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1. Project Overview

1.1 Introduction

Cronin Holdings LCC (Proponent) proposes construction of the 150 Seaport Boulevard Project (Project) on a site located on Seaport Boulevard in the South Boston Waterfront District. The site currently consists of an existing one and two-story structure that will be demolished to allow for the construction of a new mixed-use development that will enhance the area with additional retail/ restaurant and residential uses. When complete, the 283,700 square foot building will also provide approximately 124 new residential units. The size and orientation of the structure has been carefully studied and developed to incorporate design elements that will enhance the surrounding area and encourage activity on Boston's picturesque waterfront. The Expanded Project Notification Form (EPNF) details the proposed components, dimensions, design elements, public benefits and all measures to mitigate potential Project impacts.

This exciting location along Boston Harbor is a major gateway to the City of Boston and provides an ideal opportunity to respond to Mayor Martin J. Walsh's call for aspirational architecture for the iconic Seaport district. Conceptually, the design is inspired by the architecture of the sails that historically characterized the harbor setting and will create a unique world class building with edges that carefully open up the vista and draw the pedestrian's eyes to the harbor.

The Project will enhance the Seaport Boulevard streetscape and improve the urban fabric through a vibrant mixed-use development that will enliven the street and water's edge. The benefits to the public realm extend beyond the property to enrich and strengthen the district and adjacent neighborhoods. Improvements to surrounding sidewalks, seating areas and public spaces will create a pedestrian friendly environment. When complete the new development will encourage public access to the waterfront by providing the missing connection of the Boston Harborwalk between Pier 4 and The World Trade Center. The City will also benefit from construction and permanent job creation, new housing and additional tax revenue.

Design and construction for the building and site will feature energy conservation and sustainable building technologies, practices and materials. High efficiency mechanical and lighting systems will provide comfort and energy savings. The exterior of the building will be wrapped in a high performance glazing system to provide solar control and expanded views of the surrounding harbor and harbor islands beyond. The Project will comply with Article 37 Boston's Green Building Credits and be a LEED Certifiable Project. However, once completed, it is anticipated that the project will apply for and attain a silver rating through the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system.

The potential impact of climate change to this site will require incorporation of several design and planning measures. The site design will incorporate a series of multi-tiered

exterior public and private landscaped areas that will contribute to the filtration of rainwater runoff and reduce the effect of urban heat islands. Building utilities will be located above grade to protect against sea level rise and provide additional layers of resiliency ensuring the longevity and performance of the building into the future.

Because the project exceeds 10,000 square feet, the project is subject to the requirements of Large Project Review pursuant to Article 80B of the Boston Zoning Code. This Expanded Project Notification Form (EPNF) is being submitted to the Boston Redevelopment Authority (BRA) to initiate Large Project Review, of the Boston Zoning Code. The Proponent intends to seek Article 80C approval of the designation of a Planned Development Area Development Plan for the proposed project.

1.2 Project Identification

Project Name: 150 Seaport Boulevard

Project Location: The Project is located on Seaport Boulevard in the South Boston Waterfront Neighborhood as shown on Figure 1-1 Aerial Locus Map and Figures 1-2 and 1-3 photographs of existing conditions on the Project site.

1.3 Development Team

The proponent has assembled a development team of experts familiar with the City's substantive requirements and approval process.

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Figure 1-1 Locus Map

Figure 1-2 Existing View towards Downtown

Figure 1-3 Existing View towards Northern Avenue

1.4 Project Description

1.4.1 Project Site

The Project located at 150 Seaport Boulevard is located on the north side of Seaport Boulevard just east of the intersection with Northern Avenue and contains approximately 55,000 square feet including the adjacent watersheet to the north, which the Proponent expects to acquire. Boston Harbor borders the site on the north and east, with Commonwealth Pier further east and Pier 4 adjacent to the west ("the Project Site"). Currently, two small one and two-story commercial buildings, constructed around the mid-20th century, occupy the Project Site. The buildings were originally constructed for use by the fishing industry for processing and related purposes and now house two restaurants and bars. The Project Site includes an easement over a small strip of adjacent land on the north edge of the property. A similar easement will be obtained from Massport over the eastern edge. Additionally, the Proponent proposes to acquire from the City an adjacent triangular-shaped parcel of approximately 3,813 square feet, which is seasonally licensed by the existing restaurants for outdoor seating, as well as air rights over the sidewalk on Seaport Boulevard, for a total project site of about 55,000 square feet, which includes 23,780 square feet of land.

1.4.2 Project Context

Located in the South Boston Waterfront District, the site is in a prominent area at the interchange of the Interstates 90 and 93. Until recently, it was one of the few developed waterfront sites in the area. Over the past 15 years the neighborhood has changed dramatically and the Project Site is now surrounded by new developments with a mix of uses including residential, office, hotel and retail. The proposed redevelopment of this Project Site will continue this transformation by expanding a now revitalized neighborhood and providing the link between the Fan Pier/Pier Four developments and the mixed use waterfront areas to the southeast, including The World Trade Center, The Fish Pier, and Liberty Wharf. See Figure 1-4 View from B Street

The proximity to public transit makes the area an ideal location for transit oriented development. The Project Site is a 15-minute walk to South Station, a transportation hub that provides access to the MBTA Red Line, Silver Line, and seven commuter rail branches. In addition, the MBTA Silver Line Courthouse and World Trade Center stations are located approximately a quarter-mile from the site. Several MBTA local and express bus routes operate near the proposed site as well. Routes 4, 448, 449, and 459 bus lines have stops on Seaport Boulevard adjacent to the Seaport Hotel, approximately 0.15 miles from the site. The Route 7 bus line runs along Summer Street, which is approximately a quarter-mile away from and runs parallel to Seaport Boulevard. In addition, through its unique location, water taxi, ferry and BHC shuttles are located adjacent to the Project Site which will round out the many transportation options for residents and visitors to the Project.

1.4.3 Proposed Project

The Project as shown in Table 1-1, will be a signature 283,700 square feet, 250 feet tall, twenty-two story mixed use building that will include approximately 124 residential units

and 10,700 square feet of restaurant space on the ground and second floors. Included with the new building is a three level below grade, garage containing approximately 179 parking spaces to serve both the residents and retail/restaurant on the Project Site. The residential units will vary in size including, studio, one bedroom, two bedroom and three bedroom units. Secured bike storage for the residences will be included within the building. See Appendix A for floor plans and elevations.

Table 1-1 Project Elements

Project Element	Approximate Dimension
Residential	273,000 square feet ▪ Approximately 124 residential units ▪ Library and Fitness Spa ▪ Supporting Functions
Retail/ Restaurant	10,700 square feet ▪ Retail/Restaurant ▪ Supporting Functions
Total Gross Floor Area*	**283,700 square feet**
Parking Vehicles	179 spaces (below grade)
Height*	22 stories / 250 feet

***** Measured in accordance with the Boston Zoning Code

1.4.4 Proposed Project Design

The following section catalogs the design intent and featured elements for the various levels of the proposed project.

The Project's design is developed as a new gateway to the City of Boston and Seaport District providing a unique world class building with edges that carefully open up the vista to the harbor. The building form includes a two-step extension off the south façade, providing a geometric relief of the building massing. The shaping of the building will improve the visual experience for pedestrians along Seaport Boulevard and further enhance the connection from the waterfront to the land. See Figure 1-5 for a ground floor plan

Improvements to the surrounding area will include street and sidewalk improvements as well as significant open space along the east and north sides of the site. A Harborwalk will be incorporated creating generous open space along the water. The Harborwalk will also improve waterfront access and will link the pedestrian path along the water's edge. The Proponent envisions this area as a lively public way, with seating and lighting to activate the area. Additional site improvements include new railings, decking and site furnishings. Clearly defined pedestrian routes to the building and around the project will

be constructed with materials that will meet accessibility standards. See Figure 1-6 for a proposed landscape plan and Figure 1-7 for site accessible routes.

Street Level: Along Seaport Boulevard, the entrance to the new restaurant and residential building create pedestrian activity along the street and provide a more visually attractive street façade.

The restaurant will be located on the eastern half of the site, allowing a presence along the sidewalk and boulevard, as well as facing the harbor and adjacent open areas on both the east and north sides of the site. This restaurant venue will enliven the area, creating a significant node of activity at both the street and the water's edge. These areas will be further defined by new landscaping, street trees, and site furnishings.

The new residential lobby located along Seaport Boulevard will provide elevator access to the residential units and amenities. It is anticipated that this lobby will be elevated to accommodate the Federal Emergency Management Agency (FEMA) flood map requirements.

A proposed vehicular pull-off is also located along Seaport Boulevard. The western edge of the ground floor will house two parking garage elevators which will be accessed by valet attendants. These elevators will have discrete entry doors and vehicles will queue along the new vehicular drop-off zones located in front of the project and 100 Pier 4.

Functional planning for the building layout was completed to minimize the impact of the service areas to public access along the street and harbor. The loading dock will also be on the western edge of the building with direct access from Seaport Boulevard. Directly behind the dock will be the main trash room for the restaurant and the residences. Additionally, the northwestern corner of the building will be the location of several mechanical spaces. The façades along these spaces will be designed as primarily continuous horizontal louvers, captured with a metal panel rain screen.

Second Level:
The restaurant will continue at the second level of the project, further enhancing activity along the harbor edge and include an expansive, 1,200 square foot deck which will wrap the northeast corner. It is envisioned that this covered deck will have a large canopy and glass railing. The remainder of the second level will be primarily mechanical back-of-house area for both the residential and restaurant spaces.

Third Level:
The third level will incorporate approximately 6,000 square feet of residential amenities including a lounge, club room, fitness area, dog washing station and grooming area, and other supporting services. Several residential units will also be located on this level.

Upper Levels:
The upper levels of the project, levels 4-21, include residential units of varying sizes. The majority of these units will have their own private balconies facing the Harbor or looking back to downtown. Due to the unique shape of the building, the units contain geometric and dimensional variations at each level. The layouts of the units will utilize the unique shape of the plan to create rooms and spaces that are oriented to maximize views and create a distinct building character.

Figure 1-4 View from B Street

Figure 1-5 Ground Level Plan

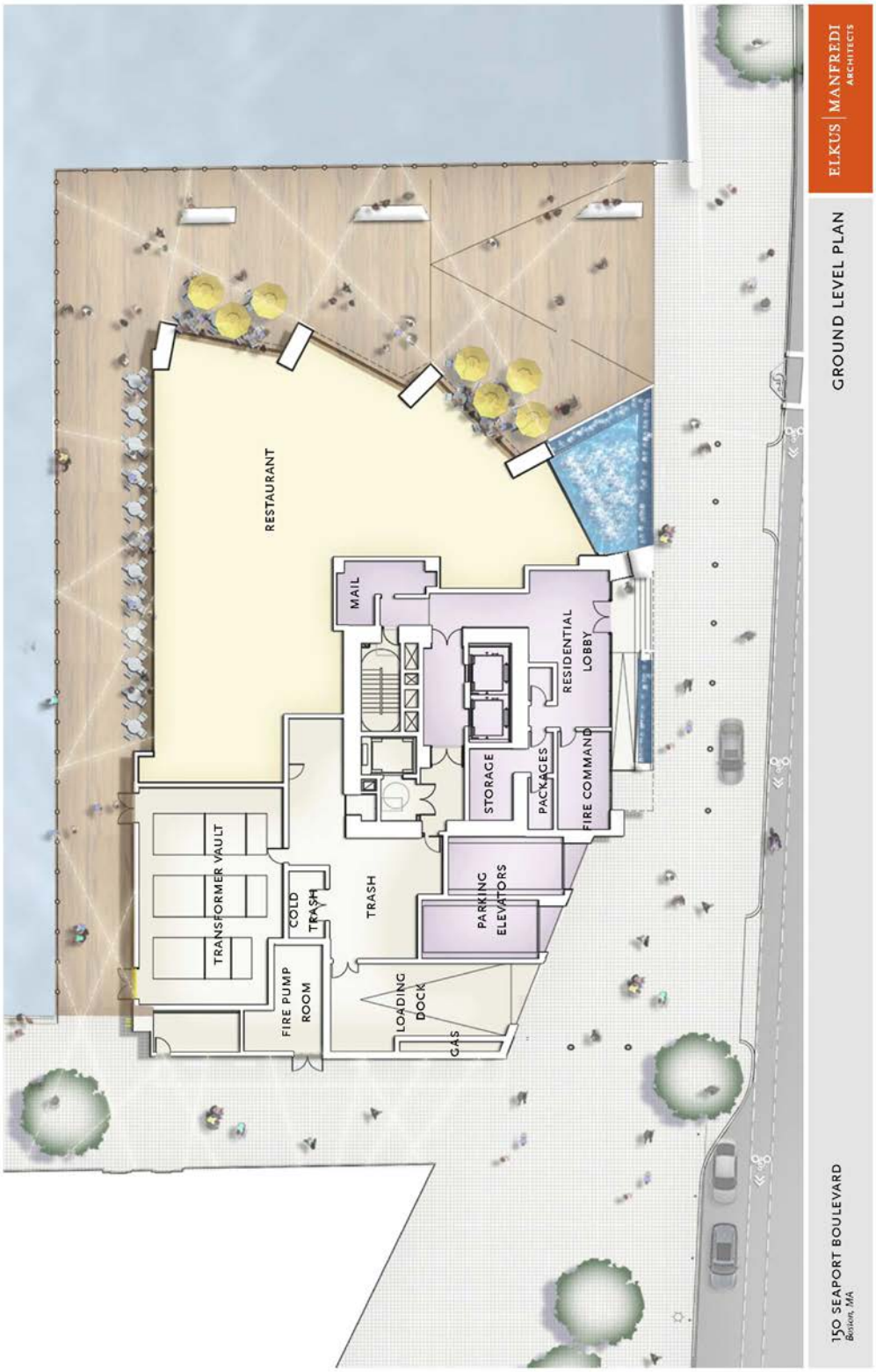


Figure 1-6 Proposed Landscape Plan

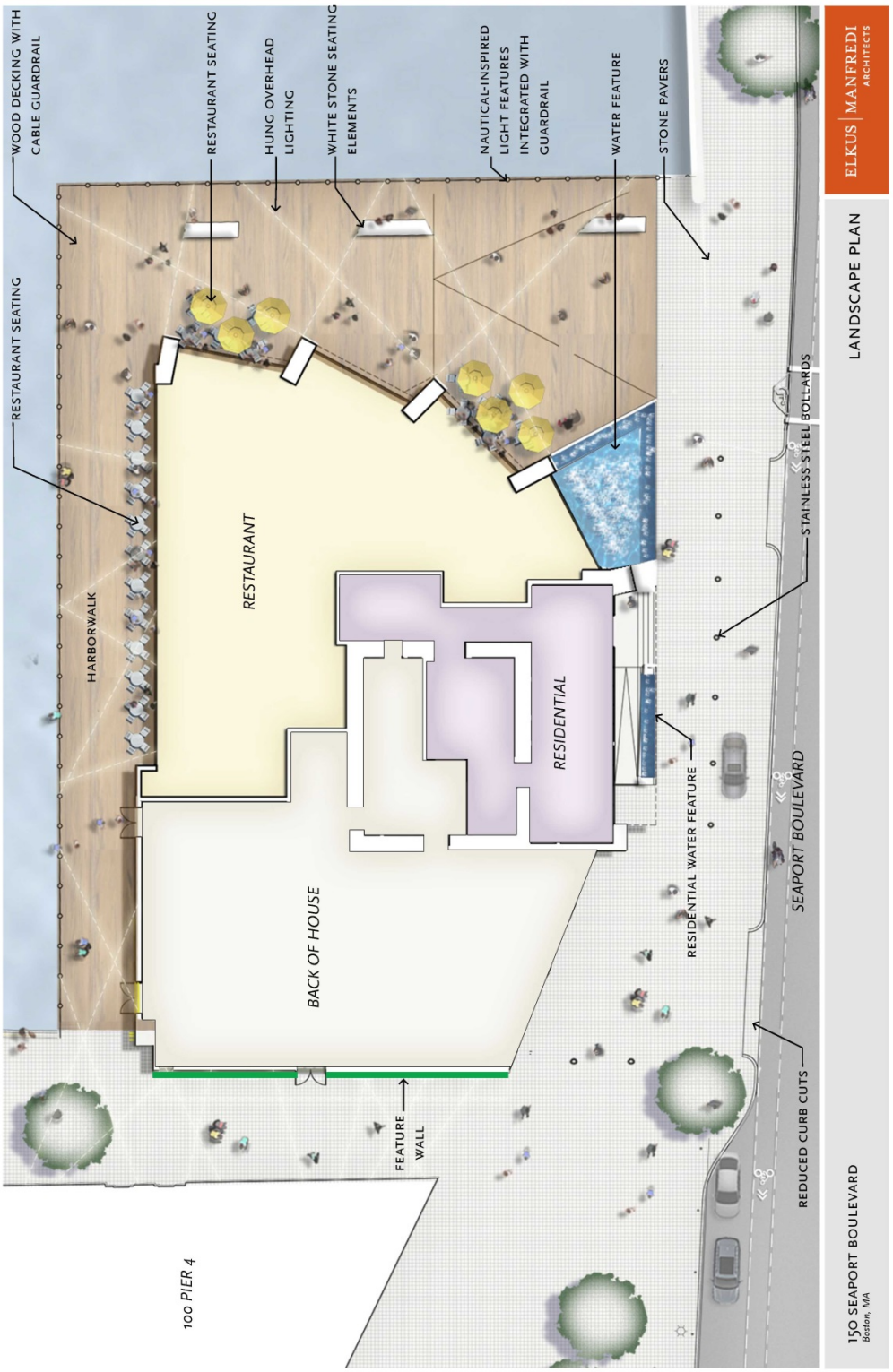
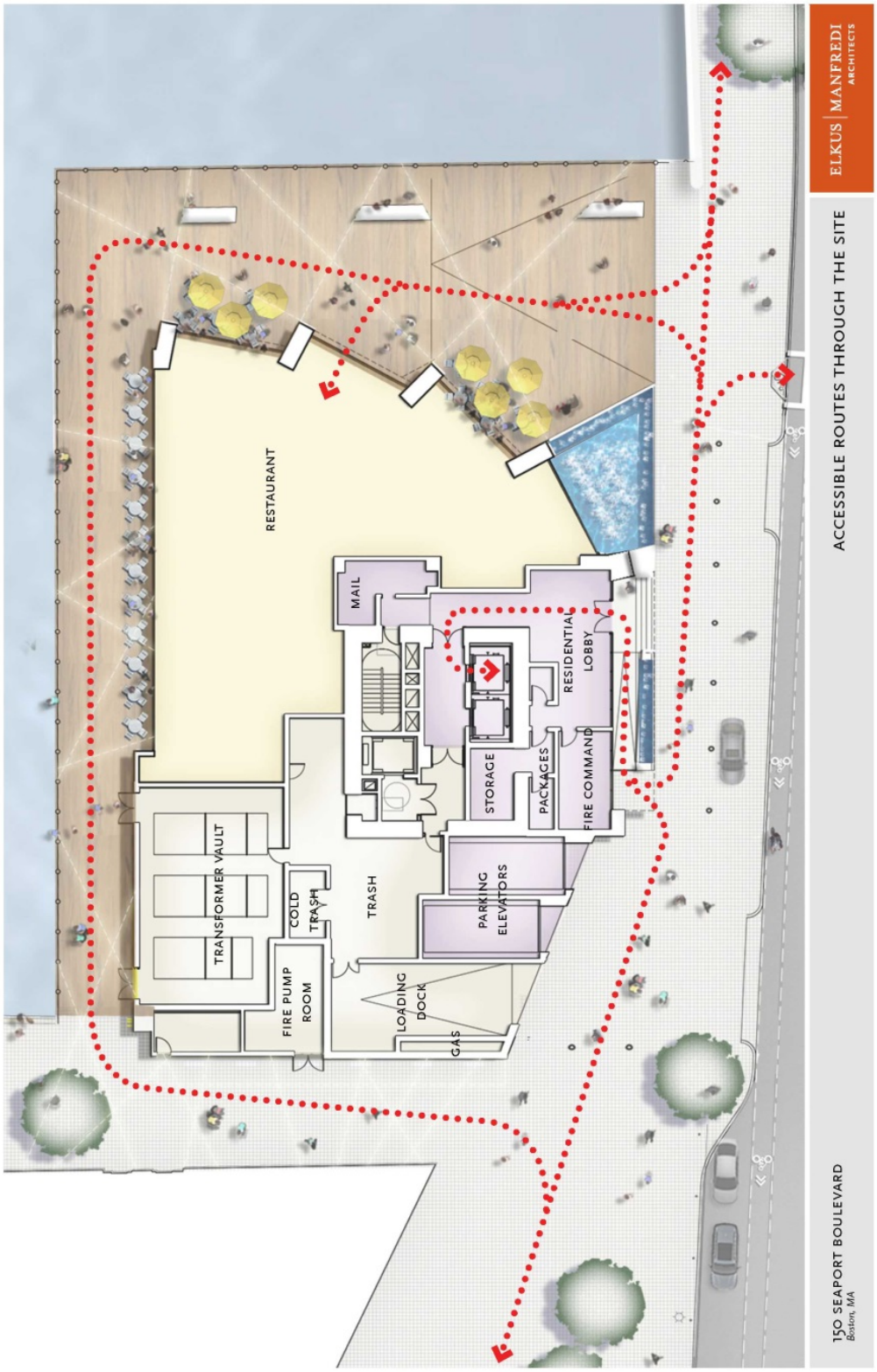


Figure 1-7 Site Accessible Routes



Many of the buildings mechanical systems have been located on the penthouse, level 22. These include cooling towers, generator, heat exchangers, chillers, an energy recovery unit, and the emergency electrical room. Design of the exterior façade was completed to reduce or eliminate views of the mechanical equipment from the street, harbor and adjacent buildings.

Parking:
The building will house approximately 40,000 square feet of underground parking on three levels. Access to the parking garage will be by valet attendants only, using a vehicular elevator to transport cars from the Seaport Boulevard drop-off area to the garage and back.

1.5 Public Benefits

The project will transform an underutilized gateway parcel, previously omitted in the Seaport District planning process, into a lively mixed use, architecturally significant residential and commercial building. In addition to providing much needed housing and other direct and indirect economic benefits, the project will contribute significantly to the vitality of the neighborhood with public realm improvements that will provide a safe pedestrian friendly environment. Specific Public Benefits include:

- **Providing a Mixed-Use Environment**
  Creating residential and civic uses increases the variety of activity for a greater number of hours during the day and into the evening. Upon successful completion, the new development enhances the overall safety and comfort of the public.
- **Improving Pedestrian Environment**
  Completing and enhancing the streetscape along Seaport Boulevard, improving and expanding sidewalks, increasing façade transparency and providing ground floor retail and restaurant space refines this block's link to its surroundings.
- **Completing the Boston Harborwalk**
  Providing direct access to the waterfront by connecting the City of Boston's pedestrian waterfront walkway between Pier 4 and The World Trade Center and allow for an uninterrupted Harborwalk along this entire stretch of the waterfront.
- **Creating a Distinctive Architectural Design**
  Creating a dynamic addition to Boston's urban fabric, the building will become an important visual landmark along the waterfront and a reflection of Boston's creative image and high quality standards.
- **Advancing Sustainable Design and Climate Change Preparedness**
  Achieving all targets for environmental and sustainable design with the anticipated goal of attaining a silver rating through the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) system. The Project will include multiple approaches to providing resiliency against future flooding, rising sea levels and changes in energy delivery.

- **Promoting Boston's Affordable Housing Objectives**
  Developing much need affordable housing and complying with the Mayor's Inclusionary Development Policy for construction of residential property within the City of Boston.
- **Increasing Employment Opportunities**
  Providing the greater Boston community with approximately 400 construction jobs and 200 permanent jobs that are anticipated through completion of this project.
- **Enhancing Property Tax Revenue**
  Increasing revenue for the City of Boston with approximately three million in new annual property tax receipts that will be generated through completion of this project.
- **Promoting Transit-Oriented Development**
  Maximizing residential development in an area with new and expanded transit access minimizes automobile use and the potential impacts on surrounding roadways. Several transit stations, bus lines and harbor transit boats exist within the vicinity of the proposed development.
- **Advancing Smart Growth Principles**
  Focusing density into areas supported by existing infrastructure promotes and reinforces community vitality in addition to reinforcing development and continuing the momentum of expanding the Seaport neighborhood.

1.6 Regulatory Controls and Permits

1.6.1 Zoning

The Project site is located within the Fort Point Waterfront sub-district within the Harborpark Zoning District pursuant to Article 42E of the Boston Zoning Code and within the South Boston Inner Harbor sub-district of the South Boston Waterfront Interim Planning Overlay District. The Fort Point Waterfront is shown on Map 4A/4B of the City of Boston Zoning Maps. In addition, the Project site is within the Restricted Parking Overlay District. The Project site is located in an area in which Planned Development Area (PDA) designations are allowed.

1.6.2 Planned Development Area ("PDA")

The Project Proponent intends to seek approval for a Planned Development Area Development Plan for the proposed project, as currently allowed under Section 3-1A.a of the Code and as allowed under Section 27P-16 and Section 42E-15 of Article 42. Such zoning allows PDA's in order to: establish a more flexible zoning law and encourage large-scale private development, while ensuring high-quality design by providing planning and design controls; to provide a secure economic base for the downtown services, industrial and waterfront economy and to encourage development which knits together the surrounding neighborhoods.

Under Article 27P, the Project site is subject to the following dimensional requirements:

Maximum height allowed is 150 feet

Maximum FAR is 4

At least 50% of the lot area must be devoted to open space, unless the BRA determines pursuant to Large Project Review that a smaller open space area or provision of open space in a different location would result in a design more compatible to the surrounding area.

Minimum waterfront yard areas are 50 feet from the shoreline or the end of a pier and 12 feet from the side of a pier, unless the BRA determines pursuant to large project review that a lesser setback is necessary to accommodate existing conditions on the lot and will provide adequately for a continuous path along the waterfront.

The proposed Project building will have a height of 250 feet, a floor area ratio in excess of 4, and 37% open space. The dimensional requirements for the Project will be set forth in a development plan. The PDA and the development plan after public comment and review are subject to approval by the BRA Board, the Zoning Commission and the Mayor. Upon the approval and the establishment of the PDA, the Project will be governed by the development plan.

1.6.3 Article 80 – Large Project Review

The proposed building exceeds 10,000 square feet of gross floor area, and is therefore subject to Large Project Review pursuant to Article 80 of the Code. Based on a comprehensive approach to addressing potential impacts and mitigation equivalent to the level of information normally presented in a Draft Project Impact Report, the Proponent requests that the BRA, after reviewing public and agency comments on this Expanded PNF, issue a Scoping Determination Waiving Further Review pursuant to the Article 80B process.

1.6.4 Consistency with Other Plans

The South Boston Waterfront area has been subject to several comprehensive planning efforts. These include the Boston Redevelopment Authority South Boston Waterfront/Seaport Public Realm Plan and the South Boston Waterfront Municipal Harbor Plan.

1.6.4.1 Seaport Public Realm Plan

The BRA issued the South Boston Waterfront / Seaport Public Realm Plan in 1999 to establish the planning principles and goals encouraging development while also allowing for a new, vibrant public realm.

The Project will meet the objectives of the plan, including:

- Connect the Seaport with Boston Harbor and to encourage people to experience the water as well as the land.
- Create a vibrant, mixed-use neighborhood in the Seaport, with substantial residential and civic uses that will attract people to the area even after the end of the workday.

- Develop the Seaport within the economic context of the rest of Boston adding to our City's commercial office, hotel, retail and tourist industries and enhancing our position as the economic engine of the region.

- Ensure that the residential neighborhood of South Boston, immediately adjacent to this area, remains a vibrant community and receives significant amounts of affordable housing and job training opportunities.

1.6.4.2 South Boston Waterfront District Municipal Harbor Plan

The proposed Project is within the municipal harbor planning area of the South Boston Waterfront District Municipal Harbor Plan (South Boston MHP), which was approved in 2000 and amended in 2002 and 2009.

As part of the 2016 renewal of the South Boston MHP, the City of Boston, through the Boston Redevelopment Authority (BRA), has initiated a site-specific amendment for 150 Seaport Boulevard that includes substitute provisions for building height (up to 250 feet), building footprint (up to 70% of the project site), and a re-configured water dependent use zone. It is anticipated that the South Boston MHP renewal & amendment process will be concluded by July, 2016, with a decision by the Massachusetts Secretary of Energy & Environmental Affairs. The proposed project will comply with the MHP substitute provisions in its application for a Chapter 91 license.

The 150 Seaport Boulevard Project will fulfill the goals of the South Boston Waterfront Municipal Harbor Plan by activating the waterfront and promoting the public enjoyment of Boston Harbor.

1.7 Legal Information

1.7.1 Legal Judgments Adverse to the Proposed Project

There are no legal judgments or actions pending concerning the proposed project.

1.7.2 History of Tax Arrears on Property

The Proponent does not have a history of tax arrears on property in the City of Boston

1.7.3 Site Control / Public Easements

An affiliate of the Proponent owns the project site, and the Proponent has permission to seek the necessary approvals and permits for redevelopment. It is expected that small strips of land owned by neighboring property owners will be incorporated into the project site. An easement from the northerly land owner is in place to allow for construction and maintenance of a sea wall and a Harborwalk. The Proponent anticipates entering into a similar easement with the Massachusetts Port Authority, the owner of property to the east, to allow incorporation of approximately 3,590 square feet into the project site. The

Proponent also expects to acquire a triangular parcel of City-owned land containing approximately 3,813 square feet that is adjacent to the project site along Seaport Boulevard, as well as the air rights above 3,828 square feet of sidewalk. In addition, the Proponent expects to acquire 30,000 square feet of water sheet to the north of the site.

1.7.4 Nature and Extent of Public Easements

There are no public easements on the site. However, a Chapter 91 license for one of the existing restaurants requires certain public benefits, including a public viewing area and publicly-accessible landscaped open space. A 115 KVA underground power line on a utility easement slices through the southwest corner of the site.

1.7.5 Survey Existing Conditions

Appendix B provides a survey of existing conditions of the project site.

1.8 Anticipated Permits

Table 1-2 (on the following page) provides a list of federal, state, and local agencies requiring permits and/or other expected actions

1.9 Coordination with Other Governmental Agencies

Massachusetts Architectural Access Board

The Project will comply with requirements of the Architectural Access Board and will be designed to comply with standards of the Americans with Disabilities Act.

Massachusetts Environmental Policy Act (MEPA)

The Project is subject to MEPA review, due to the need for a Chapter 91 license for a new non-water dependent use of tidelands. The Project also anticipates obtaining an easement or other rights from the Massachusetts Port Authority to use an approximately 3,590 square foot strip of Massport owned land for a Harborwalk, water dependent use zone and seawall. An environmental notification form will be filed with the MEPA office of the Massachusetts Executive Office of Energy and Environmental Affairs.

Massachusetts Historical Commission (MHC)

The Project will require a Chapter 91 license as well as certain other state and federal permits. Accordingly, the Project is subject to MHC review under state regulations (950 CMR 71.00) and section 106 of the National Historic Preservation Act. MHC will be provided with a copy of the MEPA environmental notification form.

Chapter 91 and Municipal Harbor Plan

The Project requires a Chapter 91 license for a new non-water dependent use and structure in filled tidelands. Prior to filing a Chapter 91 license application, the Project is working with the City and State agencies on an amendment to the South Boston Municipal Harbor Plan in order to establish alternative numerical standards as substitutes for the standards contained in the Waterways regulations.

Table 1-2 Preliminary Permit List

Agency Name	Permit / Review / Approval
FEDERAL	
Federal Aviation Administration	Determination of No Hazard to Air Navigation, Notice of Proposed Construction or Alteration to a building,
US Army Corps of Engineers	Section 404/Section 10 permits
US Environmental Protection Agency	National Pollution Discharge Elimination System Permits for construction storm water and dewatering.
STATE	
Executive Office of Energy and Environmental Affairs, Massachusetts Environmental Policy Act (MEPA) Office	Secretary's Certificate (Massachusetts Environmental Policy Act (MEPA) Office Municipal Harbor Plan approval (Coastal Zone Management)
Department of Environmental Protection	Chapter 91 License, 401 Water Quality Certification (if needed), Notice of Demolition and Construction Notice of asbestos removal(if applicable) Air Plan approval (if applicable) Construction Dewatering
Coastal Zone Management	Consistency review, Municipal Harbor Plan
Massachusetts Historical Commission	State Register review
Massachusetts Department of Transportation	Compliance with Chapter 40, Section 54A
LOCAL	
Boston Redevelopment Authority	Article 80B Large Project Review; Article 80C Planned Development Area Review
Boston Zoning Commission	Article 80C Planned Development Area approval
Boston Civic Design Commission	Design Review
Boston Air Pollution Control Commission	APCC permit
Boston Conservation Commission	Order of Conditions
Boston Water and Sewer Commission	Water and Sewer connection permits Site Plan Approval Construction dewatering permit
Boston Transportation Department	Construction Management Plan Transportation Access Plan Agreement
Boston Landmarks Commission	Article 85 Demolition Delay Review
Boston Public Safety Commission, Committee on Licenses	Permit to erect and maintain parking garage Flammables storage license
Boston Public Improvement Commission / Boston Public Works	Street discontinuance Street and Sidewalk Occupation Permits Tieback/Earth Retention Permit Specific Repair Plan/Discontinuance
Boston Fire Department	Approval for fire safety equipment
Inspectional Services Department	Demolition permit Building Permit Certificate of occupancy

This is a preliminary list of permits and approvals currently expected to be necessary for the Project. It is possible that not all of the listed permits will be required or additional permits will be required.

1.10 Public Participation

The Proponent has sought input from numerous community organizations, businesses, abutters, neighborhood associations and public agencies, as well as several individual residents and elected officials. The Proponent is committed to an open and inclusive public review process and will continue to seek input from interested and affected parties.

Outreach to Public Agencies

- Boston Redevelopment Authority
- Boston Environmental Department
- Boston Commission for Persons with Disabilities
- Boston Transportation Department
- Massachusetts Environmental Policy Act (MEPA) Office
- Massachusetts Office of Coastal Zone Management (CZM)
- Massachusetts Department of Environmental Protection (DEP)
- Massachusetts Port Authority
- Massachusetts Executive Office of Housing and Environmental Affairs (EEA)
- Massachusetts Executive Office of Housing & Economic Development

Outreach to Neighborhood Associations/Community Organizations

- The Boston Harbor Association
- Save the Harbor Save the Bay

Outreach to local Businesses and Abutters

- Institute of Contemporary Art
- Massachusetts Convention Center Authority
- Boston Children's Museum
- Boston Tea Party Museum
- Fidelity Investments
- Tishman Speyer
- World Trade Center
- Seaport Hotel
- Boston Global Advisors
- UDR
- Cottonwood Management

1.11 Schedule

Construction of the proposed Project is anticipated to commence during the 2nd quarter of 2017 and continue through the 3rd quarter of 2019.

2. Urban Design

2.1 Introduction

The following chapter outlines the urban design objectives, strategy, and process for the proposed Project. This narrative includes a design description and provides details regarding the urban context, design development, height and massing, characters and materials, landscaping, open spaces, pedestrian ways, and amenities. The Project team created a contextually appropriate design solution for the 150 Seaport Boulevard Project that complements the urban character of not only the South Boston waterfront neighborhood, but also the City of Boston. The development of the Project site provides the link between the Fan Pier/Pier Four developments and the mixed use waterfront areas to the southeast, including The World Trade Center, The Fish Pier, and Liberty Wharf filling a void in an important location within the city.

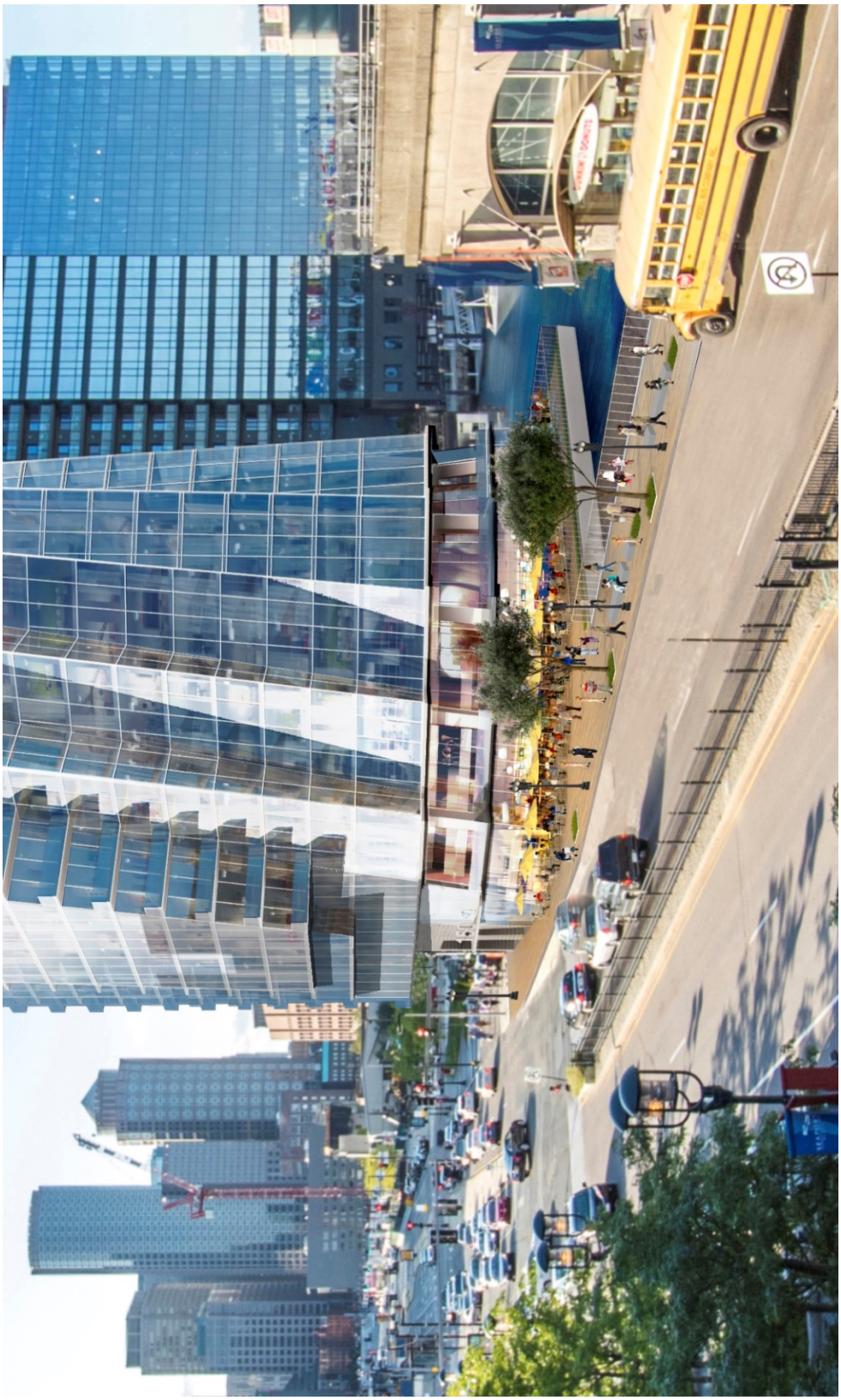
2.2 Urban Context

After decades of underdevelopment, South Boston's Seaport District is now being recognized as the next great neighborhood in the city of Boston. The Seaport has been transformed from an area dominated by surface parking lots and warehouses to the site of numerous recently completed development projects along with several others currently underway. The parking lots and warehouses have been replaced by new office buildings, condominiums, retail stores, and restaurants creating a vibrant and exciting new urban fabric. At this time very few undeveloped or unimproved areas exist in the district. One of the remaining sites is 150 Seaport Boulevard. See Figure 1-1 for a locus map of the site.

