Expanded Project Notification Form/ Environmental Notification Form

INK BLOCK
south end

SUBMITTED TO
Boston Redevelopment Authority &
Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Office

SUBMITTED BY
National Development

PREPARED BY
VHB Vanasse Hangen Brustlin, Inc.

IN ASSOCIATION WITH
Elkus/Manfredi Architects
GZA GeoEnvironmental, Inc.
AHA Engineers
McNamara/Salvia, Inc.

January 2012

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February 1, 2012

Vanasse Hangen Brustlin, Inc.

Peter Meade, Chief Economic Development Officer
Boston Redevelopment Authority
Attn: Erico Lopez, Project Assistant, Planning & Economic Development Office
One City Hall Square
Boston, MA 02201

Re: **Joint "Expanded" Project Notification Form/Expanded Environmental Notification Form**
Ink Block – South End
300 Harrison Avenue, Boston, Massachusetts

Dear Mr. Meade:

On behalf of National Development (the "Proponent"), Vanasse Hangen Brustlin, Inc. is pleased to submit the enclosed joint "expanded" Project Notification Form (PNF) and Environmental Notification Form (EENF) for the proposed Ink Block – South End project. The Proponent is proposing to redevelop the underutilized and soon to be vacant site located at 300 Harrison Avenue in the South End neighborhood of Boston (the "Project"). The Project includes construction of three new buildings and adaptive reuse of the existing Boston Herald industrial building creating a vibrant mix of uses that will enhance the surrounding neighborhood with new residential and retail activity, and provide for public realm improvements. This joint PNF/EENF represents the first step in the Article 80 Large Project Review process required by the Boston Zoning Code and Enabling Act, as well as agency and public review under the Massachusetts Environmental Policy Act (MEPA).

The proposed redevelopment site is approximately 6.22-acre and is bounded by Herald Street to the north, Albany Street to the east, Traveler Street to the south, and Harrison Avenue to the west (the "Project Site"). The Massachusetts Turnpike, Interstate-90 (I-90), runs east-west is located just north of Herald Street, and Interstate-93 (Route 3) runs north-south and is located just east of Albany Street. The Project Site lies at the northeastern edge of the South End Neighborhood bordering both the Chinatown and South Boston neighborhoods.

The approximately 548,900-square foot Project in four buildings will create approximately 471 new residential units and a total of approximately 85,000 square feet of retail space, including a grocery store and multiple smaller-scale ground-floor local retail and/or restaurant spaces. The Project is served by a parking supply of approximately 411 spaces, the majority of which will be in the form of structured parking. The proposed redevelopment program is consistent with the goals of the BRA Harrison-Albany Corridor Strategic Plan, which seeks to introduce new "18-hour" residential and active ground-floor retail uses to the area and create green corridors and place-making opportunities. Overall, the Project will improve the architectural character, urban design, retail vitality, and pedestrian experience in the South End. The Project will generate numerous positive neighborhood benefits, including increased housing opportunities and affordable housing units, new neighborhood shopping opportunities, substantial streetscape improvements for an

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enhanced pedestrian environment, and reduced curb cuts for efficient site access and circulation. The City and the region as a whole will benefit from the Project as a result of its job creation, housing, and additional city and state tax revenues.

Sustainability is integrated throughout the Project as it aims to revitalize an underutilized urban area, use land efficiently, include a mix of uses located in proximity to a major regional employment center that is Downtown Boston, promote the use of alternative modes of transportation, encourage pedestrian activity, and improve water quality. In accordance with Article 37 of the Boston Zoning Code relative to the City's Green Building policies and procedures, the Proponent intends to incorporate state-of-the-art sustainable features into the design of each component of the Project – the retail and residential components–so that it could achieve at minimum level of "Certified" under the U.S. Green Building Council (USGBC) Leadership in Environmental and Energy Design (LEED®) Green Building Rating System, or "LEED certifiable." Furthermore, the Site provides the opportunity for a new "Mobility Hub" consisting of ZipCar®, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking.

This PNF/EENF presents details about the Project and provides an analysis of transportation, potential environmental impacts, infrastructure needs, and other components of the proposed Project, in order to inform state and city agencies, and neighborhood residents about the Project, its potential impacts, and the mitigation measures proposed to address those potential impacts. Based on a comprehensive approach to addressing potential impacts and mitigation similar to the level of information normally presented in a Draft Project Impact Report under Article 80, it is the desire of the Proponent that the BRA, after reviewing public and agency comments as well as any further responses to comments made by the Proponent, will issue a Scoping Determination Waiving Further Review pursuant to the Article 80B process.

We look forward to working with you and your staff in your continuing review of this project. We anticipate that the BRA will publish notice of the receipt of the PNF/EENF within five days, as required by Section 80A-2(3). Requests for copies of the PNF/EENF should be directed to Lauren DeVoe at 617-924-1770 or via e-mail at ldevoe@vhb.com.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Karen Wynne, PE, LEED AP
Senior Project Manager

Lauren DeVoe, AICP, LEED AP BD+C
Environmental Planner

Enclosure

cc: Sherry Clancy, Project Manager, National Development

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General Information and Project Summary

Introduction

National Development (the "Proponent") proposes the redevelopment of approximately 6.22 acres in Boston's South End neighborhood to include the adaptive re-use of the existing Boston Herald industrial building located at 300 Harrison Avenue and the construction of three new buildings (the "Project"). The Project will enhance the surrounding neighborhood by creating new residential and retail activity through a vibrant, urban mixed use development with public realm improvements. This joint expanded Project Notification Form (PNF)/Expanded Environmental Notification Form (EENF) report represents the first step in the Article 80 Large Project Review process required for the Project under the Boston Zoning Code and Enabling Act as well as initiates agency and public review pursuant to 301 CMR 11.00 of the Massachusetts Environmental Policy Act (MEPA).

Overall, the Project will improve the architectural character, urban design, retail vitality, and pedestrian experience at this gateway to the South End. The Project will generate numerous positive neighborhood benefits, including increased housing and affordable housing units, neighborhood shopping opportunities, substantial pedestrian and streetscape improvements, and reduced curb cuts. The City and the region as a whole will benefit from job creation, housing, and additional city and state tax revenues.

Sustainability is integrated throughout the Project as it aims to revitalize an underutilized urban area, use land efficiently, include a mix of uses located in proximity to a major regional employment center that is Downtown Boston, promote the use of alternative modes of transportation, encourage pedestrian activity, and improve water quality. Unlike many major retail developments in the greater Boston region, which are largely automobile dependent, the retail component of the Project will create a new transit-accessible shopping destination serving the South End and surrounding neighborhoods as well as the new on-site residential population. Many of the residents and their guests, and retail employees and customers are expected to use alternative means of transportation to/from the Project. Additionally, in accordance with Article 37 – Green Buildings of the Boston Zoning Code, the Proponent intends to incorporate state-of-the-art sustainable features into the design of each component of the Project so that it can achieve at minimum level of "Certified" under the U.S. Green Building Council (USGBC) Leadership in Environmental and Energy Design (LEED®) Green Building Rating System, or "LEED certifiable" (the Proponent is committed to striving to achieve a Silver rating).

This PNF/EENF presents details about the Project and provides an analysis of traffic/transportation, potential environmental impacts, infrastructure needs, and other components of the proposed Project, in order to inform state and city agencies, and neighborhood residents about the Project, its potential impacts, and the mitigation measures proposed to address those potential impacts. This chapter provides a project overview, presents the development team, discusses the regulatory controls and anticipated approvals and

permits. A description of the ongoing public participation and outreach, and a summary of findings of potential Project impacts are also included.

Development Team

Founded in 1983, the Proponent, National Development, has developed and managed a diverse portfolio of investments, and has successfully developed over 15 million square feet of space in New England making it one of the region's largest development firms. National Development has extensive experience in the development of mixed-use projects. National Development has enlisted a team of planners, engineers, attorneys, and consultants to assist with project development.

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Legal Information

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Legal Judgments or Actions Pending Concerning the Proposed Project

None. There are no legal judgments or legal actions pending concerning the proposed Project.

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

None. There is no history of tax arrears on property owned by the Proponent in the City of Boston.

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Site Control/Public Easements

The Proponent acquired the property by deed dated April 17, 1998 and recorded with Suffolk County Registry of Deeds in Book 22372, page 328 on April 22, 1998. The total land controlled by the Proponent includes the 6.22-acre portion previously developed with the existing Herald Building and surface parking, a 0.65-acre portion that is part of the public way named Harrison Avenue, and a 0.38-acre portion that is the public way named Herald Street for a total of 7.25 acres. The property is subject to the following easements:

- Easement for street purposes to the City of Boston for Harrison Avenue and Herald Street formerly known as Way Street.

Project Overview and Status

The proposed redevelopment site is approximately 6.22-acre located at 300 Harrison Avenue in the South End neighborhood of Boston, Massachusetts (the "Project Site"). Refer to Figure S.1 for a site location map. The Project Site lies at the northeastern edge of the South End Neighborhood bordering both the Chinatown and Downtown neighborhoods. The Project Site is bounded by Herald Street to the north, Albany Street to the east, Traveler Street to the south, and Harrison Avenue to the west. The Massachusetts Turnpike, Interstate-90 (I-90), runs east-west is located just north of Herald Street, and Interstate-93 (Route 3) runs north-south and is located just east of Albany Street. Refer to Figure S.2 for a site context map. The property adjacent to the Site along Albany Street (located on the same block) consists of three buildings occupied by F.W. Webb Plumbing Supply, I.O.T.A. Independent Taxi, and the Transit Insurance Agency. The entire Site is located within a designated Economic Development Area of the South End Neighborhood District (refer to the 'Regulatory Controls and Anticipated Approvals/Permits' section below for further details on existing zoning).

An approximately 111,000-square foot, two-story industrial building with office on the upper level and below-grade parking spaces currently exists on the Site. The Site has been improved with surface parking for approximately 274 cars and/or delivery trucks and 15 trailer spaces. The existing building, which includes

office space, an employee gym and cafeteria, and warehousing/distribution space, is currently used by Herald Media for its editorial and human resources staff, and for newspaper distribution operations in the Boston Metro area. Historically, the building was also used for newspaper printing operations.

The Proponent proposes the construction of three new buildings and the adaptive re-use of the existing Boston Herald industrial building into a vibrant and quality mixed-use redevelopment that will enhance the surrounding neighborhood by redeveloping an underutilized area and providing residential housing and an attractive retail facility with convenient parking in a safe, appropriately illuminated setting (the "Project"). The approximately 548,900-square foot Project consisting of four buildings will create 471 new residential units. A total of approximately 85,000 square feet of retail space is planned, including a grocery store and multiple smaller-scale ground-floor local retail and/or restaurant space. The proposed redevelopment program is consistent with the goals of the recently published Harrison-Albany Corridor Strategic Plan (the "Strategic Plan"), which seeks to introduce new "18-hour" residential and active ground-floor retail uses to the area and create green corridors and place-making opportunities.

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Summary of Public Benefits

Project-related benefits include housing creation, urban design improvements, job opportunities, expanded retail options, and additional tax revenues. By replacing an underutilized industrial building, the Project will substantially contribute to improving the pedestrian and retail vitality, as well as the urban design and architectural character of the area. Specific public benefits include:

Neighborhood Design Benefits

- Redevelop an underutilized, isolated, and inaccessible industrial property, which since the mid-1950s has resulted in a high number of single-occupancy and truck trips into a vibrant transit- and pedestrian-oriented mixed-use development.
- Transform Harrison Avenue into a main residential entrance with a welcoming presence, including seasonal outdoor seating and new neighborhood retail shops. The main entrance for grocery/retail and parking will be from Traveler Street.
- Encourage pedestrian activity through new retail and residential uses creating liveliness along Harrison Avenue as an extension of the South End neighborhood and connect to Chinatown.
- Support the BRA's Strategic Plan by:
  - Introducing a dense urban mix of interactive neighborhood uses, including "18-hour" commercial and residential uses;
  - Creating a more walkable, pedestrian-friendly site and area through improved street frontage along Harrison Avenue and a pedestrian node at William E. Mullin's Way;
  - Improving the public realm though streetscape enhancements consistent with the Strategic Plan Streetscape Guidelines; and
  - Increased building heights and density.
- Introduce high-quality architecture and diverse architecture styles to provide a transformative effect for the neighborhood.

- Provide new public realm benefits, including sidewalks with increased width and streetscape enhancements.
- Revitalize an underutilized urban area, use land efficiently, promote the use of alternative modes of transportation, encourage pedestrian activity, and improve water quality.
- In accordance with Article 37 of the Boston Zoning Code relative to the City's Green Building policies and procedures, the Proponent intends to incorporate state-of-the-art sustainable features into the design of each component of the Project – the retail and residential components–so that it could achieve a minimum level of "Certified" under the U.S. Green Building Council (USGBC) Leadership in Environmental and Energy Design (LEED®) Green Building Rating System, or "LEED Certifiable."[1]

Site Improvements

- Provide new site landscaping treatments and hardscape design elements.
- Provide new energy-efficient and "night-sky friendly" site lighting fixtures.
- Implement streetscape improvements along the Project Site frontage.
- Reduce, reuse, and rehabilitate existing unattractive surface parking (typically occupied by large Boston Herald delivery vehicles parked during daytime hours) with a well-landscaped and well-lit surface parking and a new parking deck hidden from the public walkways.
- Increase pervious area through Low Impact Design (LID) elements (stormwater infiltration systems) to promote the infiltration of stormwater runoff into the ground, in accordance with the Groundwater Conservation Overlay District (GCOD) and DEP Stormwater Management Policy; thereby improving water quality and reducing the rate and quantity of stormwater discharged to the drainage system and Boston Harbor.

Transportation Improvements

- Enhance pedestrian safety and circulation through improved/upgraded sidewalks and street crossings, and improved illumination of pedestrian walkways.
- Provide new transit-accessible retail and residential uses (reduced single-occupancy vehicle trips to the Site).
- Promote efficient roadway traffic circulation with reduced curb cuts and new signage.
- Provide pavement markings, lane demarcation, and/or striping to discourage unsafe traffic maneuvers from Albany Street exit to the existing I-93 ramp.
- Provide new bicycle facilities (in coordination with BTD), including on-site bike storage for retail customers and employees as well as covered/secure bike storage for residents. The Project Site is in close proximity to an existing bike trail that is planned to be extended.
- Create the opportunity for a "Mobility Hub," including ZipCar®, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking.

[1] LEED "certifiable" implies that a building meets the energy reduction requirements under the most appropriate LEED building rating system, but has not officially registered with the USGBC to become certified.

Infrastructure Improvements

- Utilize the existing adequate infrastructure capacity requiring no major infrastructure upgrades.
- Upgrade on-site drainage system resulting in reduced rates and quantities of stormwater discharged to the drainage system and Boston Harbor.

Economic and Community Benefits

- Create 250 to 450 construction jobs in all trades.
- Create approximately 60 to 75 new transit-accessible employment opportunities (permanent part-time and full-time jobs).
- Increase annual property tax revenue for the City of Boston ($1,000,000).
- Provide for substantial investment ($500,000) in streetscape and public realm improvements.
- Provide approximately 471 new units of housing in close proximity to downtown Boston 62 units of which will be affordable rental housing (15 percent of the market rate units).

Further, the Proponent will submit: (1) a Boston Residents Construction Plan, in accordance with the Boston Jobs Policy; and (2) a First Source Agreement and Memorandum of Understanding related to permanent employment initiatives for City of Boston residents. To effectuate the Proponent's affordable housing commitment, the Proponent will finalize an affordable housing agreement with the BRA during the Article 80 review period for on-site affordable housing.

Regulatory Controls and Anticipated Approvals/ Permits

Table S-1 lists the anticipated permits and approvals from federal, state, and local governmental agencies, which are presently expected to be required for the Project, based on information currently available. It is possible that not all of these permits or actions will be required, or that additional permits or actions may be needed.

Table S-1
List of Anticipated Permits and Approvals

Agency/Department	Permit/Approval/Action	Status
Federal		
U.S. Environmental Protection Agency	NPDES Permit for disturbed areas over one acre	To be issued
Commonwealth of Massachusetts		
MA Executive Office of Energy and Environmental Affairs	Certificate Evidencing Completion of MEPA Review	Expanded ENF to be submitted
	Public Benefit Determination for use a change of use of 6.22 acres of landlocked tidelands, pursuant to Chapter 168 of the Acts of 2007 and 310 CMR 13.00[1]	Secretary of EEA to issue
MA Department of Transportation, Highway Division	Direct Highway Access Permit	To be issued
MA Department of Environmental Protection	Sewer Extension/Connection Permit	To be issued

Agency/Department	Permit/Approval/Action	Status
MA Historical Commission	Project review in compliance with MGL Chapter 9, sections 26-27C (Chapter 254)	To be submitted as part of the Expanded ENF (MEPA review)
MA Department of Environmental Protection, Division of Air Quality Control	Air Quality Permit (under 310 CMR 7.00) for heating boilers and emergency generators (if required)	To be submitted
	Demolition Notice	To be submitted
	Notice of Asbestos Removal	To be submitted
MA Division of Labor and Workforce Development	Asbestos Removal Notification	To be submitted
City of Boston		
Boston Redevelopment Authority	Article 80B Large Project Review – Scoping Determination Waiving Further Review	Submitted herein
	Comprehensive Sign Design	To be submitted
	BRA Board Approval	To be issued
Boston Civic Design Commission	Schematic Design Review (if required)	To be submitted
Boston Transportation Department	Transportation Access Plan Agreement	To be issued
	Construction Management Plan	To be issued
Boston Zoning Board of Appeals	Conditional Use Permits for non-residential accessory parking within the Restricted Parking Overlay District [RPOD] and Groundwater Conservation Overlay District [GCOD] applicability	To be issued
Boston Water and Sewer Commission	Site Plan Approval	To be issued
	General Service Application	To be issued
Boston Public Improvement Commission/Department of Public Works	Street and Sidewalk Occupancy Permits (if required)	To be issued
	Curb Cut Permits	To be issued
	Specific Repair Plan (if required)	To be issued
	Pedestrian Easement (if required)	To be issued
Boston Air Pollution Control Commission	Exemption from Parking Freeze	To be issued
Boston Public Safety Commission, Committee on Licenses	Parking Garage License	To be issued
	Fuel Storage Permit	To be issued
	Flammable Storage Permit	To be issued
Boston Department of Inspectional Services	Demolition Permit	To be issued
	Building Permits	To be issued
	Certificates of Occupancy	To be issued
South End Landmark District Commission	Certificate of Appropriateness Application for demolition in the South End Landmark District Protection Area	To be submitted

NPDES National Pollutant Discharge Elimination System
EEA Executive Office of Energy and Environmental Affairs
RPOD Restricted Parking Overlay District
GCOD Groundwater Conservation Overlay District
1 Landlocked and not subject to Licensing under M.G.L. Chapter 91.

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Local Regulatory Controls and Permits

City of Boston Zoning

The Project is located within the South End Neighborhood District, as established by Article 64 of the Code and, more specifically, the Site is located within a designated Economic Development Area of the South End Neighborhood District (the "South End/EDA North"), pursuant to Article 64-14 of the Code. The Restricted Parking Overlay District (RPOD), established by Section 3-1A[c] of the Code, also affects the Site as does the Groundwater Conservation Overlay District (GCOD), established by Article 32 of the Code, as amended.

Uses

The Project consists of two use components: (1) approximately 463,900 square feet of residential (a total of 471 residential units) with accessory parking and service amenities; and (2) approximately 85,000 square feet of retail space with accessory parking. Pursuant to recently adopted changes to Article 64, Table C of the Code, multi-family residential uses along with accessory services for the apartment residents are "allowed" uses in the South End/EDA North subdistrict. Grocery uses and local retail, including restaurant space with accessory outdoor cafes are all "allowed" uses in the South End/EDA North. The Project requires Conditional Use permits because:

- It is located within the Restricted Parking Overlay District (RPOD) and includes non-residential off-street parking spaces; and
- It is located within the Groundwater Conservation Overlay District (GCOD), pursuant to Article 32-5(1).

Dimensional Requirements

The Project includes the construction of three new buildings five to nine stories above grade measuring approximately 100 feet in height (at the highest point) and one redeveloped existing building of four stories, or approximately 70 feet in height. The proposed total square footage, in accordance with the Code, is approximately 548,900 square feet (not including the below-grade parking garage), and the Project's floor area ratio (FAR) will be approximately 2.02. A breakdown of the dimensional zoning requirements applicable to the Project Site is included in Table S-2 below.

Table S-2
Zoning Code Dimensional Regulations vs. Proposed Project Dimensions

Dimensional Requirements[1]	South End EDA/North	Project
Max. Floor Area Ratio	4.0	2.02
Max. Building Height (Feet)	100	100
Usable Open Space Minimum (50 SF Per Dwelling Unit)[2]	23,550 SF	>23,550 SF
Front Yard Minimum Depth (Feet)[3]	None[4]	11
Rear Yard Minimum Depth (Feet)	20[5]	22[6]
Rear Yard Maximum Occupancy by Accessory Buildings (Percentage)	None	N/A

SF Square Feet
1 There are no dimensional requirements applicable to the Project Site with respect to: lot size; lot area; lot width
2 Pursuant to Article 17 of the Code when minimum usable open space for residences is required it shall be allotted and maintained for lawful outdoor uses other than off-street parking and driveways.
3 If applicable, the minimum Front Yard depth shall be in conformity with the Existing Building Alignment of the Block pursuant to Article 64-37 of the Code.
4 Ten feet along Traveler Street.
5 Rear Yard setbacks for any Proposed Project subject to Article 80B Large Project Review shall be determined through such review.
6 An existing retaining wall located within one foot of the rear property line is a pre-existing nonconforming use that will not be altered or enlarged so that the nonconformity will increase.

No dimensional relief is required for the building height, FAR or rear yard setback. The Project will achieve the minimum useable open space requirement of 23,550 square feet for the residential component (50 square feet per dwelling unit—471 dwelling units total) by providing useable open space in the form a residential entry/plaza, roof garden/deck, internal site walkways and green space.

Zoning Approvals

The Project will need the following relief from the Boston Board of Appeal:

- Conditional Use permit for nonresidential off-street parking at the Project within the Restricted Parking Overlay District, pursuant to Article 6-3A of the Code; and
- Groundwater Conservation Overlay District Conditional Use permit, pursuant to Article 32 of the Code.

City of Boston Zoning Code Article 80 – Large Project Review

The Project exceeds the threshold of 50,000 square feet of development, which requires Large Project Review by the Boston Redevelopment Authority (BRA) pursuant to Article 80B, Large Project Review of the Code. The Proponent has commenced Large Project Review under Article 80 of the Code with the filing of a Letter of Intent with the BRA on June 7, 2011, that indicated the Proponent's intent to file an "expanded" PNF in connection with the Project. A copy of this letter is provided in Appendix B.

This joint PNF/EENF aims to meet the City of Boston Article 80 Large Project Review and presents details about the Project and provides an analysis of transportation, environmental protection, infrastructure, and

other components of the proposed Project, in order to inform city agencies and neighborhood residents about the Project, its potential impacts, and mitigation proposed to address those potential impacts. Based on a comprehensive approach to addressing potential impacts and mitigation similar to the level of information normally presented in a Draft Project Impact Report (DPIR), it is the desire of the Proponent that the BRA, after reviewing public and agency comments on this joint PNF/EENF and any further responses to comments made by the Proponent, will issue a Scoping Determination Waiving Further Review pursuant to the Article 80B process.

Development Impact Project

The Project is not a Development Impact Project as defined in Article 80B-7 of the Code. The Project is only constructing approximately 85,000 square feet of "gross floor area" devoted to retail use – a Development Impact Use as defined in Article 80B-7 of the Code. The remaining 463,900 square feet of "gross floor area" is devoted to residential use, which is not a Development Impact Use.

Boston Landmarks Commission and South End Landmarks District Commission

The Project Site is within the Protection Area of the designated South End Landmark District and, therefore, a Design Review by the South End Landmark District Commission is required. When a project occurs within the Protection Area, only certain types of work or project elements are subject to review, including demolition, land coverage, height of structures, landscaping, and topography. The goals of the Protection Area are to protect views of the adjacent Landmark District, to ensure that new development within the Projection Area and adjacent to the Landmark District is architecturally compatible in massing, setback, and height, and protects light and air circulation within the Landmark District.

As discussed in Chapter 6, *Historic Resources*, the Project Site is located in the northeastern-most outer limits of the Protection Area furthest away from the District (Figure 6.1). Furthermore, other existing industrial uses and taller buildings are located between the District and the Project Site. The partial removal of sections of the 1957 Boston Herald Traveler building will not have an adverse impact on the District as it is not considered a significant historic resource. One individually inventoried building, the Brahman and Dow Valve Company/FW Webb Co. building 237 Albany Street (BOS.12842) located to the east of the Herald Traveler building on the same block, will not be impacted by the Project as no physical changes are proposed to the Webb Co. building as a result of the Project.

According to the *Standards and Criteria of the South End Harrison/Albany Protection Area*, the Project would not impact the District as it meets the goals of the Protection Area due to its compatible height, massing, and setback, and complementary design. The Project at full-build will not cause any new shadows within the District or require a pedestrian wind analysis under Article 80 – Large Project Review because its proposed height of 100 feet is below the 150 feet tall threshold. The Project conforms to the specific standards and criteria for the Protection Area, as discussed in Chapter 6, *Historic Resources*.

Massachusetts Environmental Policy Act

The Project is subject to environmental review by the Secretary of the Executive Office of Energy and Environmental Affairs because the Project will exceed the MEPA transportation review threshold for a Mandatory Environmental Impact Report (EIR) for unadjusted trip generation (using the unadjusted trips calculated using the Institute of Transportation Engineer's trip generation rates) and requires an Access Permit from the Massachusetts Department of Transportation (MassDOT). The Project also requires a DEP Sewer Connection/Extension Permit for the generation of more than 50,000 gallons per day of sanitary sewer.

This joint expanded PNF/EENF document is being filed pursuant to the MEPA regulations (301 CMR 11.00) in order to initiate MEPA review. Appendix C provides the completed ENF form. The Proponent is requesting that an EIR Waiver be granted through submission of a comprehensive document that accounts for and mitigates, where reasonable and feasible, all potential environmental impacts. If the Secretary determines that an EIR is required, the Proponent will request to file a Single EIR under the expedited review process. In accordance with Section 11.16 of the MEPA regulations, the Proponent has distributed this joint PNF/EENF to the required state and local agencies, community organizations, and other interested parties. Refer to Appendix A for the MEPA Distribution List.

Public Participation/Community Outreach

As part of the Article 80 and MEPA review process, the Proponent is committed to maintaining an open dialogue with all interested parties. The public will have the opportunity to review this joint PNF/EENF, which has been distributed to various federal, state, and local agencies by the BRA and in accordance with 301 CMR 11.16(2) of the MEPA regulations, and is available upon request. The Proponent has met with, or intends to meet with, a broad range of elected officials; government agencies, and neighborhood association groups to solicit feedback and input on the Project. Additionally, the Proponent has been actively involved in the Strategic Plan Advisory Group and intends to incorporate as many of the goals; visions and ideas of the Strategic Plan into the Project, where feasible.

Impact Advisory Group

In October 2000, Mayor Thomas M. Menino outlined the Impact Advisory Group (IAG) process in "An Order Relative to the Provision of Mitigation by Development Projects in Boston." The Mayor further amended the process in April 2001, in "An Order Further Regulating the Provision of Mitigation by Development Projects in Boston" in order to increase the representation of local elected officials. These Orders, adopted by the BRA Board, create a comprehensive framework to clarify the role of the BRA, the City, the developer, and the community in the determination and mitigation of the impacts of development.

The IAG may contain up to fifteen (15) members, two (2) each nominated by the state senator, state representative, and district city councilor, and the remainder by appointment of the Mayor on the recommendation of residents, businesses, and community organizations as well as at-large city councilors. The IAG advises the BRA on impact and mitigation. IAGs offer BRA staff the chance to work closely with

diverse members of the community to understand local concerns, needs, and opportunities. IAG members are invited to take part in the public agency scoping sessions called for in Article 80 of the Boston Zoning Code. The IAG is also encouraged to take part in community meetings that allow for public review and discussion of proposed projects. IAG members are offered the opportunity to review for comment major submissions by a project proponent as well as the Cooperation Agreement between the developer and the BRA prior to its adoption by the BRA.

IAGs do not replace the role of the greater community in the development review process. The IAG is an overlay to the existing process that allows for greater understanding by the BRA of local concerns and greater public insight into the thinking of the BRA and other public agencies involved in the development review process.

■

Public Outreach Meetings

Table S-3 lists the public officials, state agencies, city departments and neighborhood groups/members that the Proponent has met with on the Project.

Table S-3
Public Outreach Meetings

Person and Agency
Legislators
Sonia Chang-Diaz, State Senator
Aron M. Michelwitz, State Representative
Bill Linehan, City Council, District 2
John Connolly, City Councilor at Large
State Agencies
Rick Bourre, MA Executive Office of Energy and Environmental Affairs, MA Environmental Policy Act Office
Peter Cavicchi, MA Department of Transportation, Highway Division, District 6
City Departments
Tabitha Bennett, Mayor's Office of Neighborhood Services
Denny Ching, Mayor's Office of Neighborhood Services
John Sullivan, Boston Water and Sewer Commission
Bill Conroy, Boston Transportation Department
Jim Fitzgerald, Boston Redevelopment Authority
Maura Zlody, Boston Environment Department
Walter Maros, South End Landmark District Commission
Elliot Laffer, Boston Groundwater Trust
Neighborhood
Suzanne Bacon, Old Dover Neighborhood Association
Nick Fedor, Washington Gateway
Og Hunnewell, Nordic Properties
Terry McDermott, GTI/John Kiger
Kye Liang, Chinatown Gateway

Person and Agency
Harold Dennis, Druker
Bill Moy, Chinatown Neighborhood Council
Bonnie Gossels, NewMarket
Chinatown Coalition

Summary of Findings

The following sections summarize the Project-related impacts and benefits, which are discussed in detail in subsequent chapters of this PNF/EENF.

■

Analysis Conditions

The analysis conditions used to determine the potential environmental impacts were as follows:

- 2011 Existing Condition
- 2016 No-Build Condition
- 2016 Build Condition

Future conditions were selected based on the estimated construction schedule completion date for the Project (all four buildings) and a 5-year time horizon. A comparison between the Future No-Build and Future Build Conditions of the same year show changes anticipated to occur as a result of the Project.

■

Urban Design

Key findings and benefits related to urban design include:

- The key planning principle is to create an active neighborhood through a mix of uses and public realm improvements, including a public pedestrian node at the residential building main entrance.
- Key design assumptions and goals include:
  - An allowable height of 100 feet, and increased density and FAR pursuant to the rezoning recently adopted;
  - Adaptive reuse of the existing building foundation and structures (the below-grade basement space);
  - Introduce new mixed-use development with "18 hour" commercial and residential activity;
  - Provide for diversity of scale, architectural designs, and building footprints;
  - Promote connection of new development to surrounding neighborhoods, including Downtown, Chinatown, and South Boston;
  - Develop a new neighborhood image for this gateway to the South End;

- Create a campus of multiple buildings that are scaled in increments suitable to the existing context of the recent residential developments in the vicinity;
- Provide for a variety of building heights to create a skyline for the Project and expand the urban design character of the South End;
- Introduce high-quality architecture that builds on the neighborhood vernacular in order to provide a transformative effect for the neighborhood;
- Enhance pedestrian circulation with thru-block pathways and improve streetscape/public realm;
- Integrate adequate service facilities for parking and loading.

■

Transportation

Key findings and benefits related to site access and traffic include:

- The additional traffic generated by the Project is expected to have negligible impacts on the area's transportation infrastructure with the implementation of the proposed site access plan and accompanying mitigation measures.
- When accounting for shared trips and local mode share, per Boston Transportation Department (BTD) guidelines, the Project is expected to result in an increase of 3,920 and 7,362 vehicles trips on a typical weekday and Saturday, respectively.
- The Project Site is currently well served by transportation infrastructure, including access to Route I-93 and is in close proximity to public transit (MBTA Silver Line, the Red Line Broadway Station, the Orange Line Tufts Medical Center Station and multiple bus routes).
- The results of the analysis indicate that there will be no substantial changes in level of service (LOS) in the study area as a result of the Project.
- The Proponent proposes the following transportation-related mitigation measures as part of the Project:
  - Eliminate two redundant active curb cuts on Harrison Avenue (to be replaced by right-in/right-out access) and one curb cut on Traveler Street with consolidated access being provided on Traveler Street opposite a proposed driveway to a planned development site located at 275 Albany Street.
  - Provide pavement markings, lane demarcation, and/or striping to discourage unsafe traffic maneuvers from Albany Street exit to the existing Route I-93 South ramp.
  - The Project will investigate the feasibility of modifying signal timing changes at Traveler Street/Harrison Avenue to address existing operational deficiencies at this location.
  - Enhance pedestrian safety and circulation through improved/upgraded sidewalks and accompanying streetscape amenities on Harrison Avenue and Traveler Street adjacent to the Project Site, improvements to select portions of sidewalk located along Herald Street and Albany Street as well as and improved illumination of on-site pedestrian walkways.
  - Create a thru-block pedestrian connection from Harrison Avenue to Albany Street.

- Implement a Transportation Demand Management (TDM) plan to discourage single-occupant vehicular travel to/from the Project.
- Create a new Mobility Hub (to include ZipCar® service, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking).
- Provide new bicycle facilities (in coordination with BTD), including on-site bike storage for retail customers and employees as well as covered/secure bike storage for residents.
- Provide a dedicated loading area (for retail and residents) at the northeast corner of the Project Site to allow for off-street loading to maintain an active streetscape along the site frontage while helping to minimize any on-site conflicts between trucks and residents or visitors.

Key findings and benefits related to parking include:

- A portion of the existing Boston Herald building basement space is utilized for 108 parking spaces. The remainder of this space was previously devoted to general storage for paper and other materials and will be re-purposed for parking.
- The reuse of the existing basement space will provide for approximately 234 below-grade parking spaces for the residential component of the Project (for residents and their visitors as well as building management and maintenance staff). These secure parking spaces will be accessed using automated card readers or similar means.
- The parking needs for the retail customers and employees will be met with the reuse of 67 existing surface parking area within a reconfigured parking lot layout and a new 110-space parking deck.
- The surface parking supply for the Project represents a significant reduction of spaces almost half of which are generally occupied by large Boston Herald delivery vehicles parked during daytime hours.
- The Project will also provide new on-street public parking adjacent the Project Site on Traveler Street and modification of the current on-street parking configuration on Harrison Avenue (pending BTD approval).

■

Environmental Protection

The following key findings related to environmental protection include:

- While the study shows the Project will create new shadows, these shadows are consistent with urban development and are not likely to discourage the use of sidewalks or public areas in the vicinity of the Project Site.
- Each viewpoint is expected to experience an increase in skydome obstruction under the 2016 Build Condition, which is to be expected when replacing low-rise building with a building with the varied massing of the Project.
- The air quality assessment demonstrates that the Project complies with CAAA and is consistent with the guidelines of the DEP because the Project will incorporate reasonable and feasible mitigation measures to reduce VOC, NO_X ,PM_{10}, and $PM_{2.5}$, missions in the ozone mesoscale analysis.
- The noise impact analysis determined that the Project will not generate noise impacts at nearby existing sensitive receptor locations.

- The Project Site is not located in a designated flood hazard zone; however, some portions of the Site are located in filled Tidelands, which are "landlocked," as is typical of many areas of Boston.
- According to the *Massachusetts Natural Heritage Atlas* (13th Edition dated 2008), no Estimated Habitats of Rare Wildlife, Priority Sites of Rare Species Habitat, or Certified Vernal Pools occur on or near the Site. Additionally, no federally-listed endangered or threatened species exist on or near the Site.
- The Project Site is located within the Groundwater Conservation Overlay District (GCOD), as defined in Article 32 of the Zoning Code.
- Subsurface conditions of fill over organic soils, silty clay, and a thin layer of glacial till over bedrock. The majority of the existing building (and the portion of the building to be reused), is supported on deep caissons installed to levels below these soils.
- Presently, there is no known subsurface contamination requiring notification to theDEP.
- Any on-site hazardous materials, including asbestos containing materials (ACM) that have been identified in the existing Herald building or may be encountered during construction will be handled in accordance with federal, state, and local regulations.
- Construction impacts are temporary in nature and are typically related to air (dust), noise, and runoff. The following sections describe the potential temporary impacts due to construction activities and proposed mitigation measures to reduce these impacts.

The following key benefits related to environmental protection include:

- The proposed mixed-use redevelopment plan will revitalize an underutilized urban area, use land efficiently, promote the use of alternative modes of transportation, encourage pedestrian activity, and improve water quality.
- The Project will incorporate the appropriate level of wall and window noise attenuation to ensure that the interior sound levels will meet the HUD interior noise criteria for residences.
- The Project will improve the quality and quantity of site stormwater runoff compared to existing conditions, including providing for groundwater recharge in accordance with the GCOD.
- Groundwater levels are not expected to be impacted as part of the planned construction due to stormwater infiltration proposed for the Project.
- Regarding solid waste during operations, the building will include recycling facilities/space at each residential floor level and in the parking garage for collection of recyclable materials, and retail tenants will utilize disposal services that recycle waste off-site.
- In accordance with Article 37 of the Boston Zoning Code – Green Buildings, the Proponent intends to incorporate state-of-the-art sustainable design features into the Project in order to achieve a minimum level of "certified" under the U.S. Green Building Council (USGBC) Leadership in Environmental and Energy Design (LEED®) Green Building Rating System.

■

Infrastructure Systems

The key impact assessment findings related to infrastructure systems include:

- The existing city and utility infrastructure systems are adequately sized to accept the demand associated with the development and operation of the Project, based on initial investigations with the appropriate agencies and utility companies.
- The existing Site is mostly impervious to rainfall infiltration and includes some catch basins that are in disrepair.
- The Project Site is currently serviced by the BWSC for domestic and fire protection water and sanitary sewage conveyance. Based on 314 CMR 7.15, the Project is projected to require a domestic water supply of approximately 81,701 gallons per day and is estimated to generate 74,274 gallons per day of sanitary sewage.

The key Project-related mitigation and/or benefits associated with the infrastructure systems include:

- The Project includes a reduction in paved site areas, stormwater infiltration systems, and new vegetated areas all of which will promote the infiltration of stormwater runoff into the ground and evapotranspiration; thereby, reducing the rate and quantity of stormwater discharged to the drainage system and Boston Harbor.
- The quantity of stormwater runoff will be reduced for the two-year through 100-year storm events, respectively, which will have a positive impact due to the reduced load on BWSC's drainage system.
- The quality of stormwater runoff associated with the Project will be improved through the installation of infiltration systems.
- The Project is being designed with performance goals of 30 to 40 percent water efficiency and at minimum a 20 percent energy efficiency in order to comply with Article 37 and potentially achieve a Silver LEED-NC certification level.

■

Historic Resources

The key impact assessment findings related to historic and cultural resources include:

- From the mid-19th century to the 1950s the Project Site consisted of a series of short, narrow streets and alleyways with residential tenement buildings known as the New York Streets. In the late 1950s, the Project Site was completely redeveloped for light industrial and manufacturing as part of the City of Boston's urban renewal activity.
- There are numerous properties that are in the Inventory of Historic and Archaeological Assets of the Commonwealth and the State Register of Historic Places within one-quarter mile of the Project Site, including the South End Landmark District and the South End Landmark District Protection Area (in which the Project Site is located).
- The Project Site is located at the extreme northeast corner of the South End Landmark Protection Area two blocks from the closest boundary edge of the South End Landmark District.
- The partial removal of sections of the 1957 Boston Herald Traveler building will not have an adverse impact on the building as it is not considered a significant historic resource.
- The Project would not impact the District as it meets the goals of the Protection Area due to its compatible height, massing, and setback, and complementary design.

The key Project-related benefits related to historic and cultural resources include:

- The Project will have a beneficial impact on the immediate and surrounding area from both an aesthetic and functional standpoint.
- Provide needed neighborhood connection to Downtown and Chinatown, and establish a new residential neighborhood.
- The uses and density proposed as part of the Project (retail and residential) are consistent with the City's new Harrison Avenue-Albany Street Corridor zoning.
- No physical changes are proposed to the Webb Co. building (an individually inventoried building located to the east of the Herald Traveler building on the same block, but outside of the Project Site boundaries) as part of the Project.

