	2,903	2,550	12.1%	259.4	218.3	15.8%
Admin	Mixed (Office, Civic, Retail)	119	105	12.1%	10.6	8.9	16.0%
Total		**108,072**	**89,207**	**17.5%**	**9,194.4**	**8,199.8**	**10.8%**

1 tons/yr = short tons per year

7.3.3 Energy Use Intensity

EUI is a tool used to provide a common basis of comparison for energy use for various building uses. It is the total amount of energy used at a project over a one-year period divided by the square footage of that building, and represents the energy consumed by a building relative to its size. Based on a recent DOE research report, the median EUIs for prototype buildings in Climate Zone 5A are 54.1 kBtu/sf-yr for high-rise apartment buildings, 49.8 kBtu/sf-yr for mid-rise apartment buildings, 63.3 kBtu/sf-yr for a small hotel, 37.1 kBtu/sf-yr for medium offices and 46.3 kBtu/sf-yr for retail under ASHRAE 90.1-2013.[3] Table 7-6 provides the as-modeled EUI for each prototype building modeled for the Project under the Base and Design Cases.

Table 7-6 Energy Use Intensity (kBtu/sf-yr)

		EUI (kBtu/sf-yr)			
Project Component	**Use Type**	**Base Case[1]**	**Design Case**	**Percent Improvement**	**Prototype Benchmark EUIs[2]**
Building A	Mid-Rise Residential	54.8	45.3	17.3%	49.8
Building B	Mid-Rise Residential	54.8	45.3	17.3%	49.8
Building C	High-Rise Residential	57.7	47.6	17.5%	54.1
Building D	High-Rise Res/Hotel	63.2	50.8	19.6%	54.1-63.3
Building E	High-Rise Res/Hotel	63.2	50.8	19.6%	54.1-63.3
Building G [1898 Bldg.]	Mixed (Office, Civic, Retail)	44.7	39.3	12.1%	37.1-46.3
Turbine Hall 1	Mixed (Office, Civic, Retail)	44.7	39.3	12.1%	37.1-46.3
Building F	High-Rise Residential	57.7	47.6	17.5%	54.1
Building H	High-Rise Office	36.4	31.5	13.6%	37.1
Turbine Hall 2	Mixed (Office, Civic, Retail)	44.7	39.3	12.1%	37.1-46.3
Turbine Hall 3	Mixed (Office, Civic, Retail)	44.7	39.3	12.1%	37.1-46.3
Admin	Mixed (Office, Civic, Retail)	44.7	39.3	12.1%	37.1-46.3

1 The Base Case represents current Base Energy Code ASHRAE 90.1-2013 standards.
2 "Cost-Effectiveness of the ASHRAE Standard 90.1-2013 for the State of Massachusetts". *US Department of Energy*. December 2015.

The EUIs of the Project components generally fall around the benchmark values provided by the prototype buildings in the DOE study and Energy Star study. In most buildings, the Design Case EUI is below Prototype Benchmark EUI for the use types of the respective building. The Prototype Benchmark EUIs are for theoretical buildings with designs that do not exactly reflect the Project they are being compared against. As such, differences between the modeled EUIs and the Benchmarks are expected. In all components, the Design Case EUIs represent significant improvement over the Base Case EUIs, which demonstrates the Proponent's commitment to constructing a green project.

3 "Cost-Effectiveness of the ASHRAE Standard 90.1-2013 for the State of Massachusetts." US Department of Energy. December 2015.

7.3.4 Other Beneficial Stationary Source GHG Emissions Measures

Other beneficial measures are intended to be incorporated into the Project's design which cannot be incorporated into the energy modeling due to modeling limitations. These measures are described below.

Building Commissioning

Building commissioning will be conducted prior to and during occupancy to ensure the building systems are operating efficiently and as designed. This quality-control process optimizes the energy performance of the building, reduces maintenance cost, and extends the lifespan of the building systems. Facilities staff will be trained to properly operate the building systems, with special consideration for new technologies. The period between audits will depend upon energy performance.

The Proponent will conduct an enhanced commissioning process during the construction process, including functional testing of all major lighting and HVAC systems. Once they are occupied, the Proponent will benchmark the performance of the buildings against the performance of other buildings in its portfolio and national/local averages after the buildings are placed in service and stabilized. If underperformance is identified, the Proponent will audit major lighting and HVAC systems and address deficiencies.

Energy Tracking and Monitoring

The Proponent has an internal program for tracking building energy use over time, that will be implemented to insure appropriate building performance. The Proponent will implement a Measurement and Verification ("M&V") plan that will utilize the base building energy management system to monitor operation of equipment or systems. The buildings will include a monitored electronic metering network in the base building design that is capable of being expanded to accommodate and document future tenant sub-metering. Additionally, the retail tenant shall be metered either via a check meter or utility meter, depending on the utility.

The Proponent supports the City's Climate Action Plan, will comply with the Building Energy Use Disclosure Ordinance, and will report whole-building energy use for the required components of the Project.

Plug Load Reduction

The Proponent commits to encouraging the use of ENERGY STAR™ appliances and equipment where available and reasonably practicable. The building energy model does not take credit for reduced plug loads as the eQUEST model conducted for the Design Case did not account for energy conservation measures related to plug-in equipment. The use of ENERGY STAR™ appliances and equipment has proven to result in a reduction in overall energy use and, therefore, a reduction in stationary source CO_2 emissions for the Project.[4]

Green Tenant Guidelines

The Proponent will provide Tenant Design and Construction Guidelines to potential office and retail tenants during the leasing process. The intent of these guidelines is to educate future tenants about implementing sustainable design and construction features in their tenant improvement build-outs, as well as adopting green building practices that support the overall sustainability goals of the Project. The guidelines will also communicate the sustainable and resource-efficient features incorporated into the base building and provide suggested sustainable strategies, enabling tenants to coordinate their leased space design and construction with the rest of the Project systems.

These office and retail lease guidelines may include the following information:

- Descriptions of sustainable design, construction, and operational features of the Project, including resource conservation goals and features (i.e., low-flow plumbing fixtures, sub-metered systems, lighting controls) as well as building certification checklists, such as LEED.
- Descriptions of current regulatory requirements that pertain to leasable spaces (i.e., Stretch Energy Code, City of Boston energy reporting requirements).
- A list of approved categories of fit-out materials with performance standards, which may include health product declarations or similar transparency declarations, environmental product declarations, recycled content, regional availability, VOC content limits for adhesives, sealants, paints and coatings, NAUF composite wood materials, and CRI and/or FloorScore compliant flooring materials.
- Recommendations and guidance on providing good indoor air quality during construction and once occupied.
- Recommendations and guidance on ways to lower energy use for tenant space including HVAC systems, controls, set points, and plug load reduction.
- Waste reduction goals and recycling and/or composting facilities/programs.
- Information on Green Cleaning guidelines/policies.
- Information regarding Project-wide features that aim to encourage alternative transportation and TDM measures.
- Information on how to train/inform maintenance staff and employees on sustainable design/operation features.

In addition, the Proponent is exploring the creation of Green Tenant Guidelines for residential tenants which would provide information on utilizing the sustainable design features of the building and the individual unit to their fullest potential. These could include information on how to use the heating and cooling systems, ways to conserve energy and water, plug load controls, waste reduction and recycling and/or composting,

4 Compared to standard office equipment and home appliances (non-ENERGY STAR rated), ENERGY START-qualified products use 30 to 75 percent less electricity according to the ENERGY STAR website: <https://www.energystar.gov/index.cfm?c=ofc_equip.pr_office_equipment>

green cleaning guidelines and products, non-automotive transportation and cycling options and identification of amenities within walking distance. As previously mentioned, residential units will be individually metered for energy and water use to provide incentive for residents to reduce consumption.

Solid/C&D Waste Reduction and Potential GHG reductions

Recycling and reuse programs will be developed and implemented by all construction contractors to reduce the amount of waste that is sent to landfills throughout construction. Prior to the start of construction, the construction management team will prepare and submit a Construction Waste Management Plan ("CWMP") which will be implemented on Site. The Project will target a minimum diversion rate of 75 percent of C&D waste.

Storage of collected recyclables will be accommodated in designated recycling areas of the Project. A contracted waste management company will collect the recyclables on a regular basis. The Project is targeting 100 percent of paper, corrugated cardboard, glass, plastic and metal to be recycled during operations. Information on recyclable materials and the recycling program will be distributed to residential tenants and will include strategies to reduce waste through recycling and reuse programs.

Water Efficiency/Wastewater Generation Reduction

Water efficiency is not only important for conserving potable water and reducing wastewater generation, but also for reducing energy. Nationally, about four percent of electricity use can be attributed to the treatment of potable water and wastewater, excluding the energy use associated with water heating. Therefore, the Proponents' commitment to reducing water use and wastewater generation through the installation of low-flow fixtures not only supports the overall sustainability goals, but further mitigates the potential impacts from energy use on the climate.

As outlined in the current MEPA GHG Policy, projects that will consume greater than 300,000 gallons per day (gpd) of water or wastewater may be required to model GHG emissions associated with energy usage for water or wastewater treatment on a case-by-case basis. This Project will require 324,503 gpd of potable water and will generate 295,003 gpd of wastewater. As such, GHG emissions for water and wastewater based on methodology presented in the MEPA GHG Policy. Using the assumed electricity consumption per 1,000 gallons of treated water in the MEPA GHG Policy, the combined potable water usage and wastewater generation is expected to produce 58.1 tons per year of GHG.

The Proponent will continue to consider and evaluate methods to conserve water as building design evolves. The project will employ low-flow domestic water fixtures to reduce the amount of potable water and required and wastewater generated. Consequentially, GHG emissions associated with these sources will be reduced.

7.3.5 Passive Design

Passive House is a rigorous, voluntary standard for energy efficiency in a building, reducing its ecological footprint. It results in ultra-low energy-use buildings that require little energy for space heating or cooling. Passive House is a design process that is integrated with architectural design that focuses on achieving very low energy use for heating and cooling buildings by implementing design solutions such as optimized orientation and shading, superinsulation, passive solar gains, air-tight envelope, elimination of thermal bridges and efficient HVAC. The program is relatively new in the United States but has been expanding across Europe.

There are no prescriptive insulation requirements for Passive House certification; however, in order to meet the strict energy use requirements, a highly insulated envelope is essential. The insulation has to be continuous and connection details free of thermal bridges. Achieving Passive House certification requires the design to meet stringent airtightness standards (n50: 0.6 ACH @ 50Pa). Performance must be verified through blower door testing of the entire building after construction.

The Proponent has studied the potential to make Block B a passive house including increasing envelope insulation and reducing HVAC capacities to meet the requirements of the design standard. The model inputs are presented with a detailed analysis in Appendix F. Increased envelope insulation, the use of VRF system and reduce lighting power densities are primary energy conversation measures employed to reduce energy load in Block B.

Energy modeling was conducted with the outlined inputs to estimate the annual energy consumption of the Project with the Passive House building. The resulting energy consumption and GHG emissions of Building B is presented in Table 7-7. With the Passive Design features implemented, the building is estimated to reduce energy consumption by 35 percent compared to the Base Case. This is approximately double the energy percent savings of the proposed design. GHG emissions would be reduced by 30.6 percent, saving 268 tons per year compared to the Base Case.

Table 7-7 Block B with Passive House Stationary Source CO_2 Emissions

	Energy Consumption			CO_2 Emissions		
	Electricity (MWh/yr)	**Natural Gas (MMBtu/yr)**	**Total (MMBtu/yr)**	**Electricity (tons/yr)[1]**	**Natural Gas (tons/yr)**	**Total (tons/yr)**
Base Case	1,726	4,490	10,379	613	263	876
Passive Design	1,371	2,070	6,749	487	121	608
End-Use Savings	355	2,420	3,630	126	142	268
Percent Savings			**35.0%**			**30.6%**

tons/yr = short tons per year

Given the potential energy consumption savings associated with the passive design of Block B, the Proponent has studied the increased costs associated with implementing the additional energy conservation measures required to produce such results. Detailed information on the incremental costs associated with specific envelope and HVAC materials under the Baseline, Proposed, and Passive Design scenarios are presented in Appendix F.

A summary of the results of the cost analysis is presented in Table 7-8. The inclusion of the Passive House energy conservation measures will result in incremental costs that are 16 percent higher than the proposed design and 41 percent higher than the baseline building. Some of these costs increases could be offset by available incentives. While there are currently no incentives directly available for passive house, the increased energy reduction compared to the baseline code and associated energy conservation measures required to meet passive house standards may qualify for incentives and grants. Specifically, the incremental cost of a passive house building may be partially offset by alternative energy credits, MassSave performance-based utility incentives and Massachusetts Clean Energy Center grants. The Proponent is committed to continuing to explore and assess the feasibility and cost-benefit of Passive House building techniques within the residential buildings.

Table 7-8 Block B Passive House Incremental Costs

Category	Baseline Case (ASHRAE 90.1-2013, App. G)	Proposed Design	Proposed Design with Passive House Building B
HVAC	$25.00/SF	$42.00/SF	$52.00/SF
Exterior Envelope (Walls, Roof, Insulation)	$53.00/SF	$55.50/SF	$59.75/SF
Windows/Glazing	$19.50/SF	$21.00/SF	$26.25/SF
Total	**$97.50/SF**	**$118.50/SF**	**$138.00/SF**

7.3.6 Clean and Renewable Energy Analysis

A variety of clean and renewable energy sources were or are currently being evaluated for the Project, including solar, wind, and cogeneration in the form of combined heat and power (“CHP”). Based on the energy and payback analysis, cogeneration is the most cost-effective potential strategy. While not included in the base design assumptions of the preliminary energy models, these systems will continue to be evaluated as the Project design develops.

As the Project moves forward in evaluating and implementing any of the renewable energy sources discussed below, the limitations of the utility will need to be considered. The cost-effectiveness of some of the renewable energy sources is dependent on the ability to route surplus energy generated on-site into the local grid system and receive compensation from the utility. The Proponent will further discuss the utility’s capacity to accept surplus energy from potential on-site renewable energy sources and evaluate the impact this will have on the feasibility of on-site renewable energy systems as the Project’s design progresses.

Solar Panels

Solar, or Photovoltaic ("PV"), panels are comprised of an array of small solar cells that convert sunlight to electricity. The constant and significant improvements in PV technologies are making PV systems lighter and more cost efficient. This Project has the potential for a variety of flat rooves on the Project's buildings that may be appropriate for PV system installation. The Solar Massachusetts Renewable Target ("SMART") incentive program is the new incentive program for solar installations designed by the Massachusetts Department of Energy Resources.

For the rooftop solar feasibility study, each building that is not expected to be substantially shaded was assessed for potential implementation of the technology. Since roof areas are also used to house mechanical equipment (such as cooling towers, stair pressurization fans, etc.), electrical equipment (generators) and stair access, solar is not usually feasible on rooftops with areas under 10,000 SF. The study indicated that approximately 494,696kWh of energy per year could be generated Site-wide. This is equivalent to approximately $79,151 per year in utility costs and reduce site-wide GHG emissions by 176 tons per year. Details of the solar analysis are presented in Appendix F. The simple payback period for the PV solar systems is estimated to 19.1 years for all buildings but could be significantly reduced with SMART incentives or other federal rebates. The Proponent will work with tenants to consider this renewable energy source, as well as relevant incentives, in more depth as design progresses for each individual building. At a minimum, building rooftops will be designed to be "solar-ready" with the appropriate structural capacity and electrical infrastructure to support a solar PV installation if deemed feasible at a future date.

Combined Heat and Power (Co-Generation)

CHP provides a unique opportunity to reduce electric demand and provide useful heating at the same time. Residential and hotel buildings are conducive to the domestic hot water and thermal patterns that are required to maximize return on investment for CHP. Based on the Project's hot water loads, units sized 35 kW, 60 kW, and 75 kW would be anticipated to serve the various residential and hotel buildings. Thermal energy produced by the system, that is lower temperature heat, would be utilized to offset the space heat, domestic hot water, and/or process loads.

The analysis of the CHP systems is presented in Appendix F, including the estimated GHG savings. The study considered CHP systems for Buildings A, B, C, D E, and F. If CHP systems were implemented at these buildings, the CHP systems would be expected to produce a combined 2,692 MWh per year of electricity and 18,541 MMBtu per year of Annual Heat Recovery. These systems would consume 33,027 MMBtu per year of natural gas to operate. The resulting operation of the CHPs would provide an annual energy cost savings of $264,256 and reduce annual GHG emissions by 109 tons per year.

The Proponent has considered the economic implications of installing these CHP systems. Assuming a typical installation cost of $4.00 per Watt, the total installed construction costs of the system is $1,420,000. Annual maintenance costs of the systems were estimated at $0.02 per Watt and totaled $53,856. Factoring in utility incentives ($0.105 per kWh saved) and utility savings, the overall payback on the CHP systems is 5.4 years. This payback schedule does not account for infrastructure costs associated with CHP, and as such, the overall payback on the CHP system may take longer. As CHPs are the most cost-effective clean and renewable energy strategy with consideration of the utility incentives available, the Proponent commits to continuing the study of CHP systems as the design of these buildings progresses.

Wind

Wind electricity generation has been considered at this Project location. Based on information noted on the U.S. Department of Energy "WINDExchange" website for Massachusetts,[5] this location is estimated to have an average wind speed of 6.0-6.5 meters/second at 80 meters in height. This average wind speed is on the lower end of the wind speed spectrum and at a minimal level for potential wind generation equipment. Additionally, other renewable technologies (such as Solar PV) have proven to more efficiently produce electricity than building integrated wind turbines. As such, the Proponent is not considering wind energy generation for the project.

Steam

The Project is located outside of the area where access to district steam energy is available.

Green Power/Renewable Energy Certificates

Green power is a subset of renewable energy and represents those renewable energy resources and technologies that provide the highest environmental benefit. EPA defines green power as electricity produced from solar, wind, geothermal, biogas, eligible biomass, and low-impact small hydroelectric sources. Customers often buy green power for its zero emissions profile and carbon footprint reduction benefits. The purchase of Green Power would depend upon the availability from the energy provider and the final design of the Project. In this early design stage, the Proponent is studying other renewable energy/alternative energy sources, including solar and CHP. If solar and CHP are not deemed feasible, the Proponent will consider purchasing green power through Renewable Energy Certificates ("RECs").

7.3.7 Utility Incentives

The Proponent is aware that the Project's electrical and natural gas service providers may offer technical assistance and incentives for implementing energy efficiency measures. By working with these utilities throughout the design process, the Proponent will evaluate additional energy conservation strategies and, therefore, additional energy savings and associated GHG emissions reductions may be achieved. Utility incentives are also discussed in the renewable and alternative energy analyses.

5 http://apps2.eere.energy.gov/wind/windexchange/wind_resource_maps.asp?stateab=ma

Furthermore, the Proponent is committed to meeting the applicable requirements of the City of Boston Building Energy Reporting and Disclosure Ordinance, Section 7-2.2 of the Boston Ordinances, once the Project is in operation.

7.4 Mobile Source GHG Emissions Assessment

Mobile source GHG emissions are based upon the traffic volumes, the distance vehicles travel and GHG emission rates. The mobile source emissions are calculated by performing a mesoscale analysis to evaluate the changes in CO_2 emissions for the existing and future conditions within the traffic study area. The GHG mobile source analysis estimates the area-wide CO_2 emissions from vehicle traffic for a period of one year. Mobile source emissions were calculated by performing an annual GHG emissions mesoscale analysis to evaluate the estimated change in CO_2 emissions for the existing and future conditions within the study area.

7.4.1 Analysis Conditions

Consistent with the traffic analysis, the following conditions were analyzed: the 2017 Existing Condition; and 2030 future No-Build, Build, and Build with Mitigation Conditions. The analysis compares the future No-Build, Build, and Build with Mitigation Conditions in order to identify the anticipated changes in traffic conditions and mobile source GHG emissions as a result of the Project. Where applicable, the Existing Condition is considered for comparison purposes only.

7.4.2 Mobile Source Emission Rates and Inventories

EPA's Office of Transportation and Air Quality ("OTAQ") has developed the Motor Vehicle Emission Simulator ("MOVES")[6]. MOVES2014a is EPA's latest motor vehicle emissions model for state and local agencies to estimate GHG and other emissions from cars, trucks, buses, and motorcycles.

All the vehicle emissions used in mobile source GHG analysis were obtained using EPA's MOVES2014a emissions model. MOVES2014a calculates emission factors from motor vehicles in a mass per distance format (often grams per mile) for existing and future conditions and applies these factors to Vehicle Miles Travelled ("VMT") data to obtain emissions inventories. The emissions calculated for this air quality assessment include Tier 3 emission standards, which is an EPA program that sets new vehicle emissions standards, including lowering the sulfur content of gasoline, heavy-duty engine and vehicle greenhouse gas regulations (2014-2018), and the second phase of light-duty vehicle GHG regulations (2017-2025). It also includes Massachusetts-specific conditions, such as the state vehicle registration age distribution and the statewide Inspection and Maintenance ("I/M") Program.[7] These stringent emissions regulation programs often result in smaller emissions inventories with the passage of time when comparing similar

6 MOVES2014a (Motor Vehicles Emission Simulator), December 2015, US EPA, Office of Mobile Sources, Ann Arbor, MI.

7 The Stage II Vapor Recovery System is the process of collecting gasoline vapors form vehicles as they are refueled. This requires the use of a special gasoline nozzle at the fuel pump.

scenarios. Input data for the model was obtained from DEP and used Project-specific developed inputs where appropriate.

The MOVES2014a model was run at a project-level to obtain emission factors for each link of the mesoscale analysis. The model was set to calculate the emissions burden by choosing to model emissions processes that are specifically related to vehicles in the study area. Links were created that used the appropriate speeds and grades for each roadway segment.

7.4.3 Traffic Data

The air quality study used traffic data (volumes, delays, and speeds) developed for each analysis condition. The mesoscale analysis for CO_2 emissions considered a yearly traffic volume developed from weekday periods. The vehicle miles traveled data used in the air quality analysis were developed based on the traffic data analyzed in Chapter 5*, Transportation and Parking*.

7.4.4 Existing Mobile Source CO_2 Emissions

Table 7-9 presents CO_2 emissions from mobile sources under all conditions. The calculation of Existing Conditions mobile source emissions provides a base for which future years are evaluated. The mobile source analysis calculated the existing CO_2 emissions from the major roadways in the study area. These CO_2 emissions, estimated to be 14,757 tpy, establish a baseline to which future emissions can be compared. Results are presented in short tons (2,000 lbs.) per year.

7.4.5 Future Mobile Source CO_2 Emissions

Future Project-related mobile source CO_2 emissions calculations are based upon changes in traffic and emission's factor data. The traffic data includes traffic volumes, vehicle miles traveled, roadway operations, and physical roadway improvements. The emission factor data includes emission reduction programs and years of analysis. The 2030 CO_2 emission factors are lower than the 2017 emissions due to the implementation of emission control programs, such as the Federal Motor Vehicle Emission Control Program (Tier 3), the Stage II Vapor Recovery System, and the Massachusetts Vehicle inspection and Maintenance program.

The mobile source analysis estimated the future study area CO_2 emissions due to the changes in traffic and emission data. Under the No-Build Condition, CO_2 emissions were estimated to be 12,492 tpy. Under the Build Condition, the CO_2 emissions were estimated to be 14,681 tpy.

The total Project-related mobile source GHG emissions are 2,189 tpy, as presented in Table 7-9. The 2,189 tpy increase in CO_2 emission represents an 18 percent increase in CO_2 emissions for the mesoscale study area for future conditions.

Table 7-9 Mobile Source CO_2 Emissions Analysis Results (tpy)

Pollutant	2017 Existing Conditions	2030 No-Build Conditions	2030 Build Conditions	Project-related CO_2 Emissions[1]
Greenhouse Gas (CO_2)	14,757	12,492	14,681	2,189

1 Represents the difference in CO_2 emissions between the Build and No-Build Conditions.

7.4.6 Proposed Mitigation Measures

The mobile source GHG assessment calculated the GHG emissions for Project-related mobile sources. A comprehensive transportation mitigation program has been developed to mitigate impacts of Project-related traffic. Specifically, the traffic mitigation measures proposed by the Proponents to minimize the traffic impacts of the full build-out of the Project include signal improvements and timing modifications to the intersections of Summer Street at Elkins Street, Summer Street at East 1st Street, and L Street at East Broadway and TDM measures.

The Proponent is committed to implementing a comprehensive TDM program. A full description of the TDM program is detailed in Chapter 5, *Transportation and Parking*. Implementation of the TDM program is expected to improve air quality in the study area by promoting the use of alternative forms of transportation over the use of single-occupant motor vehicle trips to the Project Site. This modal shift results in lower Project-related VMT which consequentially reduces indirect Project emissions.

Although not easily modeled, previous estimates of similar TDM programs in an urban area have ranged on the order of two percent reduction in vehicle miles travelled from the Project generated trips. Assuming a similar relationship to GHG emissions, this would correlate to an approximately 44 tons of CO_2 per year reduction in mobile source GHG based on estimated Project emissions. An additional 892 tons of CO_2 reduction due to roadway improvements is also applied resulting in a final Project-related CO_2 emissions total of 1,253 tpy. A summary of the mitigation emissions reduction is seen in Table 7-10.

Table 7-10 Mobile Source CO_2 Emissions Mitigation Analysis Results (tpy)

Pollutant	Project-related CO_2 Emissions[1]	Estimated Reductions Due to TDM Measures[2]	Estimated Reductions Due to Roadway Improvements[3]	Resulting Project-related CO_2 Emissions
Greenhouse Gas (CO_2)	2,189	-892	-44	1,253

1 Represents the difference in CO_2 emissions between the Build and No-Build Conditions
2 Mitigation from TDM Measures estimated as 2 percent of unmitigated Project-related emissions.
3 Mitigation from roadway improvement measures, such as signal optimization or intersection realignments.

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8

Wetlands and Waterways

The Project will activate vacant buildings and currently inaccessible paved surfaces on filled Private Tidelands. This chapter describes the wetlands and waterways jurisdiction relative to the Project and how the Project will meet or exceed the requirements of applicable regulations.

8.1 Summary of Key Findings and Benefits

Key findings and benefits of the Project related to wetlands and waterways include:

- The Project provides substantial public benefits and is protective of the Public Trust rights inherent in filled tidelands by creating new public access to and use of the Project Site.
- The Project will meet all applicable wetland regulations.
- The Project will transform the Project Site into a hub of activity, as well as a new meaningful destination on the City's waterfront.
- The design and programming of the Project will attract a broad range of visitors, day and night, year-round.
- The Project will provide over 5.5 acres of outdoor public space, including approximately three acres of open space within Chapter 91 jurisdiction.

8.2 Massachusetts Public Waterfront Act (Chapter 91)

As described in Section 6.6 of the ENF/EPNF, the Project Site includes approximately 4-acres of private tidelands subject to the Massachusetts Public Waterfront Act, MGL Chapter 91, as implemented by the Department of Environmental Protection ("DEP") through the Waterways Regulations (310 CMR 9.00). The limits of Chapter 91 jurisdiction on the Project Site in relation to the Project are shown in Figure 8.1.

Chapter 91 provides for the protection of the public's rights to navigation along and access to the Massachusetts shoreline. The Chapter 91 regulations establish standards for jurisdictional projects based on a number of criteria. Key among these are a project's status as water-dependent or nonwater-dependent, its location on flowed or filled tidelands, and its location on tidelands identified as either Private or Commonwealth Tidelands. The regulations also apply additional criteria to that portion of a project site within the "water-dependent use zone." In the case of water dependency, a project that is principally nonwater-dependent will be reviewed as nonwater-dependent in whole, whether or not it includes water-dependent aspects.

The following subsections review the proposed activities on the Project Site for consistency with applicable Chapter 91 regulatory standards.

Categorical Restrictions on Fill and Structures

The majority of work within Chapter 91 jurisdiction is within previously filled tidelands, and outside of an Area of Critical Environmental Concern or Designated Port Area, as categorically permitted by §9.32(1)(a)(1). Work proposed below the high-water mark is limited to shoreline stabilization and rehabilitation of existing structures, as categorically permitted by §9.32(2).

Environmental Protection Standards

In accordance with §9.33, all projects must comply with the applicable environmental regulatory programs of the Commonwealth. Those that are specifically applicable to the Project, and the status of the Project with respect to those programs, are summarized below:

- **Massachusetts Environmental Policy Act:** Through the filing of this DEIR/DPIR and the anticipated FEIR, the Proponent seeks a determination from the EEA that the Project "adequately and properly complies" with MEPA.
- **Massachusetts Wetlands Protection Act:** Compliance with the Wetlands Protection Act is presented in Section 8.3. The Project will be required to obtain approval in the form of an Order of Conditions from the Boston Conservation Commission for work within wetland resources areas and associated buffers.
- **Massachusetts Clean Water Act:** As presented in Chapter 9, *Infrastructure*, the Project will comply with the Massachusetts Clean Water Act and will undergo City, State, and federal review of water and wastewater management and treatment systems.
- **Massachusetts Historical Commission Review:** MHC review will take place through MEPA, under Chapter 254 (State Register Review). Consistency with MHC policies is presented in Chapter 10, *Historic Resources*.
- **Coastal Zone Management Consistency Review:** The Project's compliance with the Coastal Zone Management Act is reviewed in Section 8.4.

Conformance with Municipal Zoning and Harbor Plans

As described in Chapter 1, *Project Description*, the Project Site is located within the South Boston Marine Economy Reserve Subdistrict of the Harborpark Dorchester Bay/Neponset River Waterfront District, which is governed by Article 42A of the Code and shown on Zoning Map 4B/4C. The Proponent intends to pursue a PDA for the Project Site, which once approved, will set forth the relevant use, dimensional and other requirements applicable to the development of the Project in full compliance with the Code, including any relief which may be required.

Standards to Preserve Water-Related Public Rights

The Chapter 91 regulations at §9.35 preserve rights held by the Commonwealth in trust for the public to use tidelands, and any access rights associated with such use.

The regulations also ensure that jurisdictional public waterfront open spaces are properly managed and maintained.

The Project meets the requirements of this regulation by expanding and improving public open space along the waterfront and enhancing the pedestrian network along the Reserved Channel. Management of the public spaces associated with the Project will be the responsibility of the Proponent. The Project will substantially improve the quality and accessibility of the waterfront open spaces through an expanded pedestrian network. The Project will replace the existing fenced-off industrial space with over 5.5 acres of outdoor public space. These new public spaces will be designed and programmed to engage and attract the public to the Project Site on a year-round basis.

Standards to Protect Water-Dependent Uses

The Chapter 91 regulations at §9.36 protect any water-dependent uses occurring at or proximate to the Project Site, including water-dependent uses within the 5 years prior to the filing of the license application.

There are currently no water-dependent uses occurring at the Project Site. The former Power Plant has been decommissioned for over a decade.

Engineering Construction Standards

All structures associated with the Project will be designed and constructed in a manner that is structurally sound and will be certified by a registered Professional Engineer.

Conservation Capacity for Water-Dependent Use

In accordance with §9.51, nonwater-dependent projects that include fill or structures on any tidelands (filled or flowed) shall not unreasonably diminish the capacity of the tidelands to accommodate future water-dependent uses. To meet this standard, §9.51 establishes specific standards and conditions.

Improvements associated with the Project will greatly enhance and promote pedestrian access and enjoyment of the waterfront along the Reserved Channel. The Project will meet or exceed the Chapter 91 regulatory standards by complying with those standards. A review of the Project’s compliance with the standards of §9.51 is provided below:

› **Nonwater-Dependent Facilities of Private Tenancy:** The Chapter 91 regulations at §9.51(3)(b) prohibit facilities of private tenancy (FPTs) on any pile-supported structure on flowed tidelands, or on the ground floor of any filled tidelands within the WDUZ. The regulations at §9.51(1) and (2) also require that FPTs are developed in a way that does not conflict with existing water-dependent uses or the adaptability of the site for such uses. The Project does not include any ground floor FPTs within the WDUZ. Refer to Figure 8.1.

- **Setback:** The Chapter 91 regulations at §9.51(3)(c) require certain building and use setbacks from the water for properties that include a project shoreline and WDUZ. There are no nonwater-dependent buildings proposed within the WDUZ.
- **Open Space:** The Chapter 91 regulations contain two numerical standards pertaining to open space, the combined effect of which on Commonwealth Tidelands is to limit the site coverage for nonwater-dependent buildings at ground level to no more than 50 percent of the Project Site. The combined footprint of new buildings within jurisdiction is approximately 27,500 square feet, with a total of 21,750 square feet of existing buildings to remain, creating a building footprint offset of approximately 49,250 square feet. Approximately three acres of offsetting open space will be provided on-site along the shoreline and will be programmed to activate the waterfront along the Reserved Channel. As illustrated in Figure 8.2, the Project fully complies with Chapter 91 open space requirements.
- **Height:** Chapter 91 regulations at §9.51(3)(e) require that new nonwater-dependent buildings within 100 feet of the high-water mark be no taller than 55 feet in height, and for every additional two feet of separation from the high water mark, the regulations allow an additional foot of height. The Project fully complies with Chapter 91 height restrictions illustrated on Figure 8.1.

Utilization of Shoreline for Water-Dependent Use

In accordance with §9.52 of the Chapter 91 regulations, any nonwater-dependent activity or use shall devote a reasonable amount of space to water-dependent uses and public access. Such uses are defined to include waterfront boardwalks and esplanades for public recreation. Projects that include use of the WDUZ are also required to provide appropriate public walkway access for the entire length of the WDUZ.

The Project will activate the shoreline by significantly improving the existing conditions and creating new access along the entire length of the water-dependent use zone. The new shoreline access will activate the shoreline without conflicting with the DPA uses in and along the Reserved Channel. Improved materials and accessibility will provide a welcoming experience to invite, engage, and educate visitors to the Project Site. Refer to Figure 8.1 for a depiction of the WDUZ in relation to the proposed structure.

Activation of Commonwealth Tidelands for Public Use

The Chapter 91 regulations at §9.53 state that a "nonwater-dependent use project that includes fill or structures on Commonwealth Tidelands … must promote public use and enjoyment of such lands to a degree that is fully commensurate with the proprietary rights of the Commonwealth therein, and which ensures that private advantages of use are not primary but merely incidental to the achievement of public purpose. In applying this standard, the Department shall take into account any factor affecting the quantity and quality of benefits provided to the public, in comparison to the detriments to public rights associated with facilities of private tenancy…" To meet this standard, §9.53 establishes criteria that are applicable to nonwater-dependent projects subject to Chapter 91 licensing and that are located within Commonwealth Tidelands (filled or flowed).

The Project Site does not contain Commonwealth Tidelands; as such, the criteria established at §9.53 do not apply.

8.3 Massachusetts Wetlands Protection Act

As depicted on Figure 8.3, DEP mapping identifies state-regulated wetland resource areas within the Project Site, including Land Subject to Coastal Storm Flowage, land within the 100-foot buffer zone to Coastal Bank associated with the Reserved Channel, and Land Under Ocean. These resources are subject to the jurisdiction of the Wetlands Protection Act ("WPA"). Work within these areas requires the filing of a Notice of Intent with the Boston Conservation Commission and the issuance of an Order of Conditions which protects the identified public interest of the WPA:

- Protection of public and private water supply;
- Protection of groundwater supply;
- Flood control;
- Storm damage prevention;
- Protection of land containing shellfish;
- Protection of fisheries; and
- Protection of wildlife habitat.

The following sections present the existing wetlands resources and detail compliance with WPA performance standards.

Existing Wetlands Resources

Based on review of the existing conditions survey, the following resource areas have been identified on or adjacent to the Project Site:

- **Land Subject to Coastal Storm Flowage ("LSCSF")** – As defined in §10.04, LSCSF means "land subject to any inundation caused by coastal storms up to and include that caused by the 100-year storm, surge of record, whichever is greater."
- **Coastal Bank** – As defined in §10.30(2), a coastal bank means "…seaward face or side of any elevated landform, other than coastal dune, whichever lies at the landward edge of the coastal beach, land subject to tidal action or other wetland."
- **Land Under the Ocean** – As defined in 310 CMR 10.25 (2), is (in part), "land extending from the mean low water line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries."

Wetlands Protection Act Compliance

The proposed work will occur within the 100-foot buffer zone to Coastal Bank and within the resource area Land Subject to Coastal Storm Flowage. As design progresses, additional work may be proposed within Land Under Ocean.

Land Subject to Coastal Storm Flowage

The most recent Flood Insurance Rate Map (FIRM) for the City of Boston indicates that a significant portion of the Project Site is within Zone AE of the 100-year flood, with elevations at 12-13 feet NAVD88. Since the flood waters would extend from the tidal waters of the Reserved Channel, this area is regulated as LSCSF. The WPA does not prescribe any performance standards for LSCSF.

100-foot Buffer Zone to Coastal Bank

The WPA regulations under §10.02(2)(b) establish a 100-foot buffer zone from the limits of coastal bank. While the coastal bank in this case is a manmade bulkhead, and therefore by definition not a landform, it does function as a buffer between the land and water and is subject to tidal action. Work within the 100-foot Buffer Zone to Coastal Bank will require compliance with the performance standards enumerated within §10.30. The proposed work within the buffer zone will not result in any short-term construction related or long-term operational impacts to the off-site protected resource area, Coastal Bank, or any additional down gradient resource area.

Land Under the Ocean

Land Under the Ocean exists within the Reserved Channel seaward of the mean low water line. Land Under the Ocean consists of unconsolidated sediments, rocky material, and debris found within the regularly submerged portion of the Reserved Channel. According to data maintained by MassGIS Online Data Viewer ("OLIVER"), the Project Site does not contain any mapped eelgrass beds, mapped shellfish suitable areas, or areas identified as anadromous fishways. Land Under the Ocean does not have a 100-foot buffer zone. Work within Land Under the Ocean is anticipated to be limited to areas where repair of the bulkhead where new sheeting may be necessary to repair the existing structure. If work is proposed within Land Under the Ocean it will be done so in compliance with the applicable performance standards.

Impacts to wetlands resource areas associated with the proposed work are summarized in Table 8-1 below.

Table 8-1 Impacts to Wetlands Resource Areas

Resource	Potential Impact Area
Coastal Bank	Up to 675 LF[1]
Buffer to Coastal bank	Up to 76,000 SF
Land Subject to Coastal Storm Flowage	Approx. 93,000 SF
Land Under Ocean	Up to 1,000 SF[1]

1 For conservative purposes, this calculation assumes a "worst case" scenario where the entire bulkhead is maintained/repaired by driving new sheeting 3 feet outside of the existing sheeting and backfilled to encapsulate the existing structure. It is not anticipated that this level of repair will be necessary.

8.4 Massachusetts Coastal Zone Management Policies

The Project Site is located within the Massachusetts Coastal Zone and, as the Project will be a nonwater-dependent project, must be consistent with the regulatory policies established by CZM under the federally approved Massachusetts Coastal Zone Program.[1]

Table 8-2 lists the CZM policies which are applicable to the Project and assesses the consistency with those applicable policies.

Table 8-2 Consistency with Applicable Massachusetts Coastal Zone Management Policies

CZM Policy	Summary of Policy	Summary of Consistency Statement
Coastal Hazards Policy # 1	Preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms	The policy does not apply. The Project Site is currently developed and does not contain natural coastal landforms.
Coastal Hazards Policy # 2	Ensure that construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport	The Project does not involve work in a water body, and will not impact water circulation or sediment transport in any way. The adjacent bank consists of a man-made bulkhead and does not serve as a sediment source.
Coastal Hazards Policy # 3	Ensure that state and federally funded public works projects would be safe from flood and erosion-related damage	The policy does not apply. The Project is not a state or federally funded public works project.
Coastal Hazards Policy #4	Prioritize acquisition of hazardous coastal areas that have high conservation and/or recreation values	This policy does not apply. The Project is not located within a coastal high hazard area.
Energy Policy # 1	For coastally dependent energy facilities, assess siting in alternative coastal locations	This policy does not apply. The Project is not an energy facility.
Energy Policy # 2	Encourage energy conservation and use of renewable sources	Project will incorporate energy conservation measures and include assessment of renewable energy potential to the extent practicable as presented in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*.
Growth Management Policy #1	Encourage sustainable development that is consistent with state, regional, and local plans	Project will incorporate sustainable design elements, and is consistent with regional, state, and local plans. Project sustainability is discussed further in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*.
Growth Management Policy #2	Ensure that state and federally funded infrastructure projects serve developed urban areas	The policy does not apply. The Project is not a state or federally funded infrastructure project.

1 Massachusetts Office of Coastal Zone Management Policy Guide, Executive Office of Energy and Environmental Affairs, October 2011.

Table 8-2 Consistency with Applicable Massachusetts Coastal Zone Management Policies (Continued)

CZM Policy	Summary of Policy	Summary of Consistency Statement
Habitat Policy # 1	Protect coastal, estuarine, and marine habitats to preserve wildlife habitats	The Project will obtain an Order of Conditions from the Boston Conservation Commission.
Habitat Policy # 2	Advance the restoration of degraded or former habitats in coastal areas	This policy does not apply.
Ocean Resources Policy # 1-3	Not applicable	This policy does not apply at this time, as no work is currently proposed within the waterway.
Ports and Harbors Policy # 1-5	Not applicable	The policies will not apply. The Project does not propose any dredging, and the Project Site is no longer within a DPA.
Protected Areas Policy # 1-2	Not applicable	The Project Site is not within or proximate to any ACECs or designated scenic rivers.
Protected Areas Policy # 3	Ensure that proposed developments in or near designated or registered historic places respect the preservation intent of the designation and that potential adverse effects are minimized.	Refer to Chapter 7, *Historic Resources,* for a detailed evaluation of the Project's approach to enhancing the existing historic resources.
Public Access Policy # 1	Ensure that development would promote general public use and enjoyment of water front	The Project will create new recreational opportunities through the enhancement of filled tidelands by providing new pedestrian oriented open space and public accommodations.
Public Access Policy # 2	Improve public access to coastal recreational facilities; facilitate multiple uses; minimize adverse impacts of developments	The Project proposes significant improvements to public open space and pedestrian accessibility. The proposed development will support a mix of uses and will minimize impacts.
Public Access Policy # 3	Expand coastal recreational facilities and develop new public areas for recreational activities	This policy does not apply. The Project does not involve the development of coastal recreational facilities. The Project Site will include public access in the form of the open space and public pedestrian access ways along the waterfront open space.
Water Quality Policy # 1	Ensure that point-source discharges do not comprise water quality standards	No point source discharges are associated with the proposed improvements. An improved stormwater management system will be designed and constructed for the Site which meets federal stormwater management standards and is compliant with both the DEP Stormwater Management Policy and Boston Water and Sewer Commission requirements.
Water Quality Policy # 2	Implement nonpoint source pollution controls to promote the attainment of water quality standards and protect designated uses and other interests	Potential nonpoint discharge is limited to stormwater runoff. Stormwater at the Project Site will be collected and treated in appropriate stormwater management structures designed in accordance with federal stormwater management standards, DEP Stormwater Management Policy and Boston Water and Sewer Commission requirements.
Water Quality Policy # 3	Ensure that subsurface waste discharges conform to applicable standards	The policy does not apply as the Project does not propose subsurface waste discharges.

8.5 Public Benefit Determination

The Project is subject to the jurisdiction of the 2007 statute "*An Act Relative to Licensing Requirements for Certain Tidelands*" (2007 Mass. Acts Ch. 168, sec 8) because it is entirely within filled tidelands. The act requires the Secretary to consider the following when making a Public Benefit Determination:

- Purpose and effect of the development;
- The impact on abutters and the surrounding community;
- Enhancement of the property;
- Benefits to the public trust rights in tidelands or other associated rights;
- Community activities on the development site;
- Environmental protection and preservation;
- Public health and safety; and
- General welfare.

The following sections describe how the Project provides appropriate public benefits and is adequately protective of the Public Trust rights inherent in tidelands.

Purpose and Effect of the Development

The overall purpose of the Project is the redevelopment of a former industrial site and the rehabilitation of the existing Turbine Halls into a mixed-use development.

The Project will provide substantial direct and indirect public benefits, including the provision of access and recreational opportunity on previously inaccessible tidelands, the remediation of Project Site contamination, new housing and employment opportunities, the rehabilitation of the historic Turbine Halls, and improvements to the public realm.

Impact on Abutters and Community

The Project will result in a substantial net benefit to the community by advancing the goals of the Imagine Boston 2030 plan and converting an underutilized site into a new community asset and public resource.

Community impacts are relatively limited in nature and will be mitigated to the extent feasible to preserve or improve upon the existing conditions. Potential traffic impacts of the Project will be mitigated through the transportation improvements described in Chapter 5, *Transportation*. These improvements will be designed in close consultation with the BTD and will encourage alternatives to single-occupancy vehicle use, improve vehicular circulation, and pedestrian safety.

Enhancement of the Property

The Project will enhance the Project Site by converting a non-operational industrial Power Plant and deteriorating historic buildings into a vibrant mixed-use development with new interior and exterior public spaces.

Benefits to the Public Trust Rights in Tidelands or Other Associated Rights

As described above, the Project will include numerous direct public benefits related to tidelands including restoring public access to the shoreline after over a century of restricted access, providing new public open space, and substantial ground floor public facilities.

Community Activities on the Site

The Project will result in a substantial net improvement to community activity at the Project Site by providing new ground floor public uses as well as activated landscapes and streetscapes.

Environmental Protection/Preservation

The Proponent is committed to redeveloping the Project Site in accordance with all applicable local, state, and federal environmental protection regulations. Table 1-4 in Chapter 1, *Project Description,* provides a list of the regulatory approvals and permits anticipated to be required for the Project.

Public Health and Safety

The Project will promote public health and safety through implementing a site design that provides a safe and universally accessible facility from all directions. The design includes on-site and off-site transportation improvements to increase pedestrian and bicyclist safety and accessibility in the neighborhood. Improvements include landscape and appropriate lighting and signage to provide a safe well-lit environment for visitors and employees on a 24/7 basis.

General Welfare

The Project will protect the general welfare by replacing vacant buildings with a modern pedestrian scale mixed use Project. The Project will comply with all applicable local, state, and federal environmental protection standards.

Protection of Groundwater

As described in Chapter 9, *Infrastructure*, the Project protects groundwater levels at the Project Site. The Project Site design includes new vegetated areas, and a stormwater management system sized to infiltrate in excess of the first 1-inch of rainfall to groundwater. Groundwater levels are not expected to fall as a result of the Project.