Currently, the site of 150 Seaport Boulevard is home to two, one and two-story, restaurant and entertainment venues; the Atlantic Beer Garden and the Whiskey Priest. These restaurants and bars are functional. However, they exist within outdated structures that are inconsistent with the neighborhood's changing context. As new development in the Seaport has blossomed, the existing use and structures have become increasingly incongruous.

The project site is an important gateway location to the district and the city. Highly visible from both the Harbor and the exit ramp from Interstate 90 makes it an ideal location for not just a building, but an iconic building. Numerous passenger vessels dock at the adjacent Commonwealth Pier, making the location one of the first major properties that passengers see upon arrival to Boston. Similarly, the site is at the east coast terminus of the transcontinental Highway 90, making the building one of the first buildings that visitors and Bostonians will see upon their entry to the city. From downtown, after passing over the Moakley Bridge into the Seaport district, the building

Figure 2-1 View from Seaport Boulevard



will anchor the corridor of development running from the Channel down Seaport Boulevard.

The residential and retail/restaurant programming is an ideal combination of uses that will dramatically improve the site's character, refine the overall pedestrian experience, and support the desired sustainable design goals. The proposed Project will be located in an urban setting where the existing infrastructure is readily accessible and easily adapted for new construction. The height of the proposed residential building will be comparable to the surrounding buildings. The slender shape and form will provide a much needed contrast to squat, box-like buildings currently lining Seaport Boulevard. The building edges have been carefully designed to open up the vista and draw the viewer's eyes to the Boston Harbor. Ultimately, this new slender, elegant structure will be a dynamic and beautiful addition to the Boston skyline. See Figure 2-1 through Figure 2-3

The benefits to the public realm will not be limited to the new project site. They will extend beyond its borders to enrich and strengthen the neighborhood. Improvements to surrounding sidewalks, seating areas, and public spaces are equally important to the success of the proposed development. The Project will enhance public access to the waterfront by providing the missing connection of the Boston Harborwalk between Pier 4 and The World Trade Center encouraging the community to experience the water as well as the land.

2.3 Height, Massing, Character and Materials

One of the BRA's planning objectives for the Seaport District was to maintain and enhance the connection to the harbor and encourage people to experience the water as well as the land. It is this very principle that has driven the massing, design, and character of 150 Seaport Boulevard and it is the main principle behind the project's urban design goals.

A major component of the City's waterfront revitalization program was the creation of a Harborwalk. The Harborwalk re-establishes the shoreline from Dorchester to East Boston, by creating a continuous public walkway along the water's edge. The site currently does not have a Harborwalk, nor does it have any open space for public use along the water. 150 Seaport Boulevard has committed to creating not only a Harborwalk but generous amounts of open space for public enjoyment. See Figure 2-8

The ground level plan will occupy approximately half of that area, leaving the remainder of the site open. The Harborwalk will run along the edge of the building site on both the north and east sides. This new exterior space will be enhanced with the incorporation of new site furnishings such as custom seating, planters, shade structures, trash/recycling bins, bollards, railings, lighting and bike racks.

Figure 2-2 Existing Condition looking down Seaport Boulevard

Figure 2-3 Build Condition looking down Seaport Boulevard

Figure 2-4 Existing Condition looking down Seaport Boulevard

Figure 2-5 Build Condition looking down Seaport Boulevard

Figure 2-6 Existing Condition looking down Seaport Boulevard

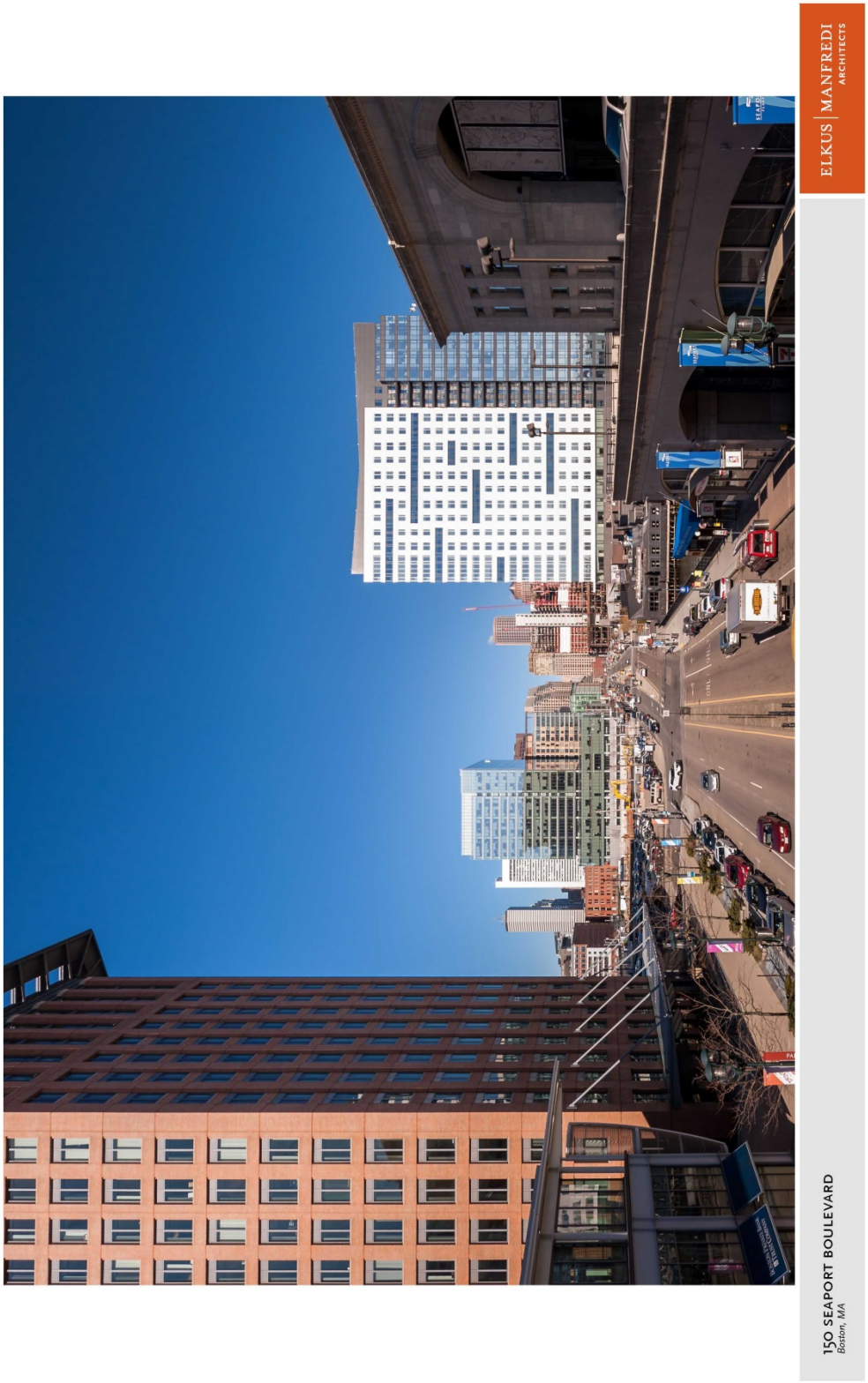
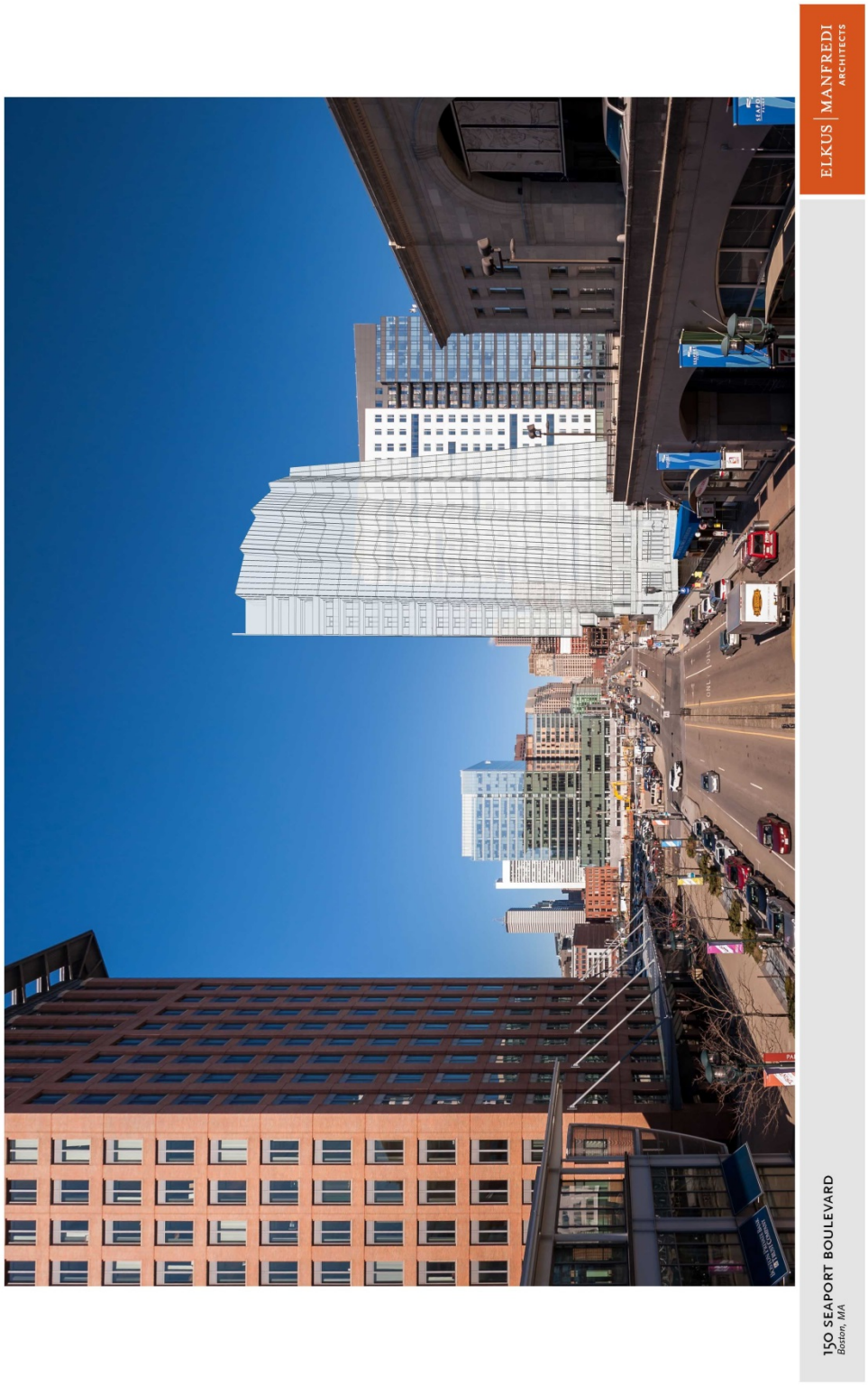


Figure 2-7 Build Condition looking down Seaport Boulevard



This public walkway will not only have a connection to the water, but will also follow the edge of two stories of restaurant and outdoor eating areas. The new restaurant will be primarily glass facades and will open up to the exterior; further activating the building edge and incorporating seating elements for both pedestrians and restaurant patrons.

The existing restaurant on the site currently utilize an expansive upper deck seating area and front patio, allowing patrons to dine outside during the warmer months of the year. Preserving and enhancing this idea, the new restaurant will have expanded outdoor seating on both levels that will wrap from the front of the building to the back, further enhancing the connection between inside and outside. These two levels of restaurant will maintain an urban scale that will promote and enhance connectivity to the pedestrian realm.

The remaining programmatic uses at the building's lower levels are a small residential lobby and residential services, a loading dock, two discreet parking elevators and mechanical space. These uses are tucked along the western side of the building away from the primary public open spaces.

Beyond programmatic uses, the building massing is both inspired and shaped by its connection with the water. The sail-like layered massing which slightly protrudes out over the sidewalk to the south has been stepped up, away from the sidewalk to maintain a comfortable walking condition beneath the building and to graciously emphasize the directionality of the building massing towards the Harbor. The main building massing move occurs along the northern and eastern sides of the site. At ground floor, the building peels away from the sidewalk edge, revealing the harbor beyond and giving approximately 1,800 square feet of additional open space along the waterfront to public use. To further emphasize the movement towards the water, the building gently curves away in a sweep of serrations. These serrated curves extend upwards to 250', and twist 90 degrees, creating a series of sweeping glass sails facing the harbor.

The project will align with the new urban fabric of the Seaport district in its basic parameters of height, scale and materiality. However, 150 Seaport Boulevard will distinguish itself among its neighbors as a distinct, signature gateway tower. The building is ideally located at the eastern terminus of Interstate 90, and at a key entry point into the harbor via passenger ships. The site is meant to be a landmark, and the design is suited to make it a memorable one.

2.4 Public Realm: Amenities, Pedestrian Ways, Open Space and Landscape

The Proponent seeks to make significant upgrades to Seaport Boulevard and its adjacent sidewalks within the PDA. Seaport Boulevard will be realigned to allow for a bike lane and an off-street valet zone. This will slightly reduce the width of the street and will in turn reduce the speed of traffic. Additionally, street improvements and re-alignment will reduce the overall width of the existing median; helping to minimize the existing barrier between the two sides of the boulevard, reduce crossing time and encouraging

Figure 2-8 View of Open Space from Seaport Boulevard

pedestrians to cross the street. The bike lane and queuing will create a buffer between the busy boulevard and the pedestrian realm. See Figure 1-6

The intent of the development recommends making improvements to the existing sidewalks. A generous and barrier free pedestrian zone will knit seamlessly into the two adjacent parcels facilitating flow along Seaport Boulevard while providing access to the Harborwalk. Enhancement of this pedestrian zone will be through the introduction of new street trees, paving, bollards, bike racks, trash receptacles, and lighting. Entrances to the residences, restaurant and Harborwalk have been carefully designed to make the spaces feel unified and integrated. This continuous outdoor space is energized by display windows, canopies, signage and outdoor seating. See Figure 2-8

The design also includes a new Harborwalk on the north and east side of the property. The waterfront edge will feature new stainless steel and wood guardrails and custom lighted pylons to enliven the experience and create a sense of destination.

Access to the Harborwalk from the southeast is accented by a sculptural water feature, overhead string lights, and two-story dining which continues around the waterside edge. Outdoor seating and plantings also add to the experience. Access to the boardwalk from the west is activated by the introduction of a textural feature wall which will display art installations from the Society of Arts and Crafts. Further enhancements of this area will be achieved with plant materials and lighting.

Overall pedestrian experience of this project will create a distinct and memorable experience that residents and visitors alike can name, identify with and return to.

Figure 2-9 View of Harborwalk from Boston Harbor

3. Traffic

3.0 Executive Summary

Fort Hill Infrastructure has conducted an evaluation of the transportation impacts of the redevelopment of 150 Seaport Boulevard in the Seaport District adjacent to Pier 4 in Boston, Massachusetts. The proposed development will include 124 residential units, as well as 8,902 square feet of retail that is designated for restaurant use on the ground floor. The building will be 22 stories high, with an additional three levels of parking below ground containing 179 parking spaces. This transportation study adheres to the Boston Transportation Department (BTD) Transportation Access Plan Guidelines and Article 80 Large Project Review process. This study includes an evaluation of existing conditions, future conditions (with and without development), projected parking demand, loading operations, transit services, and pedestrian activity. Based on the results of the traffic analysis contained within this chapter, the Project is expected to have negligible impact on the surrounding transportation infrastructure.

3.1 Introduction

150 Seaport Boulevard is located on the northern edge of the Seaport District of South Boston adjacent to Pier 4. The proposed development will replace the existing uses that currently occupy the lot: the Atlantic Beer Garden and The Whiskey Priest restaurants. The proposed development will include 124 residential units in 276,305 square feet of residential space, as well as 8,902 square feet of retail that is designated for restaurant use on the ground floor. The building will be 22 stories high, with an additional three levels of parking below ground containing 179 parking spaces.

3.1.1 Purpose

This section presents existing transportation conditions in the Project area, discusses No-Build Conditions, preliminary full-build Project trip generation numbers, preliminary transportation impacts and measures, and presents an overview of the anticipated transportation operations associated with the redevelopment of 150 Seaport Boulevard.

3.1.2 Study Area

150 Seaport Boulevard is located in the Seaport neighborhood of South Boston. The proposed building will contain 22 stories of residential condominiums and parking, and will be constructed in the location of an existing restaurant and bar. The proposed study area intersections are shown in Figure 1. Seaport Boulevard in this location is classified as an Urban Principal Arterial and is under Massachusetts Port Authority jurisdiction east of B Street, and under City of Boston jurisdiction west of B Street. Seaport Boulevard provides access from the site to downtown Boston. East Service Road is classified as a local road and Boston Wharf Road is classified as a major collector. Both roadways provide primary access to the local neighborhood of South Boston, while B Street is classified as a minor arterial and provides access to Interstates I-90 and I-93, the primary routes for regional access to the site. The primary uses on Seaport

Boulevard in the vicinity of the site are commercial, office, residential and hospitality. The proposed site will have one driveway located off of Seaport Boulevard.

The following intersections will be evaluated for traffic impacts:

- Seaport Boulevard at Boston Wharf Road
- Seaport Boulevard at East Service Road
- Seaport Boulevard at B Street
- Seaport Boulevard at D Street
- Congress Street at Boston Wharf Road
- Congress Street at East Service Road
- Congress Street at B Street; and
- Congress Street at D Street

3.2 Existing Conditions

3.2.1 Roadway Inventory

Seaport Boulevard is a four-lane roadway, with two travel lanes in the eastbound direction and two travel lanes in the westbound direction directly in front of the proposed site. There are also turning lanes at a number of intersections that increase the number of lanes to three lanes in each direction. Metered parking is available on both sides of Seaport Boulevard east of Sleeper Street to East Service Road. Parking is also allowed east of B Street. Sidewalks vary in width and extend along both sides of Seaport Boulevard.

East Service Road is a one-way northbound local roadway running from Congress Street to Seaport Boulevard. The road consists of two travel lanes in the northbound direction and parking on both sides.

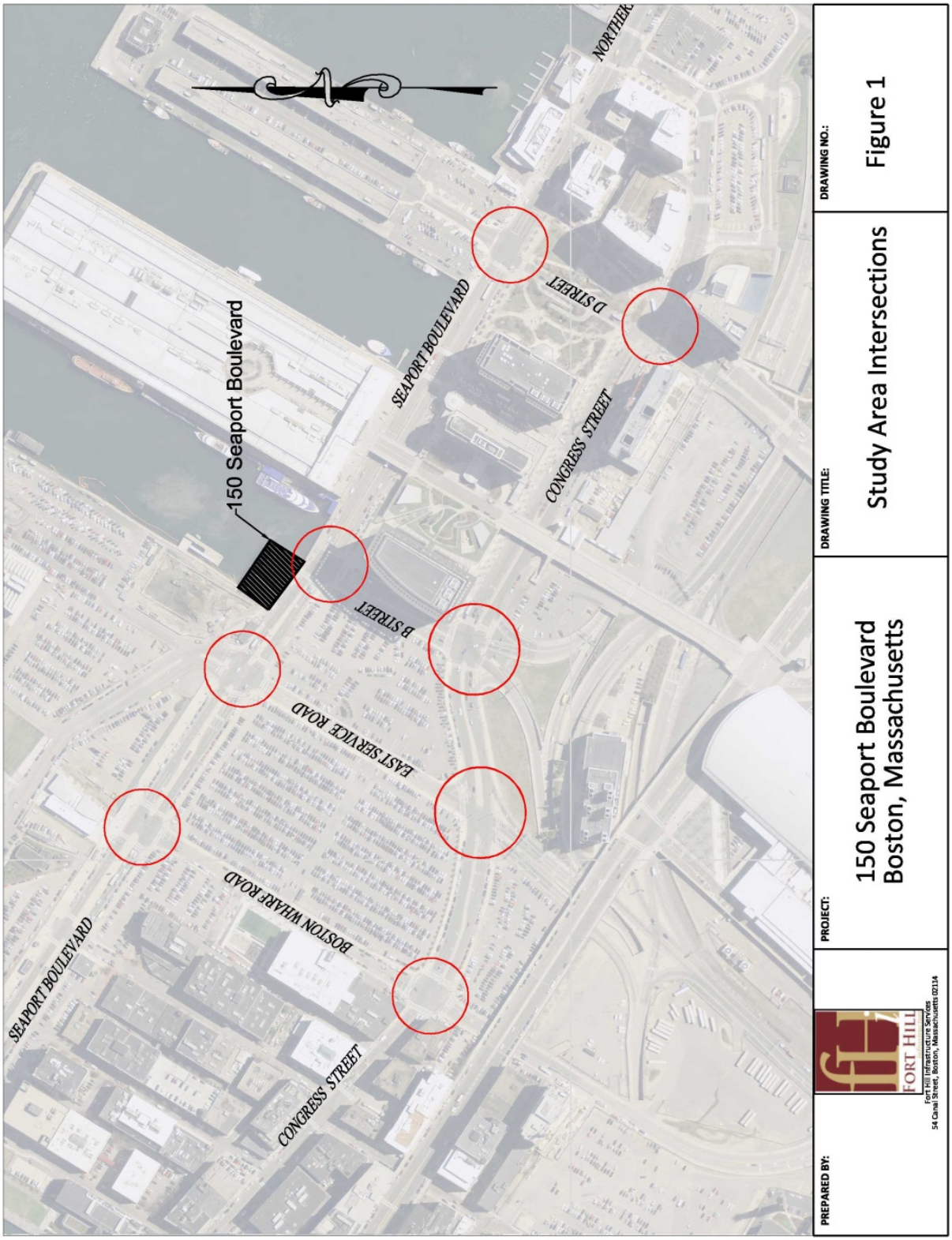
A third left-turning lane is present at the intersection with Seaport Boulevard. East Service Road has sidewalks on both sides of the roadway.

Boston Wharf Road is a two-way major collector roadway that runs between Seaport Boulevard and Congress Street. There is one travel-lane in the northbound direction and one travel-lane in the southbound direction with an additional turning lane at the intersections of Seaport Boulevard and Congress Street. There are sidewalks on both sides of Boston Wharf Road, in good condition.

B Street is a four-lane roadway, classified as a minor arterial, with two lanes traveling in the northbound direction and two lanes traveling in the southbound direction between Congress Street and Seaport Boulevard. There are also turning lanes at both intersections that increase the number of lanes to three lanes in each direction. Parking is available on the east side of B Street. Sidewalks extend along both sides of B Street and are in good condition.

D Street is a four-lane roadway, classified as an urban principal arterial, with two lanes traveling in the northbound direction and two lanes traveling in the southbound direction between Congress Street and Seaport Boulevard. The northbound lane and southbound lane are separated by South Boston Maritime Park, which is approximately 100 feet wide at the

Figure 3-1 Study Area Intersections



northern end of the street by Seaport Boulevard and narrows to approximately 50 feet wide at the southern end near Congress Street. Sidewalks extending along all sides of D Street, and along the edge of the park, are in good condition. The southbound side of D Street contains a bicycle lane and metered parking on the east side of the street adjacent to the park.

Congress Street is a four-lane roadway, classified as a minor arterial, with two lanes traveling in the eastbound direction and two lanes traveling in the westbound direction. There are also turning lanes at a number of intersections, which increase the number of lanes to three lanes in each direction. Metered parking is available on both sides of Congress Street. Sidewalks extend along both sides of Congress Street and are in good condition.

3.2.2 Intersection Inventory

Seaport Boulevard at Boston Wharf Road is a signalized T intersection with Seaport Boulevard approaching from the east and west and Boston Wharf Road approaching from the south. The eastbound approach consists of a through lane and a shared through/right-turn lane. The westbound approach consists of an exclusive left-turn lane, and two through lanes. The northbound approach consists of a left-turn lane and a shared left-turn/right-turn lane. Sidewalks are provided along both sides of the roadways and are in good condition. All approaches have marked crosswalks and handicapped-accessible ramps.

Seaport Boulevard at East Service Road is a four-way signalized intersection with Seaport Boulevard approaching from the east and west, East Service Road approaching from the south, and Northern Ave approaching from the north. The eastbound approach consists of a left-turn lane and two through lanes. The westbound approach consists of a through lane and a shared through/right-turn lane. The northbound approach is one-way northbound and consists of a left-turn lane, a through lane, and a right-turn lane. The southbound approach consists of a left-turn lane and a shared left-turn/ right-turn lane. Sidewalks are provided along both sides of the roadways and are in good condition. All approaches have marked crosswalks, and handicapped-accessible ramps.

Seaport Boulevard at B Street is a signalized T intersection with Seaport Boulevard approaching from the east and west and B Street approaching from the south. The eastbound approach consists of a through lane and an exclusive right-turn lane. The westbound approach consists of a shared left-turn/through lane and a through lane. The northbound approach of B Street consists of two left-turn lanes and a right-turn lane. Sidewalks are provided along both sides of the roadways and are in good condition. All approaches have marked crosswalks and handicapped-accessible ramps.

Seaport Boulevard at D Street consists of two signalized intersections. At the western intersection, Boston Fish Pier approaches Seaport Boulevard/Northern Avenue from the north, and the D Street southbound receiving lanes approach the intersection from the south. At the eastern intersection, the D Street northbound lanes approach Seaport Boulevard/Northern Avenue from the South. The Seaport Boulevard eastbound approach consists of two general travel lanes and a bicycle lane adjacent to parking on the southern side of the street. The Northern Avenue westbound approach consists of two all-purpose travel lanes and a bicycle lane on

the northern side of the street as well as a bicycle lane adjacent to parking on the southern side of the street. The D Street northbound approach consists of a left-turn lane and a right-turn lane. The Boston Fish Pier southbound approach consists of a single general-purpose travel lane. The directions of travel along D Street are separated by South Boston Maritime Park. Sidewalks are provided along both sides of the roadways and are in good condition. All approaches have marked crosswalks and handicapped-accessible ramps.

Congress Street at Boston Wharf Road is a four-way, signalized intersection with Congress Street approaching from the east and west, Boston Wharf Road approaching from the north, and West Service Road Extension approaching from the south. The eastbound Congress Street approach consists of a through lane and a shared through/right-turn lane. The westbound Congress Street approach consists of an exclusive left-turn lane, and two through lanes. The northbound West Service Road Extension approach consists of a left-turn lane and a shared right-turn/through lane. The southbound Boston Wharf Road approach consists of a right-turn lane and a shared right-turn/through lane. Sidewalks are provided along both sides of all roadways and are in good condition along the north, south and west approaches. Sidewalks along the eastbound approach are in good condition but deteriorate further away from the intersection. All approaches have marked crosswalks and handicapped-accessible ramps.

Congress Street at East Service Road is a five-way, signalized intersection with four approaches. The eastbound Congress Street approach consists of a left-turn lane, and two through lanes. The westbound Congress Street approach consists of two through lanes with a channelized right turn. The northbound approaches are Off-ramps from I-90 eastbound and I-93 northbound extension. The Off-ramp from I-90 eastbound is the western of the two northbound approaches and consists of a through lane and a shared through/right-turn lane. The I-93 northbound Off-ramp approach consists of a shared left-turn/though lane, a through lane, and a right-turn lane that is channelized at the intersection. On the north side of the intersection, East Service Road consists of two northbound receiving lanes. Sidewalks are provided along both sides of the Congress Street and East Service Road, and are in good condition. All approaches have marked crosswalks and handicapped-accessible ramps.

Congress Street at B Street is a five-way, signalized intersection with four approaches. The eastbound Congress Street approach consists of a shared left-turn/ through lane, an exclusive through lane, and a right-turn lane. The westbound Congress Street approach consists of a left-turn lane; a shared left-turn/through lane, and a shared through/right-turn lane. The I-90 westbound On-ramp and Off-ramp are both located on the south side of the intersection. The On-ramp is one-way southbound with access to I-93 north- and southbound as well as I-90 westbound. The off-ramp which provides access from I-90 westbound consists of an exclusive left-turn lane, a through lane, and a channelized right-turn lane. The southbound B Street approach consists of two through lanes and an exclusive right-turn lane. Sidewalks are provided along both sides of the Congress Street and B Street, and are in good condition. All approaches have marked crosswalks and handicapped-accessible ramps.

Congress Street at D Street is a four-way signalized intersection with D Street approaching from the north and south and Congress Street approaching from the east and west. The Congress Street eastbound approach consists of a left-turn/through travel lane, a through/right-turn lane and a right-turn lane. The Congress Street westbound approach consists of two all-purpose travel lanes. The D Street northbound approach consists of two left-turn lanes and a shared through/right-turn lane. The D Street southbound approach consists of two all-purpose travel lanes. Sidewalks are provided along both sides of the roadways and are in good condition. All approaches have marked crosswalks and handicapped-accessible ramps.

3.2.3 Existing Traffic Volumes

Traffic counts were conducted at five of the study area intersections on Tuesday, December, 15, 2015 and Saturday, December 12, 2015. They were collected at all of the study area intersections, between the hours of 7:00 AM and 9:00 AM, and 4:00 PM and 6:00 PM on Tuesday, and between the hours of 12:00 PM and 2:00 PM on Saturday. The intersections that were counted include:

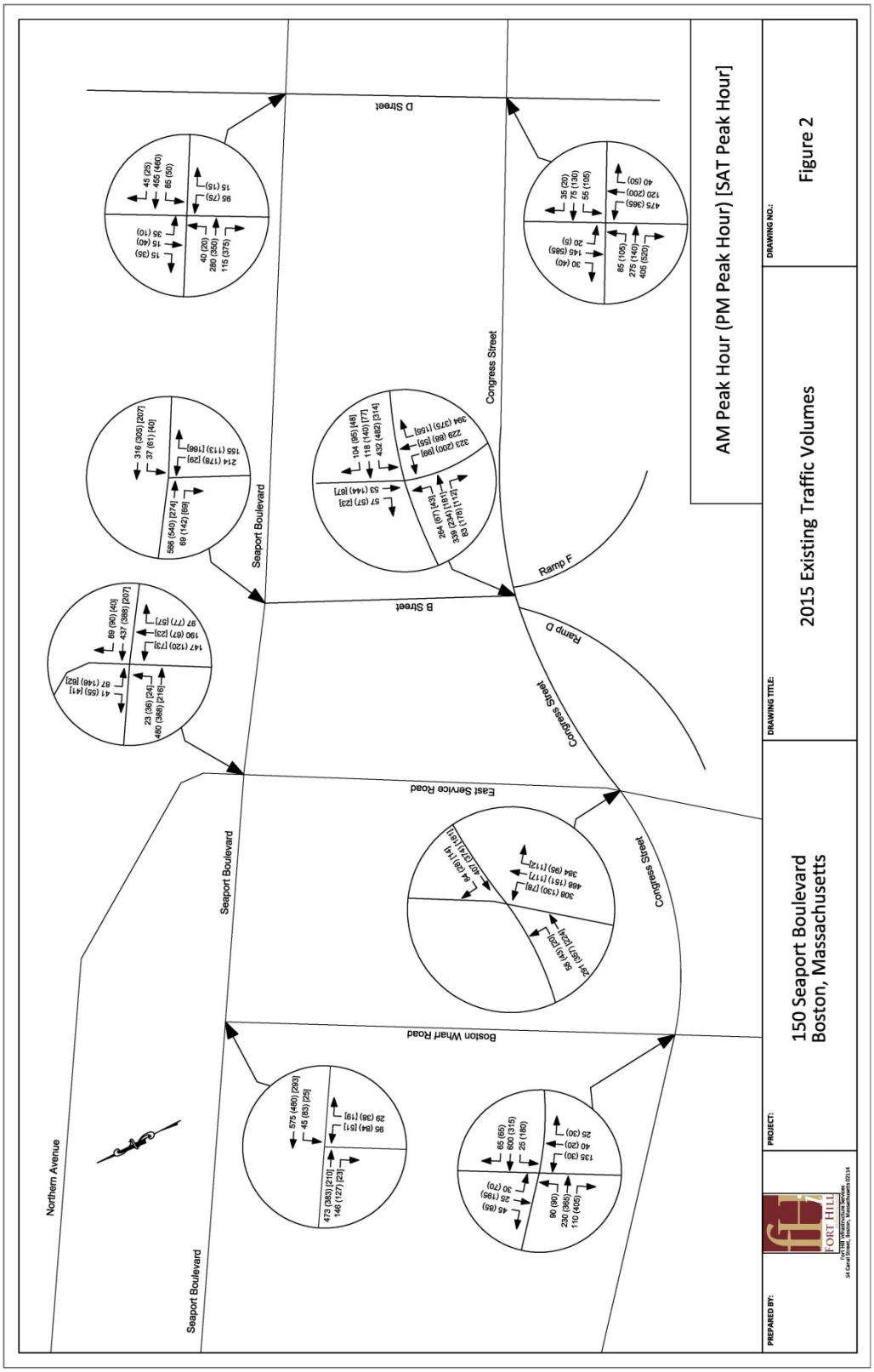
- Seaport Boulevard at Boston Wharf Road
- Seaport Boulevard at East Service Road
- Seaport Boulevard at D Street
- Congress Street at East Service Road
- Congress Street at B Street

The AM peak hour was calculated from 8:00AM – 9:00AM, the PM peak hour was calculated from 5:00PM – 6:00PM, and the SAT peak hour was calculated from 1:00PM – 2:00PM. The counts included a breakdown of heavy vehicles and pedestrians. MassDOT permanent count station H8494 on I-93 in South Boston show that the average volumes for December 2015 are 1.5% higher than the average volumes for the year. In order to remain conservative, the volumes were not adjusted for the existing conditions analysis.

The remaining three intersections were added to the study area at a later date. Traffic counts for those intersections were taken from a previous study, the "South Boston Waterfront Sustainable Transportation Plan". Those counts were conducted in December of 2013.

The existing traffic volumes are provided in Figure 2. One can see in Figure 2, the Saturday peak hour volumes are lower for every intersection than the AM or PM peak hour volumes.

Figure 3-2 2015 Existing Traffic Volumes



3.2.4 Existing Conditions Traffic Analysis

Traffic Analysis was conducted for existing conditions using Synchro analysis software to determine a Level of Service for each intersection in the study area. Level of Service is a function of the delay that vehicles must wait in order to navigate through the intersection safely. Level of Service receives a letter value between "A" and "F" with "A" representing very low delay and "F" representing higher delays and greater congestion. Generally, Level of Service "D" or better is considered preferable, although higher delays and Level of Service may be appropriate in congested areas. The results of the analysis can be seen in Table 1.

Table 3-1 Existing Capacity Analysis

	AM Peak Hour			PM Peak Hour		
Congress Street at B Street	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EB	C	29.3	0.75	C	31.6	0.69
WBL	E	57	0.88	E	58	0.91
WBT	D	37.8	0.8	D	37.7	0.83
NBT	F	446.6	1.9	D	49.6	0.91
SBT	C	33.5	0.24	D	35.6	0.52
SBR	C	32.7	0.05	C	32.4	0.04
Intersection	**F**	**198.6**	**0.98**	**D**	**42.1**	**0.79**

Congress Street at East Service Road	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EBL	C	23.5	0.31	B	14.7	0.36
EBT	C	20.1	0.24	B	14.2	0.4
WBT	C	21.9	0.38	B	14.4	0.42
NBL	C	20.1	0.47	A	8.6	0.17
NBT	C	20	0.48	A	8.5	0.16
NBR	B	18.9	0.37	A	8.3	0.1
Intersection	**C**	**20.5**	**0.43**	**B**	**12.4**	**0.28**

Congress Street at Boston Wharf Road	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EB	B	15.6	0.58	C	20.2	0.66
EBR	A	8.2	0.1	B	15.1	0.42
WBL	B	8.1	0.07	C	26.4	0.67
WBT	B	10.9	0.34	B	11.8	0.23
NBL	D	51.1	0.62	D	49.4	0.29
NB	D	44	0.22	D	48.9	0.22
SB	D	52.6	0.47	D	47.9	0.75
SBR	D	48.4	0.04	C	34.5	0.09
Intersection	**C**	**20.2**	**0.58**	**C**	**23.6**	**0.66**

Congress Street at D Street	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	D	35.7	0.62	D	37.9	0.65
EBR	C	29.2	0.21	D	43.9	0.69
WB	D	49.3	0.6	E	69.1	0.87
NBL	D	44.8	0.71	D	48.5	0.69
NB	D	41.2	0.47	E	78.3	0.92
SB	D	47.9	0.58	F	84.1	1.02
Intersection	**D**	**40.5**	**0.64**	**E**	**61.4**	**0.85**

Seaport Boulevard at Northern Avenue	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EBL	B	17	0.14	B	11.4	0.11
EBT	B	14.3	0.31	A	9.5	0.2
WBT	C	26	0.58	B	19.3	0.39
NBT	D	41.4	0.72	D	43.1	0.62
SBL	D	50.1	0.6	D	44.7	0.58
SBT	D	42.3	0.22	D	40.6	0.31
Intersection	**C**	**27.9**	**0.59**	**C**	**25.3**	**0.44**

Seaport Boulevard at Boston Wharf Road	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	A	9.1	0.42	A	7.5	0.31
WBL	A	1.6	0.19	A	2	0.22
WBT	A	1.3	0.27	A	1.3	0.2
NB	D	43.4	0.44	D	43.4	0.39
Intersection	A	**8.6**	**0.39**	A	**8.9**	**0.3**

Seaport Boulevard at B Street	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	A	2.7	0.29	A	3.1	0.29
WB	A	3.3	0.19	A	3.4	0.24
NBL	D	44.2	0.63	D	44.4	0.61
NBT	D	38.6	0.13	D	38.9	0.08
Intersection	**B**	**13.7**	**0.34**	**B**	**12.3**	**0.33**

Seaport Boulevard at D Street/Boston Fish Pier	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	A	8.4	0.28	B	18.9	0.54
WB	A	0.6	0.3	A	1.9	0.35
SB	C	38.7	0.32	C	33.8	0.38
Intersection	A	**5.4**	**0.3**	**B**	**13.2**	**0.44**

Northern Avenue at D Street	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
EB	A	0.8	0.13	A	1.7	0.16
WB	A	8.3	0.28	B	16.6	0.33
NBL	C	29.7	0.5	D	40.7	0.52
NBR	C	26.2	0.01	D	36.2	0.01
Intersection	**A**	**8.3**	**0.27**	**B**	**13**	**0.32**

As one can see from Table 1 Congress Street at B Street is currently operating at LOS F during the AM Peak Hour. The northbound through movement operates at LOS F during the AM peak hour and the westbound left-turn movement operates at LOS E during the AM and PM peak hour.