■

Greenhouse Gas Emissions

Key findings and benefits related to GHG emissions include:

- The Project will meet the MA Stretch Energy Code requirement of 20 percent energy reduction savings where some of this energy savings can be accounted for in the stationary source energy output.
- The incorporation of sustainable design principles will result in a reduction in Project-related GHG stationary source CO_2 emissions (by 16 percent) and mobile source CO_2 emissions (by 3.4 percent).
- The GHG emissions assessment demonstrates that the Project meets the intent and requirements of the MEPA GHG Policy because it estimates potential Project-related GHG emissions and evaluates and incorporates measures to reduce the GHG emissions to the extent practical and feasible.

Joint 'Expanded' PNF/EENF Contents

Each chapter of this PNF/EENF begins with a bulleted list of key findings and benefits followed by a discussion of the technical analyses which assess the Project's potential impacts, in accordance with the Article 80 Large Project Review requirements and MEPA regulations (301 CMR 11.00). This expanded PNF/EENF examines issues, such as urban and architectural design, sustainable and green building design, transportation, environmental impact categories, including air quality and noise, infrastructure systems, and historic resources.

Chapter 1: Project Description and Alternatives provides a detailed description of the Project (narrative and graphic form) and previous alternatives considered, and a discussion of consistency of the Project with local, regional, and state land use plans and polices.

Chapter 2: Urban Design presents the planning and design goals, describes the neighborhood context and public realm, describes the visual aesthetics and architectural design of the Project, including height and massing of the structures, and describes the proposed ground level treatment, including pedestrian amenities and landscaping.

Chapter 3: Transportation presents the traffic impact and access study for the Project, including proposed traffic-related improvements and construction traffic management measures.

Chapter4: Environmental Protection presents findings from the environmental studies that assess the potential Project impacts and the proposed feasible measures intended to mitigate, limit, or minimize Project impacts.

Chapter 5: Infrastructure Systems describes the anticipated water consumption and sewage generation, and proposed utilities, including stormwater management facilities required for the Project.

Chapter 6: Historic Resources identifies any historic properties /districts within close proximity of the Site, and describes any effects to these properties and proposed mitigation as a result of the Project.

Chapter 7: Greenhouse Gas Emissions Assessment presents the results of the greenhouse gas (GHG) emissions assessment prepared in accordance with the *MEPA Greenhouse Gas Emissions Policy and Protocol*.[2]

Chapter 8: Proposed Mitigation and Draft Section 61 Findings presents a consolidated overview of the mitigation and other beneficial measures proposed in order to minimize potential environmental impacts from the Project, as required by 301 CMR 11.07(6)(j) of the MEPA regulations.

Chapter 9: Project Certification confirms that the joint expanded PNF/EENF has been submitted to the Boston Redevelopment Authority, as required by Article 80 of the Zoning Code, on the 3rd of February 2012.

Supporting appendices include:

- Appendix A MEPA Distribution List
- Appendix B Letter of Intent
- Appendix C Environmental Notification Form
- Appendix D Transportation Supporting Documentation
- Appendix E Air Quality Supporting Documentation
- Appendix F Noise Analysis Supporting Documentation
- Appendix G Greenhouse Gas Assessment Supporting Documentation

[2] *MEPA Greenhouse Gas Policy and Protocol*, Executive Office of Energy and Environmental Affairs, effective November 1, 2007 (revised version effective May 5, 2010).

300 Harrison Avenue

Boston, MA

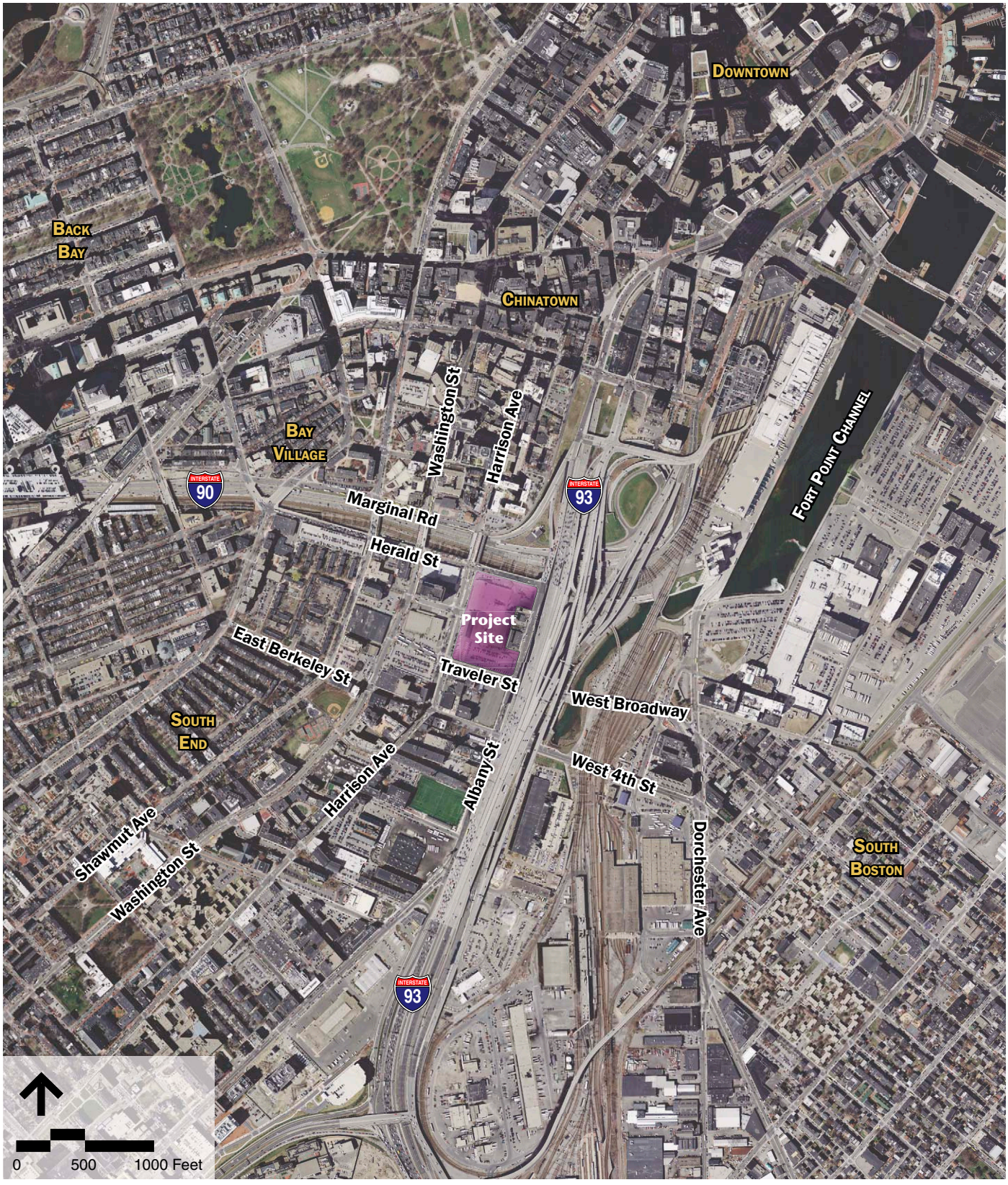
Figure S.1

Site Location Map

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: MassGIS USGS Imagery



300 Harrison Avenue

Boston, MA

Figure S.2

Project Area Context

Vanasse Hangen Brustlin, Inc.

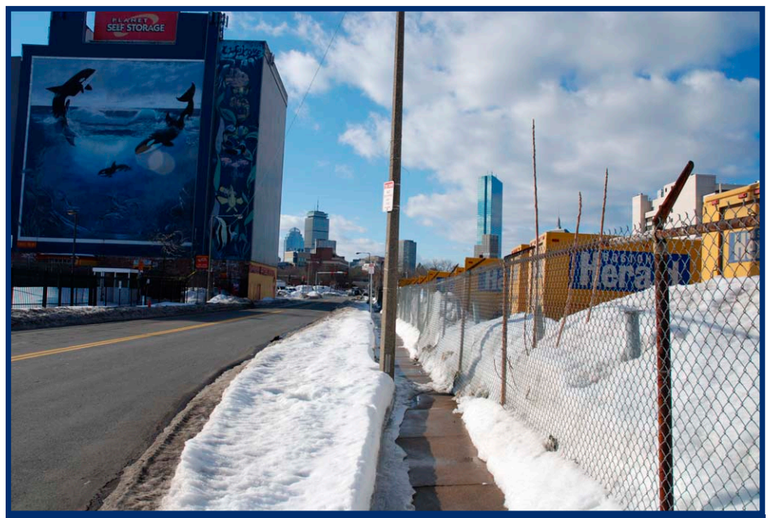
NATIONAL DEVELOPMENT

Source: MassGIS 15cm Aerial Imagery

South Facade facing East

On-Site facing Northwest

On-Site facing South



Northwest corridor of Albany and Traveler Streets facing West

On-Site facing Northeast

On-Site facing Southeast

300 Harrison Avenue
Boston, MA

Figure S.3

Existing Site Photographs

VHB Vanasse Hangen Brustlin, Inc.

ND NATIONAL DEVELOPMENT

1

Project Description and Alternatives

Introduction

This chapter provides an overview of the existing site conditions and describes the Project—redevelopment of the former Herald property at 300 Harrison Avenue in the South End neighborhood of Boston, Massachusetts. This chapter also describes how the Project is consistent with applicable plans and policies, including the recently adopted Harrison-Albany Corridor zoning changes and the Strategic Plan commissioned by Mayor Thomas Menino and the BRA.

Existing Site Conditions

The approximately 6.22-acre Project Site is located at 300 Harrison Avenue in the South End neighborhood of Boston, Massachusetts (Figure S.1). The Project Site lies at the northeastern edge of the South End Neighborhood bordering both the Chinatown and South Boston neighborhoods, and is bounded by Herald Street to the north, Albany Street to the east, Traveler Street to the south and Harrison Avenue to the west. The Massachusetts Turnpike, Interstate-90 (I-90), runs east-west just north of Herald Street, and directly to the east of Albany Street lies the elevated (approximately 30 feet) Southeast Expressway (Interstate-93/Route 3, or I-93), which runs north-south (Figure S.2). In general, the area surrounding the Project Site is industrial in nature with mostly one- to two-story light manufacturing (storage and warehousing) land uses with surface parking. However, more recent redevelopment of surrounding properties, such as 1000 Washington Street office building with structured parking has resulted in varying and inconsistent building sizes/heights. Refer to Chapter 2, *Urban Design* for a more detailed description on neighborhood context. The property adjacent to the Project Site along Albany Street (located within the same block) consists of three buildings occupied by F.W. Webb Plumbing Supply, I.O.T.A. Independent Taxi, and the Transit Insurance Agency.

Figure 1.1 shows the existing conditions site plan. Existing building improvements consist of an approximately 111,000-square foot, two-story office and industrial building with approximately 100 below-grade parking spaces. The Herald Media newspaper company currently leases a portion of the building, but plans to vacate the building by January 31, 2012. The first story of the building is used as warehousing and distribution operations, and the upper level includes office space, and an employee gym and cafeteria for the

Herald Media editorial and human resources staff. The building was also used for newspaper printing operations until the last quarter of 2008. The existing site is improved with approximately 274 surface parking spaces and 15 trailer spaces. Currently, a total of 400 employees work at the Project Site daily (half during a daytime shift, or 9AM to 5PM, and half during a nighttime shift, or 5PM to 3AM). When the building housed newspaper printing operations a total of 600 employees were employed onsite. The availability of employee parking, nighttime shifts, and distribution operations the Project Site generated and continues to generate a high number of single-occupancy vehicle trips by employees and a high number of delivery truck trips (during off-peak hours).

The Project Site is currently well served by infrastructure, some of which was recently upgraded, and is in close proximity to public transit (MBTA Silver Line, the Red Line Broadway Station, and multiple bus routes – refer to Chapter 3, *Transportation*).

As discussed in the *General Information and Project Summary* chapter, the entire Site is located within a designated Economic Development Area of the South End Neighborhood District, or the South End/EDA (refer to the 'Regulatory Controls and Anticipated Approvals/Permits' section below for further details on existing zoning).

Project Description

The Proponent proposes construction of three new residential buildings and the adaptive re-use of the existing Boston Herald industrial building for retail, residential, and structured parking. The vibrant approximately 548,900-square foot mixed-use project will enhance the surrounding neighborhood by creating new residential and retail activity, and by providing public realm improvements. The Project entails selective demolition of the existing two-story structure. The Project will preserve and re-use the existing pilings, foundation, below grade parking, first floor slab, and majority of the existing site infrastructure. The Project, as illustrated in Figure 1.2, will be divided into four architectural elements:

- Building 1: A nine-story residential building with a residential lobby and amenities on the ground floor facing Herald Street;
- Building 2: A four-story residential building over retail, including a grocery store facing Harrison Avenue (totaling five stories);
- Building 3: An eight-story residential building over neighborhood retail facing Harrison Avenue; and
- Building 4: An eight-story residential building over neighborhood retail facing Traveler Street.

The maximum height is 100 feet (in compliance with the current rezoning recommendations of the Strategic Plan, which allows structures up to 100 feet).

The retail component totals approximately 85,000 square feet suitable for retail/grocery and neighborhood retail uses, including potential restaurant space. The approximately 463,900-square foot residential component includes a total of 471 rental units total, including loft, one-, two-, and three-bedroom units as well as resident amenities and property management office space. The residences will have exclusive access to a fitness center, outdoor pool, club room and media room. The Project will provide a total of 411 parking spaces, including 67 surface parking spaces (reconfigured existing surface parking) to serve retail customers

and employees. The existing below-grade parking will be reconfigured to provide a total of 234 spaces for use by residential tenants and their visitors as well as property management staff and/or retail store employees. A new parking deck will be added to provide an additional approximately 110 spaces to serve retail customers and employees. Table 1-1 summarizes the proposed development program.

Table 1-1
Proposed Development Program

Land Use	Size (approximate)
Residential[1]	471 units/ 463,900 SF
Retail /Grocery Store	30,000 SF
Retail[2]	55,000 SF
Total	548,900 SF
Surface Parking Spaces[3]	67
Garage Parking[4]	234
Parking Deck Spaces[3]	110
Total	411

SF Square Feet
1 Includes residential amenities, such as fitness center, pool, club room, private theatre as well as management and leasing office space. Fifteen percent of market rate units will be affordable.
2 Approximately 5,000 square feet of restaurant space is assumed as part of the retail component.
3 Surface parking and new structured parking spaces for retail customers and employees (a parking ratio of 2.1 spaces per 1,000 square feet). Three loading bays will be provided for deliveries.
4 The existing below-grade parking spaces will be reserved for residents (a parking ratio of 0.5 spaces per unit).

Because the Project Site is supported by adequate infrastructure, most of which has been recently upgraded, the Project requires minimal infrastructure improvements. Furthermore, the customers, employees, and residents will be able to take advantage of the various public transit connections accessible from the Project Site (the MBTA Silver Line and bus routes). Project-related benefits include job creation, urban design improvements, housing opportunities, expanded retail options, and additional tax revenues. By replacing an underutilized industrial building, the Project will substantially contribute to improving the pedestrian and retail vitality, as well as the urban design and architectural character of the area. Refer to Figures 1.3a through 1.3c for renderings of the Project. Specific public benefits are listed in the *General Information and Project Summary* chapter.

■

Project Phasing, Schedule, and Cost

Construction of the Project will be sequenced. Demolition is anticipated to begin in July 2012 followed by construction of Buildings 1, 2, and 3. Depending upon market conditions the project may be sequenced such that the construction of Building 4 commences after completion and occupancy of Buildings 1, 2, and 3. For analysis purposes, all four buildings are assumed to be constructed and in operation by 2016. The building core and shell, and retail spaces are anticipated to be complete in advance of the residential apartment finishes. The Proponent will submit the Project's financial information under separate cover to the BRA, if requested.

Project Alternatives

In accordance with 301 CMR 11.07(6)(f) of the MEPA regulations, this section describes the evolution of the Project by describing the previous alternatives considered and analyzing all feasible alternatives, including the future no-build alternative as a baseline against which to compare the proposed build condition.

Preliminary redevelopment options considered as part of the site planning and programming process included retail- and office-only programs, and a mixed-use development program allowed Byright under zoning (before the area was rezoned as part of the BRA's planning initiative for the project area – the Harrison-Albany Corridor Strategic Plan). To be consistent with the goals and objectives of the Strategic Plan as developed by the BRA and community, the Proponent evaluated ways to increase density at the site as allowed by the recently adopted zoning changes. The revised zoning provided for greater allowable density with 30-foot increases to building height limits and additional FAR. In developing this alternative (referred to herein as the "Preferred Alternative"), aspects such as re-use of existing buildings and marketability of the reused buildings were considered in various conceptual designs. As discussed in greater detail in subsequent chapters of this document, the Proponent's commitments to mitigate Project-related impacts and redevelop the Site, in concert with sustainable design/development principles, result in a redevelopment plan that achieves both the goals of the Proponent and the community.

■

Alternatives Development - Project Goals and Objectives

Based on the community's goals/objectives, on regulatory constraints, such as zoning, existing site conditions analysis, and construction cost considerations of the following Project goals and objectives were identified to guide redevelopment of the Project Site.

Balance Market Demand and Community Needs and Vision

- Revitalize the area with more active/lively uses.
- Meet the local community's needs and desires through an urban/dense mix of uses.
- Develop a feasible and viable redevelopment project for the near-term while considering and planning for future redevelopment over the long-term.
- Meet retail and housing market demands.

Minimize Environmental Impacts

- Reduce environmental and community impacts, specifically those related to noise, air, light, visibility, water use/wastewater generation, and stormwater runoff/recharge.
- Incorporate an attractive design for all facades, particularly those adjacent to nearby neighborhoods, both architecturally and through enhanced streetscape.
- Incorporate sustainable concepts in all aspects of planning, design, construction and operation.
- Limit site/soil disturbance.
- Aim to reuse/retain surface parking and reduce re-grading.

- Maintain site access.

Constructability / Affordability

- Partial reuse of the existing building structure and underground parking.
- Create uses that maximize reuse of existing and adequate infrastructure, including public transit.
- Construct the Project in a sequences; thereby, reducing the construction duration, construction costs, and impacts to the community.

Reuse of the Existing Building

In addition to the a No-Build Alternative, the Proponent considered a number of concept plans retaining the existing brick building by using a mix of anchor retail tenants and a variety of smaller retail tenants. However, the composition of the building's floor space, and renovations required to make the space marketable to prospective tenants made reuse of the building impractical as this building was constructed for a specific purpose – newspaper publishing. The building configuration, bay spacing, and ceiling heights were determined to be incompatible with other uses for buildings of this size and design.

■

No-Build Alternative

The No-Build Alternative would leave in place the existing conditions at the Project Site. The Project Site would remain a previously developed/disturbed and underutilized light industrial development. The No-Build Alternative does not meet the Proponent's redevelopment objectives and is inconsistent with the City's economic and redevelopment goals for the area.

Although the No-Build Alternative would not result in any new environmental and community impacts, it would eliminate the Project's ability to provide community benefits and improve the environmental condition of the Project Site, particularly with respect to the creation of new, active '18-hour' uses, and stormwater management and improved water quality. For example, runoff from the existing areas of paved surfaces will remain untreated prior to discharge off-site, or to the Harbor.

In evaluating the redevelopment of the Project Site, the Proponent examined which use would most benefit the neighborhood, with respect to new housing, creating jobs, tax revenue, and the ability to adequately and cost-effectively mitigate for potential impacts. Assuming another manufacturing use for the Site could be identified (difficult given market conditions and high land value), large vehicles for delivery of raw materials and distribution of manufactured goods would continue to access the Project Site and local roadways. In comparison, more vehicle trips per day are anticipated with a retail use, but these vehicles will be smaller, passenger type vehicles, as opposed to the larger/louder truck traffic currently experienced at the Site. Furthermore, depending on the type and intensity of a light industrial/manufacturing use, impacts on water consumption and sewage generation could be higher than a retail use or typical residential use. Depending on the type of light industrial/manufacturing use, it could offer some new jobs to the local neighborhood, but this number could be smaller in comparison to the number of jobs expected to be created by a retail–based redevelopment, and it wouldn't realize new residential housing, including affordable housing. In addition, the tax revenue generated by an industrial/manufacturing redevelopment would be less than the revenue

generated by the retail and residential development. All such revenues would provide essential funds to the City, and help to improve conditions and quality of life City-wide. In summary, an industrial/manufacturing use would not be the highest and best reuse of the Site for the neighborhood and the City.

While the No-Build Alternative is not considered a viable option for the Site for the reasons described above, it is used to establish the existing and future No-Build baseline conditions for the technical analyses of this report.

■

Preliminary Project Alternatives

The following section provides a description of the preliminary redevelopment alternatives that were considered early in the site planning and programming process.

Big Box Retail Concept

The Big Box Retail redevelopment concept generally included reuse of the existing building base and underground parking to support a single, big box retail store (approximately 132,000 square feet) with a smaller 3,300-squre foot retail use on Harrison Avenue. A total of 376 parking spaces (245 below-ground spaces and 131 surface spaces) would be provided under this concept. This concept did not meet the highest and best use of the site nor did not meet the community's vision and, therefore, it was dismissed.

Federal Office Building Concept

The Federal Office Building redevelopment concept included a nine-story, approximately 275,000-square foot office building with 230 secured parking spaces (in a three-level garage) and ten surface parking spaces for visitors. Because of security requirements, the office building would be set back away from the street edge with a perimeter security fence and secured gate entry/exit. While a small public pocket park was included as part of the Project, the use and site design is not consistent with the City's vision for the area as the Site would have been uninviting and closed off from the community due to security. Therefore, it was dismissed from further consideration.

■

Alternative 1 - Single Phase Mixed-Use Project

This alternative (referred to herein as "Alternative 1") consisted of adaptive reuse and selective demolition of the of the 2-story existing Boston Herald industrial building. Alternative 1 proposed to preserve and reuse the existing pilings, foundation, below-grade parking, first floor slab and certain site infrastructure. Five stories of new structure would be constructed on top of the preserved existing building for a total height of 65 feet (in compliance with the zoning preceding the current rezoning recommendations, which allows structures up to 70 feet).

Alternative 1, an approximately 326,000-square foot mixed-use program, consisted of ground-floor retail and/or restaurant space with residential on the upper floors. The retail component included up to

approximately 50,000 square feet suitable for retail or grocery uses and up to four local retail stores totaling approximately 13,500 square feet. The approximately 263,400-square foot residential component included four to five stories of rental apartments (262 rental units total, including loft, one-, and two-bedroom units) with resident amenities and property management office space on the first floor. Alternative 1 would provide a total of 452 parking spaces, including 216 surface parking spaces (reconfigured existing surface parking) to serve retail customers and employees. The existing below-grade parking will be reconfigured to provide a total of 236 spaces for use by residential tenants and their visitors as well as property management staff and/or retail store employees. Because the Project Site is supported by adequate infrastructure, most of which has been recently upgraded, Alternative 1 would require minimal infrastructure improvements. Figure 1.4 illustrates the proposed site plan for Alternative 1.

■

Preferred Alternative

The Preferred Alternative (or the Project) includes a mixed-use redevelopment with greater densities than Alternative 1 allowable based on the rezoning recommendations developed by the City of Boston as part of the BRA's Strategic Plan at the time of the planning and programming for the Project. The zoning changes were approved on January 18, 2012. The evolution of the Project is a result of community input and the BRA's planning initiative for the area. The Project aims to provide a vibrant mixed-use development that will enhance the surrounding neighborhood by creating new residential and retail activity, and provide public realm improvements.

As previously described, the Preferred Alternative includes adaptive re-use of the existing industrial building and construction of three new buildings for a total of approximately 548,900 square feet of mixed-use program, including ground-floor retail and residential uses on the upper floors. Refer to Table 1-1 and Figure 1.2 for the Preferred Alternative development program and proposed site plan, respectively. Because the Project Site is supported by adequate infrastructure, most of which has been recently upgraded, the Preferred Alternative would require minimal infrastructure improvements.

■

Comparison of Alternatives

The sections below compare the potential environmental impacts of the Project alternatives. Table 1-2 below provides a quantitative impact analysis comparing the No-Build Alternative, Alternative 1, and Preferred Alternative.

Table 1-2
Comparison of Project Alternatives

Impact Category	No-Build Alternative	Alternative 1	Preferred Alternative
Land			
Total Impervious Surface Area (building footprint and paved area)	±5.73 acres	±4.55 acres	±5.46 acres
Change from Existing	NA	(±1.18 acres)	(±0.27 acres)
New Land Alteration	NA	- 0 -	- 0 -
Water & Wastewater			
Water Use (GPD)	±19,331 GPD	±44,333 GPD	±81,701 GPD[1]
Wastewater Generation (GPD)	±17,574 GPD	±40,303 GPD	±74,274 GPD[1]
Traffic			
Total Vehicle Trips per Day			
Adjusted	1,494	3,446	4,486
Unadjusted	1,494	4,268	5,414
Parking			
Total Parking Supply	389	452	411
Number of Surface Parking Spaces	289	216	67
Number of Garage Parking Spaces	100	236	344
Greenhouse Gas Emissions			
Stationary Source CO2 emissions	1,864[2]	1,129 (15.4%)	1,567 (16%)
Mobile Source CO2 emissions tons per year (percent reduction)	15,920	16,386 (4.1%)	16,547 (3.4%)

GPD gallons per day
1 Assumes 5,000-square feet of restaurant space as part of the retail component.
2 Represents the future build condition assuming typical construction materials and building equipment/systems that meet the minimum requirements of the MA Building Code (8th Edition), or the base code, in accordance with the *MEPA Greenhouse Gas Emissions Policy and Protocol*.

Land

Both build alternatives would result in a reduction of impervious area (pavement) as the Project Site is currently fully developed with paved areas and/or buildings. Alternative 1 would result in a greater reduction of impervious area because it would include more landscaped area within the surface parking areas compared to the No-Build and Preferred Alternative. Consistent with the vision and goals of the community, the Preferred Alternative aim to more fully build out the Project Site compared to Alternative 1, which results in more impervious area in the form of buildings.

Water and Wastewater

Both build alternatives would result in an increase in overall water demand and wastewater generation compared to the No-Build Alternative. Due to a larger, more intense development program, the Preferred

Alternative would require more potable water and is expected to generate more sanitary sewer compared to Alternative 1.

Traffic & Parking

The Preferred Alternative is projected to result in more vehicle trips per day than the No-Build Alternative and Alternative 1 due to the size and nature of the proposed uses and the increased density. Future traffic under both build alternatives would consist of passenger vehicles where the No-Build Alternative would result in higher truck trips and, therefore, air quality impacts and noise pollution in the vicinity of the Project Site.

Parking needs for both build alternatives can be accommodated on-site where the Preferred Alternative more efficiently accommodates parking assuming shared parking. The Preferred Alternative provides for reduced surface parking compared to Alternative 1 through the use of a new parking deck and due to the increase in building area, which is consistent with the community's vision.

Greenhouse Gas Emissions

Based on the preliminary design assumptions, Alternative 1 would result in less CO2 emissions overall (stationary and mobile source emissions) compared to the Preferred Alternative due to a smaller, less dense development program. Both build alternatives would be required to comply with the MA Stretch Energy Code requirements, which includes a 20 percent reduction in overall energy use resulting in reduced stationary source CO2 emissions. Additionally, from a traffic perspective, both build alternatives would benefit from the existing public transportation and shared trips to/from the Site (refer to Chapter 3, *Transportation* for more information) resulting in mobile source CO2 emissions benefits.

■

Conclusion

Affordability and constructability as well as the market demand for specific uses and community goals and objectives were key considerations for the Project. The preliminary alternative concepts (office- and retail-only) were ultimately eliminated from further, detailed analysis due to lack of market depth, cost, operations, and community impacts.

The Preferred Alternative has been designed to comply with the current rezoning recommendations and to provide uses that complement the community's current vision for the South End neighborhood. The Project will support the economic development and sustainable goals of the City of Boston and the Commonwealth, while mitigating potential environmental impacts, to the extent feasible. Analysis of the Preferred Alternative, including its existing site characteristics, development costs, and mitigation requirements, did not identify a practical alternative that would significantly reduce the environmental impacts of the development over the Preferred Alternative. Consequently, the No-Build Alternative baseline and Preferred Build options are carried forward for further analysis in this document.

The Preferred Alternative is the highest and best use of the Project Site given current market demand, constructability, financability, and return on investment. The adaptive reuse of the exiting building benefits the environment in reduced demolition into the waste stream and incorporates substantial green building and sustainable features aimed at reducing environmental impact of the Project.

Consistency with Applicable Plans and Policies

This section describes how the Project is consistent with local (City of Boston), regional, and state land use plans and policies.

City of Boston

Harrison-Albany Street Corridor Strategic Plan

In April 2009, the BRA began a planning study of the Harrison-Albany Corridor Strategic Plan Initiative (the "Strategic Plan"). The desired outcome of the planning study will be a strategic plan to guide future development within the Study Area so that the area maintains its diversity of land uses. In early 2009, Mayor Menino appointed an Advisory Group (AG) to assist in the development of a strategic plan for the Study Area. To date, the AG has identified the economic conditions, business needs and residential concerns in the corridor, and has analyzed the current land use, urban design, transportation and infrastructure in order to assess development scenarios and development potential in the Study Area. Upon completion of its planning review, the AG set forth a strategic plan wherein recommendations for new zoning were outlined. The completion and adoption of the Strategic Plan was achieved in November 2011. The new zoning to reflected in the Strategic Plan was approved on January 18, 2012.

The Proponent has met extensively with the BRA Planning Staff and the AG to present the Project and solicit their comments regarding the Project. The Project is located in the New York Street subarea of the Harrison/Albany Study Area and, therefore, it aims to address the development goals articulated by the AG for this subarea. Specifically, the Project will increase the density of development at the site and introduce new "18-hour" residential and active ground floor retail uses to this subarea and the planned public realm improvements incorporate the planning objectives for green corridors and place-making opportunities. Sidewalks will provide for pedestrian zones, street trees and landscape furniture zones to comply with the open space network. Traveler Street has been designated as a primary green corridor with connections to the Harbor Trail and other existing open space. The Proponent will substantially increase the width of the sidewalk along Traveler Street in furtherance of these goals. The Project will be LEED certified with the goal of achieving a Silver rating and provide for ZipCar®, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking.

Open Space Plan 2008-2012

The existing site is nearly 100 percent impervious and offers little in the way of open space amenities. The Project will increase public open space by the addition of landscaping on-site and the creation of a new pedestrian node/small public urban stair case with public seating and potential outdoor dining on Harrison Avenue across from William E. Mullins Way, which replaces the existing truck dock and truck court and will create liveliness along Harrison Avenue as an extension of the South End neighborhood. This node will be the pedestrian entryway to the retail spaces. This landscaped and hardscaped outdoor site amenity aims to invite outdoor use by residents and the public. The Project also includes both indoor and outdoor recreational spaces for residents and their guests. The Project will also provide public realm improvements, including street trees along Traveler Street creating pedestrian-friendly connections to the existing open space network and access to the nearby Harbor Trail beyond the intersection of Albany Street and Traveler Street. The Project will include a minimum of 50 square feet of usable open space per dwelling unit.

Climate Action Plan

On Earth Day, April 22, 2011, Mayor Thomas M. Menino released *A Climate of Progress* –the City's updated Climate Action Plan.[1] This Plan encompasses the April 2010 consensus report *Sparking Boston's Climate Revolution: Recommendations of Boston's Climate Action Leadership Committee and Community Advisory Committee*[2] and is to be used in tandem with *Sparking the Climate Revolution* by including a set of wide-ranging recommendations aimed at significantly reducing greenhouse gas (GHG) emissions and preparing for the risks of climate change in Boston. The five overarching recommendations of the Climate Action Leadership Committee are:

1. Reduce Boston's GHG emissions 25 percent by 2020;
2. Immediately start incorporating projected effects of climate change — particularly sea-level rise, heat waves, and more intense storms — in all planning and review for municipal and private projects;
3. Develop a comprehensive public engagement effort, including a public commission and strong partnerships with community organizations;
4. Use climate action opportunities to advance Boston's green economy and jobs goals; and
5. Ensure that climate action has clear public and private leadership and sufficient public and private resources.

Achieving these goals for reducing the effects of climate change, cultivating a city of green buildings, and advancing sustainability in multiple realms intend to drive economic development and innovation.

The Project location is beneficial as it relates to the reduction of energy (i.e., fossil fuels) and associated GHG emissions related to transportation due to its proximity to public transportation. Additionally, the proposed pedestrian and bicycle improvements on- and off-site (including secure bicycle storage), and the proposed

1 City of Boston, *A Climate of Progress: City of Boston Climate Action Plan Update*, April 2011. Website: http://www.cityofboston.gov/Images_Documents/A%20Climate%20of%20Progress%20-%20CAP%20Update%202011_tcm3-25020.pdf

2 City of Boston, *Sparking Boston's Climate Revolution Recommendations of the Climate Action Leadership Committee and Community Advisory Committee*, April 2010. Website: http://www.cityofboston.gov/Images_Documents/BCA_full_rprt_r5_tcm3-19558.pdf

"mobility hub" (including ZipCar®, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking) all of which will encourage alternative modes of transportation to/from the Site and contribute to reduced GHG emissions associated with gasoline compared to a conventional development (dependant on single-occupancy vehicle).

The Project building design incorporates energy efficiency and conservation measures into the building design and future operations. These are key project-related benefits that are anticipated to result in reduced GHG emissions assisting the City of Boston in achieving its goal of reducing overall GHG emission by 25 percent by 2020. The Project includes a mix of uses located in proximity to a major regional employment center that is Downtown Boston. Furthermore, the Site is accessible by a variety of mass transit alternatives (see Figure 3.12). Downtown workers will have new opportunities to live within walking distance of their work; thereby, reducing automobile dependence. Unlike many major retail developments in the region, which are essentially completely automobile dependent, the retail component of the Project will create a new transit-accessible shopping destination serving the South End and surrounding neighborhoods as well as the rest of the city. As discussed in Chapter 3, *Transportation*, the vast majority of residents and their guests, and retail employees and customers are expected to use alternative means of transportation to the Project.
In 2010, the City of Boston was designated a Green Community under the Green Communities Designation and Grant Program, an initiative of the Department of Energy Resources (DOER). In order to be designated a Green Community and, therefore, eligible for grant money available annually, communities are required to meet five rigorous qualification criteria one of which includes minimizing life-cycle costs, such as adopt and implement the Stretch Energy Code.[3] The goal of the grant program is for a municipality to use grant money to assist residents, businesses, and the municipality departments/facilities reduce energy use or install renewable energy systems. Therefore, the project design team has run preliminary calculations to demonstrate that it is possible that the building will perform approximately 21 percent better than the Massachusetts Energy Code minimum requirements in order to comply with the Stretch Energy Code requirements. (This building energy performance goal will be investigated further as building systems are evaluated and selected through final design.) The energy efficiency performance goals of the Project are expected to result in a reduction in GHG emissions, which supports the City's Climate Action Plan goals to reduce GHG emissions. Refer to Chapter 4, *Environmental Protection* for further details on Project benefits related to sustainable design and energy conservation.

■

Metropolitan Area Planning Council Planning

MetroFuture

The City of Boston is located within the Metropolitan Area Planning Council (MAPC) planning area. In May 2008, the MAPC issued its *MetroFuture: Making a Greater Boston Region*.[4] MetroFuture is MAPC's plan for

▼

3 Effective January 1, 2011, the City of Boston adopted the Stretch Energy Code (8th Edition Building Code, Appendix 115.AA); there is a concurrency period through June 30, 2011. Its adoption brings to Boston a standard that will require new commercial buildings over 5,000 square feet in size, including multi-family residential buildings over three stories, to operate at an energy efficiency level 20% better than that required under the base energy code criterion, ASHRAE 90.1-2007.

4 *MetroFuture: Making a Greater Boston Region*, Massachusetts Area Planning Council, May 2008 (updated December 2008).

Greater Boston to better the lives of the people who live and work in the region through the year 2030. MetroFuture includes detailed goals for development and preservation, and specific strategies to equitably distribute the benefits and burdens of growth. A key goal of MetroFuture is to focus growth where infrastructure already exists, including public transit in order to preserve natural resources. Other goals include:

- **Sustainable Growth Patterns:** Population and job growth will be focused in developed areas already well-served by infrastructure.
- **Housing Choices:** A diverse array of housing choices will meet the needs of the region's residents.
- **Healthy Communities:** Residents will be safe, healthy, well-educated, and engaged in their community.
- **Regional Prosperity:** A globally-competitive regional economy will provide opportunity for all the region's workers.
- **Transportation Choices:** An efficient transportation system will offer more choices and make it easier to get around.
- **Healthy Environment:** Natural resources will be protected thanks to a strong "environmental ethic."

The Project accomplishes many of the smart growth principles recommended by MAPC, including:

- Redevelopment of an underutilized urban site with existing infrastructure, including public transit;
- Partial re-use of an existing building and reduced site disturbance;
- New housing opportunities in the form of four new residential buildings with different architectural styles, varying unit sizes and floor plans, and diverse (rental) and affordable housing options;
- New employment opportunities;
- Transportation Demand Management, or TDM, measures to reduce single-occupancy vehicles;
- Provide opportunity for new transportation choices, such as car and bicycle sharing; and
- Sustainable/green building features, including energy and water efficient building systems; thereby, reducing the Project's impacts on the environment.

The Project is located in a targeted growth area ('the Metropolitan Core') and helps meet many of the goals and objectives of the comprehensive MetroFuture, including focusing new development in city and town centers, near transit and infrastructure, and to preserve both environmental and financial resources that would be lost to sprawling, low density development. The Project will help meet these goals in part by developing a sustainable building and enhancing the pedestrian environment while taking advantage of nearby existing public transportation.

Commonwealth of Massachusetts

Executive Order 385 – Planning for Growth

Generally, Executive Order 385 (EO 385) aims "…to actively promote sustainable economic development practices by advocating for state activities that are supported by adequate infrastructure and that are designed in such a way so that they do not adversely impact the natural environment." The Project is consistent with EO 385 because its design aims to redevelop a previously developed urban site with existing and adequate infrastructure, including public transit; therefore, reducing environmental impacts, such as traffic, new impervious surface, and new land alteration. The Project will improve water quality through proposed modifications/upgrades to the stormwater management system. The Project aims to create a mix of activity and provides for new employment and diverse housing opportunities, including the creation of 250to 450 construction jobs in all trades and approximately 60 to 75 new transit-accessible employment opportunities (permanent part-time and full-time jobs) as well as 471 new housing units where 15 percent of the market rate housing designated as affordable all of which will support the local and state economy. Furthermore, as demonstrated in this report, the Proponent will minimize any unavoidable environmental impacts through the implementation of mitigation measures, to the extent feasible.