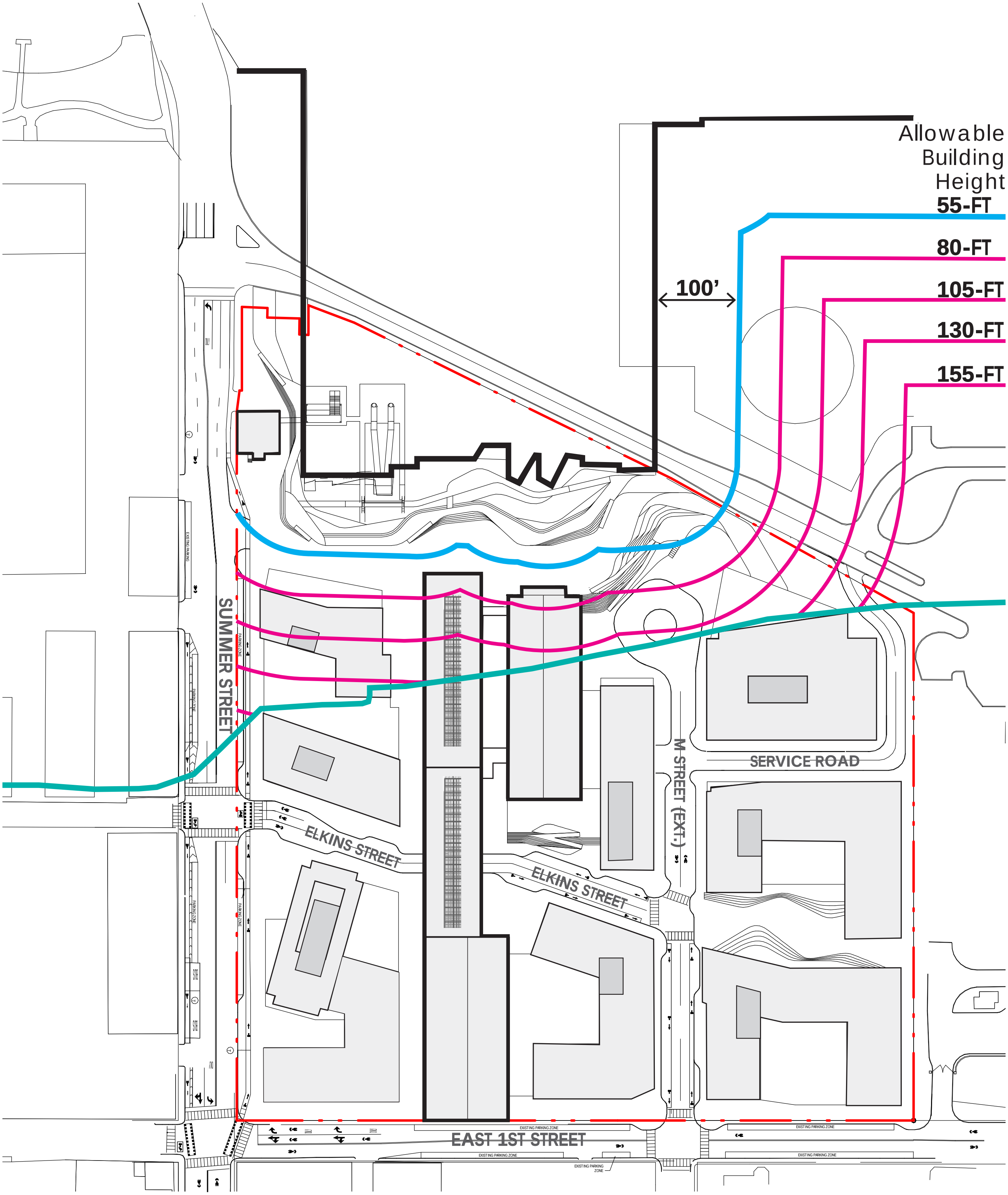


Figure 8.1 Chapter 91 Jurisdiction

100-Ft Setback
50-Ft Setback Interval
CH 91 Jurisdiction Line

N

0 100 200 Feet

SCALE1"=160'

Stantec

L Street Station Redevelopment
Boston, Massachusetts

Open space within Chapter 91 Jurisdiction (131060 sqft)

Proposed Buildings within Chapter 91 jurisdiction (27500 sqft)

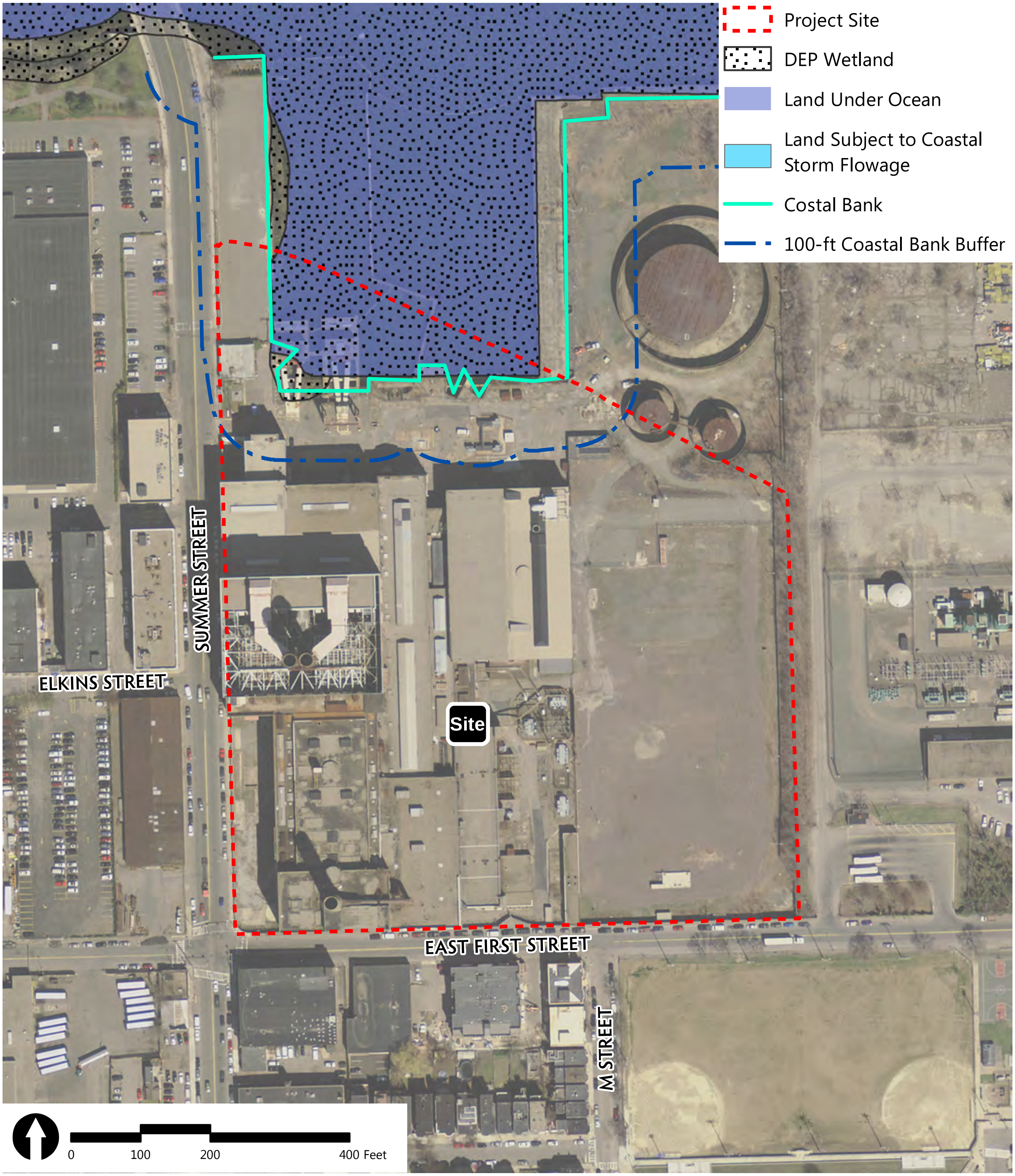
Existing Buildings within Chapter 91 jurisdiction (21750 sqft)

Figure 8.2

Chapter 91 Open Space

L Street Station Redevelopment
Boston, Massachusetts

STOSS



Source Info: MassGIS, VHB, GE

Figure 8.3

Wetland Resources Areas

L Street Station Redevelopment
Boston, Massachusetts

9

Infrastructure

This chapter describes the infrastructure systems that will support the Project. The following utilities are described: stormwater management, wastewater, domestic water and fire protection, natural gas, electricity and telecommunications. Chapter 4, *Sustainability/Green Building Design and Climate Change Preparedness*, discusses energy and water conservation measures being considered as part of the Project.

The Project is expected to connect to existing City and utility company systems in the adjacent public streets. Based on available existing conditions plans and record utility drawings, it is expected that the increase in demand associated with the development and operation of the Project can be accommodated with existing infrastructure. Detailed design of the Project's utility systems will proceed in conjunction with the design of the building and interior mechanical systems.

The systems discussed herein include those owned or managed by the Boston Water and Sewer Commission ("BWSC") and private utility companies. There will be further coordination among these entities and with the project engineers and architects as the Project design develops and during the construction process for the Project. See Figure 9.1 for a site plan that shows the existing infrastructure at the Project Site.

9.1 Summary of Key Findings and Benefits

The key findings related to infrastructure systems include:

- The existing city and utility infrastructure systems are expected to be adequately sized to accept the demand associated with the development and operation of the Project.
- The Project will incorporate on-site stormwater management and treatment systems, which are expected to result in improved water quality and reduced stormwater runoff volumes and peak rates of runoff in comparison to existing conditions.
- The Project Site is currently serviced by the BWSC for domestic and fire protection water and sanitary sewage conveyance.
- Based on the current development program, the Project is estimated to generate approximately 295,003 net new gallons per day of sanitary sewage and will require approximately 324,503 gallons of water per day. For the purposes of estimating sewage generation, the existing Project Site under its previous use as a Power Plant was not considered.

Project-related mitigation and/or benefits associated with the infrastructure systems include:

- The Project is not expected to result in the introduction of any increased peak flows, pollutants, or sediments that would potentially impact the local drainage systems.
- The Project is expected to improve the quality and quantity of site stormwater runoff compared to existing conditions by collecting and infiltrating at least one inch of rainfall over all impervious areas through a series of rain gardens and infiltration systems. The stormwater management requirements outlined by BWSC will improve the quality of water discharged into the Reserved Channel.
- The proposed stormwater management systems will comply to the extent feasible with the DEP Stormwater Management Policy and Standards.
- To reduce overall water usage for the Project, the Proponent will install low flow and low-consumption plumbing fixtures, in compliance with Article 37 of the Boston Zoning Code.

9.2 Regulatory Context

The following discusses the regulatory framework of utility connection reviews and standards. All connections will be designed in accordance with city, state, and federal standards. A list of the state and local permits anticipated associated with Project-related infrastructure is included in Chapter 1, *Project Description*. Relative to infrastructure, the Project will need:

- BWSC Site Plan approval will be required for all water, sewer, and stormwater systems;
- MassDOT approval for all storm drainage connections to the MassDOT system (if applicable);
- Massachusetts Water Resources Authority ("MWRA") sewer discharge permit (if applicable);
- DEP Underground Injection Control permit (if applicable);
- Sewer connection permit self-certification will be filed with DEP;
- The Boston Fire Department ("BFD") will review the Project with respect to fire protection measures such as siamese connections, hydrants, and standpipes;
- Design of the Project Site access, hydrant locations, and energy systems (gas and electric) will also be coordinated with the respective system owners;
- Where new utility connections are needed and existing connections are to be capped, the excavation will be authorized by the Boston Public Works Department ("BPWD") through the street opening permit process, as required; and
- As discussed in Section 9.7, the Project Team will work with the City to comply with the recently implemented Smart Utilities Policy, as applicable.

All improvements and connections to BWSC infrastructure will be reviewed by BWSC as part of the BWSC Site Plan Review process. This process includes a comprehensive design review of the proposed service connections, assessment of system demands and capacity, and establishment of service accounts. As design progresses, updated information on the proposed utility connections will be provided to the BPDA as requested.

9.3 Stormwater Management

The following section describes the stormwater management and infrastructure around the Project Site in the existing conditions and describes how this infrastructure will service the Project in the future.

9.3.1 Existing Drainage Conditions

Under existing conditions, the Project Site is primarily occupied by buildings, asphalt-paved surface parking and walkway areas, and minimal landscaping. There is no evidence of stormwater treatment or infiltration systems on-site. Stormwater appears to be collected on site and conveyed primarily to existing BWSC infrastructure in Summer and East 1st Streets, ultimately discharging into the Boston Harbor. A portion of the Project Site's stormwater runoff appears to discharge directly into the Boston Harbor either over land or via private stormwater conveyance infrastructure.

A series of intake and discharge pipe structures are currently located underneath the Power Plant buildings, immediately south of the Reserved Channel, that are no longer functioning. The pipes previously provided cooling water to the turbines located in the former Power Plant building on-site and served as a means to discharge cooling water when the larger turbines were operational. The first system, generally known as the Edison system, was constructed in the 1920s but ultimately abandoned when the second system, often referred to as the New Boston system, was constructed in the 1960s. At this time, the condition of each underground system is unknown. Please refer to Chapter 10, *Historic Resources*, for more information on the history of the Project Site.

The BWSC owns and maintains the combined sewer infrastructure serving the Project Site according to BWSC system maps and record information. Summer Street contains an existing, BWSC-owned 30-inch combined sewer main adjacent to the Project Site; this main ultimately discharges at Combined Sewer Outfall ("CSO") #079 into the Boston Harbor. Refer to Figure 9.1 for the existing on-site drainage facilities serving the Project.

9.3.2 Proposed Drainage Conditions

To address the City of Boston's stormwater management requirements and DEP's stormwater guidelines, the Project will incorporate on-site stormwater management and treatment systems which collectively are expected to improve water quality, reduce runoff volume, and control peak rates of runoff in comparison to existing conditions. Additionally, the Project is expected to reduce peak runoff rates and volumes for various design storm events for the post-development condition as compared to the pre-development condition, including the 2-, 10-, and 25-year design storms. Stormwater runoff from proposed and modified impervious surface areas is expected to be treated using new infrastructure such as deep-sump, hooded catch basins, subsurface infiltration basins, and proprietary treatment devices to reduce the Total Suspended Solids ("TSS") concentrations by at least 80 percent.

Construction of 1-inch of stormwater infiltration capacity within the site boundary was a general requirement of the BWSC at the time of the ENF filing. As the design progresses, a stormwater infiltration or equivalent system will be designed to accommodate a volume of at least 1 inch of stormwater over the site's impervious area. Furthermore, as recommended by the BPDA, the Proponent will work with BWSC to evaluate Green Infrastructure elements capable of retaining a greater volume of stormwater infiltration capacity to the extent of 1.25 inches over the site's impervious area.

9.3.3 Compliance with DEP Stormwater Standards

The Project will comply with the Massachusetts Stormwater Management Regulations to the maximum extent practicable consistent with its status as a Redevelopment Project as defined in Standard 7 of the regulations.

The Project is currently planned to fully comply with the following standards:

- **Standard 1 –** All proposed stormwater conveyances for the Project will not discharge untreated stormwater directly to or cause erosion or scour to wetlands or receiving waters of the Commonwealth;
- **Standard 2 –** As a result of the improvements associated with the Project, the post-development peak discharge rates will not exceed the pre-development peak discharge rates;
- **Standard 3 –** Groundwater recharge will be provided through underground injection wells and infiltration chambers;
- **Standard 4 –** Stormwater runoff will be captured in a series of deep-sump hooded catch basins and/or directed to proprietary particle separators to provide 80 percent TSS removal prior to discharging to the existing BWSC drainage systems;
- **Standard 5 –** The Project is not considered a land use with higher potential pollutant loads ("LUHPPL"). The proposed parking garage will be located at grade and below grade, and will drain via a gas/oil separator to the sanitary sewer system;
- **Standard 6 –** The Project is not located within and will not discharge untreated stormwater to a critical area, as defined by Standard 6;
- **Standard 7 -** The Project is considered a redevelopment project. The Project will comply with Stormwater Management Standards 1 through 6 to the maximum extent practicable and all other requirements of the Stormwater Management Standards and will thereby materially improve upon existing conditions;

- **Standard 8 –** Sediment and erosion controls will be incorporated as part of the design of this Project and employed during construction;
- **Standard 9 –** An operations and maintenance plan ("O&M Plan"), including long-term BMP operation requirements, will be prepared for the Project to ensure proper maintenance and functioning of the proposed stormwater management system. This O&M Plan will be prepared as part of the infrastructure design for the Project;
- **Standard 10 –** There will be no known illicit connections associated with the Project.

9.4 Sanitary Sewage

9.4.1 Existing Sewer System

The BWSC owns and maintains the sanitary sewer infrastructure serving the Project site. According to BWSC record drawings, Summer Street contains 15-inch and 18-inch sewer mains, and East 1st Street contains a 12-inch combined sewer main. For the purposes of estimating sewage generation, the existing site under its previous use as a Power Plant was not considered.

9.4.2 Proposed Sewage Flow and Connection

Based on the current development program, the Project is estimated to generate approximately 295,003 new gallons per day of sanitary sewage. Table 9-1 below summarizes the proposed sewer generation rates based on Massachusetts State Environmental Code (Title 5) generation rates.

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

In addition to the sanitary sewer flow, wastewater will also be generated from the proposed below grade parking garages. Per BWSC requirements, the drainage for this type of parking is required to be drained into a MWRA approved oil and gas trap. The resulting effluent is required to be sent to the sanitary sewer system per Massachusetts State Building Code and BWSC requirements.

Table 9-1 Future Sewer Generation

Program Type	Units	Generation Rate	Sewer Generation (GPD)
Block A			
Residential	252 Bedrooms	110 GPD/Bed	27,676
Block B			
Residential	234 Bedrooms	110 GPD/Bed	25,740
Retail	2,630 SF	50 GPD/KSF	200[1]
Block C			
Residential	541 Bedrooms	110 GPD/Bed	59,494
Retail	19,510 SF	50 GPD/KSF	976
Block D			
Residential	300 Bedrooms	110 GPD/Bed	33,000
Hotel	155 Rooms	110 GPD/Room	17,050
Retail	16,450 SF	50 GPD/KSF	823
Block E			
Residential	297 Bedrooms	110 GPD/Bed	32,632
Hotel	189 Rooms	110 GPD/Room	20,790
Retail	1,370 SF	50 GPD/KSF	200 [1]
Block F			
Residential	411 Bedrooms	110 GPD/Bed	45,177
Retail	1,660 SF	50 GPD/KSF	200[1]
Block G			
Office	55,490 SF	75 GPD/KSF	4,162
Block H			
Office	247,680 SF	75 GPD/KSF	18,576
Retail	16,770 SF	50 GPF/KSF	839
Turbine Hall 1			
Retail	24,580 SF	50 GPD/KSF	1,229
Turbine Hall 2			
Retail	23,110 SF	50 GPD/KSF	1,156
Turbine Hall 3			
Office	64,900 SF	75 GPD/KSF	4,868
Admin Building			
Retail	2,660 SF	50 GPD/KSF	200 [1]
TOTAL			Approx. 295,003
Domestic Water Demand[2]			Approx. 324,503

1 Minimum allowable gallons per day (GPD) for system design: 200 GPD
2 Water demand based on estimated sewer generation with an added factor of 10 percent.

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

Inflow and Infiltration (I/I) Mitigation

Since the Project is expected to generate new wastewater flows of approximately 295,003 gallons per day, certain required regulatory thresholds are triggered. BWSC requires that new developments generating greater than 15,000 gallons per day of net new wastewater flow provide mitigation to offset for clean flow inflow and infiltration ("I/I") present in the collection system. I/I is the component of flows in sanitary sewer systems that does not come from wastewater generated by building. I/I includes groundwater infiltration from leaking/broken sewer infrastructure, as well as stormwater connections from roof leaders and drainage infrastructure. Following DEP and BWSC policy, projects that generate flows more than the 15,000-gallon threshold are responsible for mitigating I/I at a ratio of 4:1 relative to the net-new wastewater generated. The Proponent is committed to working with BWSC to define an appropriate I/I mitigation plan.

9.5 Domestic Water and Fire Protection

9.5.1 Existing Water Supply System

The BWSC owns and maintains the water mains in the vicinity of the Project Site. According to BWSC record drawings, streets surrounding the Project Site are serviced by southern low ("SL") service pipes. These water service mains range in size from 12- to 16-inch mains in Summer and East 1st Streets adjacent to the Project Site. The installation dates and materials of these pipes also vary, from cast iron ("CI") pipe installed in 1930 to ductile iron cement lined ("DICL") pipe installed in 1989. The Proponent will coordinate with BWSC to design a water supply system that provides sufficient service to the Project Site. Additionally, currently seven fire hydrants are in close proximity to the Project Site.

9.5.2 Proposed Water Demand and Connections

Domestic water demand is based on estimated sewage generation with an added factor of 10 percent for consumption, system losses, and other use. Based upon standard sewage generation rates outlined in the DEP System Sewage Flow Design

Criteria, 310 CMR 15.203, the Project will require approximately 324,503 gallons of water per day. The Proponent will continue to consider and evaluate methods to conserve water as building design evolves.

9.6 Other Utilities

The following sections describe other utility infrastructure (natural gas, electrical, telephone and telecommunications) around the Project Site and describe how this infrastructure will service the Project.

9.6.1 Natural Gas Service

The total estimated natural gas demand for the Project is unknown at this time. The Proponent will coordinate with National Grid (local gas provider) to determine whether their infrastructure can meet the demand estimated for this Project, and the best means of obtaining a system connection. National Grid record plans indicate a 6-inch main in Summer Street adjacent to the site, as well as an existing 6-inch gas service in East 1st Street. As the building energy system design is developed, the Proponent will work with National Grid to ensure adequate capacity is available to serve the Project.

9.6.2 Electrical Service

The estimated electricity demand for the entire Project at this time is approximately 6,000 kW. Eversource owns and operates the electric facilities in the vicinity of the Project Site.

According to existing conditions plans and record information, Eversource owns and operates existing electrical infrastructure located on site and has multiple easements for their equipment. The equipment includes a substation (Eversource Station 293) with electrical conduit that runs from the substation to Summer Street.

It is anticipated that the existing electrical service and connections will be expanded, modified and/or relocated as determined to be necessary in accordance with Eversource’s standards.

9.6.3 Telephone Service and Telecommunications

Record survey information indicates that there are telephone and telecommunications manholes in Summer and East 1st Streets serving the site. As project design progresses, the configuration of the proposed services will be developed with the resident utility companies to determine whether their infrastructure can be used to service this Project, and the best means of obtaining a system connection.

9.6.4 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 constructed in accordance with BWSC, Boston Public Works Department, the Dig-Safe Program, and governing utility company requirements. All necessary permits will be obtained before the commencement of work. Specific methods for constructing proposed utilities where they are near, or connect with, existing water, sewer, and drain facilities are subject to review by the BWSC as part of its Site Plan Review process.

9.7 Smart Utilities

The following sections summarize the approach to addressing the City of Boston's Smart Utilities Policy within the Project.

9.7.1 District Energy Microgrid

Since issuance of the Scoping Determination by the BPDA, the BPDA has enacted the Smart Utility Policy, which includes a requirement for all Projects over 1.5 million square feet to provide a two-part District Energy Microgrid feasibility study. The Project Team is preparing materials responsive to this new requirement to be submitted to the City in parallel with their Article 80 review of the Project.

9.7.2 Telecommunications

Telecommunications infrastructure will be designed in a manner that will promote utilities that are easier to build, maintain and upgrade. The Proponent is anticipating incorporating a Telecom Utilidor into the Project, where feasible, to reduce street disruption, provide efficient use of underground space and promote equitable access to telecom infrastructure. A Telecom Utilidor is a consolidated approach to telecommunications utilities, in which all telecommunication conduits are housed in a single duct bank. This consolidates the wiring installed within the right-of-way for cable, internet, and other telecom services, and includes space to add more wiring in the future. Wiring within the Telecom Utilidor would be accessible through manholes, thereby decreasing the surface street disruptions when telecom utility upgrades/changes are required and when subsequent providers want to add assets.

The availability of current and proposed telecommunications in the area, location of roadways, buildings and water table will be assessed during the design of the Telecom Utilidor. The Project Team will coordinate with local telecommunication providers for the design of the Utilidor.

9.7.3 Green Infrastructure

The Project will incorporate green infrastructure, where feasible, to assist in absorbing, delaying, detaining and treating stormwater to reduce flooding and pollution Project Site. BWSC requires that all projects that discharge to BWSC infrastructure retain the volume generated by the first one inch of rainfall from the impervious area on-site for infiltration or reuse. Under the City of Boston Smart Utilities Policy, this standard is elevated through a recommendation that projects utilize green infrastructure to retain, on site, a volume of runoff equal to 1.25 inches of rainfall times the total impervious area prior to discharge. As recommended by the BPDA, the Proponent will work with BWSC to evaluate Green Infrastructure elements capable of retaining a greater volume of stormwater infiltration capacity to the extent of 1.25 inches over the site impervious area.

9.7.4 Adaptive Signal Technologies

As discussed in Section 5.14 of Chapter 5, *Transportation*, the Project will include new signals and improvements to existing signals in the areas surrounding the Project Site. At this time, the Adaptive Signal Technologies ("AST") network does not extend to the Project Site; however, the Project will equip new and upgraded signals to be linked together in the future. AST, as defined in the BPDA Smart Utilities Policy, utilizes intelligent signals, traffic cameras, pavement sensors, and visual monitoring equipment to manage traffic flow in real-time of all transportation modes, including buses, pedestrians, and bicycles. The technologies are used to reduce wait time and facilitate throughput and safety at intersections.

9.7.5 Streetlight Installation

At this stage in design it is anticipated that all street lights will be designed with electrical and fiber optics connections. Smart sensors, Wi-Fi, or cameras could be installed on these street lights since they include electrical and fiber optic connection. As the design progresses the Proponent will evaluate incorporating these features onto the street lights.

Smart sensors on streetlights can detect changes in air quality, noise pollution, gunshots and other important healthy urban environment elements. The smart sensors could optimize the use of City resources to the most appropriate situation.

Public Wi-Fi access points may be installed on the light poles and embedded in building facades. The access points could transmit Wi-Fi services to residents and businesses which would promote equitable access to data services.

Smart street lighting may be incorporated to reduce energy usage while maximizing the safety for pedestrians and drivers.

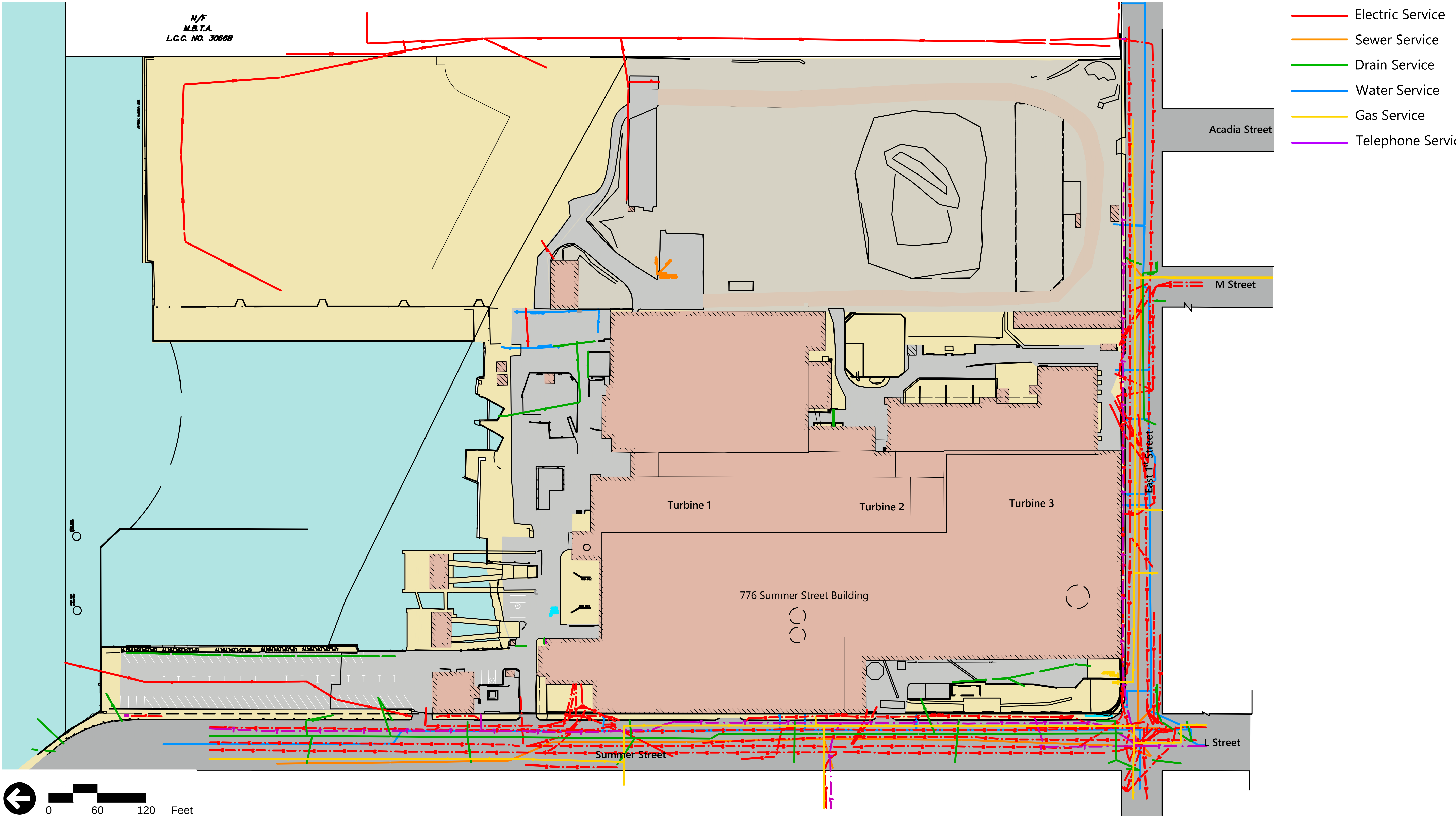
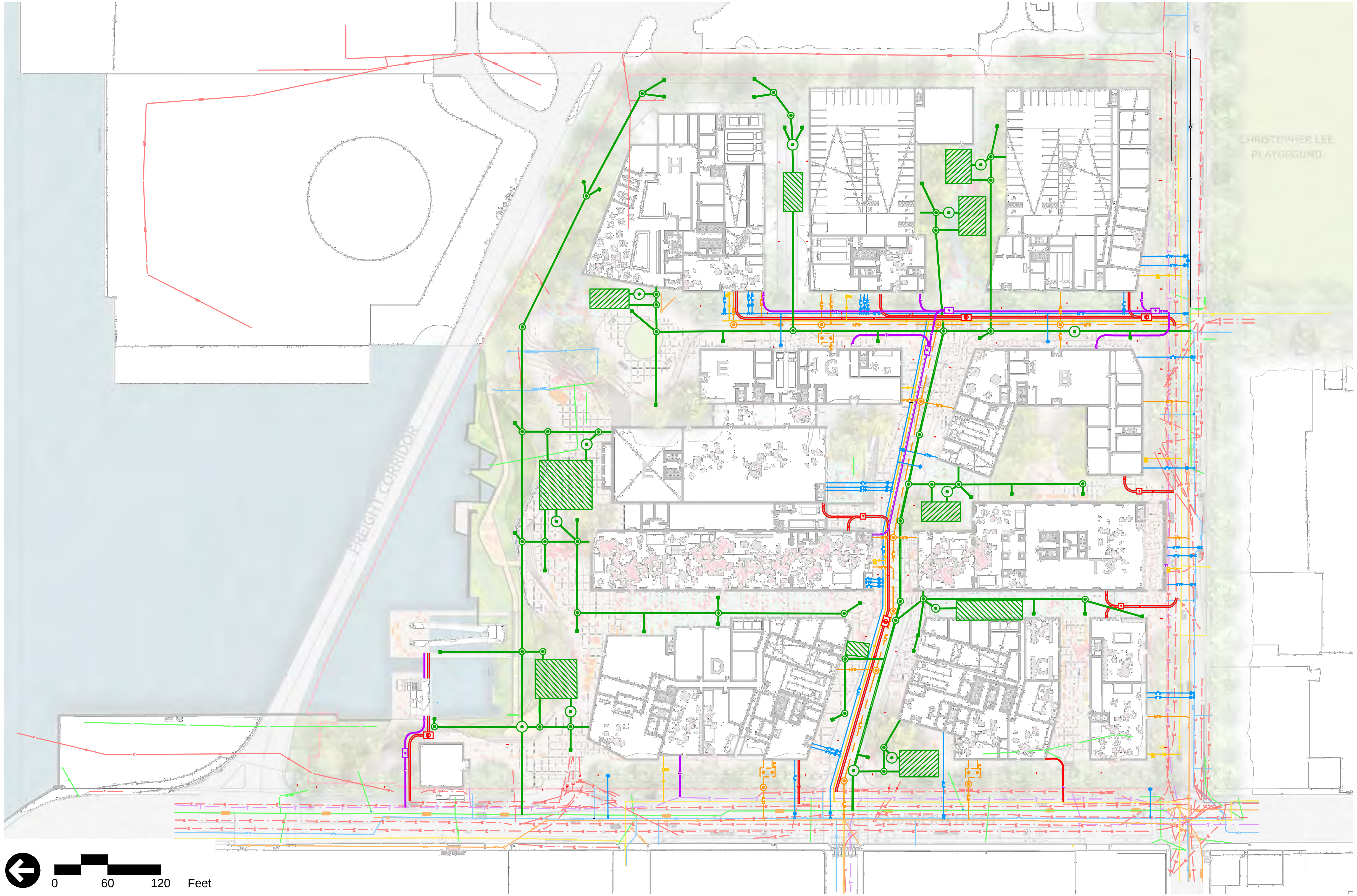


Figure 9.1

Existing Utility Infrastructure

L Street Station Redevelopment
Boston, Massachusetts



- Electric Service
- Sewer Service
- Drain Service
- Water Service
- Gas Service
- Telephone Service

Note: Proposed Plan is conceptual and subject to change

Figure 9.2

Proposed Utility Infrastructure

L Street Station Redevelopment
Boston, Massachusetts

10

Historic Resources

This chapter discusses potential direct and indirect impacts to historic resources associated with the Project, and expands on the information provided in Chapter 7, *Historic Resources*, of the ENF/EPNF. As requested in the EEA Secretary's Certificate on the ENF, this chapter provides information on the following topics:

› Provides interior photographs of the buildings keyed to a site plan (refer to Figure 10.1);

› Provides greater detail about the proposed reuse and modification to the turbine halls; and

› Describes the 1898 Building and its proposed reuse.

10.1 Summary of Key Findings and Benefits

The key findings related to historic resources include:

› The Project will rehabilitate the Turbine Hall, 1898 Building, and Administration Building and make these previously inaccessible structures open to the public.

› Element of the Project Site's power generation history will be retained and reused for interpretive measures including the existing Turbine 8 in Turbine Hall 2.

› The Proponent has initiated Chapter 254 review with the Massachusetts Historical Commission and will continue to coordinate on appropriate reuse and rehabilitation of significant structures.

10.2 Regulatory Context and Coordination

10.2.1 Massachusetts Historical Commission Review

The Massachusetts Historical Commission ("MHC") has review authority over projects requiring any state or federal action, such as land transfers, funding, licensing, permitting, and/or approvals, in order to evaluate potential direct or indirect impacts to properties listed in, or eligible for listing in, the National and State Registers of Historic Places, in compliance with State Register Review requirements (M.G.L. Chapter 9, Sections 27-27c, as amended by Chapter 254 of the Acts of 1988) and Section 106 of the National Historic Preservation Act of 1966.

Consultation with the MHC for the Project has been ongoing. MHC staff toured the Project Site in early October 2017 with the Boston Preservation Alliance ("BPA") and representatives of the Project Team. During the site visit the discussion focused on which resources where most viable for reuse, how to document the Project Site and its history, some discussion of interpretation and next steps. As a follow-up to the meeting, additional information was submitted to the MHC in April of 2018 in the form of a letter clarifying that the Project does not constitute a federal undertaking as it is not anticipating seeking any federal funds nor does it expect any major federal permits prior to the scheduled demolition of the buildings that would rise to the level of a Section 106 review. In addition to the clarifying financing and permitting for the Project, a book was submitted as a component of documenting the Project Site. The book "The Story of the L Street Power Station 1898-2006" by Gilmore C. Cooke covers the active history of the Project Site and the evolution of power generation during its hundred-plus years of operation and includes many historic as well as more recent photographs of the interior and exterior of the buildings and the equipment. It also contains drawings and descriptions of the equipment with dates of installation and removal.

As anticipated, MHC responded to the submittal on May 11, 2018 with an "adverse effect" finding due to the demolition of portions of the Power Plant. The letter initiated the consultation process with the MHC pursuant to 950 CMR 71.07(3). The Project Team will be submitting an alternatives analysis as an initial component of this consultation.

10.2.2 Boston Landmarks Commission

The BLC's jurisdiction is focused on potential Project impacts to historic buildings and districts listed in the National and State Registers of Historic Places which are located within or in the vicinity of the Project Site, and how those impacts will be mitigated or minimized. Impacts to be considered by the BLC will include physical impacts to the historic buildings, as well as urban design, shadow, and visual impacts.

The buildings on the Project Site are over 50-years old and subject to Article 85 of the Code (Demolition Delay). An Article 85 application will be submitted to the BLC before they are razed. The Inspectional Services Department may not issue any demolition permit relating to a building that is more than 50 years of age, unless, among other things, it has received a notice issued by the BLC that no demolition delay is required or that the 90-day demolition delay has expired. The BLC will also be engaged through the MHC consultation process.

10.3 Additional Information on Existing Resources

Prior to the ENF/EPNF filing, the Project Team undertook an analysis of the alternatives to demolition and did further analysis following that submission. The analysis approached the Project Site from several different angles assessing the feasibility of reuse of the buildings on the Project Site based on their utility, condition, historic integrity, and viability for reuse (are they readily adaptable for another use). Starting in 2016, the Proponent retained to a team of architects, landscape architects, transportation consultants, engineers and retail specialists to undertake a charrette process to test a variety of scenarios based on the existing condition of the site and its zoning. The goal of these initial studies was to determine Project feasibility and generate a scale and massing plan that could be tested from a number of perspectives to understand the physical impacts of the Project, its financial viability and the impacts on the surrounding community, such as traffic. The charrettes helped establish a baseline density relative to the overall reuse of the 15.2-acre site and identified issues that needed to be addressed as a more detailed master plan was developed.

The review started by looking at the newest building first as the team felt it had the least integrity. Provided below is a summary of those findings:

New Boston

The "New Boston" station at the Summer Street entrance on the northwest corner of the Project Site, was constructed in the mid-1960s on the site of a former boiler house. The smokestacks were reconfigured, and the building was covered in corrugated polychrome sheathing in 1996. As noted in the MHC survey form for the complex, the exterior elevations are "essentially featureless". The building is constructed of steel beams and trusses with a portion of the north wall constructed of concrete masonry units and supported by a remnant of the original boiler house. The interior is an open volume with a concrete floor and several large concrete dynamo blocks that support the 1960s era and newer turbines. The only windows in the building are in the remnant of the former boiler house on the north elevation. A portion of the interior was seriously damaged in an October 2002 fire that was caused by an explosion in a hydrogen fired generator. The building suffered over $10 million of damage according to a Boston Globe article. It also requires a significant level of remediation. Given the large volume, the changes to the exterior, the lack of light, the required remediation, fire damage and lack of integrity, there is no viable alternative to demolition. A portion of the wall adjacent to Turbine Halls 1 through 3 will remain in place to determine the best way to support and treat the party walls.

1922 Boiler House

The 1922 Boiler House is located in the southwest corner of the Project Site abutting East 1st Street to the south and Summer Street to the west. This section was added on to a portion of the earlier boiler house that was altered to create the New Boston station in the 1960s. The 1922 addition lacks the design details found on the exterior portion of the 1904-1908 turbine halls. The building is supported by a series of columns and trusses. The interior of the 1922 section and the remnants of the earlier boiler house were full-height open volumes with the brick smokestacks slicing through the center of the building and terminating above the roof line. The remainder of the volume in the buildings was infilled with massive pieces of equipment set within a steel framework. A series of catwalks and connected open steel stairs allowed workers to circulate around and service the equipment, which was stacked on top of each other including boilers, precipitators, ash hoppers, coal conveyors and ash conveyors. There are no definable floors as the catwalks encircle the equipment at varying levels. These interiors were altered in 1938 as new equipment was added and older equipment removed as technology changed and newer systems were retrofitted into the building. The resulting stack of equipment makes it impossible to see across the width of the building in any direction as the equipment is so dense. There are some small view corridors around the perimeter of the building as the catwalk and stair system winds its way towards the roof but even these are punctuated by equipment or other catwalks or stairs. Much of the equipment from the 1930s and later 1950s retrofits were contaminated and prior to the sale of the property a remediation process had been started. The viability of adaptively reusing this portion of the complex is directly related to the ability to successfully remove the densely packed equipment while still supporting the perimeter walls along Summer and East 1st Streets and not negatively impacting the adjacent Turbine Hall 3 the southern-most turbine hall constructed during the 1904-1908 period. The national demolition contractor retained for the work has participated in many large, complicated projects and has a unique understanding of the process required to safely strip out the interior equipment while preserving the perimeter walls for reuse. It was determined that a demolition of the interior for an adaptive reuse while preserving the exterior walls was infeasible. There are two smokestacks that are seen at that roof level that have been altered over time and are no longer supported from below. These would need additional structural support to remain and must be taken down. The massive amounts of equipment would have to be removed by hand, utilizing torches, working carefully from the roof down and would put the demolition team at great risk. It is unclear if the perimeter walls would remain standing through the process, even if they were supported from the exterior. The walls would need to be penetrated at different locations to allow for the egress of men and equipment. If the interior demolition could be completed effectively and safely, the reuse potential for the remaining structure would be low as the removal of the New Boston portion of the complex would leave the entire north end exposed. Additionally, the preparatory demolition needed to open the volume for reuse prior to the insertion of any new floors is cost prohibitive due to the extremely technical nature of the work and safety of the demolition team.

Transformer Buildings

On the southeast corner of the Project Site there are a series of interconnected two to three story brick buildings built in 1918 that housed switchgear, transformers, and breakers. The buildings are constructed of concrete, clad in red brick and mostly lack fenestration or windows. They have the smallest footprint of any of the buildings on the Project Site. Though there was differing equipment in each, the general interior layout is the same with rows of small, 4-foot wide concrete bunkers separating the different components in case of an explosion or fire. The bunkers are integral to the buildings. Floor to ceiling heights are low and each floor of the building has multiple aisles of these bunkers running north to south. Each bunker has a vented sliding wood door.

The small scale of the buildings on a site of this size makes it very difficult to find a use that will add value. The buildings are further hampered by their construction being purpose built for their previous use. The integral nature of the concrete forms would require demolition of significant portions of the interior. In addition to these issues, the building has little to no exterior fenestration, including windows, making its utility for most uses very low.

Switch House/Office Building

Located between Turbine Halls 1 and 2 to the west and the 1898 Building to the east, these two-interconnected buildings share party walls with both periods of Turbine Halls and were added after the construction of all the adjacent buildings. The main facade of the office building faces to the north and is the only visible facade of the building. The switch house sits to the rear of the office building and only a small portion of it has exposed exterior walls on the southeast side.

The north façade of the office building is set back between the turbine halls and is three stories tall and three-bays-wide with a central entrance on the ground floor flanked by a single window on either side. The two upper floors have paired windows over the main entrance and single windows on the two remaining bays. The openings have soldier course lintels, brownstone sills and later non-historic windows and doors. There are four additional penetrations where air conditioning units have been added. The building is topped with a denticular cornice. The facade is fairly simple in architectural expression and is small in scale compared to the adjacent turbine halls.

The interior floors plates of both buildings do not align with the adjacent spaces nor with each other. The interior of the office building has small to medium size rooms off a main stair. The interior features are fairly pedestrian and have been changed over time. The overall footprint of the office building is very small and does not lend itself to reuse in the modern office market.

Additionally, based on the feedback received from MHC and BPA staff about the adjacent earlier Turbine Hall to the east, the removal of the office building would facilitate the reuse of this building by allowing for the return of existing window openings that have been covered.

The switch house to the rear of the office is physically in the worst condition of any of the buildings on-site as it has been exposed to the elements and out of service for a long time. With the intent of preserving the major Turbine Halls from both periods, the utility of the switch house is low as it is not easily accessible for a segregated use and the floor plates are very small and do not connect to or align with adjacent buildings. The floor layout also creates issues from a reuse perspective of how you create code compliant vertical circulation.

The removal of the buildings will also help facilitate the reuse of the 1898 Building and well as Turbine Halls 1, 2 and 3.

Coal Bunker/Boiler Room

The coal bunker, the eastern-most building on the site, and the adjacent boiler room to the west are essentially one building as an interior wall separates the two uses, but they share the same roof and cornice line. It is the oldest building on the Project

Site. It has very limited fenestration and the eastern portion of the building is one story below grade and has a string of individual windows just below the cornice line. The north, main facade is exposed the full height and has openings just below the cornice as well as a few other openings. The boiler portion of the buildings has very limited openings as well with a garage door opening at the base and the base of an earlier smokestack. The western elevation abuts the 1898 Building. The exposed facades have very limited openings as neither space had significant active work taking place on the interior and therefor had a very limited need for natural light. Both sides of the building have an open volume with exposed brick walls. The rear portion of the boiler house has been altered to add finish storage space by covering the wall the ceilings with corrugated steel panels, while the front had an enclosure installed to house a jet engine for back-up power to the grid. The jet engine was removed at the transfer of the property.

10.4 Proposed Rehabilitation

The initial study of the retention of all four Turbine Halls was undertaken by Bruner Cott Associates. The study generally reviewed the condition of the buildings, acknowledging their character defining features and providing concepts for reuse. Information reviews to determine the reuse potential of the buildings included some structural analysis, as well as additional analysis by Bruner Cott and other members of the Project Team.

The initial concept from a reuse perspective was to preserve the three main Turbine Halls from the second period of construction between 1903 and 1908. The halls align from north to south with Hall 1 to the north. Designed by Winslow and Bigelow, the original north-facing Turbine Hall 1 remains fairly intact on the exterior with an oversized Mercury Figure, the date MCMIII and the name "EDISON" in a tile panel. Turbine Room No. 1, as noted, is an open gallery on the interior lit by a rooftop monitor and clad in glazed tile of white and green. The interior volume remains open, but all power generation equipment has been removed. A later one-story office area was constructed within the open volume running along the east wall for two-thirds of the buildings length to the party wall with Turbine Hall 2. A large gantry crane remains above the open volume just below the monitor. Turbine Hall 2 has suffered the greatest intervention, but also houses the last surviving vertical turbo-generator, Turbine No. 8. From north to south, three-quarters of the rooms length and volume have been taken up by a later intervention of office space constructed of metal I-beams, steal decking, and metal studs covered in modern gypsum board. Turbine No. 8 sits in the last quarter of the space to the south the remains in its original configuration with a large open volume, a gantry crane above and the glazed party wall with Turbine Room Number 3 to the south. Turbine Room Number 3 is the southernmost building and directly abuts the East 1st Street. The floor level of the building sits, 15 feet below the street level. The room maintains its open volume and tiled interior and is slightly wider than the other two turbine rooms. It features large dynamo blocks along the west wall, which used to support horizontal turbines. The blocks are constructed of concrete, are approximately 20 feet above the floor level and are accessible by stairs to concrete pads that are encircled with a guard rail that allowed the workers access around the entire turbine. All the turbines have been removed and the southernmost block supports modern desalinization equipment. A large overhead door is located on the southeast corner of the building, which allowed for removal of salt via truck. The three turbine rooms are the most architecturally significant structures on the Project Site and are representative of a period in American history where the design of the interior of these industrial spaces was as significant as the exterior.