For Congress Street at D Street, the westbound and northbound approaches operate under LOS E during the PM peak hour and the southbound approach operates at LOS F. The entire intersection operates at LOS E during the PM peak hour. All other intersections and approaches operate under acceptable LOS D or better.

3.2.5 Existing Parking

The City of Boston has implemented a parking freeze in South Boston, allowing a maximum of 30,389 off-street parking spaces (not including exempt residential spaces). As of March 10, 2015 there are 1,260 spaces in the parking freeze bank.

On Seaport Boulevard, 2-hour metered parking is provided on both sides of the roadway west of East Service Road, with 31 spaces between Boston Wharf Road and East Service Road. Parking is discontinued between East Service Road and B Street. Metered parking then continues along both sides of Seaport Boulevard east of B Street, with parking on the north side of Seaport Boulevard terminating at Seaport Lane, and Parking on the south side of Seaport Boulevard terminating a block further to the east at D Street for an additional 29 spaces. There are a total of 60 2-hour metered parking spaces along Seaport Boulevard within the study area.

On Congress Street, 30 spaces of 2-hour metered parking are provided along on both sides of the roadway between Boston Wharf Road and East Service Road. Between East Service Road and B Street, 8 spaces are provided along the northern side of the roadway, and 14 spaces are provided along both sides of the roadway between B Street and Seaport Lane, with an additional 5 parking spaces between Seaport Lane and D Street. There are a total of 57 2-hour metered parking spaces along Congress Street within the study area.

On Boston Wharf Road, 49 spaces of 2-hour metered parking are provided along both sides of the roadway between Seaport Boulevard and Congress Street.

On East Service Road, 21 spaces of 2-hour metered parking are provided along both sides of the roadway between Seaport Boulevard and Congress Street.

On B Street no parking spaces are provided between Seaport Boulevard and Congress Street.

On D Street 6 2-hour metered parking spaces are provided along the eastbound side of the southbound approach between Seaport Boulevard and Congress Street.

There are a total of 193 2-hour metered parking spaces within the study area in addition to thousands of spaces in parking garages across the seaport.

In addition to metered parking, there are a number of public parking lots in the project area with surface parking. Much of this parking will be removed with future development plans. A number of them will be replaced in the form of underground parking associated with the new development. The total number of parking spaces in the area is constantly changing; however the parking bank suggests a total of 29,129 spaces have been provided toward the total 30,389 parking spaces allowed in the South Boston Waterfront neighborhood.

3.2.6 Existing Public Transit

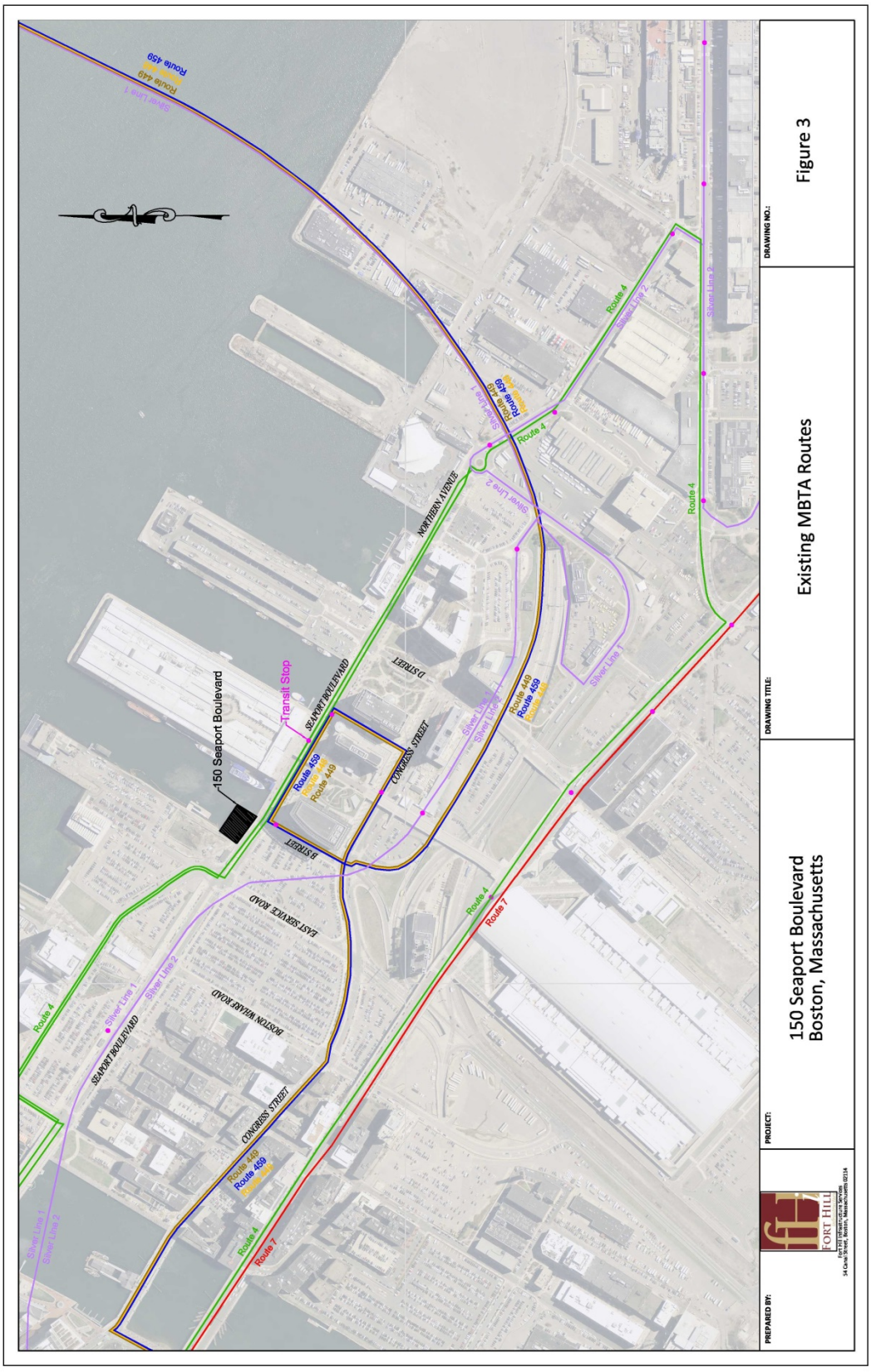
The Project site is three-quarters of a mile (15-minute walk) from South Station, a transportation hub that provides access to the MBTA's Red Line, Silver Line, and seven commuter rail branches. In addition, the MBTA Silver Line Courthouse and World Trade Center stations are located approximately a quarter-mile from the site. Several MBTA local and express bus routes operate near the proposed site as well. The routes 4, 448, 449, and 459 bus lines have stops on Seaport Boulevard adjacent to the Seaport Hotel, approximately 0.15 miles from the site. The Route 7 bus line runs along Summer Street, which is approximately a quarter-mile away from and runs parallel to Seaport Boulevard.

The MBTA's Water Shuttle Route F1 operates from Rowes Wharf to Hingham. Route F2 operates from Long Wharf to Hull and Logan Airport. The Inner Harbor Ferry operates from Long Wharf to the Charlestown Navy Yard. Long Wharf and Rowes Wharf are both located within a mile from the site.

South Station is the terminus for Amtrak train service along the Northeast Corridor and for all Commuter Rail from the south. South Station is also the regional and commuter bus service hub.

Weekday bus and subway service is provided between approximately 5:00 a.m. and 1:00 a.m. Actual service times vary by route or line. MBTA public transportation services, exclusive of commuter rail lines and water routes, are shown in Figure 3.

Figure 3-3 Existing MBTA Routes



3.2.7 Existing Bicycle and Pedestrian Conditions

Bicycle lanes extend in the east-west direction along Seaport Street between Atlantic Avenue and B Street, where they are discontinued for two blocks until D Street, where they continue along both sides of Northern Avenue until it terminates at Tide Street. This discontinuation is due to a restricted cross-section between B Street and D Street, and severely disrupts a major bike corridor between the seaport and Downtown Boston. Bike lanes also extend along the west side of the southbound D Street approach between Seaport Boulevard and West Haul Road, where the lane is continued on the opposite side of the street until the intersection of Summer Street. Bike lanes then continue along both sides of D Street into the heart of South Boston. An additional bike lane runs along A Street from South Boston to Congress Street. These are the primary bike commuter routes in the seaport.

Sidewalks in the study area are present on both sides of all major roadways and are in generally good condition. There are handicap accessible ramps at every study area intersection in good condition, and the crosswalks are in moderate to fair condition, fading in many cases. Along Seaport Boulevard, the sidewalk is extremely wide on the northern side of the roadway, varying in width from 10 feet to 50 feet. The south side of Seaport Boulevard has an 8 foot-wide sidewalk.

A median extends along Seaport Boulevard between Sleeper Street and D Street. This creates a wider pedestrian crossing at the intersections, but also provides pedestrian refuge at the mid-way point. The many turning lanes along Seaport Boulevard also create longer pedestrian crossings at the intersections. Congress Street has 8 foot-wide sidewalks and a median east of Boston Wharf Road. This, along with multiple turning lanes, creates a similar condition of long pedestrian crossings along Congress Street. To the west of Boston Wharf Road, Congress Street has no median and generally fewer turning lanes providing shorter pedestrian crossings. All of the pedestrian crossings on Seaport Boulevard and Congress Street are signalized within the study area.

Pedestrian and Bicycle counts were conducted at the study area intersections and are shown in Figure 4 and Figure 5.

Figure 3-4 2015 Pedestrian Volumes

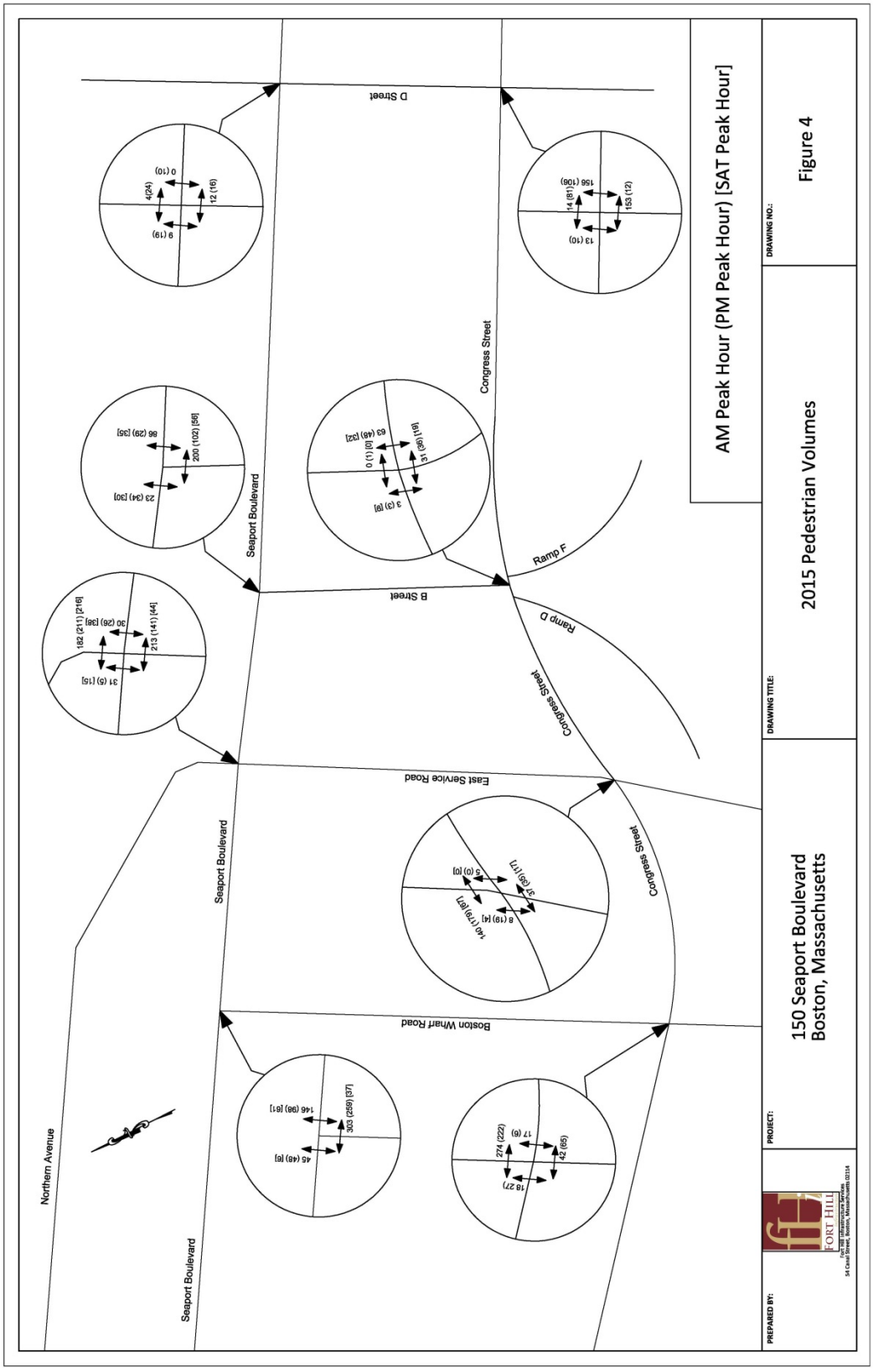
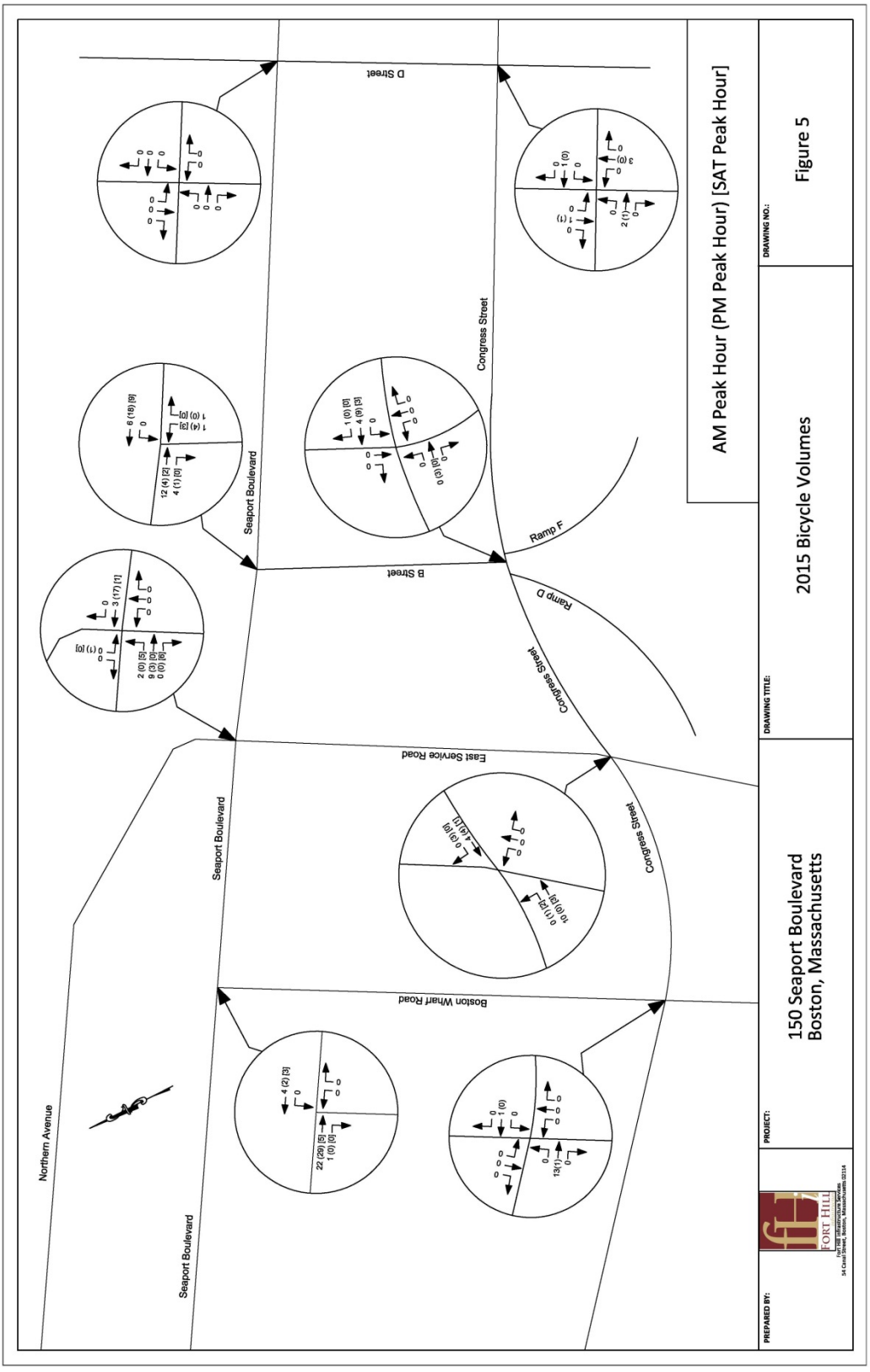


Figure 3-5 2015 Bicycle Volumes



3.2.8 Sight Distance

Sight distances were observed at the project site intersection. The following table shows the available and required sight distances. The Required Sight Distances were calculated using AASHTO A Policy on Geometric Design of Highways and Streets 6th Edition, 2011. The design speeds for calculating sight distances were based on the speed limit, which is 30mph for Seaport Boulevard.

Sight distance at the Site Driveway can be seen in Table 2. Sight distances extend for approximately 1/3 of a mile to the west and to the World Trade Center Avenue Bridge to the east, and will not impede traffic entering and exiting the site from Seaport Boulevard.

Table 3-2 Sight Distance

	Seaport Boulevard at Site Driveway	
Direction	Left	Right
Available Sight Distance (ft)	460	1000+
Required Stopping Sight Distance (ft)	200	200
Required Intersection Sight Distance (ft)	355	290

3.2.9 Crash Records

MassDoT Crash Records for the City of Boston were evaluated for the last three years available (2011, 2012, and 2013) to determine the number of crashes and in the study area and crash rates at the study area intersections. The crash data for study area intersections can be found in Table 3.

The average intersection crash rate per million vehicles for signalized intersections in MassDOT District 6 is 0.70. The only intersection that has a crash rate that exceeds this number is Congress Street at B Street. Most of the crashes at this intersection occurred with drivers coming off the I-90 ramps which have vehicles approaching the intersection at higher speeds, and around curves with tight-radii. None of the crashes resulted in fatalities. The full crash rate worksheets can be found in the Appendix.

Table 3-3 Crash Data at Study Area Intersections

	2011 - 2013 Crashes			
	Crashes	**With Injuries**	**Under Wet/Snow Conditions**	**Crash Rate**
Congress Street at B Street	26	7	6	**0.89**
Congress Street at East Service Road	6	5	0	**0.25**
Congress Street at Boston Wharf Road	1	0	0	**0.33**
Congress Street at D Street	5	2	0	**0.23**
Seaport Boulevard at B Street	2	0	0	**0.12**
Seaport Boulevard at East Service Road	0	0	0	**0.00**
Seaport Boulevard at Boston Wharf Road	1	0	0	**0.06**
Seaport Boulevard at D Street/Boston Fish Pier	4	0	0	**0.28**

3.3 Future Conditions

The proposed build year of 2021 was selected to evaluate the future conditions of the roadways and intersections in the study area. The typical projected build year is 5 years after existing conditions. However, since the existing counts were conducted in 2015 and 2013, but the study was completed in 2016, the projected build year was chosen to be 5 years from the study completion date. As a result, intersection volumes that were collected in 2013 were projected 8 years into the future, and intersection volumes collected in 2015 were projected 6 years into the future.

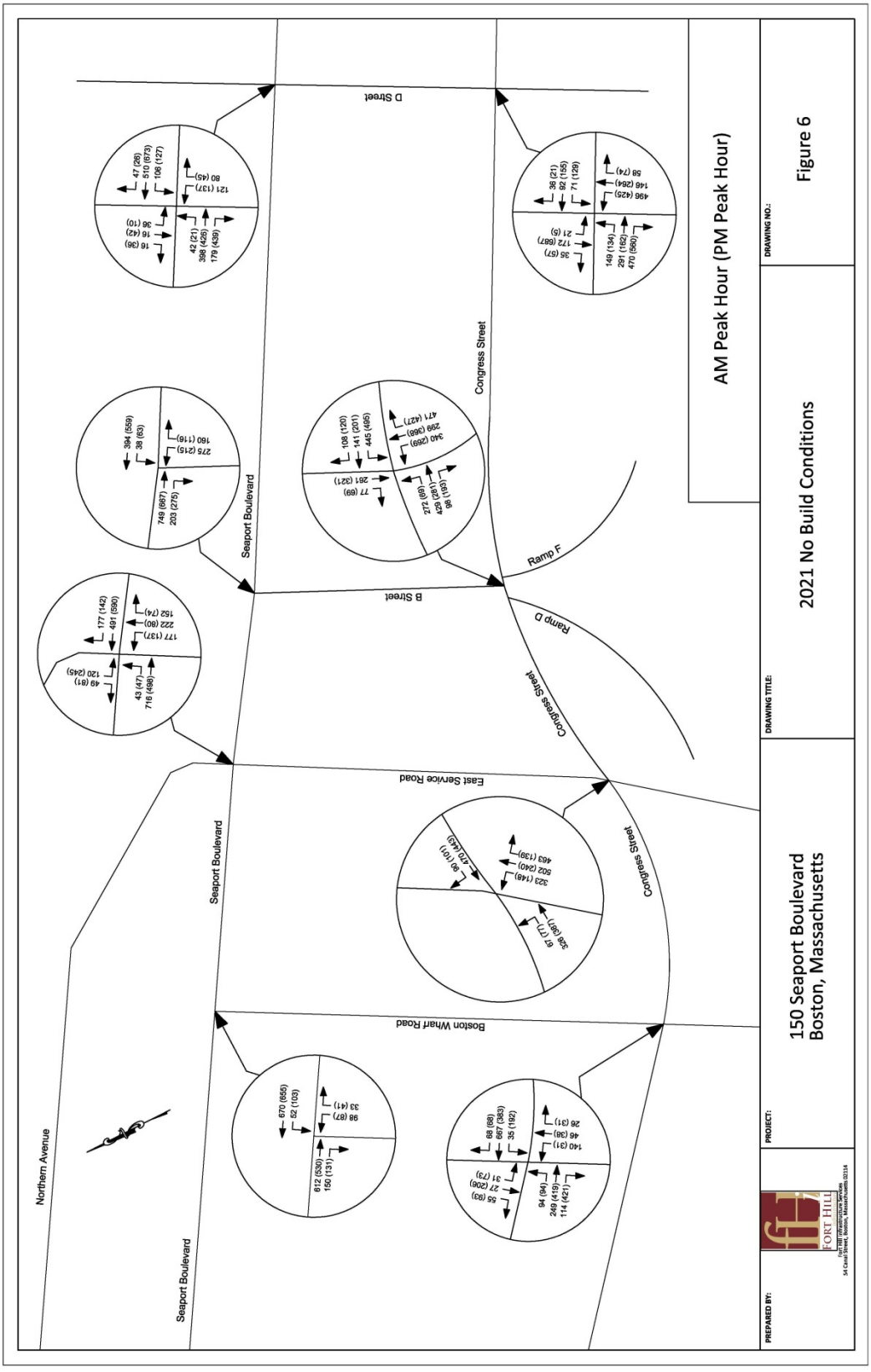
3.3.1 Background Growth

The proposed build year of 2021 was selected to evaluate the future conditions of the roadways and intersections in the study area. The typical projected build year is 5 years after existing conditions. However, since the existing counts were conducted in 2015 and 2013, but the study was completed in 2016, the projected build year was chosen to be 5 years from the study completion date. As a result, intersection volumes that were collected in 2013 were projected 8 years into the future, and intersection volumes collected in 2015 were projected 6 years into the future.

- *Seaport Square* – Portions of a 4,166,700 sq. ft. development including Parcel J, Block L2, and Block M located along Seaport Boulevard and between Seaport Boulevard, Summer Street, Boston Wharf Road, and B Street.
- *399 Congress Street* – 414 residential units located at 399 Congress Street.
- Innovation Square – 359,620 sq. ft. of research, development and manufacturing located at 6 Tide Street and Northern Avenue.
- The Innovation and Design Building – 206,388 sq. ft. of office and retail located at 21-25 Drydock Avenue.
- 25 FID Kennedy – 157,000 sq. ft. of manufacturing and warehousing facility located at 25 FID Kennedy Avenue.
- Fan Pier Parcel D – 118 residential units located at 50 Liberty Drive.
- Pier 4 Phase 2 – 376,555 sq. ft., with 359,030 of office space and ground floor retail and restaurant space located at 130 Northern Avenue.
- Parcel K – 304 residential units, a 247-room hotel, 16,200 sf. Ft. of office space and 24,985 sf. Ft. of restaurant and retail space located at the intersection of Northern Avenue at Massport Haul Road.

The proposed 2021 No-Build Volumes are shown in Figure 6.

Figure 3-6 2021 No Build Conditions



3.3.2 No Build Traffic Analysis

The 2021 No Build traffic volumes were analyzed using the same methods as the 2015 Existing conditions. The 2021 No Build traffic analysis results can be seen in Table 4.

Table 3-4 2021 No Build Traffic Analysis

	AM Peak Hour			PM Peak Hour		
Congress Street at B Street	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EB	D	44.1	0.94	C	33.3	0.76
WBL	E	63	0.92	F	91.4	1.04
WBT	D	39.6	0.83	E	64.2	**0.99**
NBT	F	648.3	2.35	F	458.1	1.93
SBT	F	97.1	1.05	F	128.2	1.13
SBR	C	31.3	0.06	C	33.6	0.05
Intersection	**F**	**274.4**	**1.25**	**F**	211	**1.18**

Congress Street at East Service Road	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EBL	C	31.4	0.46	C	20.2	0.6
EBT	C	23.2	0.29	B	14.2	0.35
WBT	C	25.8	0.47	B	15.3	0.49
NBL	B	18	0.48	B	12.3	0.27
NBT	B	18	0.49	B	12.1	0.26
NBR	B	17.3	0.41	B	11.7	0.18
Intersection	**C**	**21**	**0.48**	**B**	**14.2**	**0.43**

Congress Street at Boston Wharf Road	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EB	B	18	0.65	C	26.4	0.78
EBR	A	8.5	0.1	B	17.2	0.47
WBL	A	8.4	0.08	D	45.4	0.84
WBT	B	11.5	0.38	B	13.3	0.28
NBL	D	51.2	0.63	D	48.3	0.26
NB	D	43.9	0.25	D	49.6	0.38
NBL	D	52.6	0.49	D	47.2	0.75
NB	D	48.3	0.05	C	33.8	0.1
Intersection	**C**	**21.1**	**0.63**	**C**	**27.6**	**0.77**

Congress Street at D Street	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	D	34.7	0.76	D	40.5	0.73
EBR	C	28.8	0.25	D	48.2	0.76
WB	D	46.9	0.73	F	109.4	1.04
NBL	D	39.5	0.74	D	54.1	0.81
NB	D	38.1	0.61	F	185.4	1.26
SB	D	50.5	0.67	F	154.7	1.22
Intersection	**D**	**43.7**	**0.74**	**F**	**102.4**	**1.03**

Seaport Boulevard at Northern Avenue	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EBL	C	26.6	0.29	B	19.7	0.19
EBT	C	22.2	0.54	B	15.5	0.29
WBT	D	50.7	0.93	C	29.5	0.72
NBT	D	40.6	0.77	D	42.9	0.66
SBL	D	46	0.59	D	45.7	0.69
SBT	D	39.9	0.26	D	41	0.57
Intersection	**D**	**37.4**	**0.78**	**C**	**30.7**	**0.65**

Seaport Boulevard at Boston Wharf Road	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	B	10.8	0.52	A	9.1	0.4
WBL	A	3.9	0.23	A	2.1	0.28
WBT	A	1	0.32	A	0.7	0.28
NB	D	43.4	0.48	D	43.5	0.44
Intersection	A	**9.2**	**0.47**	A	**8.4**	**0.38**

Seaport Boulevard at B Street	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	A	2.8	0.47	A	2.7	0.41
WB	A	4.3	0.25	A	4.9	0.41
NBL	D	43.5	0.67	D	44.3	0.65
NBT	D	36.7	0.13	D	37.7	0.08
Intersection	**B**	**12.3**	**0.51**	**B**	**10.8**	**0.45**

Seaport Boulevard at D Street/Boston Fish Pier	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
EB	B	11.4	0.43	C	23.6	0.68
WB	A	1	0.41	A	9.2	0.72
SB	C	33	0.35	D	36.5	0.27
Intersection	**A**	**6.8**	**0.4**	**B**	**17.6**	**0.65**

Northern Avenue at D Street	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
EB	A	1	0.18	A	1.9	0.21
WB	B	11	0.39	C	21.7	0.59
NBL	C	32.3	0.53	D	44	0.63
NBR	C	28.3	0.05	D	35.8	0.03
Intersection	**B**	**10.7**	**0.39**	**B**	**18.2**	**0.51**

As one can see from Table 4, Congress Street at B Street and Congress Street at D Street see significant increases in delay between the 2015 Existing and the 2021 No Build conditions, particularly during the PM peak hour. Congress Street at B Street already experienced poor LOS and high delays during the AM peak hour under existing conditions, and delays will increase under future conditions. Multiple approaches become over-capacity, which indicates that the intersection is unlikely to be fixed with adjustments to signal timing. Future developments will be adding a significant number of future trips to the area which will have impacts on intersection conditions. The southbound approach of Congress Street at B Street degrades to a LOS F under no build conditions during the AM peak hour. The westbound left-turn approach, northbound approach, southbound approach, and overall intersection of Congress Street at B Street degrade to a LOS F, and the westbound through movement degrades to a LOS E during the PM peak hour. The westbound approach, northbound approach, and overall intersection of Congress Street at D Street degrade to a LOS F during the PM peak hour. All other intersections and approaches operate at LOS D or higher, with the exception of Congress Street at B Street, where some approaches were already operating at poor LOS during the AM peak hour under existing conditions, and will continue to do so under the no build condition.

3.3.3 Site Plan Review

Access to the site will be provided via a driveway off of the north side of Seaport Boulevard between B Street and East Service Road. The proposed site plan is shown in Figure 7. The proposed access driveway is 48 feet wide, and will provide both vehicular access as well as loading.

The Harborwalk connection will also provide improved pedestrian accessibility and circulation.

Outdoor seating on the east side of the building will help promote a vibrant neighborhood for pedestrians and connect the property to the streetscape without blocking views of the harbor.

Figure 3-7 Proposed Site Plan

3.3.4 Proposed Parking and Loading

Loading vehicles will back into the driveway off of Seaport Boulevard into a loading area on the western end of the proposed site. This will allow the vehicle to pull forward to re-enter the traffic stream on Seaport Boulevard. Backing into the loading area will be a more complicated maneuver; however, the drivers using such a maneuver are professional drivers and will be expected to make this maneuver. Deliveries should be scheduled for off-peak hours so as to not disrupt traffic on Seaport Boulevard during this maneuver.

Access to a garage with three levels of underground parking that will contain spaces for 179 cars, or 1.4 vehicles per unit (124 units total) will also be located off the site driveway. The residential unit mix is anticipated to include many condominiums that will contain more than one bedroom and will likely accommodate more than one adult, including couples and young professionals with roommates. Some parking will be available for guests of tenants as well. However, given the location and proximity to downtown and public transit it is not anticipated that these vehicles will be used primarily for commuting, but rather available to the tenants to store their primary vehicles so that they do not infringe upon garages or on-street parking at other locations. No public parking will be provided.

Vehicles will pull into the driveway on the east side. Valets will then pull the vehicle onto a loading elevator and will transport the vehicles to an underground garage. It is recommended that when exiting the site, the vehicles are back onto the elevator, so that they may pull forward onto Seaport Boulevard, out of the elevator. This will allow vehicles to exit the site in the correct forward-manner and will limit disruptions to Seaport Boulevard.

In order to determine the functionality of the valet system, a survey of similar properties with elevator garages and valet parking was conducted to evaluate the loading system and queuing that might be experienced at 150 Seaport Boulevard. The following properties with elevator garages and valet parking were evaluated:

- Brimmer Garage
- 144 Charles Street Garage
- 80 Broad Street

The survey determined that the typical queue during the peak hour for similar residential parking garages is 2-3 vehicles per hour with a maximum of 5-6 vehicles during particularly busy periods. The detailed results of the surveys at each property are provided in the technical appendix.

3.3.5 Trip Generation

The proposed site at 150 Seaport Boulevard will contain 124 living units in a 22-story building. According to the Institute of Transportation Engineering (ITE) Trip generation handbook, this type of facility is classified as High-Rise Apartment under Land Use Code 222, which is defined as a rental building with more than 10 floors, that most likely has one or more elevators. While the proposed building will contain condos, rather than apartments, this land use was deemed the most appropriate relevant land use. While there is a land use for a high-rise condo, a high-rise for that land use is defined as three stories or higher. Given that the proposed building is 22 stories, we felt the land use for the high-rise apartment was more appropriate. The vehicular uses should not change dramatically between apartments and condos. The building will also

contain 8902 sq. ft. of restaurant space on the ground floor. The vehicle trip-generation for the restaurant was calculated using ITE Land use Code 931 – Quality Restaurant.

The proposed gross vehicle trip generation for 124 units in a High-Rise Apartment is shown in Table 5 and the proposed gross vehicle trip generation for 8902 sq. ft. of Restaurant space is shown in Table 6.

Table 3-5 Gross Trip Generation Residential

	Incoming	Outgoing	Total
AM Peak Hour	10	28	38
PM Peak Hour	32	20	52
Saturday Peak Hour	29	23	52
Weekday Daily	333	333	666
Saturday Daily	304	304	608

Table 3-6 Gross Trip Generation Restaurant

	Incoming	Outgoing	Total
AM Peak Hour	6	1	7
PM Peak Hour	45	22	67
Saturday Peak Hour	57	39	96
Weekday Daily	400	400	800
Saturday Daily	400	400	800

The proximity of the site to numerous public transit options as well as an extensive pedestrian and bicycle network throughout the South Boston waterfront neighborhood and providing access to downtown Boston, it is expected that a large portion of the trips generated by the project will be made by public transportation, pedestrian, and bicycle trips.

The BTD publishes vehicle, transit, and travel mode shares specific to each area of Boston. The Project site is located within BTD Area 13. It is standard practice to use these specific neighborhood mode shares to estimate the number of new vehicle trips, transit trips, and pedestrian bicycle trips generated by the project. The published BTD mode shares for Area 13, however, do not reflect the 2004 opening of the Silver Line Phase II or Phase III. During the permitting of the Seaport Square project, revised travel mode shares were adopted to more accurately reflect the public transportation availability of the neighborhood.

In order to accurately reflect the different modes of transportation available, the projected project trips were applied to the mode split data for the South Boston Waterfront neighborhood as reflected in previous studies. The proposed mode splits are shown in Table 7.

Table 3-7 Mode Split

	DAILY			AM PEAK			PM PEAK		
	Walk	**Transit**	**Auto**	**Walk**	**Transit**	**Auto**	**Walk**	**Transit**	**Auto**
Residential	39%	35%	26%	39%	35%	26%	39%	35%	26%
Restaurant In	27%	34%	39%	0%	62%	38%	23%	38%	39%
Restaurant Out	27%	34%	39%	15%	46%	39%	23%	38%	39%

The mode splits applied to the gross site generated trips in order to determine the net vehicle trips, as well as the future pedestrian trips. In addition, a 25% pass-by trip credit was applied to the PM peak restaurant trips in order to reflect the vehicles entering the site from the existing roadway network. The net site generated trips are shown in Table 8.

Table 3-8 Net Site Generated Trips

	DAILY			AM PEAK			PM PEAK		
	Walk	**Transit**	**Auto**	**Walk**	**Transit**	**Auto**	**Walk**	**Transit**	**Auto**
Residential In	130	116	87	4	3	2	12	11	8
Residential Out	130	116	87	11	10	7	8	7	5
Restaurant In	108	136	156	0	4	2	10	17	13
Restaurant Out	108	136	156	0	1	1	5	8	6
Total	**476**	**505**	**485**	**15**	**17**	**13**	**36**	**44**	**33**

3.3.6 Trip Distribution

Project Generated trips will enter the site off of Seaport Boulevard. Trip distribution outlines the travel paths through the study area intersections for vehicle-trips associated with the project. Trip distribution patterns were based on BTD's origin-destination data for Area 13 – South Boston and trip distribution patterns presented in traffic studies for other projects in the neighborhood. The trip distribution patterns are shown in Figure 8.

The net vehicle trips were applied to the trip distribution patterns in order to determine the site generated trips through the study area intersections. The site generated trips are shown in Figure 9.

3.3.7 Future Build Traffic Volumes

The site generated trips were added to the 2021 No Build volumes in order to determine the proposed 2021 Future Build traffic volumes. The 2021 Future Build traffic volumes are shown in Figure 10.