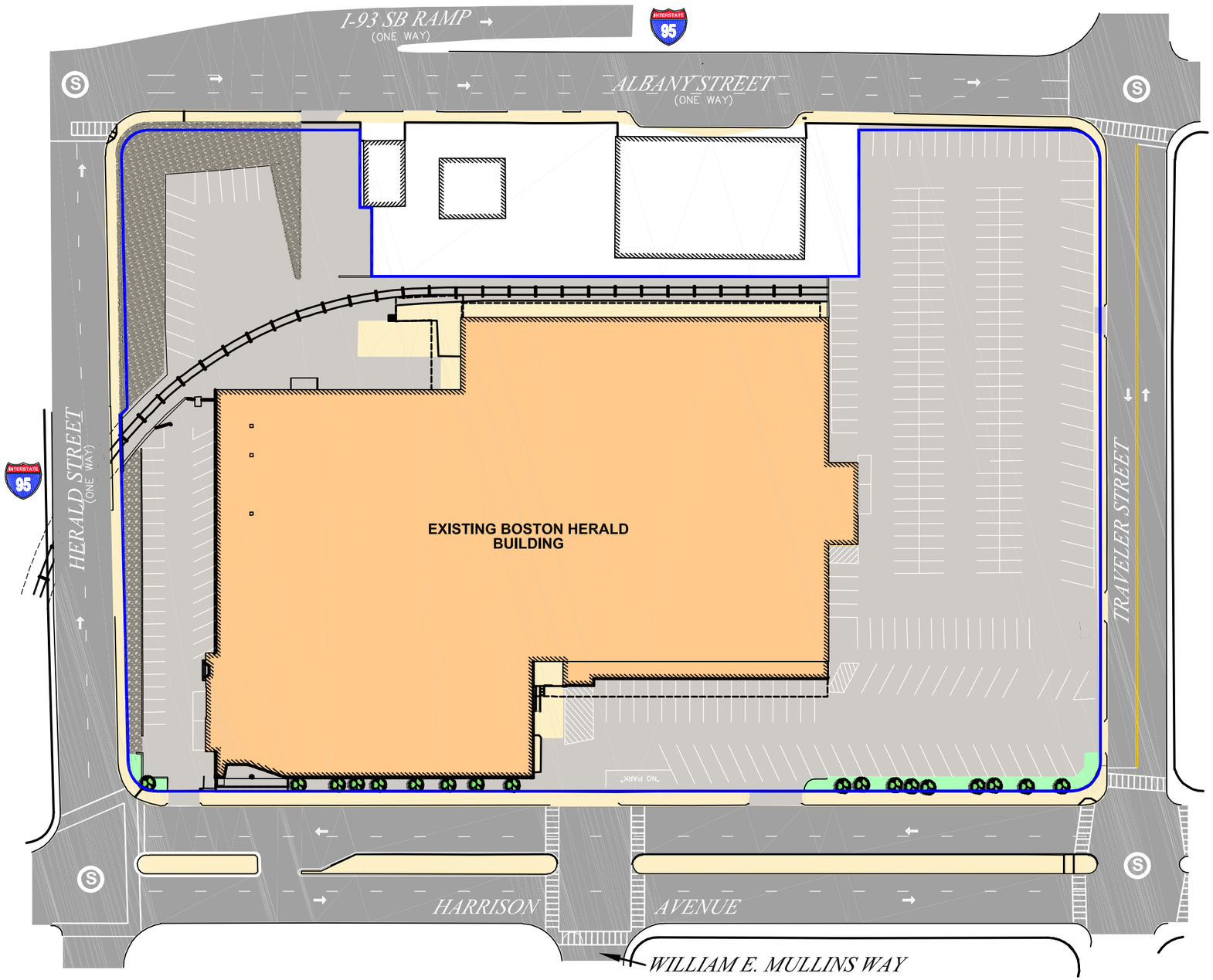
Commonwealth's Sustainable Development Principles

The Project is consistent with several of the Office of Commonwealth Development's Sustainable Development Principles.[5] The following lists the smart growth principles in which the Project is consistent with.

- **Concentrate Development and Mix Uses.** The Project best fits this principle because it consists of redevelopment of an underutilized urban site with existing/adequate infrastructure and promotes a vibrant mixed-use development that will re-use part of the existing building.
- **Advance Equity.** The Project was developed in coordination with the City and its uses aim to support and remain consistent with the City's vision for the area.
- **Make Efficient Decisions.** A key goal of the Project is to utilize the existing site to the extent practicable in order to limit site work. The Project also introduces new pedestrian-friendly and transit-accessible employment and housing opportunities; therefore, reducing traffic.
- **Protect Land and Ecosystems.** The Project addresses the principle of protecting land and ecosystems by redeveloping a previously disturbed/developed area in place of a 'greenfield' outside of the City.
- **Use Natural Resources Wisely.** The Project promotes sustainable planning and design elements, including energy and water efficient building systems and operations, reduced construction and operational waste, and environmentally-preferable materials.

[5] Commonwealth of Massachusetts Sustainable Development Principles (website link: http://www.mass.gov/Agov3/docs/smart_growth/patrick-principles.pdf)

- **Expand Housing Opportunities.** The Project will expand housing opportunities, including affordable housing units.
- **Provide Transportation Choice.** The Project promotes transit-oriented development with both rapid transit and bus stops in close proximity to the Project Site. In addition, transportation choices will be expanded for residents and visitors pedestrian and bicycle access and circulation will be enhanced as part of the Project, including the opportunity for a new public bicycle share station on-site to support the City's "mobility hub" initiative.
- **Increase Job and Business Opportunities.** The Project provides for new employment opportunities (construction jobs in all trades and approximately new transit-accessible permanent part-time and full-time jobs) and may be a catalyst for additional redevelopment in the project area the future.
- **Promote Clean Energy.** The Project will be at minimum 21 percent energy efficient in order to meet both the City of Boston Zoning Ordinance Article 37 – Green Buildings LEED "certifiable" requirement and the Stretch Energy Code and, therefore, would reduce Greenhouse Gas (GHG) emissions through energy efficient building systems and operations when compared to conventional building design. The building will be constructed 'solar ready,' which would not preclude the Proponent from installing an array of solar panels at some point in the future. Additionally, the Proponent will work with the City to include EV charging station infrastructure to support the City's "mobility hub" initiative.
- **Plan Regionally.** The Project was developed taking into consideration regional context, access, market area, and economics and is consistent with the goals of the MAPC's MetroFuture plan for the Boston Metro region.



Project Site

Existing Signalized Intersection/Pedestrian Crossing

0 40 80 Feet

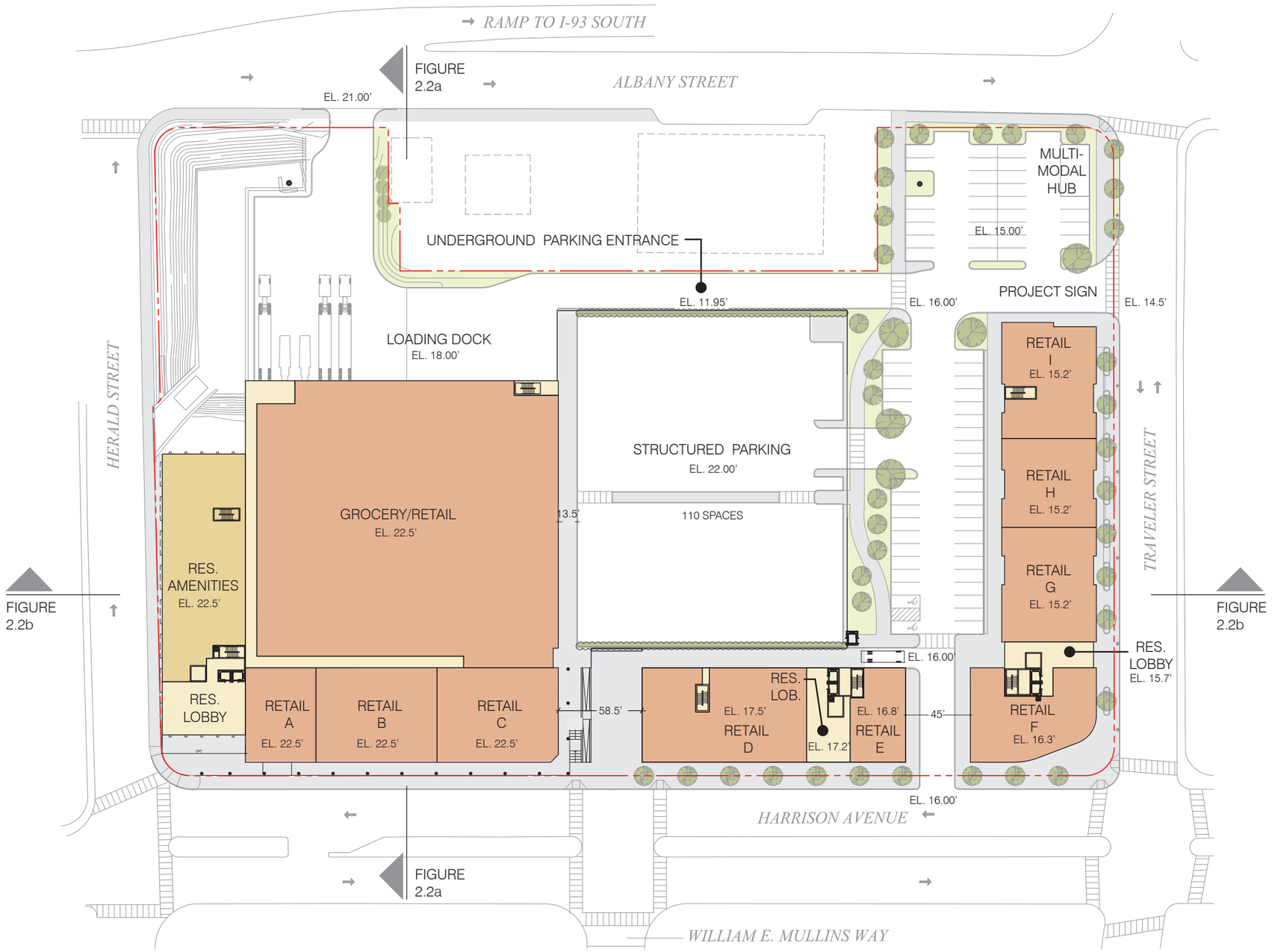
300 Harrison Avenue
Boston, MA

Figure 1.1

Existing Conditions Site Plan

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



300 Harrison Avenue

Boston, MA

Figure 1.2

Proposed Ground Level Plan

ELKUS | MANFREDI ARCHITECTS

NATIONAL DEVELOPMENT

300 Harrison Avenue
Boston, MA

Figure 1.3a

Perspective view from Herald St and Harrison Ave

ELKUS | MANFREDI ARCHITECTS

ND NATIONAL DEVELOPMENT

300 Harrison Avenue
Boston, MA

Figure 1.3b

Perspective view from Harrison Avenue

ELKUS | MANFREDI ARCHITECTS

ND NATIONAL DEVELOPMENT

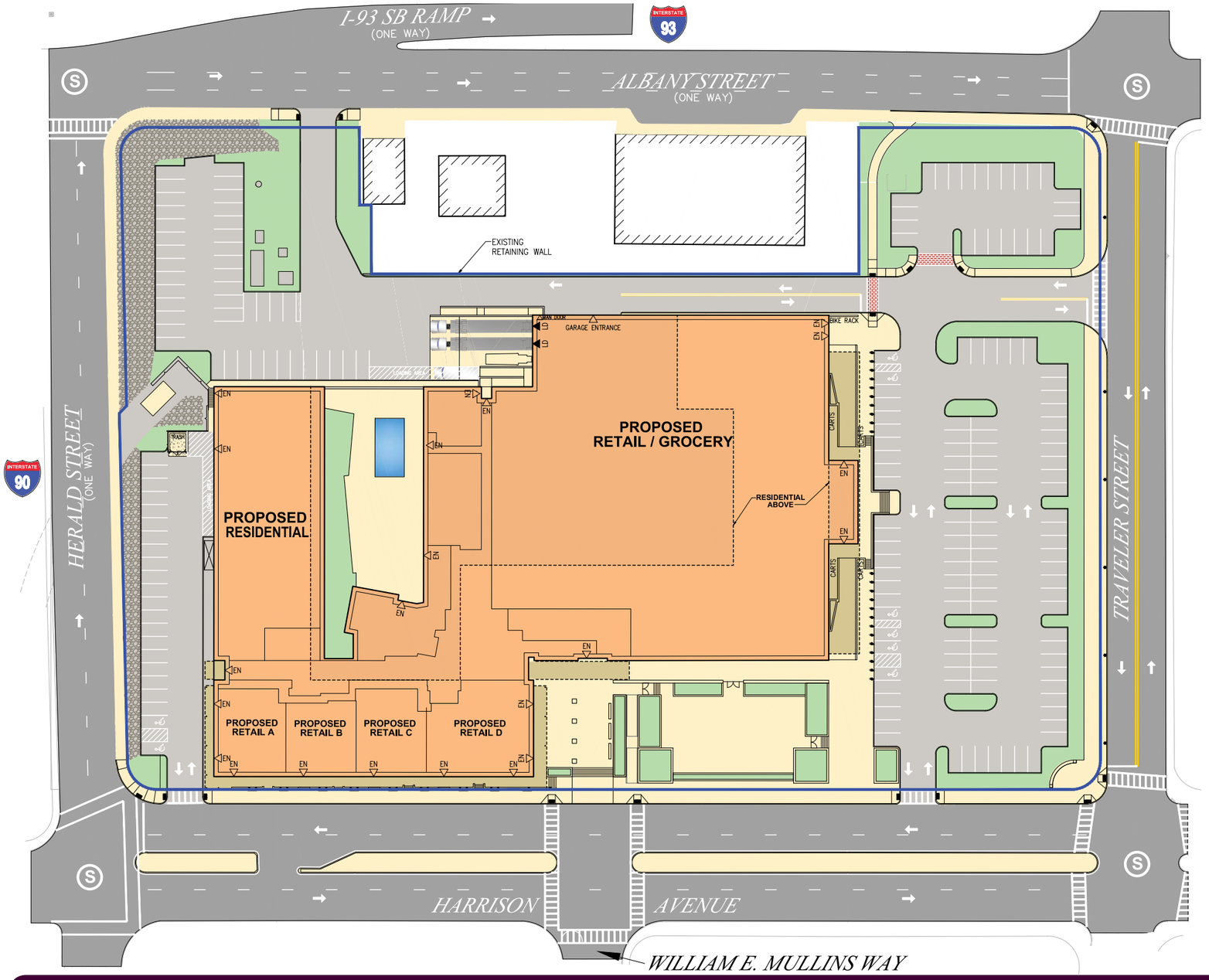
300 Harrison Avenue
Boston, MA

Figure 1.3c

Proposed Aerial view

ELKUS | MANFREDI ARCHITECTS

NATIONAL DEVELOPMENT



Project Site

Existing Signalized Intersection/Pedestrian Crossing

0 50 100 Feet

300 Harrison Avenue

Boston, MA

Figure 1.4

Alternative 1 - Single Phase Mixed-Use

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

2

Urban Design

Introduction

This chapter describes the existing urban form context of the Project Site. This chapter also discusses the planning principles and design goals for the Project, and describes the proposed conditions urban design characteristics (i.e., height and massing) and improvements, such as landscaping. Supporting graphics provided at the end of the chapter include building elevations, a building cross-section, and floor layouts as well as a landscape plan and typical landscaping and streetscape improvements. Refer to Figures 1.3a through 1.3c for project perspectives.

■

Key Findings

Key findings and benefits related to urban design include:

- The key planning principle is to create an active neighborhood through a mix of uses and public realm improvements, including a public pedestrian node at the residential building main entrance.
- Key design assumptions and goals include:
  - An allowable height of 100 feet, and increased density and FAR pursuant to the rezoning recently adopted;
  - Adaptive reuse of the existing building foundation and structures (the below-grade basement space);
  - Introduce new mixed-use development with "18 hour" commercial and residential activity;
  - Provide for diversity of scale, architectural designs, and building footprints;
  - Promote connection of new development to surrounding neighborhoods, including Downtown, Chinatown, and South Boston;
  - Develop a new neighborhood image for this gateway to the South End;
  - Create a campus of multiple buildings that are scaled in increments suitable to the existing context of the recent residential developments in the vicinity;
  - Provide for a variety of building heights to create a skyline for the Project and expand the urban design character of the South End;

- Introduce high-quality architecture that builds on the neighborhood vernacular in order to provide a transformative effect for the neighborhood;
- Enhance pedestrian circulation with thru-block pathways and improve streetscape/public realm;
- Integrate adequate service facilities for parking and loading.

Neighborhood Context

The Project Site is located at the northeast corner of the South End bordered to the north by I-90 (Massachusetts Turnpike), which runs east-west and bordered to the east by the elevated (approximately 30 feet) I-93, or Southeast Expressway which runs north-south (Figure S.1). The Chinatown and Downtown neighborhoods are located to the north of the Project Site across I-90, the Fort Point Channel and South Boston neighborhood are located to the east of the Project Site across I-93, and the South End and Back Bay neighborhoods are located immediately southwest and west, respectively (Figure S.2). The Project Site is directly bounded by Herald Street to the north, Albany Street to the east, Traveler Street to the south and Harrison Avenue to the west (Figure 1.1). As described further in Chapter 3, *Transportation*, the Project Site is well served (located within a 5-minute walk) by multiple MBTA bus lines and three MBTA subway stations (two Silver Line stations and an Orange Line station). Refer to Figure 3.12 for public transportation accessible to the Project Site.

The surrounding buildings are generally industrial in nature and consist of light manufacturing and warehousing uses. The block to the south of the Project Site fronting Traveler Street, consists of Quinzani's Bakery, Ho Kong Bean Sprout Company, and Planet Self Storage as well as a five-story brick office building and Medieval Manor restaurant (both facing East Berkley Street). The eastern end of this block consists of a surface parking lot (across from the southeastern edge of the Project Site) at 275 Albany Street, which is proposed to be developed into a new 408-room hotel with an approximately 267-seat restaurant.[1] It is expected that this hotel development will compliment the Project's local retail uses.

Directly to the west of the Project Site are two blocks separated by William E. Mullins Way. The block on the north side of William E. Mullins Way consists of the 1000 Washington Street office building and its associated two-story parking deck. Located on the block on the south side of William E. Mullins Way is a two-story brick building with a warehouse formerly used by Graybar Electric Company (345 Harrison Avenue). Refer to Figure S.3 for photographs of the Project Site and surrounding area.

Some small retail shops are located along East Berkeley Street, and at the corner of East Berkeley and Washington Street. Also, Ming's and Cmart Supermarkets as well as a number of restaurants currently exist on Washington Street within the vicinity of the Project Site.

A residential building, The Lofts Apartments, was built in the vicinity of the Project Site on the northwest corner of Harrison Avenue and East Berkeley Street within the last 10 years. Other new and renovated residential developments near the Project Site include Rollins Square, Wilkes Passage, Project Place, Laconia

[1] *275 Albany Street Project Notification Form*, submitted to the Boston Redevelopment Authority, submitted by BH Normandy 275 Albany Street, LLC, January 15, 2010.

Lofts and Dover Lofts. All of these residential developments are located along and/or within the vicinity of the Harrison Avenue and Washington Street corridors.

There are a three public parks located approximately ¼-mile from the Project Site, including Rotch Playground (soccer field) and Peter's Park in the South End, and Rolling Bridge Park which is located on the Fort Point Channel.

Planning Principles and Design Goals

The key planning principle for the Project is to transform what is currently an industrial site into a vibrant urban community that will extend and reinforce the existing mixed-use residential character of the northeast quadrant of the South End and bring 18-hour activity to the area.

The design goals for the Project focus on increased height and density, taking advantage of the newly adopted zoning affecting this area. This will be accomplished by constructing three new buildings along Herald, Harrison and Traveler Streets, developing the urban character of the area with street wall and streetscape improvements.

Another design goal is the reuse of existing site infrastructure systems and the existing building foundation in order to limit excavation and construction of additional structured parking. This sustainable design approach allows for a financially feasible development (substantial savings in demolition and excavation costs) that meets market demands and needs. The robust design of the existing caissons allows for the construction of new first floor retail stores over the existing basement parking level with four new floors of residential apartments above on half of the existing footprint, Building 2. The balance of the existing footprint will be re-purposed for structured parking.

The three new high-rise residential buildings will be positioned around the existing building footprint so that the parking structure will be screened from the street view. Building 1 will be a nine-story residential building to the north of Building 2 along Herald Street. The first floor of Building 1 will contain the residential lobby and residential amenities. Building 3 will be an eight-story residential building facing Harrison Avenue with a residential entry lobby on the ground floor along with retail spaces accessible from Harrison Avenue. Building 4 will also be an eight-story residential building facing Traveler Street with a residential entry lobby on the ground floor along with retail spaces accessible from Traveler Street and Harrison Avenue. All four buildings serve to create a strong streetwall identity on three sides of the urban block providing ground floor retail and residential entry presence and activity, as well as, screening the majority of the parking from view from the city streets and sidewalks.

The design approach divides up the total massing for the development into multiple buildings that are scaled in increments suitable for this gateway to the existing context of the newer residential developments at this northern end of the South End. This multiple building approach provides for a variety of building heights which create a skyline for the project and expand the urban design character of this part of the South End to this block.

Architecture, Aesthetics, and Visual Considerations

Another key design goal is to introduce high-quality architecture that builds on the neighborhood vernacular in order to provide a transformative effect for the neighborhood. The proposed configuration of buildings for the Project Site closely relates to the larger residential building block scale of the existing residential developments of four- and five-story buildings with floor plans in the 12,000- to 15,000-square foot range that are found in this part of the South End, including Project Place, Wilkes Passage, and Rollins Square.

To relate to this scale of development, the residential massing of the Project will be divided into four architectural elements:

- A nine-story residential block facing Herald Street;
- A five-story block with ground-floor retail and residential above facing Harrison Avenue;
- An eight-story block with ground-floor retail and residential above facing Harrison Avenue; and
- An eight-story block with ground-floor retail and residential above facing Traveler Street.

■

Diversity of Architectural Style, Massing, and Exterior Materials

Refer to Figures 2.1a through 2.1d for elevation plans of the four sides of the Project. Each of these building blocks is proposed to be clad with its own unique exterior material using brick of different colors, such as cast stone or zinc shingles to differentiate one from the other. The window types on each of these four building blocks will also vary in design, size, and character. Building elements will be further separated in critical areas with glazed vertical slots to break them apart. Slight height variations and parapet treatments will also vary the roof edge profile and skyline appearance of the various residential building blocks. Specifically, Building 1 will have a landmark architectural treatment on the roof-top to highlight the Project (to be designed). Furthermore, the retail base will be reinforced with canopies that mark retail entries, provide shelter for pedestrians, and provide support for retail signage. The design goal is to develop multiple residential buildings on the Project Site creating a variety of activity and street life as well as a more interesting skyline for the area.

The conceptual signage is shown on Figures 2.1a through 2.1d. It is anticipated that there will be one free standing project sign at the Traveler Street driveway (Figure 1.2). Project signage will be discussed further during design review discussions as part of the Article 80 Large Project Review process as part of the Comprehensive Sign Design approval.

■

Height and Massing

The Project Site is currently zoned to allow buildings up to 100 feet in height with incentives for increased height up to 200 feet for the eastern edge of the block that fronts Albany Street. Building 1 will be 100 feet tall and Buildings 3 and 4 will each be 95 feet tall. As noted above, one of the primary design goals for the Project

is an adaptive reuse for Building 2 of the existing foundations, basement space, basement columns and majority of the first floor slab. The existing Herald Building will be selectively demolished down to the slab and a 20--foot high retail base will be built using the existing foundation walls, columns, and caisson foundations for support. On top of the retail will be four levels of residential for a total building height of approximately 70 feet.

The massing of the Building 2 also derives from the footprint of the existing building, but varies in height from parking structure for the retail located at the existing first floor level, to a courtyard/pool terrace for the housing at the roof of the retail spaces about 20 feet above grade, to the roof level of the fourth floor of the housing. Refer to Figure 2.2 for a cross-section of the proposed buildings and Figures 2.3a and 2.3b for floor layout plans of a typical upper floor and the below-grade parking level, respectively. Figure 1.2 shows the proposed ground floor plan.

The Public Realm

As the former headquarters, printing press, and distribution center for the Boston Herald newspaper, the Project Site has had an industrial character for the past 50 years. The Project proposes to improve the public realm of the area by changing the site uses from industrial to a vibrant transit- and pedestrian-oriented mixed-use development consisting of street-level retail with residential on the upper floors. Specific public realm improvements include new pedestrian amenities, streetscape improvements, and landscaping. A key goal of the Project is to provide connections to neighborhoods, including Downtown, Chinatown, and South Boston.

Pedestrian Ways and Amenities

It is envisioned that the mixed use nature of the Project will generate pedestrian activity at and around the Project Site by way of the residents who live in the apartments as well as the retail shoppers. Pedestrian activity between the South End and Chinatown and South Boston would also be encouraged. Upgraded public sidewalks and streetscapes (i.e., high quality paving materials and street furnishings) at the edges of the Project Site, including along Harrison Avenue and Traveler Street will support and encourage pedestrian traffic. The public realm will be reinforced by street wall retail along Harrison Avenue and Traveler Street and a new pedestrian node/small public urban stair case with public seating and potential outdoor dining pocket park opposite William E. Mullins Way promoting liveliness along Harrison Avenue as a much needed neighborhood connection for this isolated block. This node will be the pedestrian entryway to the large retail spaces. Pedestrian circulation will be further supported by a cross site walkway through that will link Harrison Avenue to Traveler Street and Albany Street. Figure 3.20 shows the proposed pedestrian ways. Refer to Chapter 3, *Transportation* for a description of vehicle site access and circulation improvements.

During nighttime hours, safety and security lighting of pedestrian ways will be provided. Light trespass and "sky glow" from buildings and at the edges of the Site will be minimized through the use of low-height, shielded, and downward directed exterior lighting fixtures. Additionally, energy efficient Light Emitting Diodes (LED) lighting will be used for all exterior lighting fixtures for the Project, including public spaces and internal walkways.

■

Streetscape Improvements

This section describes the proposed landscape design and treatments and streetscape improvements along the perimeter streets of the Project Site: Harrison Avenue; Traveler Street; Albany Street; and Herald Street. Harrison Avenue and Albany Street have been identified as a North-South Use Corridors in the BRA Strategic Plan and Traveler Street has been identified as a primary East-West Green Corridor. Additionally, intersections of these corridors have been identified as locations for place-making opportunities in the Strategic Plan. Figures 2.4a through 2.4d illustrate examples of streetscape treatments and cross-sections. Final streetscape design will be consistent, where feasible, with the Strategic Plan Streetscape Guidelines and Boston Transportation Department's Complete Streets guidelines.

Harrison Avenue

Harrison Avenue serves as the main entrance to the residential uses of Building 1, 2, and 3 and will be improved with a new 10-foot concrete pedestrian walkway. The buildings are set back nine feet from the sidewalk creating an expanded/new public space along part of Harrison Avenue. Along Building 2, the at-grade pedestrian walkway is adjacent to the elevated retail terrace/walkway that will contain decorative planters fixed to the columns of the overhead structure. The corner of Harrison Avenue and Herald Street will contain a low landscape wall and specimen tree planting. The corner of Harrison Avenue and Traveler Street will be highlighted with flower beds and flowering trees as a placemaking opportunity.

Traveler Street

The Proponent will provide a pedestrian easement over a portion of the Project Site so that the existing five-foot wide sidewalk along Traveler Street can be upgraded to a new 16-foot wide concrete pedestrian walkway with street trees. Identified as a primary East-West Green Corridor, Traveler Street will be improved to include a double row of street tree plantings at 30 feet on center consistent with the Strategic Plan Streetscape Guidelines. Improved streetscapes along this street will support the goal of the Strategic Plan to activate the space under the Southeast Expressway through the use of lighting, signage or public art, respectively. In the southeast corner of the Site (at Albany and Traveler Streets), special paving will be used at the south facade of the building where bicycle racks and/or a bike share station will be located as part of the proposed Mobility Hub.

Albany Street

The proposed surface parking area at the corner of Albany Street and Traveler Street will be screened from the adjacent pedestrian walk with evergreen shrubs and/or shade trees. The existing eight-foot wide concrete sidewalk and MassDOT light poles will remain in place. Full access to the proposed Mobility Hub will be provided to the public via the adjacent public sidewalks along Albany and Traveler Streets (Figure 1.2).

Herald Street

The existing eight-foot wide Mass DOT concrete sidewalk and retaining wall along Herald Street will remain. Vine plantings will be added to the rip rap slope, and shade trees will be added at the base of the slope adjacent to the parking lot. The existing chain link fence along the northwest side of Herald Street will be removed and replaced with shade trees, evergreen hedge, and shrubs to screen the adjacent parking lot at the bottom of the slope.

Site Landscaping

Once fully built out (all four buildings), the Project's site landscaping will consist of plantings and walkway landscape beds. The intent is to create a more dense and urban feel with ground floor facades visually accessible from the street. Prior to construction of Building 4, there will be temporary green space along Traveler Street. This space will be planted with grass and flowers. Additionally, the outdoor residential amenity space will be enhanced by planters and other forms of landscaping treatments, and hardscape design elements. As discussed in Chapter 4, *Environmental Protection*, the Proponent is committed to eliminating landscape irrigation needs through the use of native plantings for groundcover and other drought-tolerant landscaping material.

In order to support the Grow Boston Greener (GBG) initiative, the Project will add to the City's urban tree canopy by planting new trees on-site. It is expected that these trees will assist in mitigating urban heat island effect, improve air quality, and mitigate stormwater runoff. Additionally, the Proponent is committed to choosing trees that are not hosts for the Asian Longhorned Beatle.