Given the location, architectural features and condition of the three Turbine Halls, the intention after the initial analysis was to adaptively reuse them. The Project proposes the reuse of the buildings, preserving the open volumes to the greatest extant as well as preserving the character defining features of those spaces and their main exterior facades. In examining the Project Site, due to its adjacency to the harbor, and in response the changing environment, the north portion of the Project Site must be raised 4 feet to address storm surge. As shown in the Chapters 1 and 3 figures, this will somewhat change a visitor's experience both exterior and interior, with the design intent of preserving as much as possible. Due to the height of the interior volume, the raising of the floor 4 feet should not drastically change the visitors experience. Additional work includes the creation of new openings on the west elevation of Turbine Halls 1-3.

The overall plan for the retention and reuse of the Turbine Halls has not been fully developed and comments regarding the additional window penetrations will be noted. Insertion of the road across the site is discussed in the transportation section of the filing. In general, there is a need to have east to west circulation on the Project Site due to the length of the combined Turbine Halls, and the intention is to preserve the area to the north at the water's edge requiring another location for a new road. The Project Team believes the scale of the of Turbine Hall 2 and the loss of some interior integrity due to the later insertions makes it an appropriate location for a new opening. The Project Team continues the process of determining how to best restore the masonry at existing structures.

As with the Turbine Halls 1-3, plans are in the process of being developed for the retention and reuse of the 1898 Building. In general, the approach will be similar to Turbine Halls 1-3, with the exterior façade of the building remaining intact. As noted, the proposed demolition of the office building and switch gear houses will allow for the west elevation of the building to be exposed and historic windows reopened. The interior of the building is finished in a similar manner to the later turbine halls, with tiles walls and exposed, trussed ceilings. Further examination is needed as to whether the building will be subdivided as part of this Project, but in general the intention is to preserve the open volume and other character defining features on the interior.

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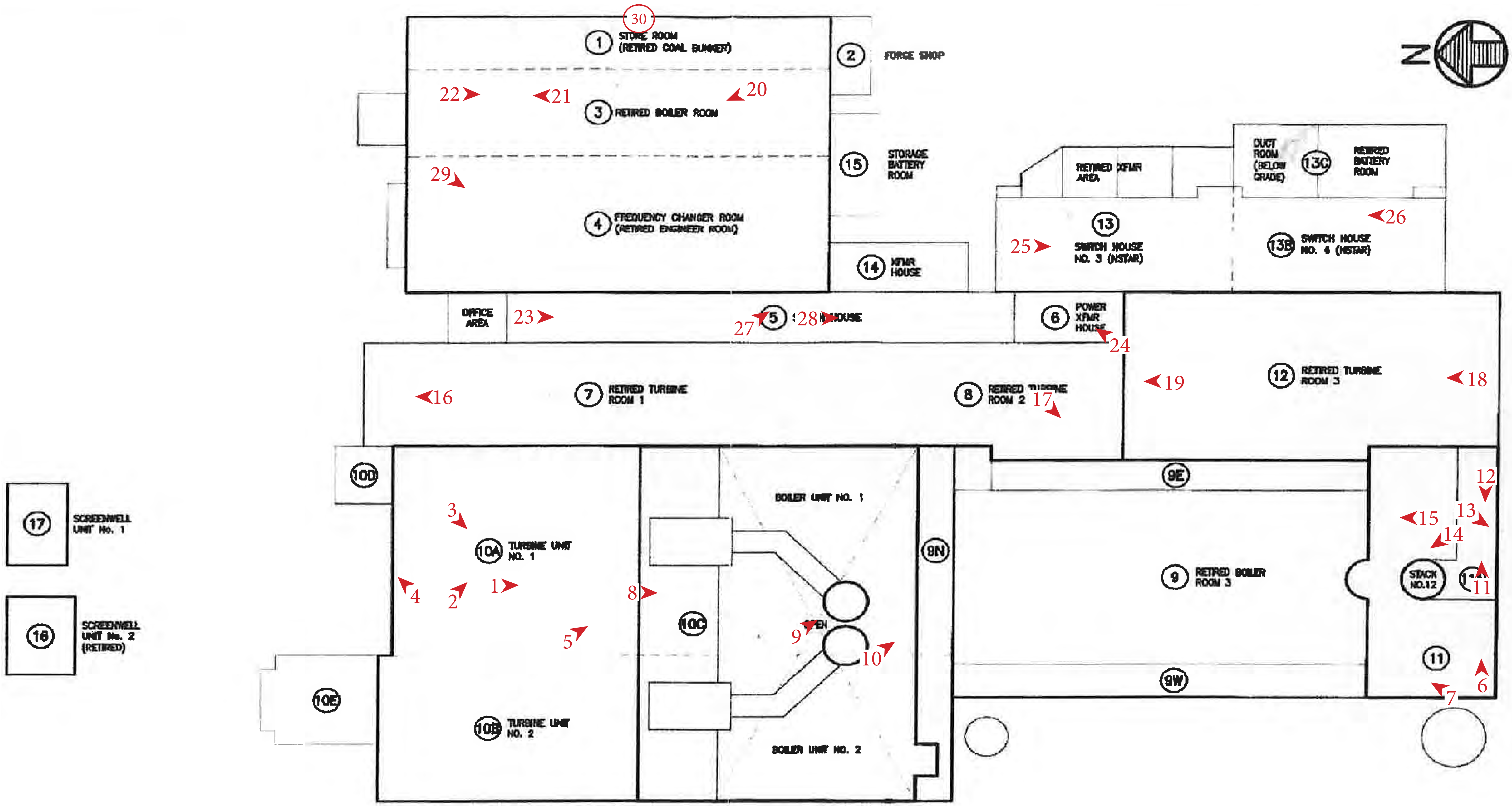

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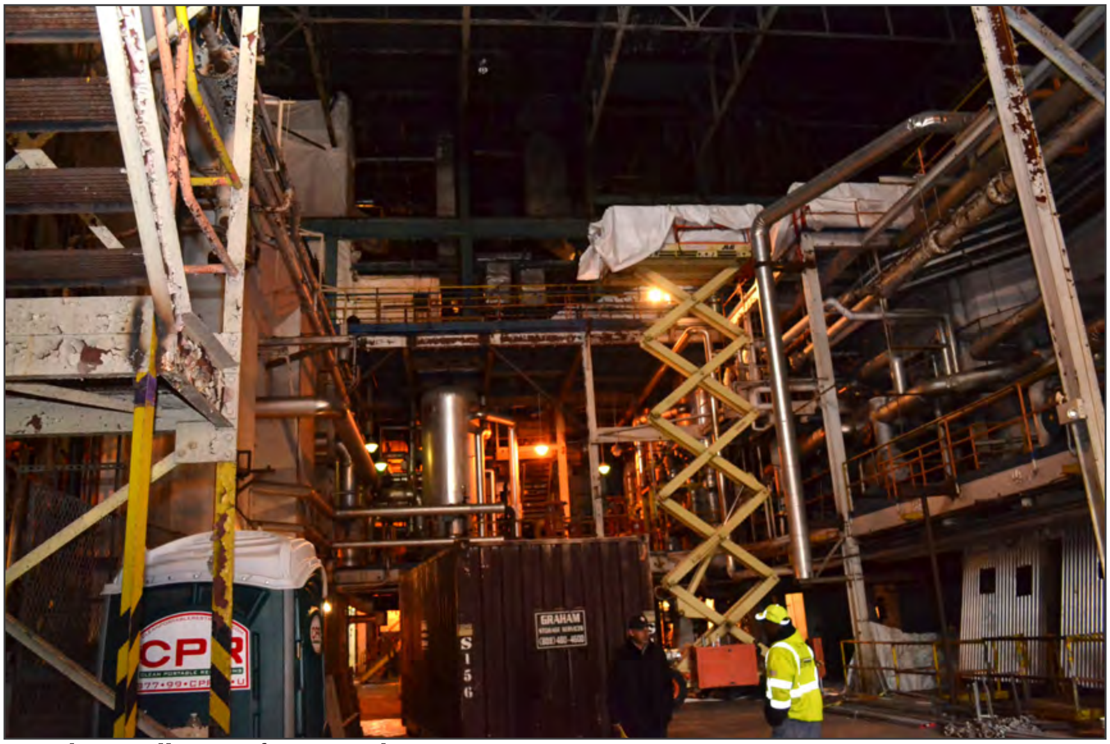
Figure 10.1
Existing Site Photos Key



1. Turbine Hall No. 1, facing south


2. Turbine Hall No. 1, facing southeast

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Figure 10.2a

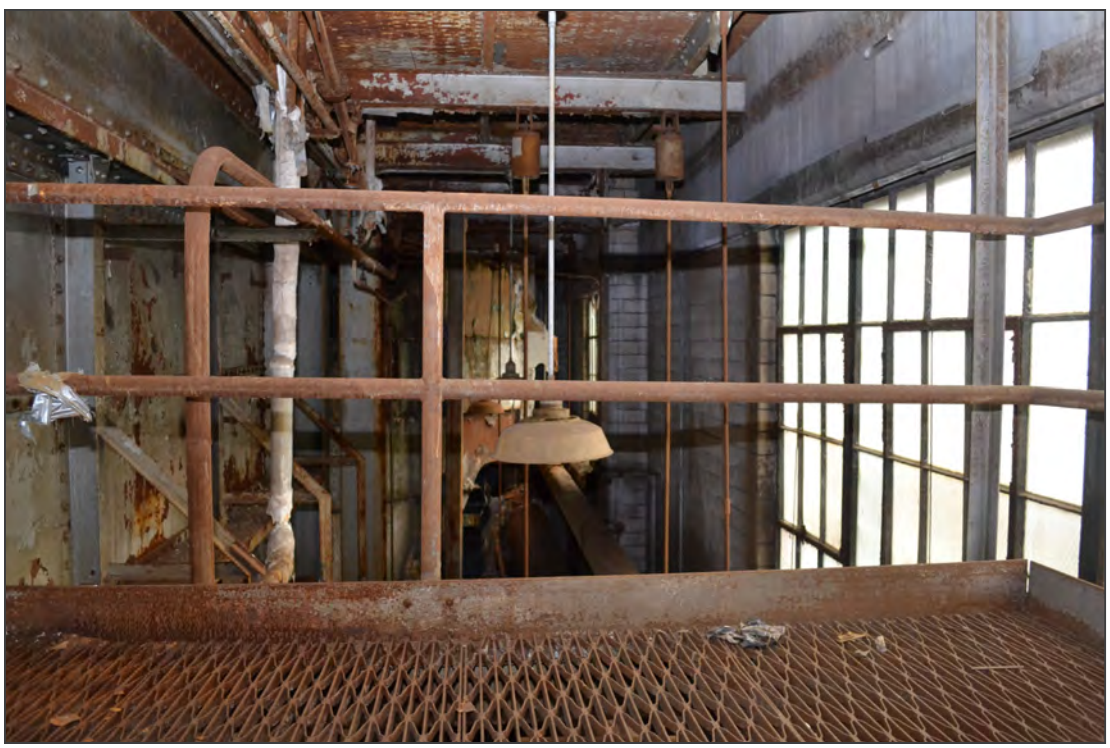
Existing Site Photos

L Street Station Redevelopment
Boston, Massachusetts

3. Turbine Hall No. 1, facing southwest

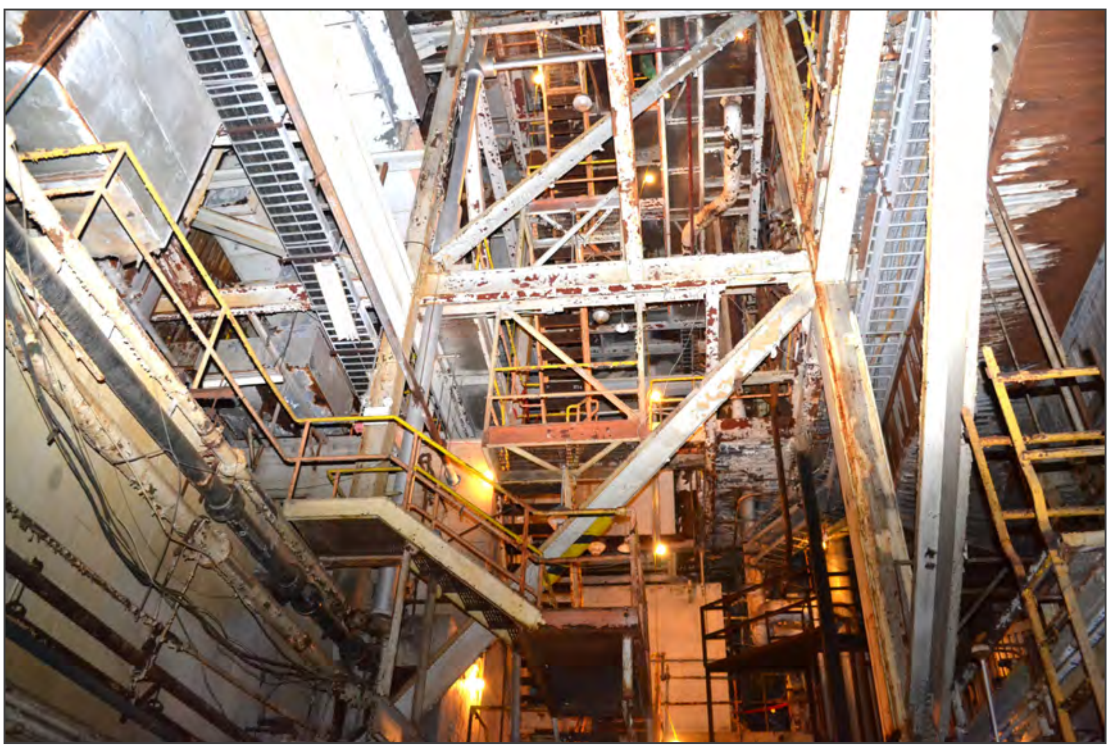
4. Turbine Hall No. 1, facing northeast

5. Turbine Hall No. 1, facing southeast



6. Turbine Hall No. 1 basement, facing east

7. Turbine Hall No. 1 basement, facing northeast

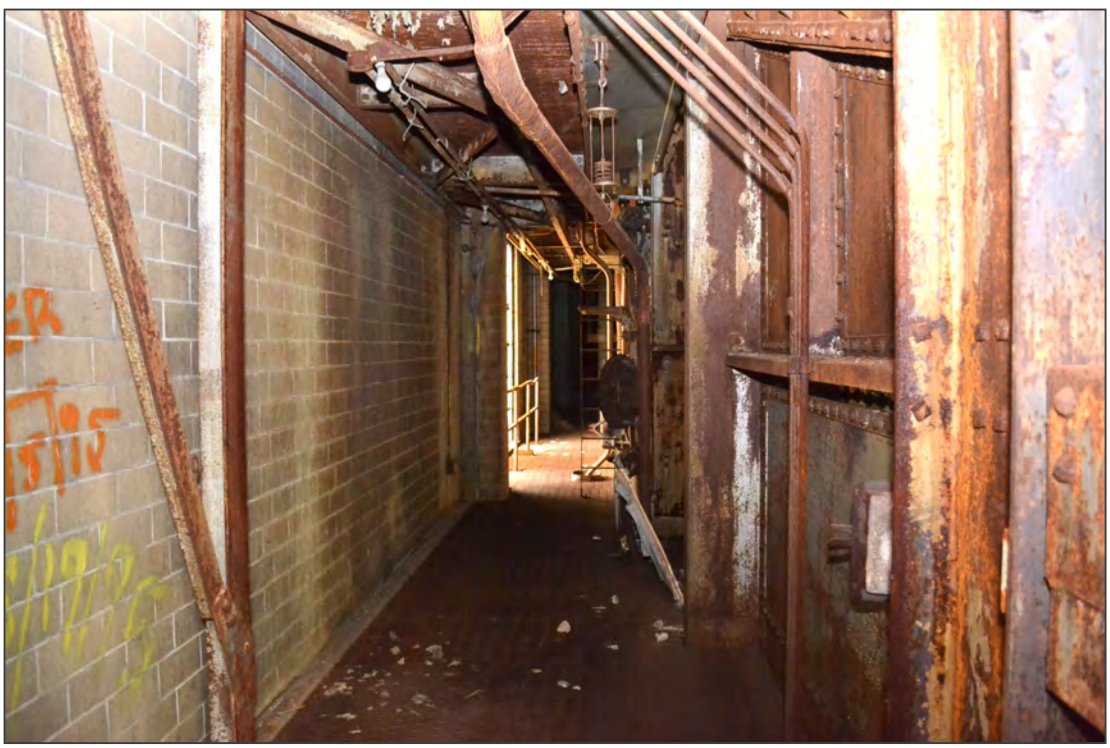


8. Turbine Hall No. 2, facing south

9. Turbine Hall No. 3, facing southeast

10. Turbine Hall No. 3, facing southwest

11. Turbine Hall No. 3 basement, facing east



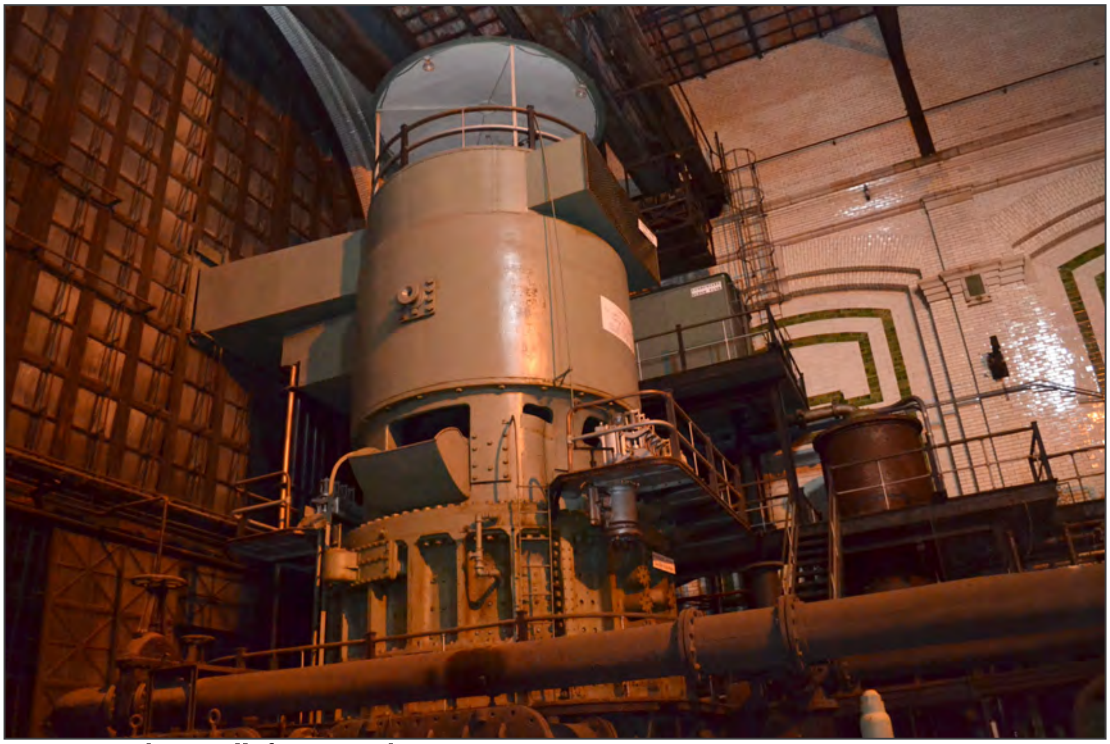
12. Turbine Hall No. 3 basement, facing west

13. Turbine Hall No. 3, facing southwest

14. Turbine Hall No. 3, facing northwest

15. Turbine Hall No. 3, facing north

16. 1898 Turbine Hall, facing north



17. 1898 Turbine Hall, facing southwest

18. 1898 Turbine Hall, facing north

19. 1898 Turbine Hall, facing north

20. Boiler Room, facing northwest

21. Boiler Room, facing north

22. Boiler Room, facing south

23. Switch House, facing south

24. Switch House, facing northeast

25. Switch House, facing south


26. Switch House basement, facing north

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Figure 10.2m

Existing Site Photos

L Street Station Redevelopment
Boston, Massachusetts

27. Switch House, facing southwest

28. Switch House, facing south

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Figure 10.2n

Existing Site Photos

L Street Station Redevelopment
Boston, Massachusetts

29. 1898 Turbine Hall, facing southwest

30. Coal Pit detail

11

Summary of Mitigation Measures/ Draft Section 61 Findings

As required by the ENF Certificate, and in accordance with 301 CMR 11.07(6)(k), this chapter provides a summary of proposed mitigation measures and draft Section 61 Findings for each State Agency action to be taken on the Project.

11.1 Mitigation Summary

The Proponent, where practicable, will mitigate or compensate for unavoidable impacts. This section provides a summary of impacts from and mitigation required for implementation of the Project. Table 11-1 summarizes the Proponent's mitigation commitments and implementation schedule.

Table 11-1 Summary of Mitigation Measures

Category and Mitigation Measure	Schedule
Community Impacts As summarized in this DEIR/DPIR, the Project proposes a considerable range of public benefits to offset the impacts of the Project on the surrounding community. Additional mitigation will be determined in consultation with the BPDA and IAG, which focuses on improving the already great City Point neighborhood.	During design
Traffic and Transportation Proponent Proposes to fund and operate, in partnership with the MBTA and as an element of the project, a supplemental bus service open to anyone with a Charlie Card or Charlie Ticket	To be determined
Provide physical and operational improvements along adjacent roadways including: *Signal Timing Adjustments:* › Summer Street/L Street at East 1st Street › L Street at East Broadway *Signalization of Intersection:* › Summer Street at Elkins Street/Elkins Street Extension *Roadway Modifications:* › Summer Street from East 1st Street to the DFC › East 1st Street from Summer Street to M Street/M Street Extension	Refer to Chapter 5, Table 5-55 for implementation timeline of proposed mitigation.

Table 11-1 Summary of Mitigation Measures (Continued)

Category and Mitigation Measure	Schedule
Implement the following Transportation Demand Management Measures: *General:* › Designate a Transportation Coordinator to oversee the implementation of the TDM measures. The Transportation Coordinator will act as the contact and liaison for the City, local Transportation Management Association ("TMA"), and tenants/residents of the Project. › Post and make available transit maps, schedules, and other information relevant to commuting options in the office and residential building lobbies. › Provide real-time transportation information in all new lobbies within each Project component using Transit Screen or other similar products including online platforms. › Provide preferential parking to carpool and vanpool participants. › Join Seaport TMA which provides a variety of commuter benefits. › Participate in transportation awareness events including: Car-Free Week, MassCommute Bicycle Challenge, and Lunchtime Walking Series. › On-site transportation fairs and commuter related events. › Electric vehicle charging stations for approximately 5 percent of parking capacity and EV - ready parking for approximately 10 percent of parking capacity. › One new Blue Bike station located on the public way. › Residential – Residents of the Project are proposed to have access to up to 1,344 long-term covered and secured bicycle parking spaces located in the garages. › Office – Employees of the Project are proposed to have access up to 110 long-term covered and secured bicycle parking spaces located in the garages.	During and Post-construction
Conduct a monitoring program including the following elements: › **Employee and Resident Survey –** A survey will be distributed to determine commuting modes to/from the Project Site, transit ridership, bicycle parking utilization, occupancy of car-sharing parking spaces, occupancy of alternative fueled vehicle parking spaces, electric vehicle charging station demand and usage, and overall parking demands. › **Garage Volume Data –** Collection of traffic volume information will be collected over a continuous seven-day period at each garage entrance/exit. › **Verification of Mitigation Measures –** The implementation of the proposed mitigation measures, TDM measures, parking accommodations, and on-site amenities will be verified. › **Traffic Data Collection –** Traffic data (i.e., TMCs for vehicles, pedestrians, bicycles) will be collected during the weekday morning peak period (7:00 AM– 9:00 AM) and evening peak period (4:00 PM – 6:00 PM) and operations analysis performed at "mitigated" intersections, including those involving garage entrances. › **Monitoring Program Schedule and Reporting –** This monitoring will be performed annually commencing six months after full completion and occupancy of the first building will continue for a period of five years after occupancy of the full build-out of the Project. Should subsequent phases extend beyond five years, the traffic monitoring program will cease until the next phase of the Project is completed. Results of the monitoring program will be summarized in a technical memorandum, including an update on TDM effectiveness and transit ridership, and will be provided to the MassDOT and BTD.	Post-construction

Table 11-1 Summary of Mitigation Measures (Continued)

Category and Mitigation Measure	Schedule
Air Quality & Greenhouse Gas	
› Implement the above referenced transportation mitigation program to help mitigate the air quality impacts of Project-related traffic.	During construction
› Require buildings to meet the MA State Building Code and encourage further reductions in stationary source GHG emissions beyond minimum code requirements to the maximum extent practicable.	During construction
› Work with tenants to consider this renewable energy source, as well as relevant incentives, in more depth as design progresses for each individual building. At a minimum, building rooftops will be designed to be "solar-ready" with the appropriate structural capacity and electrical infrastructure to support a solar PV installation if deemed feasible at a future date.	During design
› Continue to study CHP systems and potential Passive House design measures as the design of the buildings progresses.	During design
› Consider purchasing green power through Renewable Energy Certificates ("RECs").	During design
› Complete an analysis for District Energy Microgrid Feasibility.	Through Article 80
Climate Change Adaptation and Resiliency	
› To help mitigate the impact of extreme heat, the Project Team will consider the use of a low-albedo roofing system, either in the form of white roofing materials or rooftop solar PV systems.	During design
› Target a minimum Finished Floor Elevation of 21.5 BCB for all uses, which is above the highest recommended SLR-DFE of 21.4 BCB and over two feet above the SLR-BFE of 19.4 BCB.	During design
› Reduce vulnerability to flooding due to rising sea levels and changes in intensity and frequency of storms by raising finished floor elevations for occupiable spaces above the projected flood elevations.	During design
Stormwater	
› Construct LID stormwater management measures to reduce peak runoff rates, maximize groundwater recharge (if feasible) and improve water quality.	During construction
› Investigate additional LID techniques such as bioretention, tree box filters, bioswales, and recycling roof runoff for irrigation purposes as site design progresses.	During design
› Implement an environmentally sensitive site design that creates additional open space areas and significantly reduces the amount of on-site paved surface parking areas thereby re-establishing components of a natural water cycle (evapotranspiration, groundwater recharge and runoff) on the site.	During design
Water Supply / Wastewater Generation	
› Minimize impact on municipal water supply by minimizing potable water consumption through the use of high-efficiency fixtures and advanced water meters, where feasible.	During design and operations
› Remove or cause for removal a minimum of four gallons of wastewater to each gallon created in accordance with the City of Boston's I/I mitigation policy or contribute to the City of Boston's mitigation fund in lieu of performing these improvements.	During design
Solid and Hazardous Waste	
› Promote and ensure special handling, dust control, and management and disposal of any contaminated environmental media to prevent construction delays and to provide adequate protection to workers and any nearby sensitive receptors.	During construction

Table 11-1 Summary of Mitigation Measures (Continued)

Category and Mitigation Measure	Schedule
Historic Resources	
› Rehabilitation of the Turbine Halls and 1898 Building	During Construction
Construction Impacts	
› Draft a Construction Management Plan (CMP) for each development phase that includes detailed information on construction activities, specific construction mitigation measures, and construction materials access and staging area plans to minimize impact on the surrounding area.	Prior to construction
› Minimize the noise impact of construction activities through the use of mufflers, limiting idling, and using quieter construction techniques when practicable.	During construction
› Implement the diesel reduction strategies outlined in MassDEP's Diesel Engine Retrofits in the Construction Industry: A How to Guide (2008), which are to reduce idling; replace/repower/rebuild vehicles and engines; retrofit; and refuel through compliance with Massachusetts' Anti-Idling law (310 CMR 7.11), DEP's Diesel Retrofit Program (DRP), Massachusetts' Low Sulfur Diesel standards (301 CMR 7.05), EPAs Clean Air Nonroad Diesel Rule, and EPAs Tier 4 Emissions Standards (40 CFR 1039).	During construction
› Properly maintain and repair all equipment and vehicles to minimize exhaust emissions, including odors.	During construction
› Require contractors to reduce potential emissions and minimize air quality impacts, and to comply with Massachusetts' Dust, Odor, Construction, and Demolition law (310 CMR 7.09).	During construction
› Utilize construction period erosion and sedimentation control measures as specified by the Order of Conditions and the Stormwater Pollution Prevention Plan (SWPPP).	During construction
› Provide on-site parking for construction workers.	During construction
› Maintain existing traffic patterns to avoid full road closures or detours during the period of construction improvements.	During construction
› Provide detailed construction vehicle routing and staging and plans to maintain acceptable transportation operations around the site in the CMP.	Prior to construction
› Repair any damage to adjacent roadways caused by construction activity per Town standards.	Post construction
› Implement a Construction Waste Management Plan (CWMP) to comply with the MA Construction and Demolition Materials Waste Ban at 310 CMR 19.017.	During construction
› Target a 75 percent recycling/diversion rate.	During construction

11.2 Draft Section 61 Findings

As required by 301 CMR 11.07(6)(k) of MEPA, this chapter provides draft Section 61 Findings for each agency action to be taken on the Project.

MGL Chapter 30, Section 61, requires that "[a]ll authorities of the Commonwealth … review, evaluate, and determine the impact on the natural environment of all works, projects or activities conducted by them and … use all practicable means and measures to minimize [their] damage to the Environment. … Any determination made by an agency of the commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact." The finding required by Section 61 "shall be limited to those matters which are within the scope of the environmental impact report, if any, required … [on a project]." MGL Chapter 30, Section 62A.

In relation to MEPA review, the only state permit anticipated for the Project is a Chapter 91 license from DEPs Waterways Regulation Program. Proposed Section 61 findings for DEP are provided below to assist the department in meeting its obligations. The Proponent will be responsible for implementing all of the mitigation measures. Costs have not yet been determined independently because most are considered to be part of the overall Project design.

In accordance with the MEPA GHG Policy, the Proponent is committed to providing a self-certification to the MEPA Office signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor), following completion of construction, to demonstrate that the stationary-source GHG emissions have been mitigated. A draft commitment letter for this self-certification submission is provided below.

11.3 DEP Waterways Regulatory Program Chapter 91 License

Only part of the Project Site is located within the jurisdiction of the DEP Waterways Regulatory Program. The relevant portion of the Project is consistent with Chapter 91 regulations as a nonwater-dependent use in filled and flowed tidelands. The Project will replace an industrial facility that is no longer operational with a mixed-use highly activated waterfront destination. Key benefits of the Project relative to tidelands are summarized below.

- The Project provides substantial public benefits and is protective of the Public Trust rights inherent in filled tidelands by creating new public access to and use of the Project Site.
- The Project will meet all applicable wetland regulations.
- The Project will transform the Project Site into a hub of activity, as well as a new meaningful destination on the City's waterfront.
- The design and programming of the Project will attract a broad range of visitors, day and night, year-round.
- The Project will provide over 5.5 acres of outdoor public space, including approximately three acres of open space within Chapter 91 jurisdiction.

The Project will reactivate the underutilized waterfront property and create a distinct new public space along Boston Harbor. The Final Environmental Impact Report and Chapter 91 License will include additional details for site landscaping and open space programming that incorporate feedback from the community engagement process.

Findings

The DEP hereby finds that all practicable means and measures will be taken to avoid or minimize adverse impacts to the environment as a result of the Project. DEP will include appropriate conditions in the Chapter 91 license to ensure implementation of the mitigation measures described herein.

Date	Commissioner

11.4 MEPA GHG Self-Certification Letter

D R A F T O N L Y

August 16, 2018

Secretary Matthew A. Beaton
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

ATTN: Deirdre Buckley, Director, MEPA Office

Re: Letter of Commitment for Stationary Source Greenhouse Gas Emissions Self-Certification
L Street Station Redevelopment
Boston, MA (EEA No. 15692)

Dear Secretary Beaton and Director Buckley:

On behalf of the HRP 776 Summer, LLC, VHB has prepared a summary of the estimated reduction in overall energy use and stationary source Greenhouse Gas ("GHG") emissions for the L Street Station Redevelopment in the South Boston neighborhood of Boston (the "Project").

In accordance with the current MEPA Greenhouse Gas Emissions Policy and Protocol (the "GHG Policy") dated May 2010, the stationary source GHG assessment was provided to the MEPA Office as part of the joint Draft Environmental Impact Report and Draft Project Impact Report (the "DEIR/DPIR") filed on August 16, 2018. The design case assumed building design and system improvements that would result in energy reductions, in accordance with the GHG Policy.

The energy conservation measures proposed for the full build-out of the Project are estimated to reduce the overall energy use by 17.5 percent resulting in a 10.8 percent reduction in stationary source CO_2 emissions when compared to the baseline case. The following table presents the estimated energy savings and CO_2 emissions reductions for each Project Component.

		Energy Consumption (MMBtu/yr)			CO_2 Emissions (tons/yr[1])		
Building Name	**Type**	**Base Case[2]**	**Design Case**	**Percent Savings**	**Base Case[2]**	**Design Case**	**Percent Reduction**
Building A	Mid-Rise Residential	9,142	7,561	17.3%	771.2	693.8	10.0%
Building B	Mid-Rise Residential	8,646	7,151	17.3%	729.3	656.1	10.0%
Building C	High-Rise Residential	21,478	17,721	17.5%	1,809.6	1,653.7	8.6%
Building D	High-Rise Res/Hotel	17,947	14,421	19.6%	1,474.4	1,306.4	11.4%
Building E	High-Rise Res/Hotel	18,013	14,474	19.6%	1,479.8	1,311.2	11.4%
Building G [1898 Bldg.]	Mixed	2,482	2,180	12.1%	221.8	186.6	15.9%
Turbine Hall 1	Mixed	1,099	966	12.1%	98.2	82.7	15.8%
Building F	High-Rise Residential	15,570	12,846	17.5%	1,311.8	1,198.8	8.6%
Building H	High-Rise Office	9,639	8,326	13.6%	935.9	805.5	13.9%
Turbine Hall 2	Mixed	1,034	908	12.2%	92.4	77.7	15.9%
Turbine Hall 3	Mixed	2,903	2,550	12.1%	259.4	218.3	15.8%
Admin	Mixed	119	105	12.1%	10.6	8.9	16.0%
Total		**108,072**	**89,207**	**17.5%**	**9,194.4**	**8,199.8**	**10.8%**

1 tons/yr = short tons per year
2 The Base Case represents current Base Energy Code ASHRAE 90.1-2013 standards.

The building energy model results/energy savings and estimated stationary-source GHG emissions reductions are preliminary, as none of the proposed buildings have progressed past a conceptual level of design. Following completion of construction of each element, the Proponent will submit a self-certification to the MEPA Office, signed by an appropriate professional, which identifies the as-built energy conservation measures and documents the stationary source GHG emissions reductions from the baseline case.

If you have any questions, please contact me at (617) 607-2973 or via e mail at slattrell@vhb.com.

Very truly yours,

VHB

12

Response to ENF Comments

This chapter presents responses to the MEPA Certificate on the ENF and all public comments received on the ENF. Copies of the ENF Certificate and each comment letter received during the public review period of the ENF are included in Appendix H. Each letter is assigned a number, as listed in Table 12-1. Where appropriate, reference is made to the corresponding section of the DEIR/DPIR. The BPDA Scoping Determination and comments on the PNF are presented and addressed in Chapter 13, *Response to PNF Comments*.

Table 12-1 List of ENF Comment Letters

Letter No.	Commenter	Affiliation	Date Received
ENF Comments			
C	Secretary Matthew Beaton	Executive Office of Energy and Environmental Affairs/MEPA Office	July 14, 2017
1	Joshua M. Helms	US Army Corps of Engineers	June 30, 2017
2	Bruce Carlisle	Office of Coastal Zone Management	July 6, 2017
3	Lisa Wieland	Massachusetts Port Authority	July 6, 2017
4	J. Lionel Lucien	Massachusetts Department of Transportation	July 11, 2017
5	Paul F. Ormond	Massachusetts Department of Energy Resources	July 6, 2017
6	John D. Viola	Massachusetts Department of Environmental Protection	July 7, 2017
7	Ben Lynch	Massachusetts Department of Environmental Protection, Waterways Regulation Program	July 7, 2017
8	Marianne Connolly	Massachusetts Water Resources Authority	June 23, 2017
9	Brona Simon	Massachusetts Historical Commission	July 7, 2017
10	John P. Sullivan	Boston Water and Sewer Commission	June 30, 2017
11	Richard McGuiness	Boston Planning & Development Agency	July 7, 2017
12	Linda Dorcena Forry	Massachusetts Senate	July 7, 2017
13	Stephen F. Lynch	United States House of Representatives	July 7, 2017
14	Nick Collins	Massachusetts House of Representatives	July 7, 2017

15	Michael F. Flaherty	Boston City Council At-Large	July 7, 2017
16	Jill Valdes Horwood	Boston Harbor Now	July 7, 2017
17	Greg Galer	Boston Preservation Alliance	July 7, 2017
18	Deanna Moran	Conservation Law Foundation	July 7, 2017
19	Wendy Landman	WalkBoston	July 7, 2017
20	Donna Brown	South Boston Neighborhood Development Corporation	July 7, 2017
21	Eileen Smith	Resident	July 7, 2017
22	Jim Coveno	Resident	July 6, 2017

ENF Certificate

Comment C.1

A determination must be complete prior to filing of the FEIR to ensure that any relevant terms and conditions of the Boundary Review inform the MEPA process and draft Section 61 Findings.

Response

The Designation Decision on the DPA was issued by CZM on July 12, 2017, removing the land area of the Project Site from the DPA. Refer to Section 1.1.1 in Chapter 1, *Project Description*.

Comment C.2

The DEIR should include plans and a detailed description of existing conditions, including site topography, soil conditions, and infrastructure. The DEIR should describe the project and identify any changes to the project since the filing of the ENF. It should include updated site plans for existing and post-development conditions at a legible scale. Conceptual plans should be provided at a legible scale and clearly identify buildings, public areas, impervious areas, pedestrian and bicycle accommodations, and stormwater and utility infrastructure.

Response

Please refer to Chapter 1, *Project Description*, for additional detail on the existing site conditions, changes since the ENF/EPNF, updated development plans (existing and proposed). Updated landscape plans are provided in Chapter 3, *Urban Design*. Additional utility information, including existing and proposed graphics, is provided in Chapter 9, *Infrastructure*.

Comment C.3

It should identify and describe State, federal and local permitting and review requirements associated with the project and provide an update on the status of each of these pending actions. The DEIR should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards. It should identify and describe projects in the vicinity of the project site, including maritime-related uses at MassPort's facilities and the Raymond L. Flynn Marine Park, which may be constructed concurrent with or prior to the project and describe how roadway, transit and pedestrian improvements and construction phasing related to those developments may affect the project.

Response

Refer to Section 1.6 and 1.7 of Chapter 1, *Project Description*, for additional information on regulatory context and a list of applicable permits, respectively. Chapter 8, *Wetlands and Waterways*, provides additional detail on the Project's consistency with applicable waterways regulations. Refer to Chapter 5, *Transportation*, from a detailed traffic analysis which includes anticipated future Projects within the study area as background growth on top of the Project-generated trips.

Comment C.4

The DEIR should describe likely phasing scenarios, and discuss how mitigation measures will be implemented in the phasing scenarios to ensure that project impacts are appropriately mitigated as development proceeds.

Response

Refer to Section 1.2.5 of Chapter 1, *Project Description,* for details on Project phasing.

Comment C.5

The DEIR should provide an expanded alternatives analysis including the following:

- *A DPA-Compliant Redevelopment Alternative that reserves the waterfront portion of the site for use in connection with the transfer of goods between ships and land, including operational space for water-dependent industrial uses and/or access to land-based transportation and utilities while incorporating other uses into the non-DPA area of the site;*
- *A DPA-Compatible Redevelopment Alternative that maximizes the ability of the project to be compatible with nearby industrial and transportation-related uses, including the Conley Terminal and the MI3TA bus facility adjacent to the site. This alternative may include: repositioning much of the open space away from the DFC; adding additional open space (including expanding Butler Park) to provide a greater buffer from industrial uses; removing, relocating or reorienting planned residential buildings away from the DPA side of the site; changes in use of the proposed buildings; and/or sound-proofing and other measures recommended by Massport. The analysis should be supported by existing noise data reflecting port operations and potential impacts of truck use of the DFC, such as dust, noise, and air quality; and*
- *A Reduced Density Alternative that minimizes traffic impacts by reducing the density of the development and/or by increasing the proportion of uses that generate fewer trips. This alternative may include measures that should be evaluated as components of the DPA-Compatible alternative, such as increasing the open space buffer along the eastern side of the site.*

As noted in the GHG section, I strongly encourage the Proponent to review an alternative that employs passive design principles in the residential buildings to *minimize GHG emissions and enhance the resiliency of the project to the effects of climate change.*

The DEIR should provide a detailed comparison of the alternatives, including detailed descriptions and plans of each alternative. The DEIR should compare the environmental impacts of each alternative, quantitatively to the extent practicable, with respect to trip generation, traffic operations, pedestrian and bicycle access, water use, wastewater generation, impervious area, tidelands, wetlands resource areas and GHG emissions.

Response

Refer to Chapter 2, *Alternatives Analysis*.

Comment C.6

The DEIR should identify all water-dependent industrial uses in the vicinity of the site, including Massport's Flynn Cruiseport and the Conley Container Terminal, and describe any potential impacts to those uses or incompatibility between industrial uses and the proposed residential use. According to Massport, 900 trucks per day are expected to use the DFC once it is completed; this number is expected to rise to 2,410 trucks per day by 2022. The DEIR should propose mitigation measures for any impacts or potential conflicts, including buffering the residences from industrial activities, using a Residential Use Restriction, use of soundproofing materials in the construction of the residential units, and other measures indicated in Massport's comment letter.

Response

As detailed in CZM’s DPA boundary review, the South Boston DPA includes a portion of South Boston’s Seaport district along Northern Avenue including Commonwealth Pier and the Fish Pier, the majority of the Raymond L. Flynn Memorial Marine Park, the Raymond L. Flynn Cruiseport Terminal, the Reserved Channel, and the Paul W. Conley Container Terminal. These areas of active marine industry include a wide variety of water-dependent industrial, general industrial, supporting commercial, and water-dependent industrial compatible uses which provide direct economic and other significant benefits to the city, state and region.

To minimize impacts to and conflict with surrounding water-dependent industrial uses, particularly the container handling activities at Conley Terminal, the Proponent has worked closely with Massport to buffer residential uses from the DFC, and to create a waterfront landscape and building design that mitigates potential noise impacts from the DFC. Refer to Section 1.4 of Chapter 1, *Project Description,* for additional information on measures taken to avoid and minimize potential conflict with the industrial port.

Comment C.7

The DEIR should clearly show all buildings and uses within tidelands and quantify ground floor uses on filled tidelands. The DEIR should include an overlay of c. 91 regulatory zones, such as the WDUZ, 100-ft setback from the shoreline, and building height limits, on a plan of proposed conditions. It should provide detailed designs of the public waterfront open space and other publicly-accessible exterior areas and facilities. The DEIR should describe how interior Facilities of Public Accommodation and exterior public open space will be designed in coordination to provide meaningful and desirable use of the site by the public. It should detail any proposed activities in Reserved Channel and alterations or changes in use of existing power plant structures located within Reserved Channel.

Response

Refer to Chapter 8, *Wetlands and Waterways.*

Comment C.8

The DEIR should provide plans and renderings of the waterfront open space that will illustrate its proposed use and connections to other public spaces. It should specifically describe design elements intended to provide a buffer to truck traffic using the DFC.

Response

Refer to Chapters 1 and 3 for plans and renderings of the waterfront open space. Design elements intended to provide a buffer to truck traffic using the DFC are discussed in Chapter 3, *Urban Design.*

Comment C.9

The DEIR should provide an updated analysis of the project's public benefits and how it will address the PBD regulatory criteria.

Response

Refer to Chapter 8, *Wetlands and Waterways.*

Comment C.10

The DEIR should describe and quantify impacts to wetland resource areas and identify mitigation measures.

Response

Refer to Chapter 8, *Wetlands and Waterways.*

Comment C.11

The DEIR should provide a more detailed description of the proposed stormwater management system, including supporting documentation, calculations and data to demonstrate that it will comply with the SMS and BWSC standards, plans showing the locations of system components and connections to the BWSC system, and ultimate discharge points.

Response

Refer to Chapter 9, *Infrastructure*.

Comment C.12

The project will include 987 parking spaces. The projected parking supply was determined by calculating 0.6 spaces per 1,000 sf of office space, 0.4 spaces per residential unit, and 0.5 spaces per hotel room. The DEIR should discuss how the amount of parking proposed in the ENF compares to the parking need and supply for several comparable facilities. It should describe the number of spaces used throughout the day and peak hours for uses of parking spaces. The TIA should evaluate the potential for space sharing at the project site.

Response

Section 5.10 of Chapter 5, *Transportation*, presents a detailed parking analysis for the Project. This analysis includes the evaluation of shared parking on-site for various times throughout the day.

Comment C.13

The DEIR should include a traffic study prepared consistent with the EEA/Massachusetts Department of Transportation (MassDOT) Transportation Impact Assessment (TIA) Guidelines issued in March 2014 and the City of Boston's requirements for traffic studies. It should provide the data and analysis requested in MassDOT's comment letter. The analysis should describe both existing and proposed roadway, pedestrian, and bicycle conditions; public transit capacity and infrastructure; roadway and intersection volumes; safety issues; and capacity analyses for the weekday morning and evening peak hours. The TIA should provide this analysis for Existing, No Build, Build, and Build with mitigation scenarios. The DEIR should clearly identify any mitigation measures that will be necessary to minimize impacts to the local road network, including improvements to bicycle and pedestrian facilities, public transportation services, and roadway improvements. The DEIR should evaluate the feasibility of providing or expanding safe pedestrian and bicycle facilities on area roadways and describe improvements that will be necessary to achieve the high pedestrian and bicycle mode shares anticipated in the ENF. It should summarize the SBWSTP and identify and conclusions or recommendations that are relevant to the project site or that may improve transportation options to the site, including water *transportation. It should provide a trip distribution for the project, an analysis of vehicle crash data for study area intersections, and traffic signal warrants at any intersection where signalization may be proposed.*

The DEIR should provide a detailed analysis of the project's impact to the MBTA bus network that serves the site. It should review the capacity of bus service to the site under existing conditions and upon completion of the project, taking into account other projects in the vicinity that are under construction or planned. The TIA should include a comprehensive review of measures to mitigate the project's impact on bus capacity and capacity of the local public transportation system in general. The Proponent should consult with MassDOT and the MBTA to identify the level of required transit improvements and a schedule for implementation. The effect of the mitigation measures identified through this process should be included in a comparison of future MBTA service operations under a No Build and Build with mitigation scenarios.