Figure 3-8 Trip Generation

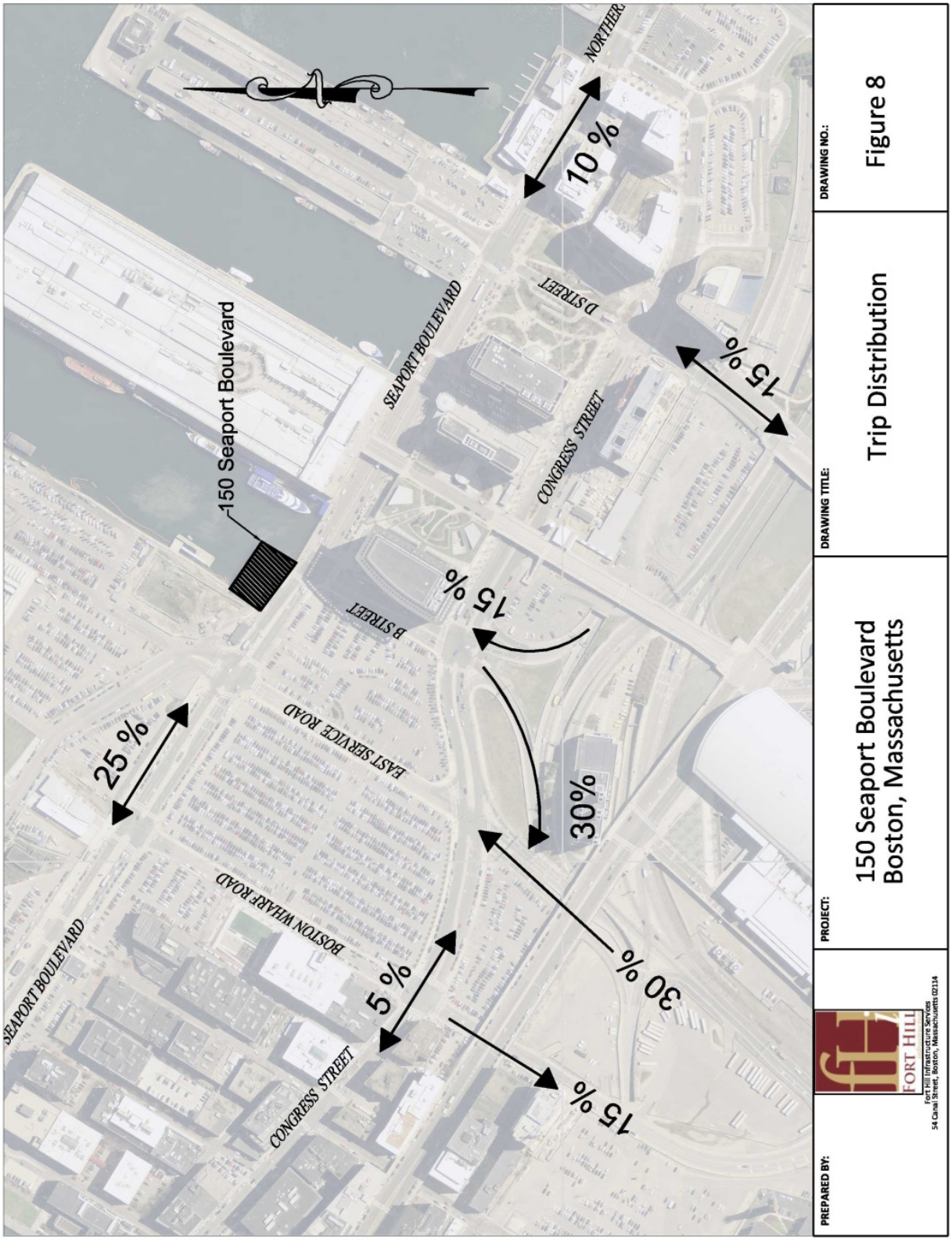


Figure 3-9 Site Generation Trips

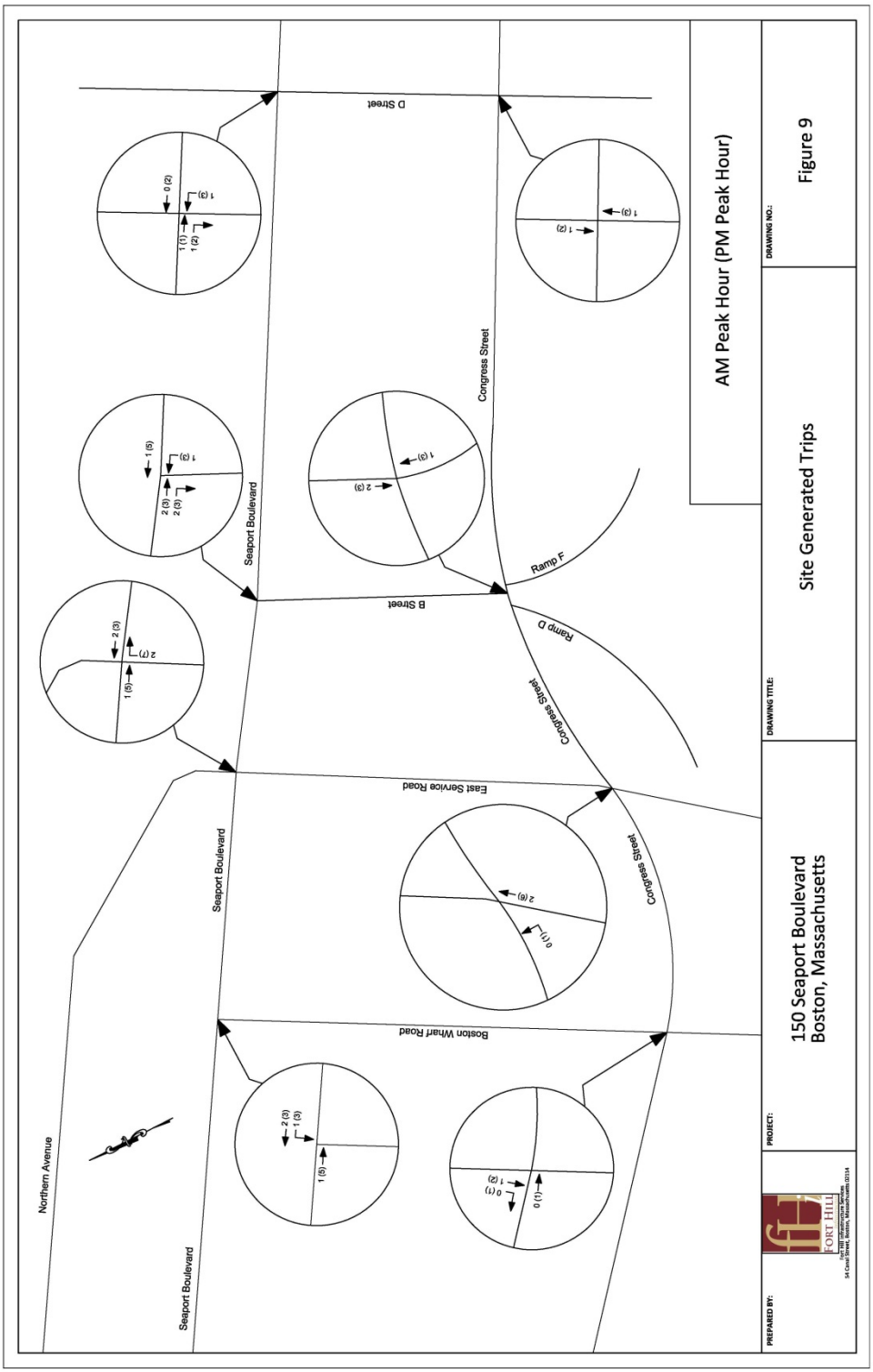
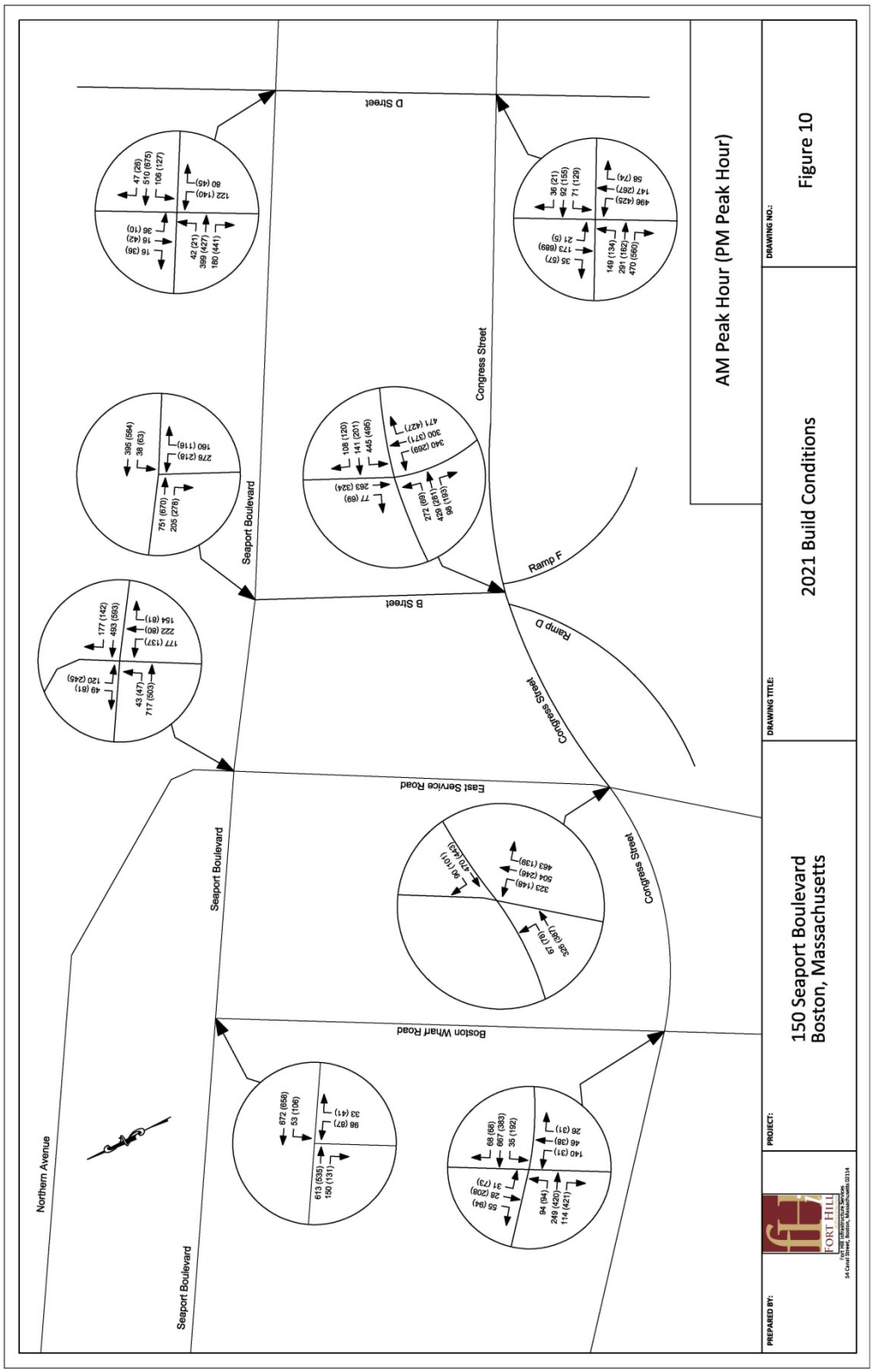


Figure 3-10 2021 Build Conditions



3.3.8 Future Traffic Analysis

The 2021 Future traffic volumes were analyzed to determine LOS, volume to capacity ratio, and delay during the AM and PM peak hours. The results of the traffic analysis are provided in Table 9.

Table 3-9 2021 Future Build Traffic Analysis

	AM Peak Hour			PM Peak Hour		
Congress Street at B Street	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EB	D	44.1	0.94	C	33.3	0.76
WBL	E	63	0.92	F	91.4	1.04
WBT	D	39.6	0.83	E	64.2	0.99
NBT	F	650.1	2.36	F	461.6	1.94
SBT	F	99.7	1.06	F	131.5	1.14
SBR	C	31.3	0.06	C	33.6	0.05
Intersection	**F**	**275.3**	**1.25**	**F**	212.8	**1.19**

Congress Street at East Service Road	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EBL	C	31.7	0.46	C	20.5	0.61
EBT	C	23.3	0.29	B	14.3	0.35
WBT	C	26	0.47	B	15.4	0.49
NBL	B	17.9	0.48	B	12.3	0.27
NBT	B	17.9	0.49	B	12.1	0.26
NBR	B	17.1	0.41	B	11.6	0.18
Intersection	**C**	**21**	**0.49**	**B**	**14.3**	**0.43**

Congress Street at Boston Wharf Road	**LOS**	**Delay (s)**	**V/C**	**LOS**	**Delay (s)**	**V/C**
EB	B	18.1	0.65	C	26.7	0.78
EBR	A	8.5	0.1	B	17.3	0.47
WBL	A	8.4	0.08	D	47	0.85
WBT	B	11.6	0.38	B	13.4	0.28
NBL	D	51.2	0.63	D	48.3	0.26
NB	D	43.9	0.25	D	49.6	0.38
NBL	D	52.6	0.49	D	47	0.75
NB	D	48.2	0.05	C	33.7	0.1
Intersection	**C**	**21.1**	**0.63**	**C**	**27.9**	**0.78**

Congress Street at D Street	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	D	40.9	0.76	D	40.5	0.73
EBR	C	30.3	0.25	D	48.2	0.76
WB	D	54.3	0.73	F	109.4	1.04
NBL	D	46	0.74	D	54.1	0.81
NB	D	46.3	0.62	F	187.6	1.26
SB	D	50.5	0.67	F	155.9	1.22
Intersection	**D**	**43.7**	**0.74**	**F**	**103.1**	**1.04**

Seaport Boulevard at Northern Avenue	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EBL	C	26.8	0.29	C	20.1	0.19
EBT	C	22.3	0.54	B	15.7	0.3
WBT	D	51	0.94	C	29.9	0.73
NBT	D	40.5	0.77	D	42.6	0.66
SBL	D	46	0.59	D	45.7	0.69
SBT	D	39.9	0.26	D	41	0.57
Intersection	**D**	**37.5**	**0.78**	**C**	**30.9**	**0.65**

Seaport Boulevard at Boston Wharf Road	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	B	10.8	0.52	A	9.1	0.4
WBL	A	4.1	0.24	A	2.2	0.29
WBT	A	1	0.32	A	0.7	0.28
NB	D	43.4	0.48	D	43.5	0.45
Intersection	A	**9.2**	**0.47**	A	**8.4**	**0.38**

Seaport Boulevard at B Street	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	A	2.8	0.48	A	2.8	0.41
WB	A	4.3	0.25	A	4.9	0.41
NBL	D	43.5	0.67	D	44.3	0.65
NBT	D	36.7	0.13	D	37.6	0.08
Intersection	**B**	**12.3**	**0.51**	**B**	**10.8**	**0.45**

Seaport Boulevard at D Street/Boston Fish Pier	**LOS**	**Delay** (s)	**V/C**	**LOS**	**Delay** (s)	**V/C**
EB	B	11.4	0.43	C	23.9	0.68
WB	A	1	0.41	A	9.3	0.72
SB	C	33	0.35	D	36.5	0.27
Intersection	A	**6.9**	**0.4**	**B**	**17.7**	**0.65**

Northern Avenue at D Street	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
EB	A	1	0.18	A	1.9	0.21
WB	B	11	0.39	C	21.8	0.59
NBL	C	32.4	0.53	D	44.2	0.63
NBR	C	28.3	0.05	D	35.7	0.03
Intersection	**B**	**10.8**	**0.39**	**B**	**18.4**	**0.51**

As one can see from Table 9, none of the intersections see significant degradations in LOS, delay, or capacity between the No Build and Build Conditions. The project site trips are very low compared to the existing traffic volumes and additional growth that is occurring in the neighborhood. The accessibility of transit and alternative forms of transportation will also help keep vehicle usage down.

3.3.9 Transportation Demand Management

150 Seaport Boulevard is located in the vicinity of multiple forms of public transit, including buses, ferry service, the Silver line, and the Red line, Commuter Rail and Amtrak at South Station. In addition, Seaport Boulevard provides a bicycle and pedestrian corridor between the South Boston Waterfront neighborhood and downtown Boston.

In order to further reduce vehicle trips for the Project, a Transportation Demand Management (TDM) program will be implemented. This will include the following:

- Provide public transportation information available to residents including MBTA passes, schedules, maps, and fare information;
- Provide information regarding bicycle commuting and area bicycle and pedestrian facilities, including the Harborwalk;
- Provide short-term exterior bicycle parking spaces proximate to the Project building entrances and long-term bicycle parking within the parking garage;
- Provide dedicated off-site parking for car sharing services (ZipCar), car/vanpools and alternatively fueled vehicles; and
- Provide electric vehicle charging stations within the parking garage.

3.4 Conclusions

The proposed redevelopment of 150 Seaport Boulevard will include 124 residential units, as well as 8,902 square feet of retail that is designated for restaurant use on the ground floor. The building will be 22 stories high, with an additional three levels of parking below ground containing 179 parking spaces. An evaluation of the transportation impacts of the redevelopment of 150 Seaport Boulevard indicates that the project is expected to have minimal impact on the surrounding transportation infrastructure.

4. Environmental Review

4.1 Introduction

This chapter presents the information on the environmental conditions in the vicinity of the 150 Seaport Boulevard Project and the potential changes that may occur as a result of the project. The project has been carefully studied and developed to orient the building and incorporate design elements that will minimize and mitigate any potential impacts to the project area.

4.2 Wind

4.2.1 Introduction

As required by Section 80B-3(2) of the Boston Zoning Code, a pedestrian wind study was conducted on the proposed 150 Seaport Boulevard Project. The objective of the study was to assess the effect of the proposed development on local wind comfort conditions in pedestrian areas around the study site and provide recommendations for minimizing adverse effects. The study was used to determine if winds caused by the new construction exceeded BRA pedestrian level wind criteria on the surrounding sidewalks.

The study modeled the ground level wind conditions at one hundred and one (101) locations including pedestrian routes and public streets surrounding the building. The study locations were reviewed by the BRA prior to conducting the study.

The results of the wind study where compared to the BRA recommended criteria for evaluating pedestrian level winds and all 101 locations studied meet the BRA recommended criteria, 98 of the locations (97%) had wind conditions which improved or remained the same from the existing configuration to the build configuration.

It is anticipated that potential mitigation measures such as canopies, wind screens and landscaping will be included to alleviate wind gusts in three locations during the spring, fall and winter seasons.

See Appendix D for the entire pedestrian level wind study, including diagrams, tables, and calculations.

4.2.2 Methodology

The most effective way to assess potential pedestrian-level wind impacts around a proposed new building is to conduct scale model tests in a wind tunnel. For the proposed Project, the study utilized wind simulations on a 1:350 scale model of the proposed building and surroundings. These simulations were conducted by CPP, Inc in a boundary-layer wind tunnel for the purpose of quantifying local wind speed conditions and comparing to appropriate criteria for gauging wind comfort in pedestrian areas.

Information concerning the site and surroundings was derived from site photographs, existing data regarding buildings and terrain, and site plans and elevations of the proposed Project. Two scenarios were tested:

- No-Build Configuration – all existing conditions including the surrounding context within a 1,635 foot radius of the study site; and
- Build Configuration – the proposed Project placed in its site context.

As shown in Figures 4-1 and 4-2 the wind tunnel model included the proposed development and all relevant surrounding buildings and topography within a 1,635 foot radius of the site. Wind speed measurements were made at a number of selected locations to evaluate the pedestrian comfort and safety around the project. Mean (average) wind speed and turbulence intensity measurements were made at the model-scale equivalent of 5 to 7 feet above the surface for 16 wind directions, in 22.5 degree increments, starting from true north. Wind speeds were measured with a CPP Probe (calibratable pedestrian-level pressure probe). Supplemental information pertaining to the pedestrian wind results is provided in Appendix D.

Measurement points were prescribed to determine the degree of pedestrian comfort or discomfort at locations where relatively severe conditions are frequently found, such as at the building corners, near entrances and on adjacent sidewalks with heavy pedestrian traffic. Locations used in this study were approved by the BRA. The analysis was performed separately for each season and for the entire year.

To enable a quantitative assessment of the wind environment, the wind tunnel data was combined with wind frequency and direction information derived from data measured at Logan International Airport and adjusted to the site location. Appendix D provides a description and a graphical representation of the climate data. The data was combined statistically with the wind tunnel data to obtain cumulative probability distributions of wind speed for the full-scale site at each pedestrian measurement location. These results can then be compared to criteria for pedestrian wind comfort and safety.

4.2.3 Test Results

The BRA has adopted two standards for assessing relative wind comfort of pedestrians. The first criterion used by the BRA is to determine the relative level of pedestrian wind comfort for activities such as sitting, standing and walking. Over the years a number of researchers have added to the knowledge of wind effects on pedestrians by suggesting criteria for comfort and safety. Because pedestrians will tolerate higher wind speeds for a smaller period of time than for lower wind speeds, these criteria provide a means of evaluating overall acceptability of a pedestrian location. Also, a location can be evaluated for its intended use, such as for an outdoor café or sidewalk. One of the most widely accepted set of criteria was developed by Lawson (1990).

Lawson's criteria allow planners to judge the usability of the locations for various purposes, such as for long-duration activities (e.g., outdoor café) or ordinary walkways, and to highlight areas that may be dangerous to elderly or infirm individuals.

Figure 4-1 Wind Tunnel

cpp

Figure 4-1 Photographs of the completed model in the wind tunnel: (a) View from northeast, simulating south-westerly wind, existing building in place (No Build Configuration B); (b) View from east, simulating westerly wind, proposed building in place (Build Configuration C).

Figure 4-2 Wind Tunnel

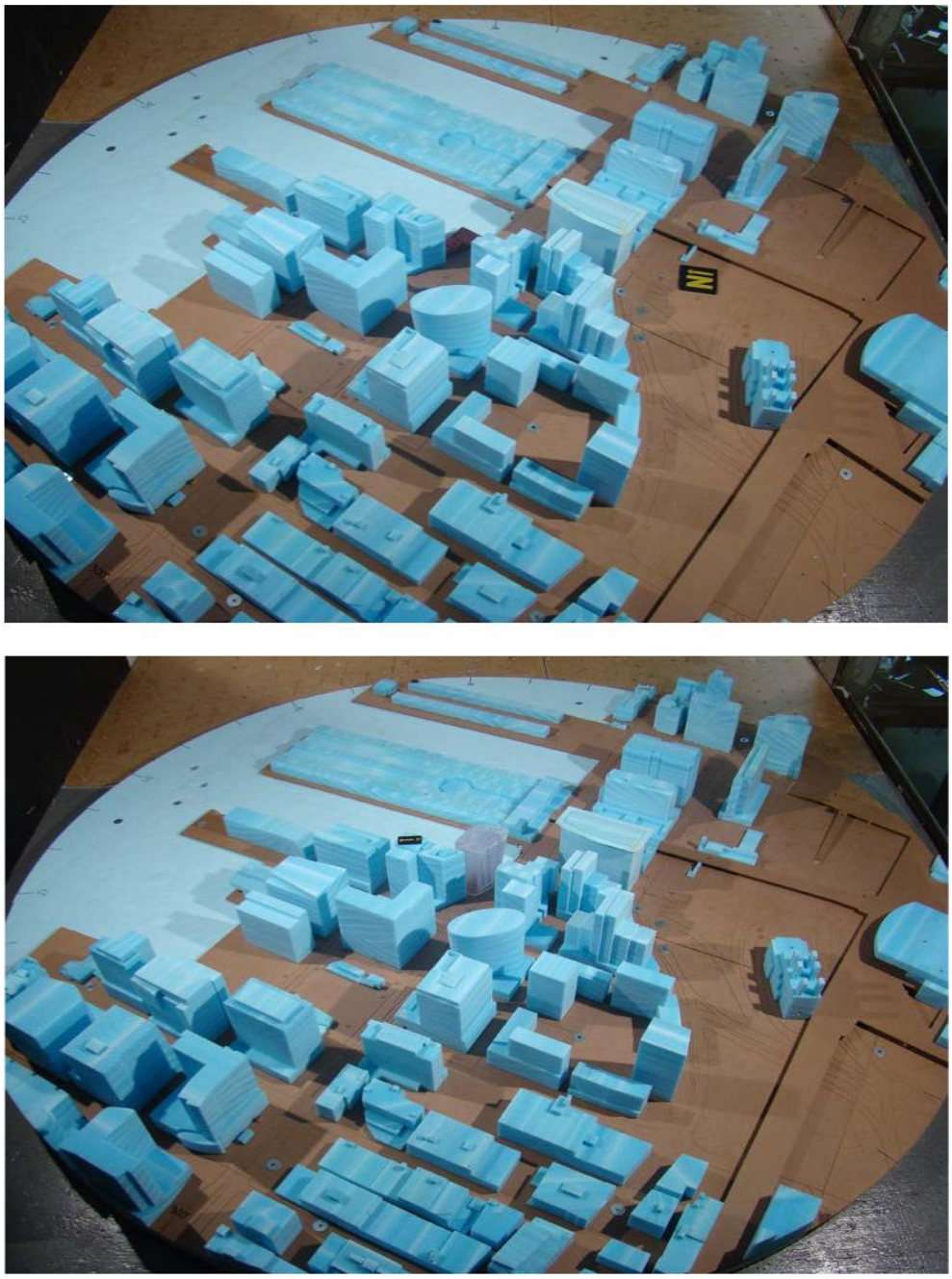


Figure 4-2 Photographs of the completed model in the wind tunnel: (c) Overhead view of No Build Configuration B; (d) Overhead view of the Build Configuration C

Comfort for categories are based on the larger of a mean or gust-equivalent mean wind speed $_{(UGEM)}$ exceeded 5% of the time (about eight hours per week on average). The gust-equivalent mean is the peak gust wind speed divided by 1.85.

The second standard is the BRA wind design guidance criterion. This criterion requires that the BRA equivalent gust (defined as the mean velocity plus 1.5 times the root mean square value) speed of 31 mph should not be exceeded more than one percent of the time.

Table 4-1 BRA Mean Wind Criteria

BRA Mean Wind Criteria	
Comfort	
Pedestrian Sitting – considered to be of long duration	<9 mph
Pedestrian Standing or sitting for a short time or exposure	9-13 mph
Pedestrian Walking	13-18 mph
Business Walking objective walking from A to B or for cycling	18-22 mph
Uncomfortable	> 22 mph

The level and severity of the comfort categories can vary based on individual preference, so calibration to the local wind environment is recommended when evaluating the Lawson ratings.

The test results depict the No-Build and Build Configuration conditions at two types of locations:

- Building entrances and sidewalks;
- Off-site walkways;

Appendix D presents the mean and effective gust wind speeds for each season as well as annually. Figures 4-3, 4-4, 4-5 and 4-6 graphically depict the mean wind speed conditions and effective gust wind speed condition at each wind measurement location based on the annual winds. 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.

4.2.4 No Build Configuration

On-Site Entrances and Sidewalks

As shown in Figure 4-3 and Figure 4-4, under the No Build configuration, all on-site locations are predicted to be suitable for sitting, standing and walking. In addition, the effective gust criterion was met annually on all locations.

Off-site Walkways

As shown in Figure 4-3 and Figure 4-4, under the No Build configuration, all off-site locations are predicted to be suitable for walking or better on an annual basis. In addition, the effective gust criterion was met annually at all locations.

4.2.5 Build Configuration

On-Site Entrances and Sidewalks

As shown in Figure 4-5 and Figure 4-6, under the Build Condition, all on-site locations are predicted to be suitable for sitting, standing and walking. Additionally, the effective gust criterion was met annually at all locations.

Off-site Walkways

As shown in Figure 4-5 and Figure 4-6, under the Build Condition, all off-site locations are predicted to be suitable for walking or better on an annual basis. Additionally, the effective gust criterion was met annually at all locations.

4.2.6 Conclusion

The wind analysis shows that the overall wind conditions expected in the surrounding area under the Build Condition are largely similar to the No-Build Condition, and are generally suitable for the intended uses.

It is anticipated that potential mitigation measures such as canopies, wind screens and landscaping will be included to alleviate wind gusts in three locations during the spring, fall and winter seasons.

Figure 4-3 No Build Mean Wind Speed Conditions and Effective Gust Wind Speed Condition

Figure 4-4 No Build Mean Wind Speed Conditions and Effective Gust Wind Speed Condition

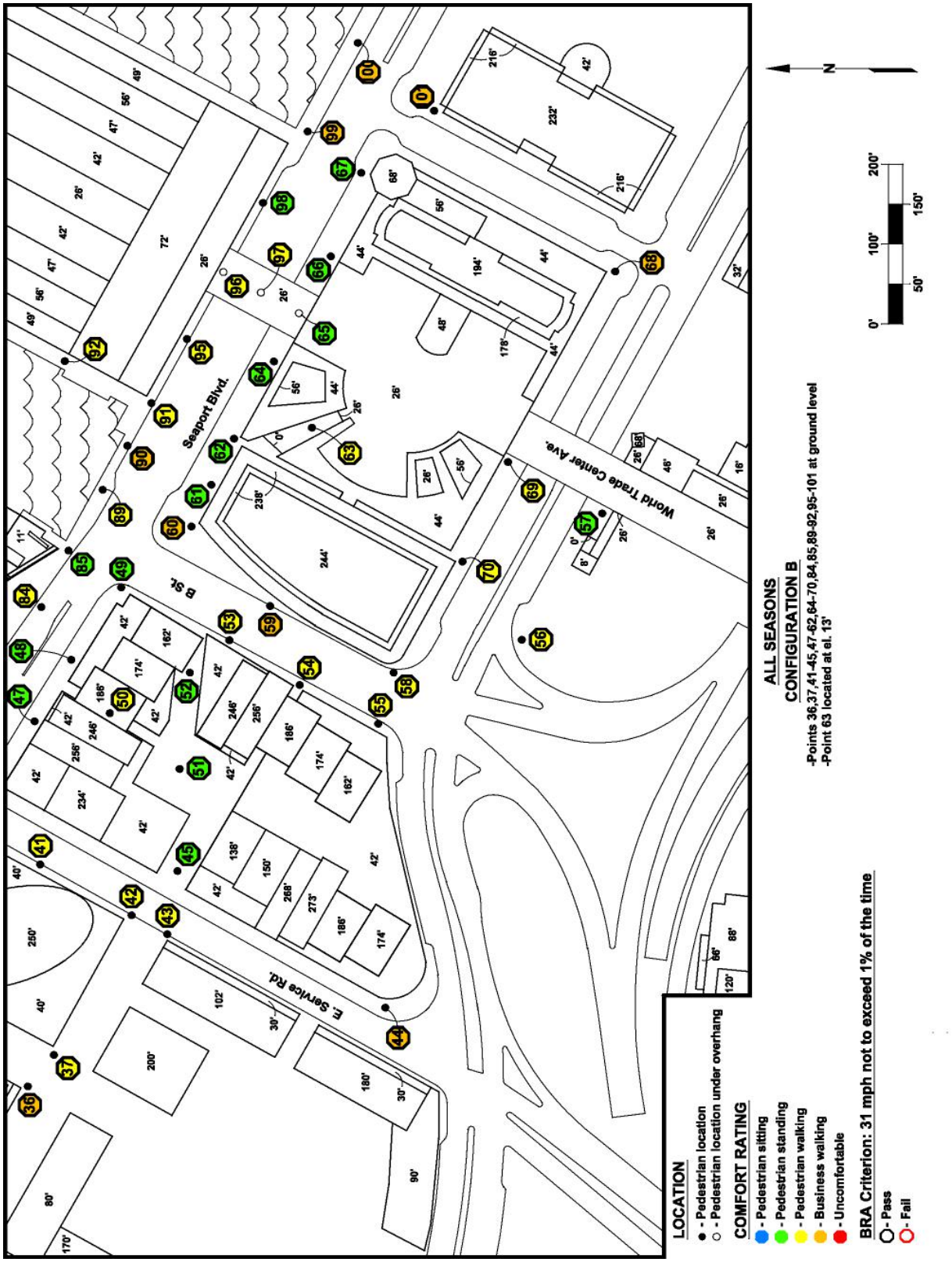
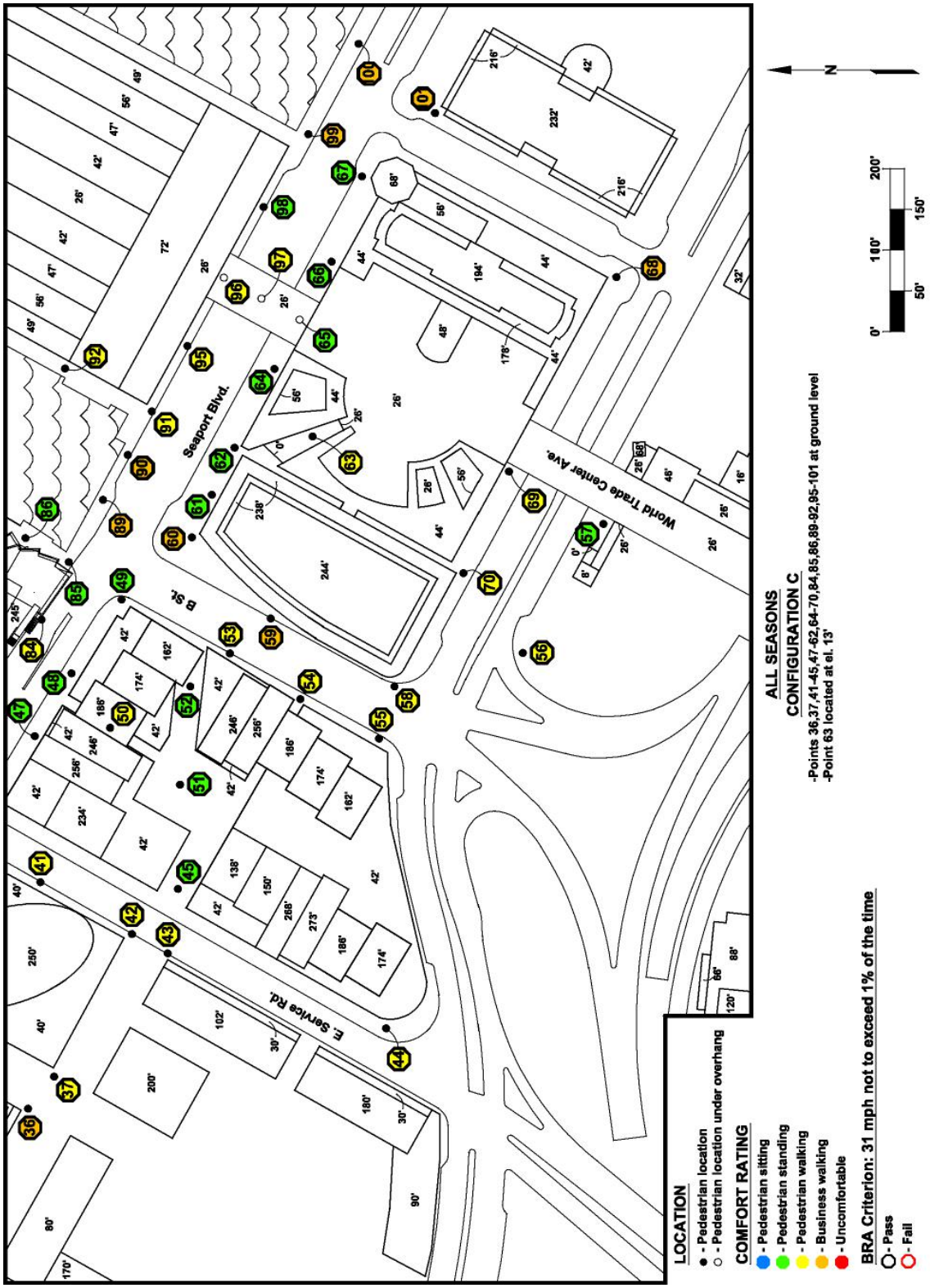


Figure 4-5 Build Mean Wind Speed Conditions and Effective Gust Wind Speed Condition

Figure 4-6 Build Mean Wind Speed Conditions and Effective Gust Wind Speed Condition



4.3 Shadow

4.3.1 Introduction and Methodology

The Proponent has completed a shadow study as part of this Expanded PNF to ascertain the potential new shadow impacts resulting from the project. The study has been conducted in accordance with Section 80B-2 for the City of Boston Zoning Code. The study has particular emphasis on sidewalks, public plazas and other public open spaces. The shadow study compares the build to the No Build conditions.

The design of the project was examined from a wide variety of viewpoints in order to understand its shadow impact within the context of the site. The shadow path for the proposed project was analyzed during the vernal equinox (March 21), summer solstice (June 21), autumnal equinox (September 21), and winter solstice (December 21). The impact analysis was conducted during 3 time periods (9:00 a.m., 12:00 noon, and 3:00 p.m.). In addition, shadow studies were conducted for the 6:00 p.m. time period during the summer solstice and autumnal equinox.

See Figures 4-1 through 4-14 for shadow images

4.3.2 Summary Analysis

The result of the analysis shows that minor new shadow from the Project is generally limited to nearby streets and sidewalks. The studies indicate that the net new shadow is limited in both scope and duration. In the mornings, the building will cast a relatively slender shadow down Seaport Boulevard and sweep quickly across the open space at the southeast corner of the site. For the remainder of the morning, until up to 1 or 2 in the afternoon, the neighboring building, 100 Pier 4, will block the majority of the shadow cast by 150 Seaport Boulevard. After 1 or 2 pm, from spring to fall, the bulk of shadow cast is on the watersheet.

The analysis proves that throughout the year, the building will cast almost no shadow on the primary open space at the southeast corner of the site, and will have minimal impacts to the public realm experience.

Vernal Equinox (March 21)

At 9:00 a.m., a minor shadow from the project will be limited to a slender shadow on Seaport Boulevard and its sidewalk and sweep quickly across the open space at the southeast corner of the site.

At 12:00 p.m., no new shadow will be cast onto the open space at the southeast corner. Minor new shadow from the project will be cast to the northwest onto a small portion of the Harborwalk and watersheet.

At 3:00 p.m., no new shadow will be cast onto the open space at the southeast corner. Minor new shadow from the project will be cast to the north onto a small portion of the watersheet.

Summer Solstice (June 21)

At 9:00 a.m., a minor shadow from the project will be limited to a slender shadow on Seaport Boulevard and its sidewalk and sweep quickly across the open space at the southeast corner of the site.

At 12:00 p.m., no new shadow will be cast onto the open space at the southeast corner. Minor new shadow from the project will be cast to the northwest onto a small portion of the Harborwalk and watersheet.