0 25 50 Feet

300 Harrison Avenue

Boston, MA

Figure 2.1a

Proposed Harrison Avenue Elevation

ELKUS | MANFREDI ARCHITECTS

ND NATIONAL DEVELOPMENT

0 25 50 Feet

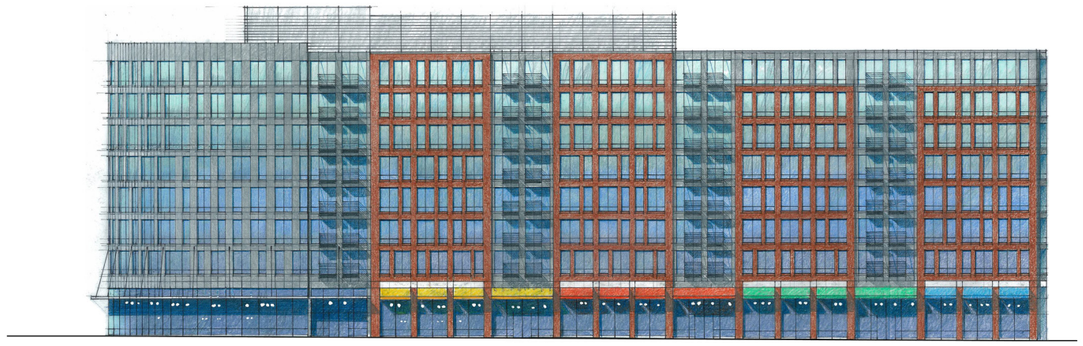
300 Harrison Avenue
Boston, MA

Figure 2.1b

Proposed Herald Street Elevation

ELKUS | MANFREDI ARCHITECTS

ND NATIONAL DEVELOPMENT



0 25 50 Feet

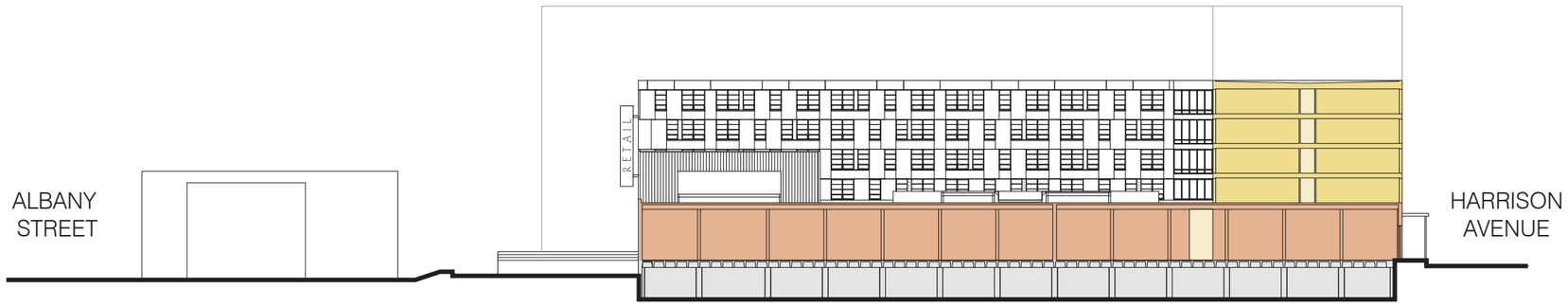
300 Harrison Avenue
Boston, MA

Figure 2.1c

Proposed Traveler Street Elevation

ELKUS | MANFREDI ARCHITECTS

NATIONAL DEVELOPMENT



0 25 50 Feet

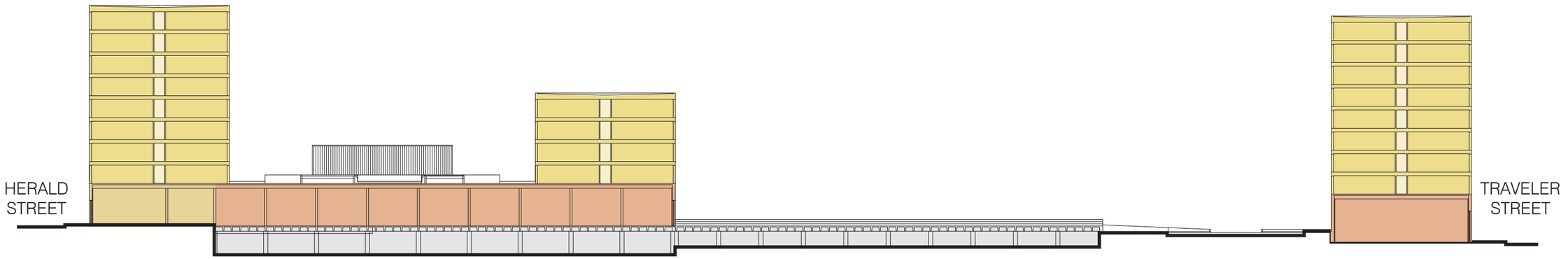
300 Harrison Avenue
Boston, MA

Figure 2.2a

Proposed East - West Building Section

ELKUS | MANFREDI ARCHITECTS

NATIONAL DEVELOPMENT



0 25 50 Feet

300 Harrison Avenue

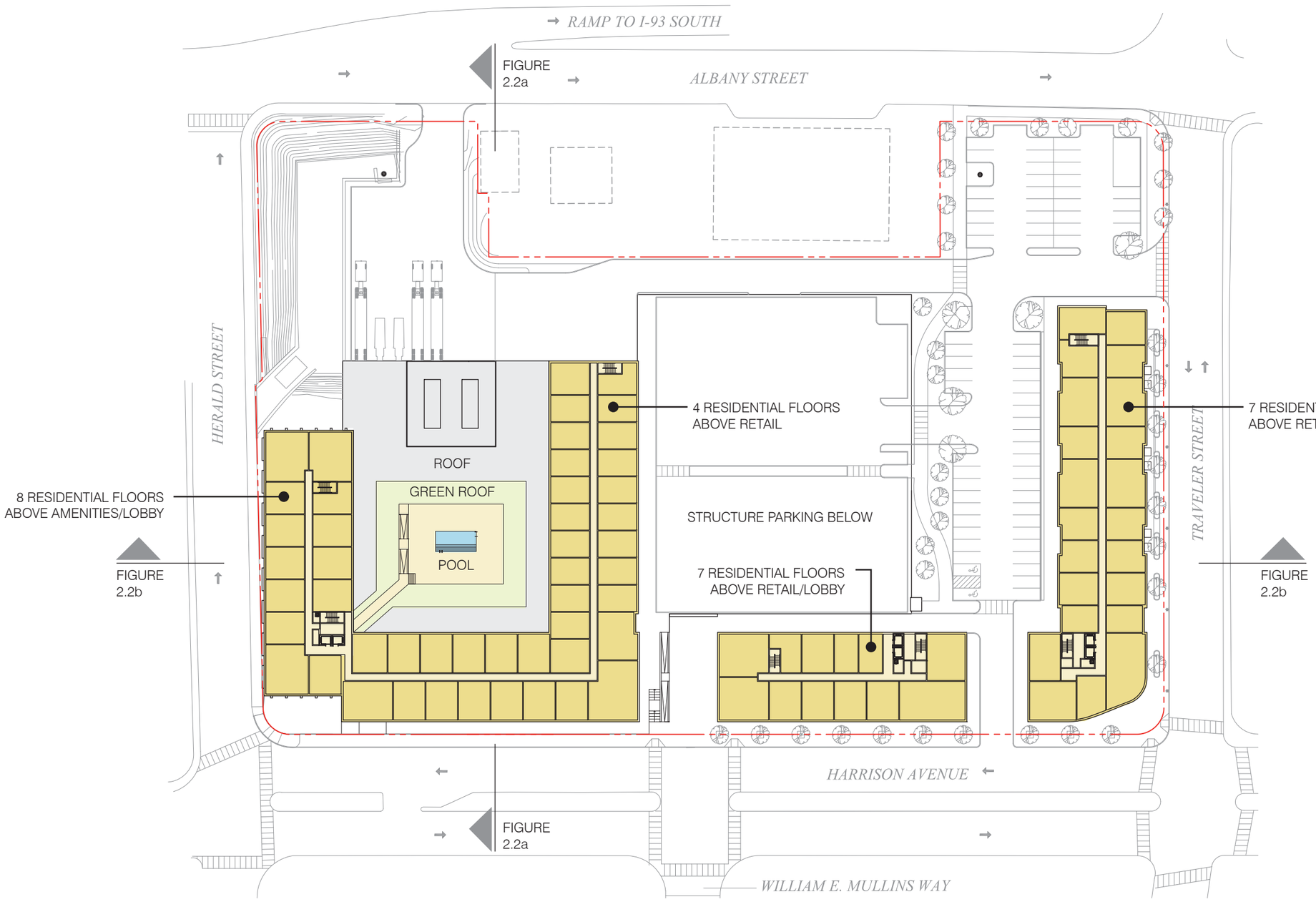
Boston, MA

Figure 2.2b

Proposed North - South Building Section

ELKUS | MANFREDI ARCHITECTS

ND NATIONAL DEVELOPMENT



300 Harrison Avenue

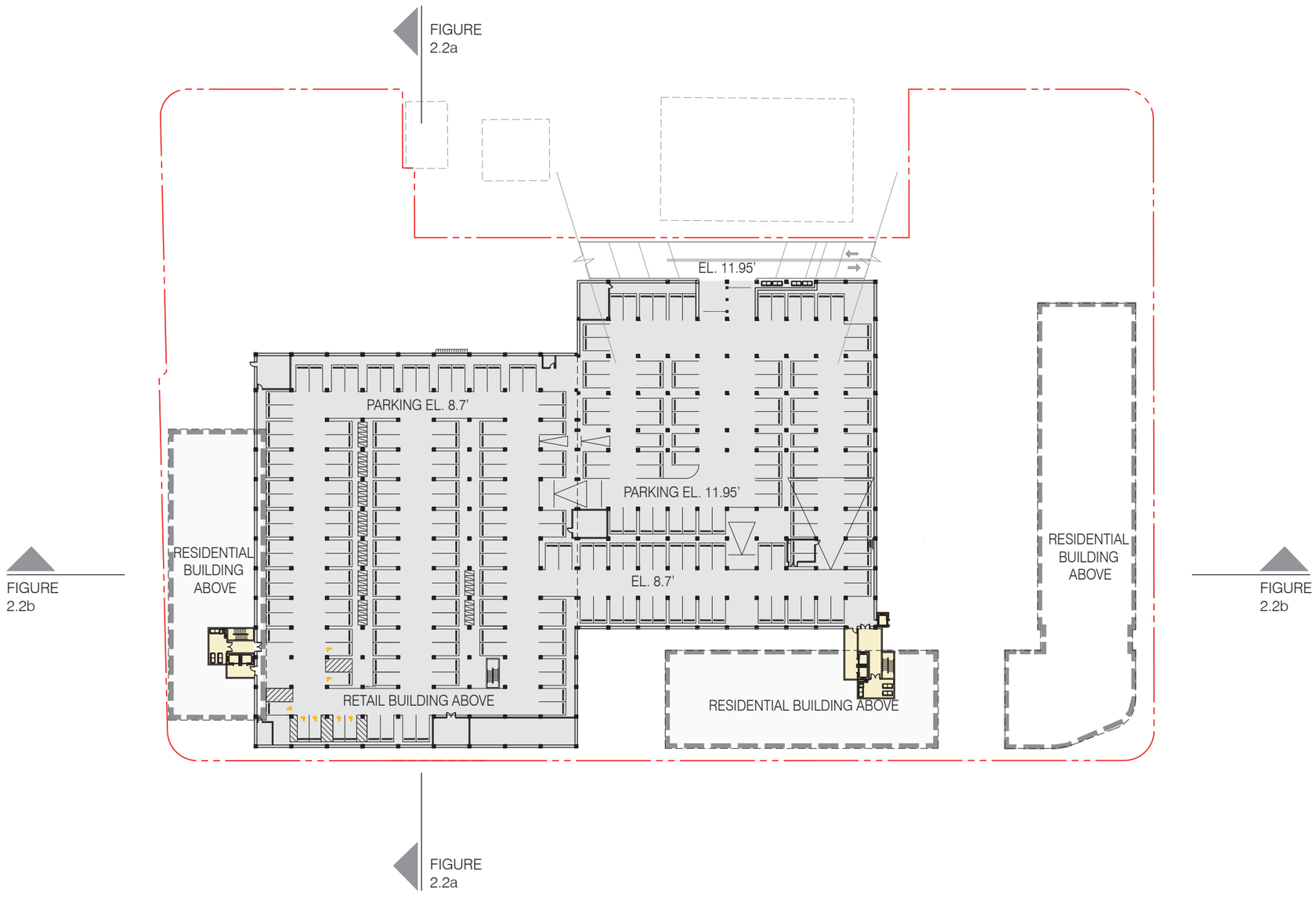
Boston, MA

Figure 2.3a

Upper Level Typical Layout

ELKUS | MANFREDI ARCHITECTS

NATIONAL DEVELOPMENT



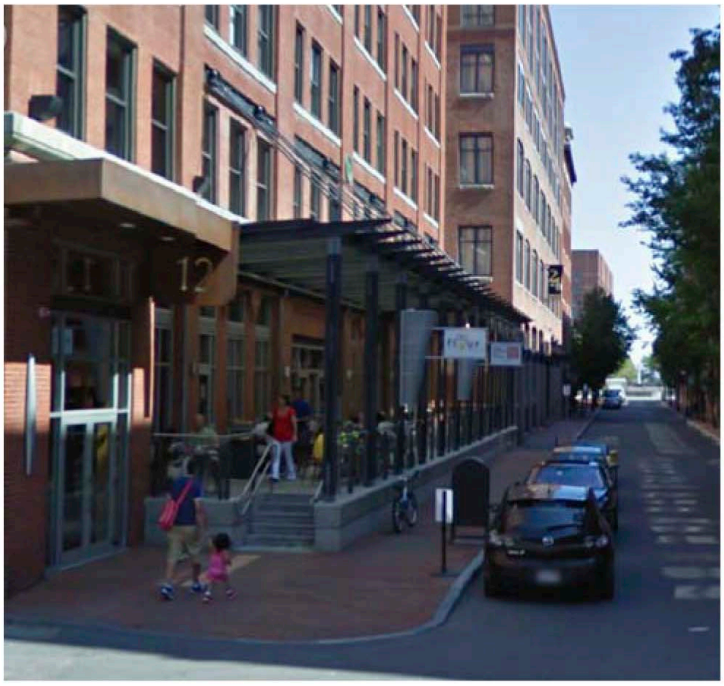
0 40 80 Feet

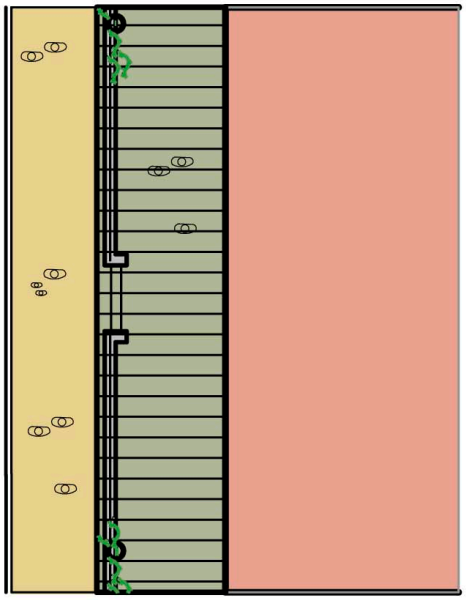
300 Harrison Avenue
Boston, MA

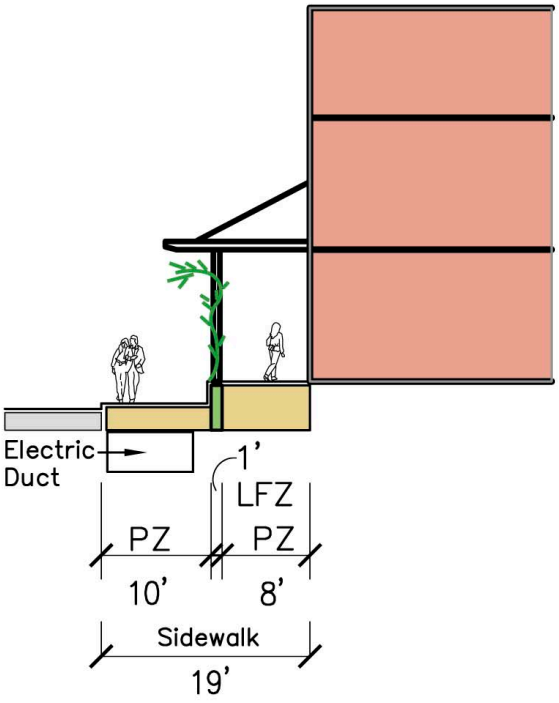
Figure 2.3b
Parking Level Layout

ELKUS | MANFREDI ARCHITECTS

ND NATIONAL DEVELOPMENT







PZ: Pedestrian Zone
LFZ: Landscape Zone

300 Harrison Avenue
Boston, MA

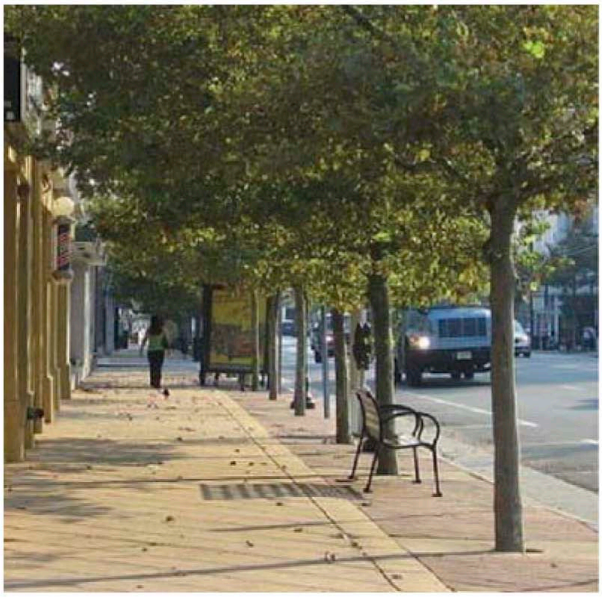
Figure 2.4a

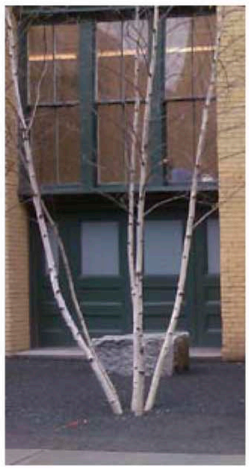
Streetscape Cross-Section
Harrison Avenue at Building 2

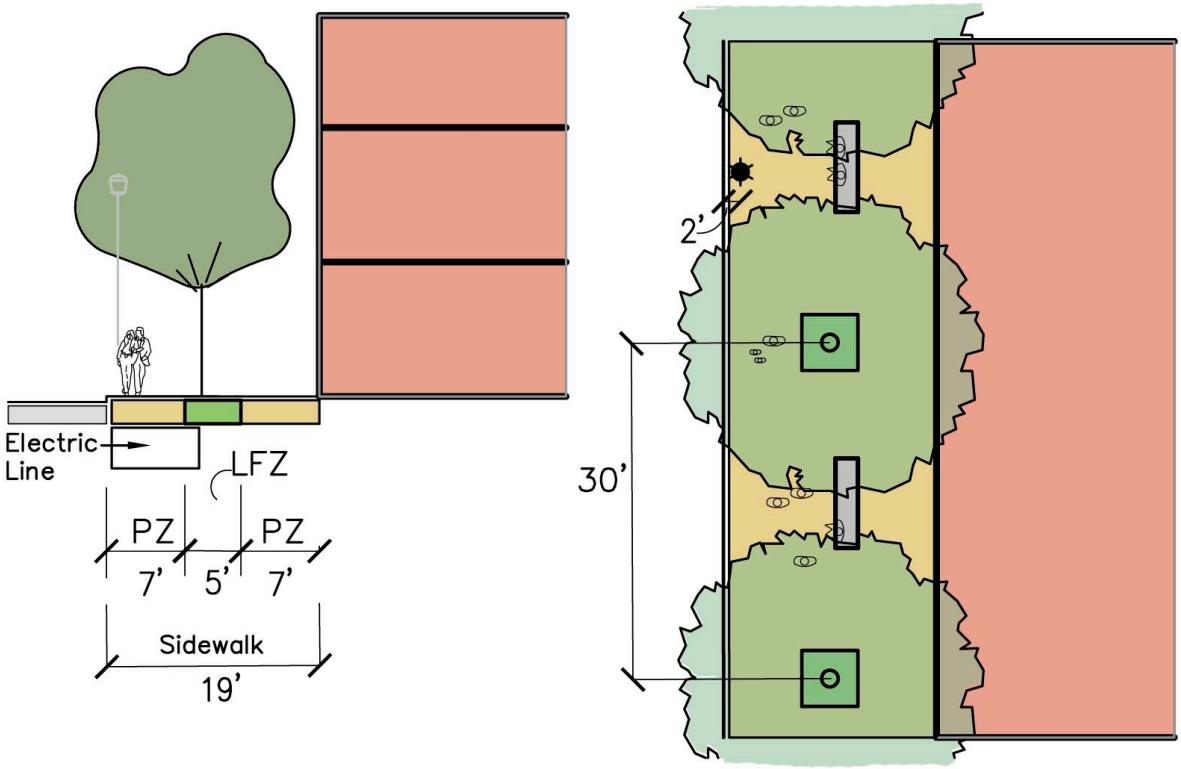
Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: VHB, Inc.







PZ: Pedestrian Zone
LFZ: Landscape Zone

300 Harrison Avenue
Boston, MA

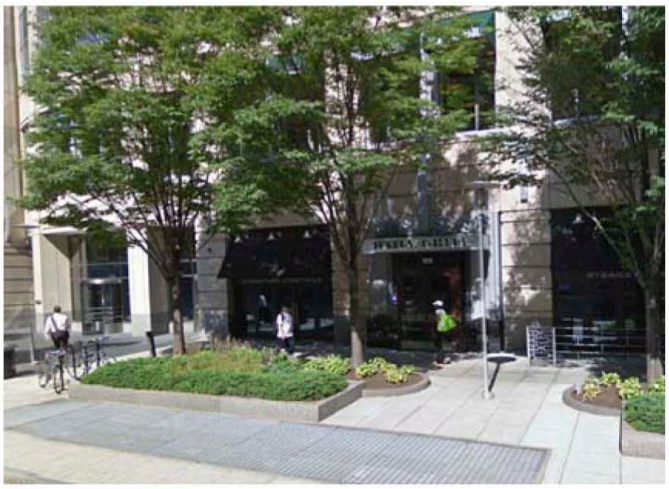
Figure 2.4b

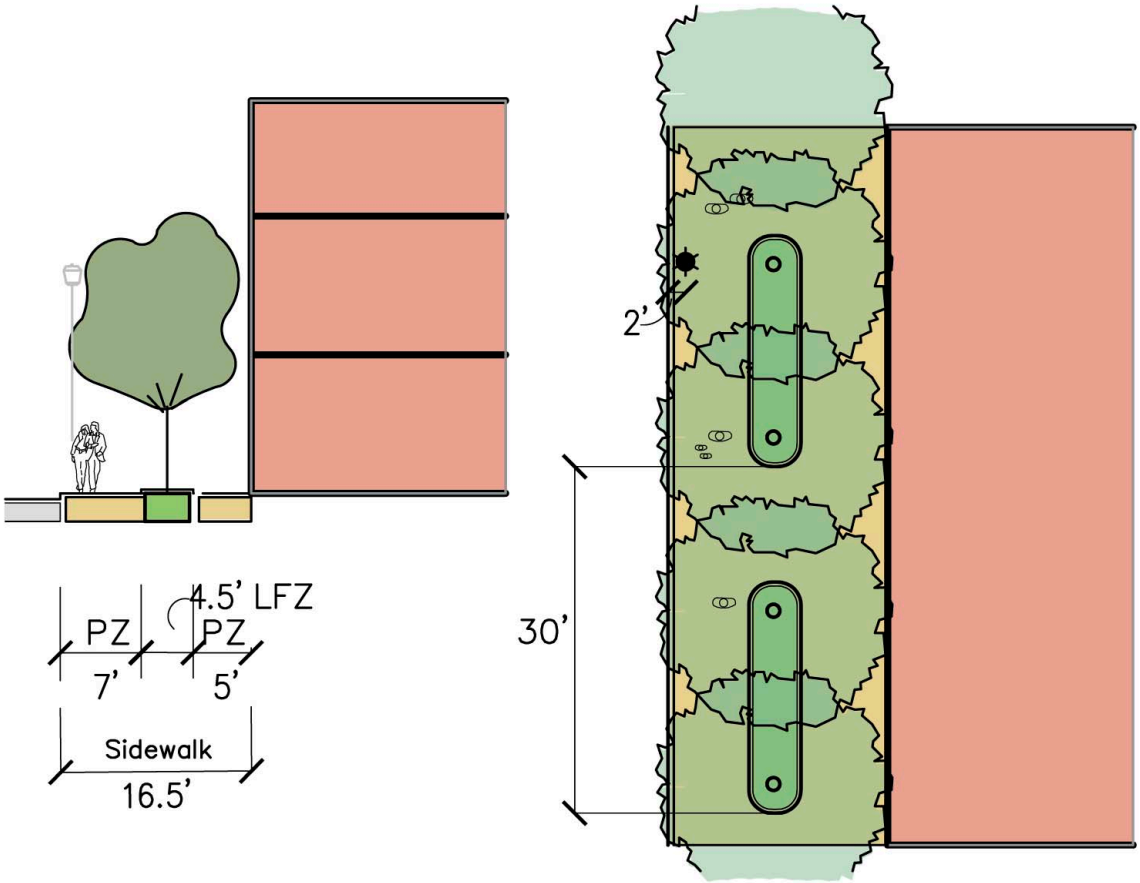
Streetscape Cross-Section
Harrison Avenue at Building 3

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: VHB, Inc.





PZ: Pedestrian Zone
LFZ: Landscape Zone

300 Harrison Avenue
Boston, MA

Figure 2.4c

Streetscape Cross-Section
Traveler Street at Building 4

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: VHB, Inc.

3

Transportation

Introduction

This chapter provides a detailed and comprehensive evaluation of the existing and proposed transportation conditions, and identifies traffic impacts as a result of the Project. The analysis captures in detail the operational characteristics of the Project, and provides a basis for determining to what extent, if any, Project-related traffic is likely to affect the wider transportation network. The site layout and Traffic Impact and Access Study (TIAS) have been developed with specific attention to the Strategic Plan. For example, the site design will create an active streetscape treatment along Harrison Avenue and provide a needed neighborhood-oriented retail use, potentially a grocery store.

■

Key Findings and Benefits

Key findings and benefits related to site access and traffic include:

- The additional traffic generated by the Project is expected to have negligible impacts on the area's transportation infrastructure with the implementation of the proposed site access plan and accompanying mitigation measures.
- When accounting for shared trips and local mode share, per Boston Transportation Department (BTD) guidelines, the Project is expected to result in an increase of 3,920 and 7,362 vehicles trips on a typical weekday and Saturday, respectively.
- The Project Site is currently well served by transportation infrastructure, including access to Route I-93 and is in close proximity to public transit (MBTA Silver Line, the Red Line Broadway Station, and multiple bus routes).
- The results of the analysis indicate that there will be no substantial changes in level of service (LOS) in the study area as a result of the Project.
- The Proponent proposes the following transportation-related mitigation measures as part of the Project:

- Eliminate two redundant active curb cuts on Harrison Avenue (to be replaced by right-in/right-out access) and one curb cut on Traveler Street with consolidated access being provided on Traveler Street opposite a proposed driveway to a planned development site located at 275 Albany Street.
- Provide pavement markings, lane demarcation, and/or striping to discourage unsafe traffic maneuvers from Albany Street exit to the existing Route I-93 South ramp.
- The Project will investigate the feasibility of modifying signal timing changes at Traveler Street/Harrison Avenue to address existing operational deficiencies at this location.
- Enhance pedestrian safety and circulation through improved/upgraded sidewalks and accompanying streetscape amenities on Harrison Avenue and Traveler Street adjacent to the Project Site, improvements to select portions of sidewalk located along Herald Street and Albany Street as well as and improved illumination of on-site pedestrian walkways.
- Create a thru-block pedestrian connection from Harrison Avenue to Albany Street.
- Implement a Transportation Demand Management (TDM) plan to discourage single-occupant vehicular travel to/from the Project.
- Create a new Mobility Hub (to include ZipCar® service, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking).
- Provide new bicycle facilities (in coordination with BTD), including on-site bike storage for retail customers and employees as well as covered/secure bike storage for residents.
- Provide a dedicated loading area (for retail and residents) at the northeast corner of the Project Site to allow for off-street loading to maintain an active streetscape along the site frontage while helping to minimize any on-site conflicts between trucks and residents or visitors.

Key findings and benefits related to parking include:

- A portion of the existing Boston Herald building basement space is utilized for 108 parking spaces. The remainder of this space was previously devoted to general storage for paper and other materials and will be re-purposed for parking.
- The reuse of the existing basement space will provide for approximately 234 below-grade parking spaces for the residential component of the Project (for residents and their visitors as well as building management and maintenance staff). These secure parking spaces will be accessed using automated card readers or similar means.
- The parking needs for the retail customers and employees will be met with the reuse of 67 existing surface parking area within a reconfigured parking lot layout and a new 110-space parking deck.
- The surface parking supply for the Project represents a significant reduction of spaces almost half of which are generally occupied by large Boston Herald delivery vehicles parked during daytime hours.
- The Project will also provide new on-street public parking adjacent the Project Site on Traveler Street and modification of the current on-street parking configuration on Harrison Avenue (pending BTD approval).

Study Methodology

The following transportation analysis has been performed in conformance with the Massachusetts Executive Office of Environmental Affairs (EEA)/Executive Office of Transportation (EOT) guidelines. It also follows standard BTD methodologies, including the projection of Project-related trips based on Institute of Transportation Engineers (ITE) trip rates and the application of local travel characteristics established through the *Access Boston 2000-2010* initiative. *Synchro 7* software was used to facilitate the evaluation of traffic operations based on Highway Capacity Manual[1] (HCM) methodologies.

Based on a review of traffic studies prepared for other nearby development projects and familiarity with the surrounding area, vehicular traffic associated with the Project should be widely dispersed throughout the nearby city street network. Considering these and other factors, the following intersections, as shown in Figure 3.1, were included in the study area for the Traffic Impact and Access Study as it is anticipated that Project-related traffic could potentially impact traffic operations:

- Albany Street/Herald Street
- Albany Street at site driveway/Route I-93 Southbound on-ramp
- Albany Street/Traveler Street
- Albany Street/East Berkeley Street
- Harrison Avenue/Herald Street
- Harrison Avenue/Mullins Way
- Harrison Avenue/Traveler Street
- Harrison Avenue/East Berkeley Street
- Washington Street/Herald Street
- Washington Street/Traveler Street
- Washington Street/East Berkeley Street
- Route I-93 Northbound frontage road at Traveler Street/Broadway Bridge
- Route I-93 Northbound frontage road at East Berkeley Street/West 4th Street

The transportation analysis considers the following primary analysis scenarios:

- **2011 Existing Conditions –** based on traffic data collection conducted within the study area in February 2011 and December 2011.
- **2016 No-Build Conditions** – Future conditions for a 5-year time horizon as expected to occur if the Project was not constructed.

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[1] Highway Capacity Manual; Transportation Research Board; Washington D.C.; 2000.

- **2016 Build Conditions –** Future conditions for a 5-year time horizon assuming the construction of the Project.

As a supplement to the transportation analysis, the Proponent also assessed the potential Project-related impacts on two critical locations within the Strategic Plan. While these two locations, Washington Street at East Berkeley Street and Washington Street at Traveler Street, fall outside of the transportation study area identified above, both BRA and BTD requested that these intersections be reviewed to identify any Project-related impacts on improvements planned for the project area.

■

Proposed Development Program

Table 3-1 presents the existing and proposed uses assumed for the TIAS.

Table 3-1
Proposed Development Program

Land Use	Existing Boston Herald Building	Project (approximate)
Property Size*	6.22 acres	6.22 acres
Existing Office/Industrial space	111,000 sf	N/A
Residential (apartments)	0	471 units/463,900 SF
Retail /Grocery Store	0	30,000 SF
Retail	0	55,000 SF
Total Square Footage	111,000 sf	548,900 SF
Surface Parking Spaces	297**	67
New Parking Deck Spaces	N/A	110
Garage Parking Spaces	108	234
Total Parking Spaces	405	411

SF Square Feet

* Not including Herald Street and a portion of Harrison Avenue, which adjacent to the Project Site technically is owned by the Proponent with an easement taking provided for street purposes to the City of Boston.

** Including approximately 70 spaces for delivery trucks and approximately 15 dedicated spaces for tractor trailers.

■

Consistency with Area-Wide Planning

The Proponent has been closely monitoring the progress of the on-going Strategic Plan currently being undertaken by the BRA in this area. Accordingly, the proposed site access is being designed to help ensure compatibility with future vision of the Harrison-Albany Corridor.

To date, there have been thirteen public coordination meetings held as part of the Strategic Plan. Since April 2009, the BRA coordinated with multiple stakeholders in the area including neighborhood businesses, land

owners, institutions and interested residents in developing a comprehensive Strategic Plan for the Harrison-Albany Corridor. This planning effort focused on four distinct subareas identified by BRA within the Harrison-Albany study area. Separate, customized vision plans were developed by BRA to address the distinct, unique needs within each given area. This ongoing planning process considered both existing and potential land uses within each area, focusing on urban design, architecture, transportation and infrastructure. The study considered various development scenarios with accompanying recommendations for required zoning changes to help advance the design vision. Following 16 public meetings regarding this initiative the BRA adopted this plan in November 2011. Since that time, zoning amendments were created to formally conclude the BRA process, with those changes being adopted at a January 18, 2012 hearing before the Boston Zoning Commission. This process has involved BRA coordinating with.

The Project is located within the "New York Streets" subarea of the Strategic Plan study area. This area is defined as being north of East Berkeley Street, west of Route I-93, south of Herald Street and east of Shawmut Avenue. Specific transportation-related items being studied within this area will be discussed in greater detail in the Future Roadway Improvements section of this report.

The Project, as shown in Figure 1.2, will comply with the community's vision in this area as highlighted with the following transportation-related improvements:

- Assist with the creation of on-street parking (pending BTD approval) on Traveler Street adjacent to the Project Site;
- Provide parking ratios consistent with BTD's goals for this subarea;
- Reduce and rehabilitate the existing, unattractive surface parking with a well-landscaped and well-lit surface parking and a new parking deck hidden from the public walkways;
- Eliminate of existing redundant curb cuts on Traveler Street and Harrison Avenue;
- Reconfigured the existing Albany Street driveway for solely exiting site employees and delivery trucks, as compared to current parking garage access and egress to this curb cut;
- Promote a multi-modal site through the creation of a "Mobility Hub" (to include a car share service, such as ZipCar®, a public bicycle share station, and a public EV charging station) as well as bicycle storage for retail customers and employees and covered/secure bicycle storage for residents to reduce single-occupant automobile travel to the Project Site;
- Create new development frontage and curbside activity as well as promotes thru-block pedestrian pathways; and
- Enhance pedestrian safety and circulation through improved/upgraded sidewalks and accompanying streetscape amenities on Harrison Avenue and Traveler Street adjacent to the Project Site, improvements to select portions of sidewalk located along Herald Street and Albany Street as well as and improved illumination of on-site pedestrian walkways.

Existing Transportation Conditions

This section describes existing transportation conditions, including an overview of roadway conditions, transit, pedestrian and bicycle facilities, and general site conditions. A discussion of the existing on-street parking supply is also provided. Figure 3.2 shows the existing site access and circulation.

Roadways

Harrison Avenue

Harrison Avenue borders the Project Site to the west. Harrison Avenue connects Chinatown to the north with the South End neighborhood to the south. Adjacent to the Project Site, Harrison Avenue is a four-lane median-divided roadway with intermittent unrestricted on-street parking on both sides. Pedestrian amenities along Harrison Avenue include sidewalks along both sides of the roadway and crosswalks at key intersections.

Albany Street

Albany Street borders the Project Site to the east and functions as a one-way southbound frontage road running parallel to Interstate 93 southbound. In the vicinity of the Project Site, Albany Street provides three travel lanes. Generally on-street parking is prohibited on Albany Street, with the exception of a small segment between the I-93 southbound on-ramp and Traveler Street. Sidewalks are provided on both sides of the street.

Herald Street

Herald Street borders the Project Site to the north running one-way in an eastbound direction from Tremont Street to Albany Street. Herald Street provides three travel lanes with parking prohibited on both sides of the roadway. Sidewalks are provided along both sides of Herald Street.

Traveler Street

Traveler Street borders the Project Site to the south providing one travel lane in both the east and west directions. To the west of Harrison Avenue Traveler Street provides one-way travel in the westbound direction. Parking is prohibited on both sides of Traveler Street to the east of Harrison Avenue and is permitted for Tour Busses only on both sides to the west. Sidewalks are provided along both sides of the street and crosswalks are at key intersections. The Strategic Plan identifies Traveler Street as being a "Primary Green Corridor" that is critical to the open space network envisioned by the BRA for this area. This is one of four corridors having this designation from the BRA and is intended to promote connections underneath Route I-93 and through the South Bay Harbor Trail.

East Berkeley Street

East Berkeley Street runs parallel to Traveler Street to the south and provides three lanes of one-way westbound travel. South End resident parking is provided on the south side of East Berkeley Street to the east of Harrison Avenue. In addition, two-hour metered parking is available along both sides of East Berkeley Street to the west of Harrison Avenue though restrictions are enforced Monday through Friday during peak commuter hours. Sidewalks are provided along both sides of the street with crosswalks at key intersections.

Washington Street

Washington Street runs parallel to Harrison Avenue to the west and provides one-way northbound travel for passenger cars with an exclusive southbound lane for the MBTA Silver Line. In the vicinity of the Project Site, Washington Street provides three northbound travel lanes and one southbound MBTA bus only travel lane. On-street parking is prohibited along the west side of the roadway while approximately fourteen two-hour parking meters are provided on the east side. Sidewalks are provided along both sides of the street along with crosswalks at key intersections.

■

Study Area Intersections

Intersection geometry and physical characteristics are presented below. Traffic operations and level of service (LOS) analysis are presented later in this chapter.

Washington Street/Herald Street

Washington Street/Herald Street is a four-way signalized intersection. Washington Street is a one-way northbound roadway that provides an exclusive southbound lane for Silver Line bus service only. The Washington Street northbound approach provides two through lanes and an exclusive right-turn lane. Herald Street runs in a one-way eastbound direction and provides a shared left-turn/through lane and two exclusive through lanes. Parking is prohibited on both sides of Washington Street and Herald Street. Bus stops are located on west side of Washington Street directly to the south of the intersection and on the south side of Herald Street directly west of the intersection. Pedestrians are accommodated in concurrent pedestrian phases. Crosswalks are provided across northbound approach of Washington Street and across both approaches of Herald Street.

Harrison Avenue/Herald Street

Harrison Avenue/Herald Street is a four-way signalized intersection. Harrison Avenue is a north-south running roadway that provides two-way operations to the south of Herald Street and one-way southbound travel to the north. The northbound approach consists of two right-turn only lanes while the southbound direction provides an exclusive left-turn lane and two through lanes. Harrison Avenue is median-divided to the south of the intersection. Herald Street runs in a one-way eastbound direction and provides two exclusive through lanes and a shared through/right-turn lane. Parking is prohibited on both sides of Herald Street and Harrison Avenue to the north of the intersection. On-street parking is permitted along the east side of

Harrison Avenue to the south of the intersection. Nearest to the intersection parking for approximately two commercial vehicles is permitted for a maximum of 30 minutes as well as two handicap spaces. Pedestrians are accommodated with an exclusive pedestrian phase. Crosswalks are provided across northbound approach of Harrison Avenue and across both approaches of Herald Street.

Albany Street/Herald Street

Albany Street/Herald Street is a T-shaped signalized intersection in which Herald Street intersects Albany Street from the west. Herald Street operates as a one-way eastbound roadway consisting of three right-turn only lanes. Albany Street operates as a one-way southbound roadway consisting of three through lanes. Parking is prohibited on both sides of Albany Street and Herald Street. Pedestrians are accommodated in concurrent pedestrian phases. Crosswalks are provided across the Herald Street and Albany Street approaches to the intersection.

Harrison Avenue/William E. Mullins Way/Herald Driveway

Harrison Avenue/William E. Mullins Way/Herald Driveway is a four-way unsignalized intersection in which Harrison Avenue is intersected by William E. Mullins Way from the west and one of the Herald driveways from the east. Harrison Avenue is a north-south running median-divided roadway providing two general purpose lanes in each direction. The William E. Mullins Way and Herald driveway approaches both provide one general purpose travel lane under STOP control. Unrestricted parking is permitted on both sides of Harrison Avenue and on the north side of William E. Mullins Way in the vicinity of the intersection. Crosswalks are provided on both approaches of Harrison Avenue and across the William E. Mullins Way approach.

Albany Street/Herald Driveway

Albany Street/Herald Driveway is a three-way unsignalized intersection in which Albany Street is intersected by one of the Herald driveways from the west. On-ramp access to I-93 Southbound is provided in close proximity to the intersection on the east side of Albany Street. Albany Street operates as a one-way southbound roadway consisting of a left/through lane, a through lane, and a through/right lane. The Herald driveway approach both provides one general purpose travel lane under STOP control. Parking is prohibited on both sides of Albany Street in the vicinity of the intersection. No crosswalks are provided at this intersection, but a sidewalk crosses the Herald driveway approach.

Washington Street/Traveler Street

Washington Street/Traveler Street/Harrison Avenue is a three-way signalized intersection in which Washington Street is intersected by Traveler Street from the east. Washington Street is a one-way northbound roadway that provides an exclusive southbound lane for Silver Line bus service only. Traveler Street operates as a westbound one-way roadway between Washington Street to the west and Harrison Avenue to the east. The Washington Street northbound approach provides two through lanes and one exclusive Silver Line bus lane while the Washington Street southbound approach solely provides one Silver Line exclusive bus lane.

The Traveler Street approach provides one right-turn only lane. Metered parking is provided on the east side of Washington Street in the vicinity of the intersection. Tour Bus on-street parking in permitted on both sides of Traveler Street to the east of the intersection between 7AM and 7PM. Pedestrians are accommodated with concurrent pedestrian phases. Crosswalks are provided across the southern leg of Washington Street and the Traveler Street approach to the intersection.

Traveler Street/Harrison Avenue

Traveler Street/Harrison Avenue is a four-way signalized intersection. Traveler Street operates as a westbound one-way roadway to the west of the intersection, and as a two way roadway to the east. Both Harrison Avenue approaches to the intersection provide a shared left/through lane and a shared through/right lane. The westbound Traveler Street approach to the intersection has a single lane, though there is sufficient shoulder room to allow for right-turn movements to readily bypass vehicles waiting to turn left or continue through on Traveler Street. Unrestricted parking is provided on both sides on Harrison Avenue in the vicinity of the intersection. Tour bus on-street parking in permitted on both sides of Traveler Street to the west of the intersection between 7AM and 7PM. Pedestrians are accommodated with an exclusive pedestrian phase. Crosswalks are provided across all approaches to the intersection.

Albany Street/Traveler Street

Albany Street/Traveler Street is a four-way signalized intersection with two one-way approaches, Albany Street from the north and Traveler Street from the west. The Albany Street approach consists of an exclusive left-turn lane, a shared left/through lane, and a shared through/right lane. The Traveler Street approach provides one general travel lane which is wide enough to operate as two lanes when vehicle demands are present. Parking is prohibited on both sides of Albany Street and Traveler Street in the vicinity of the intersection. Pedestrians are accommodated with an exclusive pedestrian phase. Crosswalks are provided across the southern leg of Albany Street and across both approaches of Traveler Street.

Traveler Street/Frontage Road

Traveler Street/Frontage Road is a four-way signalized intersection providing access to I-93 northbound and I-90 westbound to the north. Frontage Road runs in a one-way northbound direction parallel to the I-93 above. At the intersection with Traveler Street, the Frontage Road approach is median-divided. In order to access I-90 westbound, motorists utilize two through lanes to the left of the median. To the right of the median are two through lanes which access I-93 northbound and a shared through/right-turn lane to access either Atlantic Avenue to the north or Traveler Street to the east. The Traveler Street eastbound approach consists of an exclusive left-turn lane providing access to I-90 westbound and I-93 northbound, a shared left/through lane providing access to I-93 northbound and Traveler Street eastbound and an exclusive through lane. The Traveler Street westbound approach consists of two right-turn only lanes, both of which access I-93 northbound, while only the outer lane accesses I-90 westbound. Parking is prohibited on both sides of Traveler Street and Frontage Road in the vicinity of the intersection. Pedestrians are accommodated with concurrent pedestrian phases. Crosswalks are provided across the southern leg of Frontage Road and the western leg of Traveler Street.

East Berkeley Street/Washington Street

East Berkeley Street/Washington Street is a four-way signalized intersection. East Berkeley Street runs in a one-way westbound direction. To the north of the intersection Washington Street operates as a one-way northbound roadway that provides an exclusive southbound lane for Silver Line bus service only. To the south of the intersection Washington Street provides two-way operations, while maintaining exclusive Silver Line bus lanes in each direction. The East Berkeley approach consists of a shared left-turn/through lane, a through lane, and a shared through/right-turn lane. The Washington Street northbound approach consists of an exclusive left-turn lane, a through lane, and a Silver Line exclusive bus lane. The Washington Street southbound approach consists solely of a Silver Line exclusive bus lane. Silver Line bus stops are located in the departure lanes on Washington Street to the north and south of the intersection. Additionally, a standard bus stop is located on the north side of the East Berkeley Street approach to the east of the intersection. Two-hour metered parking is available along the south side of East Berkeley Street to the east of the intersection though restrictions are enforced Monday through Friday during commuter peak periods. Two-hour unrestricted metered parking is provided to the south of the intersection on the east side of Washington Street. To the west of the intersection a commercial zone is provided on the south side of East Berkeley Street. Pedestrians are accommodated with a concurrent pedestrian phase and crosswalks are provided across all approaches to the intersection.

East Berkeley Street/Harrison Avenue

East Berkeley Street/Harrison Avenue is a four-way signalized intersection. Harrison Avenue is a north-south running roadway that provides two-way operations while East Berkeley operates as a one-way westbound roadway. The northbound approach consists of one general purpose lane while the southbound direction provides an exclusive through lane and a shared through/right-turn lane. Harrison Avenue is median-divided to the north of the intersection. The East Berkeley Street approach consists of a shared left-turn/through lane, a through lane, and a shared right-turn/through lane. A bus stop is located on the north side of the East Berkeley Street approach. South End resident parking is provided on the west side of Harrison Avenue to the south of the intersection and the south side of East Berkeley Street to the east of the intersection. Two-hour metered parking is available along both sides of East Berkeley Street to the west of the intersection though restrictions are enforced Monday through Friday during commuter peak periods. Two-hour visitor parking is provided to the south of the intersection on the east side of Harrison Avenue. To the north of the intersection a ten-minute drop-off/pick-up zone is provided on the west side of Harrison Avenue. Pedestrians are accommodated with an exclusive pedestrian phase and crosswalks are provided across each leg of the intersection.

East Berkeley Street/Albany Street

East Berkeley Street/Albany Street is a four-way signalized intersection in which East Berkeley Street operates as a one-way westbound roadway and Albany Street operates as a one-way southbound roadway. The East Berkeley Street approach consists of a shared left-turn/through lane and an exclusive through lane. The Albany Street approach consists of two through lanes and a shared through/right-turn lane. South End resident parking is available along the south side of East Berkeley Street to the west of the intersection and is prohibited elsewhere. The signal operations at this location are interconnected with the adjacent East Berkeley Street/Frontage Road/West 4th Street signal to the east. Pedestrians are accommodated in concurrent pedestrian phases with crosswalks provided across the western and southern legs of the intersection.

East Berkeley Street/Frontage Road/West 4th Street

East Berkeley Street/Frontage Road/West 4th Street is a four-way signalized intersection. Frontage Road runs in a one-way northbound direction parallel to the I-93 above while West 4th Street runs in a one-way westbound direction. To the west of the intersection West 4th is designated East Berkeley Street. The Frontage Road approach consists of an exclusive left-turn lane, a shared left-turn/through lane and a shared through/right-turn lane. Additionally a u-turn lane is provided and runs free of the signal. The West 4th Street westbound approach consists of two through lanes and a shared through/right-turn lane. Parking is prohibited in the vicinity of the intersection. The signal operations at this location are interconnected with the adjacent East Berkeley Street/Frontage Road/West 4th Street signal to the east. Pedestrians are accommodated with a concurrent pedestrian phases. Crosswalks are provided across the southern leg of Frontage Road and the West 4th Street approach.

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Traffic Data Collection

To estimate the existing operational conditions at the study area intersections, a review of existing condition traffic volumes was conducted. Daily traffic volume data were collected along Harrison Avenue and Albany Street in March 2011. The observed traffic volume data are summarized in Table 3-2.

As shown in Table 3-2, Harrison Avenue carries approximately 6,190 and 6,160 vehicles on a typical weekday and Saturday, respectively. Within the peak weekday morning commuter peak period, traffic volumes peak between 8 AM and 9 AM with volumes slowly increasing over the rest of the morning to a slightly higher midday peak hour volume of approximately 410 vehicles. The weekday evening peak hour occurs within the typical weekday evening peak period between 4:30 PM and 5:30 PM. Throughout the day the predominant flow of traffic on Harrison Avenue is in the southbound direction mostly due to the one-way southbound direction of Harrison Avenue as it intersects Herald Street further to the north.

Table 3-2
Existing Traffic Volume Summary

	Daily		Peak Hour								
			Weekday Morning			Weekday Evening			Saturday Midday		
Location	Weekday (vpd) [1]	Saturday (vpd) [1]	Vol. (vph) [2]	"K" Factor[3]	Directional Flow	Vol. (vph) [2]	"K" Factor	Directional Flow	Vol. (vph) [2]	"K" Factor	Directional Flow
Harrison Avenue - south of Herald Street	6,190	6,160	360	5.8	79% SB	605	9.8	74% NB	415	6.7	80% SB
Albany Street – north of Traveler Street	23,600	18,020	1,585	6.7	100% SB	1,955	8.3	100% SB	1,155	6.4	100% SB

Source: Automatic Traffic Recorder (ATR) counts conducted by VHB in March 2011.
Notes: EB = eastbound, WB = westbound, SB = southbound, NB = northbound. Peak hours do not necessarily coincide with the peak hours of the turning movement counts.
1 Daily traffic expressed in vehicles per day.
2 Peak hour volumes expressed in vehicles per hour.
3 Percent of daily traffic, which occurs during the peak hour.

Albany Street was observed to carry considerably higher volumes with 23,600 and 18,020 vehicles observed on the weekday and Saturday counted, respectively. As these counts were conducted just north of Traveler Street volumes on Albany Street are even higher further to the north before the point where southbound Albany Street traffic turns onto the Route I-93 South on-ramp. Traffic on Albany Street follows typical commuter-oriented patterns with distinct peaks occurring between the 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM peak periods. Traffic volumes on Saturdays were observed to be notably lower with a peak hour volume of 1,155 vehicles observed during the midday lunchtime hours.