The DEIR should include a comprehensive TDM program that will provide incentives for using alternative transportation and discourage SOV trips. The TDM program should evaluate all feasible measures to reduce trip generation associated with the project. The TDM program should be based on specific measures that have been successful in reducing trip generation for similar projects. The Proponent should consult with MassDOT, MassRIDES and local Transportation Management Associations (TMA) to discuss specific measures that have been successful in reducing trip generation for similar projects in Boston. The DEIR should report on any existing shuttles that could serve the site or the feasibility of establishing new shuttle service. The TDM plan should seek to maximize the use of pedestrian and bicycle facilities, offer incentives for using public transportation and local transportation and shuttle services, and encourage the use of low-emissions vehicles. The DEIR should review the potential for pedestrian and bicycle improvements to area roadways to promote non-vehicular access to the site.

The DEIR should include an outline of a Transportation Monitoring Program designed to evaluate the transportation-related assumptions made in the DEIR, the adequacy of mitigation measures, and the effectiveness of the TDM program.

Response

A comprehensive transportation analysis consistent with MassDOT and City of Boston guidelines was prepared and presented in Chapter 5, *Transportation*.

Comment C.14

I strongly encourage the Proponent to consider complementary approaches - such as passive design for residential buildings, incorporation of renewables and inclusion of low impact development in site design - which can improve the project's resiliency, reduce GHG emissions and conserve and sustainably employ the natural resources of the Commonwealth.

Response

The Project Team is considering several approaches to reduce overall carbon demand. These options include:

- Passive residential and commercial strategies
- Reduced Solar Gain
- Increased natural shading
- Solar PV optimization for roof orientation
- Passive-efficient glazing
- Reduced window-to-wall ratio
- Low impact site design (stormwater bioswales, etc.)
- High efficiency and dynamic controls for heating, cooling
- Demand-controlled ventilation

Refer to Chapter 3, *Urban Design*, for a discussion of proposed green infrastructure and low impact site design. Sustainability and green building techniques are discussed in Chapter 4, and passive house and other GHG reduction strategies are evaluated in Chapter 7.

Comment C.15

In the DEIR, the Proponent should review any additional design features that may provide resiliency and support adaptation under future climate scenarios. At a minimum, the Proponent should consider adopting measures such as high albedo roofing material, water-tight conduits, and pervious pavement. The DEIR should provide additional analysis on the reuse of non-potable water for irrigation.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* for additional details regarding the proposed approach to addressing future climate change.

Comment C.16

The DEIR should include a full evaluation of sustainable design elements for the buildings and exterior site areas, including measures identified in the LEED rating system.

Response

The Project Team is actively pursuing a LEED certification strategy for the Project Site as well as for the individual buildings. We are evaluating whether the approaches will join the buildings into a campus or "Neighborhood" for the purposes of the best site design with respect to LEED and the broader community. Refer to Chapter 4 for additional information.

Comment C.17

This project is subject to review under the May 5, 2010 MEPA GHG Policy. The Policy requires Proponents to quantify carbon dioxide ($C0_2$) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis should quantify the direct and indirect $C0_2$ emissions of the project's energy use (stationary sources) and transportation-related emissions (mobile sources). Direct emissions include on-site stationary sources, which typically emit GHGs by burning fossil fuel for heat, hot water, steam and other processes. Indirect emissions result from the consumption of energy, such as electricity, that is generated off-site by burning of fossil fuels, and from emissions from vehicles used by employees, vendors, customers and others.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment*, for a detailed description of the Project's GHG analysis.

Comment C.18

The DEIR should include a full analysis consistent with the EEA GHG Policy. It should calculate and compare GHG emissions from: 1) a Base Case corresponding to the current Massachusetts Building Code and 2) a Preferred Alternative that achieves greater reductions in energy use and GHG emissions than required by the Building Code. The GHG analysis should clearly demonstrate consistency with the objectives of MEPA review, one of which is to document the means by which Damage to the Environment can be avoided, minimized and mitigated to the maximum extent feasible. The Proponent should identify the model used to analyze GHG emissions, clearly state modeling assumptions, explicitly note which GHG reduction measures have been modeled, and identify whether certain building design or operational GHG reduction measures will be mandated by the Proponent to future occupants or merely encouraged for adoption and implementation. The DEIR should include the modeling printout for each alternative and emission tables that compare base case emissions in tons per year (tpy) with the Preferred Alternative showing the anticipated reduction in tpy and percentage by emissions source (both direct and indirect). Other tables and graphs may also be included to convey the GHG emissions and potential reductions associated with various mitigation measures as necessary. The DEIR should provide the information and formatted tables requested in DOER's comment letter.

The project is comprised primarily of residential buildings, which are well-suited to Passive design strategies that would significantly increase energy efficiency, minimize GHG emissions, and reduce utility costs for residents. A passive design residential building that was recently completed at 512 East 2nd Street in South Boston is expected to use 95 percent less energy for cooling and heating than a conventional building. As noted by DOER, the use of passive design alone would reduce GHG emissions by over 40 percent. The DEIR should analyze an alternative project design that incorporates Passive design in the residential buildings. The Proponent should consult with staff from DOER and MEPA prior to submitting the DEIR.

The DEIR should present an evaluation of mitigation measures identified in the GHG Policy Appendix. In particular, the feasibility of each of the mitigation measures outlined below should be assessed for each of the major project elements, and if feasible, GHG emissions reduction potential associated with major mitigation elements should be evaluated to assess the relative benefits of each measure. The DEIR should explain, in reasonable detail, why certain measures, which could provide significant GHG reductions, were not selected - either because it is not applicable to the project or is considered technically or financially infeasible. The DEIR should assess the feasibility of the following mitigation measures:

- *Minimize energy use through building orientation and evaluate its impacts on energy usage, including solar gain, day-lighting and viability of solar photovoltaic (PV) systems;*
- *Use of high-albedo roofing materials;*
- *Install high-efficiency HV AC systems and adequate numbers of thermal zones to support temperature controls;*
- *Reduce energy use through peak shaving or load shifting strategies;*
- *Maximize interior day-lighting through floor-plates, increased building perimeter and use of skylights, clerestories and light wells;*
- *Incorporate window glazing to balance and optimize daylighting, heat loss and solar heat gain performance;*
- *Incorporate roof and wall insulation to minimize heat loss and minimize uncontrolled infiltration through the building envelope;*
- *Incorporate lighting motion sensors, climate control and building energy management systems;*
- *Install energy efficient LED lighting, both exterior and interior;*
- *Evaluate additional measures to reduce project plug loads, including the use of more efficient equipment (such as Energy Star), consider energy consumption as a factor in the selection of special equipment, and consider power management techniques;*
- *Develop a tenant manual to encourage energy and water conservation, recycling, and use of Energy Star rated appliances to reduce plug loads; and*
- *Consider the development of a "green lease" program whereby tenants agree to pay the landlord recovery costs for energy efficiency improvements based on predicted cost savings to the tenant.*

According to DOER, the extensive fenestration of the office buildings exceeds Building Code thresholds and negates energy-efficiency gains of the proposed HV AC system. The DEIR should include an analysis of wall/fenestration scenarios that exceed minimum Building Code specifications.

The DEIR should analyze the potential for on-site energy generation by rooftop solar PV and CHP systems and document the expected energy savings and reduction in GHG emissions from each generating technology. The Proponent should consider the use of one or more CHP systems for this project. Beyond providing efficient power for *lighting and heating, CHP can also and produce off-grid power in the event of a black-out as a climate change resiliency measure. I encourage the Proponent to consult with DOER regarding this analysis to ensure that the analysis accurately reflects the benefits of CHP.*

The solar feasibility analysis should consider solar PV for both a first-party and a third-party ownership structure. The analysis should:

› *Estimate available roof area (excluding areas dedicated for mechanical equipment) or ground space for solar panel installation;*
› *State the assumed panel efficiency;*
› *Estimate electrical output of the potential system; and*
› *Estimate annual GHG reductions due to the use of renewable energy versus electricity or natural gas.*

The analysis should include a narrative and data to support the Proponent's adoption (or dismissal) of solar PV systems as a feasible measure to avoid, minimize or mitigate project-related GHG emissions and Damage to the Environment. For those projects that choose not to implement the use of solar in conjunction with the project, the analysis should include:

› *A commitment to construct the project as "solar-ready". At a minimum, this commitment should include design of a structure capable of supporting solar-related infrastructure. Such a commitment may also include provision of interconnection and inverter equipment, or other design features to facilitate future solar installations.*
› *Completion of cost analysis to determine the overall financial feasibility of installation of solar, including potential payback periods for first-party and third-party ownership systems.*
› *Discussion of potential environmental constraints (shading, presence of wetlands, etc.) limiting the application of solar on-site.*

In addition, I encourage the Proponent to consider how solar may be incorporated into the open space design and surface parking. In particular, it could be incorporated in a way compatible with the goal that the open space acknowledge the industrial history and nature of the site while providing renewable energy and educational opportunities. I encourage the Proponent to consider design options that will allow for cost-effective integration of efficiency or renewable energy measures in the future when such measures may become more financially or technically feasible. The DEIR should include a review of available financial incentives offered by utility companies to help implement energy efficiency measures that would reduce GHG emissions. These incentives may be performance-based and tied to power and fuel avoided compared to a building designed to Building Code requirements. Incentives may also be available to offset design charrette and energy modeling costs. For gas, more information is available on National Grids website and in National Grid's New Construction Guide.2 For electricity, more information can be obtained by contacting newconstructionMA@eversource.com. The GHG analysis should report on financial *incentives that may be available from utility companies to help offset the cost of energy efficiency measures of this project.*

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for a detailed description of the Project's GHG analysis.

Comment C.19

The GHG analysis should include an evaluation of potential GHG emissions from mobile emissions sources. The DEIR should follow the guidance provided in the Policy for Indirect Emissions from Transportation to determine mobile emissions for Existing Conditions, Build Conditions, and Build Conditions with Mitigation. The Proponent should thoroughly explore means to improve traffic operations and minimize overall single occupancy vehicle trips. Improvements in traffic operations that minimize idling time can minimize overall project-related mobile source emissions. The DEIR should also review measures to promote the use of low-emissions vehicles, including installing EV charging stations and providing designated parking spaces for these vehicles. The Build with Mitigation model should incorporate roadway improvements, TDM measures, and any other transportation mitigation to be implemented by the Proponent.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for a detailed description of the Project's GHG analysis.

Comment C.20

The DEIR should include a commitment to provide a self-certification to the MEPA Office at the completion of the project. It should be signed by an appropriate professional (e.g. engineer, architect, transportation planner, general contractor) indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve identified reductions in stationary source GHG emission and transportation-related measures, have been incorporated into the project.

Response

Please refer to Section 11.3 of Chapter 11, *Summary of Mitigation Measures/Draft Section 61 Findings*, for the MEPA GHG Self-Certification Letter.

Comment C.21

The DEIR should identify the location and extent of the release and the area subject to the AUL and describe if any part of the project site or proposed uses are affected.

I note the concerns of the community about potential exposure to contaminated soils at the site. The DEIR should describe a proposed remediation strategy to achieve an NSR condition at the site. It should identify whether the existing AUL will be modified and describe any remaining use conditions or requirements that may be applicable. The DEIR should include a draft Soils Management Plan or at a minimum generally describe how excavation of contaminated soils at the site will be conducted to protect human health during the construction period. The DEIR should describe how material will be stored on-site, the process for determining the extent of contamination and disposal options, and measures to ensure the safe transfer of material to disposal sites. As noted by MassDEP, indoor air quality in buildings constructed over contaminated sites may be compromised by chemical or petroleum vapors. The DEIR should include an evaluation of contaminant concentrations, assess the potential for indoor air impacts, and identify mitigation measures.

Response

Known releases have been cleaned up in accordance with the Massachusetts Contingency Plan ("MCP"), and a condition of No Significant Risk ("NSR") exists at the site. In one area of the site (approximately 0.2 acres), an activity and use limitation ("AUL") was implemented to maintain a condition of NSR. The AUL was implemented because additional remediation was not possible based on the presence of nearby building foundations. Additional remediation is not needed to achieve a condition of NSR; however, if structurally possible, additional excavation of petroleum-impacted soil may be conducted to allow for modification or removal of the AUL. If it is possible to remove the AUL, no use restrictions would remain.

During excavation of residually contaminated soil, a Soil Management Plan will be in place. The Soil Management Plan will describe how soils are to be handled, including activities like: covering stockpiled soils with plastic sheeting, wetting soils during excavation to reduce the generation of dust and vapors, and segregating excavated soils based on level of contamination. Soil excavation will be conducted in accordance with an MCP Release Abatement Measure ("RAM") Plan that will include a health and safety plan. The health and safety plan will include action levels for volatile organic compounds ("VOCs") and/or dust, as needed. Monitoring for VOCs and/or dust will be conducted during excavation, and if concentrations approach designated action levels, additional mitigation measures (e.g., soil wetting) will be implemented.

It is anticipated that soil disposal options will be identified based on the results of a precharacterization soil sampling program. Precharacterization means the soils will be sampled in place, prior to excavation, so that appropriate disposal facilities can be identified prior to excavation. Precharacterization helps streamline soil transportation and disposal activities by reducing the time that soils destined for off-site disposal or reuse will remain stockpiled on the site.

Refer to Section 6.5.6 of Chapter 6, *Environmental Protection*, for a description of the draft Soils Management Plan.

Comment C.22

The DEIR should include a commitment to I/I removal and identify any mitigation projects or monetary contribution by the Proponent. The Proponent should consult with BWSC to identify appropriate I/I mitigation for this project. As noted by the MWRA, groundwater discharges into the sanitary system are prohibited. The DEIR should indicate whether the project will require a discharge permit from the MWRA's Toxic Reduction and Control (TRAC) Department.

Response

The Proponent will consult and comply with BWSC on I/I mitigation requirements as part of the Site Plan Review and General Service Application. A discharge permit from MWRA's TRAC Department will be obtained if required by BWSC as part of the Site Plan Review and General Service Application.

Comment C.23

The ENF tabulated wastewater generation for each building (Table 8-1). The DEIR should include a revised table that includes water use and, if necessary, updated wastewater generation for each building, including estimates of peak and continuous maximum water demand for each proposed use and for landscape irrigation and air conditioning make-up water. The DEIR should include information and plans describing the existing and proposed water and wastewater systems on site and in the BWSC system. The DEIR should analyze flow pressure and/or existing capacity of the BWSC water and sewer system that serve the site. The DEIR should describe the location and size of infrastructure, connections to the BWSC water and sewer systems, and the path and ultimate disposal of wastewater from the site. The DEIR should identify and describe water conservation measures that will be incorporated into design and operations. At a minimum, the DEIR should review the feasibility of installing low-flow fixtures and using rainwater or gray water for irrigation and other purposes.

Response

Refer to Chapter 9, *Infrastructure*, for the updated water and wastewater generation table. Irrigation demand and air conditioning make-up information will be provided during the BWSC review process as landscape and mechanical plans are developed.

Comment C.24

The DEIR should include the additional information requested by MHC to assist in evaluating the effects of the project on historic resources. The DEIR should include photographs of the interior of the buildings keyed to a site plan, information on the structural and historic integrity of the buildings, and greater detail about the proposed reuse and modification to the turbine halls. As suggested by the Boston Preservation

Alliance, the DEIR should describe the 1898 masonry building and evaluate its potential for reuse or preservation.

Response

Refer to Chapter 10, *Historic Resources*.

Comment C.25

In accordance with the State Implementation Plan (SIP) for ozone attainment, the proponent must conduct an indirect source review analysis. This analysis should be conducted in accordance with MassDEP Guidelines for Performing Mesoscale Analysis of Indirect Sources. The Proponent should consult with MassDEP for guidance and for confirmation of the appropriate study areas. The purpose of the analysis is to determine whether and to what extent the project will increase the amount of volatile organic compounds (VOC) and nitrogen oxides (NOX) emitted in the project area and to determine consistency with the SIP. The analysis should model emissions under No Build and Build conditions. If VOC emissions are greater than the No Build scenario, the proponent must provide measures to mitigate this impact, including a TDM Program.

Response

Refer to Chapter 6, *Environmental Protection*, for a mesoscale analysis of air quality impacts of the Project.

Comment C.26

The DEIR should characterize the solid waste expected to be generated by the project. In 2014, Massachusetts banned the disposal of commercial organic wastes by businesses and institutions that generate a ton or more of organic materials per week. Business subject to the ban must use composting, conversion (such as anaerobic digestion), recycling or reuse of organic waste. The DEIR should indicate whether any proposed uses may be subject to the waste ban and how it may dispose of its organic waste.

The DEIR should describe measures to reduce and recycle organic and other wastes through waste diversion and recycling programs. As noted by MassDEP, incorporating the design, infrastructure, and contractual components of the project's solid waste facilities at this stage will help ensure the success of future waste reduction and recycling efforts. The Proponent should refer to MassDEP's comment letter for additional information and links to web sites providing technical assistance.

Response

The building will include recycling facilities/space for all uses. Collected recyclables will be accommodated on the ground floor near the loading docks. The intent is that each residential and retail/restaurant spaces, as well as the parking garage, will have access to facilities and space for collection of recyclable materials. A contracted waste management company will pick up the collected residents' recyclables on a regular basis. The retail/office tenants will utilize disposal services that recycle waste offsite.

Comment C.27

The DEIR should provide drafts of the Construction Management Plan (CMP) and Transportation Access Plan Agreement (TAPA). It should identify the schedule for construction of various elements and phases. It should identify construction-period impacts and mitigation relative to noise, air quality, water quality, and traffic, including pedestrians, bicyclists and transit riders. The DEIR should document any contaminated soil or groundwater regulated under the Massachusetts Contingency Plan (MCP) and describe remediation and mitigation measures if necessary. The DEIR should confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and discuss the use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters. More information regarding construction-period diesel emission mitigation may be found on MassDEP's web site at http://www.mass.gov/dep/air/diesel/conretro.pdf.

The DEIR should provide more information regarding the project's generation, handling, recycling, and disposal of construction and demolition debris (C&D) and identify measures to reduce solid waste generated by the project. I strongly encourage the Proponent to commit to C&D recycling activities as a sustainable measure for the project. Demolition of any structures must comply with the MassDEP Asbestos Regulations (310 CMR 7.15) that became effective on June 20, 2014. These regulations require a pre-demolition and post-abatement surveys and inspections by a licensed asbestos monitor. The Proponent should consult the MassDEP comment letter with regard to regulatory requirements and potential mitigation measures for the removal, handling, and disposal of asbestos containing material (ACM) and other demolition debris during the construction period. The Proponent is reminded that any contaminated material encountered during construction must be managed in accordance with the MCP and with prior notification to MassDEP.

The DEIR should describe potential construction period dewatering requirements, discuss how dewatering will be conducted in a manner consistent with MWRA, MassDEP and/or BWSC regulations/guidelines, and identify any necessary permits. The draft CMP should include appropriate erosion and sedimentation control BMPs. I encourage the Proponent to adopt erosion and sedimentation controls consistent with a Stormwater Pollution Prevention Plan prepared in accordance with the NPDES Construction General Permit requirements.

Response

Refer to Appendix G for the draft CMP. Elements of the future TAPA agreement are detailed in Chapter 5, *Transportation*. Construction related impacts are further discussed in Chapter 6, *Environmental Protection*, The Project will comply with the requirements of the Clean Construction Equipment Initiative to the extent reasonably practicable, including retrofitting diesel construction vehicles with new exhaust scrubbers, or utilizing vehicles that use alternative fuels, such as ultra-low-sulfur diesel fuel to reduce emissions during temporary construction activities. In addition, the Commonwealth of Massachusetts anti-idling law will be enforced during the construction phase of the Project with the installation of on-site anti-idling signage.

The Project Construction Manager will implement a waste management plan to divert Project-related construction waste material from landfills through recycling and salvaging where practicable. The majority of structures to be demolished consist of metal and concrete. Existing metal and concrete will be processed and reused on-site, or recycled by the contractor. Any construction waste will be handled in a manner consistent with all applicable local, state, and federal regulations.

A Stormwater Pollution Prevention Plan will be submitted as part of the BWSC site plan review package to address stormwater management and construction period dewatering requirements.

Comment C.28

The DEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each permit to be issued by State Agencies. The DEIR should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for

implementation, and a schedule for implementation. The DEIR should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing, either tying mitigation commitments to overall project square footage/phase or environmental impact thresholds, to ensure that measures are in place to mitigate the anticipated impact associated with each development phase.

Response

Please refer to Chapter 11, *Summary of Mitigation Measures/Draft Section 61 Findings.*

Comment C.29

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the Scope of the DEIR beyond what has been expressly identified in this certificate.

Response

Please refer to Appendix H for copies of all comment letters received on the ENF and this chapter, Chapter 12, for responses to all comments.

Comment C.30

The Proponent should circulate the DEIR to those parties who commented on the ENF, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. Per 301 CMR 11.16(5), the Proponent may circulate copies of the EIR to commenters in CD-ROM format or by directing commenters to a project website address. However, the Proponent must make a reasonable number of hard copies available to accommodate those without convenient access to a computer and distribute these upon request on a first-come, first-served basis. The Proponent should send correspondence accompanying the CD-ROM or website address indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. The DEIR submitted to the MEPA office should include a digital copy of the complete document. A copy of the DEIR should be made available for review at the Boston Public Library (BPL) and the South Boston branch of the BPL.

Response

Please refer to Appendix A for the complete MEPA distribution list.

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Letter 1: US Army Corps of Engineers

Comment 1.1

Please be advised that any proposed work on the seawall or bulkheads, the existing piers, and intake/outfall structures associated with this project would require a permit from the US Army Corps of Engineers. Additionally, any future work or construction taking place from the water may also require a permit from the Corps of Engineers as would the storage of any construction materials within the waterway. This may also trigger the need for Section 408 review from the Corps of Engineers Navigation Branch and permission from the District Engineer as the project is directly abutting a Federal Navigation Project.

Response

Any in-water work will be coordinated with the US Army Corps of Engineers, as needed.

Comment 1.2

In addition to permitting requirements for this project, I would ask that the MEPA office requests transportation studies in relation to this project. The Corps would request that waterway impacts be included in these studies. With the proposed expansion of Conley Terminal and future projects at Black Falcon Terminal, there may concerns with increased recreational boating and commercial ferry vessel traffic within the waterway that may be attributed to the construction at this location. As the project is likely to require an individual permit from the USACE, the Corps must consider navigation impacts within the area and cumulative impacts to the waterway that may result from the construction of the project.

Response

Refer to Chapter 5, *Transportation,* for the Project's transportation study. The Project does not include any boating facilities, nor is it anticipated to have any secondary impact on increasing boat traffic within the waterway. Any expansion of existing marinas within the Reserved Channel would be subject to future permitting unrelated to this Project.

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Letter 2: Office of Coastal Zone Management

Comment 2.1

The ENF states that by elevating the finish floor elevation by three feet, the project is accounting for future increases in the intensity and frequency of storm events as well as for projected increases in sea level rise. The EIR should provide plan view and cross section plans which show the exiting topography, proposed fill, underground parking, and proposed finish floor with respect to the FEMA Base Flood Elevation in NAVD88 and BCB datum.

Response

Refer to Chapter 4, *Sustainability/Green Buildings and Climate Change Resiliency.*

Comment 2.2

The ENF also states that the Massachusetts Wetlands Protection Act (WPA) does not prescribe performance standards for LSCSF. However, the proponent should evaluate how potential alterations to LSCSF will affect the ability of the floodplain to provide storm damage prevention and flood control interests of the WPA. The EIR should assess how the proposed development may impact the flow of floodwater across the project site and contribute to potential flooding on adjacent properties and roadways.

Response

Refer to Chapter 4, *Sustainability/Green Buildings and Climate Change Resiliency.*

Comment 2.3

In the EIR, the proponent should fully evaluate a DPA-compliant project alternative.

Response

Please refer to Section 2.2 of Chapter 2, *Alternatives Analysis,* for a description of all alternatives evaluated for the Project.

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Letter 3: Massachusetts Port Authority

Comment 3.1

Due to the 24/7 nature of activity at Conley Container Terminal and on the DFC, Massport believes that this development must be designed to minimize conflicts between the site and the adjacent industrial port. The allocation of land uses should be designed to buffer and protect Conley operations from potential development that is incompatible with adjacent maritime industrial uses. Massport understands that there is strong interest in accommodating residential units on the site. Particularly given the close proximity to certain 24/7 Conley Terminal activities, a thoughtful review of specific residential proposals in the context of an overall plan will need to be assessed. In particular, we recommend the following:

- *Residential uses should be limited to portions of the site that do not abut the Butler Dedicated Freight Corridor or adjacent industrial uses. We concur with the current proposal to buffer the port by avoiding residential uses on blocks D, G, and H. We also have concerns that any residential units in Block F, particularly along the property line, could be too close to the industrial activities at Conley.*
- *Condominium ownership should be restricted to interior blocks and along East First Street.*
- *Massport's standard Residential Use Restriction Language, which describes the adjacent freight corridor and active industrial uses, should be included in all legal documentation signed for any residential units*
- *Construction of any residential units should be designed to meet noise standards (not to exceed 45 dBA day-night average interior sound level).*
- *Additionally, we recommend minimizing active lower level commercial use on the ground floors of office and hotel blocks fronting on the Butler Dedicated Freight Corridor, which will likely generate noise and vibrations from the more than 900 truck trips per day that may be incompatible with commercial activities.*

Response

The continued success and growth of Conley Terminal is important to the neighborhood, the City and the Commonwealth. The Proponent has engaged in on-going discussions with Massport to design the Project in a manner that presents the least possible conflict with Conley Terminal operations, including with respect to residential uses, as reflected in the revised Project presented here. In particular, the scale of the residential uses in Building F has been significantly reduced. The Proponent agrees that limitations on condominium ownership to certain locations, inclusion of Massport's Residential Use Restriction language, and construction of residential units to meet noise standards are all appropriate. The Proponent will continue to explore how ground floor spaces and outdoor spaces closest to the DFC can best be managed to avoid conflicts with truck and other port activity.

Comment 3.2

Once opened and under Massport Police surveillance, the DFC will be a restricted access roadway, providing critical freight access between Conley Terminal and nearby truck routes such as Summer Street, Massport Haul Road, and the South Boston Bypass Road. The proponent has the right to construct and use a single driveway connecting to the DFC into the project site for delivery and service access to the site only; this connection is shown on plans included in the ENF. It is imperative that this connection remains gated to maintain the security of the DFC and that it is used only for service purposes.

Response

The Proponent will continue to work with Massport to develop a security plan for the driveway connecting the DFC into the Project Site for delivery and service access to the Project Site only.

Comment 3.3

Mixed use development of the L Street Station site will increase multi-modal traffic and bring 10,250 new vehicle trips in the East First Street/Summer Street neighborhood and the surrounding community. The ENF form on page 3 lists 8,780 vehicle trips. However, we understand from the ENF's data tables that this is the number of new bicycle and pedestrian trips, not vehicle trips. We understand that this development intends to create a grid of streets on the parcel and to provide above ground on-site parking on several parcels. As part of the continued environmental review process, Massport will look forward to reviewing a more detailed analysis of the project's projected traffic impacts and operating characteristics to ensure they will not negatively impact Conley operations. In particular, we will be seeking to maintain the safe, efficient, and timely operations of the new signalized intersection at the DFC and Summer Street. It is imperative that freight movement on Summer Street is not adversely impacted by the additional vehicle trips generated by the project.

Response

An updated and comprehensive traffic impact is provided in Chapter 5, *Transportation*. The Project is not expected to substantially impact the new signalized intersection at the DFC and Summer Street.

Comment 3.4

The ENF describes a concept for a highly programmed active waterfront open space along the northern edge of the site. Due to the need to maintain security of the DFC, Massport requests that waterfront open space be designed with landscaped buffer to *provide separation from the DFC in all locations. Public recreation plans should be evaluated for their compatibility with the noise, light, and truck traffic of the active port. Additionally, Massport is soon to open the 4.5-acre Thomas Butler Memorial Park along East First Street to the east of the 776 Summer Street site, which will buffer the community from Conley Terminal noise and will include many amenities for the local community. We support the developers' plans to continue the spine of public access along East First Street through the development site to the intersection of East First Street and Summer Street and would support additional connections leading from the interior of the site to the park.*

Response

As described in Chapter 3, *Urban Design*, the revised Project creates a network of public open spaces within the site and makes connections with other local open spaces and with the South Boston neighborhood. As the public open spaces closest to the DFC have been further designed, the Proponent has created visual and physical buffers to avoid conflicts with truck and other port activity, assisted in part by the raised topography of the site. The Project's proposed improvements along First Street will connect with and enhance Massport's new Thomas J Butler Memorial Park, including walking and biking connections. Landscaping, lighting, signage and other visual cues will invite people coming from the Butler Park to explore the open spaces within the site, and people within the site to continue to the Butler Park and Castle Island.

Comment 3.5

Massport recommends that the Proponent coordinate closely with FAA and Massport during the remainder of the design process to ensure that individual building heights remain consistent with the Logan Airspace Map and also early in the construction phase, which is particularly important to minimize the extent and duration of impacts of the crane(s) on the airspace. The Proponent will be required to submit multiple Form 7460s to the FAA, one for each permanent building and a separate filing for construction cranes.

Response

The Proponent will continue to coordinate with Massport and FAA, and will submit the required forms prior to construction, as required

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Letter 4: Massachusetts Department of Transportation

Comment 4.1

The DEIR should include a Transportation Impact Assessment (TIA) prepared in conformance with the current MassDOT/EOEEA Transportation Impact Assessment Guidelines. The study should include a comprehensive multimodal assessment of the transportation impacts of the project. The TIA should provide transit and capacity analyses, and evaluate bicycle and pedestrian facilities for the existing conditions, future No-Build conditions, and future Build conditions within the study area. The future Build conditions should include an analysis of operations both with and without any improvements suggested to mitigate project impacts. The study should propose an integrated multimodal mitigation package intended to improve vehicular traffic operations while supporting increased use of walking, bicycling, and transit by employees, patrons, and residents. Items listed below should be accounted for in preparing the TIA.

Response

A comprehensive transportation analysis consistent with MassDOT guidelines was prepared and presented in Chapter 5.0, *Transportation*.

Comment 4.2

The DEIR should provide a trip distribution for the project based on a gravity model or similar model that uses factors such as census data, origin-destination, travel time, and distance to determine trip characteristics for employees and residents of the project. The DEIR should provide all appropriate back up documentation to verify how the different percentages are calculated and assigned to the roadway network and the transit system.

Response

A comprehensive transportation analysis consistent with MassDOT and City of Boston guidelines was prepared and presented in Chapter 5.0, *Transportation*. The mode shares and trip distributions were based on census data as well as previously approved projects from the surrounding area.

Comment 4.3

The DEIR should include a safety evaluation for all intersections within the study area. Specifically, the DEIR should conduct analysis for any study area intersections having crash rates higher than the State and/or District 6 average. The analysis should include a discussion of causality, suggestions for mitigation, and commitment to implementing this mitigation.

Response

A detailed crash analysis was conducted to identify potential vehicle crash trends and/or roadway deficiencies in the study area. The most current vehicle accident data for the study area intersections for the latest available five years were obtained from MassDOT for the years 2011 to 2015. Refer to Chapter 5, *Transportation*.

Comment 4.4

Capacity analyses should be conducted for the weekday AM and PM peak hours for both existing and future conditions. In addition, capacity analyses for Build with mitigation conditions should be provided for all intersections. The DEIR should provide illustrations depicting the peak hour 50th (average) and 95th percentile queue lengths for each lane group/turning movement at each study area intersection, for all analysis scenarios. The information contained in these illustrations should clearly demonstrate that the project would not result in any extended queues that would block vehicle movements to/from study area intersections. Appropriate mitigation should be identified at any locations where queue blockages occur. Color-coded illustrations should also be prepared depicting the level of service (LOS) for each lane group/turning movement for each case.

A traffic signal warrant study (TSWS) should be performed and the need documented for any locations where signalization is being proposed, including site driveway intersections with the public roadway system. A left-tum lane warrant analysis should be conducted and the need documented for any locations where the addition of such a lane is being proposed, including at site driveways.

Response

Capacity analyses were conducted for the weekday AM and PM Peak hours for the existing, no-build, build, and build with mitigation conditions. Refer to the queue and LOS figures for Chapter 5, *Transportation*. A traffic signal warrant study was conducted in Chapter 5 for the intersection of Summer Street at Elkins Street for the future build condition.

Comment 4.5

The DEIR should include sufficiently detailed conceptual plans (minimum of 80-scale) for proposed roadway improvements in order to verify the feasibility of constructing such improvements. These plans should clearly show proposed lane widths and offsets, layout lines and jurisdictions, and land uses adjacent to areas where improvements are proposed.

Response

The Project proposes a redesign of the section of Summer Street from East 1st Street to the DFC to accommodate vehicles and separated bike lanes along Summer Street. The Proponent will continue to work with the City to implement the bike infrastructure improvements (as described in Chapter 5) and others as the City formulates its long-term plans for bicycle improvements for the area.

Comment 4.6

The DEIR should include a presentation of the impacts of the project to the MBTA bus network with a summary table for the anticipated demand in terms of MBTA Service Standards for bus volumes, capacity. The TIA also should include a comprehensive discussion of mitigation measures to address the L Street Station Redevelopment project's transit impacts on the transit system within the study area. Based on the DEIR transit analysis, the Proponent should consult with MassDOT and the MBTA to identify the level of transit improvements required along with a schedule of implementation to address future constrained capacity conditions of the transit system. These improvements could be of a capital and/or operational nature, and should be consistent with (and not preclude implementation of) those identified in the South Boston Waterfront Sustainable Transportation Plan. The EIR should present a summary of the transit analysis to demonstrate that the proposed improvements would maintain or improve MBTA Service Standards compared to future No-Build conditions.

Response

A comprehensive transit analysis is provided in Chapter 5, *Transportation*. The Proponent will continue to work closely with the MBTA to determine how to better help the functionality of the Route 7 during the peak hours.

Comment 4.7

The project is expecting a high pedestrian mode share; therefore the Proponent should provide a mitigation package that ensures that walking and bicycling will be an attractive way to access the site. The DEIR should provide an inventory of existing sidewalks and crosswalks within the study area, and should address the quality and condition of those facilities. The DEIR should include a commitment to improvements in any areas that are structurally deficient or not meeting current codes for accessibility. Special attention should be given to linking the proposed development to adjacent complementary land uses and to transit facilities.

Any proposed mitigation within the state highway layout and all internal site circulation must be consistent with a Complete Streets design approach that provides adequate and safe accommodation for all roadway users, including pedestrians, bicyclists, and public transit riders. Complete Streets design guidelines are included in the MassDOT Project Development and Design Guide. Where these criteria cannot be met, the Proponent should provide justification, and should work with the MassDOT Highway Division to obtain a design waiver.

Response

Refer to Chapter 5, *Transportation, Section 5.14 for a comprehensive list of* Transportation Mitigation Measures.

Comment 4.8

The ENF includes a map of the existing bicycle network within the vicinity of the project. The DEIR should include a detailed inventory of the bicycle network to include bikeway types, bikeway widths, and bicycle number and speeds. The Proponent should identify the likely travel routes for bicyclists within the study area. The degree to which these routes can safely support bicycle travel should also be examined. The DEIR should reevaluate these routes based on the origin-destination of potential employees and residents. Based on this analysis, the Proponent should consider the feasibility of expanding some of these existing routes or consider new routes to encourage bicycle travel in and around the site. Similarly for pedestrian access, the project should work closely with MassDOT and the City of Boston to provide a seamless connection between the existing and planned bicycle facilities in the study area.

Response

The Project proposes a redesign of the section of Summer Street from East 1st Street to the DFC to accommodate vehicles and separated bike lanes along Summer Street. The Proponent will continue to work with the City to implement the bike infrastructure improvements described in Chapter 5, *Transportation* and others as the City formulates its long-term plans for bicycle improvements for the area.

Comment 4.9

The DEIR should include a summary of parking need and supply for comparable facilities based on multiple data sources. It should also determine the number of parking spaces occupied at various times of the day and identify the periods of peak use.

Response

Section 5.10 of Chapter 5, *Transportation*, presents a detailed parking analysis for the Project. This analysis includes the evaluation of shared parking on site for various times throughout the day.

Comment 4.10

The DEIR should include a comprehensive Travel Demand Management (TDM) program that would implement measures aimed at reducing site trip generation. The TDM program should further investigate measures that would maximize usage of existing and new pedestrian, bicycle, and transit facilities. Such measures may include subsidizing transit passes, limiting the available parking supply, providing on-site amenities and conveniences that would reduce the need for automobile travel, and *providing seamless pedestrian access between the L Street Redevelopment project and nearby bus stops. In any mixed-use development, the range of TDM measures varies widely to meet the specific needs of each of the proposed land uses.*

We urge the Proponent to meet with MassRIDES and A Better City Transportation Management Association to discuss TDM measures that have been successful in limiting single occupant vehicle trips at similar projects within the urban core of Boston. The Proponent should also promote ridesharing through NuRide, the Commonwealth's web-based trip planning and ridematching service that enables participants to earn rewards for taking "green" trips. The Proponent should provide information on the substance and outcomes of its consultations in the DEIR.

Response

Refer to Section 5.14 of Chapter 5, *Transportation*, for a comprehensive list of Transportation Mitigation Measures and TDM measures proposed by the Project.

Comment 4.11

The Proponent will be required to conduct an annual traffic monitoring program for a period of five years, beginning six months after occupancy of the full-build project. It would include:

- *Simultaneous automatic traffic recorder (ATR) counts at each garage entrance for a continuous 24-hour period on a typical weekday and Saturday;*
- *Travel survey of employees and patrons at the site (to be administered by the Transportation Coordinator);*
- *Weekday AM and PM peak hour turning movement counts (TMCs) and operations analysis at "mitigated" intersections, including those involving garage entrances; and*
- *An update on TDM effectiveness and transit ridership.*

The goals of the monitoring program will be to evaluate the assumptions made in the Environmental Impact Report (EIR) and the adequacy of the mitigation measures, as well as to determine the effectiveness of the TDM program.

Response

Refer to Chapter 5, *Transportation, Section 5.14.6 for a description of the proposed Transportation Monitoring Program.*

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Letter 5: Massachusetts Department of Energy Resources

Comment 5.1

We are pleased to share that a potentially feasible pathway exists to improve GHG Mitigation Level from currently-planned 3% to 55% by using the following strategies:

- *Passive design for the multifamily portion of the development (which makes up a vast majority of the development);*
- *Roof-top solar PV;*
- *Eliminating efficiency tradeoffs caused by exceeding Building Code thresholds for fenestration.*

Other measures, such as CHP for the hotel and solar thermal should also be investigated.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for a description of the Project's GHG mitigation measures and analysis of alternative/renewable energy strategies.

Comment 5.2

The currently-planned GHG Mitigation Level is 3%. (The currently planned mitigated development is 3% GHG reduction beyond the level of GHG reduction that would occur as a result of following local Building Code.) Mitigation Level can be improved to 55%, an 18-fold increase, as illustrated below:

- *Solar PV on the roof would improve Mitigation Level to 10%.*
- *For the office, the benefits of planned HVAC mitigation are being traded-off as a result of exceeding code thresholds for fenestration. (Planned fenestration area for office is 150% larger than code thresholds.) We estimate that staying within code fenestration thresholds would improve Mitigation Level to 14%.*
- *Use of Passive design strategies for the multifamily would improve Mitigation Level to 55%.*

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for a description of the Project's GHG mitigation measures and analysis of alternative/renewable energy strategies.

Comment 5.3

Significant savings and incentives are potentially available, as follows:

- *With Passive design, annual gas and electric utility costs for the multifamily buildings could be reduced by $1.3M per year.*
- *Alternative Energy Credits associated with qualified air source heat pumps (or VRFs) in a passive multifamily would be worth approximately $0.8M (at $20/alternative energy credit).*
- *Rooftop solar PV (estimated 1,500 kW) would have a NPV of $1,200,000.*
- *Utility incentives are also potentially available, including incentives specifically for CHP and high performing (including passive) buildings.*
- *Massachusetts Clean Energy Center incentives are potentially available, for both heat pumps and VRFs.*

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for an analysis of potential alternative/renewable energy strategies.

Comment 5.4

In addition to greenhouse gas mitigation, the above package of mitigation would also help advance the City of Boston's goals for resilience and housing affordability:

- *Resilience: Passive buildings require near-negligible active and heating and cooling, and thus perform well during power outages and extreme weather. In fact, residents of an existing Passive multifamily a few blocks down the street from the proposed project (see below) report not having to turn on their heat through winter of 2016-2017. PV, CHP, and reduced glazing also contribute to resilience.*
- *Affordability: A Passive Multifamily would cost residents an average of $900/unit less for gas and electricity per year, an 85% reduction in utility costs.*

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for an assessment of the feasibility of passive house and passive design.

Comment 5.5

The subject project is located in close proximity to a completed Passive multifamily, also located on East 1st Street in South Boston. (See locus on right.) Information is available here: http://www.distillerynorth.com/.

This project is completed and operating, with plans for additional expansion.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment*, for an assessment of the feasibility of passive house and passive design. The example project was reviewed during the completion of the assessment.

Comment 5.6

Our recommendations for future submissions are as follows:

1. Future submissions should demonstrate that the project is taking all feasible measures to avoid, minimize and mitigate GHG emissions. The GHG Policy and supporting documentation is available at http://www.mass.gov/eea/agencies/mepa/greenhouse-gas-emissions-policy-and-protocol-generic.html.

2. Passive design should be thoroughly evaluated for the multifamily portion of the development. Passive design methods are available here: http://www.phius.org/home-page. Multifamily specific information is available here: http://multifamily.phius.org/. An extensive study on financial and feasibility of Passive residential towers is available here: http://www.fxfowle.com/projects/182/feasibility-study-to-implement-the-passivhaus-standard-on-tall-residential-buildings/. See right for examples of Passive multifamily projects, including both low rise and high rise examples.

3. When evaluating Passive cost feasibility (and cost evaluations, in general), we recommend netting additional envelope costs against reduced HVAC costs. The Second and Delaware project reportedly costs $4/sf less to construct than conventional construction.

4. In addition, we recommend further netting of costs against potential financial benefits derived from the following sources, which can also reduce first costs:

- *Utility performance-based incentives for energy efficiency improvements*
- *Alternative energy credits (AECs) for renewable thermal production*
- *Grants for various technologies from the Massachusetts Clean Energy Center*

5. Having more fenestration than Building Code thresholds necessarily results in trading off other efficiency improvements, resulting in reduced GHG benefits, increased operating costs, and reduced resiliency than would otherwise occur. We recommend that fenestration for the office portion of the development be maintained to within building code thresholds (e.g. 40% window to wall ratio for the office portion, or as otherwise specified on Table G3.1.1-1 for other building uses). Currently, planned fenestration for the office portion is 150% larger than these thresholds.

If the proponent chooses to continue to evaluate an option that exceeds these thresholds, we recommend submitting the following energy model scenario results:

- *Code building with Code-threshold fenestration*
- *Code building, with planned fenestration*
- *Planned building with Code-threshold fenestration*
- *Planned building with planned fenestration*

The above scenarios will help reveal the extent to which other efficiency measures are being traded-off by exceeding fenestration thresholds.

6. Evaluate lower-than-code lighting power densities.

7. Evaluate CHP for the hotel, including utility rebates and credits.

8. Evaluate solar thermal for hotel and multifamily water heating, including benefits of MCEC grants.

9. Evaluate heat pump water heating for multifamily, hotel, and office, including benefits of Mass Save rebates.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment* and Appendix F for a description of the Project's GHG mitigation measures and analysis of alternative/renewable energy strategies in response to these recommendations.

Comment 5.7

In order to expedite the DOER review, we recommend the following accompany the submission:

A. A table similar to the example below should be included

B. A description of the proposed building envelope assembly: report both component R-values and whole assembly U-factor. Utilize the pre-calculated relationships between R-Value and U-factor contained in Appendix A in the code.

C. A description of the building energy simulation model and procedures utilized.

D. A detailed and complete table of modeling inputs showing the item and the input value for both the base and as-designed scenarios. The area of the building should be included.

E. The output of the model showing the monthly and annual energy consumption by major end use system.

F. Baseline (e.g. Code) energy use intensity and proposed mitigated building energy use intensity.

G. Project modeling files are to be submitted to the DOER with the submittal on a flash drive or may be transmitted via electronic file transfer to paul.ormond@massmail.state.ma.us.

H. Separate "side calcs" may be required for non-building energy consuming site improvements which are not included in the building energy modeling software (e.g. parking lot lighting).

I. Estimate area of roof potentially usable for solar development (e.g. 'Usable Roof Area" (URA)). Estimate resulting power production and associated GHG reduction if all this URA was utilized.

J. *A description of the proposed project building usage and size, including a site plan and elevation views, should be included.*

K. *Provide a summary of discussions with MassSave.*

L. *We recommend cross-examining produced model results' total and individual end uses with representative, prototype buildings developed by Pacific Northwest National Labs/Department of Energy found here:*

- *https://www.energycodes.gov/sites/default/files/documents/BECP_901_2013_Progress_Indicator_0_0.pdf*
- *http://www.energycodes.gov/sites/default/files/documents/2013EndUseTables.zip*
- *https://www.energycodes.gov/commercial-energy-cost-savings-analysis*

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment* and Appendix F for the requested information. Modeling files will be supplied subsequent to this filing.

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Letter 6: Massachusetts Department of Environmental Protection

Comment 6.1

The ENF indicates that the proposed project will generate an estimated 299,900 gallons per day (gpd) of new wastewater flow. MassDEP regulations at 314 CMR 12.04(2)(d) require sewer authorities with permitted combined sewer overflows, including the Boston Water & Sewer Commission (BWSC), to require removal of four gallons of infiltration and inflow (I/I) for each gallon of new wastewater flow generated for any new connection to their system where greater than 15,000 gallons per day of new wastewater flows will be generated. Accordingly the proponent should meet with staff from BWSC to ensure that this mitigation requirement is met. In addition, the proponent should also identify any deficiencies in the wastewater system serving the project site and confirm that the system has sufficient capacity to accept the flow.