At 3:00 p.m., no new shadow will be cast onto the open space at the southeast corner. Minor new shadow from the project will be cast to the northeast onto a small portion of the watersheet.

At 6:00 p.m., no new shadow will be cast onto any open space.

Autumnal Equinox (September 21)

At 9:00 a.m., a minor shadow from the project will be limited to a slender shadow on Seaport Boulevard and its sidewalk and sweep quickly across the open space at the southeast corner of the site.

At 12:00 p.m., no new shadow will be cast onto the open space at the southeast corner. New shadow from the project will be cast to the northwest onto a small portion of the watersheet.

At 3:00 p.m., no new shadow will be cast onto the open space at the southeast corner. New shadow from the project will be cast to the northeast onto a small portion of the Harborwalk and watersheet.

At 6:00 p.m., no new shadow will be cast onto any open space.

Winter Solstice (December 21)

At 9:00 a.m., no new shadow will be cast onto any open space. Minor new shadow from the project will be limited to a small slender shadow to the west of the project. .

At 12:00 p.m., no new shadow will be cast onto any open space. New shadow from the project will be cast to the northwest onto a small portion of the Harborwalk and watersheet.

At 3:00 p.m., no new shadow will be cast onto any open space. New shadow from the project will be limited to a small shadow to the east of the project.

Figure 4-7 Shadow Study: March 21, 9:00 a.m.

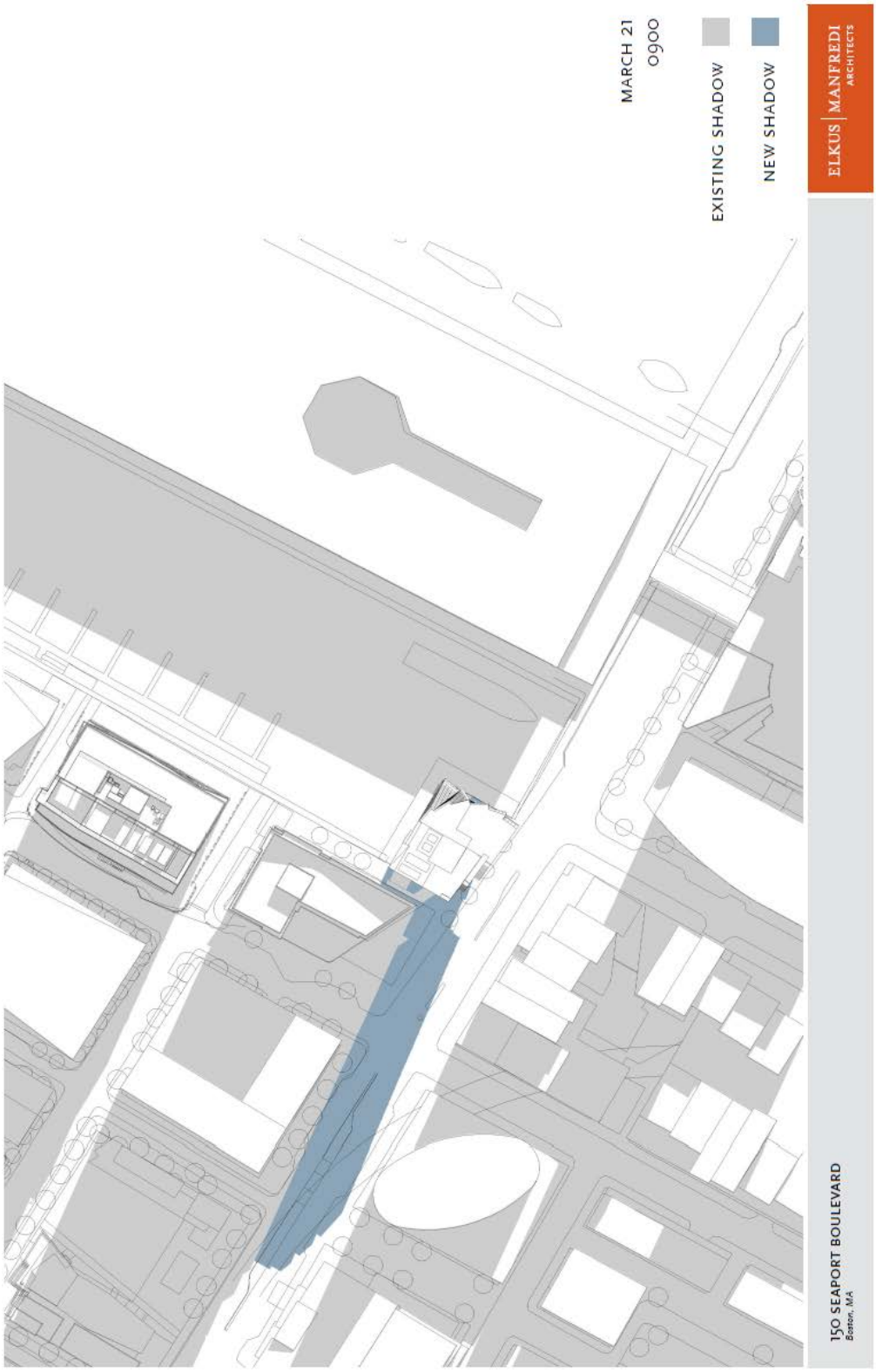


Figure 4-8 Shadow Study: March 21, 12:00 p.m.

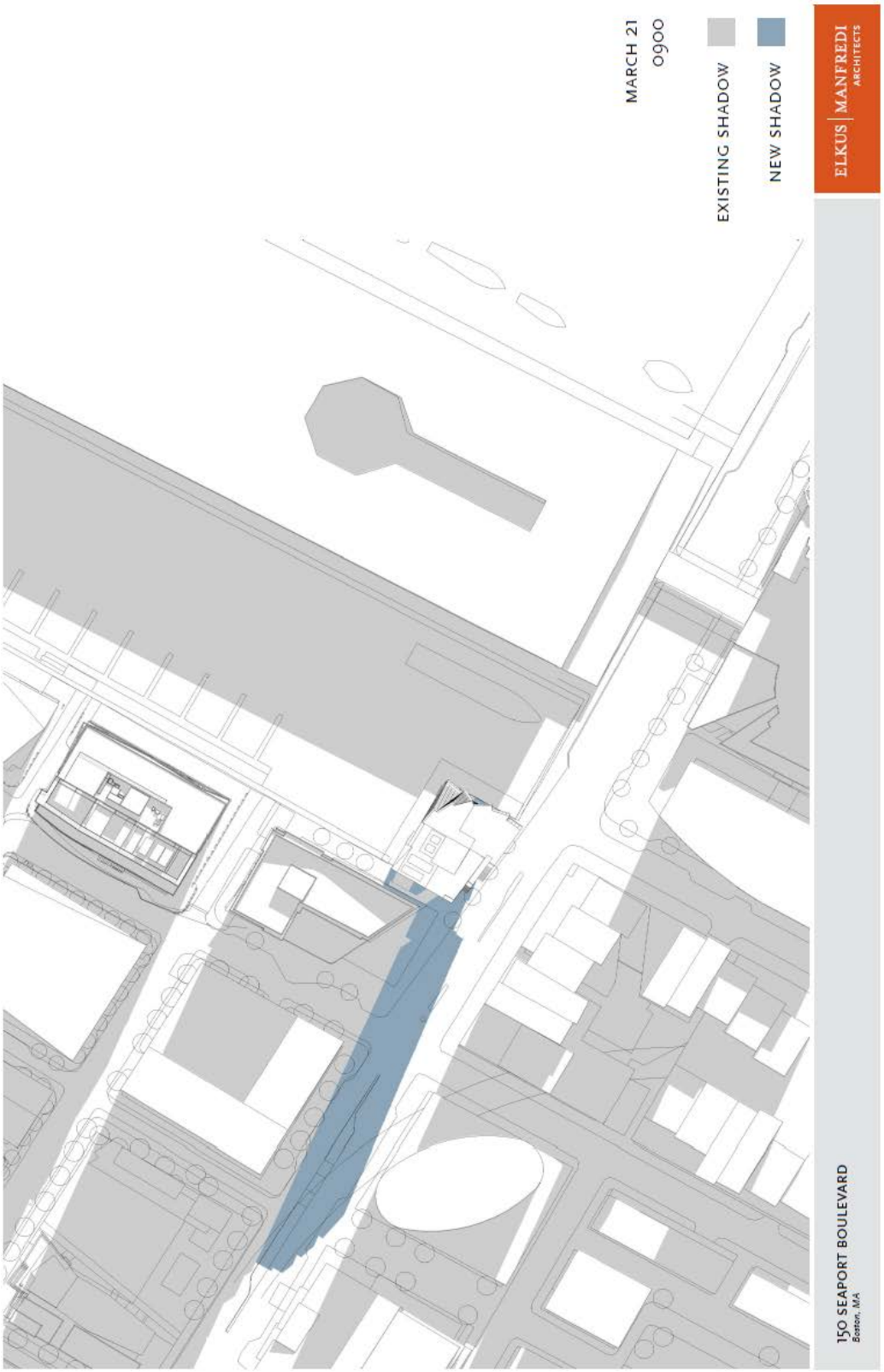


Figure 4-9 Shadow Study: March 21, 3:00 p.m.

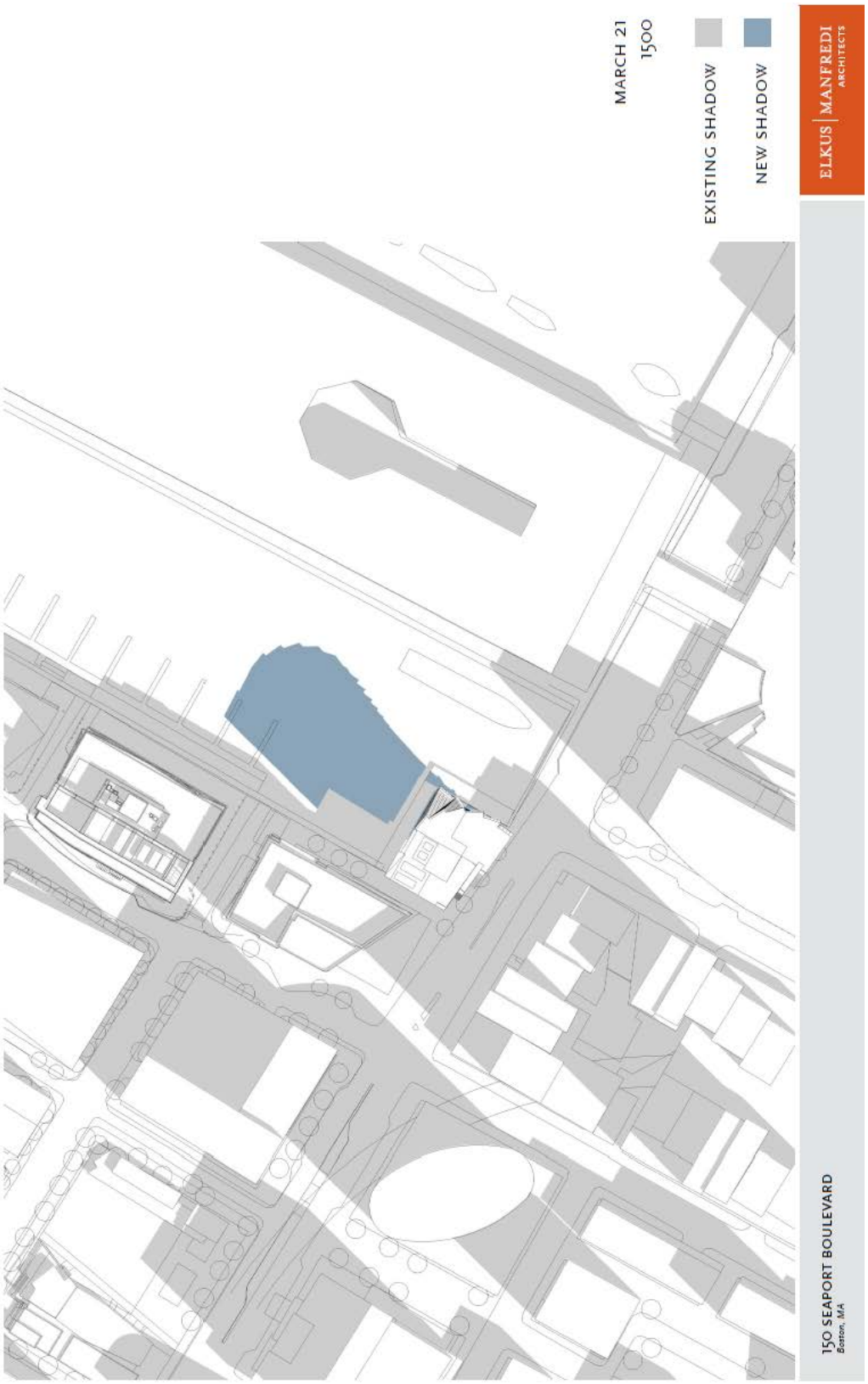


Figure 4-10 Shadow Study: June 21, 9:00 a.m.

Figure 4-11 Shadow Study: June 21, 12:00 p.m.

Figure 4-12 Shadow Study: June 21, 3:00 p.m.

Figure 4-13 Shadow Study: June 21, 6:00 p.m.

Figure 4-14 Shadow Study: September 21, 9:00 a.m.

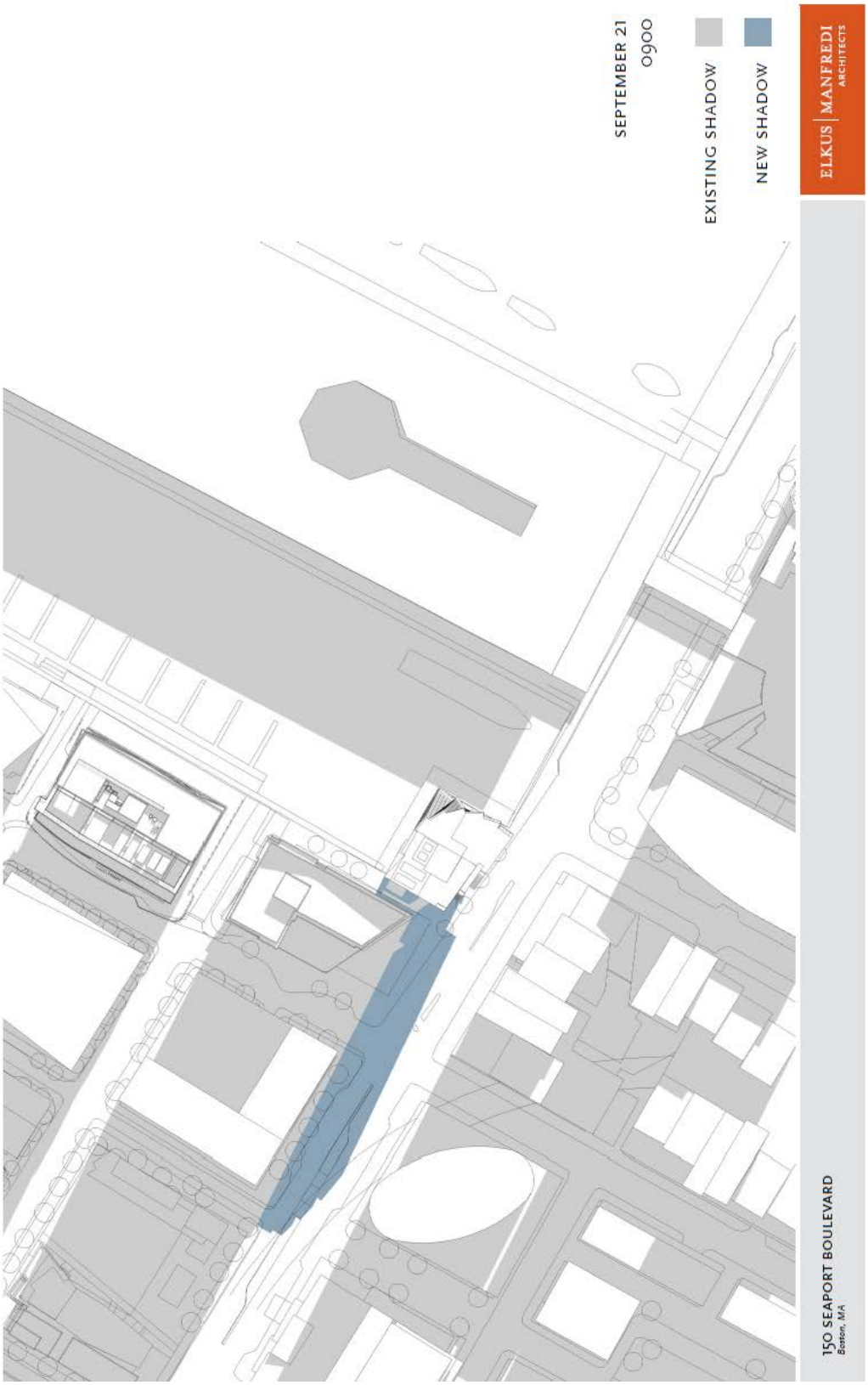


Figure 4-15 Shadow Study: September 21, 12:00 p.m.

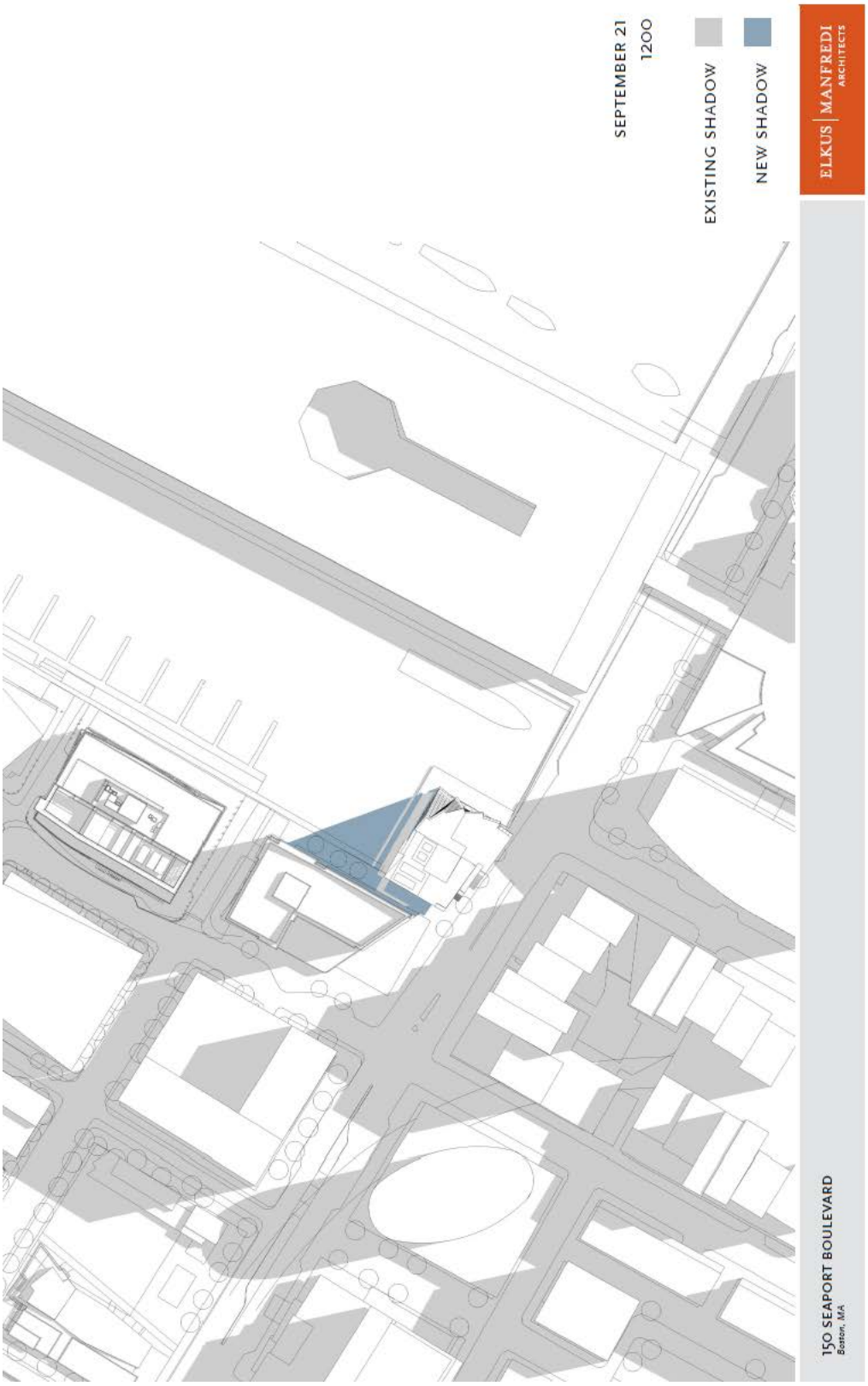


Figure 4-16 Shadow Study: September 21, 3:00 p.m.

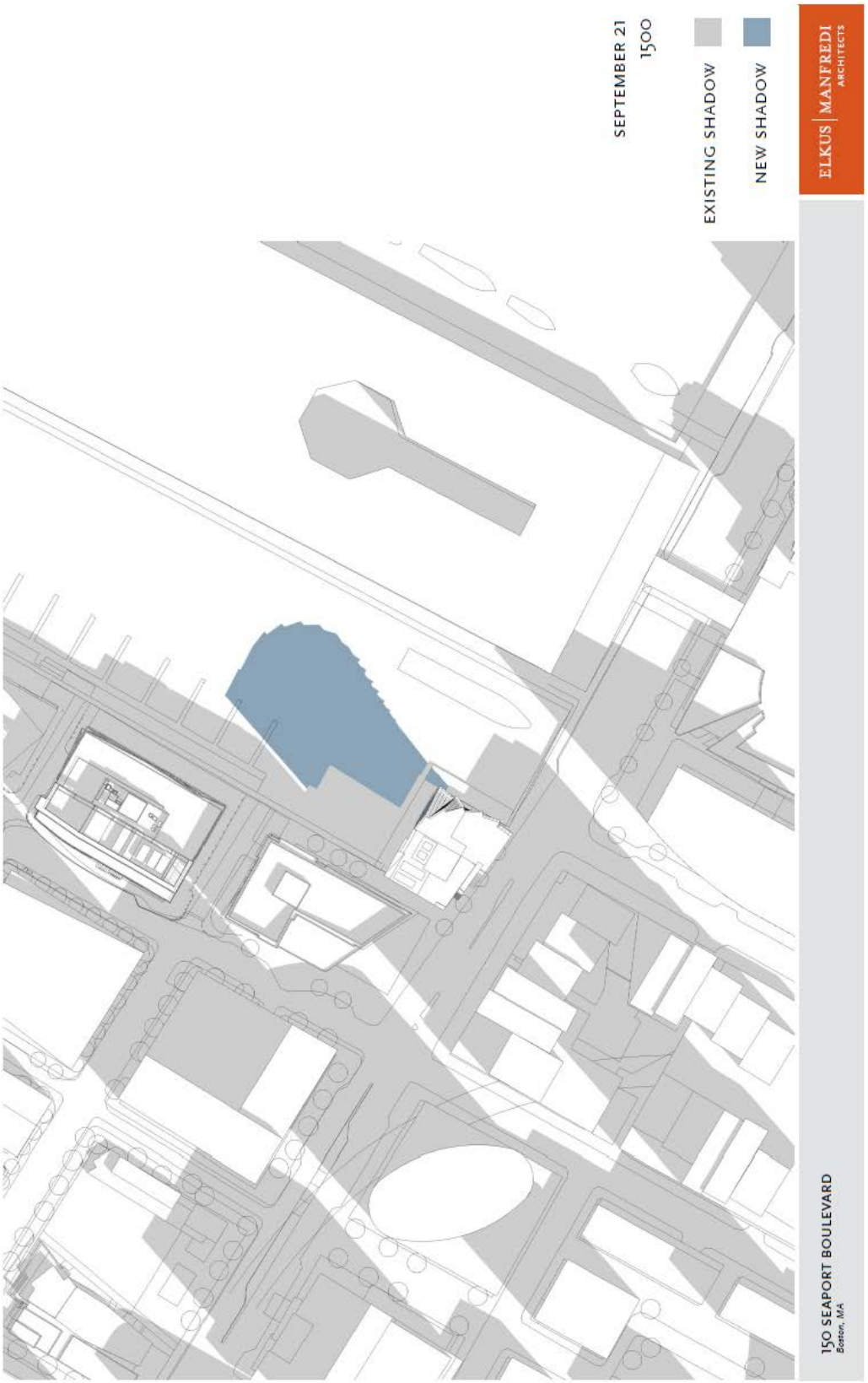


Figure 4-17 Shadow Study: September 21, 6:00 p.m.

Figure 4-18 Shadow Study: December 21, 9:00 a.m.

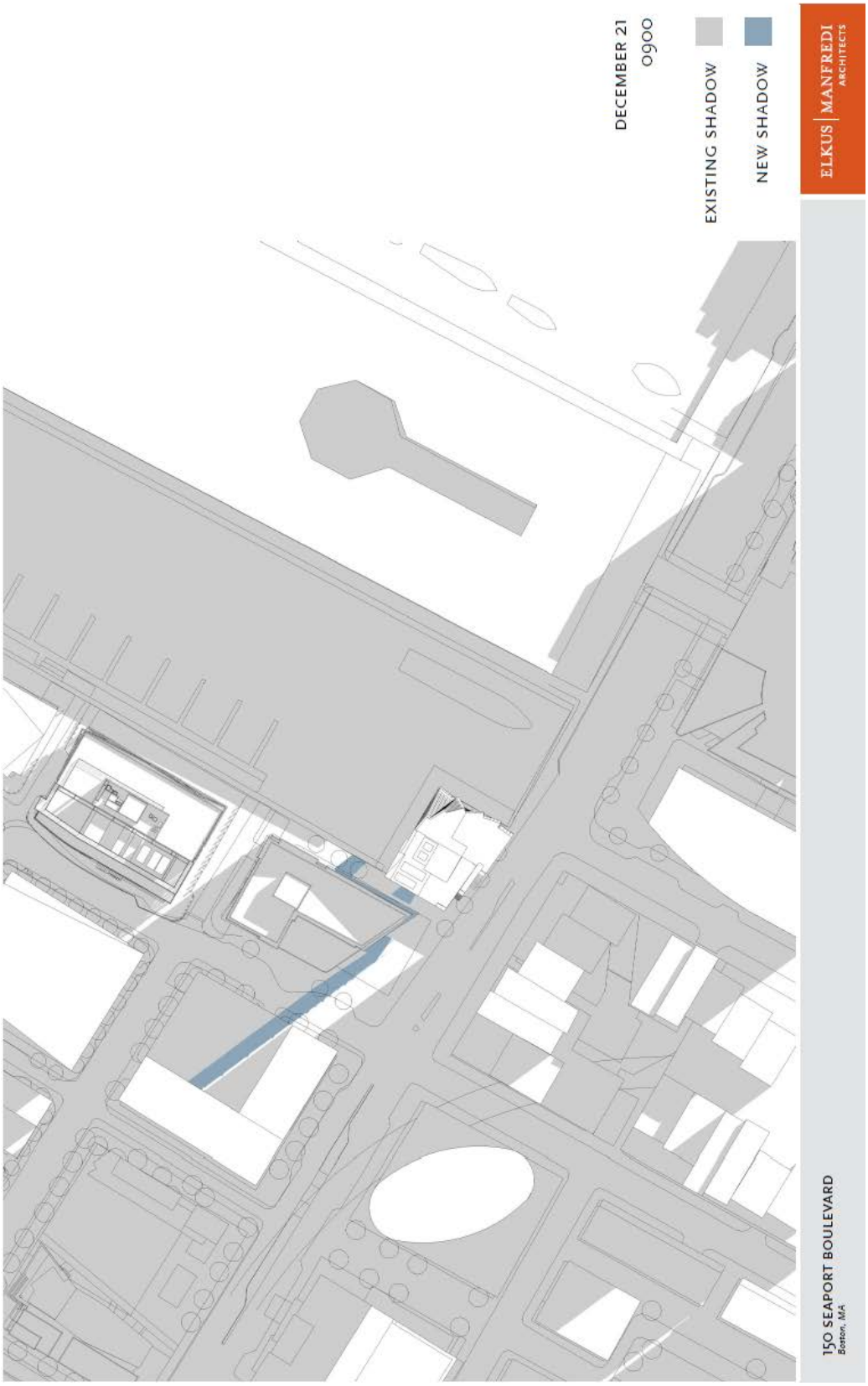


Figure 4-19 Shadow Study: December 21, 12:00 p.m.

Figure 4-20 Shadow Study: December 21, 3:00 p.m.

4.4 Daylight

4.4.1 Introduction

The following section describes the anticipated effect on daylight coverage at the Project Site as a result of the Project. An analysis of the percentage of skydome obstructed under the Build and No-Build conditions is a requirement of the Article 80 Large Project Review as part of the Environmental Protection component (Section 80B-2(c) of the City of Boston Zoning Code). The daylight analysis was prepared using the BRA's Daylight Analysis Program (BRADA) and has been completed in accordance with the requirements of Article 80 of the City of Boston Zoning Code. The results of the analysis are presented in Figure 4-22

4.4.2 Methodology

The Project was analyzed using the BRADA and by comparing the Existing/No-Build Condition and Build Condition. This section provides a description of the methodology used for the analysis.

BRADA Software

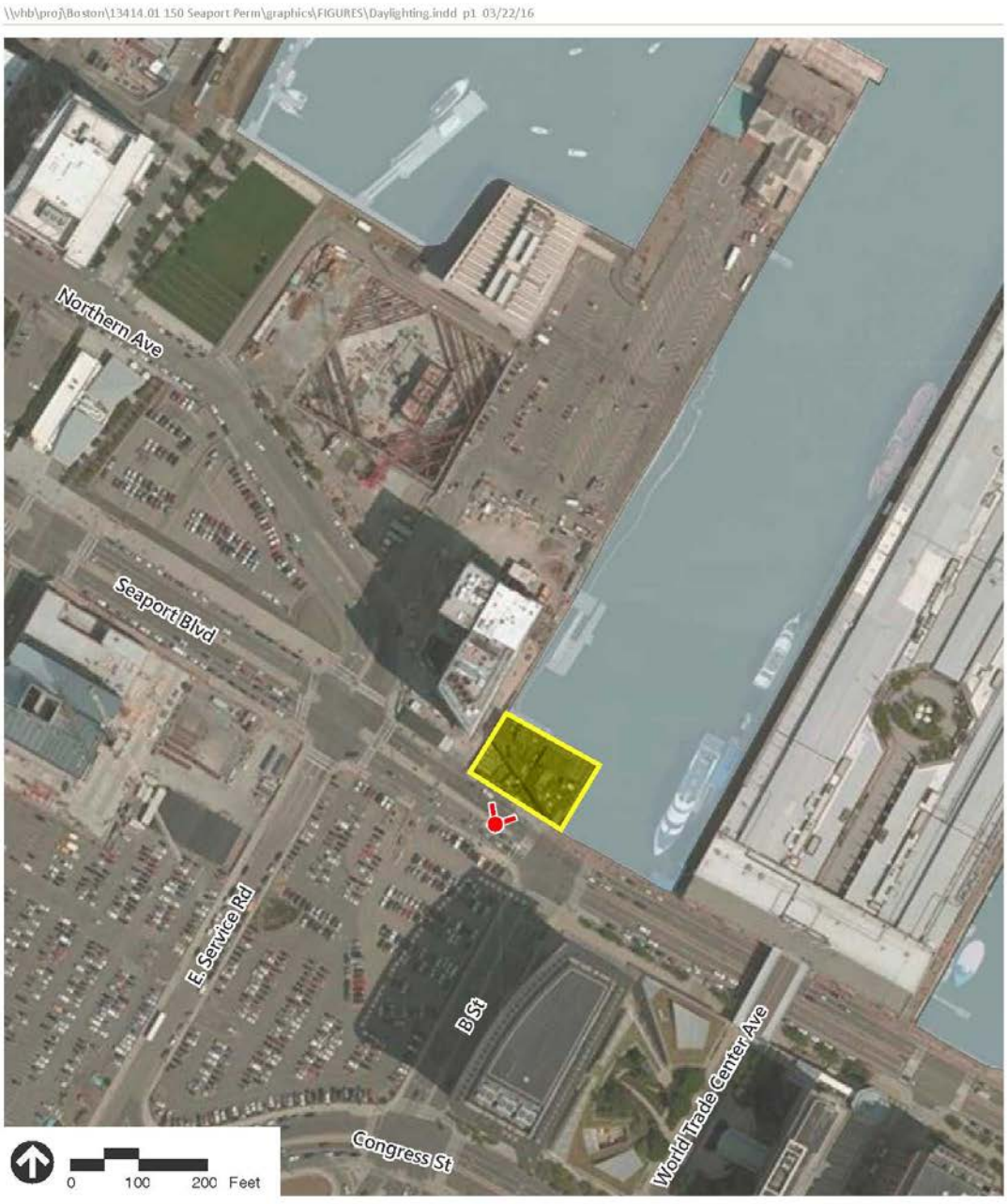
The BRADA program was developed in 1985 by the Massachusetts Institute of Technology to estimate the pedestrian's view of the skydome taking into account the massing and building materials used. The software approximates a pedestrian's view of a site based on input parameters such as: location of viewpoint,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

The model inputs used for the study presented in this EPNF were taken from a combination of the BRA City model, an existing conditions survey prepared by VHB, and schematic design plans prepared by Elkus Manfredi Architects. As described above, the BRADA software considers the relative reflectivity of building facades when calculating perceived daylight obstruction. Highly reflective materials are thought to reduce the perceived skydome obstruction when compared to non-reflective materials. For the purposes of this daylight analysis, the building facades are considered non-reflective, resulting in a conservative estimate of daylight obstruction.

4.4.3 View Points

The daylight analysis was calculated based on the centerline of Seaport Boulevard on the southern façade of the proposed building. This is the only public-way adjacent to the site. The Project is bordered to the north and east by Boston Harbor and to the west by a new development, rendering the southern façade as the only portion of the project adjacent to a public way.

Figure 4-21 View Point Location Map



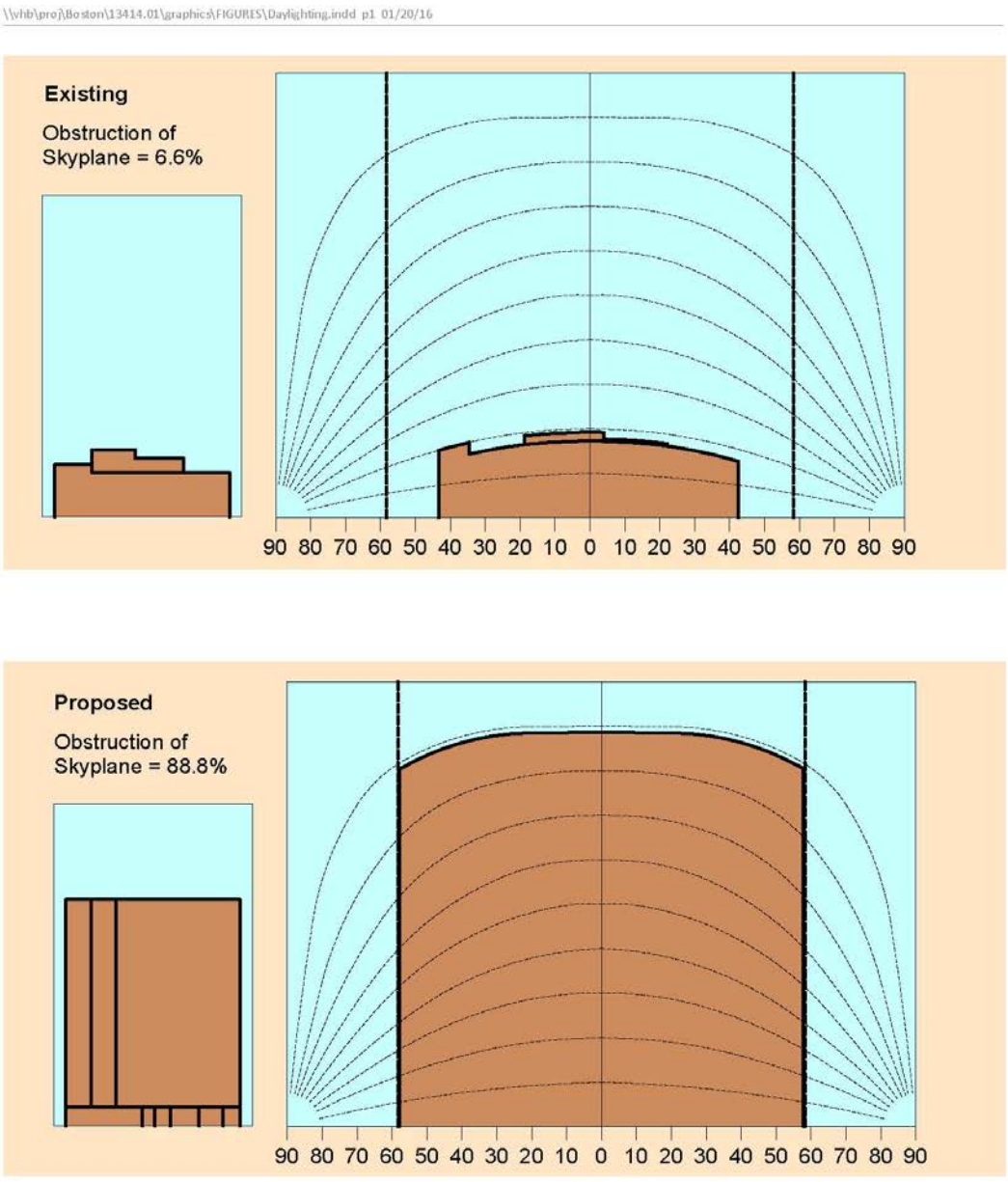
vhb

Figure

Daylighting Analysis
Locus Map

150 Seaport Boulevard
Boston, Massachusetts

Figure 4-22 Existing and Proposed



Under the Existing/No-Build Condition, the majority of the skydome (approximately 93.4 percent) is visible from the selected viewpoint due to the set-back, low-rise nature of the existing building. Figure 4-22 illustrates the skydome obstruction under the Existing/No-Build scenarios.