In addition to the automatic traffic recorder counts summarized above, manual turning movement counts (TMCs) were conducted in February 2011 and December 2011 at the study area intersections. Counts were conducted during the weekday commuter peak periods of 7:00 - 9:00 AM and 4:00 - 6:00 PM and during the Saturday midday peak period of 11:00 AM – 2:00 PM. Pedestrian crossing movements and bicycle volumes were also counted during these periods. The raw count data are included Appendix D.

The intersection turning movement counts were used to establish traffic networks for the 2011 Existing Conditions. From the turning movement counts, the study area's traffic peak hours were determined to be 8:00 to 9:00 AM and 5:00 to 6:00 PM for the morning and evening peaks and 12:00 to 1:00 PM for the Saturday midday peak. The 2011 Existing peak hour traffic volumes are shown in Figures 3.3, 3.4, and 3.5 for the weekday morning, weekday evening and Saturday midday peak hours, respectively.

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Pedestrian Environment and Accessibility

Sidewalks along the roadway network near the Project Site are in varying condition with, striped crosswalks and pedestrian signals provided at the signalized intersections within the study area. Moderate levels of pedestrians were observed on the roadways near the Project Site, with much of the pedestrian traffic being oriented to and from the MBTA bus stops noted above. Refer to Figures 3.6 through 3.8 for pedestrian intersection crossing volumes during the peak hours.

At the signalized intersections of Washington Street/Herald Street, Herald Street/Albany Street, Traveler Street/Frontage Road, East Berkeley Street/Albany Street, and East Berkeley Street/Frontage Road pedestrians are accommodated in concurrent walk phases. This allows pedestrians to cross while the parallel traffic direction is still moving through the intersection, reducing overall vehicle and pedestrian delays. Pedestrian storage space on the sidewalks and observed pedestrian delays appear to be reasonable at most crosswalk locations during typical peak-hour conditions. As described later in this chapter, the Traveler Street sidewalks adjacent to the Project Site will be reconstructed as part of the construction. The associated improvements will include new street trees and lighting to provide for an enhanced pedestrian environment.

■

Bicycles

Currently observed bicycle volumes throughout the traffic study area are highlighted in Figures 3.9 through 3.11 for the weekday morning, weekday evening and Saturday midday peak hours, respectively. While nominal bicycling activity was observed during the study area, there is an increased amount of attention in providing improved bicycle amenities within this area. As part of city-wide efforts to promote biking, the

City of Boston created the "Boston Bikes" program in 2007 to focus on improvements in engineering, enforcement, education, encouragement and evaluation of biking. Through this program the city has categorized most of the roadways within the traffic study area as being suitable for intermediate to advanced bicyclists. Specifically, the East Berkeley Street corridor is classified as intermediate, while both Herald Street and Albany Street are considered suitable for advanced bikers only, due to the higher-volume, one-way roadway configuration, and lack of defined bicycle accommodations. Within the traffic study area, the Boston Bikes program has identified Washington Street as a potential candidate for bike lanes or paths.

The City of Boston is also advancing a city-wide bike-sharing program known as "Hubway" under which there will be 61 bike-sharing stations provided within the city for approximately 600 bicycles. This program began operating in July 2011 and the ultimate goal is for it to expand to the greater Boston region with accommodations for over 5,000 bikes at 300 bike sharing stations. In keeping with the goals of this program, the Proponent will be providing spaces on-site for a bike-sharing station. The exact details of the location and operation of this facility will be determined through ongoing consultation between the Proponent and the City staff advancing the bicycling program. Appropriately designed bike racks will also be provided at select, highly-visible locations within the Project Site. The racks will be securely mounted and feature current designs to properly secure bikes of all kinds with the ability for them to be properly locked. Within the surface parking area these racks will be located at centralized locations to serve the proposed retail stores.

The bicycle amenities proposed as part of the Project could be particularly attractive given the Project Site's proximity to the South Bay Harbor Trail. The Project is also located adjacent to Traveler Street, which has been designated as a "Primary Green Corridor" by the BRA. The South Bay Harbor Trail is currently under development and, upon completion, will extend from Lower Roxbury to Fan Pier to the north. Construction of this bike path is being funded through a combination of federal and private sources. This bicycle/pedestrian path will connect multiple neighborhoods to each other and to Boston Harbor. The route is over three miles long traveling along roadways, bridges and through both public and private property. With its location near the middle portion of the South Bay Harbor Trail, the bike-sharing station as part of the proposed on-site Mobility Hub could be particularly attractive.

■

Public Transportation

The Project Site is currently well served by the Massachusetts Bay Transportation Authority's (MBTA) public transportation services as shown in Figure 3.12. Access to the Red Line's Broadway Station is a short walk to the east across the Traveler Street Bridge. The Orange Line's Tufts Medical Center Station is located to the north, over the Washington Street Bridge. Both of these rapid transit rail stations are located within a half mile from the Project Site. Four local bus routes serve the study area, including the Silver Line SL4 and SL5 rapid bus routes. Peak period frequencies/headways for MBTA services are summarized in Table 3-3.

Table 3-3
MBTA Service

Service	Origin / Destination	Peak-hour Frequency (minutes)
Red Line – Broadway Station	Alewife – Braintree/Ashmont	9
Orange Line – Tufts Medical Center Station	Oak Grove – Forest Hills	5
Route 9	City Point – Copley Square	5-10
Route 11	City Point – Downtown Bayview	7-22
Silver Line - SL 4	Dudley Station – South Station	5-15
Silver Line - SL 5	Dudley Station – Downtown Crossing	4-12

Source: MBTA

As part of the Strategic Plan the BRA evaluated possible enhancements to the bus routes outlined in Table 3-3. The BRA indicated that the MBTA was receptive to these possible changes pending further evaluation and implementation action items. Specifically, that planning effort recommended the following potential changes to the following routes:

- **Route 8 - Harbor Point/UMass - Kenmore Station via BU Medical Center & Dudley Station** – While Route 8 currently does not travel past the Project Site, the Strategic Plan recommended altering this route so that is would continue further to the north beyond its current northerly limit at Msg. Reynolds Way. This route would continue north on Harrison Avenue and turn left onto East Berkeley Street. From that point the route would turn right onto Washington Street and then right onto Traveler Street. At the southwest corner of the site the bus would then to right onto Harrison Avenue to return to the south. This alternative assumes the conversion of that portion of Traveler Street to two-way traffic as also proposed in the plan. One of the goals of this potential measure is to better serve the overall Harrison Avenue corridor. The additional route time required for this extension, along with the desired interconnectivity within the southern section of Harrison Avenue will need to be evaluated by the MBTA.
- **Route 9 - City Point - Copley Square via Broadway Station** – On its eastbound path this route currently runs on Herald Street to Albany Street before turning left at Albany Street's intersection with Traveler Street to return over Broadway Bridge. With the rerouting currently being considered, Route 9 would now turn right onto Harrison Avenue and then left onto Traveler Street before continuing on towards Broadway Bridge. This measure was specifically identified as being associated with the development potential along Traveler Street, including the Project Site.
- **Route 47 - Central Square, Cambridge - Broadway Station** – At the northerly end of its route, Route 47 turns right from Frontage Road onto West Fourth Street to its terminus at Broadway Station. With the rerouting under consideration, this route would instead turn *left* from Frontage Road onto East Berkeley Street, then right onto Harrison Avenue and right onto Traveler Street directly past the Project Site. From there it would continue across Traveler Street to Broadway Station without any changes to the return route to the south. This potential change is also under consideration primarily due to development potential along Traveler Street.

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Existing Parking

The existing surface parking lots include approximately 297 spaces almost half of which are generally occupied by large Boston Herald delivery vehicles parked over the course of daytime hours. Additionally, the existing Boston Herald building currently has approximately 106,295 sf of basement space, which is partly being utilized by approximately 108 parking spaces. The remainder of this space was previously used for general storage for paper and other materials.

Exiting on-street parking within the traffic study area is shown in Figure 3.13. This parking currently serves the various commercial uses in the area. Within the study area, on-street parking is almost entirely restricted along Herald Street and Albany Street with the exception of five spaces adjacent to three small commercial properties located between the Project Site and Albany Street. Parking for large tour-buses is also currently provided on the section of Traveler Street between Washington Street and Harrison Avenue.

Parking is also currently not allowed on Traveler Street adjacent to the Project Site. However, the Strategic Plan effort targeted this section of roadway to feature on-street parking in anticipation of development on the Project Site, as well on the land on the southerly side of Traveler Street. That study also has indicated that increased on-street parking is also desired for Washington Street within the study area. The Strategic Plan proposed surface parking for approximately 180 vehicles being provided underneath Route I-93 to the east of the Project Site. This parking underneath I-93 would be in addition to other similar parking areas proposed further to the south, as well as layover storage for approximate 20 to 25 busses in the area to the south of Traveler Street. That measure in turn would allow for the on-street bus storage that currently occurs on the westerly section of Traveler Street to be eliminated. The plan identifies this as being a "mid-term" improvement to be implemented through the efforts of the BRA and Massachusetts Department of Transportation (MassDOT). The proposed site access plan is entirely consistent with on-street parking being provided on Traveler Street adjacent to Project Site frontage.

■

Crash Analysis

A detailed crash analysis was conducted to identify potential vehicle accident trends and/or roadway deficiencies in the traffic study area. The most current vehicle accident data for the traffic study area intersections were obtained from MassDOT for the years 2007 to 2009. A summary of the study intersections vehicle accident history is presented in Table 3-4.

Crash rates are calculated based on the number of accidents at an intersection and the volume of traffic traveling through that intersection on a daily basis. Rates that exceed MassDOT's average for accidents at intersection in the district in which the town or city is located could indicate safety or geometric issues for a particular intersection. While Boston is currently located in MassDOT's District 6, that particular district was part of MassDOT for the time period when the accident data were compiled. Accordingly, the calculated crash rates were compared to those of MassDOT District 4, which are 0.78 for signalized intersection and 0.59 for unsignalized intersections. These rates imply that, on average, 0.78 accidents occurred per million vehicles entering signalized intersections throughout District 4, and 0.59 accidents occurred per million vehicles entering unsignalized intersections. It should be noted that the location for some accidents cannot be

precisely determined from the database. These locations typically involve interchange intersections. Additionally, some accidents may have occurred but were either not reported or not included in the database, and therefore not considered.

Review of the accident data indicates that the intersections of Albany Street at Traveler Street, Frontage Road at Traveler Street/West Broadway Street, and Frontage Road at East Berkeley Street/West 4th Street all exceed the MassDOT crash rates for this district. The majority of crashes at Frontage Road's intersections with Traveler Street and East Berkeley Street/West 4th Street are "angle" type accidents. Some of these crashes could be partly attributable to signal visibility due to the overhead I-93 roadway structure, or conflicts between traffic wishing to access the Route I-90 West and Route I-93 North ramps. The relatively higher number of angle crashes at Frontage Road's intersection with East Berkeley Street and West 4th Street could be associated with the northbound dual-left-turn movement from Frontage Road onto East Berkeley Street.

Future Conditions

To assess future transportation conditions, the TIAS considered the following two future scenarios for a five-year time horizon (2016) from the time of the initial traffic data collection:

- **2016 No-Build Condition –** assumes no changes to the Project Site, but with background growth associated with other planned projects and general background regional growth, along with any planned roadway/infrastructure improvements; and
- **2016 Build Condition** assuming the same background growth and any planned infrastructure improvements, but including the redevelopment of the Project Site.

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No-Build Condition

The 2016 No-Build Condition was developed to evaluate future transportation conditions in the traffic study area without consideration of the Project. In accordance with BTD guidelines, this future analysis year represents a five-year horizon from 2011 existing conditions. The No-Build Condition provides insight to future traffic conditions as a result of regional growth as well as specific planned projects that are expected to affect the local roadway network.

A background growth rate of one-percent per year was applied to the traffic volumes. This growth rate is consistent with both growth rates established by BTD as well as recent traffic studies for other developments in this area.

Table 3-4
Vehicular Crash Summary (2007-2009)

	Washington Street at:			Harrison Avenue at:			
	Herald Street	Traveler Street	East Berkeley Street	Herald Street	William E. Mullins Way	Traveler Street	East Berkeley Street
Signalized?	Yes	Yes	Yes	Yes	No	Yes	Yes
MassDOT Average Crash Rate	0.78	0.78	0.78	0.78	0.59	0.78	0.78
MassDOT Calculated Crash Rate	0.25	0.00	0.64	0.48	0.00	0.17	0.10
Exceeds?	No	No	No	No	No	No	No
Year							
2007	2	0	1	6	0	1	2
2008	2	0	7	3	0	0	0
2009	2	0	4	2	0	1	0
Total	6	0	12	11	0	2	2
Collision Type							
Angle	1	0	1	4	0	0	0
Head-on	0	0	0	0	0	0	0
Rear-end	1	0	7	3	0	0	1
Rear-to-rear	0	0	0	0	0	0	0
Sideswipe, opposite direction	0	0	0	0	0	0	0
Sideswipe, same direction	2	0	3	2	0	1	0
Single Vehicle Crash	0	0	1	1	0	0	0
Unknown	1	0	0	0	0	0	0
Not Reported	1	0	0	1	0	1	1
Total	6	0	12	11	0	2	2
Severity							
Non-fatal Injury	2	0	2	3	0	0	0
Property Only	4	0	7	4	0	1	1
Not Reported	0	0	0	4	0	1	1
Unknown	0	0	3	0	0	0	0
Total	6	0	12	11	0	2	2
Time of day							
Weekday, 7:00 AM-9:00 AM	0	0	2	0	0	0	0
Weekday, 4:00 PM – 6:00 PM	0	0	0	0	0	0	0
Saturday, 11:00 AM – 2:00 PM	0	0	0	0	0	1	0
Weekday, other time	3	0	5	8	0	1	1
Weekend, other time	3	0	5	3	0	0	1
Total	6	0	12	11	0	2	2
Pavement Conditions							
Dry	4	0	9	10	0	1	2
Wet	2	0	2	1	0	0	0
Snow	0	0	0	0	0	0	0
Ice	0	0	1	0	0	0	0
Sand, mud, dirt, oil, gravel	0	0	0	0	0	0	0
Not Reported	0	0	0	0	0	1	0
Total	6	0	12	11	0	2	2

Source: MassDOT crash data
Note: MassDOT District 4 average crash rates were utilized since Boston was part of District 4 when these data was compiled.

Table 3-4
Vehicular Crash Summary (2007-2009) (continued)

	Albany Street at:				Frontage Road at:	
	Herald Street	Herald Rear Driveway	Traveler Street	East Berkeley Street	Traveler Street/ West Broadway	East Berkeley Street/ West 4th Street
Signalized?	Yes	No	Yes	Yes	Yes	Yes
MassDOT Average Crash Rate	0.78	0.59	0.78	0.78	0.78	0.78
MassDOT Calculated Crash Rate	0.62	0.03	1.05	0.57	1.82	2.56
Exceeds?	No	No	Yes	No	Yes	Yes
Year						
2006	12	1	4	2	28	26
2007	7	0	12	5	24	22
2008	3	0	12	6	14	23
Total	22	1	28	13	66	71
Collision Type						
Angle	7	0	8	2	41	54
Head-on	0	0	0	0	1	0
Rear-end	6	1	4	1	15	8
Rear-to-rear	0	0	0	0	1	0
Sideswipe, opposite direction	0	0	1	0	3	0
Sideswipe, same direction	3	0	8	1	2	7
Single Vehicle Crash	1	0	0	0	0	1
Unknown	0	0	0	1	1	0
Not Reported	5	0	7	8	2	1
Total	22	1	28	13	66	71
Severity						
Non-fatal Injury	5	0	6	3	22	29
Property Only	13	1	15	6	40	42
Not Reported	4	0	7	2	4	0
Unknown	0	0	0	2	0	0
Total	22	1	28	13	66	71
Time of day						
Weekday, 7:00 AM-9:00 AM	3	0	5	1	13	5
Weekday, 4:00 PM – 6:00 PM	0	0	3	0	5	10
Saturday, 11:00 AM – 2:00 PM	0	0	0	0	1	6
Weekday, other time	9	1	16	5	29	29
Weekend, other time	10	0	4	7	18	21
Total	22	1	28	13	66	71
Pavement Conditions						
Dry	16	1	20	9	48	53
Wet	4	0	7	1	17	17
Snow	0	0	0	0	0	1
Ice	0	0	0	0	0	0
Sand, mud, dirt, oil, gravel	0	0	0	0	0	0
Not Reported	2	0	1	3	1	0
Total	22	1	28	13	66	71

Source: MassDOT crash data
Note: MassDOT District 4 average crash rates were utilized since Boston was part of District 4 when these data was compiled.

In addition to the background growth rate, traffic projections for several specific projects were incorporated in the development of No-Build Condition. These include the following development projects:

- Eleven West Broadway – Eleven West, LLC - 50 apartment units and 8,230 sf of retail space within a 6-story building.
- Kneeland Street – Parcel 24 LLC - 345-residential mixed-income units and 5,500 sf of retail space.
- 275 Albany Street – BH Normandy - 198-room extended stay hotel and 210-room select-service hotel. The developer for that project also has been considering an alternate building program to include approximately 175 apartment units and a 200-room hotel. As those plans have not been formalized, this traffic study was conducted considering the approved hotel scenario for this site. Construction of this project is expected to start in late 2012 or early 2013.
- BioSquare Phase 2 – Boston Medical Center/Boston University - Full-build out includes 1.2 million sf of office/research & development – traffic study to include 530,000 of medical/office space within five-year study horizon.
- Shapiro Ambulatory Care Center - Boston University Medical Center - New 245,000 sf ambulatory care center. While this facility began operation around March 2011 the traffic data collection for this study occurred prior to that opening.
- Boston Medical Institutional Master Plan – Boston University Medical Center Boston University - New 10-year Institutional Master Plan – traffic study to include 160,000 sf medical/office building assumed to be constructed within five-year study horizon.
- 157 Berkeley Street – Liberty Mutual – 531,000 sf of office space. Construction on this project is underway and is expected to be completed in late 2013.
- Kneeland Street – Parcel 25 – In December 2011, MassDOT solicited proposals for the development of a 1.66 acre development parcel located at the southeast corner of Kneeland and Albany Street. While this parcel is part of a 10+ acre site including three other potential development parcels, MassDOT is currently only seeking bids for Parcel 25, with proposals being due in March 2012. No detailed plans are in place, but mixed-use development with accompany parks or public space have been envisioned for the full build-out of this development area. In the absence of any definitive plans for this parcel, potential traffic associated with this site has not been included as background traffic growth and is only discussed above for general reference of ongoing development proposals in this area.

The 2016 No-Build Condition peak-hour traffic volumes were developed by increasing the 2011 Existing Condition volumes to include general background traffic growth as previously described, and adding traffic volumes associated with known traffic forecasts projected for other development projects in the area.

Figures 3.14, 3.15, and 3.16 present the 2016 No-Build Condition traffic volumes for the weekday morning, weekday evening and Saturday midday peak hours, respectively.

Future Roadway Improvements

In the Proponent's meetings to date with MassDOT, BRA and BTD there were not any definitive planned roadway improvements programmed to be implemented within the traffic study area in the near future. However, several roadway improvements were evaluated at a conceptual level as part of the Strategic Plan discussed earlier in this chapter. The following section describes various roadway improvements being considered in the project area.

Harrison Avenue

Within the traffic study area, the Strategic Plan recommended a series of roadway improvements that have been targeted to be on a "mid-term" basis.

Adjacent to the Project Site, Harrison Avenue currently has an approximately 80-foot width with a raised median separating two lanes of travel in each direction on the roadway. The change suggested by the BRA would entail eliminating the median and providing single travel lanes in each direction. In turn, this would allow for both bikes lanes and on-street parking to be provided on both sides of the roadway, with increased sidewalks widths being provided on the easterly side of the roadway. For capacity purposes, the existing northbound right-turn lane on Harrison Avenue's approach to Herald Street would remain, as would an existing left-turn lane into the 1000 Washington Street parking garage which has access from this roadway.

Prior to this option, the BRA is also targeting to convert Harrison Avenue to allow for two-way traffic from Herald Street over Route I-90. This potential change would require new striping, signage, road work and signal modifications from Harrison Avenue/Marginal Road extending to Harrison Avenue/East Berkeley Street to the south. While an exact timeframe for implementation has not been established, the BRA has identified it to be a "short-term" improvement.

As discussed later in this chapter, the Project site layout is compatible with these potential future improvements. Under existing conditions, the Project site has multiple existing curb cuts on Harrison Avenue. Under the proposed condition, only a single curb cut will remain, and that will be restricted to entering and exiting right turns only. The site frontage along Harrison Avenue will feature multiple retail shops oriented towards pedestrians. Consistent with the BRA goals for this area, the Project will feature a pedestrian node/small public urban staircase with public seating (possibly to feature outdoor dining) opposite William E. Mullins Way. This node also will serve as the pedestrian entryway to the larger retail uses to be located within the site. A connecting walkway from this point through the site to Traveler Street and Albany Street will also enhance pedestrian activity.

Washington Street

Another significant traffic pattern change recommended in the Strategic Plan involves converting Washington Street to two-way traffic for all vehicles. Within the traffic study area Washington Street currently is one-way only in the northbound direction, with the exception of MBTA Silver Line buses which have a dedicated lane in both directions. With the proposed change, the dedicated MBTA bus lanes would still be provided in each direction along with single travel lanes and parking along the easterly side of the roadway. These potential changes would require new striping, signage, road work and signal modifications from Washington Street/Herald Street extending to Washington/East Berkeley Street to the south. Due to

the relatively minor nature of this work, the study has identified this change as something that could be implemented in the near-term future.

Albany Street

The BRA also recommended reducing the number of travel lanes on Albany Street from three to two lanes for the portion of this roadway to the south of East Berkeley Street. The resulting extra space created would be used for a dedicated five-foot wide bike lane on Albany Street and sidewalks increased from their current 12-foot width to approximately 21-feet wide. These changes would require corresponding modified signal equipment at affect intersections along with revised striping, signage and sidewalk construction. As Albany Street is a state roadway under MassDOT jurisdiction any changes would need to be approved through MassDOT. The Harrison-Albany study has identified this as a possible mid-term improvement.

Traveler Street

Adjacent to the Project Site, Traveler Street is currently a two-lane roadway with single travel lanes provided in each direction. However, the Harrison-Albany Corridor Study recommends making the roadway segments to the west to two-way as well. The westerly portion of Traveler Street between Washington Street and Harrison Avenue is currently one-way heading westbound with on-street parking for tour buses on both sides of the roadway. Both the BRA and BTD have indicated that converting this segment to two-way travel is likely to happen within the timeframe of the Boston Herald redevelopment study. These changes, which could likely be implemented in the near future, will necessitate new signal equipment with corresponding changes to the signal phasing and timing plan, along with striping and signage changes. The study also envisioned additional on-street parking being provided along Traveler Street. In conjunction with this Project, the Proponent will be working with the city to implement new striped on-street parking along the sites Traveler Street frontage. In preparing the study, BRA had initially considered also converting the segment of Traveler Street underneath Route I-93 to allow for two-way traffic. However, the final version of the study did not recommend that change likely due to constraints involved with queue storage and capacity of this segment underneath Route I-93. While neither the other recommendations in that study nor the proposed Project preclude this change from happening at a later date, it is assumed that that segment of Traveler Street will remain as one-way for the foreseeable future.

East Berkeley Street

Similar to the changes discussed above, the Harrison-Albany corridor study recommends converting East Berkeley Street to two-way travel underneath the Route I-93 overpass. Currently, this segment of East Berkeley Street is one-way heading westbound. To date, this change has only been considered at the conceptual level. With the potential changes, widening could be required underneath Route I-93 so that a single eastbound through-lane could be provided. The inner lane of the southbound Albany Street approach also would be modified so that left-turns would be allowed onto East Berkeley Street. As noted earlier, formal detailed design plans for this improvement have not yet been developed so the final configuration may vary. The changes noted above would involve new signal equipment with revised signal phasing and timings, along with new striping, signage and geometric modifications to reflect the new lane use underneath the Route I-93 overpass. Some existing street lighting, utilities and drainage structures also would need to be moved. These changes have been identified as possibly occurring on a medium-range timeframe.

■

Build Condition

The 2016 Build Conditions includes the adaptive re-use of the Boston Herald building with associated site improvements. As noted above, a variety of potential roadway improvements were considered by the City of Boston as part of the Strategic Plan. To provide for a conservative analysis, the Build Condition analysis was conducted assuming that none of these changes would be implemented within the five-year time horizon of this study. Regardless, additional technical analyses are provided in Appendix D regarding select locations where both the BRA and BTD believe that certain short-term improvements may be implemented in the near future.

The Project will involve the construction of a new 548,900-square foot neighborhood-oriented mixed-use redevelopment. In developing the site the majority of the existing infrastructure and building will remain with select portions to be razed. The Project will include the following four main components:

- **Building 1 –** This portion of the site will include a nine-story residential building facing Herald Street.
- **Building 2 –** This building will feature four stories of residential use to be constructed over streetfront retail shops adjacent to Harrison Avenue. Within the center portion of the site an there will be approximately 37,085 sf of additional retail space. While exact tenants have not yet been identified, it is likely that an approximately 30,000 sf grocery store will be constructed within this space.
- **Building 3 –** This portion of the development will be located along the sites southerly frontage on Harrison Avenue. This building will include eight stories of residential use to be built over streetfront retail facing Harrison Avenue.
- **Building 4 –** Similar to Building 3, this portion of the site will feature 8 stories of residential space being constructed over streetfront retail facing Traveler Street.

In total, approximately 471 residential units will be provided, the majority of which will have ground floor retail shops oriented to Harrison Avenue and Traveler Street. The residential units will likely be rental apartments (loft, one-, two-, and three-bedroom units) though Build 4 along Traveler Street could be developed as condominiums. As noted above, a 30,000 square foot neighborhood grocery store is anticipated; with the remaining approximately 55,000 sf of retail space mostly being comprised of streetfront shops with smaller retail space adjoin the grocery store. While exact tenants have not yet been determined for the streetfront retails space, the types of uses being sought include florists, coffee shops, and other similar convenience uses. A parking supply of approximately 411 spaces will serve the Project the majority of which will be in the form of structured parking.

Construction of the Project will be sequenced. Demolition is anticipated to begin in July 2012 followed by construction of Buildings 1, 2, and 3. Depending upon market conditions the project may be sequenced such that the construction of Building 4 commences after completion and occupancy of Buildings 1, 2, and 3. For traffic analysis purposes, a phased approach is not required for this traffic study and all four buildings are assumed to be constructed and in operation by 2016 (a five-year study horizon).

Site Access and Circulation

While the Project Site currently has access to Harrison Avenue, Traveler Street and Albany Street, the overall access plan is being revised to better serve the Project Site while being consistent with the City's goals for this area. Primary access to the Project Site will be provided by a single unsignalized driveway on Traveler Street. There are currently two unsignalized driveways located just east of Harrison Avenue. Both of those existing curb cuts will be closed with the new primary site access being located approximately 100 feet to the west of Albany Street. This driveway also will be located opposite the easterly proposed driveway to the proposed development site at 275 Albany Street. Based on the approved hotel plans for that site, the easterly driveway to that facility is currently planned as an entry-only driveway for taxi cabs, with a second full-access driveway located approximately 75 feet further to the west. The Project Site driveway will include single entering- and exiting-lanes with a crosswalk provided across the Traveler Street curb cut. A new sidewalk leading into the Project Site will also extend from the Traveler Street sidewalk that will be reconstructed as part of the Project. Refer to Figure 3.20 for the proposed site access improvements.

The Project Site currently has three curb cuts on Harrison Avenue (Figure 3.2). The southerly driveway is located approximately 100-feet south of Harrison Avenue's intersection with William E. Mullins Way and provides access to the existing surface parking lot. The existing median island on Harrison Avenue restricts this driveway to entering and exiting right-turns only. An unsignalized full-access driveway also is located directly opposite William E. Mullins Way and provides access to the existing surface parking lot and loading docks to the building. A driveway serving the office area at the northerly end of the Project Site is provided just south of Herald Street, and is also restricted to entering and exiting right turns by the Harrison Avenue median. This driveway will be closed as part of the Project. The driveway opposite William E. Mullins Way also will be closed and replaced with an outdoor pedestrian-oriented plaza area next to the streetfront retail uses. The existing southerly driveway to the Project Site will be eliminated and replace with a single driveway restricted to entering and existing right-turns.

A right-in/right-out driveway is currently provided on Albany Street, approximately 120 feet south of Herald Street. Adjacent to the Project Site, Albany Street is actually a state highway under MassDOT jurisdiction. The Proponent has had initial meetings with MassDOT at which the manner in which this driveway will be reused was discussed. This driveway currently is the sole access and egress point for the existing 100+ space parking garage underneath the building, along with an approximately 15-space surface parking field at the northeast corner of the Project Site. Due to the one-way configuration of Albany Street, this driveway currently is restricted to entering and exiting right turns only. However, the driveway is also located opposite the Route I-93 South on-ramp from Albany Street. During the data collection phase of this study, a small number of vehicles exiting from the Project Site and traveling directly across Albany Street to access this ramp was observed. While there is currently not any signage prohibiting this maneuver, the gore striping on Albany Street clearly indicates that this is not an allowed maneuver. As discussed later in this report, the Proponent will be implementing measures to help further discourage this prohibited exiting maneuver. Also, the Proponent has met with MassDOT (which has official jurisdiction of the curb cut for Albany Street), BRA and BTD regarding the Albany Street driveway. In meeting with BRA and BTD it was requested that this driveway be limited to exiting right-turns only. Accordingly, the Proponent will work with MassDOT to implement appropriate "DO NOT ENTER" and/or "NO RIGHT TURN" signage facing southbound Albany Street traffic at this driveway. With this restriction, traffic that would have entered the Project Site at this location will instead continue further south on Albany Street, turn right onto Traveler Street, and then turn right into the Project Site.

The use of the proposed Albany Street driveway is expected to be primarily oriented to exiting truck traffic. Delivery trucks accessing the proposed retail will enter via the Traveler Street driveway and travel along the easterly end of the building to access the loading area. After deliveries have been completed, these trucks will then exit the Project Site by turning right onto Albany Street. A loading space will also be provided for moving trucks for future residents so that that activity will not need to occur on public streets as occurs elsewhere in the city. These moving trucks will follow the same entering and exiting path. One of the benefits of the one-way Albany Street driveway is that it will eliminate the potential for southbound traffic on Albany Street cutting through the site to access either Traveler Street or Harrison Avenue. The only access and egress to the underground parking garage will be provided at the easterly end of the building via the connecting driveway from the main surface parking field to the rear loading area.

Project-Generated Trips

To assess the traffic impacts of the Project, trip estimates were based on standard rates from the Institute of Transportation Engineers (ITE) *Trip Generation*[2]. The appropriate ITE land use codes are shown in Table 3-5 and discussed further below.

Table 3-5
Trip Generation Land Use Codes

Land Use	ITE Land Use Code (LUC)	Independent Variable	Component Size
Residential	220 - Apartments	Dwelling Units	471 units
Retail	820 – Shopping Center	Square Feet	54,845 sf
Supermarket	850 – Supermarket	Square Feet	30,000 sf

- **Apartments –** ITE LUC 220 "Apartment." ITE provides data for alternate residential land use codes (such as "Mid-Rise Apartment") that closely match the definition of the apartments proposed. However, this study was conducted using ITE rates for standard apartments. This approach was taken due to both the greater number of data points in the "Apartment" database, along with the resulting higher overall trip generation.
- **Retail/Grocery store –** ITE LUC 850 "Supermarket." The proposed 30,000 sf of retail space may be developed as a neighborhood-oriented grocery store, though a definite tenant has not been identified at this time. Accordingly, trip generation for this retail space was estimated assuming a grocery store use, which would generate traffic at a higher rate than general retail for a development of this size.
- **Retail shops –** ITE LUC 820 "Shopping Center." While the proposed street-oriented retail shops more closely match ITE's definition of a "Specialty Retail Center" there are only limited data available for that land use code (LUC 814). Accordingly, initial trip generation estimates for the 54,845 sf of general retail space were conducted using ITE's shopping center trip generation rates. The estimates also considered the likely interaction between the retail and grocery uses in the form of conservatively estimated internal shared-trips.

[2] Trip Generation; Eighth Edition; Institute of Transportation Engineers; Washington, D.C.; 2008.

Mode Share and Vehicle Occupancy Rates

After the initial calculation of the base Project trip generation using ITE data, further adjustments were made to account for local mode share following guidelines by the Boston Transportation Department (BTD) for individual city zones. This mode-shared calculation is critical to the evaluation of overall Project-related traffic impacts as there will be a mixture of automobile travel to the Project Site, along with residents and customers that utilize public transit or walk and/or bike. While the Project Site falls within Zone 3, it is located at the corner junction of where Zones 2, 3 8 and 15 all meet. The characteristics of each of these abutting zones were reviewed and it was concluded that the Project and the study area should more closely reflect those found in the abutting Zone 15 just south of the Project Site. While use of the Zone 3 data would actually result in less vehicular traffic being projected, use of the Zone 15 data offers a more realistic estimate of the mode shares expected to be found with the use on the Project Site in this area.

Transit and bike/pedestrian activity was further evaluated by considering local vehicle occupancy rates (VOR) derived from the 2001 National Household Travel Survey based on Census Tract 712. While the Project Site actually falls within Tract 704, the data for Tract 704 were utilized for the same reasons noted above. The results of the adjusted trip generation are provided in Table 3-6.

Due to the urban neighborhood environment a substantial portion of the Project-generated trips are expected to use the MBTA transit system, or walk and/or bike. Regardless, the majority of the trips still will be in the form of motor-vehicle trips. As shown in Table 3-6, the Project will generate 5,414 and 7,640 vehicle trips on a typical weekday and Saturday. During the respective weekday morning and evening peak hours the Project will generate 202 and 495 trips and the Project will generate 571 trips during the Saturday midday peak hour.

The vehicle trip totals shown in Table 3-6 do not account for the traffic currently generated by the Boston Herald operations. A detailed discussion of the trip generation for the Project Site under existing conditions, as well as in prior years when the newspaper was in full operation, is provided in the next section of this report. However, as the Boston Herald currently was observed to generate only minimal traffic during the critical peak hours, this study was conservatively conducted without taking any credit for the existing activity on-site. More discussion regarding the prior use of the Project Site when it was fully active is provided later in this section.

Table 3-6
Project Trip Generation
Total Project-Related Trips by Mode

Time Period / Direction	Public Transportation	Walk/Bike/Other	Vehicle Trips
Weekday Daily			
Enter	1,036	2,635	2,707
Exit	1,036	2,635	2,707
Total	2,072	5,270	5,414
Weekday Morning			
Enter	38	92	87
Exit	89	107	115
Total	127	199	202
Weekday Evening			
Enter	205	314	244
Exit	112	282	251
Total	317	596	495
Saturday Daily			
Enter	1,479	3,867	3,820
Exit	1,479	3,867	3,820
Total	2,958	7,734	7,640
Saturday Midday			
Enter	112	290	290
Exit	93	281	281
Total	205	571	571

Source: Trip Generation, 8th Edition, Institute of Transportation Engineers, Washington D.C. (2008).
Notes: Land Use Codes (LUC) 220 (Apartment), LUC 820 (Shopping Center) and LUC 850 (Supermarket) used to estimate trip generation for the individual site components. The base trip generation estimates were subsequently categorized into transit, walk, bike or vehicular trips following BTD's guidelines for Zone 15.

Likewise, not all of the retail or grocery store traffic will represent new trips to the surrounding roadways. While it cannot be readily quantified, a portion of the trips associated with these retail uses may already be traveling on the adjacent roadways to other retail uses in the area, but would now have the option of visiting the Project Site. Likewise, as with any retail use, a portion of the retail trips will be in the form of "pass-by" trips already traveling past the site on their way to another primary destination. For this preliminary evaluation a 25-percent pass-by rate was assumed, though ITE data indicate that a greater occurrence of pass-by traffic is possible for both the retail and/or grocery uses. The resulting vehicular trip generation for the Project as categorized into both new and pass-by trips is provided in Table 3-7.

As shown in Table 3-7, the proposed redevelopment is expected to generate approximately 4,486 and 6,220 new vehicle trips on a typical weekday and Saturday, respectively. The Project is anticipated to generate 181 new trips during the weekday morning peak hour, 404 new trips in the weekday evening peak hour and

459 new trips during the Saturday midday peak hour. The estimates shown in Table 3-7 also may be overly conservative as they *do not account for internal trip sharing* between residents and the retail stores. The location of these uses may be particularly attractive to residents who will easily be able to walk to these stores. Detailed trip generation estimates by land use are provided in the Appendix D.

Table 3-7
Project Trip Generation (Vehicle Trips)

Time Period/ Direction	Residential Trips	Grocery/Retail trips*			New Trips	Pass-By Trips	Total Trips
		Total	Pass-By**	New			
Weekday Daily							
Enter	849	1,858	464	1,394	2,243	464	2,707
Exit	849	1,858	464	1,394	2,243	464	2,707
Total	1,698	3,716	928	2,788	4,486	928	5,414
Weekday Morning							
Enter	25	62	11	51	76	11	87
Exit	83	33	11	22	105	11	116
Total	108	95	22	73	181	22	203
Weekday Evening							
Enter	79	164	45	119	198	45	243
Exit	52	199	45	154	206	45	251
Total	131	363	90	273	404	90	494
Saturday Daily							
Enter	981	2,839	710	2,129	3,110	710	3,820
Exit	981	2,839	710	2,129	3,110	710	3,820
Total	1,962	5,678	1,420	4,258	6,220	1,420	7,640
Saturday Midday							
Enter	61	229	56	173	234	56	290
Exit	66	215	56	159	225	56	281
Total	127	444	112	332	459	112	571

* Source: Trip Generation, 8th Edition, Institute of Transportation Engineers, Washington D.C. (2008). Land Use Codes (LUC) 220 (Apartment), LUC 820 (Shopping Center) and LUC 850 (Supermarket) used to estimate trip generation for the individual site components. The base trip generation estimates were subsequently categorized into transit, walk, bike or vehicular trips following BTD's guidelines for Zone 15.

** 25-percent pass-by rate.

Former Boston Herald Use

The Boston Herald is still currently in operation, but with significantly lower levels of activity than used to exist. At its peak operation, there were over 600 employees working on the Project Site. Approximately 475 people were devoted to the newspaper printing operation. The printing staff generally operated in two shifts, with roughly half working between 9 AM – 5 PM and the other half working from 5 PM – 3 AM. There were

also approximately 140 employees in office or general administration roles also working on-site, mostly during standard daytime working hours. By the last quarter of 2008, the newspaper reduced the number of overall number employees at the Project Site and relocated the newspaper printing operation to a plant in Chicopee, Massachusetts. At that time there was also a corresponding reduction in the number of office and administration employees on-site. About half of the underground building area that will be used for parking as part of the Project is currently used for newspaper storage. Currently, trucks come on to the Project Site in the early morning hours after midnight to offload newspapers, which are then loaded onto 50+ smaller trucks parked on-site during the day to distribute regionally.

While the Boston Herald was operating at a diminished level during the traffic data collection of this study, it was in full operation within the past three-year period as described above. Accordingly, MEPA regulations allow for traffic generated by former uses that have been discontinued for less than three years to be considered in traffic analysis. While the subsequent capacity analysis presented in this report was conducted without any "credit" for this former site trip generation, the amount of traffic previously generated was estimated for comparison purposes. The following section summarizes how the traffic previously generated by the Boston Herald was estimated for this comparison.

The Project Site is located in an urban area served by public transportation where bike and pedestrian travel to and from the Project Site also could be expected. Accordingly, to be consistent with how trip generation for the Project is calculated it is reasonable for some mode split to be applied to the traffic volumes summarized above. As the second work shift (5 PM – 3 AM) ended after MBTA operating hours, it is assumed that none of those employees utilized public transportation. Likewise, it is unlikely that any of the print employees would have been walking or bicycling home in any notable numbers during the early morning hours. Therefore, for the purpose of this exercise it is assumed that all of the second-shift employees traveled to and from work by automobile. For the daytime print staff and office/administration workers, the same mode-spilt characteristics that would be in place with the Project were assumed. The resulting trip generation for the former use considering the mode splits by site employees is shown in Table 3-8.