Response

Refer to Chapter 9, *Infrastructure*.

Comment 6.2

The activities and uses that are restricted by the AUL, such as residences, schools, daycares and recreational areas, can be implemented at the site if they are evaluated by an LSP and determined to pose No Significant Risk of harm to human health, based on a re-evaluation of the risk characterization and/or the completion of additional response actions necessary to achieve and maintain a condition of No Significant Risk for the new use(s). If activities currently restricted by the AUL are allowed at the site based on such an LSP evaluation, an amended AUL shall be recorded describing the change in the allowed activities within the AUL area.

Response

If additional response actions are conducted or if an updated risk characterization is completed that demonstrates that a condition of No Significant Risk exists for uses currently restricted by the AUL, an amended AUL will be recorded or, if appropriate, the AUL will be terminated.

Comment 6.3

The project proponent is advised that excavating, removing and/or disposing of contaminated soil, pumping of contaminated groundwater, or working in contaminated media must be done under the provisions of MGL c.21E (and, potentially, c.21C) and all other applicable federal, state, and local laws, regulations, *and bylaws. If permits and approvals under these provisions are not obtained beforehand, considerable delays in the project can occur. The project proponent cannot manage contaminated media without prior submittal of appropriate plans to MassDEP, which describe the proposed contaminated soil and groundwater handling and disposal approach, and health and safety precautions. If contamination at the site is known or suspected, the appropriate tests should be conducted well in advance of the start of construction and professional environmental consulting services should be readily available to provide technical guidance to facilitate any necessary permits. If dewatering activities are to occur at a site with contaminated groundwater, or in proximity to contaminated groundwater where dewatering can draw in the contamination, a plan must be in place to properly manage the groundwater and ensure site conditions are not exacerbated by these activities. Dust and/or vapor monitoring and controls are often necessary for large-scale projects in contaminated areas. The need to conduct real-time air monitoring for contaminated dust and to implement dust suppression must be determined prior to excavation of soils, especially those contaminated with compounds such as metals and PCBs. An evaluation of contaminant concentrations in soil should be completed to determine the concentration of contaminated dust that could pose a risk to health of on-site workers and nearby human receptors. If this dust concentration, or action level, is reached during excavation, dust suppression should be implemented as needed, or earthwork should be halted. A Licensed Site Professional (LSP) must be employed or engaged to manage, supervise or actually perform the necessary response actions at the site.*

Response

Management of contaminated soil and groundwater will be conducted in accordance with an MCP RAM Plan that will be submitted to DEP ahead of the start of excavation or dewatering work. The RAM Plan will describe permits needed to conduct the work, procedures for management of contaminated soil and groundwater, and health and safety procedures. Precharacterization of soil and groundwater will be conducted in advance of excavation, so that necessary permits can be obtained and appropriate receiving facilities for soil can be identified. These precharacterization activities will be conducted under the oversight of a LSP who is familiar with the site's history. Potential health risks associated excavation-related dust or vapors will be evaluated using the results of precharacterization sampling, and the conclusions of the evaluation will be documented in the RAM Plan. If real-time monitoring is warranted, monitoring procedures will be descried in the RAM Plan, including action levels and measures to be taken if action levels are approached or reached. An LSP will be engaged to oversee soil and groundwater management activities. Refer to Chapter 6, *Environmental Protection,* for additional information.

Comment 6.4

If capping of contaminated soil is needed to achieve a level of No Significant Risk, MassDEP recommends the following capping design criteria. In unpaved areas, a minimum of three feet of clean soil should be placed over the contaminated soil. This protective layer of clean soil should be separated from the underlying contaminated *soil by a geotextile or combination of materials, which will provide both a brightly colored visual marker and a permeable fabric to separate the clean soil from the contaminated soil. In paved areas, a minimum one-foot cap consisting of clean soil, road base and the pavement layer should be placed over the contaminated soil. Similar to unpaved areas, the contaminated soil should be separated from the clean soil or road base using a visual marker and geotextile. In such cases, an Activity and Use Limitation (AUL), prepared in accordance with 310 CMR 40.1012 would be necessary to identify the maintenance requirements of the cap. It should also be noted that a cap constructed as a Release Abatement Measure will not be considered a Permanent Solution until a Phase III completed in accordance with 310 CMR 40.0850 demonstrates the lack of a feasible alternative, as required by 310 CMR 40.0442(4).*

Response

Capping of contaminated soil is not anticipated at this time; however, DEP's recommendations described above will be considered should capping be warranted in the future. The Proponent understands that a cap cannot be used to achieve a Permanent Solution under the MCP without first completing a Phase III evaluation of remedial alternatives and that an AUL will be needed if a cap is used to achieve a Permanent Solution.

Comment 6.5

Parties constructing and/or renovating buildings in contaminated areas should consider whether chemical or petroleum vapors in subsurface soils and/or groundwater could impact the indoor air quality of the buildings. All relevant site data, such as contaminant concentrations in soil and groundwater, depth to groundwater, and soil gas concentrations should be evaluated to determine the potential for indoor air impacts to existing or proposed building structures. Particular attention should be paid to the vapor intrusion pathway for sites with elevated levels of chlorinated volatile organic compounds such as tetrachloroethylene (PCE) and trichloroethylene (TCE). MassDEP has additional information about the vapor intrusion pathway on its website at http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/vapor-intrusion-and-indoor-air-contamination-waste-sites.html.

Response

The Proponent understands the potential for vapor intrusion into buildings and the importance of planning ahead to incorporate mitigation measures. The potential for vapor intrusion into existing planned buildings will be evaluated using soil, groundwater, and soil gas sampling results. Where needed based on soil and groundwater concentrations, vapor intrusion mitigation systems or other intrinsically safe building design components (e.g., ventilated or open-air garages) will be incorporated into planned buildings. As requested by DEP, particular attention will be paid if PCE and TCE are detected. The LSP who has been working with the Proponent on the site is familiar with DEP's policies regarding vapor intrusion assessment and mitigation.

Comment 6.6

Construction activities conducted at a disposal site shall not prevent or impede the implementation of likely assessment or remedial response actions at the site. Construction of structures at a contaminated site may be conducted as a Release Abatement Measure if assessment and remedial activities prescribed at 310 CMR 40.0442(3) are completed within and adjacent to the footprint of the proposed structure prior to or concurrent with the construction activities. Excavation of contaminated soils to construct clean utility corridors should be conducted for all new utility installations.

Response

The assessment and remedial activities required by 310 CMR 40.0442(3) will be conducted prior to construction of new buildings and will be documented in a RAM Plan to be submitted to DEP before excavation activities begin. Refer to Chapter 6, *Environmental Protection,* for additional information.

Comment 6.7

An Activity and Use Limitation (AUL) is a legal document that is recorded or registered at the appropriate Registry of Deeds and identifies site conditions that are the basis for maintaining a condition of No Significant Risk at a property where contamination remains after a cleanup. The AUL identifies permitted and allowable site uses and activities that may occur at a property while maintaining No Significant Risk. The AUL also identifies restricted uses and activities, which could result in the exposure of people at or near the disposal site to remaining contamination if such activities were to occur. The project proponent is advised that in cases where proposed activities would not be consistent with a level of No Significant Risk and/or an existing AUL, additional cleanup and the amendment or termination of the initial AUL and implementation of a revised AUL would be necessary before the proposed activities could occur.

Response

If additional response actions are conducted or if an updated risk characterization is completed that demonstrates that a condition of No Significant Risk exists for uses currently restricted by the AUL, an amended AUL will be recorded or, if appropriate, the AUL will be terminated.

Comment 6.8

MassDEP encourages the project proponent to make a significant commitment to C&D recycling activities as a sustainable measure for the project, consistent with comparable projects that have undergone MEPA reviews. In addition, the proponent is advised that demolition activities must comply with both Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. Chapter 40, Section 54.

Response

The Project will develop and implement a construction and demolition waste management plan that will identifying at least five materials (both structural and nonstructural) targeted for diversion and approximate a percentage of the overall Project waste that these materials represent. The Project will divert at least 75 percent of the total construction and demolition material; diverted materials must include at least four material streams.

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Letter 7: Massachusetts Department of Environmental Protection, Waterways Regulation Program

Comment 7.1

In the EIR filing, the Proponent should evaluate a fully compliant project alternative in which the project site remains within the South Boston DPA.

Response

Refer to Chapter 2, *Alternatives Analysis,* for details on all alternatives evaluated for the Project, including a DPA compliant alternative.

Comment 7.2

In the EIR, the Proponent should provide more detailed analysis on how the project design will comply with the Engineering and Construction standards pursuant to 310 CMR 9.37(1)&(2).

Response

Refer to Chapter 4, *Sustainability/Green Buildings and Climate Change Resiliency*, for additional information on the Project's strategy for construction within the current and future flood zone.

Comment 7.3

Given the time frame that a project of this scope and size will likely require, the Department recommends that in the EIR, the Proponent describe how it plans to proceed with the c.91 authorization process, including whether it plans on requesting a Consolidated Written Determination for discrete elements of the overall project pursuant to 310 CMR 9.14(4). In the event that such an approach is considered, the Proponent should carefully evaluate and propose the timely delivery of related public benefits with each license application to ensure that the overall public benefits will exceed public detriment as each portion of the project is completed.

Response

At this stage, the Proponent anticipates pursuing a single license for the Project.

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Letter 8: Massachusetts Water Resources Authority

Comment 8.1

To ensure that the Project's wastewater flow does not increase system surcharging or CSO in wet weather, the Proponent should continue to work with BWSC to develop a plan for ensuring a 4:1 offset of the Project's wastewater flow as required by Massachusetts Department of Environmental Protection regulation. To comply, four gallons of stormwater and/or infiltration and inflow (I/I) should be removed from a hydraulically related sewer system(s) for every gallon of new wastewater flow. Increasing wastewater flow to the South Boston sewer systems without the state-required offset can compromise the sewer system and water quality benefits of MWRA's $910 million region-wide CSO control plan, including water quality improvement in Reserved Channel and Fort Point Channel.

Response

Refer to Chapter 9, Infrastructure.

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Letter 9: Massachusetts Historical Commission

Comment 9.1

The information provided in the ENF is inadequate. The MHC requests the following information be submitted in order to evaluate the potential effects of the work proposed on this property:

- *Interior photographs of all sections of the building keyed to a site plan and labeled to match the names of the building areas labeled on the site plan.*
- *Information on the structural and historical integrity of the different sections of the complex.*
- *Clarification on the proposed rehabilitation of the turbine halls.*

Response

Refer to Chapter 10, *Historic Resources*.

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Letter 10: Boston Water and Sewer Commission

Comment 10.1

Prior to demolition of any buildings, all water, sewer and storm drain connections to the buildings must be cut and capped at the main pipe in accordance with the Commission's requirements. The proponent must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.2

All new or relocated water mains, sewers and storm drains must be designed and constructed at HRP's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval when the design of the new water and wastewater systems and the proposed service connections to those systems are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.3

The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, is implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of *infiltration and inflow (I/I) for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added is used. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan.*

Response

The Proponent will comply with this BWSC requirement.

Comment 10.4

The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and pemreable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/

Response

Refer to Chapter 3, *Urban Design*, for details on the Project’s landscape and green infrastructure approach.

Comment 10.5

For any proposed masonry repair and cleaning HRP will be required to obtain from the Boston Air Pollution Control Commission a permit for Abrasive Blasting or Chemical Cleaning. In accordance with this permit HRP will be required to provide a detailed description as to how chemical mist and run-off will be contained and either treated before discharge to the sewer or drainage system or collected and disposed of lawfully off site. A copy of the description and any related site plans must be provided to the Commission's Engineering Customer Service Department for review before masonry repair and cleaning commences. HRP is advised that the Commission may impose additional conditions and requirements before permitting the discharge of the treated wash water to enter the sewer or drainage system.

Response

The Proponent will work with the Commission to obtain these approvals prior to the start of work.

Comment 10.6

The Commission will require HRP to undertake all necessary precautions to prevent damage or disruption of the existing active water and sewer lines on, or adjacent to, the project site during construction. As a condition of the site plan approval, the Commission will require HRP to inspect the existing sewer lines by CCTV after site construction is complete, to confirm that the lines were not damaged from construction activity.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.7

It is HRP's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, HRP must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.8

HRP should be aware that the US Environmental Protection Agency issued the Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, HRP will be required to apply for a RGP to cover these discharges.

Response

Management of contaminated groundwater will be conducted in accordance with an MCP RAM Plan that will be submitted to DEP ahead of the start of excavation or dewatering work. The RAM Plan will describe permits needed to conduct the work, including an RGP for discharge of dewatered groundwater. Refer to Chapter 6, *Environmental Protection,* for additional information.

Comment 10.9

HRP must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be *based on full-site build-out of the proposed project. HRP should also provide the methodology used to estimate water demand for the proposed project.*

Response

Refer to Chapter 9, *Infrastructure,* for updated demands.

Comment 10.10

The Commission supports HRP's commitment to explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. in particular, HRP should consider outdoor landscaping which requires minimal use of water to maintain. If HRP plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

Response

The Proponent will continue to explore opportunities for implementing water conservation measures in outdoor landscaped areas as well as within the building.

Comment 10.11

HRP is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. HRP should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.12

The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, HRP's should contact the Commission's Meter Department.

Response

The Proponent acknowledges BWSC’s use of MTUs for new water meters.

Comment 10.13

In conjunction with the Site Plan and the General Service Application HRP will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

- *Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.*
- *Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction.*
- *Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.*

Response

The Proponent will comply with this BWSC requirement.

Comment 10.14

As stated in the ENF/EPNF, a NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection is required. A copy of the permit and any pollution prevention plan prepared pursuant to the permit must be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified in item 1 above.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.15

The Commission encourages HRP to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers.

Response

The Proponent will explore opportunities for minimizing sanding and deicing chemicals, pesticides, and fertilizers.

Comment 10.16

The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. HRP is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. As stated previously, if the dewatering drainage is contaminated with petroleum products, HRP will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.17

HRP must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their storm water discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.18

Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.19

The Commission requests that HRP install a permanent casting stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project. HRP should contact the Commission's Operations Division for information regarding the purchase of the castings.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.20

If a cafeteria or food service facility is built as part of this project, grease traps will be required in accordance with the Commission's Sewer Use Regulations. HRP is advised to consult with the Commission's Operations Department with regards to grease traps.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.21

The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators.

Response

The Proponent will comply with this BWSC requirement.

Comment 10.22

The Commission requires installation of particle separators on all new parking lots greater than 7,500 square feet in size. If it is determined that it is not possible to infiltrate all of the runoff from the new parking lot, the Commission will require the installation of a particle separator or a standard Type 5 catch basin with an outlet tee for the parking lot. Specifications for particle separators are provided in the Commission's requirements for Site Plans.

Response

The Proponent will comply with this BWSC requirement.

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Letter 11: Boston Planning & Development Agency

Comment 11.1

The Agency hosted an open house, walking tours of the Edison Turbine Hall, and two community workshops, which altogether culminated in a planning process report (the "Report"), which is enclosed. The Report outlined a vision for the redevelopment of the Project Site and concepts intended to assist the development plan for the Project. The Project is generally consistent with the Report, which provides the foundation for the Agency's review of the Project through Article 80B of the City of Boston Zoning Code.

Response

The Proponent thanks the BPDA for their assistance in developing this vision for the Project Site and looks forward to working with the City to see the vision come to life.

Comment 11.2

During the concurrent MEPA Office and Agency review periods, the Proponent submitted a request to the Massachusetts Office of Coastal Zone Management (CZM) to initiate a review of the South Boston Designated Port Area (DPA) boundary ("Boundary Review"), which the Agency supports.

Response

The Proponent thanks the BPDA for their support.

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Letter 12: Linda Dorcena Forry

Comment 12.1

Immediately adjacent to the L Street Station Redevelopment proposal, Massachusetts Port Authority is in the final stages of completing the $75 million construction of the Thomas J. Butler Haul Road and Buffer Zone Park. This project was aimed at Increasing efficiency at Conley Terminal as well as removing approximately 1,000 commercial trucks from residential streets to reduce both air and noise pollution in the community. Additionally, the Commonwealth of Massachusetts, in partnership with the Federal government and Massport, has teamed up to commit $1 billion to dredge Boston Harbor and expand Conley Terminal in order to help Massachusetts grow as a leader in the international shipping industry. According to the developer's PNF and MEPA filings, this project would generate between 10,000 - 21,000 new vehicle trips dally. A full vetting of the transportation logistics should be completed prior to approvals.

This project has great potential in transforming an old power plant into a mixed use development with significant green and open, public space on the waterfront. As this process continues to move forward, I want to ensure these important, accessible spaces on the waterfront are maintained, publicly owned and protected in perpetuity to ensure preservation and access for generations to come.

While I am hopeful about this project, I ask MEPA not to take any action at this time so the community has ample time to help shape and inform the L Street Station Redevelopment. Thank you for your attention to this matter; If you have any questions, please do not hesitate to contact my office.

Response

A detailed analysis of the Project's transportation impacts is provided in Chapter 5. The Project Team has worked closely with Massport to develop the Project in a manner that is compatible with the adjacent marine industrial uses. Refer to Section 1.4 of Chapter 1, *Project Description,* for additional detail on the Project's compatibility with the industrial port.

In response to concerns related to preservation of the waterfront public space, in addition to the Proponents commitment to maintain public access to this space, the waterfront is subject to Chapter 91 regulations, and as such, is required to maintain publicly accessible open space in this area. The Proponent expects that the obligation to create these spaces, and the obligation to maintain and make these spaces available to the public in the future, will be legally enforceable requirements contained with the State and City permits that will be issued for the Project before construction begins.

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Letter 13: Stephen F. Lynch

Comment 13.1

This proposal raises many serious neighborhood concerns including density, traffic, public safety and parking. Further, there are maritime and environmental issues that need to be addressed.

While this proposal would add approximately 1,500 additional housing units as well as retail and commercial shops and a possible hotel, it would overwhelm the neighboring residential area unless thoughtful and careful countermeasures are included. Currently such mitigation has not been suggested.

Moreover, as Conley Terminal has expanded, we have worked with MASS PORT over several years to create a Dedicated Freight Corridor (DFC) to relieve East First Street of over I,000 daily tractor-trailer truck trips. As part of this process, Thomas Butler Park was created to act as a buffer zone mitigating noise and carbon emissions from the truck traffic which will soon be redirected onto the DFC.

This proposed project according to the proponents PNF and MEPA filings would negate the neighborhoods efforts and generate an additional 10,000 to 21,000 vehicle trips through the South Boston Neighborhood. This would reverse the progress that has been made in this area and leave the neighborhood in worse condition after all the work and investment by the Commonwealth of Massachusetts and Massport. From a neighborhood standpoint, this simply cannot be allowed to happen.

Neighborhood parking has become a major concern to residents, and this proposal would contribute to an already unmanageable situation. Other issues of concern include public safety and environmental issues during the demolition and cleanup process, with potential health risks of contaminants drifting into the surrounding homes as well as onto the parks directly across the street

Notably, over a billion dollars has been invested through Federal and State partnerships for the dredging of Boston Harbor and the Reserved Channel to increase the international shipping industry and make the Port of Boston more competitive. This development would negatively impact all the advancements made to the Port of Boston and to Conley Terminal by further harming traffic flow and air quality by adding vehicular traffic onto local streets which are not able to sustain the additional traffic flow in and out of the South Boston community.

Meanwhile we have several other developments that are coming on line which are likely to exacerbate traffic and density issues.

While the people of South Boston have been very cooperative and supportive of the many developments in our neighborhood, that support and cooperation has been the result of a two way conversation between the developer, local leaders and community groups.

Therefore, I respectfully request that MEPA does not sign off on this project at this time. Further I would strongly recommend that a comprehensive community process be undertaken by the developer at times that are convenient to local residents (NOT the middle of August) to fully engage the neighborhood residents to discuss the impacts of the project on the South Boston community.

Response

The revised Project addresses these concerns in several different ways: by reducing the proposed number of housing units and proposed overall density, by introducing street and intersection improvements at each phase of the Project's estimated 15-year build-out, by adding more parking and creating the opportunity for community parking, and by proposing supplemental bus service that will be available to the neighborhood. As further described in Chapter 5, *Transportation*, the Project will include street and intersection improvements (new traffic signal, dedicated turning lanes, etc.) that safely support additional use on Summer Street, First Street and L Street as the Project progresses. In addition, the Project will be implementing transit and other transportation improvements, as well as a transportation demand management plan, to encourage and support other means of travel.

In response the neighborhood concerns about parking, the revised Project (although having less height and density) has more residential parking, more overall parking and the opportunity for community parking on nights, weekends and snow emergencies. Please refer to Chapter 5, *Transportation*, for a comprehensive analysis of parking requirements and potential mitigation. As a condition of its State and City permits, the Proponent will file a Construction Management Plan and a Soils Management Plan that will set out the procedures and precautions taken for the protection of neighboring properties and open spaces.

The continued success and growth of Conley Terminal is important to the neighborhood, the City and the Commonwealth. The comprehensive analysis of Project impacts in Chapter 5, *Transportation*, specifically including an analysis of the DFC serving Conley Terminal, demonstrates that the build-out of the proposed Project will not adversely affect Conley Terminal's operations at any time.

Letter 14: Nick Collins

Comment 14.1

After reviewing this proposal, it is clear that the density proposed is simply unfeasible. According to their PNF and MEPA filings, this project would generate between 10,000 and 21,000 new car trips in and out of the neighborhood daily. Currently, the Massachusetts Port Authority (Massport) is wrapping up a $75 million investment in the Thomas J, Butler Haul Road and Buffer Zone Park. This was done in preparation of the expansion of Conley Terminal to get roughly 1,000 commercial trucks off of East First Street to alleviate the environmental and noise impacts on area residents. To follow that effort, Massport, the Federal Government, and the Commonwealth of Massachusetts have joined forces to invest roughly $1 billion to dredge Boston Harbor and expand Conley Terminal to make Massachusetts more competitive in the international shipping industry, If the proposal for 776 Summer Street were approved as is, it would fly in the face of that significant public investment, negatively impact the port of Boston, our transportation infrastructure, air quality, and further exacerbate the gridlock on our streets.

Additionally, I have concerns about public access to the waterfront and green space, Any and all green space and open space on the waterfront should be publicly owned and protected in perpetuity to ensure preservation and access for generations to come.

It is for these reasons that I respectfully request that MEPA does not sign off on this project at this time. Thank you for your consideration of this request If you have any questions regarding this matter, please do not hesitate to contact my office.

Response

The revised Project addresses these concerns in several different ways: by reducing the proposed number of housing units and proposed overall density, by introducing street and intersection improvements at each phase of the Project's estimated 15-year build-out and by proposing an innovative supplemental bus service that will be available to the neighborhood to address current gaps in transit service. Please refer to Chapter 5, *Transportation*, for a comprehensive analysis of Project Impacts and potential improvements and mitigation.

The continued success and growth of Conley Terminal is important to the neighborhood, the City and the Commonwealth. The comprehensive analysis of Project impacts in Chapter 5, *Transportation*, specifically including an analysis of the DFC serving Conley Terminal, demonstrates that the build-out of the proposed Project will not adversely affect Conley Terminal's operations at any time. In addition, the Proponent has engaged in on-going discussions with Massport to design the Project in a manner that presents the least possible conflict with Conley Terminal operations, including locating residential uses away from the DFC, as reflected in the revised Project presented here. The Project's proposed improvements along First Street will connect with and enhance Massport's new Thomas J Butler Memorial Park.

The Proponent has further explored development alternatives in Chapter 2, *Alternatives Analysis*. The revised Project creates the most benefit for the neighborhood, including the most public access to the waterfront and green spaces. The Proponent expects that the obligation to create the proposed open spaces, and the obligation to maintain and make these spaces available to the public in the future, will be legally enforceable requirements contained with the State and City permits that will be issued for the Project before construction begins.

Letter 15: Michael F. Flaherty

Comment 15.1

The proposal calls for 1,500 housing units as well as retail space to be developed in an already dense area. As we have seen over the past decade, the rapid development in South Boston has overwhelmed the neighborhood numerously. Further, 10,000 and 21,000 new vehicle trips are projected to take place both in and out of the neighborhood on a daily basis. If this project is approved, significant financial investments made by both the Commonwealth of Massachusetts and the Massachusetts Port Authority ("Massport") for traffic and noise alleviation - which the stakeholders of South Boston have advocated for via the Thomas J. Butler Haul Road and Buffer Zone Park- would be countered.

Massport, the Federal Government, and the Commonwealth of Massachusetts have jointly invested over $1 billion to dredge Boston Harbor and expand Conley Terminal so that Massachusetts is more viable for the international shipping industry. If this project is approved, traffic flow and air quality would be negatively impacted, and the local streets in the neighborhood of South Boston would feel the burden. Further, given that this site used to be a power plant, there are serious environmental, health and safety concerns that need to be acknowledged. If this project is approved, there is potential for contaminants affecting the surrounding community during the demolition and cleanup process. Lastly, there needs to be preservation of and access to the surrounding greenspaces and waterfront.

The stakeholders of South Boston have been supportive and accommodating to the many developments that have taken place in the neighborhood. But the support and accommodation is reached as a result of a thorough community process - a factor that has not taken place with regards to this proposed project. It is for the above mentioned reasons that I respectfully request that MEPA does not sign off on this project at this time. Thank you for your consideration of this request.

Response

The revised Project addresses the concerns regarding vehicular traffic in several different ways: by reducing the proposed number of housing units and proposed overall density, by introducing street and intersection improvements at each phase of the Project's estimated 15-year build-out, by adding more parking and creating the opportunity for community parking, and by proposing supplemental bus service that will be available to the neighborhood. Please refer to Chapter 1, *Project Description*, for a summary of the efforts proposed by the Project to ensure compatibility of the Project with the working port. Please refer to Chapter 5, *Transportation*, for a comprehensive analysis of Project Impacts and potential improvements and mitigation, including an analysis of the DFC serving Conley Terminal.

As described in Chapter 2, *Alternatives Analysis*, the proposed Project is the development alternative that will result in the existing environmental contamination being addressed so that the site is safe for all residential and neighborhood uses. As a condition of its State and City permits, the Proponent will file a Construction Management Plan and a Soils Management Plan that will set out the procedures and precautions taken for the protection of neighboring properties and open spaces.

As described, in Chapter 3*, Urban Design*, the proposed Project creates a network of open spaces within the site and makes connections with other local open spaces and with the South Boston neighborhood. In particular, the proposed Project does continue the local street grid by extending M Street to the waterfront.

Letter 16: Boston Harbor Now

Comment 16.1

Defined as "land and water areas with certain physical and operational features that have been reserved by the Commonwealth for maritime-industrial uses," Designated Port Area policy is intended to protect and promote water-dependent industries and prevent the loss of the areas and infrastructure required to support such industry. As longtime advocates of the working port, Boston Harbor Now is concerned about the piecemeal de-designation of these limited land areas. We will submit a more detailed comment letter responding to the boundary review request. It our position that until the Secretary has reviewed and issued a final determination of the DPA boundary review request, it is premature to engage in a detailed discussion of the proposed redevelopment.

Response

Please refer to Section 1.1.1 of Chapter 1, *Project Description*. While the Project Site has been removed from the DPA, the overall DPA area has been expanded through CZM's review.

Comment 16.2

The following four areas will require more careful consideration should the project move forward through the permitting process:

- *Compatibility with existing maritime industrial uses*
- *Open space and access*
- *Transportation, and*
- *Climate Preparedness*

Response

For open space and access, please refer to Chapter 3. For Transportation refer to Chapter 5. For climate preparedness, please refer to Chapter 4. Compatibility with existing maritime industrial uses is discussed throughout various sections of this DEIR/DPIR and summarized in Section 1.4 of Chapter1, *Project Description*.

Comment 16.3

To our knowledge, no other mixed-used Boston Harbor waterfront development has a dedicated truck route running through a section of the parcel. Trucks are the lifeline of Boston's working port and the Dedicated Freight Corridor is the major truck route serving Conley Terminal with heavy industrial traffic at all hours of the day and night. It is essential that, before project plans are finalized and approved, the proponents *work with the Massport maritime department to ensure that the proposed mixed-use development does not impact truck access to Conley Terminal and other working port businesses. To minimize potential conflicts of use, future filings should include additional details of truck traffic to and from Conley Terminal as well as truck loading/offloading activities planned on the abutting Coastal Oil site.*

Finally, due to the proximity of the proposed development to marine industrial properties, we suggest exploring a covenant or alternative agreement in property leases and sales to acknowledge baseline levels of noise and other impacts resulting from truck traffic and other marine industrial businesses. Additional opportunities for soundproofing should also be explored.

Response

Please refer to response to Comment 3.1. The Proponent is working closely with Massport to minimize any potential for conflict and establish a covenant or alternative agreement to protect the future growth of Conley Terminal.

Comment 16.4

We are concerned about the ENF's characterization of current maritime-industrial activities at DFC and nearby Conley Terminal operations. These areas have active industrial uses that add a significant amount of noise, dust, and vibrations to the area. The design and programming of the public areas along the northern edge of the site must reconcile two very different uses--general public use and the continued industrial operations of Conley Terminal and other working port businesses. A successful design and activation plan will minimize negative impacts to existing water-dependent industrial uses.

Response

Refer to Section 1.4 of Chapter 1, *Project Description*.

Comment 16.5

Future project filings and the DEIR should include a traffic impact analysis that acknowledges commercial, truck, public transit and commuter vehicle traffic, especially for intersections that will experience increased congestion at Summer Street and East First Street.

Response

A comprehensive transportation analysis consistent with MassDOT and City of Boston guidelines was prepared and presented in Chapter 5, *Transportation*.

Comment 16.6

As described in the ENF the proponent may also consider the following:

- *Movable and permanent flood barriers to protect certain vulnerable sections of the project*
- *Emergency generators located on the roof*
- *Operable windows for residential spaces*
- *Back---up power generation capabilities*
- *Electrical systems located above the floodplain*
- *Improvements to stormwater infrastructure*
- *Saltwater tolerant plantings, and*
- *Installation of backflow preventers*

Given the significant risk of flooding in South Boston, we encourage the proponent to incorporate a number of these resiliency strategies into the final project design. This particular site and building design should consider the possibility that today's 1% storm could have a frequency of 10% by mid century, and that chronic flooding associated with monthly and seasonal high tides will become more and more prevalent during the latter half of the century. According to the BRAG report, the possibility that such flooding will occur several times per week cannot be ruled out.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* for additional details regarding the proposed approach to addressing future climate change.

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Letter 17: Boston Preservation Alliance

Comment 17.1

Therefore, while we recognize that redevelopment of the site and its transformation from a heavy industrial use requires significant removal of equipment and demolition of portions of the site, we also encourage the proponent to incorporate as much of the historic fabric into the project as possible. We understand that power plants in particular present unique challenges; structure and mechanical equipment can be integral to each other and the demolition of interior contents to provide available space for new uses may necessitate the loss of exterior walls. However, we also recognize that there are many instances where important, contributing structure can be saved for new uses.

Therefore, we encourage the proponent to rehabilitate the oldest building on the site, the c. 1898 masonry building beside the turbine halls, as well. This would retain visual continuity between the surviving structures and maintain the industrial context that makes this site unique from the exterior.

Response

Refer to Chapter 10, *Historic Resources*. The Proponent is committed to reusing the 1898 building

Comment 17.2

The Alliance also has concerns about the proposal to insert an interior street for vehicular traffic through the turbine hall. While we understand that site circulation is important, we are concerned that this intervention may have a significant adverse effect to the historic spaces, their visual continuity, and their use. We encourage the proponent to present more information about why this interior street is necessary and what impacts it will have across the site. Similarly, discussion of new penetrations into the walls of the turbine halls for new windows requires further discussion. With reopening of the windows of the clerestory monitor of the roof we feel there is opportunity to generate significant natural light without disruption of the character-defining tile walls.

Response

Refer to Chapter 10, *Historic Resources.*

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Letter 18: Conservation Law Foundation

Comment 18.1

It is our understanding that the proponent has submitted a request to the Massachusetts Office of Coastal Zone Management ("CZM") for DPA boundary review with the intention of having the site de-designated. While we do not necessarily disagree with the proponent on the merits of their de-designation request, we are concerned that this process is moving forward prior to CZM rendering a decision on their request. We are also concerned that this request may make way for more site-by-site de-designation requests, which would create an undesirable process for evaluating non-maritime uses in DPAs and have a deleterious effect on this scare and non-renewable resource.

Response

Please refer to Section 1.1.1 of Chapter 1, *Project Description*. While the Project Site has been removed from the DPA, the overall DPA area has been expanded through CZM's review.

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Letter 19: WalkBoston

Comment 19.1

We understand that the new dedicated harborside freight corridor that will connect Summer Street to Massport's Conley Terminal and remove heavy truck traffic from East 1st Street will provide very important, and long-desired improvements to the South Boston neighborhood. But this shift will also present challenges; the new harborside route will place an access barrier and significant truck traffic (with its accompanying noise and air pollution) between the development site's primary open space and the harbor.

We urge the developer to consider creative ways to mitigate the truck route's impact on the open space. This could include grade changes that place the open space higher than the truck route (Figure 3.5b may hint at this); landscaping that both masks and frames views, soundscapes to mask truck noise, and the addition of viewing platforms that allow open space users to gain unimpeded views of the water. There may also be ways to capitalize on the site's industrial past and on-going use through interpretive elements. WalkBoston is concerned that without such special treatment the open space will not be very attractive to the public.

If possible, the proponent might also explore with Massport whether it would be possible to schedule truck traffic so that is interferes less with daytime and weekend use of the open space.

Response

As part of the Project's resiliency strategy and long-term sustainability, the main walking surface of the waterfront open space is being raised in steps to approximately five feet above the existing grade. In addition, there will be a new bluff created at the end of M Street Extension that will be approximately fifteen feet above the current waterfront grade and will be higher than the DFC. It is the intention of the Project to recognize and accept some of the industrial character of the existing context while complimenting it with walking and riding paths, gathering spaces, landscaped event areas and tree lined buffers as the DFC bridge gets closer to the property.

Comment 19.2

At the direction of the City, the proponent has used South Boston adjusted trip generation rates to develop trip tables for walking/biking, transit and vehicles. However, the site is at a significant distance from other land uses that would seem to justify such significant numbers of walking trips, and to suffer from overused bus lines and significant distances to the Red and Silver Lines. Figure 5-1 illustrate the 5 and 10-

minute walking zones, neither of which include a great many retail, job and civic land uses.

We urge the proponent to develop mitigation measures to make the development a more realistically mixed mode project. These could include such things as: subsidies to the MBTA to provide more frequent bus service, or creation or partnering with other South Boston developments to provide shuttle services to the Silver and/or Red Lines.

Response

A comprehensive transportation analysis consistent with MassDOT and City of Boston guidelines was prepared and presented in Chapter 5, *Transportation*. Section 5.14 of the chapter offers for a comprehensive list of transportation mitigation measures.

Comment 19.3

The proponent mentions that Boston has flagged both East 1st Street and Summer Street for protected bicycle facilities, however Figure 3.5a shows an on-street bike lane.

We urge the proponent to work with the City, and perhaps provide funding for, separated bicycle facilities on both East 1st Street and Summer Street. The distance of the site from transit and a mix of retail, job and civic facilities will make bicycling a more likely mode of off-site trips than walking.

Response

The Project proposes a redesign of the section of Summer Street from East 1st Street to the DFC to accommodate vehicles and separated bike lanes along Summer Street. The Proponent will continue to work with the City to implement the bike infrastructure improvements described in Chapter 5, *Transportation* and others as the city formulates its long-term plans for bicycle improvements for the area.

Letter 20: South Boston Neighborhood Development Corporation

Comment 20.1

I personally attended several community meetings for this project. At no time did the proponent discuss a density of 1500 units and only 900 parking spaces on this site. Affordable housing should be a much higher percentage of the total development to mitigate the impact on the neighborhood. Both lower income and middle income residents are being displaced in South Boston because of rapidly increasing real estate prices. The City's minimum 13% affordability on this site is not adequate to address this critical neighborhood need.

Response

The Project will comply with the Mayor's Executive Order regarding the IDP, as applicable. All the affordable housing required by the IDP will be located on-site. In addition, the Proponent is exploring on-site opportunities for senior housing and workforce housing (residents making 70-150 percent of Area Median Income).

Comment 20.2

The proposed number of units will place a huge burden on existing roadways and public transportation. Without sufficient parking on-site, the project residents will park on the existing over-crowded streets. It is unrealistic for the developer to suggest that the traffic and parking challenges will be resolved all by themselves, because people will change their driving habits. That is not a transportation plan! Without adequate public transportation, it is simply not possible for this site to support the proposed number of units. The developer is asking for variances, but proposing little public benefit.

The site has very limited public transportation and is served by only 2 public roads. South Boston is a small peninsula. Because it is surrounded by water, vehicle access is limited. The proposed development would significantly increase the traffic burden on the existing roadways. The developer offers no mitigation for this increase and offers no plan to pay for improved public transportation. Over the past decade, significant increases in development and in the population of the South Boston neighborhood have resulted in the over-burdening the public transportation infrastructure.

This area of South Boston is located 2 miles from the Red Line and is served only by MBTA buses. While the developer claims proximity to public transportation, that statement is simply incorrect! Bus service is inadequate now, with buses so over-crowded that passengers are stranded every day. The #7 bus route to South Station does not operate on Sundays. The MBTA has very clearly stated to the City of Boston *that it does not have the resources to increase service. Therefore, the developer must pay for transportation improvements.*

Response

Refer to Chapter 5, *Transportation*, for any analysis of the Project's traffic and transportation impacts. As described in Chapter 1, *Project Description*, the Proponent proposes to fund and operate, in partnership with the MBTA, an innovative supplemental bus service that is open to anyone with a Charlie Card.

Comment 20.3

The developer proposes a 1- acre park on the site, much too small for the proposed 1500 housing units, hotel and commercial space. The park should be increased in size to 2 acres and should connect pedestrian access to the nearby Massport Thomas Butler Park, on East First Street. While the proposed development will enable public access to the waterfront, the size of the development will continue to wall-off the views to the water from the existing neighborhood, offering little improvement over current conditions.

Response

The entire waterfront including open space, paths, event areas, small group seating, amphitheater spaces, and the landscaped bluff is much larger than one acre. Unlike urban conditions where a singular green space is surrounded by buildings on all sides, the Project's public realm extends throughout the Project Site, in both interior and exterior spaces and is fashioned in a more European pedestrian scale experience that includes a variety of open space sizes, types and locations throughout the site including the large waterfront spaces, the bluff, the pedestrian only passage that runs along the Turbine Halls, the open to the public Turbine Halls themselves, the family open space and playground between Blocks A and F that connect up to Butler Park, and the various plazas and public terraces along Elkins Street extension.

The continuation of M Street directly to the water, lined with street level activity and active uses, and the creation of the new pedestrian Alley that runs from East 1st Street directly to the water, is a vast improvement over the existing walled-off fence condition that currently exists at the Project Site. The idea of the Project is to create a community destination that connects to and attracts the existing South Boston residential neighborhood long excluded from any public access and street level views to the waterfront.

Letter 21: Eileen Smith

Comment 21.1

With the Edison residential proposal, there must be a plan which provides for additional transportation and the elimination of added buses and or transportation services to the overwhelmed E. Broadway Street. The noise, dirt, traffic, planes and pollution are already at unacceptable levels. Previously, as suggested by members of the IAG, a noise monitoring system should be installed before the initiation of the Edison development. I hope you will support this issue.

Response

Refer to Chapter 5, *Transportation*.

Comment 21.2

The proposed parking accommodations for the Edison are unrealistic, appalling and unacceptable.

Response

Refer to Chapter 5, *Transportation*, for a comprehensive evaluation of the Project's parking approach.

Comment 21.3

The proposed towers should be lowered and not have offensive lighting that will affect the surrounding residential areas. These proposed high rise buildings are not welcoming to the current residential community.

Response

The height of the buildings on the Project Site have been adjusted and organized to allow the maximum amount of daylight and views to penetrate into and through the Project Site while providing the density required to activate the Turbine Halls and public realm features of the project. The stepped massing approach has moved the taller buildings to the center of the Project Site while maintaining lower height buildings along East 1st Street that are approximately the height of the existing Turbine Hall 3. The massive street wall of the existing Power Plant along Summer Street is being replaced with a variety of building heights and orientations that step back and create a strong pedestrian and retail street experience that is inviting, daylit, and protected from the winds that have traditionally hit the side of the Power Plant façade and have been driven down the narrow sidewalk along Summer Street. All the proposed buildings have been pulled back along both Summer Street and East 1st

Street to allow wide sidewalks, street trees and dedicated bike lanes along Summer Street.

Comment 21.4

It would be helpful to have a complete tour (hard hat style) of all the buildings to review their historical relevance.

Response

As discussed in Chapter 1, *Project Description*, the Proponent has and will continue to host tours of Project Site. Not all buildings are accessible to the public due to health and safety concerns.

Comment 21.5

Said proposal does not meet the standards and historical design of the neighborhood. Proposals do not include two and three family homes of which this neighborhood reflects. Proposals do not specify low income housing and or availability of over 55 housing. Development requires further clarification.

Response

Refer to Chapter 3, *Urban Design*, for a discussion of the Project's planning approach. The Project will comply with the Mayor's Executive Order regarding the IDP, as applicable. All the affordable housing required by the IDP will be located on-site. In addition, the Proponent is exploring on-site opportunities for senior housing and workforce housing (residents making 70-150 percent of Area Median Income).

Comment 21.6

The private development of the Edison is promising access to newly created streets that will remain public. Does this mean that the City will not be responsible for services such a garbage removal, snow removal, police and fire response, ticketing and towing? Therefore, who will be allowed to park on these streets?

Response

Parking on the internal streets is anticipated to include parking spaces open to the public. The final ownership of these streets will be subject to future discussions with the City.

Letter 22: Jim Coveno

Comment 22.1

The current plans remove several structures and all the solid fencing along 1st street.....Additionally the design includes the creation of two (2) streets that run perpendicular to the channel. These new street corridors while nice from a traffic and pedestrian stand point, do create massive corridors and quite possibly amplifiers of the noise generated across the channel. This needs to be fully acoustically modeled. The modeling should include not only the current maritime traffic and vehicles but also the massport projected cruise traffic and freight traffic following both terminals expansions.

This needs to be done so that the residents of this area can have reasonable assurance that the final buildout of both the edison plant and massports cruise/ freight terminals noise is not made worse in the area by the creation of the acoustical amplification corridors the edison plant project will create.

I would also request that the report and models contain real data, garnered by the placement of several recording noise meters placed in the neighborhood for a two - three month period... this will accurately establish the current ambient noise levels Thus allowing for true noise projections in the future.

There is no doubt that the Edison project will create a significant acoustical impact, these models will determine just what that impact is and if mitigation or relocation of the structures would be required to mitigate this impact.... Or it could prove that the project as designed will make the acoustics better in the neighborhood.

Response

Even with internal local roadways, the proposed layout of the building structures will provide attenuation measures as they obstruct the paths of the sound waves. Noise traveling across the site would be absorbed, reflected or diffracted by the building structures and therefore, reduce noise traveling through the Project Site.

A noise analysis was conducted to assess the potential impacts associated with the Project. The analysis was evaluated against the applicable local noise criteria. The analysis included measurements of existing ambient conditions and calculations of potential sound levels associated with the Project's operations. The results of the analysis indicate compliance with the applicable noise impact criteria. Please refer to Chapter, *Environmental Protection*, for additional information.

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13

Response to PNF Comments

This chapter presents responses to the BPDA Scoping Determination on the PNF, as well as all public comments received on the PNF. Copies of the Scoping Determination, and each comment letter received during the public review period of the PNF are included in Appendix H. Each letter from an agency, organization, or IAG member is assigned a number, as listed in Table 13-1. Over 300 letters were also submitted from members of the public. Responses to these letters are provided by topic in Section 13.1, as many of the letters expressed a similar array of concerns. Where appropriate, reference is made to the corresponding section of the DEIR/DPIR. The MEPA ENF Certificate and comments on the ENF are presented and addressed in Chapter 12, *Response to ENF Comments*.

Table 13-1 List of PNF Comment Letters from Agencies and Organizations

Letter No.	Commenter	Affiliation	Date Received
PNF Comments			
SD	Development Review Department	Boston Planning and Development Agency (BPDA)	January 12, 2018
1	Congressman Stephen F. Lynch	United States House of Representatives	August 3, 2017
2	Senator Linda Dorcena Forry and State Representative Nick Collins	Commonwealth of Massachusetts	August 4, 2017
3	Boston City Councilor At-Large Michael F. Flaherty	City of Boston	August 3, 2017
4	Lisa Wieland	Massachusetts Port Authority	July 6, 2017
5	Todd Satter	Boston Landmarks Commission	June 29, 2017
6	Carrie Marsh	Boston Parks and Recreation Commission	August 4, 2017
7	John P. Sullivan	Boston Water and Sewer Commission	June 30, 2017
8	Greg Galer, Executive Director	Boston Preservation Alliance	August 4, 2017
9	Wendy Landman, Executive Director	WalkBoston	July 7, 2017
10	Tom Caterino, President	Boston Marine Park Business Association	August 21, 2017
11	Donna Brown, Executive Director	South Boston Neighborhood Development Corporation	August 1, 2017
12	Dan McCole, President	South Boston Arts Association	August 4, 2017

Letter No.	Commenter	Affiliation	Date Received
PNF Comments			
13	Jim Coveno, David Biele, Jerry Tracy	Impact Advisory Group (IAG)	August 4, 2017
14	J.F. Bennett	Resident	August 4, 2017
15	David Biele	Resident	August 4, 2017
16	Allison Drescher	Resident	August 4, 2017
17	Eileen Smith	Resident	July 7, 2017

BPDA Scoping Determination

Comment SD.1

Development Team

(1) Names

(a) Proponent (including description of development entity and type of corporation, and the principals thereof)

(b) Attorney

(c) Project consultants and architect(s)

(2) Business address, telephone number, FAX number and e-mail, where available for each

(3) Designated contact person for each

Response

Refer to Section 1.7 of Chapter 1, *Project Description,* for details on the Project development team.

Comment SD.2

(1) Legal judgements or actions pending concerning the Proposed Project

(2) History of tax arrears on property owned in Boston by Applicant

(3) Evidence of site control over project area, including current ownership and purchase options, if any, for all parcels in the Proposed Project, all restrictive covenants and contractual restrictions affecting the Proponent's right or ability to accomplish the Proposed Project, and the nature of the agreements for securing parcels not owned by the Applicant.

(4) Nature and extent of any and all public easements into, through, or surrounding the site.

Response

Refer to Section 1.8 of Chapter 1, *Project Description,* for details on legal information.

Comment SD.3

a. An area map identifying the location of the Proposed Project

b. Description of metes and bounds of project area or certified survey of the project area.

c. *Current zoning*

Response

Refer to Figure 1.1 for a map of the Project location and Appendix C for the metes and bounds of the Project area. Section 1.5 in Chapter 1, *Project Description*, details the local zoning and regulatory controls.