Daylight Build Conditions

The Project-related daylight impacts for the viewpoint is presented in Figure 4-22. Under the Proposed Conditions, the viewpoint along Seaport Boulevard is expected to experience an increase in skydome obstruction due to the increased height and massing of the new building. Skydome obstruction impacts will increase from 6.6 percent to 88.8 percent skydome obstruction. This effect is to be expected when replacing a low-rise individual building with a single taller building. This change is well within the expected level of view obstruction when considered in the realm of the City's planning objectives for this portion of the Seaport. The desired density and massing of the Project necessitates obstructing a portion of the views at the Project Site.

4.5 Solar Glare

The design of the proposed Project does not incorporate highly reflective glass or other highly reflective materials, nor does the Proponent anticipate the use of such materials. Reflective materials can create solar glare on area roadways and sidewalks as well as additional heat loading on neighboring buildings. The use of non-reflective materials mitigates this effect.

4.6 Air Quality

This section presents an overview of and the results for the air quality assessment conducted for the 150 Seaport Boulevard Project. The purpose of the air quality assessment is to demonstrate that the Project satisfies applicable regulatory requirements, and whether it complies with the 1990 Clean Air Act Amendments (CAAA) following the local and the U.S. Environmental Protection Agency (EPA) policies and procedures.

The air quality assessment conducted for this Project includes a qualitative localized (microscale), or "hot spot", analysis of local carbon monoxide (CO) concentrations. The microscale analysis reviewed potential CO impacts from vehicles traveling through congested intersections in the project area under the existing conditions, as well as considering site-specific impacts under the future conditions. The results from this evaluation were subject to the National Ambient Air Quality Standards (NAAQS)

4.6.1 Background

The CAAA resulted in states being divided into attainment and non-attainment areas, with classifications based upon the severity of their air quality problems. Air quality control regions are classified and divided into one of three categories: attainment, non-attainment and maintenance areas depending upon air quality data and ambient concentrations of pollutants. Attainment areas are regions where ambient concentrations of a pollutant are below the respective NAAQS; non-attainment areas are those where

concentrations exceed the NAAQS. A maintenance area is an area that used to be non-attainment, but has demonstrated that the air quality has improved to attainment. After 20 years of clean air quality, maintenance areas can be re-designated to attainment. Projects located in maintenance areas are required to evaluate their CO concentrations with 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 considered for this Project.

4.6.2 Air Quality Standards

The EPA has established the NAAQS to protect the public health. Massachusetts has adopted similar standards as those set by the EPA for carbon monoxide. Table 1-1 presents the NAAQS for carbon monoxide.

Table 4-2 NATIONAL AMBIENT AIR QUALITY STANDARDS

	Primary Standards		Secondary Standards	
Pollutant	**Level**	**Averaging Time**	**Level**	**Averaging Time**
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour	None	None
	35 ppm (40 mg/m^3)	1-hour	None	None

Carbon monoxide is directly emitted by motor vehicles, and the predominant source of air pollution anticipated from typical project 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. Brief exposure to high levels of CO can also impair vision, physical coordination, and the perception of time. 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 emanate from automobile exhaust.[1]

The Department of Environmental Protection (MassDEP) 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-high annual values from the previous three years. Looking at the air quality monitor closest to the project site (Harrison Avenue) for the years 2012-2014, the CO background values are 2.2 ppm for the 1-hour averaging time and 1.6 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 1-2.

[1] Environmental Protection Agency, *National Air Quality and Emissions Trends Report*, 1999, March 2001.

Table 4-3 AIR QUALITY BACKGROUND CONCENTRATIONS

	Background Concentrations		NAAQS	
Pollutant	**Level**	**Averaging Time**	**Level**	**Averaging Time**
Carbon Monoxide	1.6 ppm	8-hour	9 ppm	8-hour
	2.2 ppm	1-hour	35 ppm	1-hour

Monitoring Location: Harrison Avenue, Boston, MA

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

4.6.3 BRA Development Review Guidelines

The BRA 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
- 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."

Traffic Data

The air quality assessment was based on the projected trip generation for the proposed Project. The total morning peak hour trips for the Project are projected to be 45 total trips and the 113 vehicles trips during the evening peak hour. The Saturday peak hour is projected to be 141 vehicles trips. In addition, the anticipated truck deliveries are projected to be 7 commercial vehicles per day with 6+ tires and 6 commercial vehicles per day with 4 tires which would most likely be delivering during off-peak hours.

4.6.4 Microscale Analysis

The CAAA resulted in states being divided into attainment and non-attainment areas, with classifications based upon the severity of their air quality problems. The Project is located in the Boston Metropolitan area, which has been classified as a "Maintenance" area for CO.

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

- The project-related traffic is not projected to impact intersections or roadway links currently operating at Level of Service (LOS) D, E, or F along Seaport Boulevard and beyond and would not cause LOS to decline to D, E, or F as the projected vehicles trips are below 150 vehicles trips during the peak hour.

- Project traffic is not likely to increase traffic volumes on nearby roadways by 10 percent or more (the increase in traffic volume is less than 150 vehicles per hour). The project is expected to generate 45 vehicle trips in the morning peak hour, 113 vehicle trips in the evening peak hour and 141 vehicle trips during the Saturday peak hour, less than a 150 vehicles per hour increase. These trip equate to only about 1-2 additional vehicles per minute during the peakhour.

- The Project is not projected to generate 3,000 or more new average daily trips on roadways providing access to a single location. The project is expected to generate 738 vehicle trips during a typical weekday and 734 vehicle trips during a Saturday, well below the 3,000 vehicle trip threshold.

Thus, under BRA Review Guidelines the Project is not expected to cause or contribute to a violation of the NAAQS and a quantitative microscale analysis is not required. The traffic impacts of project-related traffic are projected to be minor compared to the background traffic of the existing street network. Since CO emissions are directly correlated to vehicular traffic, it is probable that the project will create similarly insignificant CO emissions when compared to the background concentrations and the NAAQS.

Violation of the CO standard set by the NAAQS has become increasingly infrequent. This is due to a number of factors. Primarily, the vehicular emission rates of CO have decreased and will continue to decrease with the passage of time due to newer, more controlled vehicles entering the fleet[2]. Additionally, the CO background concentration in Boston has decreased with time[3].

Under consideration of these three controlling factors for the determination of CO impact (Project traffic, background concentration, and emission rates), it is highly unlikely for CO impacts to exist or to be created with the introduction of the Project. The Project will generate minimal vehicular activity in the surrounding network. The CO emission rates of the fleet will decrease over time, and the background CO concentration is a relatively small 18% and 6% of the respective 1-hour and 8-hour NAAQS.

[2] "Transportation Air Quality Facts and Figures" *Vehicle Emissions,* Federal Highway Administration. January 2006. <https://www.fhwa.dot.gov/environment/air_quality/publications/fact_book/page15.cfm.>

[3] "Massachusetts Annual Air Quality Report" *Department of Environmental Protection, Bureau of Air and Waste, Division of Air and Climate Programs.* Multiple Years.

4.6.5 Summary of Findings

The air quality evaluation demonstrated that the development of the proposed project is not expected to result in adverse air quality impacts and evaluated the potential site-specific impacts from the vehicles traveling through the study area. This evaluation reveals that all existing and future carbon monoxide concentrations are expected to be below the NAAQS. The air quality study demonstrates that the Project is projected to conform to the CAAA and the SIP because:

- No violation of the NAAQS are expected to be created.
- No increase in the frequency or severity of any existing violations (none of which are related to this development) would be anticipated to occur.
- No delay in attainment of any NAAQS would be 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.

4.7 Noise

The noise impact assessment evaluated the potential noise impacts associated with the Project's activities, including mechanical equipment and loading activities. This section discusses the noise background, existing conditions, impact criteria, and potential impacts. The analysis determined existing conditions and future conditions with the existence of the Project. Ultimately, the analysis demonstrates that the Project will comply with City of Boston noise regulations.

4.7.1 Noise Fundamentals

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

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

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

- A 3 dB increase is a doubling of acoustic energy and is the threshold of perceptibility to the average person.

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

The human ear does not perceive sound levels from each frequency as equally loud. To compensate for this phenomenon in perception, a frequency filter known as A weighted [dB(A)] is used to evaluate environmental noise levels. Table 4-4 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 other sound level descriptors:

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

Table 4-4 Common Outdoor and Indoor Sound Levels

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

Quiet Suburb—Nighttime		-	35	
	632	-	30	Quiet Bedroom at Night
Quiet Rural Area—Nighttime		-	25	Empty Concert Hall
Rustling Leaves	200	-	20	
		-	15	Broadcast and Recording Studios
	63	-	10	
		-	5	
Reference Pressure Level	20	-	0	Threshold of Hearing

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

4.7.2 City of Boston Noise Impact Criteria

The City of Boston has developed noise standards that establish noise thresholds deemed to result in adverse impacts. Under Chapter 40, Section 21 of the General Laws of the Commonwealth of Massachusetts and Title 7, Section 50 of the City of Boston Code, the Air Pollution Control Commission of the City of Boston has adopted Regulations for the Control of Noise in the City of Boston. These regulations establish maximum allowable sound levels based upon the land use affected by the proposed development. Table 2 summarizes the maximum allowable sound levels that should not be exceeded.

Table 4-5 City of Boston Noise Standards

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

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

With a mix of residential apartments and commercial uses in the vicinity of the Project site, the assessment focused on the noise standards for a residential zoning district as it is the more stringent criteria. As such, residential receptor locations would be considered impacted if experiencing sound levels exceeding 60 dB(A) during the daytime periods (7:00 AM to 6:00 PM) and 50 dB(A) during other time periods or nighttime period (6:00 PM to 7:00 AM). The noise analysis for the Project used these standards to evaluate existing conditions. These standards will also be used to evaluate if the proposed development will generate sound levels that result in adverse impacts.

4.7.3 Methodology

The noise analysis evaluated the potential noise impacts associated with the Project's operations, which include mechanical equipment and loading dock activities. The noise analysis included measurements of existing ambient background sound levels and a qualitative evaluation of potential noise impacts associated with the proposed mechanical equipment (heating, ventilation, and air conditioning (HVAC) systems, and emergency generator) and loading activities. The study area was evaluated and sensitive receptor locations in the vicinity of the Project were examined. The site layout and building design, as it relates to the loading area and management of deliveries at the Project site were also considered. The analysis considered potential sound level reductions due to distance, proposed building design, and blockages from the surrounding structures.

4.7.4 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 that may be sensitive to noise associated with the Project. The noise analysis identified two nearby sensitive receptor locations in the vicinity of the Project. As shown on Figure 1, the receptor locations include the following:

- R1 –Pier 4 Apartments; and
- R2 – Seaport Hotel

These receptor locations, selected based on land use considerations, represent the most sensitive locations in the vicinity of the Project site.

4.7.5 Existing Noise Conditions

A noise monitoring program was conducted to establish existing ambient conditions. The existing sound levels were measured using a Type 1 sound analyzer (Larson Davis LxT). Measurements were conducted at two locations, as shown in Figure 1, in the vicinity of the Project site on January 28, 2016. Measurements were conducted between 1:30 PM and 2:30 PM to represent a typical weekday daytime period and between 3:30 AM and 4:30 AM to represent the nighttime period.

The existing measured sound level data are summarized in Table 3. The measured L90 sound levels range from approximately 57 dB(A) to approximately 65 dB(A) during the daytime period and from approximately 49 dB(A) to approximately 50 dB(A) during the nighttime period. These sound levels are representative of an active urban area. The results of the noise monitoring program indicate that the sound levels within the study area are currently above the City of Boston's daytime standard of 60 dB(A). Based on field observations, the dominant noise sources during the daytime period included vehicular traffic traveling along the local roadways and construction activity in the area. During the nighttime period, the dominant noise sources included vehicular traffic and mechanical equipment operating at nearby buildings.

Table 4-6 Existing Measured L90 Sound Levels, dB(A)

	City of Boston Residential District Noise Criteria		Measured Leq Sound Levels	
Monitoring Location	**Daytime**	**Nighttime**	**Daytime**	**Nighttime**
M1 – Pier 4 Apartments	60	50	**65**	50
M2 – Seaport Hotel/Seaport Lane	60	50	57	49

Source: VHB, Inc.
Note: Refer to Figure 1 for monitoring locations.
Bold values exceed City of Boston noise standards

4.7.6 Future Noise Conditions

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

Mechanical Equipment

Since the Project is in the early stages of the design process, the specific details related to the potential mechanical equipment are unknown at the time of this noise assessment. However, the mechanical equipment associated with the Project may include building heating and ventilation systems, air cooling units, and/or an emergency generator. During the design and selection process, the appropriate low-noise mechanical equipment will be selected, including noise mitigation measures, such as acoustical enclosures, a penthouse, and/or acoustical screening. The system would be strategically located on the rooftop, utilizing the height of the proposed 22-story building in providing noise attenuation. During the final design and selection process, the Project will incorporate noise attenuation measures necessary to comply with City of Boston's noise criteria at the sensitive receptor locations. As such, the sound levels associated with the Project's mechanical equipment is expected to be negligible at the surrounding sensitive receptor locations.

If an emergency generator is proposed, the proponent will be required to adhere to Massachusetts Department of Environmental Protection's (MassDEP's) regulations that require such equipment to be certified and registered. As part of the MassDEP's permitting process, the Project will be required to meet additional noise requirements described in MassDEP regulations under the Codes of Massachusetts Regulations (310 CMR 7.00). When the details of the emergency generator are developed, the proponent will submit the appropriate permit application to MassDEP including the noise mitigation measures (such as acoustic enclosures and exhaust silencers) necessary to meet MassDEP's noise criteria.

Service and Loading Activities

Loading activities associated with the Project will be located within the proposed building. The building design provides one loading dock at ground level with access directly from Seaport Boulevard. With the loading dock located inside the building, the abutting sensitive receptor locations will be shielded from the loading activities. The Project

anticipates approximately 13 truck deliveries during a typical day. The loading activities will be managed so that service and loading operations do not impact local roadways nor nearby sensitive receptors. Since loading activities will be isolated from the adjacent sensitive receptor locations and will be managed, noise impacts to the sensitive receptor locations is expected to be negligible.

4.7.7 Conclusion of Noise Impact Assessment

The noise analysis evaluated the sound levels associated with the Project. This analysis determined that the Project site is located in an urban area, which is expected to experience sound levels greater than the City of Boston's noise criteria under the existing conditions. The existing dominant noise sources in the area consists of vehicular traffic along Seaport Boulevard.

Due to the design of the proposed building and the anticipated location of the mechanical equipment on the rooftop, the sound levels associated with the Project's operations are expected to have negligible noise impacts on the existing ambient sound levels at nearby sensitive receptor locations. Additionally, service and loading activities will be situated within the proposed building and properly managed to minimize potential noise impacts. Thus, the Project is expected to comply with the City of Boston noise regulations.

4.8 Solid and Hazardous

4.8.1 Hazardous Waste

Prior to construction, assessments will be preformed of both the Project site and the existing building to determine whether any contaminated soils, groundwater, asbestos, lead paint, or other hazardous materials are present. If such materials are present, they will be characterized based on the type, composition and level of contaminants. Work plans will be prepared by licensed professionals to identify the mean and methods for safe removal and legal disposal or recycling of these materials. Abatement and disposal of hazardous materials (or hazardous waste) will be performed under the provision of MGL c21 /sC, OSHA, and the Massachusetts Contingency Plan (MCP) by specialty contractors experienced and licensed in handling materials of this nature.

4.8.2 Operational Solid and Hazardous Waste Generation

The Project will generate solid waste typical of other residential/mixed-use projects. Solid waste is expected to include wastepaper, cardboard, glass bottles and food Solid waste generated by the Project will be approximately 1,053 tons per year. This is based on the approximate number of bedrooms proposed with a generation rate of 4 pounds (lbs) per bedroom per day and commercial, retail, and restaurant space proposed at a generation rate of 5.5 tons per 1,000 square feet per year.

Table 4-7 Solid Waste Generation

Unit Type	Program	Number of Bedrooms	Generation Rate	Solid Waste (tons per year)
Studio / One Bedroom Units	39	39	4 lbs/bdrm/day	156
Two Bedroom Units	45	90	4 lbs/bdrm/day	360
Three Bedroom Units	40	120	4 lbs/bdrm/day	480
Commercial / Retail / Restaurant	10,700	--	5.5 lbs/1000 s.f./yr	57
Total Solid Waste Generation				**1,053**

Solid waste will include wastepaper, cardboard, glass, and bottles. A portion of the waste will be recycled. The remainder of the waste will be compacted and removed by a waste hauler contracted by building management. The proposed Project will accommodate storage and collection of recyclables as part of its sustainability strategy.

4.8.3 Recycling

The Project's dedicated recyclables storage and collection program will facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. The Project's recycling program will be fully developed in accordance with LEED standards as described in Chapter 5.

4.9 Flood Hazard Zones / Wetlands

4.9.1 Flood Hazard Zone

Located on filled and flowed Commonwealth tidelands along Boston Harbor, the Site is divided between two flood zones that parallel the existing bulkhead. Approximately 30 – 40' landward of the bulkhead, the Site is classified as Zone AE with a flood elevation of 11 feet NAVD88, or approximately 17.5 feet City of Boston. The area seaward of the AE Zone is classified as a VE Zone with a flood elevation of 13 feet NAVD88, or approximately 19.5 feet City of Boston.

The standardized approach to delineating V-zones was applied in the Federal Insurance Rate Maps (FIRMs) that became effective on March 16, 2016. An initial assessment of the area indicated that this standardized approach did not incorporate the protective nature of two solid fill piers extending over 1,000 feet into Boston Harbor on either side

of the project site. Based on this initial determination a detailed hydrodynamic analysis has been completed for the Project using site-specific shoreline information and a two-dimensional wave model incorporating existing conditions and the adjacent solid-fill piers protecting the property from waves propagated across Boston Harbor. The analysis includes offshore wave conditions, calculation of wave set-up, and the determination of a wave run-up elevation at the property utilizing methods and modeling tools approved by FEMA. The analysis indicates that the VE Zone should not extend landward of the bulkhead and that flood zone for the entire property classified as Zone AE. The Proponent is finalizing the analysis and will submit a Letter of Map Revision (LOMR) with FEMA. The LOMR will be submitted to the City of Boston as supplemental information.

Flood hazard is anticipated to increase in the future with rising sea level and increased severity and frequency of storm events. Additional mitigation is proposed to maintain resiliency throughout the design life of the structure, and is discussed in more depth in below in Climate Change Preparedness and Resiliency section 5.3 below.

4.9.2 Wetlands Protection Act Compliance

The Project will occur within coastal resource areas subject to protection under the Massachusetts Wetlands Protection Act (WPA) (MGL Chapter 131, Section 40) and its implementing regulations (310 CMR 10.00). The work will also occur within Land Subject to Coastal Storm Flowage, however the WPA does not establish any performance standards for that resource area.

Work impacting Coastal Bank includes replacement of the existing bulkhead. The existing man-made coastal bank does not provide a sediment source, and is therefore only significant to the interests of the WPA for its function in storm damage prevention. The impacts to Coastal Bank will not adversely impact bank stability, nor will they affect rare vertebrate or invertebrate species, and therefore in compliance with the applicable performance standards for Coastal Bank.

4.10 Geotechnical

4.10.1 Existing Site Conditions

The site is currently occupied by two, one-to-two story wood framed and concrete block structures presumed to be supported on wood pilings; the date of the building construction is unknown. The north side of the parcel is contained by a steel sheetpile bulkhead and to the south of the restaurant buildings is an outdoor patio area consisting of brick pavers and an asphalt walking surface. Site grades are relatively level ranging from approximately El. 15 to El. 17 Boston City Base (BCB) Datum.

4.10.2 Subsurface Soil and Bedrock Conditions

Site and subsurface conditions at the Project site are based on results of test boring explorations completed at the subject site in November 2015. Subsurface conditions generally indicate the following sequence of subsurface units in order of increasing depth below ground surface:

Table 4-8 Subsurface Conditions

Stratum / Subsurface Unit	Top of Stratum Elevation (BCB)	Estimated Thickness (ft)
Fill Soils	El. 16	18
Organic Deposits	El. -2	3
Marine Deposits (Sand/Clay)	El. -5	95
Glacial Deposits	El. -100	40
Bedrock	El. -140	N/A

4.10.3 Groundwater

Groundwater levels at the site will fluctuate and are influenced considerably by tidal changes in the adjacent harbor. During lunar tide cycles, the harbor high water level can increase to El. 11 to 12 BCB, with higher levels resulting when lunar tides occur during major storm surge. The 100-year floor based on the pending FRIM Map (2016) developed by FEMA is El. 17.46 BCB (AE Zone El. 11 NAVD 1988).

The Project site is located outside the limits of the Groundwater Conservation Overlay District (GCOD). Accordingly, the project is not required to comply with Article 32.

4.10.4 Proposed Foundation Construction

The proposed 22-story mixed use building is planned to include three below grade parking levels. Development of the Project site will require demolition of the two existing buildings prior to excavation for foundations and below grade walls.

The proposed Building is anticipated to be supported on a mat foundation bearing on the natural, inorganic Marine Deposits. A concrete diaphragm wall (i.e., slurry wall) will be used for temporary earth support and also will serve as the permanent below grade foundation wall. The type and design of both the temporary earth support system and foundation system will provide for adequate support of the structures and utilities and be compatible with the subsurface conditions.

4.10.5 Potential impacts during Excavation and Foundation Construction

Potential impacts during excavation and foundation construction include ground vibration, noise and ground movement due to excavation. The foundation design and construction will be conducted to limit potential adverse impacts on adjacent structures.

Prior to construction, instrumentation will be installed as appropriate for the location, nature of the structure, and proximity to the work and will be monitored before, during and after construction to document that the construction procedure has had no adverse impact on adjacent structures and utilities.

4.10.6 Existing Hazardous Waste Conditions

An evaluation of the site will be completed to identify and recognize environmental conditions associated with site history, existing observable conditions, current site uses, and current and former uses of adjoining properties. This work will be conducted as part of a Phase I Environmental Site Assessment (Phase I ESA) using methods consistent with ASTM E1527-05.

Characterization of the environmental soil and groundwater quality at the Project site has not been conducted to date. Chemical testing of soil and groundwater to be generated as a result of construction activity will be conducted at the appropriate stage of the design process to further evaluate site environmental conditions. Management of soil and groundwater will be in accordance with applicable local, state, and federal laws and regulations.

4.11 Construction Impacts

4.11.1 Introduction

A Construction Management Plan ("CMP"), in compliance with the City's Construction Management Program, will be submitted to the Boston Transportation Department ("BTD") once final plans are developed and the construction schedule is fixed. The construction contractor will be required to comply with the details and conditions of the approved CMP. The construction contractor will also work with the appropriate agencies to coordinate with any other construction projects occurring in the immediate vicinity of the proposed Project.

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

Periodic meetings will also be held with neighborhood representatives to describe the ongoing work and to discuss measures that will be taken to minimize impacts on the community. The Project superintendent will contact abutters and close neighbors on a regular basis during the work.

During the construction phase of the proposed Project, the Proponent will provide the name, telephone number, and address of a contact person to communicate with regarding construction-related issues. The construction contact person's sole responsibility will be to respond to the questions/comments/complaints of the neighborhood residents.

The Proponent intends to follow the guidelines of the City of Boston and the Massachusetts Department of Environmental Protection. These organizations direct the evaluation and mitigation of construction impacts. As part of this process, the Proponent

and its construction team will evaluate the mitigation methods as recommended by the Commonwealth's Clean Air Construction Initiative.

4.11.2 Construction Methodology

Construction methodologies that ensure public safety and protect nearby tenants will be employed. Techniques such as barricades and signage will be used. Construction management and scheduling will minimize impacts on the surrounding environment and will include plans for construction worker commuting and parking, routing plans for trucking and deliveries, and control plans for limiting noise and dust. Construction staging methodology used to isolate the construction site is described later in this chapter.

As the design of the Project progresses, the Proponent and its construction team will meet with the BTD to discuss the specific location of barricades, pedestrian walkways, and truck queuing areas. They will also determine the need and schedule for lane closures as necessary. All of this information will be incorporated into the Construction Management Plan which will be submitted to the BTD for approval prior to commencement of the new construction work.

4.11.3 Construction Schedule

Construction of the proposed Project is anticipated to commence during the 2nd quarter of 2017 and continue through the 3rd quarter of 2019.

Typical construction hours will be from 7:00 a.m. to 6:00 p.m., Monday through Friday, with most shifts ordinarily ending at 3:30 p.m. No sound-generating activity will occur before 7:00 a.m. If longer hours, additional shifts, or Saturday work is required, the Construction Manager will place a work permit request to the Boston Air Pollution Control Commission and BTD in advance. Notification should occur during normal business hours, Monday through Friday. It is noted that some activities could run beyond 6:00 p.m. to ensure the structural integrity of the finished product. For example, certain components must be completed in a single, uninterrupted pour, such as the placement of concrete.

4.11.4 Construction Staging/Access

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

The proposed construction staging plan will be designed to isolate the construction and provide safe access for pedestrians and vehicles during normal day-to-day activity and emergencies. The staging areas will be secured by chain-link fencing to protect pedestrians from entering.

The Proponent will work with the construction contractor and the City of Boston to ensure that staging areas will be located to minimize impact to pedestrian and vehicular flow. Secure fencing and barricades will be used to isolate construction areas from pedestrian traffic. Public safety on abutting sidewalks will also include covered pedestrian walkways when appropriate and the closure of certain sidewalks during the most hazardous periods of overhead work activity during the construction of the superstructure. If required by the BTD and the Boston Police Department, police details

will be provided to facilitate traffic flow. All construction procedures will be designed to meet all OSHA safety standards for specific site construction activities.

4.11.5 Construction Employment and Worker Transportation

The number of workers required during construction will vary depending on the stage of construction. It is anticipated that approximately 400 construction jobs will be created over the length of the construction. The Proponent will make reasonable good-faith efforts to have at least 50% of the total employee work hours be allocated for Boston residents, at least 25% of total employee work hours be allocated for minorities, and at least 10% of the total employee work hours be allocated for women. The Proponent will enter into jobs agreements with the City of Boston.

Because the construction workers will arrive and depart prior to peak traffic periods, the construction trips are not expected to impact local traffic conditions. To reduce vehicle trips to and from the construction site, minimal construction worker parking will be permitted on the site and all workers will be strongly encouraged to use ridesharing options and public transportation. The general contractor will work aggressively to ensure that construction workers are well informed of the public transportation options serving the area. A secured area will be provided on-site for storage of tools and equipment so they do not have to be brought to the site each day.

4.11.6 Construction Truck Routes and Deliveries

Truck traffic will vary throughout the construction period, depending on the activity. The construction team will manage deliveries to the site during morning and afternoon peak hours in a manner that will minimize disruption to traffic flow on adjacent streets. Construction truck routes to and from the site for contractor personnel, supplies, materials and removal of excavations required for development will be coordinated with BTD.

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

4.11.7 Construction Noise

The Proponent is committed to mitigating noise impacts from the construction of the Project. Intermittent increases in noise levels will occur in the short-term during the demolition and construction period. Construction work will comply with the requirements of the City of Boston noise ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities.

Mitigation measures are expected to include:

- Instituting a proactive program to ensure compliance with the City of Boston noise limitation policy;
- Using appropriate mufflers on all equipment and providing ongoing maintenance of intake and exhaust mufflers;
- Muffling enclosures on continuously operating equipment, such as air compressors and welding generators with outdoor exposure;
- Replacing specific construction operations and techniques by less noisy ones where feasible;

- Selecting the quietest alternate equipment when possible;
- Scheduling equipment operations to keep average levels low, to synchronize noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels; and
- Locating noisy equipment at locations that protect sensitive areas by shielding or distance.

4.11.8 Construction Air Quality

Short-term air quality impacts from fugitive dust may be expected at various times in the construction process. The construction management plan will include plans for controlling and mitigating dust during demolition and construction. The construction contract will outline strictly enforced measures to be utilized by contractors in order to reduce potential emissions and minimize impacts. These measures will include:

- Using wetting agents where needed on a scheduled basis;
- Using covered trucks;
- Minimizing exposed storage debris on-site;
- Cleaning streets and sidewalks on a regular basis to minimize dust accumulations; and
- Using On-Road Low Sulfur Diesel (LSD) fuel in off road equipment.

The Proponent will also participate in MassDEP's Clear Air Construction Initiative (CACI).

4.11.9 Construction Waste

The Proponent will take an active role with regard to the reprocessing and recycling of construction and demolition waste. All demolition materials from the buildings and the site will be removed in accordance with City of Boston Guidelines.

The disposal contract will include specific requirements to ensure that construction procedures allow for the necessary segregation, reprocessing, reuse, and recycling of materials when possible. For the materials that cannot be recycled, solid waste will be transported in covered trucks to an approved solid waste facility as per DEP Regulations for Solid Waste Facilities, 310 CMR 16.00. This requirement will be specified in the disposal contract. Construction will be conducted so that recyclable materials are segregated from non-recyclable materials. This enables and facilitates disposal at an approved solid waste facility.

4.11.10 Rodent Control

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

4.11.11 Construction Vibration

All means and methods for performing work at the site will be evaluated for potential vibration impacts on adjacent structures. Vibration criteria will be established for the prior

to construction, and vibration will be monitored, if required, during construction to ensure compliance with the agreed-upon standard.

4.11.12 Protection of Utilities

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

4.11.13 Wildlife Habitat

A review of current MassGIS data layers indicates that the project does not fall within Areas of Priority or Estimated Habitat as mapped by the state's Natural Heritage & Endangered Species Program.

5. Sustainable Design and Climate Change Preparedness

5.1 Introduction

The Proponent established LEED goals and sustainable objectives early in the design process. The Proponent has evaluated the proposed Project under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) system. 150 Seaport Boulevard will meet the requirements of both Article 37 of the Boston Zoning Code and the Boston Stretch Code. The project will incorporate all feasible measures to limit greenhouse gas emissions and will be designed and constructed to strive to meet LEED Silver certification. A consultant will be contracted to assist in the LEED review and energy modeling to ensure that the project meets the requirements for Article 37 and the Boston Stretch Code, as well as the U.S. Green Building Council.

Environmental sensitivity and long-term sustainability will shape the planning of 150 Seaport Boulevard – from the materials and methods used during construction, to employing energy-efficient technologies.

A checklist is included at the end of this section, and shows the credits the project anticipates achieving. Presently, 51 points have been targeted, not including the points marked as "maybe" on the LEED checklist that will continue to be studied as the design develops.

5.2 Sustainable Design Elements

To achieve a LEED Silver rating, multiple strategies will be employed in each of the LEED sections for Sustainable Sites, Water Efficiency, Energy & Atmosphere, Material & Resources, Indoor Environmental Quality, and Innovation & Design Process. The following information also demonstrates how the proposed Project is consistent with the Proponent's commitment to environmentally conscious design.

5.2.1 Sustainable Sites: (20 points)

By choosing to develop a site which is in an urban area, the project will meet the criteria for the following credits: site selection, development density & community connectivity, and public transportation. The building is not only located on a previously developed site, but it is located in the dense Seaport District neighborhood with easy access to parks (Fan Pier Park, Q Park, and the Lawn on D), restaurants (Ocean Prime, Gather, Row 34, Legal Test Kitchen, Temazcal, Empire, Strega, and Rosa Mexicana), places of worship (Chapel of Our Lady of Good Voyage), community centers (District Hall), convenience grocery (7 Eleven), banks (Sovereign Bank), museums (the Institute of Contemporary Art and the Boston Children's Museum), and more. With a wide range of services within

walking distance to the building, the project will invigorate and sustain established urban living patterns, creating a more stable and interactive community.

For traveling beyond the Seaport district, alternative transportation will be provided to encourage building users to reduce their carbon footprint. The site is located near both the Silver Line T stop and the MBTA Bus 4 route which connects the site to North Station, South Station, Logan Airport and other important areas within the city of Boston. The Proponent will also provide bicycle storage and a shower and changing facility on site as an alternate to personal vehicle use. For residential tenants with vehicles parked in the below-grade garage, alternative-fuel fueling stations will be provided for 3% of the total parking spaces.

The project will also seek measures to reduce heat islands. Street trees will provide shade, hardscape materials will have a Solar Reflectance Index (SRI) of at least 29, and high-albedo roofing surfaces will be installed.

5.2.2 Water Efficiency: (4 points)

150 Seaport will reduce potable water use for the proposed landscaping of the site by at least 50%. The project will also reduce water consumption within the building by installing low flow faucets, toilets, and showers at both the commercial and residential uses.

5.2.3 Energy and Atmosphere: (7 points)

To achieve credits for optimal energy performance, high-efficiency mechanical equipment will be used in combination with high performance glazing and increased insulation. The building glazing will incorporate efficient solar heat gain coefficients and 1" insulated units with Low-E coatings. Energy recovery units will be used to provide ventilation at a minimum energy penalty and ECM motors will reduce necessary energy in the residential fan coil units throughout the building.

To provide for ongoing accountability of building energy consumption, the restaurant tenants will be separately metered to allow for measurement and verification of tenant energy consumption over time.

Within the residential component of the project, refrigerants and HVAC&R units will eliminate or reduce emissions of compounds contributing to ozone depletion and Energy Star appliances will be specified.

The project will also designate an independent and qualified commissioning agent who will be responsible for establishing commissioning requirements to be incorporated into the construction documents, verifying installation and performance of commissioned systems, and completing a summary report. The scope of the commissioning agent will involve energy-related systems, including HVAC, lighting controls and hot water systems. The commissioning will minimize the negative impacts of the building on the environment by verifying that the building is designed, constructed, and operated as it was intended and in accordance with the Proponents project requirements.

5.2.4 Materials and Resources: (4 points)

To divert construction and demolition debris from disposal in landfills, the project will implement a solid waste management strategy during construction and will implement a recyclables storage and collection plan upon its completion.

Where possible, the project will use recycled and locally manufactured materials, thereby reducing impacts resulting from extraction and processing of virgin materials and using materials extracted within the region to support the use of indigenous resources and reducing environmental impacts resulting from transportation. The project team will evaluate the specification and prioritize selection of materials with high recycled content such as concrete, metal, drywall, and carpet.

5.2.5 Indoor Environmental Quality: (8 points)

The project will also feature low-emitting materials to prevent release of toxins into the occupied environment. These materials, such as adhesives, sealants, coatings, paints, and carpets will be installed in all common areas and at the residential units.

To minimize building occupant exposure to potentially hazardous particulates and pollutants, indoor chemical and pollutant source control strategies will be employed. These strategies include providing permanent entryway system at building entrances to capture dirt and particles, sufficiently exhausting spaces where hazardous gases and/or chemicals may be present such as garages and housekeeping spaces, and provide containment for the disposal of hazardous liquids in places where water and chemical concentrate mixing occurs.

Individual lighting controls will be provided for the majority of the building occupants to adjustment the lighting to suit their various task needs and preferences. Occupants will also have a high level of control of the temperature of their individual environments. Within each residential unit, multiple heating zones will be established to allow the owners to maintain thermal comfort while also saving energy. This will be achieved by reducing the heating and cooling loads in spaces that are not in use. These controls of both lighting and temperature will increase occupant productivity, comfort, and well-being.

The building's HVAC systems and envelope will meet the requirements of ASHRAE Standard and the Proponent agrees to conduct a thermal comfort survey of building occupants within 6-18 months of occupancy.

The building's glazing system will be designed to minimize solar heat gain without comprising the views to the Harbor. Furthermore, the building's glass skin will allow for maximum views for all of the residential units as well as the two lower level restaurants.

5.2.6 Innovation and Design: (6 points)

The Proponent and the design team will have the opportunity to develop and implement alternative strategies that are not defined within the LEED categories. Along with the guidance of a LEED Accredited Professional, the design team will seek to gain additional

points by implementing green housekeeping strategies and using chemical free water treatment.

5.3 Clean and Renewable Energy

5.3.1 Rooftop Solar Evaluation for Solar Thermal System and PV Array

The most efficient and effective location for a solar thermal system or PV array is the rooftop of the building. Additionally, due to the site constraints for this project, the only available location for these systems would be on the roof. Based on the building program, occupied roof deck space, and mechanical equipment locations, space does not currently exist on the roof for solar thermal or PV array.

5.3.2 Combined Heat and Power System Evaluation

A 75kW Cogeneration roof-top system will be analyzed for the building. This CHP system would operate via natural gas to produce hot water and electricity and would primarily serve the domestic hot water while also being connected to the heating plant. With involvement and input from the utility, including the utility's approval to connect back into the grid, the system will be further evaluated as the Project advances in design. However, it is important to note that such a system is not expected to result in a significant amount of additional energy savings (or associated stationary source GHG emissions reductions) compared to the energy conservation measures assumed in the Design Case.

Given the conceptual design of the Project Components and the overall duration of the Project, it is difficult at this time to fully evaluate CHPs and other energy conservation measures for the building. However, the team is committed to continuing to consider and evaluate energy conversation measures, including CHPs and other technologies as they advance each Project Component through the design process. At that time each the proposed building will be further along in design and will have access to current information on existing and new energy conservation measures which combined will allow more detailed evaluations to be conducted. At minimum, the design of the earlier phases of the Project will not preclude the ability to incorporate or implement a CHP in later phases of the Project.

5.4 Energy Efficiency Assistance

5.4.1 Electric and Gas Utility Incentives

Both the electrical and natural gas service providers offer technical assistance and incentives to their customers for implementing energy efficiency measures on their projects. This program encourages the use of design features and equipment that optimizes energy efficiency in the building.

By working with these utilities throughout the design process, we will evaluate energy conservation strategies that exceed the minimum requirements specified in the state energy code. For larger buildings greater than 100,000 sf, the electrical and natural gas service providers will be engaged early in the design process. As part of an integrated design approach, they will partially fund a technical assistance study to evaluate each

energy conservation strategy. An energy simulation model of the building will be created to estimate the baseline and proposed annual electric and gas consumption. A report will be generated that identifies the energy savings, incremental first cost, and simple payback for each measure. This information will then be used to determine the incentive amount for the owner. The current program also offers incentives for the design team if certain goals are met.

5.5 Climate Change Preparedness and Resiliency

Projects subject to Article 80, Large Project Review are required to complete the Climate Change Preparedness Checklist. Climate change conditions considered include extreme weather and heat events, sea level rise, and building resilience and adaptability.

The expected life of the Project is anticipated to be 60 years. Therefore, the Proponent planned for climate-related conditions for 60 years into the future. Given the preliminary level of design, the responses are also preliminary and may be updated as the Project design progresses. A copy of the completed checklist is included in Appendix E.

5.5.1 Extreme Weather and Heat Events:

As a result of climate change, the Northeast is expected to experience more frequent and intense storms. The IPCC has also predicted that in Massachusetts the number of days with temperatures greater than 90°F will increase from 5 to 20 days. To prepare for this, the Project will minimize the heat island effect by placing all parking underground and utilizing a high albedo rooftop membrane to absorb less heat.