As shown in Table 3-8, the former Boston Herald was most active under weekday conditions. It is possible that the Saturday trip generation may have been slightly higher than shown due to the ITE database not necessarily reflecting the typical 7-day-per-week operation of a newspaper. Regardless, during a critical typical weekday, the Project Site would generate 1,494 vehicle trips.

Table 3-9 compares the estimated daily and peak hour vehicles trips associated with the former fully-active Boston Herald operation to those of the Project. The proposed reuse of the Project Site will result in an increase in daily traffic of less than the 3,000-trip MEPA threshold for a Mandatory EIR. While Project-related trip generation should remain relatively unchanged during the weekday morning peak hour, the retail component of the site should introduce additional traffic during the weekday evening and Saturday midday peak hours. Regardless, a full capacity analysis has been conducted assessing the Project-related impacts compared to the current diminished use of the Project Site as outlined later in this section.

Table 3-8
Former Boston Herald Trip Generation*

Time Period / Direction	Public Transportation	Walk/Bike/ Other	Vehicle Trips		
			Office	Newspaper Printing	Total Trips
Weekday Daily					
Enter	172	118	174	573	747
Exit	172	118	174	573	747
Total	344	236	348	1,146	1,494
Weekday Morning					
Enter	72	48	43	91	134
Exit	20	8	5	15	20
Total	92	56	48	106	154
Weekday Evening					
Enter	26	11	8	18	26
Exit	74	49	51	85	136
Total	100	60	59	103	162
Saturday Daily					
Enter	31	21	27	112	139
Exit	31	21	27	112	139
Total	62	42	54	224	278
Saturday Midday					
Enter	8	5	4	14	18
Exit	8	6	3	15	18
Total	16	11	7	29	36

* Source: Trip Generation, 8th Edition, Institute of Transportation Engineers, Washington D.C. (2008). LUC 110 (General Light Industrial) and LUC 710 (General Office Building) used to estimate trip generation for the individual former site components. The base trip generation estimates were subsequently categorized into transit, walk, bike or vehicular trips following BTD's guidelines for Zone 15. Second shift site traffic assumed to be entirely comprised of automobile traffic.

Table 3-9
Trip Generation Comparison – Former Boston Herald vs. Project

Time Period / Direction	Former Boston Herald	Project	Increase
Weekday Daily			
Enter	747	2,707	1,960
Exit	747	2,707	1,960
Total	1,494	5,414	3,920
Weekday Morning			
Enter	134	87	-47
Exit	20	116	96
Total	154	203	49
Weekday Evening			
Enter	26	243	217
Exit	136	251	115
Total	162	494	332
Saturday Daily			
Enter	139	3,820	3,681
Exit	139	3,820	3,681
Total	278	7,640	7,362
Saturday Midday			
Enter	18	290	272
Exit	18	281	263
Total	36	571	535

Source: Trip Generation, 8th Edition, Institute of Transportation Engineers, Washington D.C. (2008).
Notes: Land Use Codes (LUC) 110 (General Light Industrial) and LUC 710 (General Office Building) used to estimate trip generation for the individual building components based on 300 employees each for printing/general site operation and office space.

Automobile Trip Distribution

While the mode-share splits are largely dependent on existing land uses within a given BTD city section, the arrival/departure patterns are more closely associated with the existing roadway infrastructure. Accordingly, Trip distribution was based on BTD's guidelines for Area 3 (where Project Site is located). These guidelines, based on 2000 census data, provide information on where area residents work and where area employees live. Using these data, vehicle trips can then be assigned to the roadway network. Trip distribution patterns were established separately for the residential and the retail/commercial uses. A summary of the primary roadways of origin of vehicles traveling to the site is summarized in Table 3-10.

Table 3-10
Geographic Trip Distribution

Corridor	Residential Distribution	Retail Distribution
Albany Street	47%	47%
Herald Street	11%	2%
Harrison Avenue – from north	10%	10%
Harrison Avenue – from south	11%	20%
Frontage Road	19%	19%
East Berkeley Street	2%	2%
Total	100%	100%

The net-new Project-generated vehicle trips were added to the No-Build traffic networks using the distribution patterns summarized in Table 3-10. Traffic volume network worksheets are provided in the Appendix D. The resulting 2016 Build Condition networks are shown in Figures 3.17, 3.18, and 3.19 for the respective weekday morning, weekday evening and Saturday midday peak hours.

A comprehensive operational and capacity analysis of the study area intersections is presented later in this chapter. Potential improvements to area intersections are also discussed later.

Parking Supply

The anticipated parking needs associated with the residential component of the Project will be satisfied through 234 below-grade garage parking spaces to be provided within the existing basement level. The garage spaces will be accessible only to residents with access via automated card readers or similar means. The resulting ratio (including visitor spaces) is approximately 0.50 spaces per residential unit, which is below the 1.0 space per maximum per unit ratio allowed by Boston's Zoning Bylaws.

The parking demand for the retail component (including employee parking) of the Project will be satisfied through 67 surface parking spaces and construction of a new 110-space parking deck. This results in a parking ratio of almost 2.0 spaces per 1,000 square feet of retail, which is well below the 4.0 to 5.0 per 1,000 square feet parking ratios typically provided for retail or neighborhood grocery uses similar to that proposed as part of the Project. The retail parking will be concentrated within the center of the site and will be largely shielded from the surrounding streets by the streetfront retail buildings along the perimeter of the Project Site. Approximately 29 of these surface spaces are located at the southeasterly corner of the Project Site and will include the proposed Mobility Hub. As noted earlier, the total resulting surface parking supply (including the new parking deck spaces) of 177 spaces is a considerable reduction from the 274 surface spaces and 15 trailer spaces currently provided on-site almost half of which are typically occupied by large Boston Herald delivery vehicles parked during daytime hours.

Parking Demand

To estimate parking demands associated with the Project, the Institute of Transportation Engineers (ITE) *Parking Generation Handbook, 4th Edition*[3] was used. These rates provide a relatively conservative start point for estimating parking demands in a denser, urban location, and, therefore, require adjustment for alternative modes of transportation (transit services, walking and bicycling), and parking pricing. As with the trip generation estimates, BTD mode shares were applied to the retail and residential parking demands of the Project. The results of the adjusted weekday and Saturday parking demand analysis are presented in Table 3-11.

Table 3-11
Project Parking Demand Estimate

Land use	Supply	Weekday Peak Demand*	Saturday Peak Demand*
Residential	234	437	490
Grocery/Retail**	177	68	62
Retail shops	**	74	83
Total	411	580	636

Source: Parking Generation, 4th Edition, Institute of Transportation Engineers, Washington D.C. (2010). Land Use Codes (LUC) 220 (Apartment), LUC 820 (Shopping Center) and LUC 850 (Supermarket) used to estimate parking generation for the individual site components. The base trip generation estimates were subsequently categorized into transit, walk, bike or vehicular trips following BTD's guidelines for Zone 15.

* Peak demand considered as parking demand under typical non-holiday season conditions.

** Approximately 98 and 35 parking spaces will be designated for exclusive use by the grocery and retail shop uses, respectively, with another 34 shared spaces available for use by either retail or grocery.

As shown in Table 3-11, based on standard ITE-based calculations, the Project would be expected to have a total peak parking demand of 580 and 636 spaces during the weekday and Saturday peak periods outside of the holiday shopping season, respectively. This projected parking deficit is primarily due to the residential demand forecast by the ITE data. Unlike retail demand, which can vary based on public demand, the residential parking use will be controlled in conjunction with residential lease or unit deeds. With the transit-oriented nature of the Project, not all residents will want/need or have access to an individual parking space. Accordingly, the effective residential parking demand will be capped by the 234 parking spaces that will be made available for residential use, including visitors.

Of the 67 surface parking spaces and 110 new parking deck spaces designated for retail customers and employees, approximately 98 and 35 of these spaces will be designated for exclusive use by the grocery and retail shop uses, respectively. The other 44 parking spaces will be shared between these retail/grocery uses. With these 98 spaces being reserved for the grocery store there will be ample spaces available to accommodate the projected peak demand of 68 vehicles. The projected peak demand of 83 vehicles will be slightly higher than the remaining available 69-space parking supply (35 spaces designated for retail, with 44 additional shared spaces expected to be available for use). However, the parking calculations do not account for shared trips that will occur with this Project. Specifically, the retail shops clearly will be attractive to the existing surrounding and new on-site residents and, as such, the retail parking demand may be lower than

[3] Parking Generation; Fourth Edition; Institute of Transportation Engineers; Washington, D.C.; 2010.

shown with the ITE data due to some of this customer base already living on-site or nearby. Furthermore, any overflow parking needs should be readily accommodated by on-street parking on either Traveler Street (to be created in conjunction with this Project) or on Harrison Avenue.

Loading

Commercial loading at the Project Site will be oriented to the designed loading area that will be provided at the northeast corner of Building 2. Deliveries will occur in a one-way fashion, with all delivery trucks accessing the Project Site via the main site driveway on Traveler Street. Once on the site, these trucks will travel along the easterly side of the building to access the loading area. The southerly portion of this circulation aisle will allow for two-way traffic, as this will also be the sole access/egress to the underground residential parking garage. Beyond that area, delivery trucks will be able to back up into one of the three available dock spaces. An additional loading space will also be designated in this area for use by residents moving in and/or out of their apartments. The compactor/dumpster will also be located in the area between the loading docks. After delivery goods, all delivery vehicles will exit the Project Site via the right-turn/exit-only driveway onto Albany Street. Providing the on-site loading facilities noted above will prevent the newly created streetscape environment from being detracted by on-site loading activity that occurs elsewhere in the city.

Traffic Operations Analysis

Consistent with BTD's guidelines, *Synchro 6* software was used to model level of service (LOS) operations at the study area intersections. LOS is a qualitative measure of control delay at an intersection providing an index to the operational qualities of a roadway or intersection.

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

Table 3-12 below presents the level of service delay threshold criteria as defined in the 2000 Highway Capacity Manual (HCM).

Table 3-12
Level of Service Criteria

Level of Service	Un-signalized Intersection Control Delay (sec/veh)	Signalized Intersection Control Delay (sec/veh)
LOS A	0-10	≤ 10
LOS B	> 10-15	> 10-20
LOS C	> 15-25	> 20-35
LOS D	> 25-35	> 35-55
LOS E	> 35-50	> 55-80
LOS F	> 50	> 80

Source: 2000 HCM

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

■

Signalized Capacity Analysis

The LOS results of the signalized capacity analyses are summarized in Table 3-13 for the Existing, No-Build, and Build conditions. Detailed results including delay by approach, queuing and volume to capacity ratio are presented in the Appendix D, along with the detailed Synchro results.

Table 3-13
Signalized Intersection Level of Service (LOS) Summary

	2011 Existing Conditions				2016 No-Build Conditions				2016 Build Conditions			
Intersection	LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	LOS	Delay	V/C	95th % Queue	LOS	Delay	V/C	95th % Queue
Herald Street / Washington Street												
Weekday AM												
Herald EB LT	B	16.5	0.49	153	B	17.0	0.53	168	B	17.0	0.53	168
Washington NB T	B	19.7	0.49	183	B	18.4	0.52	178	B	17.8	0.53	171
Washington NB R	B	17.4	0.03	m17	B	13.7	0.03	m14	B	12.6	0.03	m13
Washington SB T*	B	13.1	0.09	17	B	13.1	0.09	17	B	13.1	0.09	17
Overall	B	17.7	0.49		B	17.4	0.53		B	17.2	0.53	
Weekday PM												
Herald EB LT	D	40.9	0.94	#399	E	56.2	1.01	#485	E	58.1	1.02	#491
Washington NB T	B	13.5	0.34	138	B	13.7	0.36	147	B	13.9	0.38	155
Washington NB R	B	11.8	0.13	50	B	11.9	0.14	53	B	11.9	0.14	53
Washington SB T*	B	11.1	0.05	18	B	11.1	0.05	18	B	11.1	0.05	18
Overall	C	32.7	0.59		D	43.7	0.63		D	44.9	0.64	

Table 3-13
Signalized Intersection Level of Service (LOS) Summary

	2011 Existing Conditions				2016 No-Build Conditions				2016 Build Conditions			
Intersection	LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	LOS	Delay	V/C	95th % Queue	LOS	Delay	V/C	95th % Queue
Saturday Midday												
Herald EB LT	B	17.1	0.45	141	B	17.5	0.48	153	B	17.6	0.49	155
Washington NB T	B	13.4	0.30	101	B	13.6	0.32	107	B	13.8	0.34	114
Washington NB R	B	12.5	0.16	46	B	12.8	0.18	54	B	12.8	0.19	55
Washington SB T*	B	11.4	0.04	14	B	11.4	0.04	14	B	11.4	0.04	14
Overall	B	15.5	0.37		B	15.8	0.40		B	15.9	0.41	
Herald Street / Harrison Avenue												
Weekday AM												
Herald EB TR	C	20.1	0.53	155	C	20.6	0.57	168	C	20.6	0.56	168
Harrison NB R	C	31.8	0.03	0	C	31.8	0.03	0	C	31.8	0.03	0
Harrison SB L	C	29.2	0.35	78	C	29.6	0.37	82	C	29.2	0.35	78
Harrison SB T	C	23.2	0.23	47	C	23.8	0.29	57	C	23.9	0.30	59
Overall	C	22.0	0.45		C	22.5	0.48		C	22.5	0.48	
Weekday PM												
Herald EB TR	C	29.5	0.88	308	D	37.1	0.96	#384	D	37.8	0.96	#387
Harrison NB R	C	32.5	0.09	0	C	32.6	0.10	0	C	32.7	0.11	0
Harrison SB L	C	31.2	0.47	130	C	31.9	0.50	137	C	31.9	0.50	137
Harrison SB T	C	23.6	0.28	71	C	24.0	0.32	80	C	24.4	0.35	86
Overall	C	29.3	0.71		C	34.7	0.77		D	35.2	0.77	
Saturday Midday												
Herald EB TR	B	19.9	0.52	155	C	20.5	0.56	168	C	20.5	0.56	169
Harrison NB R	C	31.8	0.03	0	C	31.8	0.03	0	C	31.9	0.04	0
Harrison SB L	C	26.4	0.20	69	C	26.6	0.21	72	C	26.6	0.21	72
Harrison SB T	C	22.9	0.22	64	C	23.3	0.25	73	C	23.6	0.28	81
Overall	C	21.4	0.39		C	21.9	0.43		C	22.1	0.44	
Herald Street / Albany Street												
Weekday AM												
Herald EB R	D	37.8	0.91	#305	D	46.3	0.97	#335	D	43.5	0.95	#327
Albany SB T	B	12.6	0.55	182	B	13.5	0.62	212	B	13.7	0.63	219
Overall	C	23.5	0.69		C	27.3	0.75		C	25.9	0.76	

Table 3-13
Signalized Intersection Level of Service (LOS) Summary

	2011 Existing Conditions				2016 No-Build Conditions				2016 Build Conditions			
Intersection	LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	LOS	Delay	V/C	95th % Queue	LOS	Delay	V/C	95th % Queue
Weekday PM												
Herald EB R	F	95.5	1.13	#643	F	>120	>1.20	#715	F	>120	>1.20	#715
Albany SB T	C	24.6	0.74	349	C	26.8	0.81	398	C	29.0	0.86	436
Overall	E	61.5	0.94		F	80.3	1.01		E	79.9	1.04	
Saturday Midday												
Herald EB R	B	19.0	0.63	199	B	19.8	0.67	215	B	19.8	0.67	217
Albany SB T	B	15.7	0.43	135	B	16.4	0.49	158	B	17.2	0.55	180
Overall	B	17.4	0.53		B	18.1	0.58		B	18.5	0.61	
Traveler Street/ Harrison Avenue												
Weekday AM												
Traveler WBL	B	13.7	0.03	20	B	13.8	0.05	29	-	-	-	-
Traveler WB TR	B	15.3	0.19	73	B	15.7	0.22	84	B	14.8	0.16	54
Harrison NB LTR	C	29.3	0.64	113	C	32.2	0.72	122	C	34.6	0.77	129
Harrison SB LTR	C	29.9	0.57	101	D	39.0	0.78	125	D	49.6	0.88	135
Overall	C	26.7	0.38		C	31.1	0.45		D	35.1	0.45	
Weekday PM												
Traveler WBL	B	16.9	0.05	33	B	17.2	0.08	46	-	-	-	-
Traveler WB TR	B	17.0	0.06	37	B	17.2	0.07	42	B	17.7	0.15	62
Harrison NB LTR	D	40.1	0.65	166	D	42.2	0.74	m176	D	45.5	0.86	m201
Harrison SB L^	-	-	-	-	F	>120	1.13	#239	F	>120	>1.20	#328
Harrison SB LTR	D	41.8	0.84	#203	D	36.7	0.74	293	D	35.6	0.72	283
Overall	D	39.3	0.42		D	52.6	0.55		F	96.4	0.87	
Saturday Midday												
Traveler WBL	B	13.7	0.03	20	B	14.0	0.06	32	-	-	-	-
Traveler WB TR	B	14.3	0.10	41	B	14.5	0.12	46	B	14.8	0.17	58
Harrison NB LTR	C	23.8	0.36	63	C	24.8	0.42	68	C	28.7	0.61	101
Harrison SB LTR	D	35.2	0.75	163	E	56.5	0.95	#221	F	>120	1.18	#271
Overall	C	28.8	0.35		D	40.0	0.43		E	72.0	0.56	

Table 3-13
Signalized Intersection Level of Service (LOS) Summary

Intersection	2011 Existing Conditions				2016 No-Build Conditions				2016 Build Conditions			
	LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	LOS	Delay	V/C	95th % Queue	LOS	Delay	V/C	95th % Queue
Traveler Street/ Albany Street												
Weekday AM												
Traveler EB TR	D	54.1	0.62	85	E	55.3	0.69	98	E	55.6	0.77	136
Albany SB L	A	7.4	0.52	56	A	9.4	0.59	185	B	12.1	0.62	319
Albany SB LTR	A	5.9	0.46	274	A	7.1	0.52	350	A	9.8	0.57	421
Overall	B	12.0	0.53		B	14.7	0.61		B	18.6	0.65	
Weekday PM												
Traveler EB TR	D	49.3	0.74	133	D	48.8	0.79	154	D	48.9	0.87	219
Albany SB L	B	13.6	0.69	467	B	19.3	0.78	#762	C	32.4	0.89	#883
Albany SB LTR	B	10.2	0.61	459	B	13.6	0.70	#647	C	21.8	0.83	#763
Overall	B	17.4	0.70		C	21.7	0.78		C	31.1	0.89	
Saturday Midday												
Traveler EB TR	D	42.7	0.47	69	D	42.9	0.55	83	D	44.2	0.76	155
Albany SB L	A	5.2	0.32	41	A	6.1	0.37	46	A	9.6	0.43	95
Albany SB LTR	A	4.8	0.31	145	A	5.5	0.35	179	A	9.1	0.44	262
Overall	B	10.6	0.33		B	12.5	0.39		B	18.5	0.51	
Traveler Street/ Frontage Road/ West Broadway												
Weekday AM												
Traveler EB L	A	9.3	0.26	104	A	9.5	0.29	116	B	10.1	0.34	139
Traveler EB T	A	9.6	0.33	124	A	9.8	0.35	134	A	9.8	0.35	134
W. Broadway WB R	D	45.6	0.85	#459	D	51.4	0.90	#495	D	51.4	0.90	#495
W. Broadway WB R	F	105.5	1.12	#670	F	>120	>1.20	#751	F	>120	>1.20	#763
Frontage NB L	C	28.4	0.34	112	C	28.9	0.38	124	C	28.9	0.38	124
Frontage NB TR	C	29.6	0.46	143	C	30.0	0.48	152	C	30.0	0.48	152
Overall	D	46.7	0.72		E	58.5	0.78		E	59.6	0.79	
Weekday PM												
Traveler EB L	B	10.1	0.34	147	B	10.6	0.38	166	B	11.7	0.46	214
Traveler EB T	B	11.5	0.51	221	B	12.0	0.55	242	B	12.0	0.55	244
W. Broadway WB R	C	29.1	0.56	244	C	30.2	0.59	261	C	30.2	0.59	261
W. Broadway WB R	C	32.1	0.66	280	D	35.5	0.74	#350	D	37.2	0.77	#392
Frontage NB L	C	28.9	0.38	124	C	29.7	0.43	140	C	29.7	0.43	140
Frontage NB TR	C	33.3	0.67	216	C	34.6	0.72	235	C	34.6	0.72	235
Overall	C	23.5	0.64		C	24.7	0.70		C	24.8	0.71	

Table 3-13
Signalized Intersection Level of Service (LOS) Summary

	2011 Existing Conditions				2016 No-Build Conditions				2016 Build Conditions			
Intersection	LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	LOS	Delay	V/C	95th % Queue	LOS	Delay	V/C	95th % Queue
Saturday Midday												
Traveler EB L	A	9.0	0.23	96	A	9.3	0.27	110	B	10.5	0.38	162
Traveler EB T	A	8.6	0.21	78	A	8.7	0.23	84	A	8.7	0.23	85
W. Broadway WB R	C	22.7	0.26	97	C	22.9	0.28	102	C	22.9	0.28	102
W. Broadway WB R	C	25.3	0.42	67	C	27.1	0.50	107	C	28.3	0.55	135
Frontage NB L	C	26.5	0.20	68	C	27.0	0.24	80	C	27.0	0.24	80
Frontage NB TR	C	27.7	0.31	100	C	28.0	0.34	107	C	28.1	0.34	109
Overall	B	19.9	0.35		C	20.6	0.40		C	20.5	0.45	
East Berkeley Street/ Harrison Avenue												
Weekday AM												
E. Berkeley WB LTR	C	24.5	0.83	m447	C	27.7	0.91	m452	C	28.1	0.92	m453
Harrison NB LT	C	33.9	0.54	233	D	36.1	0.60	267	D	37.1	0.63	#283
Harrison SB T	C	28.0	0.30	153	C	28.9	0.35	179	C	29.3	0.37	188
Harrison SB R	C	24.6	0.07	30	C	24.7	0.08	31	C	24.9	0.09	32
Overall	C	25.9	0.70		C	28.7	0.77		C	29.2	0.79	
Weekday PM												
E. Berkeley WB LTR	C	34.6	0.83	262	D	39.7	0.90	#294	D	42.9	0.93	#330
Harrison NB LT	C	26.6	0.70	#376	C	30.8	0.78	#434	D	35.2	0.84	#479
Harrison SB T	B	10.2	0.38	m211	B	12.2	0.42	283	B	14.2	0.43	285
Harrison SB R	B	11.7	0.09	m27	B	13.9	0.10	m35	B	16.7	0.12	m42
Overall	C	27.9	0.76		C	32.0	0.83		D	35.1	0.88	
Saturday Midday												
E. Berkeley WB LTR	C	21.4	0.49	153	C	22.1	0.54	172	C	22.5	0.57	179
Harrison NB LT	C	21.9	0.43	182	C	23.0	0.48	#222	C	25.0	0.56	#289
Harrison SB T	B	18.4	0.23	114	B	19.1	0.29	139	B	19.5	0.31	150
Harrison SB R	B	16.9	0.09	33	B	17.0	0.10	34	B	17.3	0.13	37
Overall	C	20.7	0.46		C	21.4	0.51		C	22.0	0.56	
East Berkeley Street/ Albany Street												
Weekday AM												
E. Berkeley WB LT	C	22.2	0.97	m#775	D	45.8	1.06	m#813	D	50.1	1.07	m#823
Albany SB TR	C	24.9	0.55	129	C	28.1	0.64	189	C	28.6	0.65	227
Overall	C	23.5	0.78		D	39.0	0.88		D	41.8	0.88	

Table 3-13
Signalized Intersection Level of Service (LOS) Summary

	2011 Existing Conditions				2016 No-Build Conditions				2016 Build Conditions			
Intersection	LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	LOS	Delay	V/C	95th % Queue	LOS	Delay	V/C	95th % Queue
Weekday PM												
E. Berkeley WB LT	A	8.0	0.66	84	A	9.3	0.71	441	B	10.7	0.74	470
Albany SB TR	C	23.9	0.54	223	C	24.5	0.61	238	C	22.8	0.63	m245
Overall	B	15.8	0.61		B	16.9	0.67		B	16.8	0.69	
Saturday Midday												
E. Berkeley WB LT	A	7.1	0.50	58	A	7.5	0.55	69	A	8.6	0.59	84
Albany SB TR	B	19.1	0.31	142	C	20.0	0.39	174	C	23.7	0.42	193
Overall	B	12.4	0.41		B	13.3	0.47		B	15.6	0.50	
East Berkeley Street/ Frontage Road/ West 4th Street												
Weekday AM												
E. Berkeley EB TR	D	49.9	0.92	#414	E	60.6	0.98	#464	E	60.6	0.98	#464
Frontage NB L	D	40.7	0.82	#571	E	55.4	0.93	#684	E	57.6	0.94	#695
Frontage NB LTR	D	39.7	0.87	#484	D	50.2	0.95	#590	D	51.8	0.96	#598
Overall	D	44.2	0.89		E	55.7	0.96		E	56.8	0.97	
Weekday PM												
E. Berkeley EB TR	D	37.4	0.67	223	D	38.5	0.71	239	D	38.6	0.72	241
Frontage NB L	C	22.2	0.47	160	C	23.4	0.54	200	C	24.4	0.59	220
Frontage NB LTR	F	>120	>1.20	#787	F	>120	>1.20	#896	F	>120	>1.20	#896
Overall	F	93.1	1.02		F	>120	>1.20		F	>120	1.11	
Saturday Midday												
E. Berkeley EB TR	C	33.4	0.50	136	C	33.5	0.54	148	C	33.6	0.54	149
Frontage NB L	B	19.0	0.30	80	B	19.5	0.32	83	B	19.8	0.36	89
Frontage NB LTR	C	21.4	0.52	217	C	23.0	0.60	254	C	23.0	0.60	254
Overall	C	24.8	0.52		C	25.6	0.58		C	25.6	0.58	
Traveler Street/ Washington Street												
Weekday AM												
Traveler WBR	A	0.5	0.17	0	A	0.5	0.18	0	A	0.5	0.19	0
Washington NBT	A	1.9	0.13	17	A	1.9	0.14	19	A	1.9	0.14	19
Washington SBT*	A	1.6	0.05	1	A	1.3	0.05	1	A	1.6	0.05	1
Overall	A	1.4	0.17		A	1.4	0.18		A	1.4	0.19	

Table 3-13
Signalized Intersection Level of Service (LOS) Summary

	2011 Existing Conditions				2016 No-Build Conditions				2016 Build Conditions			
Intersection	LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	LOS	Delay	V/C	95th % Queue	LOS	Delay	V/C	95th % Queue
Weekday PM												
Traveler WBR	A	0.5	0.15	0	A	0.5	0.16	0	A	0.5	0.18	0
Washington NBT	A	1.8	0.12	17	A	1.9	0.13	17	A	1.9	0.13	17
Washington SBT*	A	1.7	0.04	5	A	1.7	0.04	5	A	1.7	0.04	5
Overall	A	1.4	0.15		A	1.4	0.16		A	1.4	0.18	
Saturday Midday												
Traveler WBR	A	0.5	0.19	m0	A	0.5	0.20	m0	A	0.5	0.21	m0
Washington NBT	A	2.6	0.12	42	A	2.7	0.13	44	A	2.0	0.12	20
Washington SBT*	A	2.5	0.03	10	A	2.4	0.03	10	A	1.9	0.03	4
Overall	A	1.8	0.19		A	1.8	0.20		A	1.4	0.21	
East Berkeley Street/ Washington Street												
Weekday AM												
E. Berkeley WBLTR	C	33.9	0.81	267	C	31.6	0.81	286	C	31.0	0.80	281
Washington NBL	C	21.7	0.23	87	C	24.6	0.26	95	C	25.2	0.27	97
Washington NBT	C	27.3	0.57	#382	C	32.5	0.66	#448	C	33.5	0.67	#466
Washington SBT*	B	19.3	0.07	31	C	21.5	0.07	32	C	22.0	0.07	33
Overall	C	31.7	0.68		C	31.3	0.73		C	31.2	0.74	
Weekday PM												
E. Berkeley WBLTR	C	34.1	0.81	266	C	32.9	0.81	278	C	32.0	0.81	283
Washington NBL	C	20.1	0.31	128	C	20.8	0.29	136	C	20.7	0.25	129
Washington NBT	C	22.0	0.47	#334	C	24.4	0.52	#388	C	25.3	0.53	#395
Washington SBT*	B	16.4	0.06	30	B	17.7	0.06	32	B	18.3	0.06	32
Overall	C	30.3	0.62		C	30.1	0.65		C	29.7	0.66	
Saturday Midday												
E. Berkeley WBLTR	D	42.4	0.80	192	D	42.0	0.81	202	D	40.9	0.81	210
Washington NBL	B	11.4	0.16	76	B	11.9	0.16	82	B	12.5	0.16	83
Washington NBT	B	12.7	0.30	188	B	13.6	0.33	208	B	14.3	0.33	212
Washington SBT*	B	10.2	0.04	20	B	10.8	0.04	21	B	11.3	0.04	21
Overall	C	32.3	0.44		C	32.5	0.47		C	32.2	0.48	

^ Under future conditions, high volume of southbound left-turning vehicles on Harrison dictate that the shared left-through lane is utilized as an exclusive left-turn lane in the PM peak.
~ Volume exceeds capacity, queue is theoretically infinite.
# 95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.
- Movement not applicable under condition

As would be expected given the urban area, several of the study area intersections operate with long delays either on some of their individual approaches or for the entire intersection. Detail discussion regarding the operations the study area intersections highlighted in Table 3-13 is provided in the following sections.

Herald Street/Washington Street

Overall, the Herald Street/Washington Street intersection is expected to operate at LOS D or better under future conditions with or without the Project in place. However, under the 2016 No-Build condition the eastbound Herald Street approach will be operating slightly over theoretical capacity and at LOS E. This same level of operation will be maintained under the 2016 Build condition with the Project in place. Discussions with BRA and BTD staff indicate that the option of converting Washington Street to allow for two-way travel is under consideration as a short-term improvement from the Harrison-Albany Corridor Street. While currently MBTA Silver Line buses are allowed to travel southbound on Washington Street, no other traffic is allowed in that direction. More information regarding the Project's compatibility with this future potential improvement is discussed later in this chapter.

Herald Street/Harrison Avenue

Overall, the Herald Street/Harrison Avenue intersection will operate at LOS D or better under future conditions with or without the Project in place. Furthermore, each of the intersection approaches also will operate at LOS D or better and there will not be any LOS degradation as a result of the Project.

Herald Street/Albany Street

During the weekday morning and Saturday midday peak hours the Herald Street/Albany Street intersection operates at LOS C or better and will continue to do so under future conditions. However, during the weekday evening peak hour the Herald Street eastbound right-turn movement onto Albany Street operates over theoretical capacity and at LOS F and will continue to do so under future conditions. While the capacity analysis indicates that the southbound Albany Street will continue to operate at LOS C or better, that approaches currently experiences delays not reflected by the analysis. Specifically, queues on the Route I-93 South on-ramp regularly extend back onto Albany Street and through the Herald Street/Albany Street intersection. Because of that, while these delays are not attributable to the Herald Street/Albany Street signalized intersection operation they are still greater than suggested by the analysis. From reviewing the intersection geometry and signal operation there are no apparent capacity-enhancing measures that could be implemented to address these issues, which are primarily related to Route I-93.

Traveler Street/Harrison Avenue

Under 2011 Existing and 2016 No-Build conditions the Traveler Street/Harrison Avenue intersection will operate at LOS D or better. The southbound Harrison Avenue approach to the intersection is presently striped as two general purposes lanes. However, under future conditions the analysis indicates that during the weekday evening peak hour the inner lane will operate as a "defacto" left-turn lane with through- and right-turn-movements generally only occurring from the outer lane. Accordingly, the analysis was updated to reflect that functionally this approach would operate as if there was an exclusive left-turn lane. During the

other time periods when volumes are more balanced the intersection would continue to function as a standard two-lane approach. Due to this condition, the existing striping should not be modified.

With the operation discussed above the outer southbound through-/right-turn lane on Harrison Avenue will operate at LOS D during the weekday evening peak hour. However, the adjacent defacto left-turn lane will operate at LOS F both with and without the Project during this time period. While the volumes are more balanced during the Saturday midday peak hour, the southbound Harrison Avenue approach will degrade from LOS E to LOS F with the addition of Project-related traffic. A review of the signal timings in place at this intersection indicates that there should be sufficient flexibility available to reallocate green time at the intersection to improve the conditions noted above. Specifically, during both the weekday evening and Saturday midday peak hours the Traveler Street approach to this intersection carries 160 or fewer vehicles per hour. The timing plan was reviewed and it was concluded that by reallocating 10 to 12 seconds of green time from Traveler Street to Harrison Avenue each intersection approach could operate at LOS D or better. The Proponent will coordinate with BTD to determine the exact nature of any signal timing revisions at this location, which is part of the city-wide coordinated signal system.

Traveler Street/Albany Street

The overall Traveler Street/Albany Street signalized intersection will operate at LOS C or better under all conditions analyzed. However, the eastbound Traveler Street approach to the intersection is expected to operate at LOS E during the weekday morning peak hour under future conditions both with and without the Project. During this time the southbound Albany Street approach will operate at LOS B or better. Regardless, signal timing changes to this location are not appropriate. This is due to both the need to promote the Albany Street southbound traffic flow, as well as there being limited receiving room on the eastbound departure lanes from the Traveler Street/Albany Street intersection. While this approach is projected to operate at LOS E, it will only be functioning with one additional second of delay beyond the 55-second threshold separating LOS D from LOS E.

Traveler Street/Frontage Road/West Broadway

The capacity analysis indicates that this location will operate acceptably during the weekday evening and Saturday midday peak hours, but that it will continue to experience delays during the weekday morning peak hour. These delays are due to the LOS F operation of the westbound West Broadway right-turn movement onto the Route I-93 North ramps. Approximately 740 vehicles are currently making this movement during the weekday morning peak hour. While this volume will increase under future conditions due to normal regional traffic growth, the Project will not be adding any traffic to this failing movement.

East Berkeley Street/Harrison Avenue

The capacity analysis indicates that this location will operate acceptably at LOS C or better under existing and no-build conditions. The addition of Project-related traffic is expected to result in any a slight LOS degradation during the weekday evening peak hour in the Harrison Avenue northbound approach to the intersection. However, that approach will still operate at an acceptable LOS D and as such no mitigation is necessary.

East Berkeley Street/Albany Street

The capacity analysis indicates that this location will operate acceptably during the weekday evening and Saturday midday peak hours, but that it will experience delays during the weekday morning peak hour. These delays are due to the westbound East Berkeley Street approach to the intersection, which is already operating near capacity under existing conditions. Under future conditions with and without the Project in place this approach is expected to operate over theoretical capacity during the weekday morning commuter peak hour, but at an acceptable LOS D. As noted earlier, the Strategic Plan recommended a reduced cross-section that the segment of Albany Street south of this intersection. In conjunction with that work signal timings at this location should be reviewed by the BTD to make sure that adequate capacity remains for vehicular capacity along this corridor.

East Berkeley Street/Frontage Road/West 4th Street

The signalized intersection also experiences notable delays on multiple approaches during the weekday morning and evening peak commuter periods. Specifically, the intersection currently operates at an overall LOS D and F during the weekday morning and evening peak hours. With normal traffic growth expected to occur under the 2016 No-Build condition the intersection will degrade to LOS E during the weekday morning peak hour. With the addition of Project-related traffic there will not be any degradation in LOS during the weekday morning peak hour. However, both the eastbound East Berkeley Street and Frontage Road northbound left-turn movements will operate at LOS E. Therefore, there is insufficient flexibility to allow for any signal timing modifications that would significantly improve conditions. While these two movements operate at LOS D and C, respectively, during the weekday evening peak hour the northbound Frontage Road approach will operate at LOS F with significant delays. While the Project will be adding approximately 25 peak hour vehicles to the Frontage Road left-turn movement onto East Berkeley Street it will not be adding any traffic to the failing northbound Frontage Road approach experiencing the long delays due to the commuter traffic.

Traveler Street/Washington Street

Overall, the Traveler Street/Washington Street intersection will operate at LOS A under existing and future conditions with or without the Project in place. Furthermore, each of the intersection approaches also will operate at LOS A and there will not be any LOS degradation as a result of the Project.

East Berkeley Street/Washington Street

Overall, the East Berkeley Street/Washington Street intersection will operate at LOS C under existing and future conditions with or without the Project in place. Furthermore, each of the intersection approaches also will continue to operate at LOS D or better and there will not be any LOS degradation as a result of the Project.

■

Unsignalized Capacity Analysis

The capacity analysis results for the unsignalized study area intersections and site driveways are summarized in Table 3-14 for the Existing, No-Build and Build conditions. Detailed results including delay by approach,

queuing and volume to capacity ratio are presented in the Appendix D, along with the detailed Synchro results.

The analytical methodologies typically used for the analysis of unsignalized intersections use conservative analysis parameters such as high critical gaps. Actual field observations indicate that drivers on minor streets and driveways generally accept smaller gaps in traffic than the default values used in the analysis procedures and therefore experience less delay than reported by the analysis software. Also, the analysis methodologies do not fully take into account the beneficial grouping or platooning effects caused by the nearby signalized intersections. The net effect of these analysis procedures is the over-estimation of calculated delays at unsignalized intersections in the study area. Cautious judgment should therefore be exercised when interpreting the capacity analysis results at unsignalized intersections.

Table 3-14
Unsignalized Intersection Level of Service (LOS) Summary

	2011 Existing Conditions				2016 No-Build Conditions				2016 Build Conditions			
Intersection	LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	LOS	Delay	V/C	95th % Queue	LOS	Delay	V/C	95th % Queue
Harrison Avenue/ William E. Mullins Way												
Weekday AM												
Mullins EB LTR	B	12.6	0.13	11	B	14.8	0.16	14	B	12.5	0.12	10
Herald WB LTR	B	10.5	0.03	2	B	11.6	0.03	2	-	-	-	-
Harrison NB LTR	A	7.4	0.18	17	A	7.7	0.21	20	A	8.1	0.21	20
Harrison SB LTR	A	0.1	0.10	0	A	0.1	0.11	0	A	0.0	0.13	0
Weekday PM												
Mullins EB LTR	B	14.0	0.30	31	B	14.7	0.32	35	B	14.5	0.32	34
Herald WB LTR	B	13.5	0.03	3	B	14.2	0.04	3	-	-	-	-
Harrison NB LTR	A	6.0	0.12	10	A	6.4	0.14	12	A	7.1	0.15	13
Harrison SB LTR	A	0.0	0.15	0	A	0.0	0.17	0	A	0.0	0.20	0
Saturday Midday												
Mullins EB LTR	B	11.7	0.20	19	B	12.1	0.22	21	B	12.2	0.22	21
Herald WB LTR	A	0.0	0.00	0	A	0.0	0.00	0	-	-	-	-
Harrison NB LTR	A	7.4	0.11	9	A	7.7	0.12	11	A	8.1	0.14	12
Harrison SB LTR	A	0.1	0.14	0	A	0.0	0.16	0	A	0.0	0.18	0
Albany Street / Site Driveway												
Weekday AM												
Herald EB R	F	>120	>1.20	91	F	>120	>1.20	110	A	9.3	0.00	0
Albany SB LTR	A	6.7	0.49	41	A	6.9	0.38	45	A	6.9	0.37	44
Weekday PM												
Herald EB R	F	>120	>1.20	^	F	>120	>1.20	^	B	10.2	0.02	1
Albany SB LTR	A	9.8	0.65	102	B	10.8	0.63	120	B	10.5	0.63	118
Saturday Midday												
Herald EB R	F	>120	0.20	15	F	>120	0.30	19	A	9.1	0.01	1
Albany SB LTR	A	7.5	0.41	52	A	7.7	0.43	57	A	7.8	0.43	57

Intersection	2011 Existing Conditions LOS[a]	Delay[b]	V/C[c]	95th % Queue[d]	2016 No-Build Conditions LOS	Delay	V/C	95th % Queue	2016 Build Conditions LOS	Delay	V/C	95th % Queue
Traveler Street /Proposed Site Driveway												
Weekday AM												
Traveler EB LTR	-	-	-	-	-	-	-	-	A	1.0	0.03	2
Traveler WB LTR	-	-	-	-	-	-	-	-	A	0.4	0.01	1
Site Driveway SBLR	-	-	-	-	-	-	-	-	C	16.2	0.27	27
Weekday PM												
Traveler EB LTR	-	-	-	-	-	-	-	-	A	2.0	0.07	6
Traveler WB LTR	-	-	-	-	-	-	-	-	A	0.5	0.01	1
Site Driveway SBLR	-	-	-	-	-	-	-	-	F	54.4	0.81	166
Saturday Midday												
Traveler EB LTR	-	-	-	-	-	-	-	-	A	2.3	0.07	6
Traveler WB LTR	-	-	-	-	-	-	-	-	A	0.6	0.02	1
Site Driveway SBLR	-	-	-	-	-	-	-	-	D	33.0	0.70	128
Harrison Avenue/Site Driveway												
Weekday AM												
Site Driveway WBR	+	+	+	+	+	+	+	+	A	9.4	0.01	0
Harrison NBTR	+	+	+	+	+	+	+	+	A	0.0	0.08	0
Weekday PM												
Site Driveway WBR	+	+	+	+	+	+	+	+	A	9.4	0.03	2
Harrison NBTR	+	+	+	+	+	+	+	+	A	0.0	0.11	0
Saturday Midday												
Site Driveway WBR	+	+	+	+	+	+	+	+	A	9.2	0.03	2
Harrison NBTR	+	+	+	+	+	+	+	+	A	0.0	0.09	0

- Not applicable (entering right-turn movement eliminated under Build condition)
95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.
^ Err output.
+ Capacity analysis not conducted at some existing site driveways due to negligible peak hour volume observed during field visits.