Comment SD.4

The DPIR shall contain a full description of the Proposed Project and its components, including its size, physical characteristics, development schedule, costs, and proposed uses. This section of the DPIR shall also present analysis of the development context of the Proposed Project. Appropriate site and building plans to clearly illustrate the Proposed Project shall be required.

Response

Refer to Chapter 1, Project *Description*.

Comment SD.5

A description of alternatives to the Proposed Project that were considered shall be presented and primary differences among the alternatives, particularly as they may affect environmental and traffic/transportation conditions, shall be discussed.

Response

Refer to Chapter 2, *Alternatives Analysis*, for a description of the alternatives considered for the Project.

Comment SD.6

a. *Anticipated employment levels including the following:*

   (1) Estimated number of construction jobs

   (2) Estimated number of permanent jobs

b. *Current and/or future activities and programs which benefit the host neighborhood, adjacent neighborhoods of Boston and the city at large, such as; child care programs, scholarships, internships, elderly services, education and job training programs, public realm/infrastructure improvements, grant programs, etc.*

c. *Other public benefits, if any, to be provided.*

Response

Refer to Section 1.3 of Chapter 1, *Project Description*, for a summary of public benefits.

Comment SD.7

A list of meetings held and proposed with interested parties, including public agencies, abutters, elected officials, businesses, and community groups.

Response

Refer to Section 1.4 of Chapter 1, Project Description.

Comment SD.8

Names and addresses of project area owners, abutters, and any community or business groups which, in the opinion of the applicant, may be substantially interested in or affected by the Proposed Project.

Response

The Proponent received over 350 comment letters on the ENF/EPNF from interested parties. Since filing that document, the Proponent has continued to reach out to and engage with members of the South Boston community and their local representatives.

Comment SD.9

An updated listing of all anticipated permits or approvals required from other municipal, state or federal agencies, including a proposed application schedule shall be included in the DPIR.

Response

Refer to Section 1.6 of Chapter 1, *Project Description*.

Comment SD.10

A statement on the applicability of the Massachusetts Environmental Policy Act ("MEPA") should be provided. If the Proposed Project is subject to MEPA, all required documentation should be provided to the BPDA, including, but not limited to, a copy of the Environmental Notification Form, decisions of the Secretary of Environmental Affairs, and the proposed schedule for coordination with BPDA procedures.

Response

This filing constitutes a joint filing between MEPA and the BPDA.

Comment SD.11

In addition to the information required to meet the specifications of Section 80B-3 and Section 80B-4 of the Code, the Proponent must also refer to the BTD "Transportation Access Plan Guidelines" in preparing its studies.

The Proponent must address the comments outlined by the BPDA's Transportation, Urban Design and Planning Departments, included in Appendix A.

Proposed transportation network and infrastructure improvements/mitigation in the impacted area should also be listed and explained in this component.

Response

Refer to Chapter 5, *Transportation.*

Comment SD.12

The DPIR must address the comments of the BPDA Climate Change and Environmental Planning Department, included in Appendix A and must include the most up to date documents required by the Article 37/ Interagency Green Building Committee ("IGBC").

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency.*

Comment SD.13

A shadow analysis shall be required for existing and build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. during the summer and autumn. It should be noted that due to time differences (daylight savings vs. standard), the autumnal equinox shadows would not be the same as the vernal equinox shadows and therefore separate shadow studies are required for the vernal and autumnal equinoxes.

Particular attention shall be given to existing or proposed public open spaces, plazas, park areas, sidewalks, pedestrian areas and walkways, adjacent to, and in the vicinity of the Proposed Project. Design or other mitigation measures to minimize or avoid any adverse shadow impact must be identified.

The above shadow analysis shall be required for any alternative to be studied in accordance with Scoping Determination as well as the preferred development option.

Response

Refer to Chapter 6, *Environmental Protection*.

Comment SD.14

A qualitative analysis of the potential pedestrian level wind impacts shall be required for the DPIR. This analysis shall determine potential pedestrian level winds adjacent to and in the vicinity of the project site and shall identify any areas where wind velocities are expected to exceed acceptable levels, including the BPDA's guideline of an effective gust velocity of 31 mph not to be exceeded more than 1% of the time.

For areas where wind speeds are projected to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impacts shall be identified.

Response

Refer to Chapter 6, *Environmental Protection*.

Comment SD.15

The Proponent shall be required to conduct a noise assessment to analyze the potential noise impacts that may occur during construction and as well as during the subsequent occupancy/operation of the Proposed Project. The noise assessment shall include monitoring of the existing sound levels as well as calculations of future sound levels associated with the Proposed Project's mechanical equipment including, but not limited to exhaust fans, cooling towers and emergency generators. Additionally, an evaluation of the study area shall identify sensitive receptor locations, locations with outdoor activities, which may be sensitive to noise associated with the Proposed Project.

The Proponent shall be required to demonstrate that the Proposed Project complies with all applicable City of Boston, Massachusetts and Federal (including Housing and Urban Development noise standards) regulations and guidelines.

Response

Refer to Chapter 6, *Environmental Protection*.

Comment SD.16

An evaluation of potential solar glare impact on streets, public spaces shall not be required at this time, as the Proponent has stated that the building materials will include brick, painted brick, concrete, stone, wood, metal, tile, fiber cement clapboards and panels, glass, and metal canopies, and not a facade of reflective coated glass or other highly reflective materials.

Response

The Project continues to pursue a design that limits the use of large areas of highly reflective materials.

Comment SD.17

The BPDA requires that project-induced impacts to ambient air quality be addressed. An air quality analysis shall be conducted to determine the impact of pollutant emissions from combustion and mobile source emissions generated by the Proposed Project.

The Proposed Project is expected to generate just over 10,000 total daily (24- hour) vehicle trips, 4,864 trips by public transportation and 8,780 trips by walking, biking or other means. Accordingly, the Proponent shall be required to conduct a mesoscale analysis to determine whether and to what extent the Proposed Project will increase the amount of ozone precursors in the area, as well as to determine if the Proposed Project is consistent with the Massachusetts State Implementation Plan (SIP).

The mesoscale analysis is required to ensure that the Proposed Project will not adversely impact the existing SIP, which tracks how the state intends to maintain compliance with National Ambient Air Quality Standards (NAAQS) or plans for reductions in emissions to attain compliance in the future.

Response

Refer to Chapter 6, *Environmental Protection*.

Comment SD.18

The Proponent shall be required to conduct a microscale analysis to determine the effect of Proposed Project generated traffic on air quality. Additionally, the Proponent shall be required to conduct a cumulative impact analysis for comparison to the NAAQS for SO2, NOx, PM-10, and PM-2.5. This analysis shall address emissions from the Proposed Project's heating boilers, emergency generators, cooling towers, etc.

Response

Refer to Chapter 6, *Environmental Protection*.

Comment SD.19

Below are the seven reported releases of oil and/or hazardous materials regulated under the M.G.L. Chapter 21E, the Massachusetts Contingency Plan ("MCP"), together with the respective assigned Release Tracking Numbers (RTN):

- RTN 3-12817: Sulfuric acid
- RTN 3-13007: Fuel oil containing Total Petroleum Hydrocarbon (TPH), Extractable Petroleum Hydrocarbon (EPH), volatile organic compounds (VOC) and polycyclic aromatic hydrocarbons (PAH)
- RTN 3-14575: Sulfuric acid
- RTN 3-17596: Petroleum with EPH and Volatile Petroleum Hydrocarbons (VPH)

- RTN 3-22165: Lubricating oil
- RTN 3-26342: Sulfuric acid
- RTN 3-28038: Weathered oil stains containing EPH and polychlorinated biphenyls (PCB)

Per the PNF, all of the above listed releases have been addressed in compliance with the MCP. In order to achieve closure on the portion of the Proposed Project site associated with RTN 3-13007 an additional measure was required to maintain a Permanent Solution and a condition of No Significant Risk (pursuant to 310 CMR 40.0000). The remediation of the portion of the Proposed Project site associated with RTN 3-13007 required the inclusion of an Activity and Use Limitation ("AUL") restriction. The AUL allows for industrial and commercial uses, including but not limited to parking, port and maritime operations; manufacturing; assembling, storage; warehousing, and distribution uses and all activities customarily incidental thereto, and/or activities associated therewith, including but not limited to, pedestrian and vehicular traffic.

The following Activities and Uses are inconsistent with the maintenance of a Permanent Solution and a condition of No Significant Risk (pursuant to 310 CMR 40.0000) and thus are prohibited: residential dwellings; parks, playgrounds or other recreational areas; schools, inclusive of day care centers, kindergarten, or similar uses; gardening or other agricultural uses for the cultivation of edible plants destined for human consumption as defined by 310 CMR 40.0006.

The Proposed Project includes uses that have been deemed to be inconsistent with the AUL. A modification to the AUL to allow currently prohibited uses would require a determination of No Significant Risk (NSR) of harm to human health. Per, the MassDEP, additional remediation of the affected area shall be required to achieve an NSR. If capping the area of the contaminated soil is proposed to achieve an NSR, at least three feet of clean soil shall be placed over the contaminated area in unpaved areas, or one foot of clean soil in areas to be paved. Contaminated soil left in place under the cap must be separated from the clean material by a geotextile or other marker, and an AUL would be required to identify the maintenance requirements of the cap. Construction activities involving excavating or removing contaminated soil or groundwater must be conducted in accordance with the MCP, and would require additional sampling, analysis, and mitigation measures, such as dust control, all of which must be documented and submitted to the MassDEP.

The MassDEP also identified a release associated with a fuel tank (RTN 3-4519) that was located near the Proposed Project site's northeast property line. An AUL prohibiting residential dwellings; parks, playgrounds or other recreational areas; schools, inclusive of day care centers, kindergarten, or similar uses; gardening or other agricultural uses for the cultivation of edible plants destined for human consumption (as defined by 310 CMR 40.0006), was placed on the portion of land now owned by the Massachusetts Port Authority.

The Proponent shall be required to provide a comprehensive description of the proposed remediation strategy (designed to achieve a No Significant Risk (NSR) condition), including a Draft Soils Management Plan (or at a minimum generally describe how the excavation of the contaminated soils at the Proposed Project site will be conducted), so as to protect human health during the construction period. Additionally, the Proponent shall be required to provide a comprehensive description of the on-site storage, the process for determining the extent of the contamination, disposal options, measures to ensure the safe transfer of material to disposal sites and coordination with The Massachusetts Port Authority, so as to ensure that the AUL associated with RTN 3-4519 is properly maintained.

Response

The AUL associated with RTN 3-13007 was implemented because additional remediation was not possible based on the presence of nearby building foundations. Additional remediation is not needed to achieve a condition of NSR; however, if structurally possible, additional excavation of petroleum-impacted soil will be conducted to remove the AUL. Capping of contaminated soil is not anticipated at this time; however, DEP's recommendations described above will be considered should capping be warranted in the future. The Proponent understands that an AUL will be needed if a cap is used to achieve a Permanent Solution.

Management of contaminated soil and groundwater will be conducted in accordance with an MCP RAM Plan that will be submitted to MassDEP ahead of the start of excavation or dewatering work. Refer to Chapter 6, *Environmental Protection,* for additional information.

HRP is aware of the AUL associated with RTN 3-4519. If excavation work is needed near that AUL area, the requirements of the AUL will be complied with in coordination with Massport, as needed.

Comment SD.20

The Proponent must analyze project impacts on the surrounding environment that are attributable to forecasted climate conditions over the full duration of the expected life of the project. Utilizing the best available science, identify changes in the climate and environment and how such changes will affect the project's environmental impacts including the survivability, integrity and safety of the project and its inhabitants. Climate change conditions may include, but not be limited to, sea-level rise, higher maximum and mean temperatures, more frequent and longer extreme heat events, more frequent and longer droughts, more sever freezing rain and heavy rainfall events, and increased wind gusts. Include analysis of secondary and cascading impacts including more frequent and longer interruptions of utility services including electrical, gas, and telecommunication systems, and disruptions of transportation systems and networks.

The Proponent must incorporate Climate Change Preparedness and Resiliency strategies into all relevant components of the project such as Transportation, Infrastructure Systems, Environmental Protection, Urban Design, Landscape, Sustainable Development, Historic Resources, and Tidelands.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*.

Comment SD.21

The Proponent must submit an updated and final Climate Change Preparedness and Resiliency Checklist along with a written response to the IGBC. The Final Climate Change Preparedness and Resiliency Checklist and Response must be submitted in conjunction with the submittal of the Final Design and Approval package for review by the IGBC. No Final Design Approval/Article 80 documents shall be authorized by the BPDA until the final Climate Change Preparedness and Resiliency Checklist and Response have been reviewed by the IGBC.

Response

An updated Climate Change Preparedness and Resiliency Checklist is provided in Appendix B. Individual building checklists will be submitted in conjunction with the Final Design and Approval package for review by the IGBC.

Comment SD.22

In addition to the information required to meet the specifications of Section 80B-3 and Section 80B-4 of the Code, the Proponent must address the comments outlined by the BPDA's Transportation, Urban Design and Planning Departments, included in Appendix A.

Response

Comments to the specific comments from the BPDA's Transportation and Urban Design and Planning Departments are provided in this chapter and in Chapter 3, *Urban Design*.

Comment SD.23

An infrastructure impact analysis must be performed. The Proponent should continue to work with the City of Boston Public Works Department ("PWD"), Boston Water and Sewer Commission ("BWSC"), and the Boston Groundwater Trust ("BGWT") (if applicable) on infrastructure impacts.

The standard scope for infrastructure analysis is outlined in the comment letter submitted by John P. Sullivan, Chief Engineer and Operations Officer, BWSC, submitted to the BPDA on June 30, 2017, included in Appendix A.

Any proposed or anticipated infrastructure improvements/mitigation in and around the Project Site should also be listed and explained in this component.

Response

Refer to Chapter 9, *Infrastructure*. The Proponent will continue to coordinate with BWSC as design advances.

Comment SD.24

The Proponent will be responsible for preparing and publishing in one or more newspapers of general circulation in the City of Boston a public notice of the submission of the DPIR to the BPDA as required by Section 80A-2. This notice shall be published within five (5) days of the receipt of the DPIR by the BPDA. Therefore, public comments shall be transmitted to the BPDA within seventy five (75) days of the publication of the notice. A draft of the public notice must be submitted to the BPDA for review prior to publication. A sample of the public notice is attached as Appendix D.

Following publication of the public notice, the Proponent shall submit to the BPDA a copy of the published notice together with the date of publication.

Response

Notice will be published as required.

Comment SD.25

The Proposed Project must comply with the Mayor's Executive Order regarding the Inclusionary Development Policy ("IDP") executed on December 10, 2015 ("IDP"). The DPIR should include the approximate number of IDP or income restricted units to be created, the incomes of the households, and the anticipated unit mix.

Response

The Project will comply with the Mayor's Executive Order regarding the IDP, as applicable. All the affordable housing required by the IDP will be located on-site. In addition, the Proponent is exploring on-site opportunities for senior housing and workforce housing (residents making 70-150 percent of Area Median Income).

Comment SD.26

As part of the DPIR, the Proponent must include an up to date and completed Article 80 Accessibility Checklist for the Proposed Project. An Accessibility Checklist is attached as Appendix E.

Response

Refer to Appendix B for a copy of the Project's Accessibility Checklist.

Comment SD.27

The proponent utilizes BTD mode splits for South Boston (BTD Area 13) for transportation trip generation analysis. This mode share assumption assumes a high vehicular mode split and low transit and walk/bike/other trips.

Response

VHB has worked with the BPDA and BTD staff to develop updated mode shares for the various project land-uses that will reflect the future Project more accurately. Refer to Chapter 5, *Transportation*.

Comment SD.28

In addition to this analysis, the proponent should conduct a Transit Capacity Analysis with mode splits developed for the South Boston Waterfront District which present a more realistic mode split for a mixed-use development of this size in this area. The proponent should further analyze mode splits based on transportation enhancements that are anticipated with the development. This analysis should be prepared in concert with BPDA and BTD staff input. The goal of this analysis is to present realistic mode splits for the 776 Summer Street site. The analysis should also include Massport's new freight corridor traffic analysis.

Response

VHB has worked with the BPDA and BTD staff to develop updated mode shares that will reflect the future Project more accurately. Refer to Chapter 5, *Transportation*. Massport's DFC is included in the analysis.

Comment SD.29

The proponent should create a TDM program for the 776 Summer Street development. The proponent should outline steps to improve the transportation network through a TDM system, including Alternative Mode Benefits, providing information on public transit and bike options, bike parking and sharing locations, electric vehicle parking, ridesharing options, and commitment to join the local Transportation Management Association. In addition to these elements, the proponent should consider the following options:

- *Demand Reduction Programs*
- *Mobility microHUBs (Go Boston 2030)*
- *Designated Bus / Shuttle / Ride-share pick-up/drop-off areas*
- *Real-time transit and mobility information within buildings*

- *Consolidated bicycle parking, showers, and repair facilities*

These elements will ensure the 776 Summer Street community has a comprehensive set of transportation options and will help to ease the burden on the South Boston and South Boston Waterfront transportation networks.

Response

Refer to Chapter 5, *Transportation, Section 5.14 for a comprehensive list of* Transportation Mitigation Measures and TDM measures proposed by the Project.

Comment SD.30

- *The proponent should provide further details for the Summer Street/L Street corridor in the vicinity of the 776 Summer Street development site. This should include cross sections with street and sidewalk width. Proponent should consider the possibility of curb extensions on Summer Street to provide additional pedestrian sidewalk space.*
- *Proponent should evaluate transit-only (inbound and outbound) lanes on Summer Street between East Second Street and the Reserved Channel. This will enable efficient bus operations and speed transit movement to Downtown Boston and Seaport District.*
- *Proponent should evaluate providing resources for other transit priority infrastructure on Summer Street and L Street from the Boston Convention and Exhibition Center to L Street/Broadway. Additionally, the proponent should evaluate providing resources to design transit improvement lane striping for East Broadway (M Street to L Street) and L Street (East Broadway to East Second Street).*
- *Proponent should consult with Go Boston 2030 about bike infrastructure on Summer Street.*

Response

The Project will be set back from the existing property line to accommodate additional pedestrian sidewalk space. The Proponent will continue to work with the City to implement the bike infrastructure improvements and others as the city formulates its long-term plans for bicycle and transit improvements for the area. As a separate project, the City and MBTA are analyzing the potential transit improvements along the Summer Street/L Street corridor.

Comment SD.31

- *Proponent should provide details for plans for East First Street in the vicinity of the 776 Summer Street Site. This should include cross sections with street and sidewalk width. Proponent should consider the possibility of additional sidewalk space without reducing the road width, and consider strategies to do so in the area along East First Street where historic structures are proposed to be maintained, and the existing sidewalks will continue to be constricted.*

- *Proponent should evaluate transit priority infrastructure on East First Street between Summer/L Streets and the City Point Terminal site. This could include signal enhancements, enhanced bus stations, and bus lanes.*

Response

The Project will be set back from the existing property line to accommodate additional pedestrian sidewalk space. As a separate project, the City and MBTA are analyzing the potential transit improvements along the Summer Street/L Street corridor. Signal enhancements are proposed as part of the mitigation measures discussed in Chapter 5, Section 5.8.

Comment SD.32

- *Proponent should provide details on both proposed plans and sections for streets that are internal to the site, including paving materials, curb lines, drop off/pick up locations, and pedestrian/bicycle accommodations.*
- *Additionally, describe how bus or shuttle traffic will utilize the internal street network. Alternatively, describe how pedestrians will reach buses or shuttles if they are located on public roads adjacent to the site.*

Response

For information regarding internal access and circulation, refer to Chapter 5, *Transportation*. The Proponent will continue working closely with the MBTA to determine how to better help the functionality of the Route 7 or a supplemental shuttle bus during the peak hours.

Comment SD.33

- *The proponent should clarify access rights to the Dedicated Freight Corridor, including use and hours of operations, commercial vehicles, MBTA vehicles, and use by vehicles other than those affiliated with Conley Terminal.*

Response

The Proponent intends to limit DFC access to service vehicles. The Proponent will continue working with Massport to determine the future needs for Dedicated Freight Corridor access and usage.

Comment SD.34

Proponent should provide additional details on parking and loading access points. This should include details on parking garage entrances, loading dock points, and any other vehicular access points. Proponent should minimize parking and loading dock entrances by having consolidated loading and parking access where possible.

Response

The loading docks and parking garage entrances are shown in Chapter 3, *Urban Design*, Figure 3.9a.

Comment SD.35

Proponent should provide a transportation analysis for parking ratios for office and residential uses. The South Boston neighborhood experiences peak congestion and additional parking will add to this congestion and pollution levels. In consideration of parking ratios, the proponent should consider alternative modes that will be supported on the site, such as car share, transit, Mobility microHUBs, enhanced pedestrian facilities, and bike networks and accommodations. The parking ratios that the proponent should consider should incorporate market research, transportation impact, and ratios currently found in the existing residential/commercial stock of the South Boston neighborhood and Seaport District.

Response

A comprehensive parking supply and demand analysis is presented in Chapter 5, Section 10, *Vehicle Parking*. In addition to a shared parking strategy, the Proponent will implement TDM measures as discussed in Chapter 5, Section 5.14.

Comment SD.36

Potential improvements include:

- *A new light bus maintenance garage, refueling facility, crew quarters, and overnight storage capacity. This will enable the MBTA to better service the South Boston neighborhood and 776 Summer Street development site.*
- *Further improvements to the passenger waiting/drop off area currently in planning by the MBTA. This could include additional covered waiting areas, real-time arrival/departure information, public wifi, heating elements for use in winter, public art celebrating the area's history, and ticket vending machines.*
- *Bus service access from the MassPort Dedicated Freight Corridor to the City Point Terminal. The proponent should evaluate this in coordination with the MBTA, MassDOT, and MassPort.*
- *Long-term maintenance and funding for the City Point terminal, including upkeep of passenger areas and/or funding for MBTA operations at maintenance facilities.*

Response

Transit Mitigation is discussed in Section 5.11.6 of Chapter 5, Transportation. The Proponent proposes to fund and operate, in partnership with the MBTA and as an element of the Project, an innovative supplemental bus service that is open to anyone with a Charlie Card or Charlie Ticket. Due to the pressing neighborhood need for better transit service and as a demonstration of its commitment to this key

Project element, the Proponent is prepared to begin a pilot of supplemental service upon receiving its master plan approvals for the Project and the commencement of demolition in 2019, even before any occupancy of the site.

Comment SD.37

Enhanced Bus Station on Summer Street (at East First Street) - The proponent should analyze a bi-directional enhanced bus station on Summer/East First Street with real time countdown clocks, covered waiting areas, public art, and sufficient space to allow for multiple buses to pick up passengers. This station should be designed to serve both MBTA and shuttle buses.

Response

See response to Comment SD.36.

The Proponent will continue working with the MBTA to determine the future transit needs and mitigation for the immediate South Boston area.

Comment SD.38

Key consideration should be given to the following concepts:

- *First Street Bus - Working with the MBTA, the proponent should evaluate an MBTA or shuttle route along First Street from the City Point Bus Terminal to Broadway Station with the potential to continue service along A Street to South Station or over the Traveler Street Bridge to the South End/Back Bay. The proponent should assume this service operates daily with peak and off peak service.*
- *Silver Line 3 Extension - The proponent should evaluate extending the Silver Line 3 Bus service from South Station to City Point Bus Terminal via Summer Street. The proponent should assume this service operates daily with peak and off peak service.*
- *MBTA 7 Bus - The MBTA 7 bus will be a key resource for the development site by allowing access from Downtown Boston and the Seaport District to the site. The proponent should:*
  - Consider providing resources for the MBTA 7 Bus to operate with extended Monday through Saturday hours.
  - Consider providing resources for Sunday services, operating 14 hours per day.
  - Consider routing options for the 7 Bus if the SL3 is extended to City Point Terminal.
- *The proponent should study the feasibility of a long-term operating subsidy with the MBTA regarding future bus service. This operating subsidy might also gain support from other users on the Summer Street corridor as development projects begin.*

Response

See response to Comment SD.36.

The Proponent will continue working with the MBTA to determine the future transit needs and mitigation for the immediate South Boston area.

Comment SD.39

Bus Equipment - The proponent should evaluate the feasibility of purchasing additional bus equipment for the MBTA to operate between the 776 Summer Street development site, Downtown Boston, and other transit hubs. The technical specifications for this should be based on consultation with the City and MBTA.

Response

See response to Comment SD.36.

The Proponent will continue working with the MBTA to determine the future transit needs and mitigation for the immediate South Boston area.

Comment SD.40

Water Taxi Infrastructure - The proponent should carefully consider water transportation to the site. The proponent should present an analysis that determines demand, capital requirements, and operating support necessary for water transportation to the site.

Response

The presence of the DFC restricts water taxi access to the Project Site to low tide conditions, rendering regularly scheduled service infeasible. Additionally, as expressed through comments on the ENF/EPNF by DPA stakeholders, water taxi's transiting through the Reserved Channel may interfere with the marine industrial activity which is prioritized in the DPA. To limit any potential conflict with the DPA uses, the Proponent is not pursuing opportunities for water transportation to the Project Site.

Comment SD.41

Key elements for consideration include:

› *Proponent should carefully consider Go Boston 2030 bike plans and guidelines and show how these specifically impact the project.*
› *Proponent should have bike parking for each unit and sufficient bike parking for employees and visitors on the site that are in excess of existing BTD minimums.*
› *Carefully consider bike connections from Summer Street to Butler Park. This bike connection will be a critical element in allowing bike connections from Castle*

> *Island/South Boston to Downtown Boston. Access should be explored across the proponent's site rather than East First Street.*

Response

The Project proposes a redesign of the section of Summer Street from East 1st Street to the DFC to accommodate vehicles and separated bike lanes along Summer Street. The Proponent will continue to work with the City to implement the bike infrastructure improvements described in Chapter 5, *Transportation* and others as the city formulates its long-term plans for bicycle improvements for the area.

Comment SD.42

As the project is seeking approval as a Planned Development Area Master Plan (PDA Master Plan), the DPIR should include information on proposed phasing and timeline for implementation.

Response

Refer to Chapter 1, *Project Description*, for a description of Project phasing and associated phasing figures.

Comment SD.43

BPDA staff believe phasing is critical to this project, and a detailed phasing should be drafted for the DPIR including, but not limited to, preliminary timeline for demolition, construction, and discussion of intermediate steps.

Response

Refer to Chapter 1, *Project Description*, for a description of Project phasing and associated phasing figures.

Comment SD.44

Will demolition also be strategically phased or done at one time? Is there an interim use strategy for temporarily vacant sites? Will they be planted or used to provide temporary amenity spaces for the neighborhood? Of particular interest is the timing of the opening of the turbine hall and waterfront, and auxiliary open spaces. While understanding the complexity of a project of this size, and the potential for future changes to the phasing, making the road and green space connections from the existing neighborhood to the waterfront is anticipated as one of the major contributions of the project and should be included in the DPIR.

Response

Refer to Chapter 1, *Project Description,* for a description of Project phasing and associated phasing figures.

Comment SD.45

Extending open space connections through the site to the proposed waterfront open space and beyond should be studied in the next phase of design.

Response

The Project has an overall emphasis on public open space and connectivity as demonstrated on Figures 3.1, 3.2, and 3.6. The engagement of the waterfront is critical in the design for both aesthetics and performance. The designated open spaces throughout the Project Site provide a network of connectivity linking the waterfront to everyday use by residents and visitors. The waterfront also adds to the ecological performance of the Project Site, making stormwater management and resilience planning visible.

Comment SD.46

Existing and proposed grading should be shown on the site plans to help explain the complex terrain and how the project proposes to work with it.

Response

The Project takes an overall approach of working with existing grade to create upland and lowland areas on-site. These topographically separated zones are connected via waterfront steps and ramps up to M Street Extension and via Elkins Street Extension. At the waterfront, the landscape is stepped up from behind the line of the existing seawall to its highest elevation of +15 (NAVD88) where it meets the Turbine Halls and waterfront face of Building D, and the Turbine Halls. Existing and proposed grading is shown on Figure 4.2 and 4.3.

Comment SD.47

Consider how smart grading can be used to hide uses like parking or service, while also anticipating and addressing climate change.

Response

Grading at the waterfront anticipates future increases in sea level, employing a stepped strategy which allows public access to the waterfront landscape and closer views of the water via boardwalks at lower elevations and larger hardscape areas at higher elevations adjacent to the Turbine Halls and new waterfront buildings.

Comment SD.48

Consider ways to mitigate or embrace the visual impact of the Dedicated Freight Corridor on the proposed waterside open space or to signal the presence of the public open space to areas of increasing density like the Raymond L. Flynn Marine Park.

Response

The waterfront open space both embraces the industrial character of the DFC, and offers spaces which are buffered from its impacts. At the northeastern edge, a stepped amphitheater integrated into the grade change from waterfront to upland is buffered from the DFC via a sloped landscape with ground vegetation and trees which both obscure the corridor from view and focus the view toward the waterfront and Downtown Boston. At the Northern edge of the site the public space embraces the presence of the DFC, creating large gathering spaces and public boardwalks right at the waterfront and focusing views out toward it and under it toward the water. Renovation of the existing pump houses adjacent to the DFC celebrate the industrial nature of the waterfront and allow people access to the area. The existing, industrial condition of the pumphouses will be retained with only minor renovations to rails and deck surfaces.

Lighting on industrial remnants such as the gantry and the face of the Turbine Hall celebrate the waterfront and signal its presence from across the reserve channel and Summer Street. Refer to Chapter 3, *Urban Design*, for additional information.

Comment SD.49

Begin to define the programming uses for the open spaces, for example tot lots or dog parks that will serve the resident population on site, as well as in the surrounding neighborhood, including where these and other proposed program ideas might be located. Diagramming both the site and connection to the larger context will help clarify ideas around these issues.

Response

The Project provides ample opportunity for both passive and active outdoor recreation. The waterfront open space is interconnected to the site and open to the larger community as a post-industrial reclamation project. The site includes a proposed children's play garden open for neighborhood use, a large terrace and plaza space, an art tunnel and many small entry plazas. The Project Site is adjacent to an existing dog park which we connect to and enhance with our open space network. Additionally, the performative quality of the open space mitigates existing conditions in the region, including the urban heat island effect and stormwater management.

Comment SD.50

In tandem with the development of a more detailed open space plan, the proponent should clarify the relationship of open space to Chapter 91 requirements and their specific impact on the proposed project.

Response

The waterfront open space celebrates the history of the site while engaging with the ecology to address shoreline stabilization. The design includes large wetland areas for tidal flooding, stormwater management and sea level rise as well as structural support like gabions and piles for the seawall. As described in Chapter 8, *Wetlands and Waterways,* the open space commitments exceed base requirements under Chapter 91.

Comment SD.51

See Diagram 2 Open Space & Ped. Network for comments on connectivity from the site.

Response

The comments provided by the BPDA have been considered and evaluated at length in coordination with city staff. The Project Team looks forward to continuing to work with the City to refine this design.

Comment SD.52

Furthermore, the internal network of streets should also act as green infrastructure, connecting open spaces to each other, as well as performing a resiliency function.

Response

The two internal streets are designed as pedestrian-focused extensions of the public realm. Together, they connect the waterfront open space to the retail areas at the interior of the Project Site, the play area in the southeast corner and to the neighborhood to the south. The north-south extension from M street toward the waterfront is planted along one side with street trees placed within a permeable paving zone which acts to collect stormwater and decrease runoff from the upland areas. The east-west street is not planted in order to retain its industrial character however, it, and the pedestrian alley running perpendicular to it along the Turbine Hall include areas of permeable paving to reduce runoff and improve stormwater management.

Comment SD.53

The introduction of a new shared street at the northern edge of the site should be considered to enhance access into the site near Powerhouse Street (between the *proposed buildings and the open space along the channel). It could help to create an animated edge, provide placemaking amenities for local and future residents, and provide opportunities to service the commercial/retails needs proposed on the ground floors (not including loading).*

Response

The Project Team considered placing a street at this location and determined that the benefit provided by the presence of the street was lesser than the negative impacts upon the public realm at the waterfront. In order to facilitate access, drop-off areas were added at the waterfront along Summer Street and at the end of M Street Extension. Also, the waterfront area has been designed with a 30-foot wide paved area with vehicular loaded paving to assist with servicing retail areas.

Comment SD.54

Understanding the scale of the project and its relationship between the finer-grained density of the neighborhood to the south and the South Boston Waterfront District to the north, should be studied through three-dimensional massing and a physical model.

Response

The development team has built the Project and the Project Site both in a digital three-dimensional model as well as physical site model at a scale that can be used to understand the relationship to the surrounding context. The digital model has been used for 'walk-throughs' of the site with the BPDA staff.

Comment SD.55

Understanding the physical connections between the neighborhood and the development site will also include more development of the internal transportation network. This should include diagrammatic understanding of primary and service routes.

Response

Refer to the transportation and circulation diagrams provided in Chapter 3, *Urban Design*, and Chapter 5, *Transportation*.

Comment SD.56

Currently the block sizes proposed are quite large, essentially similarly sized superblocks. Look at breaking these down into smaller units of more varied size.

Response

The development massing and circulation through the Project Site has been adjusted to include new pedestrian paths and connections. Block C has been broken up at the ground level and now includes a retail passage that connects Summer Street to the retail alley running along the Turbine Halls. Additionally, the massing of the buildings along Summer Street have been pulled back and rotated to create more public plazas and openness at scale more in keeping with the pedestrian character desired for the development. Building mass has been replaced with new plazas and terraces along Elkins Street and a more defined pedestrian-only open space that connect up to the Thomas Butler Park area has been created between Blocks A and F.

Comment SD.57

Currently there are only two vehicular roads shown in the development plans. This may not be sufficient for the build out proposed. Additional service streets or mixed service/nonautomobile use streets would be a useful addition. More mixed use roadways would allow the site to be broken down into more legible units. Diagrams of proposed automobile, service, pedestrian, and bicycle routes through the site and to the waterfront should be included in the DPIR. While main routes from the neighborhood to the waterfront should be welcoming and direct, there should also be secondary routes that will take up some of the use pressure.

Response

M Street, Elkins Street, and the service road between Blocks F and H are the three major vehicular roads on the Project Site. Off hours commercial service vehicles will be allowed along the Pedestrian Alley adjacent to the Turbine Halls and emergency vehicle access has been planned and will be accommodated along the waterfront and other primarily pedestrian locations. The remainder of the internal circulation routes in and through the Project Site will be geared toward pedestrians and bikes.

Comment SD.58

Provide information on how the location where Elkins Street passes through the turbine building was chosen and any other options. Is the connection to Elkins Street the most important element that should be controlling how the Summer Street length is broken up? Would Elkins Street would be more useful if it were to be extended through to connect directly with the City Point Bus Terminal (see diagram 3)? The exact location of this important east-west connection should be further considered to address all of these goals.

Response

The Elkins Street Extension connection to Summer Street was established in coordination with Boston Transportation Department to align with the current Elkins

Street intersection. From that point, the pass-through was determined based upon the allowable sweep of the road, the creation of adjacent open spaces, and the structure and column spacing of the existing Turbine Hall 2.

The connection to the City Point Bus Terminal is currently pedestrian-only as carrying a vehicular road up the additional grade both in height and width would have eliminated the possibility of a greenspace and playground between Buildings A and F. The front gate to the City Point Bus Terminal is also at the face of East 1st Street and is one-way enter only. A road way connection from the Project at that location would require either turning the bus depot entrance into a two-way intersection or allowing public vehicles to traverse the entirety of the bus terminal through to the exit on the opposite side of the dog park.

Comment SD.59

Would a connection to a limited use street at the south of the proposed waterfront open space be more useful?

Response

The Project Team believe that the waterfront use and retail programs in the Turbine Halls and facing the waterfront are best served by a pedestrian only experience. Service is provided to retailers along Elkins Street allowing the waterfront and the alley adjacent to the Turbine Hall functions to be pedestrian oriented.

Comment SD.60

Look at the street walls explicitly, not only along Summer and East First Streets, but also on the internal street of the site. This should be explored through digital and physical models. Currently the corner of Summer and East First Street is not well defined by buildings so the development has the potential to set up a relationship with the neighborhood that will guide future development. Likewise, the poorly defined edge on the north side of East First Street is likely to remain, so understanding how to bridge between a dense development and an open bus yard and terminal will require looking at the street wall in its context beyond the site.

Response

We have reviewed the comments provided by the BPDA Urban Design and Planning staff and have refined both the massing and the edges of the Project along Summer and East 1st Streets to be much more inviting and defined than in the ENF/EPNF massing.

Comment SD.61

The Boston Complete Streets guidelines should be the basis for developing sidewalk design at the edges and within the site. Look to the newer areas along East First Street *and how to tie into those to create a consistent street edge and tie into the systems that have been already created, as this is could be another desire line to the South Boston beaches and Castle Island. Comfortable sidewalks with trees and furnishing zones could go a long way to blending the edge of the proposed development. Is there a way that the idea of an Arts and Industry district can be carried into the edge condition?*

Response

The new street and sidewalk design has taken the recommendations above into account and now has well defined tree-lined sidewalks along both Summer and East 1st Streets as well as along M Street out to the waterfront. Bike lanes have been included within the site along M Street to Elkins and down Elkins to Summer Street. Artful street furnishings and sitting areas will incorporated into the final design of the sidewalks and street character.

Comment SD.62

The entrance off of Summer Street into the proposed waterfront open space needs to be open and welcoming to the general public. The proposed site plans show an idea about a wide opening to the site at that location; more development of the waterfront plan showing what might happen there is needed to understand if that really is an open and welcoming space. Likewise, what happens in the area between the small document building and the Dedicated Freight Corridor. There are significant grade changes there that could be used to make a special area along the Summer Street Bridge.

Response

The entrance to the waterfront open space has been redesigned based upon recommendations by the BPDA Urban Design staff and the Boston Transportation Department. A proposed shuttle/UBER drop off loop has been removed in exchange for wider sidewalks, and a linear drop-off zone in front of Block D and the open space entrance. Working with our signage and Landscape architects, this area will have environmental graphics indicating the open space and programmatic functions along the waterfront as well as seating areas and landscaping.

The design and development team has met with Massport to discuss a mutually beneficial approach to the design of the landscape and entrance procession between the small administration building and the entrance to the Massport DFC along Summer Street. New signage and placemaking will clearly indicate the preferred movement of pedestrians, cyclists and motor vehicles towards the new waterfront open space area and the vehicular entrance of the development farther down Summer Street to prevent mistaken turns into the DFC by both cars and pedestrians.

Comment SD.63

See Diagram 3 Street & Block for comments on layout.

Response

The comments provided by the BPDA have been considered and evaluated at length in coordination with city staff. The Project Team looks forward to continuing to work with the City to refine this design.

Comment SD.64

As noted above, at least one physical site model of the development area and context will be needed. We encourage an additional larger scale study model more closely showing the development area and immediate context to help explore ideas about massing and understand grade issues. Provide finer grain information about the site layout including diagrams of proposed retail frontage, building entrances and lobbies, subsurface parking entrances, and loading entrances.

Response

The Project Team has produced both digital and physical models with which to review and study the proposed development within its surrounding context.

Comment SD.65

Provide more information about the proposed retail mix. Is there enough neighborhood demand to support retail along Summer Street and in the turbine building or will this need to be destination retail? What studies have been done on the amount and type of retail and the type of demand? How will the retail support the Arts and Industry District idea?

Response

The Project Team has been working with the architects and with retail consultants to plan for smaller scale unique retail vendors that will be in demand both by residents and the surrounding South Boston residential community. No big-box destination retailers are being considered. The ground floor plans and images of the retail locations and Turbine Halls indicate this smaller scale intention.

Comment SD.66

Provide more information about the redevelopment of the turbine halls. While this is structured as the physical and conceptual center of the development, information on how to reuse this large building is still needed in the DPIR. See the comment section on phasing for questions about when in the development this piece will fit. Is there an alternative to saving all three turbine halls? For example, would removing the middle *building offer more opportunity for east-west movement on the site and the possibility of a different kind of open space on the site (see Diagram 2)? Is there a specific subsidy in the pro-forma required to finance the retention of the turbine halls? It appears that this opportunity to create an open space somewhere in the center of the turbine halls has been explored in figure 3.9b in the EPNF. A central open space could help open up the most densely built part of the site, contribute to the publicly oriented programming imagined for turbine hall, and allow for flexibility in locating the Elkins street extension.*

Response

Please see plans and interior renderings in Chapter 3, *Urban Design*, for the programmatic approach for the renovation/preservation of the Turbine Halls and the design approach for the pass-thru of Turbine Halls 2. The preservation and repositioning of the grand Turbine Halls represents one of the greatest public benefits both for the neighboring South Boston community as well as for the greater City of Boston and New England. The development team proposes to mitigate the concerns mentioned above by removing the building massing indicating in the ENF/EPNF that was previously running along Elkins street and creating new open spaces and smaller urban terraces on either side of the connected Turbine Hall proposed pass-thru. This new approach will be able to maintain the historic grain of the three large connected turbine halls, while providing both unique spaces on either side of the pass-thru in the form of a large exhibition space on the north side and a small Museum of Industry on the south (See the attached renderings of the pass-thru). A new public courtyard in front of the now preserved 1898 Building combined with two smaller plazas on either side of the museum space will provide safe and convenient gathering spaces for children and groups touring the Turbine Halls and residents and visitors wandering through the district.

Comment SD.67

More information about the existing buildings and site will be useful. Reviewing the Historic Resources section of the PNF, it seems likely that the turbine halls were built as complete buildings with exterior walls before the additions were added to the sides. Has there been any investigation as to the condition of those exterior walls? Does the exterior masonry exist or will it have to be reconstructed? It is noted that additional structural exploration is being done, particularly of the original buildings at the northeast of the site. Providing that report would be useful for further understanding of the decisions driving which buildings to keep and which to demolish. There is an interesting and important history of energy generation on the site. What opportunities are there in the development for continuing this history? Does the site lend itself to wind, solar, geothermal, or other power generation in a way that would support the Arts and Industry District idea?

Response

Refer to additional information provided in Chapter 10, *Historic Resources*. The Project Team is examining opportunities for utilizing alternative energy sources and will continue to do so as it works towards a more developed plan.

Comment SD.68

Many of the planning process comments noted an interest in the development scaling up as it moves away from the existing neighborhood. The DPIR should address massing of the buildings along East First Street as they relate to the existing residential neighborhood and to the rest of the development. This could be done with digital models, physical models, and/or diagrams. Look at adding complexity to the massing strategy that can be built upon in the architectural design. It might be useful to include the massing of the existing buildings to compare the proposed project to.

Response

Both digital and physical models have been used to help refine the massing along East 1st Street and throughout the Project Site. See comment response 17.7 below for massing strategy along East 1st Street.

Comment SD.69

Provide more explanation and modeling of the proposed massing including renderings from Columbia Point, South Boston Waterfront, and I-93. The existing 1960s era power plant is very visible from quite a distance and acts as a locator/landmark for South Boston. What does the group of proposed high rise buildings look like from a distance (as well as closer to the site)?

Response

Refer to Chapter 3, Urban Design, for updated renderings.

Comment SD.70

Comments during the public planning process mentioned wanting a variety of heights on the site, not exceeding the height of the existing 1960s power plant. Currently the PNF shows three high-rise buildings at around 200 feet and another at 170 feet. This is more height than was anticipated in the planning process. Look at bringing more variety to the site to avoid a "flat-top" appearance.

Response

The heights, shapes and orientations of the proposed buildings have been adjusted to provide more diversity to the massing. Refer to Chapter 3, Urban Design.

Comment SD.71

Use long distance views and shadow studies to help guide where height should be on the site. Include these views and studies in the DPIR. Note that any tall residential building should be set well back from the east edge of the site to provide a buffer from the industrial uses.

Response

The massing of the buildings has been adjusted so that taller buildings are set back from the street and property lines on all sides of the site including both the east and west edges. Refer to Chapter 3, Urban Design.

Comment SD.72

Would concentrating the height closer together work better? Would a reduction in units allow for buildings more in scale with what is on the site now? Further variation in the building podiums should also be explored.

Response

All of the above suggestions have been considered and designed into the massing and building arrangements. Please see attached plans, massing diagrams and street views. Refer to Chapter 3, Urban Design.

Comment SD.73

See Diagram 4 Height Zones for comments on height and setback.

Response

The comments provided by the BPDA have been considered and evaluated at length in coordination with city staff. The Project Team looks forward to continuing to work with the City to refine this design.

Comment SD.74

As noted above, more information on the site grades is needed. Provide more information on the relationship of the turbine hall and Blocks E and G. What is the connection shown in the sections? How does it help or hinder passage through the site? Are raised open spaces, private or otherwise, planned on the site? Locations should be clearly located in open space plans.

Response

The revised massing and building footprints indicate a publicly accessible terrace fronting Elkins Street in front of Building G (1898 Building) and a two-story connecting building between Building G and Building E. The terrace is set at the ground floor grade of buildings G and E, slightly higher than Elkins Street that slopes down from M Street toward the Turbine Hall pass-thru. As indicated in the rendering of the terrace along Elkins, there are stairs, ramps and planters that bring pedestrians up to the terrace from the Elkins Street sidewalk.

The use of the 2-story building that sits between G and E is not yet determined but has been designed to allow both programmatic as well as circulation flexibility. It may be used by either building depending upon programmatic need or may be shared by both, allowing movement from one to the other at one or both levels depending upon function.

Comment SD.75

The results of the shadow impact analysis, as presented in the EPNF, do not allow for an adequate assessment of the potential net new shadow. Accordingly, the Proponent shall be required to generate new illustrations, one to a page, clearly depicting the net new shadows as well as the existing shadows. Net new shadows shall have a clear graphic distinction and for purposes of clarity, new shadows shall be shown in a dark, contrasting tone distinguishable from the existing shadows. This shall be required for both the existing and build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. during the summer and autumn.

The shadow impact analysis must examine the existing shadow and incremental effects of the Proposed Project on existing and proposed open spaces, plazas, park areas, sidewalks, pedestrian areas and walkways, adjacent to, and in the vicinity of the Proposed Project, including but not limited to Christopher Lee Playground, Medal of Honor Park, the Flynn Cruiseport (all of which must be clearly identified on the above described illustrations). If deemed necessary, design or other mitigation measures to minimize or avoid any adverse shadow impacts must be identified and described.

The shadow analysis results shall be provided in both animation and graphic representations, so as to best understand the extent to which shadows from the Proposed Project are anticipated to affect the overall shadow conditions both on the Proposed Project site as well as within the surrounding area.

Response

Refer to Chapter 6, *Environmental Protection,* for updated shadow studies.