A preliminary energy model was performed for the Project to present the modeled annual site energy savings with respect to the upcoming Massachusetts "Stretch" energy code compliance. The modeling was accomplished using eQuest, an industry standard software tool. The baseline model is a representation of the ASHRAE 90.1-203 Appendix G Standard. The proposed Model is a representation of the schematic design. See Figure 5-1 and Figure 5-2 for modeling assumptions.

Energy conservation measures included in the design include:

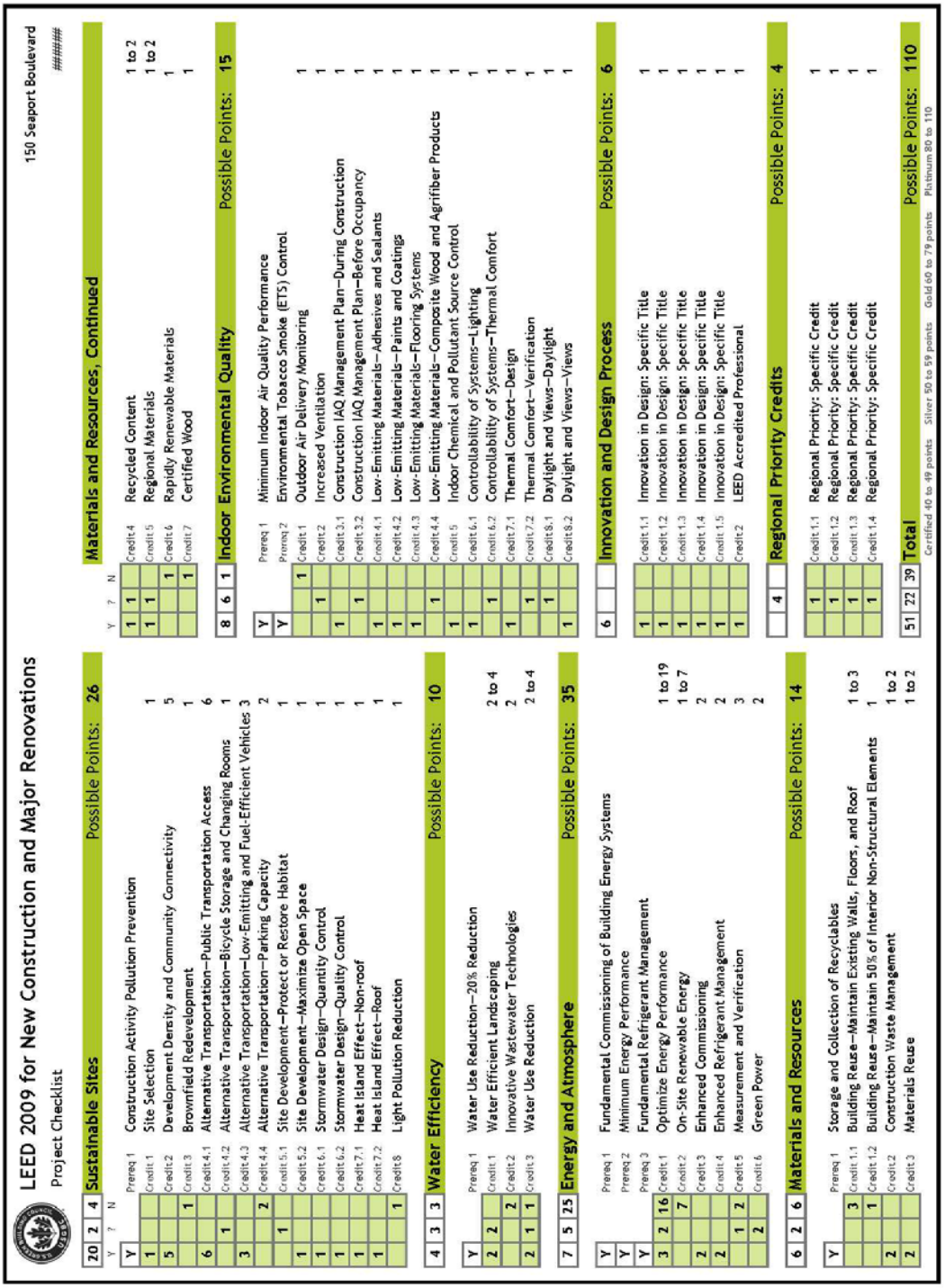
- Condensing Boilers,
- High Efficiency Magnetic Bearing Chillers
- Energy Recovery
- Plate & Frame Heat Exchanger for Free Cooling
- High Efficiency gas-fired domestic hot water heater.

The modeling results show a projected site energy savings of 13.6% over ASHREAE 90.1 compliant baseline.

Table 5-1 Energy Analysis

	ASHRAE 90.1-2013 Baseline	**Proposed**	**Savings**
Energy Consumption (MMBtu)	11,962	10,337	**13.6%**

Figure 5-1 LEED Checklist



LEED 2009 for New Construction and Major Renovations

Project Checklist

150 Seaport Boulevard

######

Sustainable Sites — Possible Points: 26

Y	?	N			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
		1	Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
	1		Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
		2	Credit 4.4	Alternative Transportation—Parking Capacity	2
	1		Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
		1	Credit 8	Light Pollution Reduction	1

Water Efficiency — Possible Points: 10

Y					
Y			Prereq 1	Water Use Reduction—20% Reduction	
2	2		Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
2	1	1	Credit 3	Water Use Reduction	2 to 4

Energy and Atmosphere — Possible Points: 35

Y					
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
3	2	16	Credit 1	Optimize Energy Performance	1 to 19
		7	Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
	1	2	Credit 5	Measurement and Verification	3
		2	Credit 6	Green Power	2

Materials and Resources — Possible Points: 14

Y					
Y			Prereq 1	Storage and Collection of Recyclables	
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
2			Credit 3	Materials Reuse	1 to 2

Materials and Resources, Continued

Y	?	N			
1	1		Credit 4	Recycled Content	1 to 2
1	1		Credit 5	Regional Materials	1 to 2
		1	Credit 6	Rapidly Renewable Materials	1
		1	Credit 7	Certified Wood	1

Indoor Environmental Quality — Possible Points: 15

Y					
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
		1	Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
	1		Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
	1		Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
	1		Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
	1		Credit 7.2	Thermal Comfort—Verification	1
	1		Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1

Innovation and Design Process — Possible Points: 6

1			Credit 1.1	Innovation in Design: Specific Title	1
1			Credit 1.2	Innovation in Design: Specific Title	1
1			Credit 1.3	Innovation in Design: Specific Title	1
1			Credit 1.4	Innovation in Design: Specific Title	1
1			Credit 1.5	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

1			Credit 1.1	Regional Priority: Specific Credit	1
1			Credit 1.2	Regional Priority: Specific Credit	1
1			Credit 1.3	Regional Priority: Specific Credit	1
1			Credit 1.4	Regional Priority: Specific Credit	1

Total — Possible Points: 110

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

Figure 5-1 Energy Model Assumptions

	ASHRAE 90.1-2013 Baseline	Design
General Building Information		
Space use type	Residential	Residential
Conditioned Square Feet	571,274 SF	571,274 SF
Operating Schedule (HVAC Fans)	24 Hours	24 Hours
Temperature Setpoints	Cooling - 75°F Heating - 70°F	Cooling - 75°F Heating - 70°F
Building Envelope (Construction Assemblies)		
Roofs	R-20 continuous insulation above Deck (U-0.048) Reflectance = 0.3	R-20 continuous insulation above Deck (U-0.048) Reflectance = 0.4
Walls	Steel Framed with R-13 insulation between studs + R-7.5 continuous (U-0.064 overall)	Steel Framed with R-13 insulation between studs + R-7.5 continuous (U-0.064 overall)
Fenestration and Shading		
Vertical fenestration area (of Wall area)	40%	55%
Vertical Glazing U-factor	U-0.45	U-0.45
Vertical Glazing SHGC	0.4	0.4
Fenestration Visual Light Transmittance	N/A	0.5
HVAC (Air-side)		
Primary HVAC Type (All spaces except for guest rooms	System 7 - VAV With Reheat - System Per Floor	(1) 100% Outside Air Packaged Rooftop Units
Secondary HVAC Type (Apartment Units)	Packaged Terminal AC (PTAC) with hot water heat	4-Pipe Fan Coil Units
Unitary Efficiency	PTACs: 10.2 EER	N/A
Fan System Operation	Apartment Units - On continuously during occupied hours. Cycled to meet load during unoccupied hours. Common Areas - On 24 Hours	Condos - On continuously during occupied hours. Cycled to meet load during unoccupied hours. Common Areas - On 24 Hours
Outdoor Air Design Min. Ventilation	Per ASHRAE 62.1-2013	Per ASHRAE 62.1-2013
Economizer High-Limit Shutoff	Outdoor Air Temperature 70F	Outdoor Air Temperature 70F
Design Airflow Rates (Conditioned Spaces)	Autosized based on 20F supply air to room air delta-T	Autosized based on 20F supply air to room air delta-T
Total System Fan Power (Conditioned)	Per ASHRAE 90.1-2013 G3.1.2.9	Per ASHRAE 90.1-2013 G3.1.2.9
Exhaust Air Energy Recovery	Yes (see below)	Yes (see below)
Demand Control Ventilation	N/A	N/A
Supply Air Temperature Reset Parameters	Load Reset on VAV systems from 55F-60F	Constant
HVAC (Water-side)		
Number of Chillers	1	2
Chiller Part-Load Controls	No VSD	N/A
Chiller Capacity (Per Chiller)	ш75 and <150 Tons	300 Tons Each
Chiller Efficiency	0.775 kW/ton	0.669 kw/ton
Chilled Water Loop Supply Temperature	44	44
Chilled Water (CHW) Loop Delta-T	12	12
CHW Loop Temp Reset Parameters	54F @ 60F OA, 44F @ 80F OA	54F @ 60F OA, 44F @ 80F OA
CHW Loop Configuration	Primary/Secondary	Primary Only
Number of Primary CHW Pumps	1	2

Figure 5-2 Energy Model Assumptions

	ASHRAE 90.1-2013 Baseline	Design
Primary CHW Pump Power	22 W/GPM	22 W/GPM
Primary CHW Pump Speed Control	Variable Speed	Variable Speed
Secondary CHW Pump Power	22 W/GPM	N/A
Secondary CHW Pump Speed Control	Variable Speed	N/A
Number of Cooling Towers / Fluid Coolers	2	2
Cooling Tower Fan Control	Two Speed	Variable Speed
Condenser Water Leaving Temperature	85	85
Condenser Water (CW) Loop Delta-T	10	10
CW Loop Temp Reset Parameters	Fixed	65F @ 65F OA, 85F @ 80F
CW Loop Configuration	Primary Only	Primary Only
Number of CW Pumps	2	1
CW Pump Power	19 W/GPM	19 W/GPM
CW Pump Speed Control	One Speed	Variable Speed
Water-side Economizer for Free Cooling	No	Yes
Number of Boilers	2	3
Boiler Part-Load Controls	Staged	Staged
Boiler Capacity (Per Boiler)	N/A	2,500 MBH
Boiler Efficiency	80% Natural Draft	96% Condensing
Boiler Water Loop Supply Temperature	180F	180F
Hot Water (HW) Loop Delta-T	50F	50F
HW Loop Reset Parameters	150F @ 50F OA, 180F @ 20F OA	150F @ 50F OA, 180F @ 20F OA
HW Loop Configuration	Primary Only	Primary Only
Number of Primary HHW Pumps	1	2
Primary HW Pump Power	19W/GPM	19W/GPM
Primary HW Pump Speed Control	Variable Speed	Variable Speed
Energy Recovery Ventilator		
ERV Installed	Yes	Yes
ERV Device Type	Enthalpy Wheel	Enthalpy Wheel
Effectiveness	50%	0.7
Operation Control	Outside Air Exhaust Temperature Differential	Outside Air Exhaust Temperature Differential
Outside/Exhaust Air Delta T	5°F	5-F
Domestic Water Heating		
DHW Equipment Type	Gas Storage	Gas Storage
Equipment Efficiency	80%	96%
Temperature Controls	120F Constant	120F Constant
Lighting		
Automatic Lighting Shutoff Method	Scheduled off during unoccupied	Scheduled off during unoccupied
Gross Lighted Floor Area	571,274 SF	571,274 SF
Interior Lighting Power Calc Method	Building Area	Building Area
Interior LPD by Building Area (W/SF)	Non-residential Areas: 0.51 W/SF Apartment Units: 1.0 W/SF	Non-residential Areas: 0.485 W/SF (5% reduction) Apartment Units: 1.0 W/SF
Miscellaneous		
Receptacle Equipment	1.0 W/sf	1.0 W/sf
Escalators and Elevators	40 kW Elevators	40 W Elevators

5.5.2 Addressing Sea Level Rise

The Proponent has evaluated the Project Site in terms of flooding in combination with projected sea level rise, as outlined in the *Sea Level Rise: Understanding and Applying Trends and Future Scenarios for Analysis and Planning* prepared by the Massachusetts Office of Coastal Zone Management (CZM). The CZM report indicated that sea level rise could potentially reach 0.81 feet, 1.91 feet, 4.20 feet, and 6.83 feet in the Boston area by the year 2100 under a range of emission scenarios established by the Intergovernmental Panel on Climate Change in their fourth comprehensive report. These levels of sea level rise correspond to the following 100-year flood elevations in Boston Harbor:

Lowest Scenario – Elevation 20.27 feet BCB

Intermediate Low Scenario – Elevation 21.37 feet BCB

Intermediate High Scenario – Elevation 23.66 feet BCB

Highest Scenario – Elevation 26.29 feet BCB

These flood elevations provide a proxy for evaluating design decisions. In addition, the typical building design lifecycle for a mixed use building is approximately 50 years. The Intermediate High Scenario, with sea level rise of 2.47 feet for the year 2075, may be a more appropriate design elevation to compare to with an extreme flood event elevation of 21.93 feet BCB. This flood elevation is accounted for in all building design decisions, including the placement of critical infrastructure and utilities.

5.5.3 Site Design Measures

The Project will use resilient design practices to limit the Project Site's susceptibility to flooding from potential sea level rise in combination with extreme weather events.

Paving and landscaping will be designed for short-term flooding, Sidewalks will be sloped toward tree pits, planted areas to capture stormwater during short rainstorms and mediate localized flooding. Seaside, native and adapted plant material that is salt tolerant and able to withstand occasional flooding will be used throughout the site.

5.5.4 Building Resiliency

The Project will include multiple approaches to providing resiliency against future flooding, rising sea levels and changes in energy delivery.

The ground floor consisting of the residential entry, restaurant space and back of house facilities will occupy an area that is 18'-0" floor to floor, this height is intended to allow a future modification to raise the ground floor elevation up to 4 feet above the current building design of Boston City Base elevation of 18.5'.

The base building structure and below grade parking garage will be designed with saltwater resistant rebar and water proofed envelope that can be extended upward to the height of the first level above grade. The primary structural slab at the ground floor will also be designed to support a secondary framing system of knee walls and saltwater resistant supports to allow the construction of a new raised entry level elevation in the

future. This will provide 14' floor to floor dimensions on both the future ground floor and second level restaurant spaces.

Primary mechanical systems will be designed as Modular/flexible infrastructure that can be modified and/or supplemented as required to meet future building needs. All Critical MEP/FP systems are being installed above the FEMA flood elevation to facilitate operability during flood conditions. Electrical transformers are being installed on a waterproofed elevated platform, above the FEMA flood elevation, to facilitate operability during flood conditions. Backflow prevention valves will be placed on storm system outlets to prevent the injection of a flood surcharge into the building interior. Integrated flood gates will be provided at that entrance of the garage to prevent water from entering and elevator machine rooms will be located at the top of the shaft above the current and future sea levels.

The Proponent will locate emergency generators to the roof to protect critical systems during storm events at the current or projected sea level.

The Proponent will also investigate potential temporary systems that can be fitted to the building for future flood conditions and flooding more severe than the 100-year storm event.

6. Historic and Archaeological Resources

This section identifies the historic and archaeological resources within a one-quarter mile radius of the Project site, and describes the potential Project impacts on these resources. A review of the State and National Registers of Historic Places, Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory) maintained by the Massachusetts Historical Commission (MHC), and the and Massachusetts Cultural Resource Information System (MACRIS), was undertaken to identify historic resources.

6.1 Project Site

The Project site is an approximately 0.54-acre parcel of land located on an extant wharf at 150 Seaport Boulevard that encompasses a pair of one and two-story metal frame, wood and concrete restaurant/bar structures (Whiskey Priest and Atlantic Beer Garden), built ca. mid-20th-century.

The Project site is directly bounded by the Boston Harbor/Boston Main Channel to the north and east, Seaport Boulevard to the south, and a high-rise apartment building at 100 Pier 4, to the west.

6.2 Historic Resources in the Project Vicinity

The Project site does not encompass any resources that are listed in the State or National Register or included in the Inventory. The site is in the vicinity of several historic properties. The Fort Point Channel National Register Historic District/Fort Point Channel Landmark District and the Seaport Boulevard/Boston Wharf Road Landmark District Protection Area are located south and west of the Project site. Commonwealth Pier Five (World Trade Center) and the South Boston Fish Pier are located east of the project site; Commonwealth Pier Five (World Trade Center) is individually listed in the National Register and the South Boston Fish Pier is included in the Inventory. The Chapel of Our Lady of Good Voyage, included in the Inventory, is located northwest of the site.

Table 6-1 Historic Resources within One-Quarter Mile of the Project Site

Map No.	Resource	Address	Designation
A	Fort Point Channel Historic District/Fort Point Channel Landmark District	Seaport Blvd, Boston Wharf Rd, West Service Rd, Medallion Ave, Iron St, A St, Piers Way, and the Fort Point Channel	State and National Registers of Historic Places/Landmark District
B	Seaport Boulevard/Boston Wharf Road Protection Area	Seaport Blvd, Boston Wharf Rd, Fort Point Channel	Landmark District Protection Area

Map No.	Resource	Address	Designation
C	Commonwealth Pier Five	165 Northern Ave	State and National Registers of Historic Places
1	South Boston Fish Pier	212-234 Northern Ave	MHC Inventory
2	Chapel of Our Lady of Good Voyage	65 Northern Ave	MHC Inventory

6.3 Impacts to Historic Resources

6.3.1 Urban Design

The project site is located within South Boston's Seaport District, which is undergoing significant redevelopment. The building's height, scale, massing, and materials are consistent with the urban fabric of the Seaport District. One of the Boston Redevelopment Authority's planning objectives for the District is to maintain and enhance the connection to the harbor. The proposed new construction has been designed to encourage water access and includes a continuation of the Harborwalk at its north and east sides. The building's slender profile has been designed to open the vista to the Boston Harbor. The design also minimizes shadow impacts on the nearby Commonwealth Pier Five. The project will not have adverse visual impacts on historic resources.

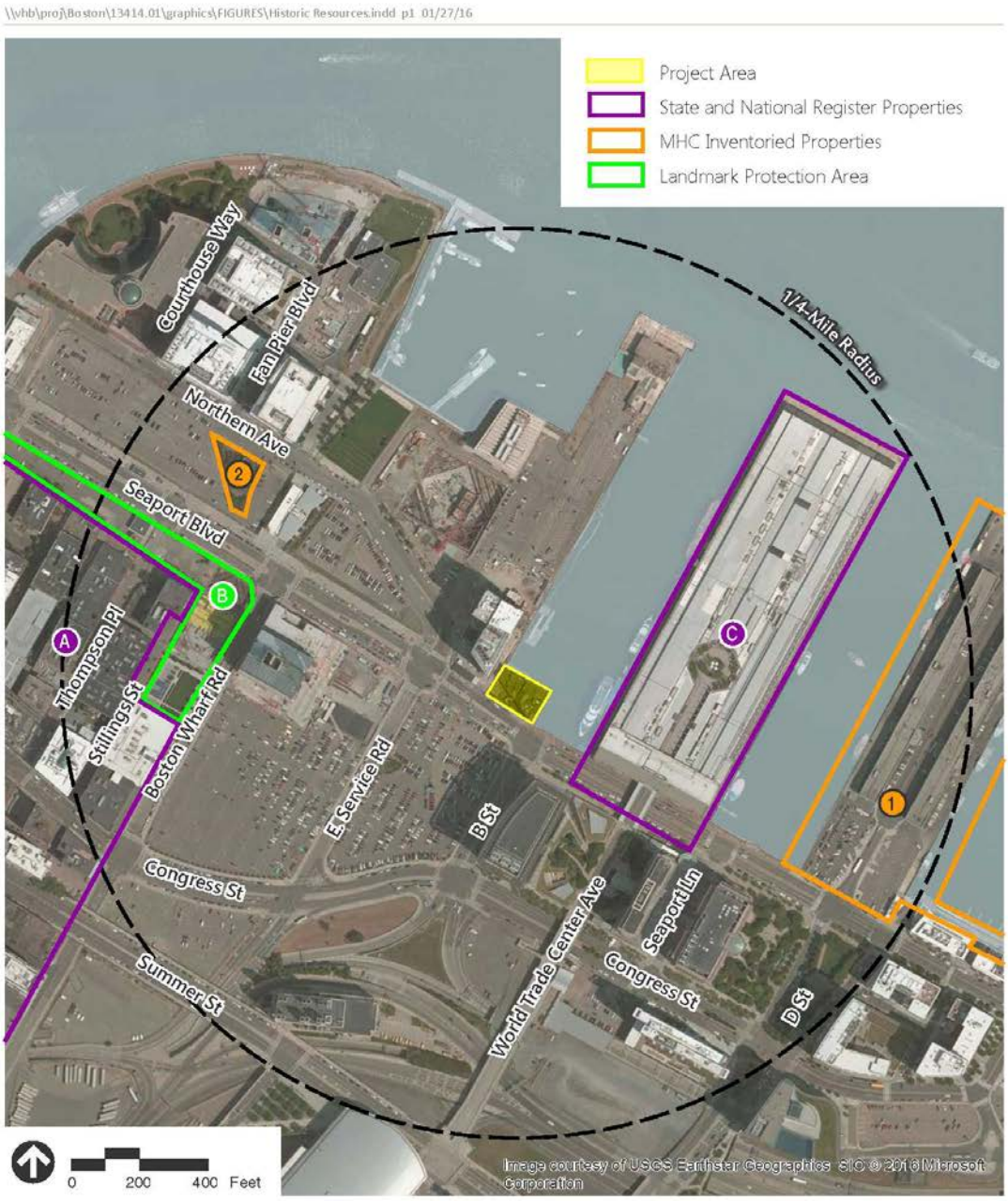
6.3.2 Shadow

A shadow impact analysis was undertaken to show the anticipated impacts from the Project in comparison to the existing condition. The analysis consisted of a standard shadow study for March 21, June 21, September 21, and December 21 at 9:00, 12:00 p.m., and 3:00 p.m., as well as hourly on October 23 from 9:00 a.m. to 5:00 p.m. As described in Section 4.3, net new shadow is limited in scope and duration. New shadow impacts to historic resources are very limited; new shadow will be cast on the west elevation of the Commonwealth Pier Five building on October 23 at 4:00 p.m. and December 21 at 3:00. The project will not have adverse shadow impacts on historic resources.

6.4 Archaeological Resources

The Project site consists of a previously developed urban parcel. No previously identified archaeological resources are located within the Project site. Due to previous development activities and disturbances, including site grading activities, it is not anticipated that the site contains significant archaeological resources. No impacts to archaeological resources are anticipated as a result of the Project.

Figure 6-1 Historic Resource Map



Source: ArcGIS Online Bing Aerial

Figure 6-1
Historic Resources

150 Seaport Boulevard
Boston, Massachusetts

6.5 Status of Project Reviews with Historical Agencies

6.5.1 Boston Landmarks Commission Article 80 Review

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

6.5.2 Boston Landmarks Commission Article 85 Review

The buildings on the project site are over 50 years of age, and therefore, compliance with the City of Boston's Demolition Delay Ordinance (Article 85 of the Boston Zoning Code) is required. An Article 85 application will be submitted to the Boston Landmarks Commission, in accordance with the provisions of Section 85-5 of the Code.

6.5.3 Massachusetts Historical Commission – State Register Review

The MHC has review authority over projects requiring state funding, licensing, permitting, and/or approvals that may have direct or indirect impacts to properties listed in the State Register of Historic Places (M.G. L. Chapter 9, Sections 27-27c, as amended). The filing of an ENF with MEPA will initiate the MHC State Register Review process.

7. Infrastructure

7.1 Introduction

The following chapter discusses the infrastructure needs and systems that will support the Project, as described in Chapter 1. The Project will use the existing water, sewer, electrical and natural gas systems available in Seaport Boulevard. These systems include those owned or managed by the Boston Water and Sewer Commission (BWSC), private utility companies, and on-site infrastructure systems. Research indicates that these services are available at the Project Site frontage. Each system design will be confirmed through coordination with the utility authorities as the project design progresses.

7.1.1 Regulatory Framework

This section discusses the regulatory framework of utility connection reviews. Utility connections will be designed and constructed in accordance with city, state, and federal standards. The following are a set of key points related to the infrastructure systems serving the site.

- BWSC approvals will be required for water, sewer, and stormwater systems.
- A Massachusetts Department of Environmental Protection (DEP) sewer connection/extension permit will not be required for this project as it complies with 314 CMR 7.05.c - a new sewer connection to be permitted by the local sewer authority (BWSC).
- A NPDES General Permit for Construction does not need to be filed with the Federal Environmental Protection Agency (EPA) and DEP as the Project disturbs less than one (1) acre and is not part of a larger master plan.
- Design of the energy systems (gas and electric) will be coordinated with the respective system owners.
- New utility connections will be authorized by the Boston Public Works Department through the street opening permit process, as required.
- Additional information on the regulatory framework for each utility system is included in subsequent sections of this chapter.

7.1.2 Summary of Key Findings

- Figure 7-1 is the draft site survey for the Project. The key findings related to infrastructure systems identified in the draft survey include:
- The Project Site is currently serviced by the BWSC for domestic and fire protection water

- The Project Site is currently serviced by the BWSC for sanitary sewage and drainage conveyance.
- Based upon sewage generation rates outlined in the DEP Title V Regulation 310 CMR 15.203.f, the Project is estimated to generate approximately 40,394 gallons per day (gpd) of net new sanitary sewage and will require approximately 44,433 net new gpd of water.
- In order to reduce water usage, the Proponent is planning to install low-flow and low-consumption plumbing fixtures.
- The Project currently 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.
- The proposed stormwater management systems are expected to comply with the 2008 DEP Stormwater Management Policy and Standards.
-

7.2 Sanitary Sewer

Figures 7-2 shows the existing sanitary sewer and storm drainage utilities that serve the Project Site. Local sanitary sewer and drain service a provided by BWSC via the following systems:

- A 15-inch sanitary sewer located in Seaport Boulevard, which flows to the Trilling Way Pump Station.
- The sanitary sewer systems eventually discharge to the Deer Island Treatment Plant for treatment and disposal.

The Proponent will coordinate with the BWSC on the design for proposed connections to their sewer systems. In addition, the Proponent will submit a General Service Application and site plan to the BWSC for review as the project design progresses.

Table 7-1 presents a summary of sewage generation for the Project based on the DEP Title V regulation, 310 CMR 15.203.f for building use. It is assumed that the existing sewage generation is 110% of the existing water demand, based on a consumption factor of 10%. The existing water demand is based off the 24-month average water demand, as determined from the detailed review of the existing buildings' water and sewer bills. In total, the Project is estimated to generate 40,394 gallons per day (gpd) of net new sewage flows. Under current regulations, the Project only requires BWSC approval.

Table 7-1 Net New Sewerage Generation

Building	Use	Quantity	Flow Rate (gpd)	Sewage Generation (gpd)
New Project-Related Sewage Generation				
150 Seaport Blvd	Residential	227	110/bdrm	24,970
	Retail-Restaurant	480	35/seat	16,800

	Function Hall	91	15/seat	1,365
	Gym	54	25/participant	1,350
150 Seaport Blvd				*44,485*
Total New Project-Related Sewage Generation				**44,485**
Existing Sewage Generation to be Removed				
146 Seaport Blvd	Restaurant	n/a	1,732*	(1,732)
148 Seaport Blvd	Restaurant	n/a	2,359*	(2,359)
Existing Total				*(4,091)*
Total Existing to be Removed				**(4,091)**
Net New Sewage Generation				**40,394**

*It is assumed that water demand is equivalent to 110% of sewage generated based on a water consumption factor of 10%. Water demand was determined using the 24-month average from BWSC water and sewer bills from March, 2014 to February, 0216 for the buildings at 146 and 148 Seaport Boulevard.

Sanitary sewer connections for the Project will be made on Seaport Boulevard. The existing BWSC owned 15-inch sewer main in Seaport Boulevard is available along the Project frontage and should be available at several locations. The 15-inch sanitary sewer main has a full-flow capacity of approximately 4.18 million gallons per day. These capacities are far in excess of expected Project-generated wastewater. The residential component of the sanitary sewer will discharge to Seaport Boulevard via a 10-inch sewer lateral. A 4-inch garage and loading dock drain will discharge to BWSC infrastructure after treatment by a MWRA approved sand/oil interceptor. An independent sanitary line from the restaurant will discharge to a MWRA approved grease trap on-site, which will then in turn discharge to the 15-inch sanitary sewer main. All building sanitary sewer connections and infrastructure will be reviewed and approved by the BWSC.

The Proponent will work with BWSC and DEP to develop a plan to reduce I/I into the sanitary sewer system. The Proponent is likely to be required to offset sewer flows associated with the Project with sanitary flows over 15,000 gallons per day by removing I/I on a 4:1 basis (Four (4) gallons of I/I removed for every one (1) gallon of sanitary flow generated per DEP guidelines. The likely mechanism for I/I removal will be a contribution to BWSC's I/I mitigation fund.

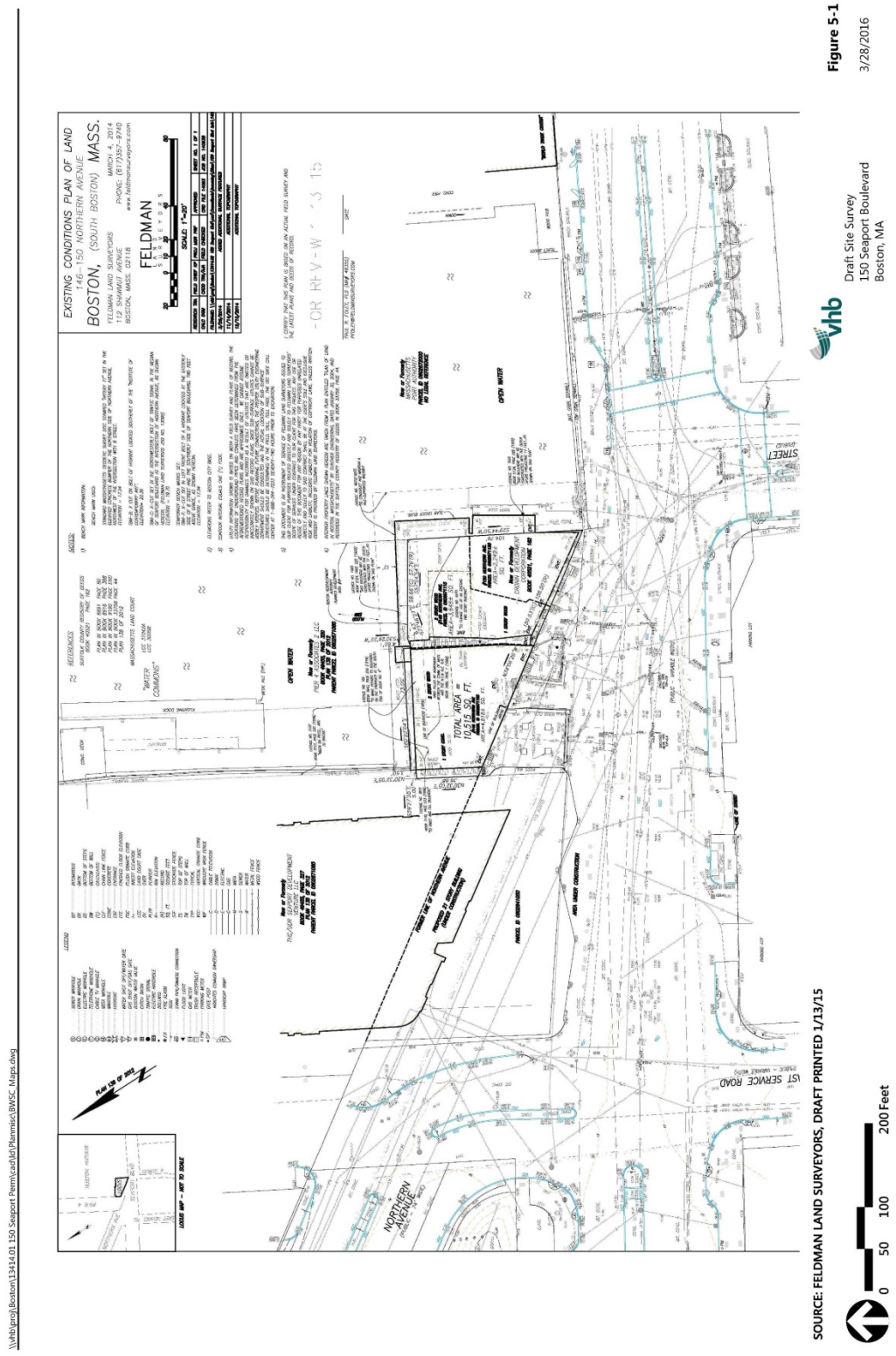
7.3 Water Supply

Figures 7-3 shows the domestic water and fire protection utilities that serve the Project Site. Local water utilities are provided by BWSC via the following systems:

- A 12-inch Southern High main constructed in 1999;
- A 12-inch Southern Low main constructed in 1999;
- A 30-inch Southern Low main constructed in 1909 and lined in 1972;

The domestic water connection will be made to the 12-inch Southern Low with a 6-inch ductile iron cement lined service lateral. Two (2) redundant 8-inch fire protection

Figure 7-1 Draft Site Survey



connections will be made to the 12-inch Southern High with 8-inch ductile iron cement lined service laterals. The 30-inch Southern Low main operates as a transmission line for the BWSC system. The Project will not connect to or impact this 30-inch SL main in Seaport Boulevard. BWSC supplied record hydrant flow tests in the Project area indicate that the 12-inch Southern Low has 2.95 million gpd of flow, with 66 psi of static pressure. Hydrant flow tests indicate the 12-inch Southern High has 3.84 million gpd of flow, with 104 psi of static pressure.

Domestic water demand is based on estimated sewage generation with an added factor of 10 percent for consumption, system losses and other use. The Project will require 44,433 gpd of domestic water, based on the sewage generation estimate. As outlined earlier in this section, the 12-inch Southern Low that will service this Project has adequate capacity to support projected water demands.

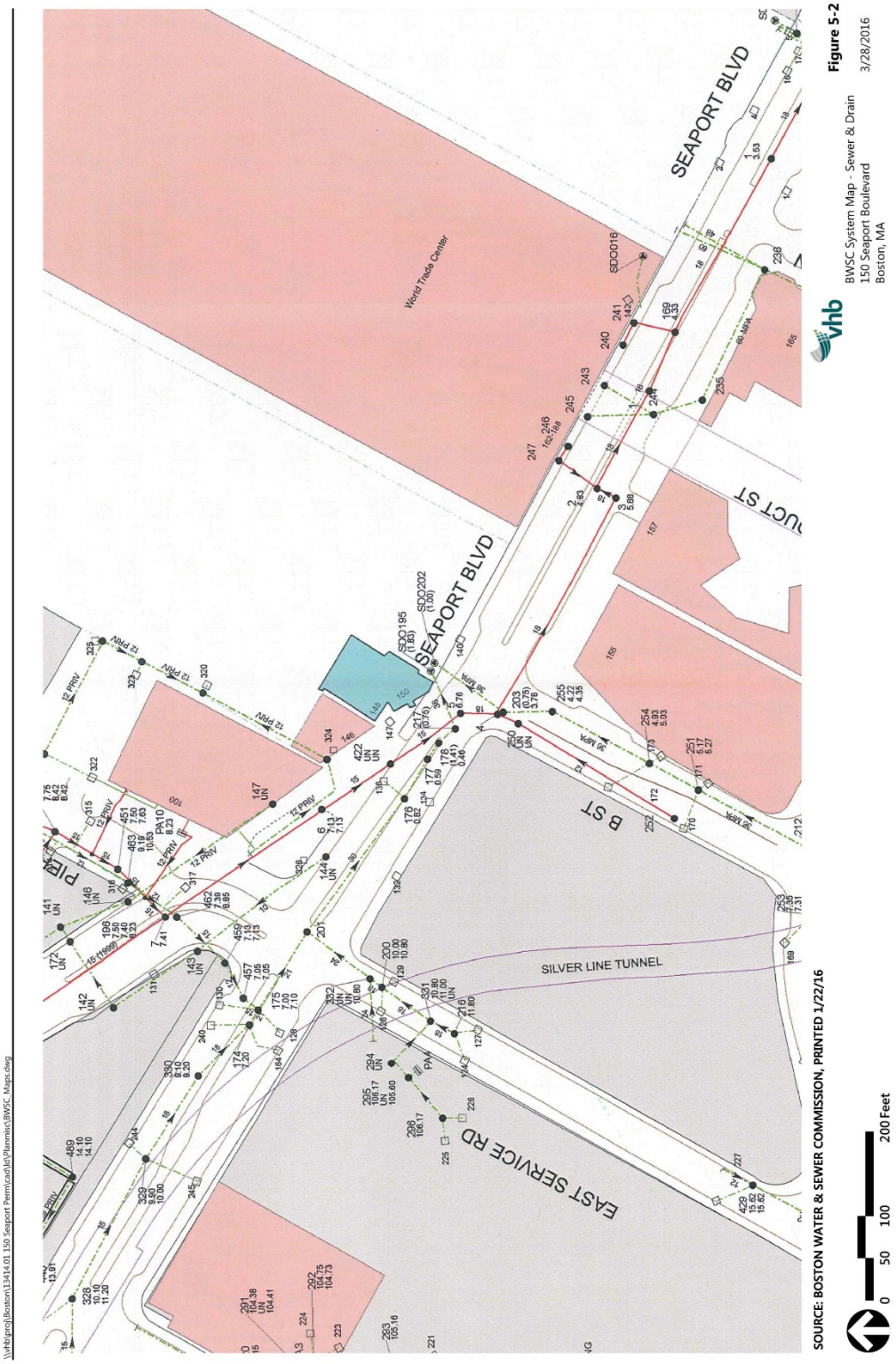
As part of the overall sustainability plan for the Project, and in accordance with the requirements of Article 37, the Proponent will be actively exploring means to reduce domestic water demand by at least 20 percent from the baseline. This is expected to be accomplished by installing low-flow and low-consumption plumbing fixtures in the residential units and restaurant, as well as selecting efficient mechanical equipment and minimizing the required irrigation for the site landscape features. The Proponent will continue to consider and evaluate methods to conserve water as building design evolves.