Harrison Avenue/William E. Mullins Way

As shown in Table 3-14, each of the intersection approaches at the Harrison Avenue/William E. Mullins Way/Boston Herald intersections currently operate at LOS B or better. This level of operation will be maintained both with and without Project-related traffic. In conjunction with the new site access plan, the westbound Boston Herald driveway approach to this intersection will be eliminated under the 2016 Build condition to provide an on-site pedestrian plaza area as discussed later in this chapter. This will help to simply the intersection operation further, while providing a pedestrian-friendly atmosphere. Even with the addition of Project related traffic to Harrison Avenue the William E. Mullins Way eastbound approach, which is under STOP control, will continue to operate at LOS B with minimal delays.

Albany Street Site Driveway

Under existing conditions, only minimal traffic (10 to 15 vehicles) was observed to use the Albany Street site driveway to exit the Project Site as right turns under peak hour conditions. Due to the Boston Herald shift times generally falling outside of the standard commuter peak hours, traffic using this and the other site driveways may be slightly higher during other times of the day. Regardless, the current LOS F designation at this driveway actually is only due to the 1 to 3 vehicles which also were observed to exit from the driveway and travel directly across Albany Street to access the Route I-93 South on-ramp. While similar levels of exiting right-turns are expected with the Project in place, the Proponent will be implementing measures to help prevent motorists from exiting the Project Site and directly crossing Albany Street to access the ramps. If this traffic can be more effectively restricted beyond that which occurs today, which should be achievable, the LOS for exiting right-turns from this driveway will be LOS B or better under peak hour conditions. This mitigation measure is discussed in greater detail later in this chapter.

Traveler Street Site Driveway

The Project Site currently has two active driveways on Traveler Street and one formerly active curb cut to the west of Albany Street. As part of the Project, these existing curb cuts will be consolidated into a single full access driveway proposed to be located approximately 160 feet to the west of Albany Street. Single entering and exiting lanes will be provided within the site driveway. As shown in Table 3-14, exiting traffic from this driveway is projected to operate at LOS D or better during the weekday morning and Saturday midday peak hours. However, during the weekday evening peak hour, traffic exiting this driveway is expected to operate at LOS due to the projected 55 seconds in delay for that movement. The level of delay falls five seconds beyond the 50-second threshold between LOS E and LOS F conditions for an unsignalized intersection. These capacity analysis results are also conservative in that they do not account for gaps that will continue to be created by the existing Albany Street signal at Traveler Street. During the phase of the signal when Albany Street is stopped and Traveler Street westbound has a green indication, there is not any opposing traffic in the westbound direction on Traveler Street. This is due to the "No Turn on Red" restriction from Albany Street that will remain in place as part of this Project. Due to that condition, exiting traffic from this driveway may experience slightly lower delays than that reported by the analysis. There is not enough exiting traffic to warrant signalization at this location, nor would that be appropriate due to this driveway's proximity to the existing Albany Street signal. In this urban context these projected delays, which are confined to the weekday evening commuter peak period, should not pose a significant hardship to traffic exiting the site from this location.

Harrison Avenue Site Driveway

Similar to existing conditions, traffic using the proposed Harrison Avenue site driveway will be limited to entering and exiting right turns only. However, the existing site driveway opposite William E. Mullins Way will be eliminated as noted above, and the existing southerly driveway will be shifted further to the south away from that intersection and the existing northerly driveway will be closed. Due to traffic at this driveway being restricted to right turns only, it will operate with excellent levels of service under all of the conditions studied.

Mitigation

Figure 3.20 shows the on- and off-site transportation improvement proposed as part of the Project. Based on the potential Project-related impacts, background growth, nearby proposed projects, and consultation with the City of Boston and MassDOT, the Proponent has committed to provide various transportation-related mitigation measures, including measures to encourage alternative modes of transportation, such as improved conditions for bicyclists and pedestrians. These measures are intended both to mitigate potential impacts associated with the additional Project-related traffic, and to help address existing traffic operational and safety deficiencies where possible. The traffic mitigation plan, transportation demand management measures to minimize single-occupant motor vehicle travel to/from the Project Site, and general site access plan are described in detail in the following sections.

■

Off-Site Roadway Improvements

As described previously, the City of Boston is undertaking several transportation initiatives in the direct vicinity of the Project Site. These initiatives are outlined in the Strategic Plan, which identifies a variety of possible enhancements to roadways, parking facilities and general traffic control within the traffic study area.

The Proponent is committed to supporting the City's transportation initiatives, which provides important public benefits to the entirety of the surrounding area through the following mitigation measures described below.

Traveler Street/Harrison Avenue

As noted previously, in the absence of any improvements, the southbound Harrison Avenue approach will degrade from LOS E to LOS F during the weekday evening and Saturday midday peak hour under the 2016 Build condition. With the Project in place, the Traveler Street approach to this intersection is expected to carry 160 or fewer vehicles during both the weekday evening and Saturday midday peak hours. The capacity analysis indicates that by reallocating approximately 10 to 12 seconds of green time from Traveler Street to Harrison Avenue each intersection approach could operate at LOS D or better. Accordingly, the Proponent will coordinate with BTD to determine the exact nature of any signal timing revisions at this location, which is part of the city-wide coordinated signal system.

Herald Street/Albany Street

This signalized intersection is projected to operate at LOS F during the weekday evening peak hour under future conditions. Field observations indicate that this intersection experiences significant delays during both the weekday morning and evening peak hours due to the queues from the Route I-93 South on-ramp frequently extending back through this intersection. As this condition is attributable to Route I-93 South traffic and not this particular intersection's operation, there are no apparent capacity-enhancing measures that could be implemented. While the crash analysis presented earlier in this chapter indicates that this intersection experiences crashes at a lower expected rate, this location could still benefit from a Roadway Safety Audit (RSA). If such an effort has not already recently been undertaken, the Proponent would conduct

a RSA to identify potential safety issues and possible opportunities for safety improvements considering all roadway users. This effort would be coordinated with MassDOT, the City of Boston, and other stakeholders so that measures can be identified to help minimize the risk and severity of crashes.

Albany Street Site Driveway

While only minimal traffic exits the Project Site at this location, the one to three vehicles exiting from this driveway and directly crossing Albany Street to access the Route I-93 South on-ramp results in a LOS F condition. Currently, there are only diagonal pavement markings in the gore area between Albany Street and the Route I-93 South on-ramp. Without any other corresponding signage or other measures in place motorists might not be aware that this is not an allowed movement. Accordingly, at a minimum "RIGHT TURN ONLY" signage should be posted facing traffic exiting from the Project Site onto Albany Street. The restriction can also be further amplified through a more prominent treatment within the Albany Street gore area. Any improvements in this area will need to be reviewed and approved by MassDOT in conjunction with the Access Permit application that will be required. One option would involve replacing the striping with a scored-concrete "rumble-strip" treatment which will be more difficult for motorists to ignore than standard roadway striping. A second option for this area would involve the installation of standard reflective flexible delineators. These 28" high by 2" wide reflective devices would be installed in a closely spaced line within this gore area so as to effectively block the traffic from exiting the Project Site and crossing Albany Street. These devices are similar in function to standard orange traffic cones, expect that they are narrower and are permanently affixed to the roadway. The Proponent is willing to implement any of the measures identified above pending MassDOT approval.

Traveler Street Improvements

One of the goals of the Strategic Plan is that on-street parking be provided on Traveler Street adjacent to the Project Site. Accordingly, in conjunction with the Project and pending BTD approval the Proponent will install signs and or/ pavement markings to reflect parallel parking spaces being provided on Traveler Street along the site frontage. This will allow for approximately twelve parallel parking spaces to be provided between Harrison Street and the site driveway, while still maintaining single travel lanes in each direction on the roadway. To maintain proper site lines and avoid congestion, no parking will be provided in the area between the site driveway and Albany Street due to the limited space available.

The Proponent will also be replacing the narrow existing sidewalk along the Traveler Street frontage with a 16-foot wide sidewalk and street trees. An easement for pedestrian purposes will be granted to the city for the widened sidewalk.

Wayfinding Signs

The Proponent is proposing to install prominent directional signage in the vicinity of the Project Site to help ensure that visitors can find their way to and from Route I-93 and Route I-90 without difficulty. The exact details of this signage program will be coordinated with BTD and MassDOT (for any directional signs proposed on Albany Street). Signs will be posted at the site driveway exits and at critical points along the roadways adjacent to the Project Site to direct visitors to and from the Project. This improved signage should

help to address concerns raised by nearby residents regarding confusions some visitors encounter due to the predominantly one-way roadways in this neighborhood.

■

Transportation Demand Management (TDM)

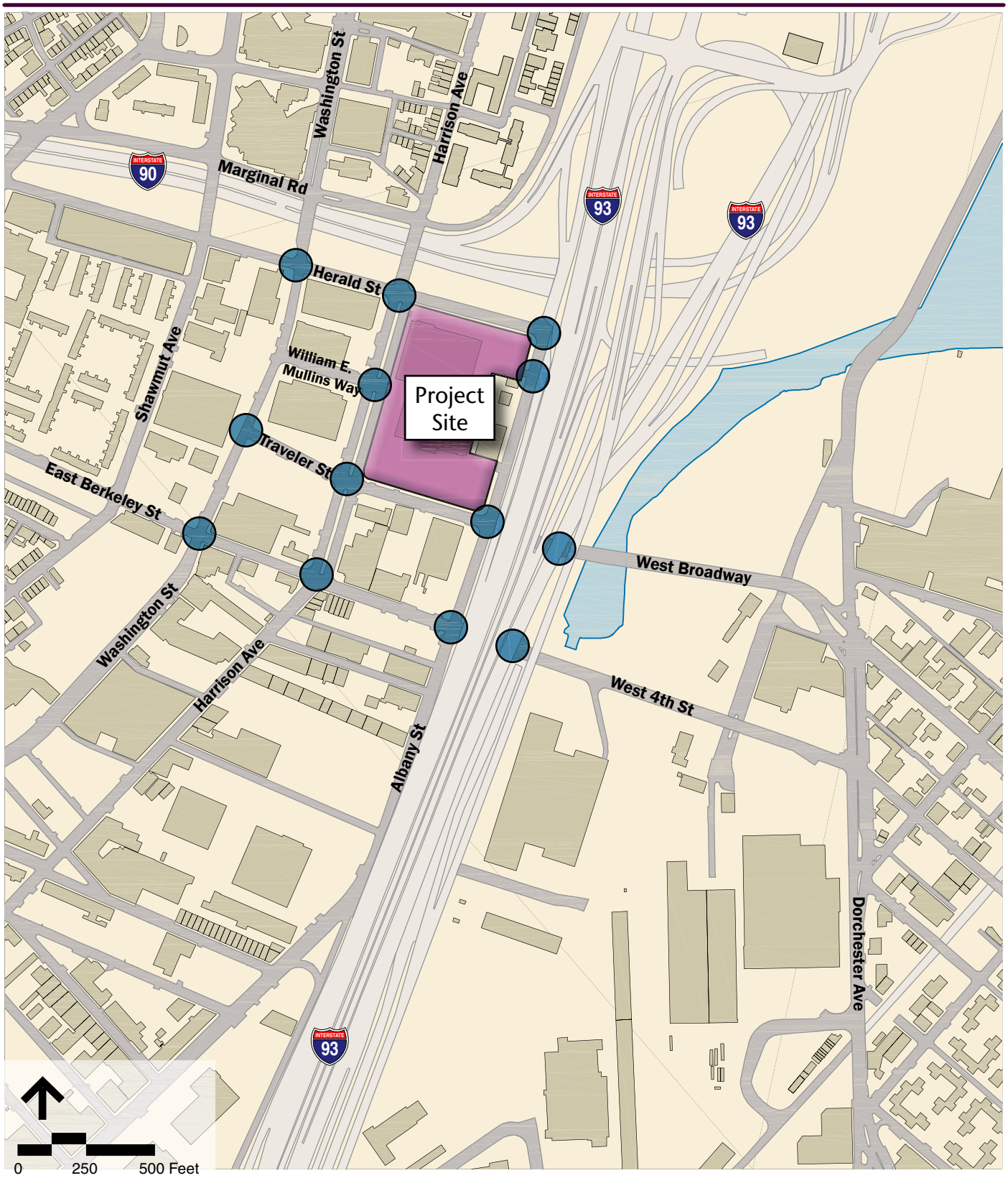
Consistent with the City's goals to reduce auto-dependency, the Project will include Transportation Demand Management (TDM) measures to encourage alternative modes of transportation. TDM measures are most often directed at commuter travel; however, due to the mixed-use nature and nearby public transportation there are opportunities to implement TDM measure for the proposed retail and residential uses.

The following discusses the land use types for which TDM measures will be implemented. A description of the TDM elements is presented in this section along with information on how those elements aid shoppers, employees, visitors, and residents getting to and from the Project. Measures being considered as part of the Project include:

- Provide secure bicycle storage for building residents and employees.
  - Appropriately designed bike racks will be provided at select, highly-visible locations within the Site. The racks will be securely mounted and feature current designs to properly secure bikes of all kinds with the ability for them to be properly locked. These racks will be located at centralized locations to serve the proposed retail stores (customers and employees).
  - Covered and secure bike storage will be provided within the garage for the residents.
- In keeping with the goals of the City of Boston's "Boston Bikes" program, the Proponent will be providing spaces on-site for a bike-sharing station as part of a Mobility Hub. The exact details of the operation of this Mobility Hub and the bike share station will be determined through ongoing consultation between the Proponent and the City staff advancing the bicycling program. The Project Site plan depicts this Mobility Hub being provided at the southeast corner of the property adjacent to the Albany Street/Traveler Street intersection. This is a prominent location along Traveler Street, which has been identified by BRA as a "Primary Green Corridor".
- Provide a space for a car-sharing service, such as ZipCar®, as part of a new Mobility Hub.
- Provide space on-site for an EV charging station as part of a new Mobility Hub.
- Provide preferential parking for alternative-fueled and/or hybrid vehicles.
- Implement TDM measures for the entire Project. Specifically, the provision of bicycle racks, improved pedestrian walkways, and proximity to public transportation including several bus lines, Silver Line routes and both the MBTA Orange and Red Lines should help to minimize the need for vehicular travel. The residential buildings may be desirable to commuters already using these routes to travel into Boston.
- Potential retail tenants will be encouraged to provide employer subsidies and/or discounts to employees who purchase monthly or multiple trip transit passes.
- Potential retail tenants will be encouraged to provide a guaranteed ride home program, in conjunction with MassRIDES, to eliminate an often-cited deterrent to carpool and vanpool participation.
- Potential retail tenants will be encouraged to offer direct deposit to employees.

- Designate an on-site Transportation Coordinator to oversee parking and loading operations as well as promote alternative transportation measures. The person in this role will coordinate with retail tenants and residents to help promote a reduced reliance on single-occupant motor-vehicle travel to the Project Site. To that end, the TDM measures identified in the following sections will be implemented under the direction and supervision of this person. The duties of the transportation coordinator may include, but not be limited to:
  - Acting as a liaison with retail employers and MassRIDES.
  - Assisting retail employees and residents with ride matching and transportation planning.
  - Disseminating information on alternate modes of transportation and developing transportation related marketing and education materials, including a website. This includes posting relevant public transit information potentially at an outdoor kiosk included as part of the Mobility Hub. This would include, but is not limited to, providing transit information such as maps and schedules to new residents and tenants in an orientation package.
  - Developing and maintaining information pertaining to pedestrian and cycling access to and from the Project Site.
  - Encourage tenants to provide on-site transit pass sales to employees and residents.

All TDM measures will be formalized in the Transportation Access Plan Agreement (TAPA) to be executed with BTD. The Proponent will seek to attract a variety of retail shops and service-oriented tenants on the ground of the building along Harrison Avenue. As most of these businesses will be small shops, there will not be the same levels of TDM opportunities internal to each individual business as would be available with a larger employer, but employees who work on-site will be able to take advantage of the transportation guidance and programs coordinated by the overall TDM program.