Comment SD.76

A quantitative (wind tunnel) analysis of the potential pedestrian level wind impacts shall be required, as the Proposed Project buildings are designed to be up to 220 feet in height. The analysis shall determine potential pedestrian level winds adjacent to and in the vicinity of the Proposed Project and shall identify wind velocities expected to exceed acceptable levels, including the Boston Planning and Development Agency's *(the "BPDA") guideline of an effective gust velocity of 31 miles per hour (mph) not to be exceeded more than 1% of the time.*

The quantitative analysis ("the analysis") shall determine the suitability of particular locations for various activities (e.g., walking, sitting, eating, etc.) as appropriate. Particular attention shall be given to public and other areas of pedestrian use, including, but not limited to, entrances to the Proposed Project and adjacent buildings, sidewalk adjacent to and in the Proposed Project buildings, and parks, including but not limited to the Christopher Lee Playground, Medal of Honor Park, the Flynn Cruiseport, plazas, and other open spaces and pedestrian areas near the Proposed Project.

The analysis shall evaluate the following conditions:

1. No-Build: The existing condition of the Proposed Project site and environs to establish a baseline condition.

2. Build Condition-The Proposed Project as described in the EPNF.

3. As-of-Right-The Zoning Compliant Configuration.

4. Alternative Build Condition-Any alternative development concept to the Preferred Build Condition required to be studied.

Winds shall be measured in miles per hour (mph) and for areas where wind speeds are projected to be dangerous or to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impact(s) shall be identified and, if appropriate, tested.

The Proponent shall be required to submit a proposed wind sensor point plan to the BPDA for review and approval before the wind studies are performed. Areas of particular interest shall include the streets at the edge of and within the Proposed Project development as well as along the preserved turbine buildings and waterfront area.

Response

Refer to Chapter 6, *Environmental Protection.*

Comment SD.77

The Proponent shall be required to conduct a noise assessment to analyze the potential noise impacts that may occur during construction and as well as during the subsequent occupancy/operation of the Proposed Project. The noise assessment shall include monitoring of the existing sound levels as well as calculations of future sound levels associated with the Proposed Project's mechanical equipment including, but not limited to exhaust fans, cooling towers and emergency generators. Additionally, an evaluation of the study area shall identify sensitive receptor locations, locations with outdoor activities, which may be sensitive to noise associated with the Proposed Project. As the Proponent has indicated that the Proposed Project is in the early stages *of the design process, specific technical specifications of mechanical equipment are likely not to be available and thus the manufacturer's sound level data for mechanical equipment shall be substituted. Reference sound levels for the exhaust systems shall be based on data of equipment of similar type and size.*

The Proponent shall be required to demonstrate that the Proposed Project complies with all applicable City of Boston, Massachusetts and Federal (including Housing and Urban Development noise standards) regulations and guidelines.

Response

Refer to Chapter 6, *Environmental Protection.*

Comment SD.78

An evaluation of potential solar glare impact on streets, public spaces shall not be required at this time, as the Proponent has stated that the building materials will include brick, painted brick, concrete, stone, wood, metal, tile, fiber cement clapboards and panels, glass, and metal canopies, and not a facade of reflective coated glass or other highly reflective materials.

However, should the Proposed Project design change and include the use of reflective coated glass or other highly reflective materials which have the greatest potential for the creation substantial solar heat gain and/or solar glare, the Proponent shall be required to conduct a solar glare analysis.

Response

See Response to Comment SD.16

Comment SD.79

The BPDA requires that project-induced impacts to ambient air quality be addressed. An air quality analysis shall be conducted to determine the impact of pollutant emissions from combustion and mobile source emissions generated by the Proposed Project.

Response

Refer to Chapter 6, *Environmental Protection*.

Comment SD.80

…the Proponent shall be required to conduct a mesoscale analysis to determine whether and to what extent the Proposed Project will increase the amount of ozone precursors in the area, as well as to determine if the Proposed Project is consistent with the Massachusetts State Implementation Plan (SIP).

Response

Refer to Chapter 6, *Environmental Protection*.

Comment SD.81

The Proponent shall be required to conduct a stationary source analysis to ensure that the Proposed Project will not adversely impact air quality in the area. The stationary sources that may contribute to impacts are typically combustion sources such as heating boilers, emergency generators, cooling towers, and garage vents.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment*.

Comment SD.82

The Proponent shall be required to provide a comprehensive description of the proposed remediation strategy (designed to achieve a No Significant Risk (NSR) condition), including a draft Soils Management Plan (or at a minimum generally describe how the excavation of the contaminated soils at the Proposed Project site will be conducted), so as to protect human health during the construction period. Additionally, the Proponent shall be required to provide a comprehensive description of the on-site storage, the process for determining the extent of the contamination, disposal options and measures to ensure the safe transfer of material to disposal sites.

Response

Refer to Response to Comment SD.19

Comment SD.83

The Proponent should establish a long term sustainability plan that includes a green building commitment of LEED Gold for the majority of the buildings with at least one building achieving LEED Platinum and no more than one building achieving LEED Silver or less. Current filings should utilize the LEED v4 Rating System. Given the scale of the project, multitude of buildings, and impact on the surrounding neighborhood, the project shall also achieve LEED for Neighborhood Development (LEED ND) Gold.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*.

The Proponent will be pursuing a multi-pronged approach to building a sustainable site and buildings within it. First, the Project Team will develop a sustainable strategy, called a Sustainability Masterplan which will help to identify key issues of long term sustainability which will be met by each project within the development.

Second, the team will be actively pursuing LEED strategies: we are evaluating the best approach for the site, which could include a LEED for Neighborhood Design approach, LEED Campus for Multiple Buildings approach, and/or individual LEED application with accordance in site credit approaches. The achievement for certification will be based on the best credits applicable to each type of building. Before committing to level, we will need to evaluate the approaches for site design (water specifically), materials, and HVAC systems. When these are evaluated a commitment can be made for certification levels.

Comment SD.84

At the initiation of individual building review and coinciding with initial building urban design discussions, the Proponent is to provide a building specific Article 37 Green Building "Initial Filing" including a Sustainability Narrative, LEED Checklist, and Climate Change Checklist. While the Proponent may employ the LEED Campus and Multiple Building approach, a separate submission must be provided for each building. Please review all Article 37 Submission and Review requirements.

Response

The Project Team will be submitting the appropriate documents and analysis for each building on the Project Site.

Comment SD.85

The Proponent and project team should employ a comprehensive approach to site and building design including integrated project planning and delivery.

Response

The Project Team will be pursuing an integrated approach to the design development for the entire site, as well as for each building. This helps the design team align goals and create a best end-product in the design and operation of each building.

Comment SD.86

Initial building designs should, at minimum, target low carbon performance and anticipate any future adaptations necessary for achieving net zero and net positive carbon performance. The Proponent should prioritize passive strategies including building siting, orientation, massing, and envelope design. Active systems should be sized for present and future climate conditions and readily adaptable to performance upgrades.

Response

The Project Team is working to develop concepts which demand less carbon by using solar gain, shading, orientation, and envelope design to maximize natural and passive elements of energy. In doing so, we will strive to achieve a base reduction in mechanical energy use, and then supplement with mechanical requirements as needed by the building type and climate in which the buildings will be functioning.

Comment SD.87

The building and site design should include new products and innovative strategies for engaging residents and occupants in reducing adverse project impacts including energy and water use awareness, consumer waste reduction, use of low and no emission travel modes, and environmental stewardship.

Response

The building and site design are in process and are actively evaluating the controls strategies, pedestrian and alternative vehicle approaches for the site. The Project Team is conducting research into occupant-engagement strategies including passive diffusing, active occupant thermal comfort, as well as design analysis for HVAC and envelope concepts.

Comment SD.88

The Proponent should include onsite clean and renewable energy solutions including combined heat and power systems which offer improved energy efficiency, cost savings, and reliability during hazard events and interruptions in service from larger grid outages.

Response

The Project Team is evaluating the options for providing renewable energy and CHP on-site. The balance for utilizing CHP effectively relies on the draw for thermal energy power, which we are evaluating as the design continues.

Comment SD.89

Given the scale and use mix of the proposed development, the Proponent should assess the opportunities and benefits of smart street infrastructure including distributed thermal and electrical energy, and central energy facilities.

Response

The team will be evaluating the options for microgrid technologies, district level energy, and efficient heating and cooling demand and distribution.

Comment SD.90

The proponent should also consult with Massport to determine if there is potential for energy solutions that could service both the Conley Terminal and the 776 Summer Street project.

Response

The Proponent will continue to explore this recommendation, however based on initial review the benefits of a combined energy solution do not seem to outweigh the considerable costs, particularly given the phased approach of the Project.

Comment SD.91

Project landscaping and stormwater infrastructure should assess potential impacts from the 10-year 24-hour design storm event.

Response

The Proponent will assess potential impacts from the 10-year 24-hour design storm event and will coordinate stormwater management with the BWSC. The Proponent intends to reduce peak storm event flows and volumes using on-site infiltration and bio-retention systems.

Comment SD.92

Project planning should identify immediate (design condition) and future adaptation strategies for managing at least 40" of sea level rise and include an additional 12" of freeboard for all buildings and include an additional 24" of freeboard for any critical facilities and infrastructure and ground floor residential uses.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency.*

Comment SD.93

As the project will be functional through 2100, and given further anticipated increases in sea level rise beyond the end of the century, the proponent should review options for designing flexibility into new buildings and public realm infrastructure to accommodate future changes in extent of climate hazards, such as allowing greater floor to ceiling height on ground floors to allow for additional ground floor elevation, or designing the second floor as a possible, future first floor to accommodate potential increases in area grade elevation.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*.

Comment SD.94

Open space resources, tree canopy, and building materials should also be evaluated and discussed in relation to mitigating heat island effect and managing extreme precipitation events and stormwater. A robust and extensive tree planting and preservation program, aligned with the goals of Urban Forestry, should be included in the Project design, as the Urban Forest is an important part of the City's landscape. It is made up of all the public trees in Boston, along with the City's shrubs, grasses, ground cover, soil, and waterways.

Response

The Project includes street tree plantings along Summer and First Street in compliance with BTD's complete streets guidelines. These trees continue along the North-South interior street (M Street Extension). In all areas, trees are planted within a permeable paving zone which assists in reducing runoff and managing stormwater. Species chosen will be salt tolerant trees approved for Boston streets. Trees will be planted in a continuous soil area below the hardscape in order to provide sufficient soil volume for healthy tree growth. At the waterfront, a sloped area of ground cover and trees buffers the eastern edge of the site from the DFC and stormwater gardens along the back of the existing seawall divert runoff from inland areas and act as a buffer between the DFC and the public realm.

Comment SD.95

For large-scale projects:

1. For any projects at or above 1.5 million square feet of floor area, the project will be required to incorporate a District Energy Microgrid, to the extent that the project buildings located on contiguous properties or clustered close together. For projects that are primarily residential, complying with this requirement may entail cooperation with a district energy provider that can sub-meter individual residential units.

2. For projects at or above 1.5 million square feet of floor area, and/or adding or altering road surface in excess of .5 miles of roadway, the project will be required to incorporate a Telecommunications Utilidor.

***For all Projects at or above 100,000 square feet of floor area**:*

3. The project will be required to incorporate in-building rainwater capture and reuse.

4. For all projects that are subject to BWSC stormwater mitigation requirements, require Green Infrastructure installation.

5. For all projects where traffic signals need to be installed or phasing and timing changes are required due to traffic mitigation, include Adaptive Signal Technology as part of the TAPA agreement.

6. For all projects making right-of-way improvements which are responsible for Street Light installation or a contribution toward the same, all street lights should have additional electrical connection and data service access.

Given that the L Street Station Redevelopment exceeds all of these thresholds, the BPDA looks forward to working with the proponent to explore how the project can address each of these Smart Utility Technologies.

Response

Refer to Chapter 9, *Infrastructure*.

Comment SD.96

The project proponent should specify the use and design measures that will be implemented to prevent conflicts between the development project and the adjacent Massport Conley Terminal and the Designated Port Area.

Response

Refer to Chapter 1, *Project Description*.

Comment SD.97

The proponent should address several measures to buffer the development from port related operations. Residential uses on the site should be located on parcels away from the DFC on the north side of the property and appropriate consideration should be given to uses adjacent to the industrial and MBTA transit related parcels to the east. Further use related mitigation measures for residential components of the project should be discussed, including apartment-only units with one-year lease provisions, or condominium ownership units restricted to residential buildings adjacent to existing residential and non-port related property along the East First Street and Summer Street corridors. Use restriction language should also be discussed, which provides notice as part of all property deeds and leases that tenants or those purchasing property at the subject site recognize they are located adjacent to a state established Designated Port Area with cruise ship, cargo, and waterfront industrial activities, which produce vehicular, mechanical, and vessel noise, vibration, and odors, as well as lighting and hours of operation consistent with 24/7 waterfront commerce and industrial activities. Design elements to mitigate impacts such as noise reducing windows and landscape buffering should also be addressed. The proponent should also more fully discuss buffering elements along the waterside park to address visual and noise impacts associated with the DFC. Elevation of the park element could assist with *buffering as well as improving the site's capacity to limit inundation for sea level rise and future coastal storm events.*

Response

Refer to Response to Comment SD.96.

Comment SD.98

Through the early public planning process for the project site the adaptive reuse of Turbine Hall has been an area of strong community interest. The proponent has emphasized the rehabilitation of Turbine Hall as a primary objective of the project due to its architectural significance and capacity to provide for many civic, arts, cultural, and local retail uses. Given the intent of having the structure serve as a public destination and focal point of the project, more thought should be given to how the spaces will be organized and potentially programmed, both within and around the hall buildings. Given the size and scale of Turbine Hall the proponent should discuss whether it is feasible to rehabilitate all the component buildings or phase the restoration as the project site is developed.

Response

Refer to Chapter 1, *Project Description*, for a description of the proposed phasing plan and phased rehabilitation. As previously noted, the Project has now committed to reusing the 1898 Building.

Letter 1: Stephen F. Lynch

Comment 1.1

This proposal raises many serious neighborhood concerns including density, traffic, public safety and parking. There are also overarching maritime and environmental issues that need to be addressed.

Notably, this proposal would add approximately 1,500 additional housing units as well as retail and commercial shops and a possible hotel, it would introduce approximately 10,000 to 20,000 additional vehicle trips to this area each day and completely overwhelm the neighboring residential area unless thoughtful and careful countermeasures are included. Currently such mitigation has not been suggested.

Response

The revised Project addresses these concerns in several different ways: by reducing the proposed number of housing units and proposed overall density, by introducing street and intersection improvements at each phase of the Project's estimated 15-year build-out, by adding more parking and creating the opportunity for community parking, and by proposing supplemental bus service that will be available to the neighborhood. Please refer to Chapter 5, *Transportation*, for a comprehensive analysis of Project Impacts and potential improvements and mitigation, including an analysis of the DFC serving Conley Terminal.

Comment 1.2

As noted above, and according to the proponents PNF and MEPA filings, this project would entirely negate the neighborhood's efforts at traffic mitigation by generating an additional 10,000 to 20,000 vehicle trips through the South Boston Neighborhood. This would reverse the progress that has been made in this area and leave the neighborhood in far worse condition after all the work and investment by the Commonwealth of Massachusetts and Massport. From a neighborhood standpoint, this simply cannot be allowed to happen.

Response

As further described in Chapter 1, *Project Description*, the Project will be developed as multiple buildings across several phases of development, which are expected to occur over the next 12-15 years, allowing street and intersection improvements to be implemented at every stage. As further described in Chapter 5, *Transportation*, the Project will include street and intersection improvements (new traffic signal, dedicated turning lanes, etc.) that safely support additional use on Summer Street, First Street and L Street as the Project progresses. In addition, the Project will be implementing transit and other transportation improvements, as well as a transportation demand management plan, to encourage and support other means of travel.

Comment 1.3

Neighborhood parking has become a major concern to residents, and this proposal would contribute to an already unmanageable situation. Other issues of concern include public safety and environmental issues during the demolition and cleanup process, with potential health risks of contaminants drifting into the surrounding homes as well as onto the public parks and playground directly across the street.

Response

In response the neighborhood concerns about parking, the revised Project (although having less height and density) has more residential parking, more overall parking and the opportunity for community parking on nights, weekends and snow emergencies. Please refer to Chapter 5, *Transportation*, for a comprehensive analysis of parking requirements and potential mitigation. As a condition of its State and City permits, the Proponent will file a Construction Management Plan and a Soils Management Plan that will set out the procedures and precautions taken for the protection of neighboring properties and open spaces.

Comment 1.4

Importantly, over a billion dollars has been invested through Federal and State partnerships for the dredging of Boston Harbor and the Reserved Channel to increase the international shipping industry and make the Port of Boston more competitive. This development would negatively impact all the advancements made to the Port of Boston and to Conley Terminal by further harming traffic flow and air quality by adding vehicular traffic onto local streets which are not able to sustain the additional traffic flow in and out of the South Boston community.

Response

The continued success and growth of Conley Terminal is important to the neighborhood, the City and the Commonwealth. The comprehensive analysis of Project impacts in Chapter 5, *Transportation*, specifically including an analysis of the DFC serving Conley Terminal, demonstrates that the build-out of the proposed Project will not adversely affect Conley Terminal's operations at any time.

Letter 2: Linda Dorcena Forry and Nick Collins

Comment 2.1

After careful review, it is clear that the density proposed is simply unfeasible. According to their PNF and MEPA filings, this project would generate between 10,000 and 21,000 new car trips in and out of the neighborhood daily. Our roads, buses, and transit options are already over saturated. Significant investments made by the MBTA recently are only designed to catch up to the current levels of ridership, not projected growth. This project would completely overwhelm our transportation infrastructure, negatively affect our air quality, and further exacerbate the gridlock on our streets.

Response

The revised Project addresses these concerns in several different ways: by reducing the proposed number of housing units and proposed overall density, by introducing street and intersection improvements at each phase of the Project's estimated 15-year build-out and by proposing an innovative supplemental bus service that will be available to the neighborhood to address current gaps in transit service. Please refer to Chapter 5, *Transportation*, for a comprehensive analysis of Project Impacts and potential improvements and mitigation.

Comment 2.2

Currently, the Massachusetts Port Authority (Massport) is wrapping up a $75 million investment in the Thomas J. Butler Haul Road and Buffer Zone Park. This was done in preparation of the expansion of Conley Terminal to get roughly l,000 commercial trucks off of East First Street to alleviate the environmental and noise impacts on area residents. To follow that effort, Massport, the Federal Government, and the Commonwealth of Massachusetts have joined forces to invest roughly $1 billion to dredge Boston Harbor and expand Conley Terminal to make Massachusetts more competitive in the international shipping industry. The current proposal is simply incompatible with that significant public investment, and would negatively impact the port of Boston, all while replacing much of the noise and pollution that we originally sought to mitigate.

Response

The continued success and growth of Conley Terminal is important to the neighborhood, the City and the Commonwealth. The comprehensive analysis of Project impacts in Chapter 5, *Transportation*, specifically including an analysis of the DFC serving Conley Terminal, demonstrates that the build-out of the proposed Project will not adversely affect Conley Terminal's operations at any time. In addition, the Proponent has engaged in on-going discussions with Massport to design the Project in a manner that presents the least possible conflict with Conley Terminal operations, including locating residential uses away from the DFC, as reflected in the revised Project presented here. The Project's proposed improvements along First Street will connect with and enhance Massport's new Thomas J Butler Memorial Park.

Comment 2.3

We have additional concerns about public access to the waterfront and green space. Any and all green space and open space on the waterfront should be publicly owned and protected in perpetuity to ensure preservation and access for generations to come. With that in mind, we feel that 'Project Alternatives' outlined in the project tiling were not fully explored. In concurrence with Secretary Beaton's ENF Certificate, (EEA #15692, pg.7), we strongly encourage the proponents to more wholeheartedly explore viable alternatives in order to ensure that the final product is truly one that best fits the site's location within the community.

Response

The Proponent has further explored development alternatives in Chapter 2, *Alternatives Analysis*. The revised Project creates the most benefit for the neighborhood, including the most public access to the waterfront and green spaces. The Proponent expects that the obligation to create the proposed open spaces, and the obligation to maintain and make these spaces available to the public in the future, will be legally enforceable requirements contained with the State and City permits that will be issued for the Project before construction begins.

Letter 3: Michael F. Flaherty

Comment 3.1

The proposal calls for 1,500 residential housing units and retail space to be developed in an already dense area. As we have seen over the past decade, the rapid development in South Boston has overwhelmed the neighborhood tremendously. Further, 10,000 to 21,000 new vehicle trips are projected to take place in an area that is already at capacity with vehicular traffic. Given that this site used to be a power plant, there are serious environmental, health and safety concerns that need to be acknowledged. If this project is approved, there is potential for contaminants affecting the surrounding community during the demolition and cleanup process. Lastly, there needs to be preservation of and access to the surrounding greenspaces and waterfront particularly the continuance of the street grid from M street and N Street right down to the waterfront.

Response

The revised Project addresses the concerns regarding vehicular traffic in several different ways: by reducing the proposed number of housing units and proposed overall density, by introducing street and intersection improvements at each phase of the Project's estimated 15-year build-out, by adding more parking and creating the opportunity for community parking, and by proposing supplemental bus service that will be available to the neighborhood. Please refer to Chapter 5, *Transportation*, for a comprehensive analysis of Project Impacts and potential improvements and mitigation, including an analysis of the DFC serving Conley Terminal.

As described in Chapter 2, *Alternatives Analysis*, the proposed Project is the development alternative that will result in the existing environmental contamination being addressed so that the site is safe for all residential and neighborhood uses. As a condition of its State and City permits, the Proponent will file a Construction Management Plan and a Soils Management Plan that will set out the procedures and precautions taken for the protection of neighboring properties and open spaces.

As described, in Chapter 3*, Urban Design*, the proposed Project creates a network of open spaces within the site and makes connections with other local open spaces and with the South Boston neighborhood. In particular, the proposed Project does continue the local street grid by extending M Street to the waterfront.

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Letter 4: Massport

Comment 4.1

Buffering Conley Terminal Operations. Due to the 24/7 nature of activity at Conley Container Terminal and on the DFC, Massport believes that this development must be designed to minimize conflicts between the site and the adjacent industrial port. The allocation of land uses should be designed to buffer and protect Conley operations from potential development that is incompatible with adjacent maritime industrial uses. Massport understands that there is strong interest in accommodating residential units on the site. Particularly given the close proximity to certain 24/7 Conley Terminal activities, a thoughtful review of specific residential proposals in the context of an overall plan will need to be assessed. In particular, we recommend the following:

- *Residential uses should be limited to portions of the site that do not abut the Butler Dedicated Freight Corridor or adjacent industrial uses. We concur with the current proposal to buffer the port by avoiding residential uses on blocks D, G, and H. We also have concerns that any residential units in Block F, particularly along the property line, could be too close to the industrial activities at Conley.*
- *Condominium ownership should be restricted to interior blocks and along East First Street.*
- *Massport's standard Residential Use Restriction Language, which describes the adjacent freight corridor and active industrial uses, should be included in all legal documentation signed for any residential units*
- *Construction of any residential units should be designed to meet noise standards (not to exceed 45 dBA day-night average interior sound level).*
- *Additionally, we recommend minimizing active lower level commercial use on the ground floors of office and hotel blocks fronting on the Butler Dedicated Freight Corridor, which will likely generate noise and vibrations from the more than 900 truck trips per day that may be incompatible with commercial activities.*

Response

The continued success and growth of Conley Terminal is important to the neighborhood, the City and the Commonwealth. The Proponent has engaged in on-going discussions with Massport to design the Project in a manner that presents the least possible conflict with Conley Terminal operations, including with respect to residential uses, as reflected in the revised Project presented here. In particular, the scale of the residential uses in Building F has been significantly reduced. The Proponent agrees that limitations on condominium ownership to certain locations, inclusion of Massport’s Residential Use Restriction language, and construction of residential units to meet noise standards are all appropriate. The Proponent will continue to explore how ground floor spaces and outdoor spaces closest to the DFC can best be managed to avoid conflicts with truck and other port activity.

Comment 4.2

Limit Public Access near Secure Zones and Terminal Operations. Once opened and under Massport Police surveillance, the DFC will be a restricted access roadway, providing critical freight access between Conley Terminal and nearby truck routes such as Summer Street, Massport Haul Road, and the South Boston Bypass Road. The proponent has the right to construct and use a single driveway connecting to the DFC into the project site for delivery and service access to the site only; this connection is shown on plans included in the ENF. It is imperative that this connection remains gated to maintain the security of the DFC and that it is used only for service purposes.

Response

The Proponent will continue to work with Massport to develop a security plan for the driveway connecting the DFC into the Project Site for delivery and service access to the Project Site only.

Comment 4.3

Limit Transportation Impacts. Mixed use development of the L Street Station site will increase multi-modal traffic and bring 10,250 new vehicle trips in the East First Street/Summer Street neighborhood and the surrounding community. The ENF form on page 3 lists 8,780 vehicle trips. However, we understand from the ENF's data tables that this is the number of new bicycle and pedestrian trips, not vehicle trips. We understand that this development intends to create a grid of streets on the parcel and to provide above ground on-site parking on several parcels. As part of the continued environmental review process, Massport will look forward to reviewing a more detailed analysis of the project's projected traffic impacts and operating characteristics to ensure they will not negatively impact Conley operations. In particular, we will be seeking to maintain the safe, efficient, and timely operations of the new signalized intersection at the DFC and Summer Street. It is imperative that freight movement on Summer Street is not adversely impacted by the additional vehicle trips generated by the project.

Response

An updated and comprehensive traffic impact is provided in Chapter 5, *Transportation*. The Project is not expected to substantially impact the new signalized intersection at the DFC and Summer Street.

Comment 4.4

Open Space and Waterfront Access. The ENF describes a concept for a highly programmed active waterfront open space along the northern edge of the site. Due to the need to maintain security of the DFC, Massport requests that waterfront open space be designed with landscaped buffer to provide separation from the DFC in all *locations. Public recreation plans should be evaluated for their compatibility with the noise, light, and truck traffic of the active port. Additionally, Massport is soon to open the 4.5-acre Thomas Butler Memorial Park along East First Street to the east of the 776 Summer Street site, which will buffer the community from Conley Terminal noise and will include many amenities for the local community. We support the developers' plans to continue the spine of public access along East First Street through the development site to the intersection of East First Street and Summer Street and would support additional connections leading from the interior of the site to the park.*

Response

As described in Chapter 3, *Urban Design*, the revised Project creates a network of public open spaces within the site and makes connections with other local open spaces and with the South Boston neighborhood. As the public open spaces closest to the DFC have been further designed, the Proponent has created visual and physical buffers to avoid conflicts with truck and other port activity, assisted in part by the raised topography of the site. The Project's proposed improvements along First Street will connect with and enhance Massport's new Thomas J Butler Memorial Park, including walking and biking connections. Landscaping, lighting, signage and other visual cues will invite people coming from the Butler Park to explore the open spaces within the site, and people within the site to continue to the Butler Park and Castle Island.

Comment 4.5

Building Heights. In coordination with the Federal Aviation Administration (FAA), Massport has prepared and widely circulated the Logan Airspace Map that defines the critical airspace around Boston Logan International Airport to protect the flight corridors in and out of the Airport (see attached map). Created by Massport, with input from airlines, pilots, city officials, and the FAA, it helps guide developers and regulatory authorities to safely build to maximum structure heights without compromising air travel safety. The map aids developers in their planning and assists the FAA in its review of individual projects to determine if they present a potential hazard to air navigation.

As noted above, the ENF describes an increase in the maximum building heights surrounding the L Street Station site. The project building heights presented in the ENF are based on Boston Zoning Code rather than an elevation of the tallest building structure compared to elevation above mean sea level (AMSL- NAVD88). Accordingly, additional information on the proposed building heights using the Logan Airspace Map baseline is needed to determine if the Project is consistent with the Airspace Map. We are pleased to hear that the project will involve removal of the two stacks that have historically penetrated Logan's protected airspace and that all site buildings will remain below the critical FAA surfaces, thereby removing an obstruction to Logan Airspace.

Massport recommends that the Proponent coordinate closely with FAA and Massport during the remainder of the design process to ensure that individual building heights remain consistent with the Logan Airspace Map and also early in the construction phase, which is particularly important to minimize the extent and duration of impacts of the crane(s) on the airspace. The Proponent will be required to submit multiple Form 7460s to the FAA, one for each permanent building and a separate filing for construction cranes.

Response

The Proponent will continue to coordinate with Massport and FAA, and will submit the required forms prior to construction, as required

Letter 5: Boston Landmarks Commission

Comment 5.1

Because of the buildings' historic importance, BLC staff encourages the applicant to pursue every possible means of preserving the complex, its key and defining features, its utilitarian aesthetic and history, and especially its industrial scale. Realizing that preservation of the entire complex is costly and challenging, especially to accommodate much-needed housing, staff is concerned that the current proposal sanitizes the site of its industrial texture and narrative.

Response

Then industrial heritage of the Project Site plays an important role in the redevelopment plans. The overall scale and massing of the Project will acknowledge the varying heights on-site including the monumental scale of the smoke stacks. The reuse of the existing buildings is one aspect of interpreting the site. As noted, the Project Team has included the 1898 Building and Turbine Halls 1, 2 and 3, and the existing 1.5-story administration building on the northwest corner of the site as elements to be reused which significantly increases both the square footage of what is being preserved as well as the amount of exterior facades being incorporated into the new project. The Project Team will utilize these spaces in a way that the public can experience and enjoy the architectural features of the site, which were not been available to the public while the site was active.

Additionally, elements related to the sites connection to the historic of power generation will be incorporated into the site as well as interpretive elements. Engine No. 8 will be retained and the area around that engine will be designated as a public exhibition space. The Project Team is also developing a plan for additional interpretive measures around the site to help the public better understand the importance of the buildings that make up one of the earliest large-scale A.C. power stations in the country, as well as the evolution of the power-generation systems of the Edison Electric Illuminating Company of Boston, one of the foremost pioneers in the development of the nation's utility industries.

Comment 5.2

Staff recommends the strategic re-use of select features. A few of the features that could be preserved include outbuildings, the intact facades of the 1898 building (northwest corner), and the intact western façade from the boiler room at the southwestern corner of the site. Most importantly, preserving one or more of the smokestacks - even as a symbolic reminder of an historic narrative - will help connect the current proposal to the site's past.

Response

Refer to Chapter 10, *Historic Resources.* Select features will be reused as a component of the overall project. In addition to the retention of the Turbine Halls 1, 2 and 3, the 1898 Building will be retained and its façade incorporated in to the project. The administration building on the northwest corner of the site is being retained and incorporated into the Project. Existing cranes adjacent to the pump house on the northern portion of the site are also being maintained and will be incorporated into the Project.

The intact western façade from the boiler room at the southwestern corner of the site will not be retained. The viability of adaptively reusing this portion of the complex is directly related to the ability to successfully remove the densely packed equipment while still supporting the perimeter walls along Summer and East 1st Streets and not negatively impacting the adjacent Turbine Hall 3 the southern-most turbine hall constructed during the 1904-1908 period. The national demolition contractor retained for the work has participated in many large complicated projects and has a unique understanding of the process required to safely strip out the interior equipment while preserving the perimeter walls for reuse. It was determined that a demolition of the interior for an adaptive reuse while preserving the exterior walls was infeasible.

There are two smokestacks that are seen at the roof level of the 1922 Boiler House that have been altered over time and are no longer supported from below. These would need additional structural support to remain and must be taken down. The massive amounts of equipment would have to be removed by hand, utilizing torches, working carefully from the roof down and would put the demolition team at great risk. It is unclear if the perimeter walls would remain standing through the process, even if they were supported from the exterior. The walls would need to be penetrated at different locations to allow for the egress of men and equipment. If the interior demolition could be completed effectively and safely, the reuse potential for the remaining structure would be low as the removal of the New Boston portion of the complex would leave the entire north end exposed. Additionally, the preparatory demolition needed to open the volume for reuse prior to the insertion of any new floors is cost prohibitive due to the extremely technical nature of the work and safety of the demolition team.

Comment 5.3

Staff recommends a strategic use of an industrial palette of materials and tectonics within the new proposal in a manner that acknowledges (without directly imitating) the industrial aesthetic and history of the site. Staff also encourages the applicant to consider building and restoring at a scale that reflects the existing industrial scale of the site. A larger scale will acknowledge the site's history and will distinguish this project from similar programs and developments elsewhere.

Response

Please refer to Chapter 3, *Urban Design*, for descriptions of the architectural character and goals for the Project. The Project Team is preparing Draft Design Guidelines for the streetscape, signage, and architectural character of the project that will be reviewed and refined with the input of the BPDA staff, the Boston Civic Design Committee and the community.

Comment 5.4

Finally, it is important to note that the proposed demolition of buildings will entail Article 85 review. Since the site is eligible for National Register listing, the project will likely require an Article 85 community meeting and hearing. BLC staff encourages the applicant to submit an Article 85 application as early in the process as possible. The community meeting can be done in concert with other community meetings and staff encourages this to minimize the number of community meetings, as well as ONS's workload. The Article 85 community meeting also requires the presentation of alternatives to demolition, which affords an opportunity to consider comments above or other approaches that help preserve integral facets of a key part of South Boston's history.

Response

The project team as not initiated Article 85 consultation with the BLC at this time. It will begin the Article 85 process as it moves towards finalizing initial plans for the site and seeking a demolition permit for portions of the power station. The BLC will also be engaged through the MHC consultation process.

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Letter 6: Boston Parks and Recreation Commission

Comment 6.1

In summary of the below, the scale and proximity of the project will have a significant impact on Christopher Lee Playground I Medal of Honor Park. BPRD respectfully requests that mitigation commensurate to the impact of the development be provided in the form of a contribution to the City's Fund for Parks, to be used for public open space in South Boston.

BPRD further requests that the proponent enter into a maintenance agreement to provide turf management and other services at Christopher Lee Playground I Medal of Honor Park.

Response

The Proponent will continue to coordinate with the City and the IAG to identify appropriate mitigation for the Project.

Comment 6.2

The ENF/EPNF notes that the 15 acre project site will include 104,500 sf (2.4 acres) of open space including a publicly accessible waterfront area (1.15 acres). Further detail is needed to understand the proposed open space, as the submittal provides conceptual ideas and narrative.

Response

Refer to update open space plans in Chapter 3, *Urban Design*.

Comment 6.3

It is not clear how the open space is being counted under zoning. Public realm features such as streets, sidewalks, plazas, retail corridors and pedestrian ways have limited open space value and are not a substitute for park land available for recreational use. Greater detail is needed to understand how the open space will meet the recreational needs of the residents and the public.

Response

Open space is defined multiple ways under various regulatory overlays, including zoning and chapter 91. The Project provides a considerable amount of functional and accessible open space area for the residents and the public. Refer to Chapter 3, *Urban Design*, for additional details.

Comment 6.4

BPRD has advocated for permanently-protected, publicly-accessible park land in South Boston, to serve the active recreational needs of this rapidly growing neighborhood and to balance significant new development that is dense in scale and often lacking in on site open space. This project should detail how it intends to meet the goals and needs for South Boston as identified in the Open Space and Recreation Plan 2015-2021.

Response

The Open Space and Recreation Plan for South Boston identifies the waterfront as the greatest open space asset of the neighborhood, and notes that open space should be prioritized as new residents are added to the neighborhood. The Project proposes over 5.5 acres of public open space within the Project Site, with the most significant area located along the waterfront. As such, the Project meets the goals of the Open Space and Recreation Plan.

Comment 6.5

A parks needs analysis should be completed based on projected residents, workers and visitors. This analysis should include an estimate of the demand for active recreational needs, the ability to accommodate those needs onsite, and/or the reliance on existing public open space in the neighborhood. In the event that active uses cannot be accommodated onsite, the equivalent amount of park land should be mitigated nearby. This need could also be addressed by contributing to a fund for development of future public park land in the neighborhood.

Response

The proposed open spaces within the site serve a variety of uses and will remain open and clearly inviting to the public. The Proponent will continue to work with the Parks and Recreation Commission as the design advances to ensure that the open space on-site is tailored to best fit the community.

Comment 6.6

The public realm should include inviting, vibrant, public spaces that can provide civic functions in addition to retail plaza functions. This can be achieved by fronting these spaces on the public rights of way, or broadening the points of connection. Public spaces could also be transferred to public ownership, ensuring that their future design and uses will be informed by the public.

Response

Refer to Chapter 3, *Urban Design*, for a detailed analysis of the Project's open spaces. Ownership of these spaces will be coordinated with the City as the detailed design of theses spaces is advanced.

Comment 6.7

Parks should ideally be permanently protected to ensure that they remain open in perpetuity.

Response

See Response to Comment 6.6.

Comment 6.8

The project should include a Dog Recreation Space onsite. Though it is adjacent to a dog park, the high density of development would burden one of the few dog parks available in the city. The project should therefore plan to accommodate the needs of its canine residents onsite.

Response

Due to the proximity of the Thomas J Butler Memorial Park, the Project is not proposing any large-scale dog parks, but may include smaller dog facilities within or adjacent to residential buildings.

Comment 6.9

The proponent should detail any potential construction impacts (noise, air quality, traffic impacts, etc.) that may impact Christopher Lee Playground/Medal of Honor Park.

Response

Adverse impacts are not anticipated on Christopher Lee Playground/Medal of Honor Park during construction. Refer to Chapter 6, *Environmental Protection,* for a more detailed analysis of construction impacts, and Appendix G for a draft of the Construction Management Plan.

Letter 7: Boston Water and Sewer Commission

Comment 7.1

Prior to demolition of any buildings, all water, sewer and storm drain connections to the buildings must be cut and capped at the main pipe in accordance with the Commission's requirements. The proponent must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued.

Response

The Proponent will comply with this BWSC requirement.

Comment 7.2

All new or relocated water mains, sewers and storm drains must be designed and constructed at HRP's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval when the design of the new water and wastewater systems and the proposed service connections to those systems are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations.

Response

The Proponent will comply with this BWSC requirement.

Comment 7.3

The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, is implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new regulations (314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon of wastewater flow. In this regard, any *new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4: J for I/I removal to new wastewater flow added is used. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan.*

Response

The Proponent will comply with this BWSC requirement.

Comment 7.4

The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/

Response

The Proponent will comply with this BWSC requirement.

Comment 7.5

For any proposed masonry repair and cleaning HRP will be required to obtain from the Boston Air Pollution Control Commission a permit for Abrasive Blasting or Chemical Cleaning. In accordance with this permit HRP will be required to provide a detailed description as to how chemical mist and run-off will be contained and either treated before discharge to the sewer or drainage system or collected and disposed of lawfully off site. A copy of the description and any related site plans must be provided to the Commission's Engineering Customer Service Department for review before masonry repair and cleaning commences. HRP is advised that the Commission may impose additional conditions and requirements before permitting the discharge of the treated wash water to enter the sewer or drainage system.

Response

The Proponent will comply with this requirement.

Comment 7.6

The Commission will require HRP to undertake all necessary precautions to prevent damage or disruption of the existing active water and sewer lines on, or adjacent to, the project site during construction. As a condition of the site plan approval, the Commission will require HRP to inspect the existing sewer lines by CCTV after site construction is complete, to confirm that the lines were not damaged from construction activity.

Response

The Proponent will comply with this BWSC requirement.

Comment 7.7

It is HRP's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, HRP must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

Response

The Proponent will comply with this BWSC requirement.

Comment 7.8

HRP should be aware that the US Environmental Protection Agency issued the Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, HRP will be required to apply for a RGP to cover these discharges.

Response

Management of contaminated groundwater will be conducted in accordance with an MCP RAM Plan that will be submitted to DEP ahead of the start of excavation or dewatering work. The RAM Plan will describe permits needed to conduct the work, including an RGP for discharge of dewatered groundwater.

Comment 7.9

HRP must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be *based on full-site build-out of the proposed project. HRP should also provide the methodology used to estimate water demand for the proposed project.*

Response

The Proponent will comply with this BWSC requirement during the Site Plan review process.

Comment 7.10

The Commission supports HRP's commitment to explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular, HRP should consider outdoor landscaping which requires minimal use of water to maintain. If HRP plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

Response

Sensor operated faucets and toilets will be incorporated into the design of the common area fixtures in each building. This has been proven to significantly reduce wastewater.

Comment 7.11

HRP is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. HRP should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit.

Response

The Proponent will comply with this requirement, as applicable.

Comment 7.12

The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, HRP's should contact the Commission's Meter Department.

Response

The Project will contact the Department as necessary.

Comment 7.13

In conjunction with the Site Plan and the General Service Application HRP will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

- *Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.*
- *Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction.*
- *Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.*

Response

The Proponent will comply with this BWSC requirement.

Comment 7.14

As stated in the ENF/EPNF, a NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection is required. A copy of the permit and any pollution prevention plan prepared pursuant to the permit must be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified in item 1 above.

Response

The Proponent will comply with this requirement prior to construction.

Comment 7.15

The Commission encourages HRP to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers.

Response

The Proponent will explore opportunities for minimizing sanding and deicing chemicals, pesticides, and fertilizers.

Comment 7.16

The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. HRP is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. As stated previously, if the dewatering drainage is contaminated with petroleum products, HRP will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

Response

The Proponent will comply with this BWSC requirement.

Comment 7.17

HRP must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer.

Response

The Proponent intends to comply with BWSC retention requirements using below grade infiltration systems and bio-retention facilities which will be detailed in the Site Plan during the review and approval process of the General Service Application. No stormwater will be discharged to a sanitary sewer.

Comment 7.18

Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system.

Response

The Proponent will comply with this BWSC requirement.

Comment 7.19

The Commission requests that HRP install a permanent casting stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project. HRP should contact the Commission's Operations Division for information regarding the purchase of the castings.

Response

The requested signage will be incorporated in coordination with the Commission.

Comment 7.20

If a cafeteria or food service facility is built as part of this project, grease traps will be required in accordance with the Commission's Sewer Use Regulations. HRP is advised to consult with the Commission's Operations Department with regards to grease traps.

Response

The Proponent will comply with this BWSC requirement, if applicable.

Comment 7.21

The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators.

Response

The Proponent will comply with this BWSC requirement.

Comment 7.22

The Commission requires installation of particle separators on all new parking lots greater than 7,500 square feet in size. If it is determined that it is not possible to infiltrate all of the runoff from the new parking lot, the Commission will require the installation of a particle separator or a standard Type 5 catch basin with an outlet tee for the parking lot. Specifications for particle separators are provided in the Commission's requirements for Site Plans.

Response

The Proponent will comply with this BWSC requirement.

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Letter 8: Boston Preservation Alliance

Comment 8.1

Therefore, while we recognize that redevelopment of the site and its transformation from a heavy industrial use requires significant removal of equipment and demolition of portions of the site, we also encourage the proponent to incorporate as much of the historic fabric into the project as possible. We understand that power plants in particular present unique challenges; structure and mechanical equipment can be integral to each other and the demolition of interior contents to provide available space for new uses may necessitate the loss of exterior walls. However, we also recognize that there are many instances where important, contributing structure can be saved for new uses.

Response

Refer to Chapter 10, *Historic Resources.*

Comment 8.2

Therefore, we encourage the proponent to rehabilitate the oldest building on the site, the c. 1898 masonry building beside the turbine halls, as well. This would retain visual continuity between the surviving structures and maintain the industrial context that makes this site unique from the exterior. We look forward to dialog with the proponent, review agencies, and the community about how these historic buildings can become an important part of the project and its success.

Response

The Proponent has committed to rehabilitation and reuse of the 1898 Building.

Comment 8.3

The Alliance also has concerns about the proposal to insert an interior street for vehicular traffic through the turbine hall. While we understand that site circulation is important and that there is significant concern about traffic in the neighborhood, we are concerned that this intervention may adversely effect to the historic spaces, their visual continuity, and their use. We encourage the proponent to present more information about why this interior street is necessary and what impacts it will have across the site. Similarly, discussion of new penetrations into the walls of the turbine halls for new windows requires further discussion. With reopening of the windows of the clerestory monitor of the roof we feel there is opportunity to generate significant natural light without disruption of the character-defining tile walls.

Response

Refer to Chapter 10, *Historic Resources.*

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Letter 9: WalkBoston

Comment 9.1

We understand that the new dedicated harborside freight corridor that will connect Summer Street to Massport's Conley Terminal and remove heavy truck traffic from East 1st Street will provide very important, and long---desired improvements to the South Boston neighborhood. But this shift will also present challenges; the new harborside route will place an access barrier and significant truck traffic (with its accompanying noise and air pollution) between the development site's primary open space and the harbor.

We urge the developer to consider creative ways to mitigate the truck route's impact on the open space. This could include grade changes that place the open space higher than the truck route (Figure 3.5b may hint at this); landscaping that both masks and frames views, soundscapes to mask truck noise, and the addition of viewing platforms that allow open space users to gain unimpeded views of the water. There may also be ways to capitalize on the site's industrial past and on-going use through interpretive elements. WalkBoston is concerned that without such special treatment the open space will not be very attractive to the public.

If possible, the proponent might also explore with Massport whether it would be possible to schedule truck traffic so that is interferes less with daytime and weekend use of the open space.

Response

Refer to Response to Comment SD.48.

Comment 9.2

At the direction of the City, the proponent has used South Boston adjusted trip generation rates to develop trip tables for walking/biking, transit and vehicles. However, the site is at a significant distance from other land uses that would seem to justify such significant numbers of walking trips, and to suffer from overused bus lines and significant distances to the Red and Silver Lines. Figure 5---1 illustrate the 5 and 10---minute walking zones, neither of which include a great many retail, job and civic land uses.

We urge the proponent to develop mitigation measures to make the development a more realistically mixed mode project. These could include such things as: subsidies to the MBTA to provide more frequent bus service, or creation or partnering with other South Boston developments to provide shuttle services to the Silver and/or Red Lines.

Response

Refer to Chapter 5, *Transportation*.

Comment 9.3

The proponent mentions that Boston has flagged both East 1st Street and Summer Street for protected bicycle facilities, however Figure 3.5a shows an on-street bike lane.

We urge the proponent to work with the City, and perhaps provide funding for, separated bicycle facilities on both East 1st Street and Summer Street. The distance of the site from transit and a mix of retail, job and civic facilities will make bicycling a more likely mode of off-site trips than walking.

Response

The Project proposes a redesign of the section of Summer Street from East 1st Street to the DFC to accommodate vehicles and separated bike lanes along Summer Street. The Proponent will continue to work with the City to implement the bike infrastructure improvements described in Chapter 5, *Transportation* and others as the city formulates its long-term plans for bicycle improvements for the area.

Letter 10: Boston Marine Park Business Association

Comment 10.1

Firstly, the proposed project is predicted to generate over 10,000 vehicle trips per day. Much of this newly generated traffic will pass immediately in front of the Park, competing on the very limited capacity roadways, with the already heavy truck, employee and business traffic presently serving our businesses within the Park. In particular, the increase of vehicle trips competes directly with existing truck traffic along authorized truck routes designed to serve the needs of the Park and Conley terminal. Existing traffic and mass transit concerns are presently under duress and the addition of over 10,000 vehicle trips per day, along with proportionate increases in pedestrian traffic and parking demand are issues that urgently need to be well investigated.