7.4 Stormwater Management

The Project is located in a densely developed area and partially overlap Boston Harbor along the South Boston waterfront. The existing ground cover consists of impervious rooftops, impervious paved surfaces, and wooden decks over the Boston Harbor. There are several existing site catch basins which drain to existing BWSC infrastructure. The BWSC owns and maintains a series of catch basins, manholes and a 30-inch drain pipe in Seaport Boulevard adjacent to the Project Site. This infrastructure drains to Boston Harbor east of the Project Site via Storm Drain Outfall (SDO 195) (Figure 7.3).

BWSC requires that new developments capture and infiltrate the first inch of runoff from site impervious areas. The limits of the Project Site area for which the Proponent will be required to infiltrate runoff will be coordinated with BWSC. The area currently estimated to generate runoff to be treated is 19,952 square feet. The infiltration volume required to infiltrate the first inch of runoff from this area is equal to 1,663 cubic feet. Two methods are being evaluated to infiltrate this volume of water. The standard method is to construct infiltration chamber structures with a stone surround so that overflow runoff in excess of 1,663 cubic feet would flow to the BWSC drainage infrastructure in Seaport Boulevard. The Proposed building projects over the property line into the public way, leaving a limited footprint for on-site infiltration chambers. In addition, there is significant utility infrastructure between the limit of the proposed foundation and Seaport Boulevard. Coupled with expected high groundwater, these factors make traditional infiltration chambers a difficult infiltration method. The second method of infiltration involves stormwater injection wells, which would have a bypass for storms larger than one-inch. Injection wells have a significantly smaller footprint than infiltration chambers. Injection wells' ability to infiltrate are similarly affected by high groundwater and are

Figure 7-2 Existing Sanitary Sewer and Drainage



greatly impacted by the ability of underlying soils to accept infiltration. Either infiltration method will overflow to the existing 30-inch storm drain in Seaport Boulevard.

In addition to site infiltration methods, the proposed sidewalk along the Project frontage is currently expected to comply with the City of Boston Complete Streets initiative, which includes the installation of a permeable paver strip adjacent to proposed curbs. The permeable paver strip is required to be a minimum 18-inch wide with underlying open graded base and subbase courses to help mitigate stormwater runoff within the public way, which can't be conveyed to the infiltration infrastructure. The infiltration method ultimately chosen and the design for the permeable pavers will be coordinated with the BWSC as part of the Site Plan Approval Process. Further, all infrastructure within the public way will require permitting through the Boston Public Improvement Commission (PIC) process.

Table 7-2

Stormwater Discharge Rates

Event (year)	Pre-development and Maximum
2	1.46
10	2.21
25	2.80
100	4.00

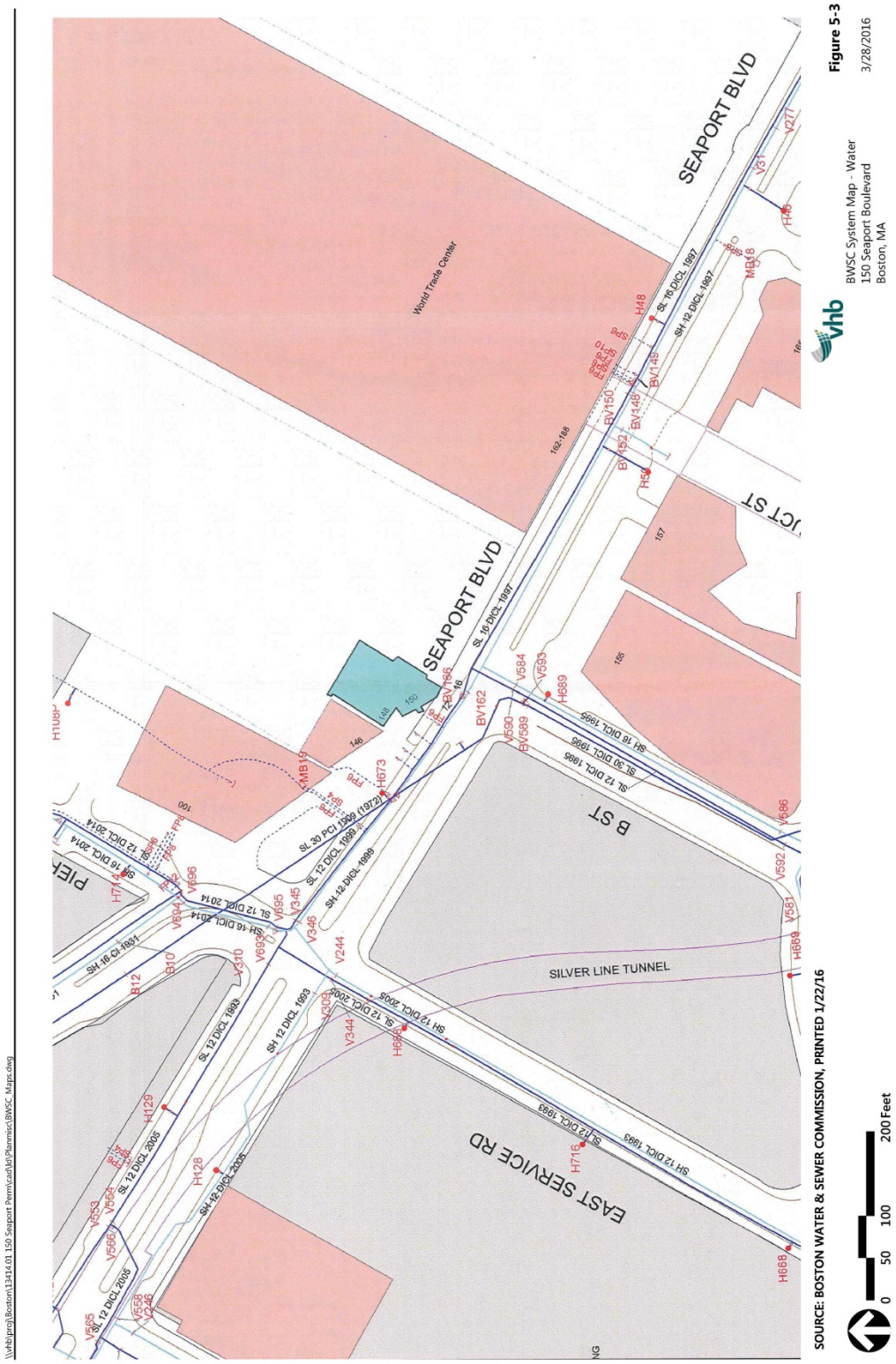
cfs - cubic feet per second

Under existing conditions, the Project Site is effectively impervious and, therefore, the Project is not expected to result in the introduction of any additional peak flows, volumes, pollutants or sediments that would potentially impact the receiving waters or the BWSC's stormwater drainage system. The proposed drainage utilities will be designed, at a minimum, to capture and convey the 10-year design storm. Infiltration would also significantly reduce pollutant loads conveyed to BWSC infrastructure relative to the existing condition. The existing 30-inch storm drain in Seaport Boulevard that has a flowing full, but not surcharged, capacity of 29.1 cubic feet per second. The available condition and capacity of this pipe will be confirmed with BWSC.

7.4.1 Compliance with DEP Stormwater Management Standards

In March 1997, the Massachusetts DEP adopted a new Stormwater Management Policy to address non-point source pollution. In 1997, DEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy, which was revised in February 2008. The Policy prescribes specific stormwater management standards for redevelopment projects, including urban pollutant removal criteria for projects that may impact environmental resource areas. A brief explanation of each Policy Standard and the system compliance is provided below:

Figure 7-3 Existing Domestic Water and Fire Protection



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

Compliance: The proposed design is intended to comply with this Standard. New untreated stormwater will not be directly discharged to, nor will erosion be caused to wetlands or waters of the Commonwealth as a result of stormwater discharges related to the proposed Projects.

The Proponent is exploring subsurface stormwater infiltration systems and injection wells as potential stormwater control measures. It is currently the Proponent's intention to treat runoff through the options listed above or through mechanical treatment units prior to discharge into the public storm drain system.

Standard #2: *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.*

Compliance: The proposed Project will be designed to comply with this Standard. The existing discharge rate is expected to be met or decreased as a result of the improvements associated with the proposed Project. The implementation of infiltration systems can help achieve these objectives for the proposed Project as the Project Site is entirely impervious and without stormwater management in the existing condition.

Standard #3: *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post development site should approximate the annual recharge from the pre-development or existing site conditions, based on soil types.*

Compliance: The proposed Project will explore the use of recharge to the maximum extent feasible by infiltration chambers or injection wells.

Standard #4: *For new development, stormwater management systems must be designed to remove 80% of the average annual load (post-development conditions) of Total Suspended Solids (TSS). It is presumed that this standard is met when: Suitable nonstructural practices for source control and pollution prevention are implemented; Stormwater management best management practices (BMPs) are sized to capture the prescribed runoff volume; and Stormwater management BMPs are maintained as designed.*

Compliance: The proposed design is expected to include BMPs intended to remove TSS. Within the proposed Project's limit of work, there will be predominantly roof areas. Runoff from these roof areas will be infiltrated to the extent feasible to remove 80% of TSS. Direct runoff from paved areas in the public way that would contribute unwanted sediments or pollutants to the existing storm drain system will be directed to the permeable paver strip at the proposed curb and to deep sump, hooded catch basins. If the proposed stormwater management systems are not capable of removing 80% of TSS, the Proponent will explore proprietary mechanical units to reach the required TSS removal required.

Standard #5: *For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts*

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

Compliance: The vast majority of the site area will be occupied by building footprints not associated with land uses with higher potential pollutant loads. The proposed parking garage will drain via an oil/sand separator to the sanitary sewer system.

Standard #6: *Stormwater discharge to critical areas must utilize certain stormwater management BMPs approved for critical areas. Critical areas are Outstanding Resource Waters (ORWs), shellfish beds, swimming beaches, cold-water fisheries and recharge areas for public water supplies.*

Compliance: The proposed Project does not discharge to a critical area.

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

Compliance: The Project is considered a redevelopment project. The proposed Project will comply with the Stormwater Management Standards to the extent practicable and is anticipated to improve upon existing conditions.

Standard #8: *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.*

Compliance: Sedimentation and erosion controls will be incorporated as part of the design of the Project components and employed during the various phases of construction. Erosion and sediment control plans will be submitted to BWSC and the contractor will be required to implement the measures as part of the BWSC general services application process.

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

Compliance: An O&M Plan will be developed during the design process.

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

Compliance: There are no currently known illicit discharges. All proposed discharges will be reviewed by the BWSC to ensure consistency with this standard.

7.5 Utilities

7.5.1 Gas

Gas service at the Project Site is provided by National Grid in Seaport Boulevard. National Grid has several gas mains along the building frontage which could potentially service the Project including an 8-inch, a 12-inch and a 20-inch main. The 20-inch main enters the Project Site and the other two gas mains are available in Seaport Boulevard. The Proponent needs to field verify the alignment of the main as the design progresses to avoid impacts. The total net new natural gas demand for the Project is approximately 2,500 cubic feet. The design includes energy savings over the baseline condition with the utilization of condensing boilers and high efficiency gas-fire domestic hot water heaters.

The Project Team has contacted National Grid and has identified that the intermediate pressure gas mains in Seaport Boulevard can service the project. As the design progresses, the Proponent will further coordinate with National Grid to define and refine the service requirements.

7.5.2 Electric

Eversource Electric operates underground electric systems in Seaport Boulevard. An important part of the system is a 115 kVA transmission line which has been identified by the design team. The Proponent's design team intends to avoid impacting the transmission line during the construction of the Project. Also an existing electric manhole on-site services the existing buildings and adjacent parcels. This manhole will need to be removed, as it is within the footprint of the Project's subsurface garage. The Proponent will coordinate with Eversource to minimize impacts to the electric system. The total electrical demand associated with the Project is estimated at 2,300 kilowatt hours. The design includes an estimated 13.6% combined energy savings for gas and electric demands over the baseline condition. This is accomplished in part for electric demands with the utilization of high efficiency magnetic bearing chillers, energy recovery, and plate & frame heat exchanger for free cooling,

The Project Team has contacted Eversource Electric and has identified electric services in Seaport Boulevard that can service the project. Eversource Electric will use the loads provided herein to continue their area-wide planning and engineering efforts. In general, Eversource confirmed that there is capacity within their system in the area to support this Project as well as other future developments in the South Boston Waterfront, specifically citing the construction of a new substation. As the design progresses, the Proponent will continue its coordination with Eversource to further define and refine the service requirements for the Project.

7.5.3 Telecommunications

The Proponent will select private telecommunications companies to provide telephone, cable and data services. There are several telecommunication duct bank systems in

Seaport Boulevard. Upon selection of a provider (or providers), the Proponent will coordinate service connection locations and obtain appropriate approvals. Both Verizon and Comcast currently provide service to the Project Site.

8. Tidelands

8.1 Chapter 91 and the South Boston Municipal Harbor Plan

The protection, care and supervision of the public's interests in the shoreline and tidelands of the Commonwealth are implemented, in part, through the regulatory frameworks of Chapter 91, the Municipal Harbor Planning Process and the Landlocked Tidelands Legislation. The Chapter 91 regulations at 310 CMR 9.00, establish the standards for protecting the Commonwealth's and the public's interests in the waterfront. A related mechanism allows communities to address the state and local regulatory frameworks through a jointly approved Municipal Harbor Plan (310 CMR 23.00, Review and Approval of Municipal Harbor Plans). Such plans allow for the tailoring of certain Chapter 91 regulatory requirements and associated public benefits to better and more completely address the overarching interest in protecting the waterways and tidelands of the Commonwealth.

8.2 Municipal Harbor Plan Jurisdiction

The Municipal Harbor Plan regulations allow municipalities certain latitude with particular Chapter 91 standards related to use, height, setback and open space. These standards may be amended through a municipal harbor plan, provided that the substitute requirements or amplifications proposed by the municipality are not only consistent with the mandate of Chapter 91 to protect and preserve the rights of the Commonwealth's residents in the tidelands, but are also otherwise consistent with the Waterways Regulations. These substitute requirements may also need to have provisions, known as offsets, that provide equivalent public benefits to the standard provisions.

The South Boston MHP (SBMHP) was the result of many years of planning by the City, and was developed in consultation with the Municipal Harbor Plan Advisory Committee, area residents, advocacy groups, property owners and public agencies, including DEP and MCZM.

- The SBMHP established planning goals for waterfront properties. Below are the goals as described in the SBMHP:
- Promote access to Boston Harbor as a shared natural resource and connect people, land and water.
- Preserve and enhance the industrial port and balance the growth of mixed-use and recreational activity along Boston Harbor with the needs of maritime commerce.
- Plan the area as a vital mixed-use neighborhood that expands the City's residential communities and provides a lively mix of open space, civic and

cultural, water transit and commercial uses and job opportunities that are mutually supportive and bring activity to the waterfront.
- Develop the site as an integral part of Boston's economy, enhancing the City's hotel, office and research, retail and visitor industries and position as the economic catalyst for the region.
- Ensure that the South Boston residential community and all neighborhoods of the City are not only protected from potential impacts from development, but share in the benefits of private investment.

In advancing the City's Waterfront planning objectives, the 2000 South Boston MHP decision established several amplifications (more restrictive standards than Chapter 91) and substitute provisions (less restrictive standards) which created flexibility within the established Chapter 91 regulations to allow the implementation of site specific requirements in order to enliven the area and create an active waterfront community. These include the following:

- Promote and project ground floor Facilities of Public Accommodation uses by limiting accessory uses on the ground floor of buildings to 20% of the building footprint
- Prohibit residential lobbies and entrances from fronting along the water side of the building
- Provide for lot coverage area and proportions that are in keeping with the Fort Point area by providing for potential aggregation of open space requirements off-site, thereby encouraging larger waterfront open spaces and promoting the use and enjoyment of the open space along the waterfront.
- Provide building heights that are consistent with the surrounding area and that will preserve wind, shadow, and other conditions of the ground level environment that will be conducive to water-dependent uses.

As part of the 2016 renewal of the South Boston MHP, the City of Boston, through the Boston Redevelopment Authority (BRA), has initiated a site-specific amendment for 150 Seaport Boulevard that includes substitute provisions for building height (up to 250 feet), building footprint (up to 70% of the project site), and a re-configured water dependent use zone. It is anticipated that the South Boston MHP renewal & amendment process will be concluded by July, 2016, with a decision by the Massachusetts Secretary of Energy & Environmental Affairs. The proposed project will comply with the MHP substitute provisions in its application for a Chapter 91 license.

8.3 Chapter 91 Jurisdiction

Chapter 91 provides for the protection of the public's right to navigation and access to the Massachusetts shoreline. Chapter 91 is implemented through regulations promulgated and administered by the Massachusetts Department of Environmental Protection (DEP) Waterways Program. Along the Massachusetts coastline Chapter 91 jurisdiction includes both existing flowed tidelands and former tidelands that are now filled.

The 150 Seaport Boulevard site lies entirely within filled and flowed Commonwealth tidelands; activities within the site are therefore subject to the Waterfront Protection Act, or Chapter 91, and its accompanying regulations at 310 CMR 9.00. In addition, the site lays within the geographic boundary of the City of Boston South Boston Waterfront District Municipal Harbor Plan, which was approved in 2000 and amended in 2002 and 2009.

In 1997, under a prior owner, a Chapter 91 Written Determination and license was issued for the project site to convert the uses from water dependent to non-water dependent, allowing for general restaurant establishments. The license authorized a 12-foot wide Harborwalk on pile-supported piers around the perimeter of the property.

8.3.1 Private/Commonwealth Tidelands

The Chapter 91 regulations differentiate "Private" tidelands held by private parties subject to certain public access easements from "Commonwealth" tidelands held in trust for the benefit of the public. The regulations generally utilize the historic mean low water mark to distinguish between the two, with Private tidelands being those lands lying landward of the historic low water mark and Commonwealth tidelands being those lands lying seaward of the historic low water mark. However, the extent of the Private tidelands is limited to 100 rods, or, 1,650 feet from the historic high water mark. While the historic low water mark bisects the site, the entire site is well beyond the 1,650 feet from the historic high water mark and is therefore entirely within Commonwealth tidelands.

8.3.2 Designated Port Area

Designated Port Areas (DPA) are those areas so designated by CZM for the preservation of water-dependent uses. The Project is not located within a DPA. The closest DPA is the South Boston DPA, the western edge of which includes the World Trade Center but does not include any of the water sheet lying to the east of the Project.

8.3.3 Water Dependency

The proposed Project includes water-dependent components, including the creation of a large area of public waterfront open space and a considerable extension of the Harborwalk. However, both the residential and retail components of the Project are not deemed water-dependent uses and, as such, and per the Chapter 91 regulations, the Project will be reviewed under Chapter 91 as a nonwater-dependent use project.

To the degree modified by the 2016 South Boston MHP Renewal and Amendment, the Project will be subject to the Chapter 91 standards for the conservation of the capacity to provide for water-dependent uses as defined in the Chapter 91 regulations at 310 CMR 9.51, the standards for the utilization of the shoreline for water-dependent purposes at 310 CMR 9.52, and the standards for the activation of Commonwealth Tidelands at 310 CMR 9.53.

8.3.4 Water-Dependent Use Zone

The Chapter 91 regulations at 310 CMR 9.51 stipulate that nonwater-dependent use projects on any tidelands shall not unreasonably diminish the capacity of such lands to accommodate water-dependent uses. Toward this end, the regulations provide for the recognition of a water-dependent use zone within which new or expanded nonwater-dependent buildings are not allowed.

The 2016 City of Boston South Boston Municipal Harbor Plan renewal and Amendment for includes a substitute provision for a minor re-configuration of the water-dependent use zone for 150 Seaport Boulevard.

8.4 Summary of Chapter 91 Licensing Compliance

The following section includes a review of the Project in light of the applicable Chapter 91 regulatory standards and in relation to the municipal harbor planning and zoning efforts that have occurred in this area of the City and Harbor.

§ 9.32 Categorical restrictions on Fill and Structures

None of the proposed site uses or improvements are categorically restricted in previously filled or flowed tidelands

§ 9.33 Environmental Protection Standards

§ 9.33 states all projects must comply with the applicable environmental regulatory programs of the Commonwealth. The regulatory programs specifically applicable to the Project are summarized below:

The Massachusetts Environmental Policy Act (MEPA): An environmental notification form will be filed with the MEPA office of the Massachusetts Executive Office of Energy and Environmental Affairs.

The Massachusetts Wetlands Protection Act: A notice of intent will be filed with the City of Boston Conservation Commission.

Massachusetts Historical Commission Act: MHC review will be initiated with the filing of the environmental notification form with MEPA.

Coastal Zone Management Consistency Review: The project's compliance with the Coastal Zone Management Act is reviewed in § 9.54 below.

§9.34 Conformance with Municipal Zoning and Harbor Plans standards

Municipal Zoning: As detailed in this section, the Project meets the requirements set forth in Section 42E-5 of the Zoning Code for the issuance of the BRA's section 18 recommendation.

Municipal Harbor Plan Compliance: As part of the 2016 renewal of the South Boston MHP, the City of Boston, through the Boston Redevelopment Authority (BRA), has initiated a site-specific amendment for 150 Seaport Boulevard that includes substitute provisions for building height (up to 250 feet), building footprint (up to 70% of the project site), and a re-configured water dependent use zone. It is anticipated that the

South Boston MHP renewal & amendment process will be concluded by July, 2016, with a decision by the Massachusetts Secretary of Energy & Environmental Affairs. The proposed project will comply with the MHP substitute provisions in its application for a Chapter 91 license. As described in this filing, the Project is consistent with and promotes waterfront activation and public enjoyment of waterfront areas as envisioned by the 2000 South Boston MHP.

§9.35 Standards to Preserve Water-Related Public Rights

The Waterways regulations at §9.35 are designed to preserve the public's rights to navigation, free passage over and through the water and access to Town landings, and to insure that public open spaces are properly managed and maintained.

The Project will be located within the confines of the existing Chapter 91 license area as reconfigured in compliance with the 2016 South Boston MHP Renewal and Amendment and the Chapter 91 regulations. As such, the project will not interfere with navigation, or the free passage over and through the water.

The Proponent or its successors will be responsible for the on-going management and maintenance of public open space planned for the Project. The Proponent expects that there will be ono restriction no hours of use of the public open space. Similarly, there will be no gates or fencing associated with the public areas. A maintenance plan will be developed by the Proponent that addresses the regulatory standards presented in §9.35.

§9.36 Standards to Protect Water-Dependent Uses

The regulations at §9.36 are designed to protect any water-dependent uses occurring at or proximate to the site. This includes water-dependent uses within the five years prior to the filing of the license application.

The Project site is available to the pedestrian public. The Project will result in a number of significant improvements to the water-dependent aspects of the property, including the considerable expansion of public open space for passive recreational use.

§9.37 Engineering Construction Standards

All structures will be designed and constructed in a manner that is structurally sound and will be certified by a Registered Professional Engineer.

§9.51 Conservation of Capacity for Water-Dependent Use

§9.51 of the Chapter 91 regulations states that non water-dependent use 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. In order to meet this standard, §9.51 establishes specific minimum conditions for all developments.

Improvements associated with the development will greatly enhance and promote pedestrian access and enjoyment of the South Boston Waterfront. The Project will meet and/or exceed the Chapter 91 regulatory standards by complying with those standards and through direct compliance with the City of Boston MHP substitute

provisions and offsets for those standards as applicable. A review of the Project's compliance with the standards of §9.51 is as follow:

Nonwater Dependent Uses on New Pile Supported Structures. Nonwater dependent structures on new pile-supported structures generally shall not extend beyond the footprint of existing, previously authorized pile-supported structures or pile fields. The Project will require new pile-supported structures but they will be limited to an area equivalent to the area authorized by an existing Waterways license, as determined by DEP.

Facilities of Private Tenancy. The Chapter 91 regulations §9.51 prohibit Facilities of Private Tenancy on any pile supported structure on flowed Tidelands, or on ground floor of any filled tidelands within 100 feet of a project shoreline. The SBMHP reaffirms this concept, and further requires that any upper floor accessory uses on the ground floor be limited to 20% of the building footprint.

The principal ground floor uses are public open space and a restaurant. Ground floor uses accessory to upper floor private uses will occupy 20% of the building footprint.

Setback The water-dependent use zone on the Project site is of variable width. The Project has been designed so as to preserve the water dependent use zone that meets or exceeds the requirements of the SBMHP. The WDUZ for this site is oriented toward the water's edge, ensuring a new non-water dependent use building is not constructed immediately adjacent to the project shoreline and that sufficient space along water's edge is devoted exclusively to water dependent use and public access.

Open Space The Chapter 91 regulations contain numerical standards, the combined effect of which is to limit the site coverage for non-water dependent use building on Commonwealth Tidelands so that at least 50% of the project site consists of exterior open spaces for active or passive public use and enjoyment.

The substitute provision in the South Boston MHP Renewal & Amendment specifies an overall lot coverage of approximately 62%, and no more that 70%, resulting in approximately 3,374 square feet of building footprint in excess of the Chapter 91-compliant standard. This substitute provision will be offset as determined in the 2016 South Boston MHP Renewal and Amendment.

In addition, the amendment restricts the footprint of the building to the parcels at 146 – 150 Seaport Boulevard, reducing the seaward extent of the existing building footprint and opening up view corridors to the harbor from Seaport Boulevard and B Street. Capping the ground floor building footprint at 50% of the project site further expands exterior public space and provides for a vastly improved connection to the harbor from Seaport Boulevard. The approval standards for lot coverage are met through a combination of: (1) building and site design; (2) a reconfigured open space area along the waterfront sides of the project that maintains a 20-foot wide building setback; and (3) the proposed offset. In addition, the amount of upper floor accessory services on the ground floor shall not exceed 20% of the total building footprint.

Height The Chapter 91 regulations limit the height of new or expanded buildings to 55 feet if located within 100 feet of the project shoreline.

The substitute provision in the 2016 South Boston MHP Renewal & Amendment specifies an alternative height limit that ensures that, in general, the 150 Seaport Boulevard project, a non-water dependent use, will be relatively modest in size, as appropriate for the applicable location on Boston Harbor, in order that wind, shadow, and other conditions of the ground-level environment will be conducive to water-dependent activity and public access. The approval regulations focus on how a building's mass will be experienced at the public open spaces on the project site, especially along the waterfront and key pathways leading thereto.

The Plan also includes a substitute provision to the Waterways requirements at 310 CMR 9.51(3)(e) that would allow a non-water dependent building up to 250 feet. The proposed height is consistent with previously approved adjacent parcels in the 2000 South Boston MHP and in other portions of the immediate neighborhood. The proposed project will generate 16,640 square feet of net new shadow, which will be offset as determined in the 2016 South Boston MHP Renewal and Amendment. Wind impacts will be mitigated through building design review to ensure there are no negative impacts on ground-level conditions. This substitute provision, coupled with the proposed offsetting measures, will not impair water-dependent activity and public access to the waterfront, and will appropriately serve to meet the objectives of 310 CMR 9.51(3)(e).

§9.52 Utilization of Shoreline for Water Dependent Purposes

The Chapter 91 regulations require that any non-water 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.

The proposed project meets this standard by providing a minimum 12-foot wide clear-to-the-sky Harborwalk around the perimeter of the project site, a reconfigured WDUZ, additional open space areas, and exterior public space, through which the public may access the waterfront but which is not clear-to-the-sky. The relatively small project site is located between the fully accessible public docking area at the Water Commons at Pier Four and the water transportation terminal at Commonwealth Pier 5/The World Trade Center. Additional water dependent uses are readily available in proximity to the project site and are not part of the project to avoid conflicts with these two facilities.

§9.53 Commonwealth Tidelands

The Chapter 91 regulations states 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 the private advantages of use are not primary but merely incidental to the achievement of public purposes." In addition, the project "…shall attract and maintain substantial public activity on the site on a year-round

basis, through the provisions of water-related public benefits of a kind and to a degree that is appropriate for the site, given the nature of the project, conditions of the waterbody on which it is located, and relevant circumstances."

As discussed above, the proposed project meets this standard by providing a minimum 12-foot wide clear-to-the-sky Harborwalk around the perimeter of the project site and additional open space for a reconfigured WDUZ, additional open space areas, and exterior public space, through which the public may access the waterfront but which is not clear-to-the-sky. The interior area is activated to attract the general public through a two-level restaurant facing Seaport Boulevard and Boston Harbor. The relatively small project site is located between the fully accessible public docking area at the Water Commons at Pier Four and the water transportation terminal at Commonwealth Pier 5/The World Trade Center. Additional water dependent uses are readily available in proximity to the project site and, therefore, are not part of the project in order to avoid conflicts with these other two facilities.

§9.53 Commonwealth Tidelands

Non water dependent use projects located in the coastal zone must be consistent with all policies of the Massachusetts Coastal Zone Management Program. A review of the proposed Project's consistency with the policies is presented in Section 8.5 below.

8.5 Consistency with Coastal Zone Management Policies

The proposed Project is located within the boundaries of the coastal zone as determined by the regulations of the Massachusetts Coastal Zone Management Program (CZM). Per the Chapter 91 regulations, nonwater-dependent use projects located in the coastal zone must be consistent with all policies of the CZM.

The Project complies with the applicable policies of the CZM Program and will be constructed and operated in a manner consistent with the CZM Program. A summary of the applicable regulatory and non-regulatory CZM policies and a draft review of the Project's consistency with these policies is presented below.

Coastal Hazards Policy #1
Preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms, such as dunes, beaches, barrier beaches, coastal banks, land subject to coastal storm flowage, salt marshes, and land under the ocean.

Natural coastal landforms at the 150 Seaport Boulevard site, such as coastal bank and land subject to coastal storm flowage, have been altered extensively. The coastal bank consists primarily of a man- made bulkhead. Due to the deteriorated condition of the bulkhead, repairs and reconstruction are required, which will improve the condition and functionality of the bulkhead.

Coastal Hazards Policy #2

Ensure that construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport. Flood or erosion control projects must demonstrate no significant adverse effects on the project site or adjacent or downcoast areas.

All construction and demolition associated with the redevelopment of the 150 Seaport Boulevard project along the water will follow Best Management Practices and will occur within the confines of a floating siltation curtain and debris boom. No significant interference with water circulation or sediment transport is anticipated. The proposed elevation of the street and sidewalk along Seaport Boulevard as part of this project will assist flood control efforts.

Energy Policy #2

Encourage energy conservation and the use of renewable sources such as solar and wind power in order to assist in meeting the energy needs of the Commonwealth.

The 150 Seaport Boulevard project will be designed and constructed to strive to meet LEED Silver certification. The project's location allows convenient use of the MBTA Silver Line, water transportation, and bus and rail connections at South Station. As part of the project, a bike lane will be incorporated into the redesigned Seaport Boulevard.

Growth Management Policy #1

Encourage sustainable development that is consistent with state, regional, and local plans and supports the quality and character of the community.

The 150 Seaport Boulevard project will strive to meet LEED Silver certification. Over time, the project's elevation may be adjusted relative to rising average harbor levels to promote a sustainable community. The project's location allows convenient use of the MBTA Silver Line, water transportation, and bus and rail connections at South Station. As part of the project, a bike lane will be incorporated into the redesigned Seaport Boulevard.

Habitat Policy #1

Protect coastal, estuarine, and marine habitats—including salt marshes, shellfish beds, submerged aquatic vegetation, dunes, beaches, barrier beaches, banks, salt ponds, eelgrass beds, tidal flats, rocky shores, bays, sounds, and other ocean habitats—and coastal freshwater streams, ponds, and wetlands to preserve critical wildlife habitat and other important functions and services including nutrient and sediment attenuation, wave and storm damage protection, and landform movement and processes.

The 150 Seaport Boulevard project is located on a filled bulkhead and over flowed tidelands on pile-supported piers. Adjacent areas are also on filled tidelands with shoreline protection structures, most commonly bulkheads and seawalls. The reconstruction of the existing bulkhead will improve its functionality and the protection it provides to flowed tidelands in the immediate area. Storm damage protection will be increased through man-made methods by raising the sidewalk and roadway of Seaport Boulevard.

Habitat Policy #2

Advance the restoration of degraded or former habitats in coastal and marine areas.

The 150 Seaport Boulevard project will cause temporary impacts to flowed wetlands in the immediate area of the project site, due to construction of the project and reconstruction of the existing seawall. In addition, the existing Chapter 91 license extends the Harborwalk 12 feet beyond the waterfront perimeter of the site, so that potential wetland resource impacts may include improvements to the existing Harborwalk.

All construction will follow Best Management Practices to avoid negative impacts to wetland resources. During demolition and construction, the entire work area will be contained within a floating siltation curtain and debris boom. The floating siltation curtain will minimize turbidity to the localized area of construction. The contractor will be required to clean the water surface and any areas confined within the floating debris boom on a daily basis.

Once the new Harborwalk is complete, a permanent Harborwalk and publicly accessible promenade and open space will be present on site to promote use and enjoyment of the water's edge.

Ports and Harbors Policy #3

Preserve and enhance the capacity of Designated Port Areas to accommodate water-dependent industrial uses and prevent the exclusion of such uses from tidelands and any other DPA lands over which an EEA agency exerts control by virtue of ownership or other legal authority.

The proposed project is situated so that it does not impact vessel movements in or of the World Trade Center/Commonwealth Pier 5, which is located in a DPA.

Ports and Harbors Policy #4

For development on tidelands and other coastal waterways, preserve and enhance the immediate waterfront for vessel-related activities that require sufficient space and suitable facilities along the water's edge for operational purposes.

The proposed project has been designed and situated so that it does not impact vessel movements in and out of the World Trade Center/Commonwealth Pier 5. There is also sufficient turning room for smaller vessels using the Water Commons at Pier 4. No vessel-related activities are planned for the project due to relatively small size of the project site, its proximity to the two maritime facilities mentioned above, and shallow water depth around the waterside perimeter of the site.

Ports and Harbors Policy #5

Encourage, through technical and financial assistance, expansion of water-dependent uses in Designated Port Areas and developed harbors, re-development of urban waterfronts, and expansion of physical and visual access.

The proposed project has been designed and situated so that it does not impact vessel movements in and out of the World Trade Center/Commonwealth Pier 5, which is located

in a DPA. There is also sufficient turning room for smaller vessels using the Water Commons at Pier 4. No vessel-related activities are planned for the project due to relatively small size of the project site, its proximity to the two maritime facilities mentioned above, and shallow water depth around the waterside perimeter of the site. The Project also opens up the waterfront to the public by providing a water dependent use zone and a Harborwalk where these areas do not exist currently, and opens up view corridors along B Street and Seaport Boulevard.

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.

The Project site does not encompass any resources that are listed in the State or National Register or included in the Inventory. The site is in the vicinity of several historic properties. The Fort Point Channel National Register Historic District/Fort Point Channel Landmark District and the Seaport Boulevard/Boston Warf Road Landmark District Protection Area are located south and west of the Project site. Commonwealth Pier Five (World Trade Center) and the South Boston Fish Pier are located east of the Project site; Commonwealth Pier Five (World Trade Center) is individually listed in the National Register and the South Boston Fish Pier is included in the Inventory. The Chapel of Our Lady of Good Voyage, included in the Inventory, is located northwest of the site.

Public Access Policy #1

Ensure that development (both water-dependent or nonwater-dependent) of coastal sites subject to state waterways regulation will promote general public use and enjoyment of the water's edge, to an extent commensurate with the Commonwealth's interests in flowed and filled tidelands under the Public Trust Doctrine.

Currently, the site has no water dependent use zone and no waterside Harborwalk. The proposed project will provide approximately 8,640 square feet of open space along the water's edge, including a Chapter 91-compliant WDUZ of approximately 5,700 square feet, of which approximately 3,300 square feet will be for the Harborwalk. In addition, exterior open space, some open to the sky and some under a building cantilever, leads from Seaport Boulevard along a curved building façade, opening up views of the harbor. The Harborwalk is also accessible along the west side of the building.

Public Access Policy #2

Improve public access to existing coastal recreation facilities and alleviate auto traffic and parking problems through improvements in public transportation and trail links (land- or water-based) to other nearby facilities. Increase capacity of existing recreation areas by facilitating multiple use and by improving management, maintenance, and public support facilities. Ensure that the adverse impacts of developments proposed near existing public access and recreation sites are minimized.

Apart from an existing second floor observation area, there is currently no public outdoor recreational area on this site. The project will create such areas as described in Public Access Policy #1 above.

Public Access Policy #3

Expand existing recreation facilities and acquire and develop new public areas for coastal recreational activities, giving highest priority to regions of high need or limited site availability. Provide technical assistance to developers of both public and private recreation facilities and sites that increase public access to the shoreline to ensure that both transportation access and the recreation facilities are compatible with social and environmental characteristics of surrounding communities.

Given the relatively small size of the project site, only passive recreation is promoted, with the principal objective being the creation of a Harborwalk and WDUZ connecting Pier Four and Seaport Boulevard along the water's edge. The site is easily accessible from the MBTA's Silver Line, by water transportation at Fan Pier and Pier Four, and by use of the Harborwalk itself.

Water Quality Policy #1

Ensure that point-source discharges and withdrawals in or affecting the coastal zone do not compromise water quality standards and protect designated uses and other interests.

No point source discharges are associated with the site-specific amendment at 150 Seaport Boulevard.

Water Quality Policy #2

Ensure the implementation of nonpoint source pollution controls to promote the attainment of water quality standards and protect designated uses and other interests.

The development at 150 Seaport Boulevard will be designed to comply with all applicable nonpoint source pollution standards.

Water Quality Policy #3

Ensure that subsurface waste discharges conform to applicable standards, including the siting, construction, and maintenance requirements for on-site wastewater disposal systems, water quality standards, established Total Maximum Daily Load limits, and prohibitions on facilities in high-hazard areas.

No subsurface waste discharge will occur as part of this MHP Amendment. The Boston Water and Sewer Department will service the completed project.

Figure 8-1 Chapter 91 Historical Historic Coast Lines