Response

Refer to Chapter 5*, Transportation* for a complete overview of the analysis, impacts and proposed mitigation.

Comment 10.2

Secondly, the proposed project would require removing the site from its present status within the Designated Port Area (DPA). This change in designation would be in advance of completion of $1 billion dollars in infrastructure improvements to the dredging of Boston Harbor and landside improvements to Conley Terminal. It is likely that these investments in the Working Port will lead to additional maritime dependent business activities looking to locate within the DPA in anticipation of location and competitive advantages. Careful analysis should be required to determine that, with infrastructure investments, suitable land area remains available to accommodate these needs.

Response

The DPA has been modified to exclude the areas south of the DFC, including the land associated with the Project Site; however, in their determination, CZM expanded the overall size of the DPA to include more suitable industrial land closer to Conley Terminal.

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Letter 11: South Boston Neighborhood Development Corporation

Comment 11.1

Hilco/Redgate, the developer, is proposing to build a dense development with a hotel, commercial/retail and nearly 1,600 units of housing. Their plan to include only the minimum 15% affordable units on the site should be increased to at least 30% of the units to address the community need for affordable housing. Too often with past developers, the South Boston neighborhood has settled for only the minimum in affordability. This site should be developed in an inclusive manner, to offer housing opportunities to a wide range of residents.

In addition to increasing the percentage of affordable units, the proposed development should include units that are affordable to the elderly and working families. The City's Inclusionary Development requirement is not adequate to address this critical neighborhood need because the income levels for IDP units are not low enough to address the needs of low income workers who earn less than $50,000 annually. Elderly residents are most at risk of displacement because their income is usually below $25,000 annually.

Response

Refer to response to Comment C.25.

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Letter 12: South Boston Arts Association (SBAA)

Comment 12.1

We seek a small Arts and Cultural Community Center in this new proposal because it would serve all residents … young and old … male and female … long time and newer residents … talented artists and not so much … art-lovers and just plain people.

Response

More than a year ago, the Proponent began its planning for the redevelopment of the Project Site with a vision for "arts and industry" uses, including a variety of indoor and outdoor spaces for making, teaching, display and performance by artists, artisans, and makers, especially local residents of an active, but sometimes overlooked, South Boston arts community. We have been pleased that this vision has been very positively received by the community. This DEIR/DPIR provides much greater detail on the indoor and outdoor spaces where "arts and industry" uses could be focused on the Project Site, especially within the renovated Turbine Halls. We envision multiple spaces being operated and managed by different businesses and non-profits across the Project Site, with at least one of these spaces being primarily focused on opportunities for South Boston residents.

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Letter 13: Impact Advisory Group (IAG)

Comment 13.1

The IAG requests that Alternative B be given due diligence and attention. We also feel that the responses provided in the scoping document must include this alternative, to address the community impression that only one project type is being pursued. Those community members that did not attend the Charrettes and other community meetings, must have their concerns addressed, and the record documents should include a full chronological telling of just how the preferred option was established.

Response

Refer to Chapter 2, *Alternatives Analysis*, for a more detailed analysis of potential redevelopment alternatives.

Comment 13.2

DENSITY: This is a difficult impact to quantify. There is a general sense that 1,500 residences is much too dense. It certainly would be the highest density in the City Point neighborhood. Although Article 68 in 2015 was geared to attracting residential uses along the 1st corridor, that planning effort did not fathom or anticipate a project of this scale anywhere in City Point or along First Street. Moreover, the recently completed Dorchester Avenue Corridor was intended to absorb larger developments in South Boston--this project, although mirroring the dimensions of the Dot Ave Corridor-- is no where near the growth zone. A development of this size is more appropriate for the SB Waterfront--it is out of place in traditional South Boston. We feel strongly that 1,500 units is too high a number of units. We also recognize that there is a balance that must be struck between less residential units and the numbers associated with impacts like traffic/air quality and public transportation obligations. Most South Boston residents who have attended the meetings have voiced this sentiment. We feel it is up to HRL & BPDA to propose a lower alternative number that meets the project needs and is more in line with housing densities in the immediate surrounding area.

Response

As discussed in Chapter 1, *Project Description*, the Project is proposed to be constructed in phases over a 12 to 15-year period. The density of the Project, which has been reduced since the ENF/EPNF filing, will increase slowly over time. With each phase of the Project, new public benefits will come online, including streetscape improvements, new job opportunities, appropriately scaled retail options, and publicly accessible open space. The Proponent looks forward to continuing to work with the IAG to develop a project that complements the South Boston neighborhood.

Comment 13.3

TRAFFIC MANAGEMENT: The problems associated with traffic management are sevenfold. The current traffic along L /Summer Street and 1st street is already over-capacity. The project's projected final buildout (either alternate) will only exacerbate the traffic problems. This project requires a traffic study. The suggested area of study for traffic should be at a minimum, Summer/L beginning at D Street and ending at Columbia road. This is a significant stretch of roadway with multiple intersections, some controlled by lights some not. The current traffic signals along this primary artery are inadequate to handle the current traffic volume, let alone the addition of this project. This project coupled with the (7) other large scale buildings slated for the convention Center area, Seaport District/Fort Point Channel & GE. The traffic Study must take a holistic approach and take into the account the projected vehicle volume of these projects, as no single development exists in a silo. The Day Boulevard/Summer Street/L Street corridor has historically been utilized by South Shore commuters to cut through I-93 traffic to reach the city or the Waterfront. With the growth of Waterfront area and the anticipated growth of Fort Point with GE and Amazon, this route has become clogged and nearly impassable at certain hours of the workday. This is the primary road for many areas of South Boston. The signaling and efficient movement of vehicles along this route is the key to a successful project whatever its configuration on the former Edison plant site. All the intersections from D to Columbia that have traffic signals or are slated to have signals installed via this project or through other City/highway improvement projects must be fully integrated, synchronized, and if possible technologically equipped to be responsive to volume on the roadway. Additionally of concern and adding to the increasing traffic in this area is the growth along 1st street from A st to P st all of these small projects have increased vehicular volume on this east/west corridor onto Summer/L. Those impacts must be factored into the study parameters as well. The foundation has already been set for this study with the South Boston Waterfront Sustainable Transportation Plan, which examined these corridors, and traffic along Summer Street, which is the location of this project. However, that plan did not anticipate the added volume from the GE and Amazon relocations, so further study is necessary. This mandatory traffic study must be fully coordinated and integrated into the City and Transportation agencies ongoing comprehensive transportation plans. Adding to the traffic problems the issue of freight truck traffic in and out of Conley terminal is of major concern. The terminal has been able to remain competitive in the freight market due to its current level of efficiency getting trucks in and out of the terminal faster than the majority of the industry. This bypass road has been a long fought for issue for the residents. 2,700 truck trips a day on a residential street was not sustainable or safe. This project's addition of 10,000 vehicular trips a day to the intersection of 1st and Summer Street quite possibly will undo some of the gains made by the construction of the bypass road. The study of traffic should begin immediately and not wait until issuance of the scoping document. To establish a baseline with the trucks still on 1st street, an interim traffic study following the truck route relocation and that impact on the neighborhood. Then *expand to include its own contribution and the adjoining area's added vehicular impacts.*

Response

The traffic impact analysis includes projected background volumes and a general growth percentage of one-half percent per year for the analysis years of 2024 and 2030. The Project-generated trips are then layered onto these volumes to create the 2024 and 2030 Build Conditions. Mitigation is also proposed to help process the vehicles through the signalized intersections within the study area network. For the full analysis, refer to Chapter 5, *Transportation*.

Comment 13.4

PUBLIC TRANSPORTATION it is understood that the developer is not responsible for public transportation, but this development will exacerbate substantially the ongoing public transportation problems in the area. Those are in part, overcrowded busses, inconsistent schedules, routes not serving more than one rapid transit interface. The Edison project must engage in dialog with the MBTA to get these issues resolved, especially as the development project sits at the start of the South Boston bus service and will impact service for the rest of the neighborhood and because the HRL development team is relying on MBTA usage for the number of car trips per day in and out of the site. If the MBTA does not deliver on their promises there most certainly will be a greater number of personal car ownership than anticipated. (See parking impact). The BPDA should be requiring of the developer to have contingency plans that if at time of Construction, MBTA service is not functioning according to the numbers presented in the study, then the Edison site parking spot number shall be increased by "X". This increase should be in addition to the parking levels previously discussed. Whether or not the base parking space numbers are above the actual zoning requirements. That excess parking slot number shall not be utilized in any way to meet this surplus commuter parking penalty. The project should include some sort of a covered structure at the corner of 1st and L/Summer. This can either be provided by MBTA or the project, but the intersection must contain a covered structure. The reasoning for this is even if 50% of the residential unit occupants use the MBTA there would be an estimated 300 + people during commuting hours at this corner. The project should also consider establishing a stronger connection to the MBTA platform planned for 1st street. This connection would presumably split the pedestrian traffic coming from the new residences. Again we cite the comprehensive transportation study currently underway as the mechanism to effect real change through cooperative measures with MBTA and roadway administrators.

Response

See response to Comment SD.36.

The Proponent will continue working with the MBTA to determine the future transit needs and mitigation for the immediate South Boston area.

Comment 13.5

AIR QUALITY: The air quality in this area of South Boston is being assaulted on many levels. Cruise & freight ship traffic, projected increase beyond the current levels. Air traffic is projected to increase beyond current levels, freight truck numbers are scheduled to increase. With this project and the general growth of the area vehicular levels are also rising. There must be comprehensive study of these increases and the effects on the health of South Boston residents. Previous studies have noted there is markedly increased levels of Lupus, certain respiratory ailments and cancers in South Boston. The direct cause has yet to be definitively determined. Most certainly the previous abuses by the heavy industrial/marine use of the surrounding area is a major contributing factor of these heightened rates of disease. This project's study of its true impact on the air quality in the area will be overshadowed by the aforementioned abuses and inaction by local, state and federal agencies. The studying of the air quality impacts cannot just simply be a snapshot in time. The study must include long-term time lapse impacts. The areas general growth must be factored into the numbers. Many residents have cited the need for (some have been demanding for decades) a cumulative air-quality study to be performed. Many in the area feel that air monitors must be installed in the community to accurately establish the true particulate levels and contentment. This is by far the largest long-term health impact to the residents. All the aforementioned traffic issues play a large role in air quality. Many residents feel proper signal and revised roadway configuration will play a key part in air quality management. Others have expressed that movement of all vehicles in and out of the project area and "Southie" as whole will certainly assist in the management of air quality. (Moving traffic creates less air born particulates than sitting and idling traffic).

Response

Refer to Chapter 6, *Environmental Protection* for an evaluation of the Project's effects on air quality. An assessment of local and regional air quality has been conducted in accordance with all applicable regulations and guidance.

Comment 13.6

PARKING: Parking levels as current proposed are wholly inadequate. The current ratio contained in South Boston's current zoning is 1.5 space per unit. This ratio must not be decreased with-in the project area. Most residents feel that this 1.5 is inadequate for this project and should be increased to a ratio of 2.0 spaces per residential unit. The requested 2.0 ratio should not be allowed to include the on street parking slots in the project area. These parking slots should be designated as transient in nature. (i.e. commercial use and consumer use for the multiple community based retail establishments currently envisioned). The streets as currently proposed have raised the subject of what the parking restrictions are and who will enforce those regulations. Additionally who will benefit from the enforcement revenue stream? HRL should clarify this because the streets within the project area are currently proposed as "private ways" In this context the term private ways indicates that the roads will be owned and *maintained by the project owners as they are privately held assets. It is not indicated at this time if the roads will contain any access restriction, this also needs to be defined. Residents have also expressed that in a majority of city neighborhoods with similar density levels as South Boston there exists access to a garage (some private some publicly owned) during snow events. The South Boston residents have long been requesting such equal treatment. The project must include a snow emergency plan for the project site and parking access plan for the area residents during such emergency at a reduced rate when compared to the general rates during non-emergency events. It is a generally held opinion of the area residents that parking problems cannot be addressed without dramatically increasing the number of parking slots included in the project. Note: All the above parking issues must also be evaluated for: either relief from or overall repeal of the current parking ban imposed by federal statute.*

Response

A comprehensive parking supply and demand analysis can be found in Chapter 5, Section 10, *Vehicle Parking*. The Proponent will continue to work with the City to determine the parking policy for snow emergencies.

Comment 13.7

NOISE: The current building orientation and site layout is to create two new roads traveling North + South. A concern has been raised that these two roads ways will be creating acoustical conduits directly into the neighborhood from the new Conley terminal truck route and the larger cruise port terminal. There should be a comprehensive noise study (including acoustical modeling) of the project's final configuration. Residents presented anecdotal testimony about an incident. Last year there was work being performed across the channel at the concrete aggregate plant which created a massive noise issue? We realize that the aggregate plant operations are not part of this project but the incident brought to light that the Massport designed sound barrier for the Conley terminal is a complete failure and inadequate to protect the neighborhood, from existing noise levels. How this impacts the Edison project is, the buildings as they currently exist create a barrier for the neighborhood from noise being generated from whatever source across the channel. The Edison team must demonstrate that their project configuration will not worsen the level of noise coming into the neighborhood from the cruise port, aggregate plant activity and the Conley terminal trucks. The residents of south Boston fought for many years to remove the noise of these trucks from first street and are not willing to yield on any ground what so ever relative to those noises. The noise generated by the trucks and marine activity must not be made worse by the Edison site configuration. We do recognize that there are allowable limits of increased noise associated with the project, (i.e. HVAC equipment and general ambient noises associated with any residential/commercial uses). Noise levels must be recorded now, prior to the truck route relocation, and also following the truck route relocation, while the existing buildings are intact. This is the only way to be absolutely sure that the project models are accurate and will reflect reality. Many residents have expressed concern that the current site / road layout will *promote and possibly amplify the truck generated noise on the new bypass road bridge directly into the neighborhood. If this scenario turns out to be correct the residents are unwilling to yield on noise level increases derived from freight truck or marine traffic. The project should study whether an additional noise barrier(s) at the truck route itself or at the neighborhood side of the site is the most effective. Or if a re-arrangement of the building will be required.*

Response

Even with internal local roadways, the proposed layout of the building structures will provide attenuation measures as they obstruct the paths of the sound waves. Noise traveling across the Project Site would be absorbed, reflected or diffracted by the building structures and therefore, reduce noise traveling through the Project Site.

A noise analysis was conducted to assess the potential impacts associated with the Project. The analysis was evaluated against the applicable local noise criteria. The analysis included measurements of existing ambient conditions and calculations of potential sound levels associated with the Project's operations. The results of the analysis indicate compliance with the applicable noise impact criteria. Please refer to Chapter, *Environmental Protection*, for additional information.

Comment 13.8

HISTORIC PRESERVATION: The complex of existing structure contains many buildings that represent and led the revolution of electricity for the masses. These structures must be retained and preserved. Many residents view the plant with somewhat of a dual personality. Many praise the life their families have had through jobs associated with the plant when operating. But also decry its operation for jeopardizing their health. But most seem to agree the planned demolition goes too far. Many expressed that the arched windows and brick work to the right of the turbine hall must be retained and refurbished. The residents feel connections to the plant as was years ago. The loss of this connection by demolishing such a large percentage of the structures is unacceptable to the residents. Future planning and design of this site must include a greater percentage of preservation.

Response

As discussed in Chapter 10, *Historic Resources*, the Project has been modified to include the 1898 Building.

Comment 13.9

FIRST RESPONDERS/PUBLIC SAFETY: This issue not truly a project specific impact. However this project's size will be a substantial contributor to the existing problem. The number of housing units in South Boston "proper" has grown by more than 5,000 in recent years. This project and Washington Village alone will further increase this number by an additional 2,100. These two large scale projects combined with other *smaller increases in South Boston will bring the total added housing units on this small peninsular closer to 9,000. Note this does not include the housing in the Seaport district, just South Boston proper. Residents feel that It does not take a professional city planner to realize that these types of increases are unsustainable. If city services such as police, fire and emergency medical are not increased, the entire area will be placed at risk. We feel the Edison plant development and other large projects like Washington Village must be required to participate in or fully fund the construction of the buildings and purchase of equipment for the services needed to adequately protect not only their own residents and businesses, but to ensure that the already stressed existing resources are not made worse by their project. The particular issue of law enforcement will require jurisdictional negotiations between City and State police agencies. Due to the size of this project site (15 plus acres), a determination of feasibility for the L street Station development to actually have their own first responder and police enforcement units similar to university police & fire units elsewhere in the city should be undertaken.*

Response

As discussed in the response to Comment 13.2, the Project will be phased over an approximately 12 to 15-year period, resulting in a slow increase in housing over a long period of time. Preliminary coordination with the City has not identified any concerns with the capacity of public services for the initial phases of the Project, however the Proponent is open to working with the IAG to consider potential mitigation options for future phases to address these concerns.

Comment 13.10

AFFORDABLE HOUSING: It is fair to say that affordable family housing is a high priority to many community members. We re-enforce the voice of the community. The current proposed percentage level of affordable housing (13%) is inadequate. The majority of residents who attended the community meetings have stated that families are being forced out of the neighborhood primarily due to lack of "affordable housing for families". Many have requested the scoping document establish a target of 20% affordable units of the total number of units ultimately contained in the project. Many residents have requested the term "affordable" be clearly defined in the scoping document. Current agency definitions of affordable are quite simply too broad and confusing in these residents opinion. Stating that language like "Affordable is defined as a % of the median household income level when averaged with the area, and modified according to availability data", is no longer applicable in the "Southie" of today. They are requesting that the term "affordable family housing" be clearly defined in the scoping document with language that is clear concise and understandable to the general public. Suggestions on the lines of: Affordable Family Housing: Housing units that are no smaller than 1,900 sq/ft containing two or more bedrooms, whose initial purchase price shall not exceed $375,000.00 for two bedrooms and shall increase no more than $20,000 per additional bedroom. (Note: dollar amounts included here are inserted as examples not actual dollars) It should be noted that *several residents expressed to IAG members that the area residents may agree to a higher number of total units if a greater percentage of those units are truly "affordable family units". The development team should look at recently approved projects for Washington Village and the Beverly on how to maximize affordable housing.*

Response

Refer to response to Comment C.25.

Comment 13.11

UTILITY / INFRASTRUCTURE: This issue was raised as it relates particularly to sewage. There is a concern that this project's estimated outflow of nearly 300,000 g/pd coupled with the extensive growth in the Seaport district could result in the Deer Island Treatment Plant (DITP) reaching its capacity for treatment. It is understood that the DITP daily capacity of 6.5 mil g/pd is being approached more rapidly than anticipated. The plant was designed with the ability to expand beyond that capacity. We are requesting data from the developer and MWRA via BWS of projected plant limits, and when the capacity is projected to be reached. The area residents are concerned that South Boston sewer rates will increase by more than those across greater Boston and the MWRA districts simply because they are located within the area experiencing the largest amount of development. Additionally residents would like to understand the timeline for the inevitable expansion of the DITP, as that expansion cost will affect not only their own billing rates but all 76 cities and towns whose waste is treated there. The DITP is the reason Boston Harbor is as clean as it is now and one of the reasons this property is worthy of development at all. We request similar data from the other utilities like water supply, Gas, electricity and data.

Response

Refer to Chapter 9, *Infrastructure*, for further evaluation of the Project's infrastructure needs. The Proponent looks forward to coordinating with BWSC on expected sewage generation and the timeline and phasing of the Project, and how it may impact the capacity of the DITP.

Comment 13.12

CONLEY TERMINAL: The Conley terminals current expansion plan onto the former coastal oil site is an important part of the local economy. We require the terminals particular traffic, air quality and noise levels be carefully studied. As stated earlier the recent success of the Terminal is due in no small part to the ability to get trucks in and out in a rapid period of time. Particular attention must be paid to the intersection of terminal operation and the general roadway traffic. Both the terminal and residents have worked hard to reach amicable solutions that each can live with. Those hard fought agreements are in jeopardy of being rendered mute and ineffective if this project's traffic and noise creation are not addressed in an aggressive manner. The *bottom line to this complicated component was summarized by one resident, "we aren't going backwards on traffic or air quality gains we have made, not now, aint gonna happen". It was also noted that current truck numbers will increase when the terminal begins to serve "Post Panamax" vessels. This projected increase must be a component of any traffic, air quality, noise, and light studies.*

Response

As detailed in Chapter 6, *Environmental Protection*, the Project is not anticipated to adversely impact noise levels within the community, air quality, or light (shadow impacts), and will operate substantially cleaner and quieter than the industrial uses that have historically operated on the Project Site.

As addressed in Chapter 5, *Transportation*, the additional traffic generated by the Project will occur slowly over a 12 to 15-year period, and will be mitigated for through intersection, roadway, and transit improvements.

The Proponents have, and will continue to, work closely with Massport to ensure that the operations at Conley Terminal are not adversely impacted by the Project.

Comment 13.13

BUILDING HEIGHT. The height of two buildings in the current proposal is too high … we have heard this over and over. There is no consensus on a height that would be acceptable. This brings up the issue of "what zoning will apply to this site"? If the result of the Coastal Zoning Commission's boundary review is that this property can be removed from the Designated Port Area (DPA). Then what zoning will be inserted. If the base zoning surrounding this property is utilized, the limit is 40'. Residents identified shadows from the buildings as an impact. Additionally an impact of this project setting a precedent in the zoning district was cited. HRL and BPDA should delineate precisely what zoning will apply to the project that is ultimately approved by all the agencies having jurisdiction on this site.

Response

The removal of the Project Site from the DPA by CZM does not modify the site zoning. Future zoning for the site will be established through a PDA. Refer to Chapter 1, *Project Description*, for additional information.

Comment 13.14

PUBLIC ACCESS: At many of the meetings the community has stated that the plan as presented does not go far enough on an inclusionary level. The impact cited is that they do not want to feel that they are not allowed in the development. So more attention must be paid to the linkage locations to the existing neighborhood. These linkages must be seamless. Resident also want to be sure that there clear unfettered access to the water and channel from the neighborhood. This unfettered access is also *a detriment in some community member's minds. Saying "If this place ends up being so cool and great it will attract more people from all over".*

Response

Refer to Chapter 3, *Urban Design*, for additional information on the Project's connections to the surrounding neighborhood.

Comment 13.15

PRESSURE ON THE EXISTING RECREATIONAL FACILITIES: This issue was raised by several people. There is becoming an issue at ballfields etc as of late: Due to the addition of so many housing units and their occupancy primarily by under 35 yrs people who use outdoor venues often. The resident children's little league, Pop Warner and other youth based programs have been faced with occupied fields when they arrive for scheduled games. Resulting in disagreements with groups who did not schedule through proper channels. The residents are of the opinion that the addition of 1,500 more households will make this situation worse. Also the residents were requesting that with such a large site the zoning ultimately employed should have a recreational component so the existing facilities are not impacted negatively from overuse.

Response

The Project is designed to create new amenities and recreational areas for the neighborhood to complement the existing resources. The Project will be constructed in phases over the course of a 12 to 15 year period to minimize impacts on the existing neighborhood.

Letter 14: J.F. Bennett

Comment 14.1

This development is, in essence, a gated community without a gate. A large plot of private property which in its current layout discourages through traffic and lacks a real connection with the greater community due to this limited street connection and the scale (and potential style) of its architecture. The site needs more streets and more connections to the outside neighborhood. A second street connecting with 1st St. on the east side of the site and a street across the north side of the building line before the waterfront space. The street would also more clearly indicate that that space is not just the front yard of the commercial endeavors along that side of the development. A lively, safe, public street life cannot be created or maintained artificially. It must flow naturally from an established rooted population invested in their community. Private security cannot take the place of a vibrant public sphere composed of an engaged, invested group on neighbors out on the sidewalks. The claims of a desire for small locally geared businesses in the development strike me as unrealistic. I believe new construction typically needs high volume businesses in order to pay the higher rents needed to defray the costs of construction. I also feel those business will be handicapped by the lack of through traffic. How will this development impact the existing commercial zones on East and West Broadway?

Response

The Project Team endeavors to design a welcoming and inviting Project that will gradually integrate with the community over the 12 to 15-year buildout. Refer to Chapter 3, *Urban Design*, for additional information on the updated site plan and circulation approach.

Comment 14.2

While I understand the theory behind limiting parking in order to "discourage" driving, In the real world it impacts those with the least driving flexibility; poorer people with fewer employment choices. With fewer parking spaces than residential units on site where will people patronizing the businesses or the open space park? While I understand much of the parking on site will be used by different people at different times of the day, there seems to me a strong likelihood that there will be times there with be a dearth of space for the number of automobiles on site. More parking is needed—a surplus able to accommodate neighborhood over is needed.

Response

Refer to Chapter 5, *Transportation*, for an evaluation of the Project's parking approach.

Comment 14.3

The streets and the open space really NEED to be true publicly owned land. I have serious reservations about privately owned public space at the present time.

Response

While the open spaces will be privately owned and maintained, the vast majority will be fully accessible to the public. The Proponent expects that the obligation to create these spaces, and the obligation to maintain and make these spaces available to the public in the future, will be legally enforceable requirements contained with the State and City permits that will be issued for the Project before construction begins.

Comment 14.4

Public transit is beyond capacity in South Boston at present, this development with put a tremendous strain on this already overburdened system. Serious upgrades need to be in place before any major development takes place. We need something quite radical, something much more than a few more buses or relying on ride sharing or private shuttle buses. Silver Line service is not the answer, since it is BRT only in name. Ride sharing and private shuttles are a return to the 19th century—with cell phone "apps" added, just like private ways & security they are lacking in accountability and supervision. It is time we considered a return of rail service to City Point. Any service improvements must benefit all City Point and greater South Boston, not just the Edison development. Service routed down 1st. St. to Summer St. Leaves the rest of the community out of the loop. As it is we have seen a diminution of service euphemistically called a service improvement in the routing of buses onto 1st St. along an abbreviated route.

Response

Refer to response to Comment C.36.

Comment 14.5

This is the only major piece of City Point's industrial past remaining. It is an important site in the annals of engineering & electric power generation and as such is worthy of more serious preservation. Also preserving and repurposing more of the structures will help to knit this development with the rest of the neighborhood, if only by dint of its long existence as part of the community. It has a comforting familiarity for many residents. More than just the turbine rooms are historically and architecturally valuable. The BELCo plant is one of the earliest large scale A.C. power stations and the remaining sections of EEICo boiler rooms are architecturally unique as far as I've been able to determine; there are no other power stations with segmental arch windows topped with lunettes which I have been able to identify. With a little bit of imagination I feel much more of the structures could be saved and repurposed, find new uses while *retaining character and context. The more of the old buildings are razed the more the area will become an artificial neighborhood in and of itself with little in common with the surround neighborhood since no new construction there will mimic the pre-existing neighborhood. Preservation of a higher, maximum amount of the old power station is needed to maintain a feeling of continuity and connection with the rest of City Point.*

Response

The Project Team has considered the reuse of all the buildings in the context of preserving the sites integrity and has increased the number of buildings that will be preserved in the overall program. The intent of reusing these buildings is to preserve the Project Sites industrial character and connection to the neighborhood and celebrate this character as related to the important history of power generation at this location.

Comment 14.6

Who is going to pay for all the "Art & Industry" and the myriad waterfront activates proposed? Is some going to profit financially from these things? Are they just a carrot dangled before our eyes or is this another "Lawn on D"?

What guarantees do we have for any of these promises? I believe if this development goes forward the city should require Redgate/Hilco post a performance bond to guarantee financing of any public accommodations in the event of their withdrawal of financial support.

Response

Refer to response to Comment 12.1.

Comment 14.7

I would like to see the creation of an arts and industry school, maybe in the BELCo building; something, which could offer training in the trades to local teens and the unemployed. Possible trade with niche markets in keeping with the site's history. Something along the lines of a machine shop, smithy, or wheelwright, cabinetmaking; industries that are alive, but having a hard time attracting young people. It could be a school, a museum and a profit making business.

Response

This DEIR/DPIR provides much greater detail on the indoor and outdoor spaces where "arts and industry" uses could be focused on the Project Site, especially within the renovated Turbine Halls. We envision multiple spaces being operated and managed by different businesses and non-profits across the Project Site, with at least one of these spaces being primarily focused on opportunities for South Boston residents. This DEIR/DPIR also provides much greater detail on the network of public open spaces that would be created through the redevelopment of the Project Site. The Proponent expects that the obligation to create these spaces, and the obligation to maintain and make these spaces available to the public in the future, will be legally enforceable requirements contained with the State and City permits that will be issued for the Project before construction begins.

Comment 14.8

The architecture must connect with the greater neighborhood and be attractive and affordable to a diverse population.

Response

Please refer to Chapter 3, Urban Design, for descriptions of the architectural character and goals for the project. The Project Team is preparing Draft Design Guidelines for the streetscape, signage, and architectural character of the project that will be reviewed and refined with the input of the BPDA staff, the Boston Civic Design Committee and the community.

Letter 15: David Biele

Comment 15.1

I believe that the preferred proposal being pushed by the development team is out of scale for the traditional South Boston neighborhood. Building with heights of 200 feet are not something that fits in along City Point and it is not the size that was in mind during the Article 68 planning process. The density being proposed by the development team is more appropriate along the Waterfront, or the Dorchester Avenue Corridor. The proposal would also be out of place along Broadway, which historically has absorbed higher heights and density. I am worried what type of precedent would be set if development of this scale is allowed to move forward.

Response

Refer to Chapter 3, *Urban Design*. The scale and massing of the Project is influenced by the variation shown in the existing structures.

Comment 15.2

I am also deeply concerned with the impacts of this project on our public transportation infrastructure. It is well documented that our public transportation system has not been able to keep up with the population growth and pace of development in the City of Boston. This development, situated at the start of bus service for the entire South Boston neighborhood, would cripple public transit options for the rest of the neighborhood. The BPDA should direct the development team to further study this area, as it will have impacts beyond the surrounding City Point neighborhood.

Response

Refer to response to Comment C.36.

Comment 15.3

Additionally, the development team should maximize the opportunity for affordable housing. Washington Village and The Beverly were able to do so, and there is no reason why the South Boston neighborhood should settle for the minimum 13% if this project moves forward. The City of Boston is rapidly becoming a city of haves and have-nots, as we have one of the highest rates of income inequality in the country, and it is the responsibility of the City to address this problem. A development of this magnitude needs to do more than the bare minimum to meet the Inclusionary Development Policy, and the City needs to make this development team do more.

Response

Refer to response to Comment C.25.

Comment 15.4

Similarly, more needs to be done on parking. The proposal's parking requirements are grossly inadequate for a 15-acre development, especially when Alternative B calls for significantly more parking.

Response

Refer to Chapter 5, *Transportation*, for an evaluation of the Project's parking approach.

Comment 15.5

Lastly, the development team has been pushing its "preferred" development proposal. However, they provided three alternatives for the project in their PNF. The community deserves to know ALL the options that are on the table. The development team should not be allowed to lead the conversation away from feasible projects for the site which the development team as proposed in writing. As the proponent, they have an incentive to shift the conversation away from less lucrative proposals, and I hope the BPDA will hold their feet to the fire on their misleading presentations. At the public meetings, there has been a clear demand for parking--Redgate and Hilco's "Alternative B" calls for office space with approximately 1000 parking spaces. However these details have been buried in the filings and not presented indepth publicly. I hope the BPDA would require Redgate and Hilco to address Alternative B in the upcoming scoping session to ensure that all options are on the table for discussion.

Response

Refer to Chapter 2, *Alternatives Analysis,* for updated details on all alternatives considered.

Letter 16: Allison Drescher

Comment 16.1

Trip Generation and Impacts. The current estimate of 9,000 - 20,000 car trips per day resulting from this proposal is staggering. Speaking frankly, the City of Boston has been remiss in not doing extensive traffic studies with the residential density that has been added to the neighborhood. This must happen and the City should work in tandem with the other stakeholders - Red Gate/Hillco and MassPort – to develop a realistic plan for managing daily traffic in combination with truck trips to and from Connolly Terminal. I would urge the City to undertake a process similar to the recent North Station Area Transportation Access Plan, which acknowledged that, in the face of several large development projects, it was essential for the City to understand the existing transportation network and identify improvements needed to ensure that area growth did not completely gridlock Downtown Boston. South Boston faces many of the same challenges and if the City does not proactively address them, both existing properties and new developments will suffer irreparably.

Response

A detailed impact study has been completed as part of the DEIR/DPIR filing. Refer to Chapter 5, *Transportation*.

Comment 16.2

Proposed Site Access. The two entrances and exits proposed by the developer are not sufficient and likely physically impossible. The two proposed exits on Summer and East First Street threaten to shut off a key access point to South Boston. South Boston is not a grid like the Back Bay, nor does it have multiple access points like the South End. As a peninsula, there are key entrance points in and out. The First Street outlet threatens congestion and feeding vehicles back into the neighborhood. Like other residential areas, South Boston, with its proximity to Route 93, suffers from innumerable "cut through commuters" on a daily basis. City Point and residential streets need to be protected from this.

Response

Refer to Chapter 5, *Transportation*.

Comment 16.3

The outlet onto Summer Street should be a major concern to multiple agencies concerned with transport on the city and state level. This is a key access point to the Marine Industrial Park, the Seaport District, MCCA, Logan Airport, as well as the haul road accessing MA-90 and a major intake for Rt.93 off D Street. If you take the maximum of cars projected at 20,000 and divide equally between two entrances using *a twelve hour day, that is 833 trips per hour. The minimum number of 9,000 trips per day is 375 trips per hour. The likely reality is that these trips will be concentrated during peak hour times, adding to the current congestion in the area. The majority of traffic will be exiting onto Summer Street, and not onto First Street. Perhaps additional relief needs to be explored to open access at the top corner of the site by somehow utilizing the haul road. I will leave the specific solutions to the project's and City's traffic*

Response

A detailed study has been completed as part of the DEIR/DPIR filing. Refer to Chapter 5, *Transportation*.

Letter 17: Eileen Smith

Comment 17.1

Currently, East Broadway (between L&P Streets) has over 225 buses traveling on our streets on a daily basis. With the Edison residential proposal, there must be a plan which provides for additional transportation and the elimination of added buses and or transportation services to the overwhelmed E. Broadway Street.

Response

Refer to response to Comment C.36.

Comment 17.2

The noise, dirt, traffic, planes and pollution are already at unacceptable levels. Previously, as suggested by members of the IAG, a noise monitoring system should be installed before the initiation of the Edison development. I hope you will support this issue.

Response

A noise analysis was conducted to assess the potential impacts associated with the Project. The analysis was evaluated against the applicable local noise criteria. The analysis included measurements of existing ambient conditions and calculations of potential sound levels associated with the Project's operations. The results of the analysis indicate compliance with the applicable noise impact criteria. Please refer to Chapter, *Environmental Protection*, for additional information.

Comment 17.3

The proposed parking accommodations for the Edison are unrealistic, appalling and unacceptable.

Response

Refer to Chapter 5, *Transportation*, for an evaluation of the Project's parking approach.

Comment 17.4

I did not see the designated amount of bike parking spaces. Hopefully, these spaces are not included in the 987 allotted parking spaces.

Response

Bike parking will be provided indoors and outdoors within the Project Site in accordance with City policy.

Comment 17.5

The proposed towers should be lowered and not have offensive lighting that will affect the surrounding residential areas. These proposed high rise buildings are not welcoming to the current residential community.

Response

The development massing has been adjusted since the ENF/EPNF filing to reduce the street wall massing along Summer Street. There will not be exterior lighting on the new buildings other than along the street edges for pedestrian safety and building or retail entrances.

Comment 17.6

I believe that preservation of the buildings histories and structures are relevant. The Edison electric Illuminating Company of Boston is the only plant of its kind in existence dating back to 1886. There is talk of saving the turbine halls which is appreciated. The windows on the L street side of property should also be saved. It would be helpful to have a complete tour (hard hat style) of all the buildings to review their historical relevance.

Response

The Project Site has been open to the public on several occasions and addition opportunities for the public to tour the site will be provided as the process moves forward.

Comment 17.7

The suggested architecture shown for the new eight (8) building developments is disturbing and has no relation or historical significance to the homes in the City Point area.

Response

The Project will include the demolition of the larger existing power plant buildings and their smokestacks, while preserving the more architecturally significant buildings. The very tall existing metal building that sits six feet from the Summer Street curb will be replaced with new buildings set back from the curb to allow widened tree lined sidewalks and dedicated bike paths. The tallest of the existing buildings along East 1st Street will be demolished and replaced new buildings only slightly higher than the existing Turbine Hall 3 which will be preserved.

The new development strives to maintain lower building heights along East 1st Street while placing taller buildings closer to the center of the site in an orientation that will maximize views from South Boston to the waterfront and daylight into the site.

Comment 17.8

Said proposal does not meet the standards and historical design of the neighborhood. Proposals do not include two and three family homes of which this neighborhood reflects. Proposals do not specify low income housing and or availability of over 55 housing. Development requires further clarification.

Response

Refer to response to Comment C.25

Comment 17.9

The private development of the Edison is promising access to newly created streets that will remain public. Does this mean that the City will not be responsible for services such a garbage removal, snow removal, police and fire response, ticketing and towing? Therefore, who will be allowed to park on these streets?

Response

The final ownership of these streets will be subject to future discussions with the City. On-street parking will be available to the public within the Project Site.

3.1 Public Comments

As noted in the introduction to this chapter, over 300 letters were submitted by members of the public, as listed below. Copies of these letters are provided in Appendix H for reference.

Kelly Allison
Phyllis Allison
Judith Anne
Brian Anton
Amy Auth
Richard Bagge
Chris Barese
Louise Baxter
Krista Beem
Paulina Benvissuto
J & G Bergin
Richard Meyer
Brendan Binkoski
Sameer Bhoite
Harry Brett
Nicholas P. Brown
Michelle Burnett
EJ Burns
Robert Byrne
Brian Callahan
Joseph Cappuccio
Karen Carey
Laz Carr
Paul Goulet
Alex Cattell
Gloria Cerullo
Paul Christian
Stephen Congdon
Paul Conley
Barbara Connolly
Kenneth Connolly
Daniel Conroy
Kathleen Curley
Caitlyn DeCarlo
Zack DeClerck
Michael DelNegro
Casey Diehl
Paul Dobie
Theresa Doherty
Bernard Doherty
Daniel Doherty
Frank Donaghue
Marie Donovan
Sheila Greene Donovan
Michael Dowling
Ellen Duffley
John Dunkle
Colleen Dunning
Andrew Dyke
Joseph England
Therese Evans
Patricia Fahey
Jessica Ferguson
Christopher Flaherty
Martin Flaherty
Lorraine Fleury
Natalie Florek
Adam Florek
Caitlin Florentino
Megan Flynn
William Frese
Amy Frith
Suely Garcia
Katie Gentile
Terry Gilhooly
Amy Glynn
Judith Hall
Terrance J. Hamilton
Christopher Hamilton
Patricia Hamilton
Daniel Hauck
Zach Herman
Leyla Hernandez-Donoso
Racho Strauven
Colette Herr
Peggy
Audrey Hopkins
Dylan Joyce
Kerry Joyce
Elaine Joyce
Ann Kane
Jarrod Kaplan
Megan Kaplan
Joe Kebartaa
Ruth Keogh
Virginia Kropas
Rebecca Lanstein
Chris Leahy
Denise Connolly Leary
Brendan Lee
Amy Lindenfelzer
Kenneth H. Lloyd
Pattyanne Loftus
Ronald P. Logan III
Peter Logue
Linda Lynch
Caroline Madden
Nancy Maggs
Lauren Mahoney
Dorothy Manning
Martin Manning
Kevin Manning
Brian Manning
John Marcella
Linda McCullough
Mary McDonough
Michael McEvoy
George McEvoy
Christopher McEvoy
Kristin McFarland
Karen McFeaters

John P. McGahan
James McGee
Jean McGee
Patricia McLaughlin
Dennis McLaughlin
Amy McPhee
Kelly Meade
Fred Melchin
Marc Miller
Caitlyn Miller
Thomas P. Moakley
Namas Monahan
Gail Moran
Shannon Moran
Kate Miller
Erin Milley
Colleen Moran
Dorothy Morris
Elizabeth Morse
J. Daniel Moylan
Jenny Moyryla
Gary Murad
Maureen Murphy
Shelby Nelson
Meaghan Newhall
Paul M. Noonan
Mike Norman
Daniel O'Brien
Sean O'Connell
Patty O'Connell
Ed O'Keefe
John O'Toole
Rose O'Toole
Joseph Picard
Taryn Powers
Stephen Powers
Robert Pyne
Stephanie Pyne
Jon Ramos
Kathleen Reardon
Edward Reavey
Mary Reilly
Caitlin Sanchez
Johna Shaffer
Pete Schofield
Suzanne Schultz
Melinda Seifert
Kathleen Shea
Nancy Sheehy
Diane Smith
Chris Soule
Michael Stavrakos
Patricia Steiner
Tracy Heather Strain
Ryan Beth Stratton
Courtney Subatis
William Sullivan
Dan Sullivan
Judith Sweeney
Cyrus Tehrani
Mark Thomas
Billy Tompkins
Erica Tritta
Aedeen Twomey
Lorraine Walsh
Nora Wasserman
Janice Williams
Glenn Williams
George F. Winterson
David Zox
Catherine O'Flaherty
William Miller
Paul Sullivan
Peggy Kelly
Alexander Merriweather
Catherine Kellogg
Ita Kane
Nancy Torkomian
Lorraine Cox
Anne Farma
William Dalton
Tim O'Brien
Maura Walsh
Elvi Jorgaqi
Justin Pierce
Frances Devlin
Katherine Gentile
James Bailey
Elizabeth Aguilo
Loren Miller
Bernard O'Donnell
Cheryl Conley
Kevin Cox
Mary McAuliffe
Moira Toomey
Sanja Malicbegovic
Eric Frasch
Frances Hamilton
Douglas Stefanov
Kelsey Thomas
Kathleen Wallace
Joanne McDevitt
Deborah Waldman
Matthew Furey
Lisa Cox
Nicholas Binder
Gail Moran
Zachary Cary
William Eldridge
John Murray
Razeen Jeena
John McGahan
Michael Devine
Jeffrey Docking
Linda Zenga
Claire Miller
Meaghan Monahan
Hannah Camilleri
Michael Flaherty
Alicia Jurus
David Przybyla
Paul Picciano
Alexandra Merriweather
Antonio Saez Vieyra
Jeanne Flaherty
Joe Casiello

Matthew Watts
William Gleason
Jillian Henrici
Maureen S.
Taryn Powers
Maryalice Sutherland
Stephen Powers
Kristen Frechette
Benjamin Jackson
Mary Long
Monica Kuczynski
Ashley Balaconis
Sean Burke
Susan Doherty
Patrick Balaconis
Gail Jacoby
Vincent Zerveskes
Robert Miller
Dinna Sinkus
Marjorie McEvoy
Catherine Lamoureux
Karen Florentino
Eugene Stancato
Leslie N.
Chris McAvinn
Paige Bryant
David Bryant
Kelly Conroy
Ryan Harwood
John Conroy
Kevin Coyne
John Wlodarek
Michael Manning
Colin Reposa
Erin Galvin
Sam Crossan
James Zografos
Erin Cooley
Brooke Anable
Stephen Walsh
Marc Waldman
Matt Border
Samuel Browne
Thomas Flaherty Jr.
Kaitlin Hildreth
Alison Hunt
Eric Walden
David Hayes
Patrick Joyce
Nicole Zografos
Chad Rippere
Chris Chalifour
Michael Greeley
David Douvadjian
Hanna Heycke
Stephanie Steele
Mike Gill
Bryan Walsh
Danielle Simbliaris
Roy Sandeman
Rebecca Rossiter
Sam Hallowell
Margaret A.
Clinton Mason
Dave Dombroski
Gillian Hutchison
Leah Strickling
Dean Aiguier
Thomas Haugh
John McCarthy
Ryan Long
Mary Chalifour
Joanne McDevitt
Henry Pynchon
Enrico Piatelli
Jennifer O'Brien
Marianne Gill
Kristi Byrnes
Kevin Brawley
Sean Burke
Nicole Muratore
Dylan Cox
Devin McBride
Jessica Quirk
Thomas Greeley
Patrick Gill
Chris Steele
Adam Dubeshter
Karen Kelley
Tim Mulhall
Nora Smith
Harrison Calato
Alexis Farraye
Michael Falvey
Robert O'Connell
Sean Harrington
Mary Nee
Matthew Martinelli
Christopher Devlin
Brent Grinna
Patrick Balaconis
Areeg Eluri
Francis Russell
Peter Ostrow
Thomas Flaherty Jr.
Joshua Eddy
Maureen O'Keefe
Charlie Dunn

Because many of the letters expressed a similar array of concerns global responses to these letters are provided by topic below. The public comments and concerns fall into the following key categories:

1. Height/Scale/Massing;
2. Working Waterfront;
3. Transportation;
4. Environment and Sustainability;
5. Historic Preservation;
6. Community Impacts;
7. Adequacy of Utility Infrastructure; and
8. Programming.

The responses below aim to address each key community issue and refer to specific sections of the DEIR/DPIR for further information.

Height/Scale/Massing

Refer to Chapter 3*, Urban Design*, for additional detail on the Project's height, scale, and massing, including updated graphics.

Working Waterfront

The Project Team recognizes the unique value that the working waterfront, including Conley Terminal, play on the regional economy and the character of the South Boston neighborhood. The Proponent is working closely with key stakeholders in the working waterfront to ensure that the Project will not adversely impact those uses.

Transportation

Refer to Chapter 5, *Transportation*, for a comprehensive analysis of Project impacts and potential improvements and mitigation.

Environment and Sustainability

Refer to Chapter 6, *Environmental Protection*, for a discussion of the Project's approach to minimizing and avoiding environmental impacts, and Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* for a discussion of sustainability measures. Refer to Response to Comment SD.19 for additional updates on the ongoing cleanup and remediation of the site.

Historic Preservation

Refer to Chapter 7 of the ENF/EPNF and Chapter 10 of the DEIR/DPIR for a discussion of on-site and nearby historic resources. Since the filing of the ENF/EPNF the Proponent has continued to advance their historic preservation strategy and now intends to incorporate the existing 1898 Building into the Project.

Community Impacts

Impacts to the community have been assessed in the ENF/EPNF and DEIR/DPIR and will continue to be evaluated and mitigated through the permitting and design of the Project.

Adequacy of Utility Infrastructure

Refer to Chapter 9, *Infrastructure*, for an evaluation of the existing and proposed infrastructure needs of the Project. The Proponent will continue to coordinate with BWSC, utility providers, MWRA, and others as design of the Project advances.

Programming

Refer to Chapter 1, *Project Description*, and Chapter 3, *Urban Design*, for additional detail on Project programming. The Project endeavors to provide neighborhood-scale retail and placemaking that provide new options to the community that support and complement existing local businesses, and attract a broad, multi-generational population.