300 Harrison Avenue

Boston, MA

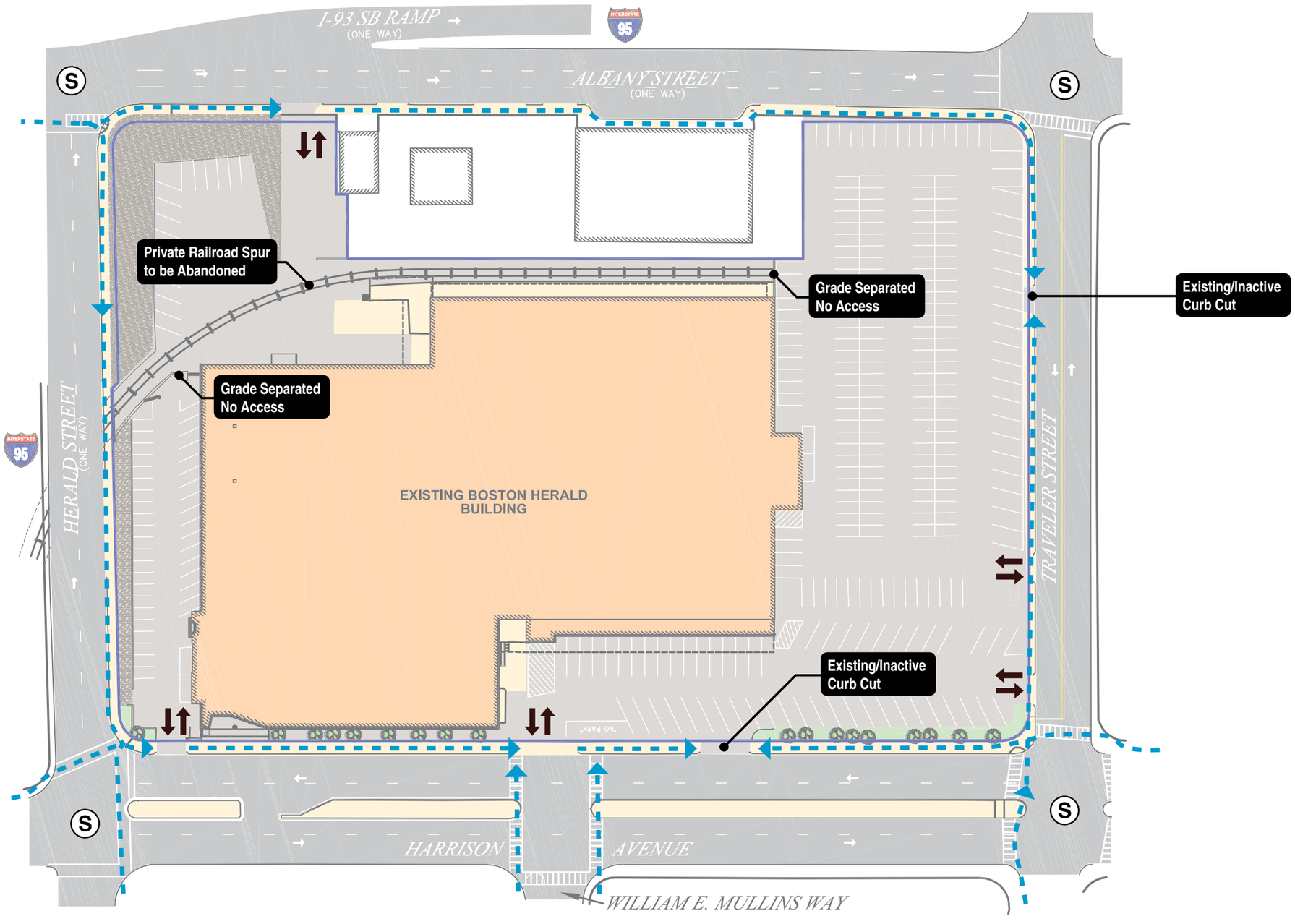
Figure 3.1

Traffic Analysis Study Area Map

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base



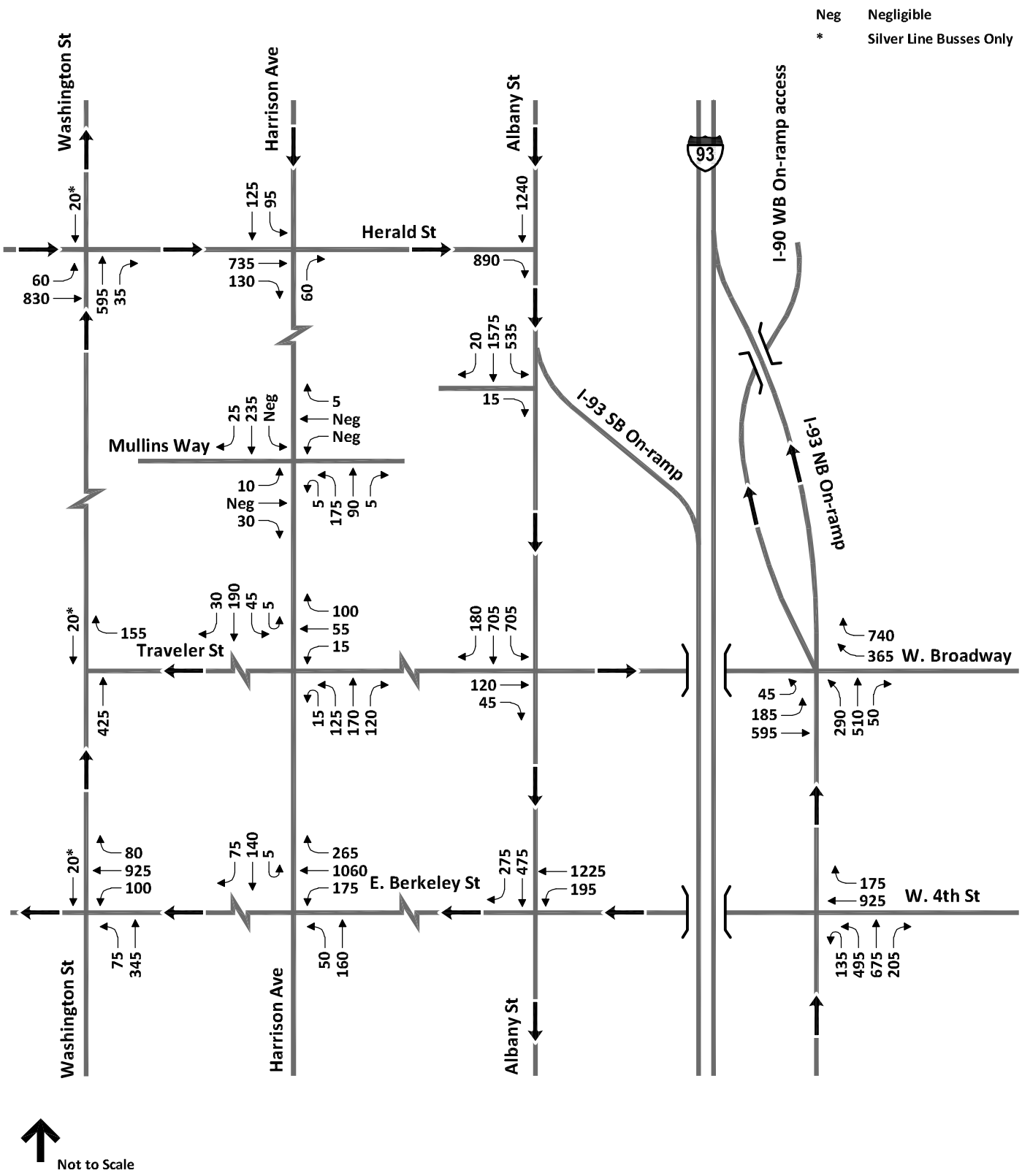
300 Harrison Avenue
Boston, MA

Figure 3.2

Existing Site Access and Circulation

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



Not to Scale

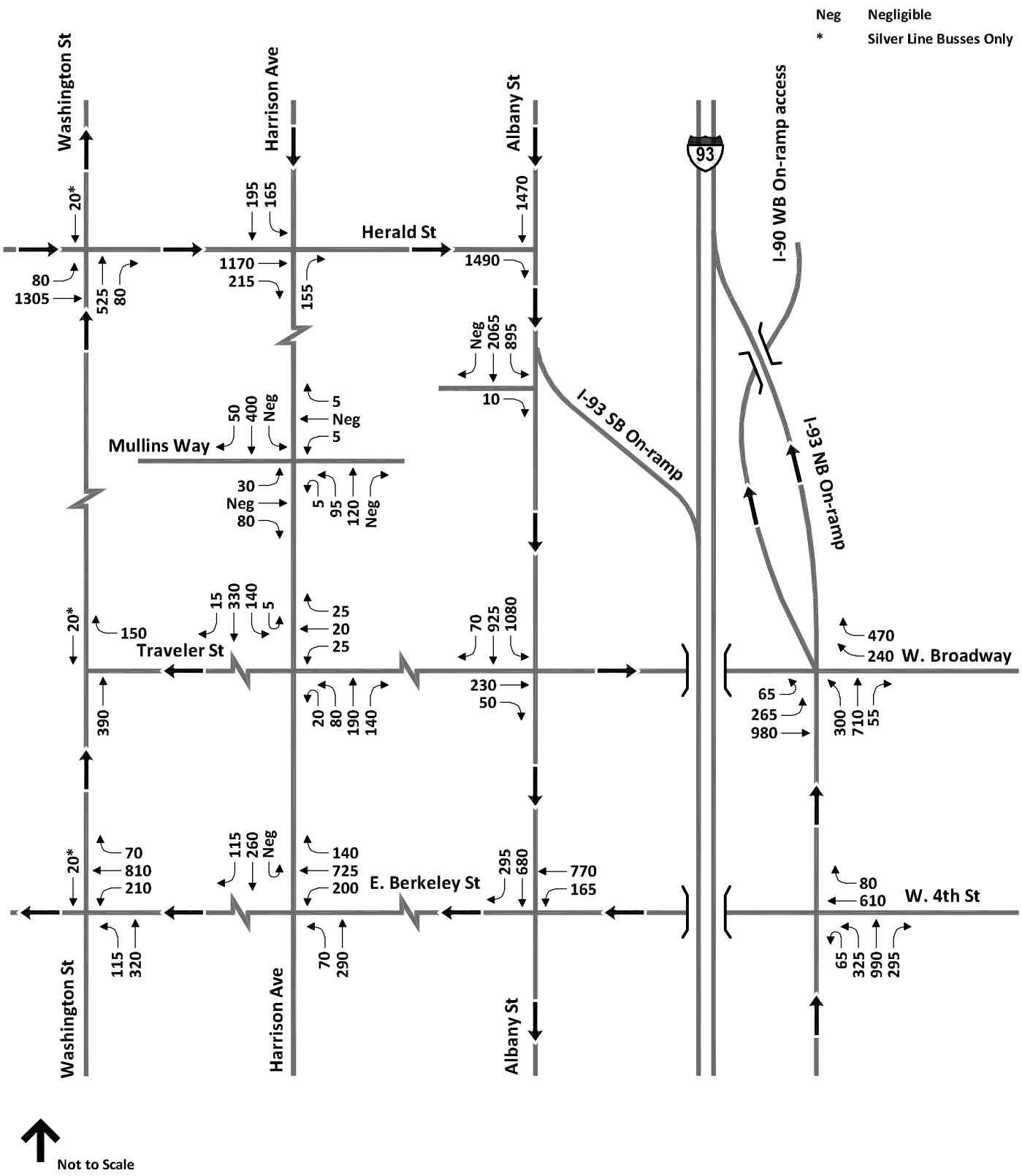
300 Harrison Avenue
Boston, MA

Figure 3.3

2011 Existing Conditions
Morning Peak Hour 8AM-9AM
Traffic Volumes

VHB Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



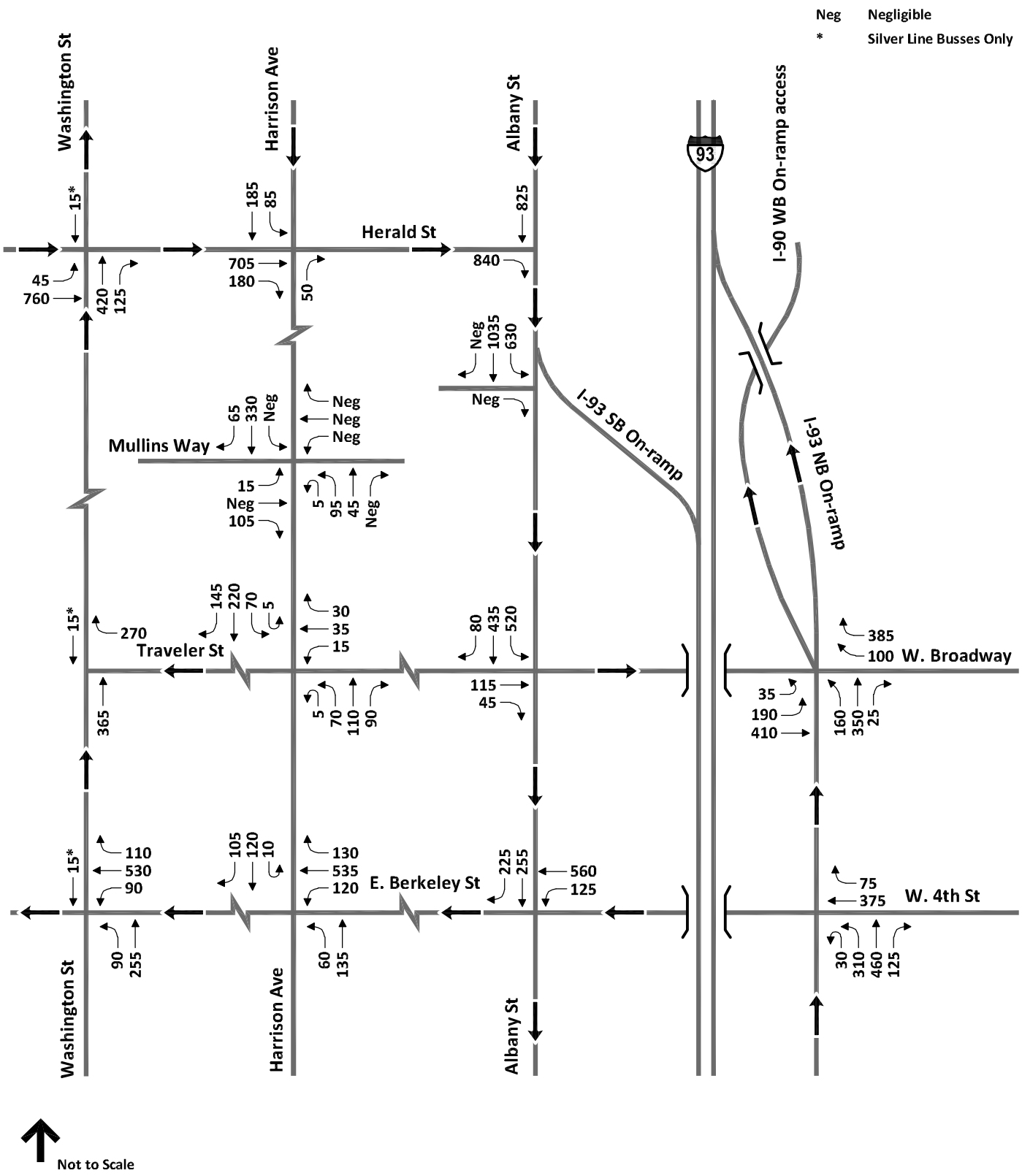
300 Harrison Avenue
Boston, MA

Figure 3.4

2011 Existing Conditions
Evening Peak Hour 5PM-6PM
Traffic Volumes

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



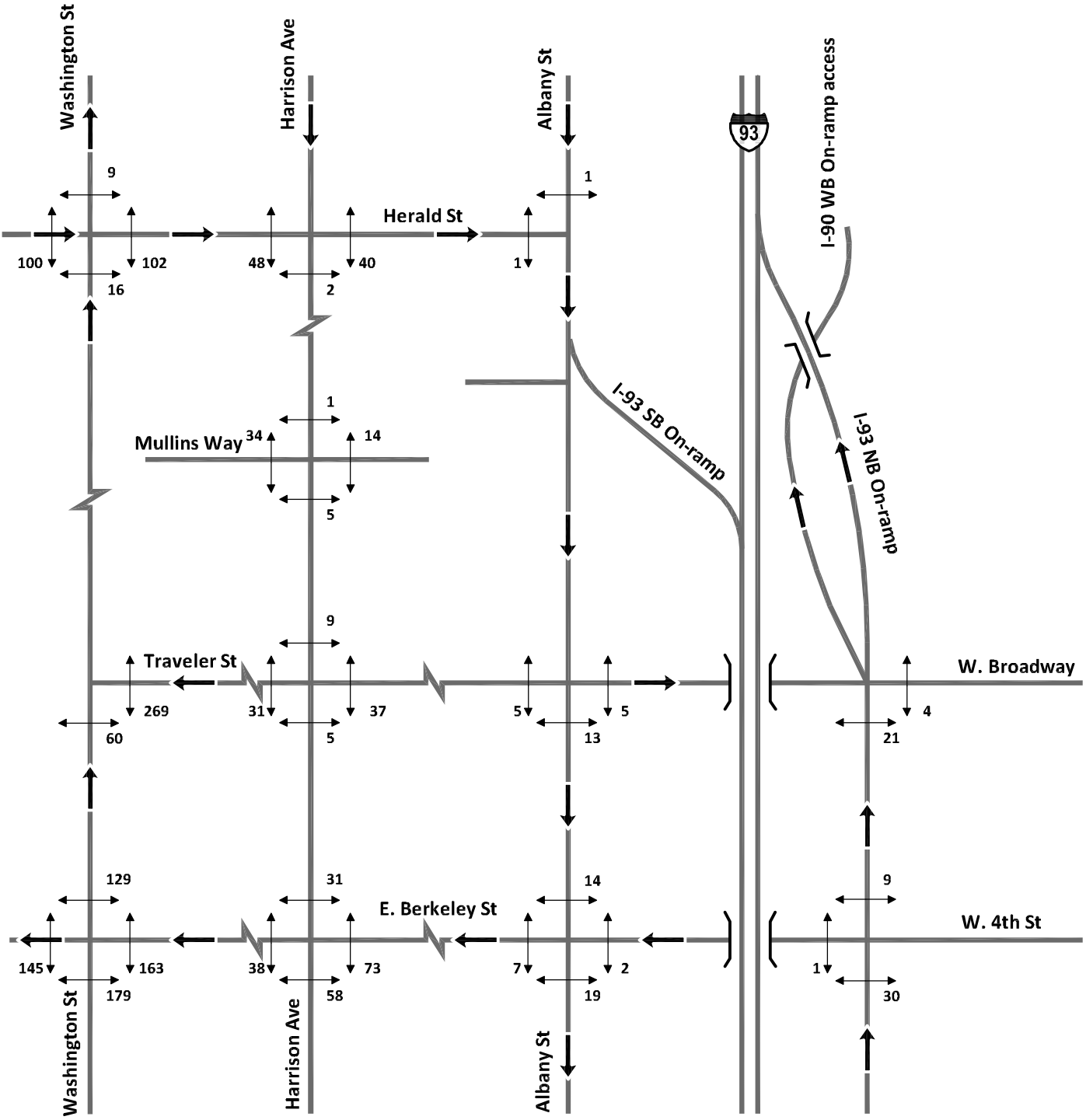
300 Harrison Avenue
Boston, MA

Figure 3.5

2011 Existing Conditions
Saturday Peak Hour 12PM-1PM
Traffic Volumes

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



300 Harrison Avenue

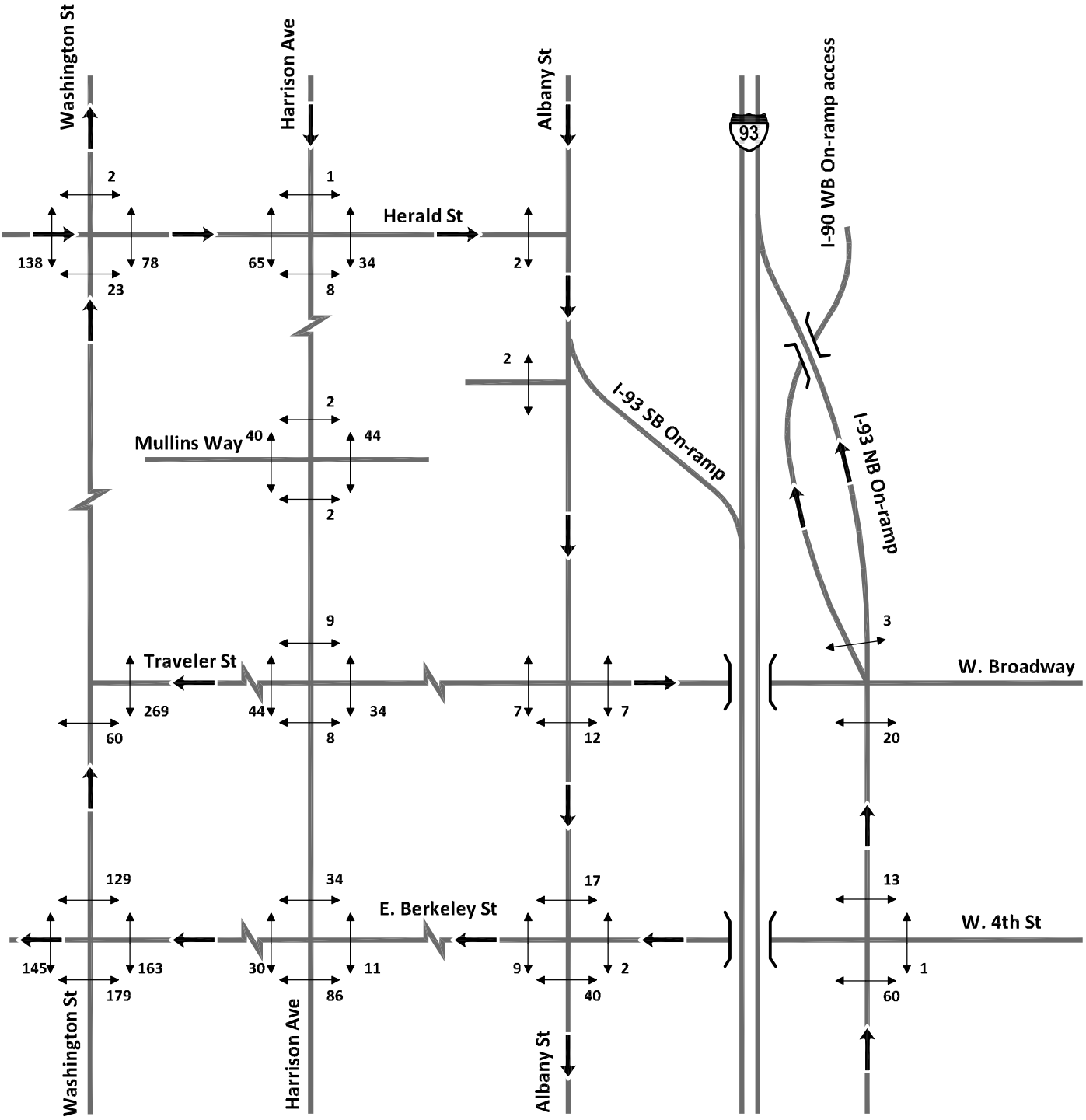
Boston, MA

Figure 3.6

2011 Existing Conditions
Morning Peak Hour 8AM-9AM
Pedestrian Volumes

VHB Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



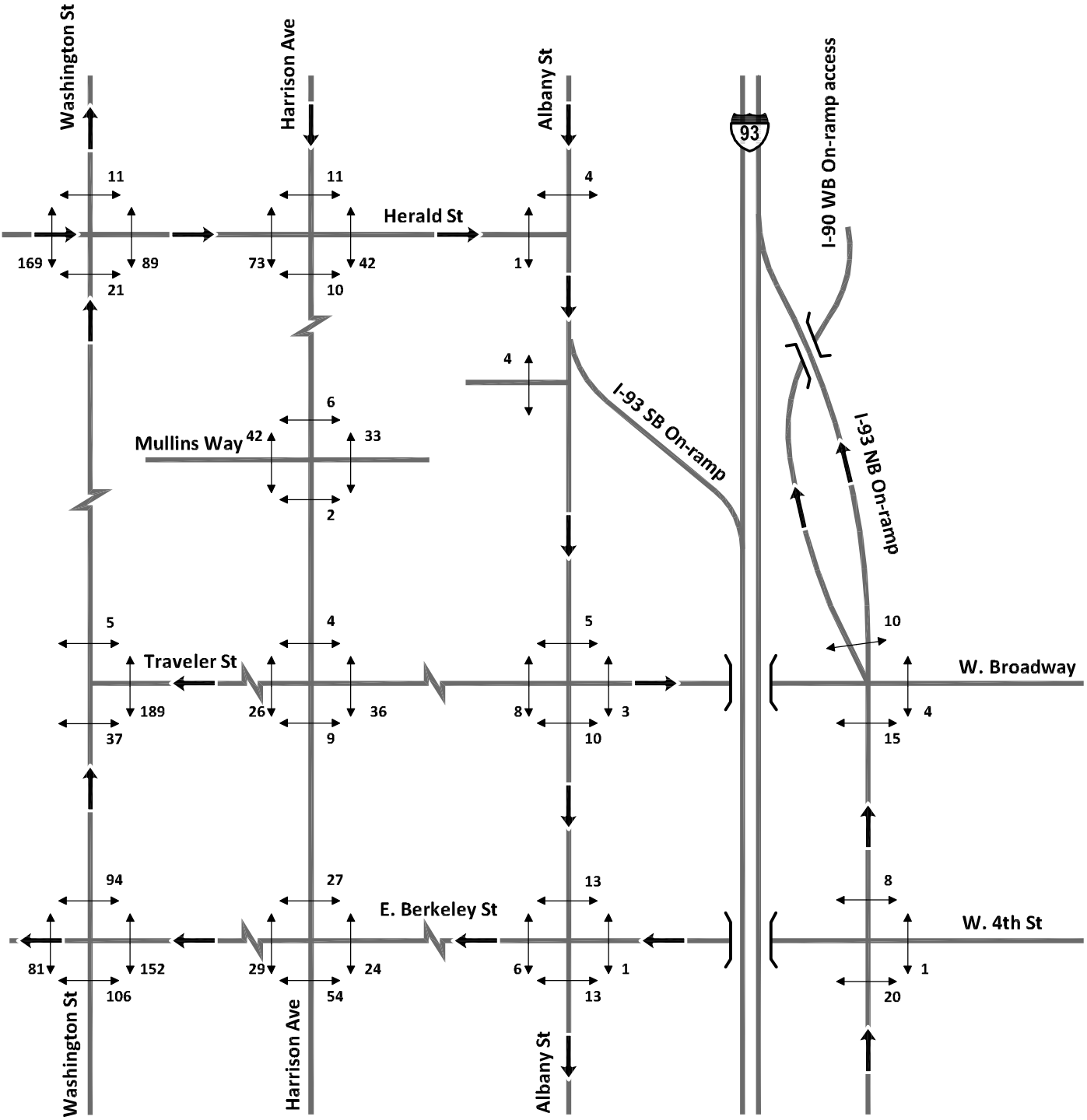
300 Harrison Avenue
Boston, MA

Figure 3.7

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

2011 Existing Conditions
Evening Peak Hour 5PM-6PM
Pedestrian Volumes



Not to Scale

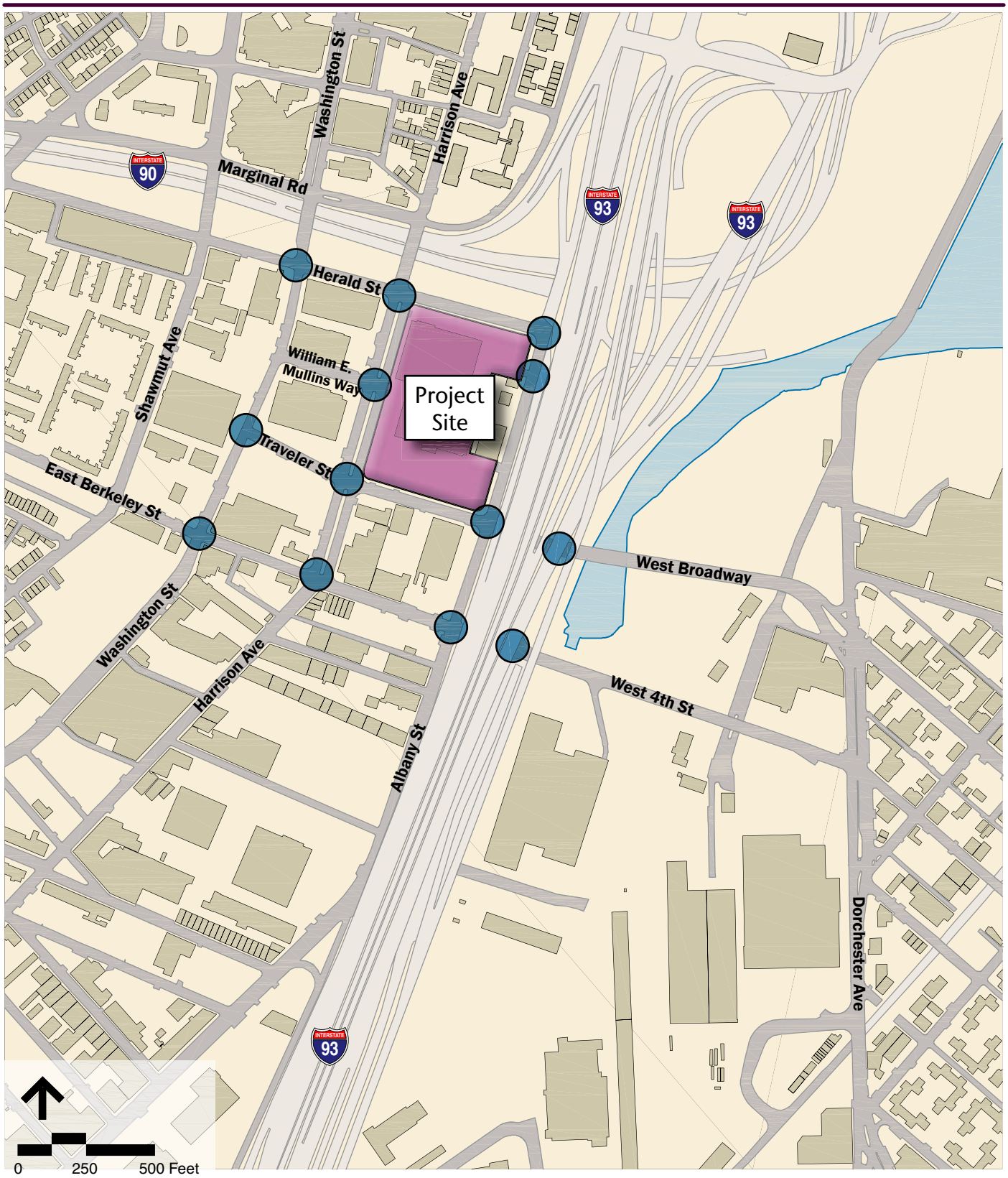
300 Harrison Avenue
Boston, MA

Figure 3.8

2011 Existing Conditions
Saturday Peak Hour 12PM-1PM
Pedestrian Volumes

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



300 Harrison Avenue

Boston, MA

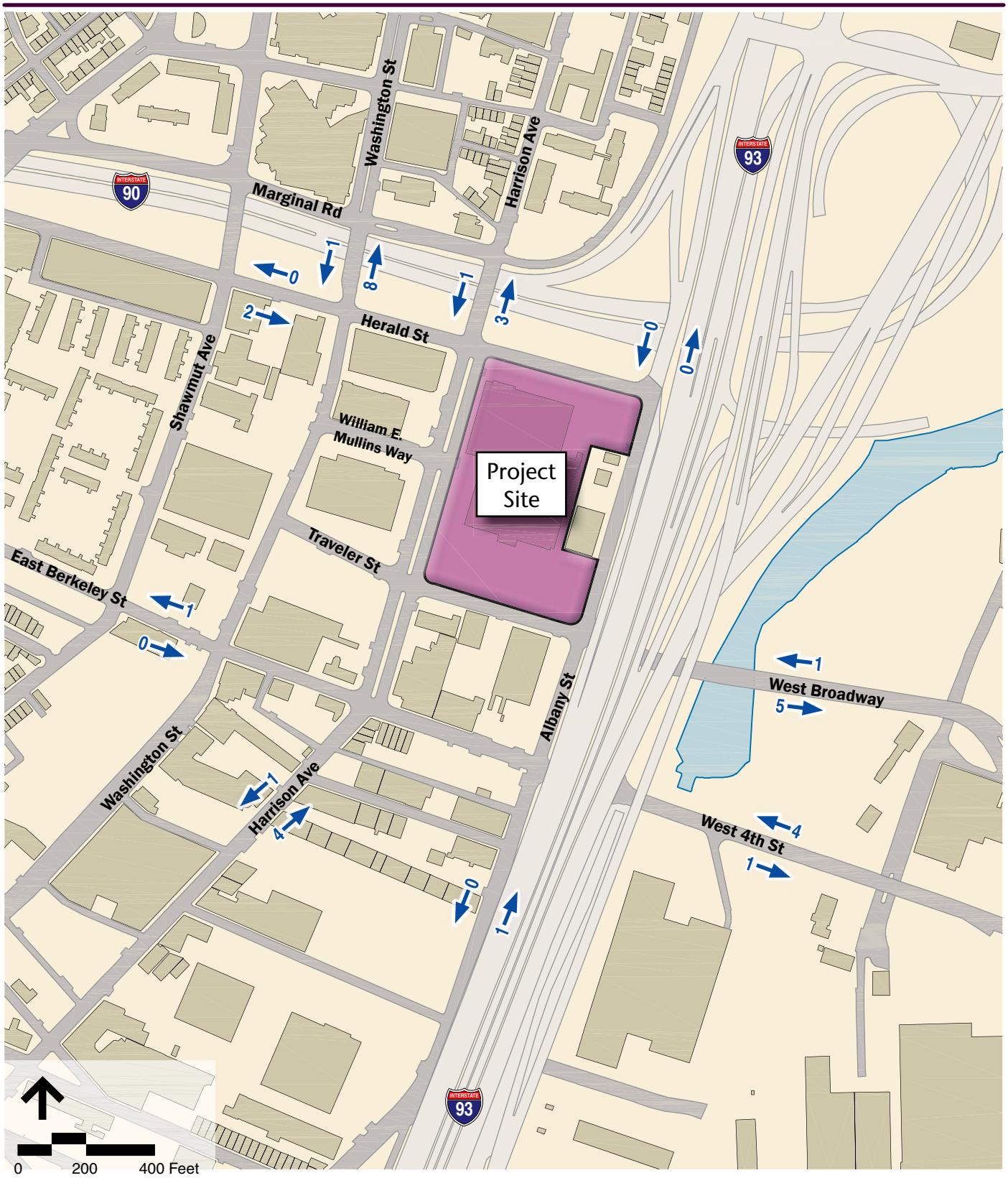
Figure 3.1

Traffic Analysis Study Area Map

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base



300 Harrison Avenue

Boston, MA

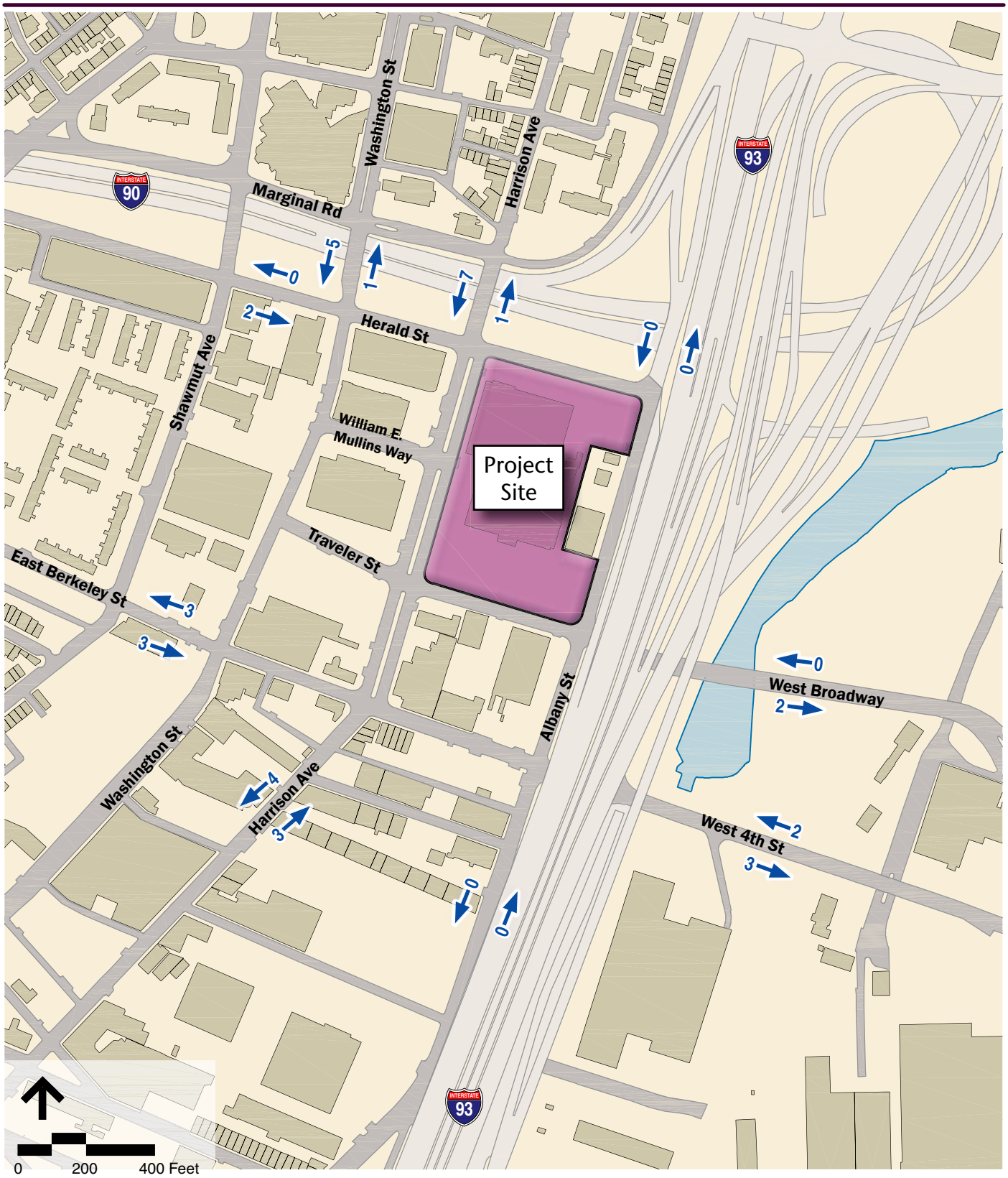
Figure 3.9

2011 Existing Conditions
Morning Peak Hour 8AM-9AM
Bicycle Volumes

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base



300 Harrison Avenue

Boston, MA

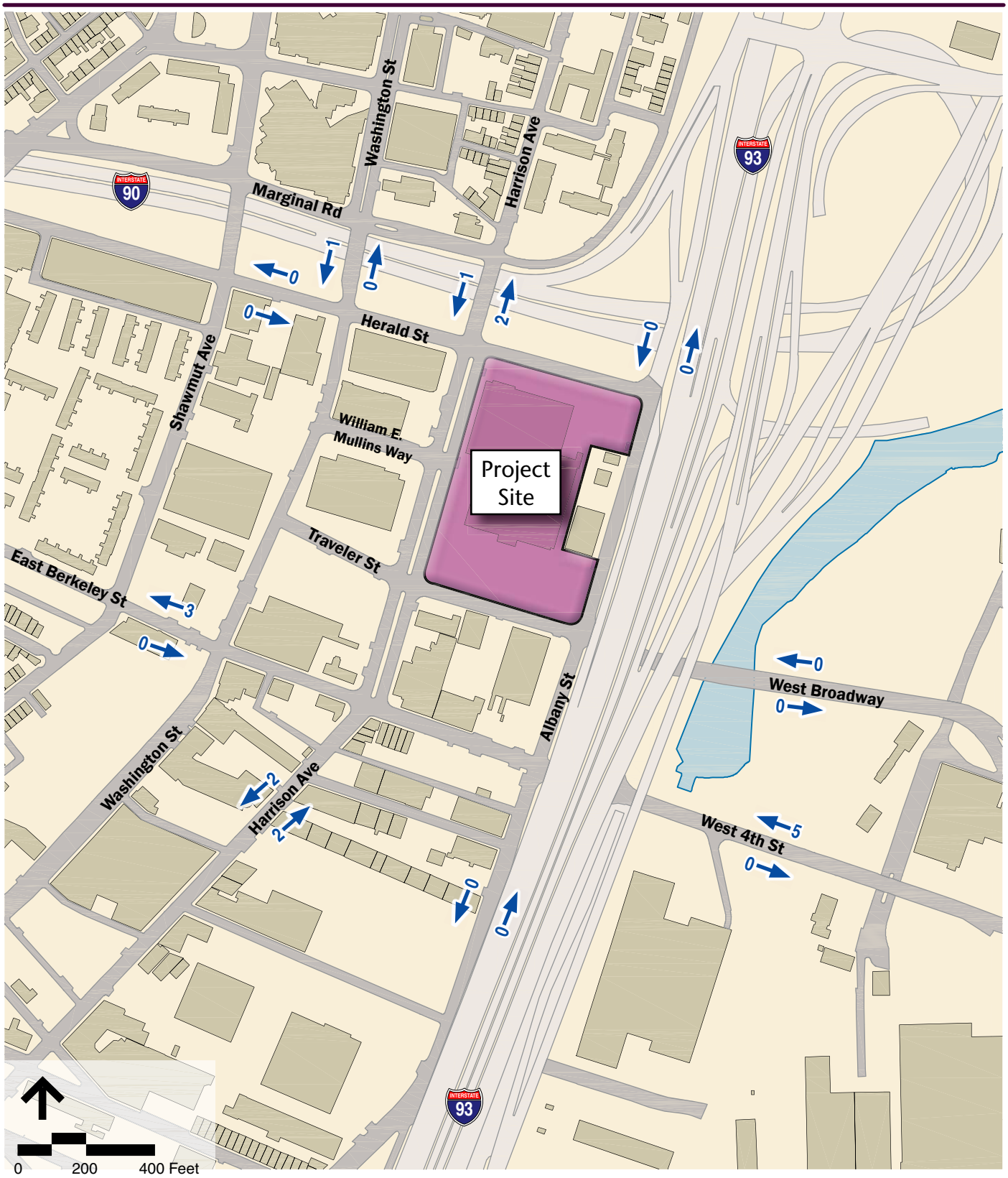
Figure 3.10

2011 Existing Conditions
Evening Peak Hour 5PM-6PM
Bicycle Volumes

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base



300 Harrison Avenue

Boston, MA

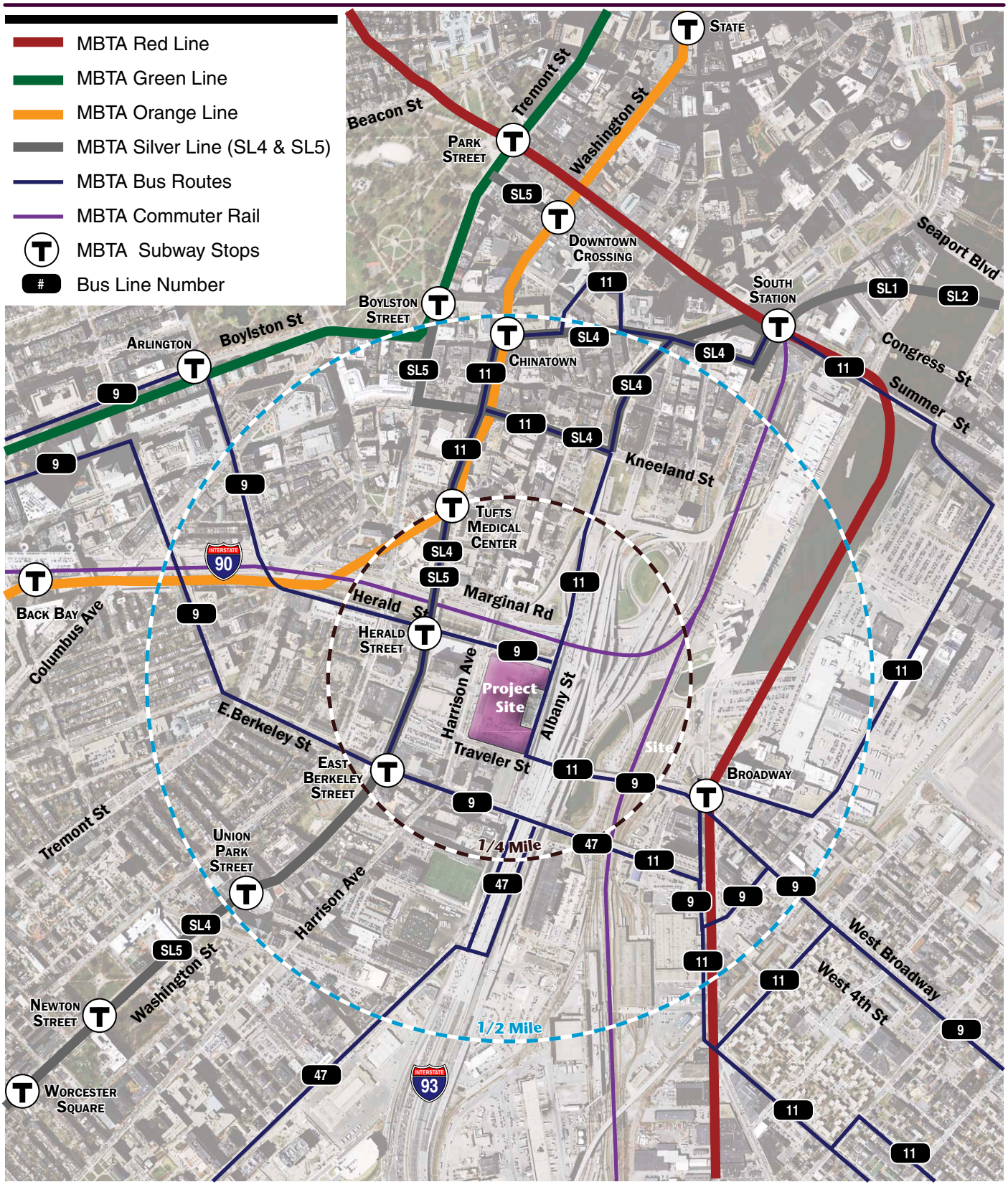
Figure 3.11

2011 Existing Conditions
Saturday Peak Hour 12PM-1PM
Bicycle Volumes

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base



300 Harrison Avenue

Boston, MA

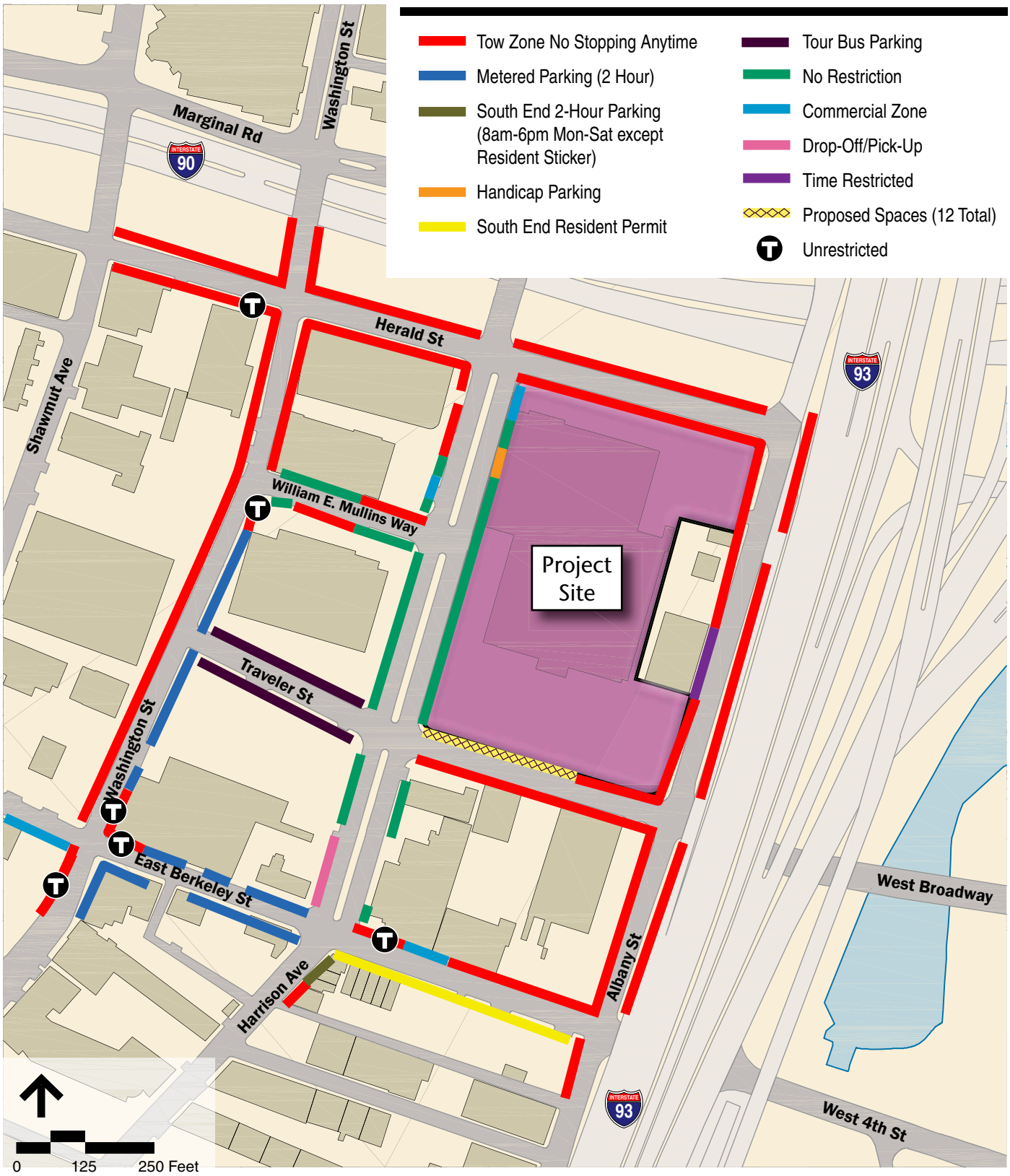
Figure 3.12

Public Transportation

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: MBTA



300 Harrison Avenue

Boston, MA

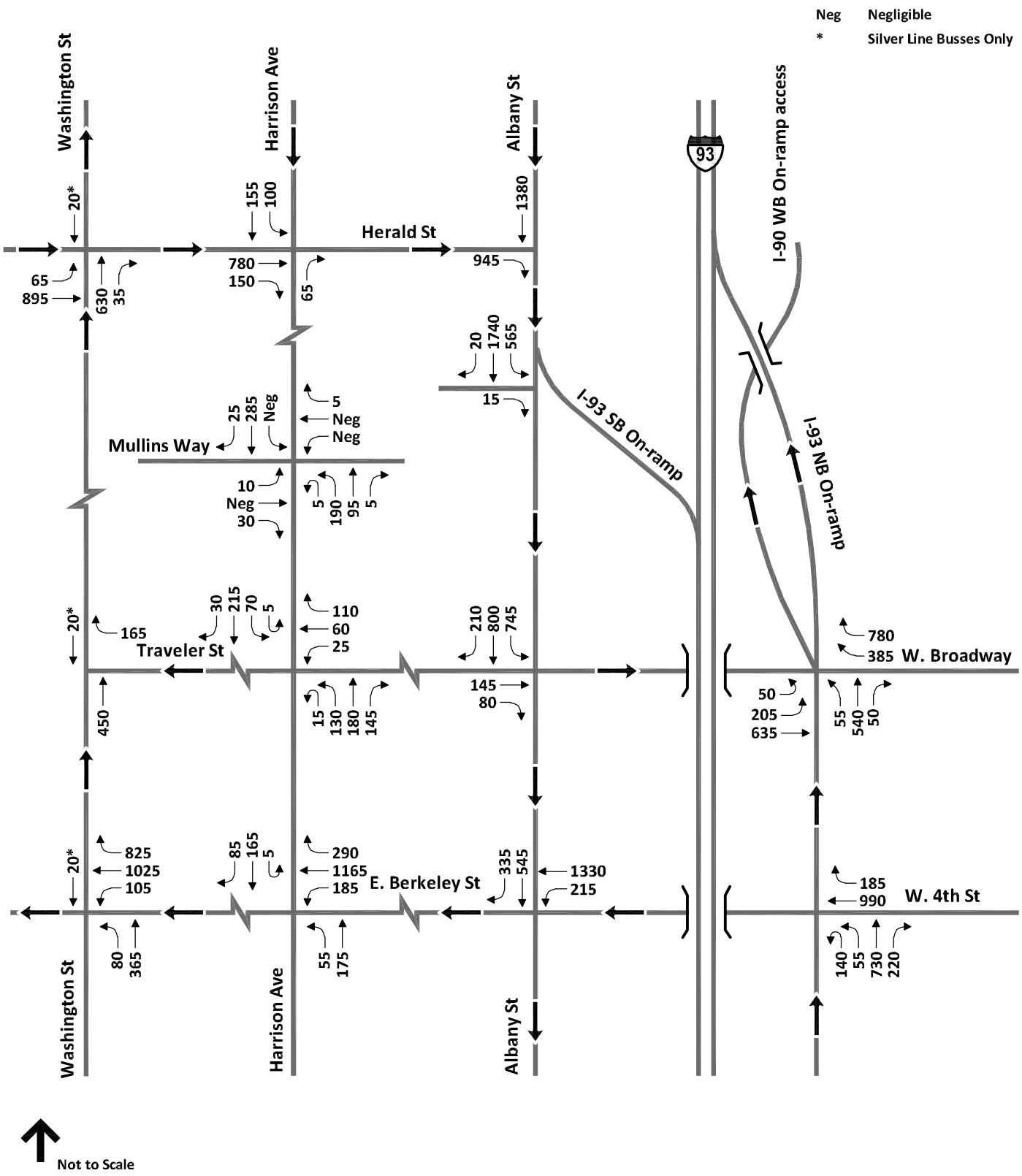
Figure 3.13

Summary of Existing On-Street Parking

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: Boston Redevelopment Authority



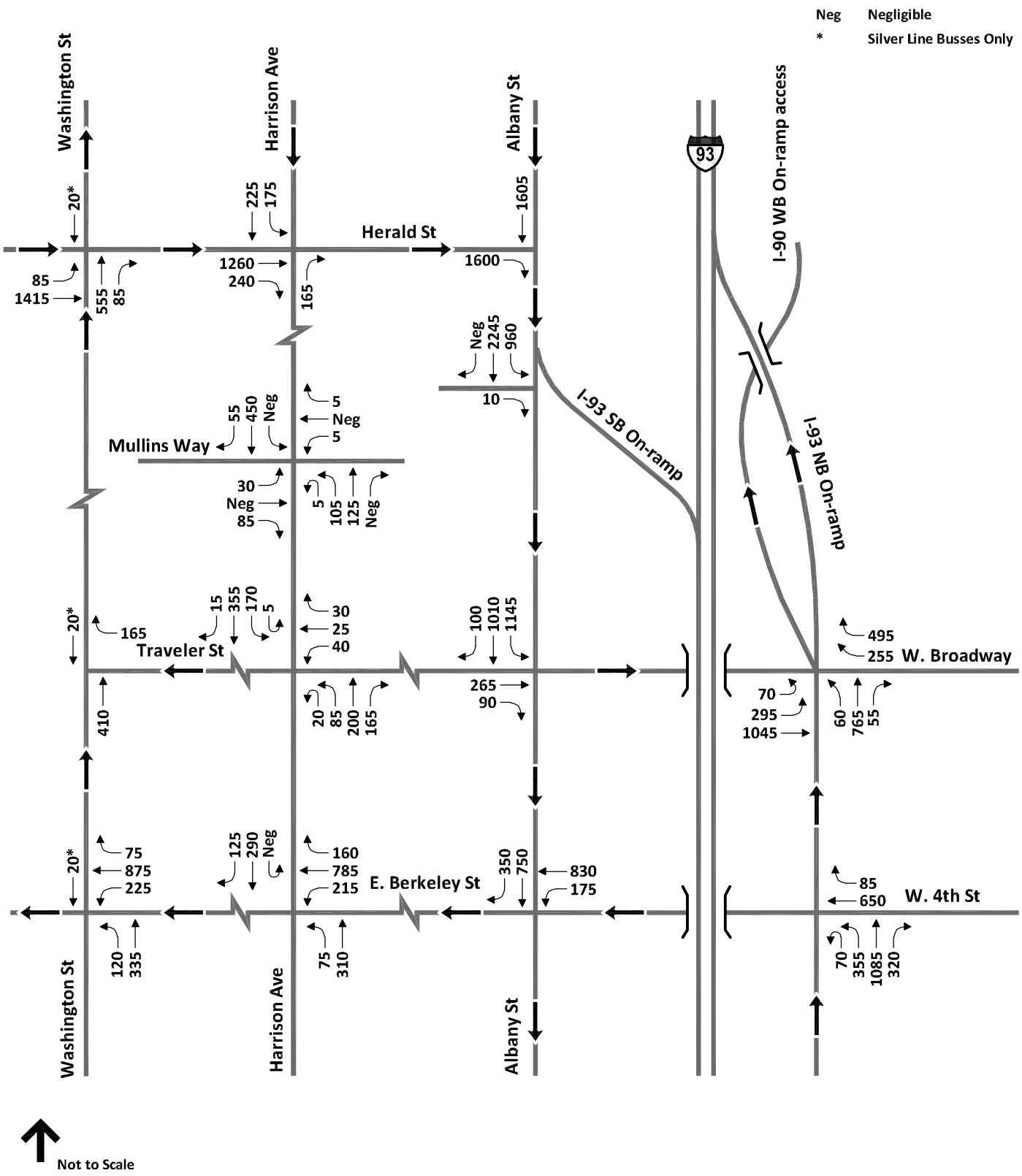
300 Harrison Avenue
Boston, MA

Figure 3.14

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Future No-Build Conditions
Morning Peak Hour 8AM-9AM
Traffic Volumes



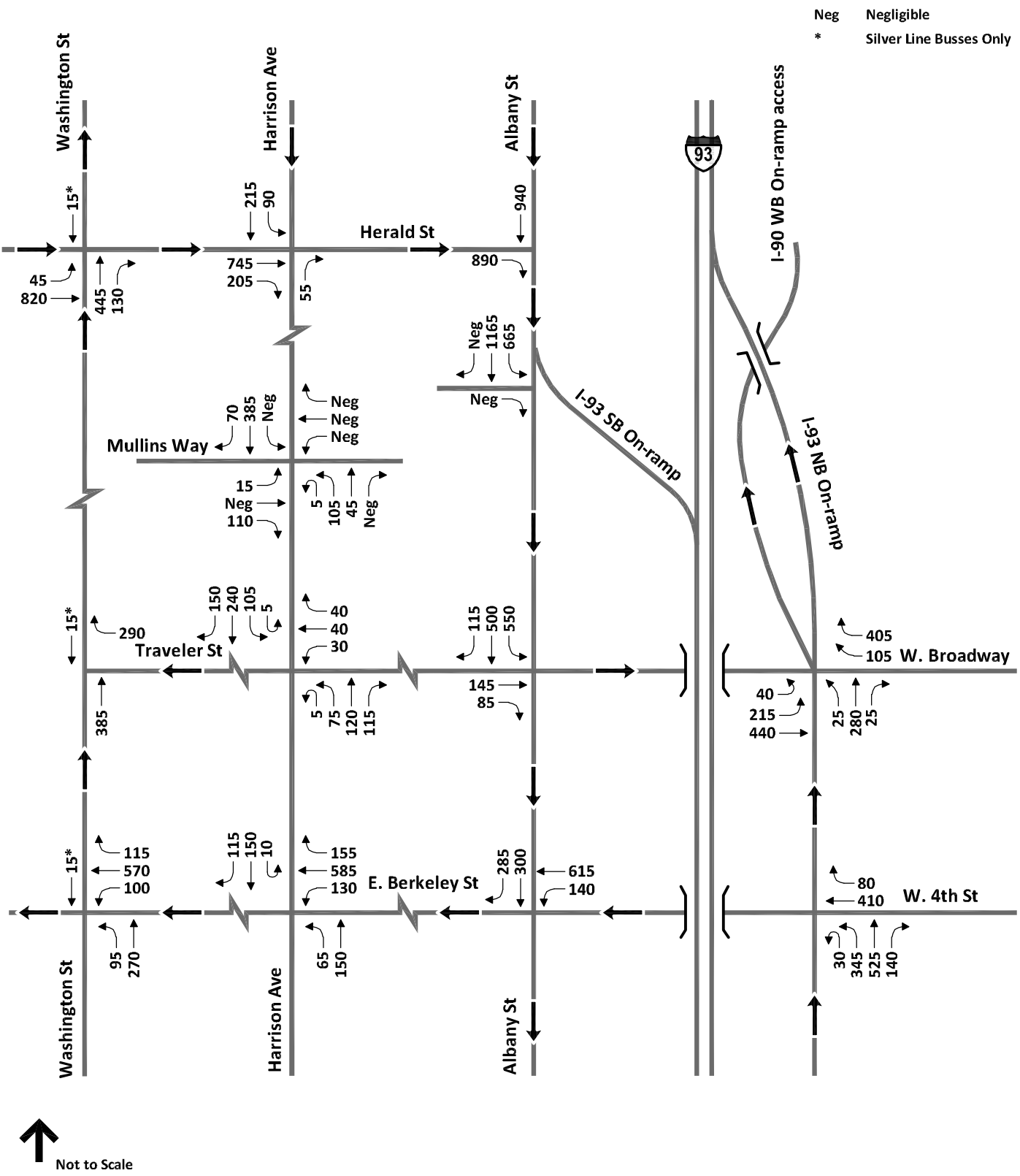
300 Harrison Avenue
Boston, MA

Figure 3.15

Future No-Build Conditions
Evening Peak Hour 5PM-6PM
Traffic Volumes

VHB Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



300 Harrison Avenue

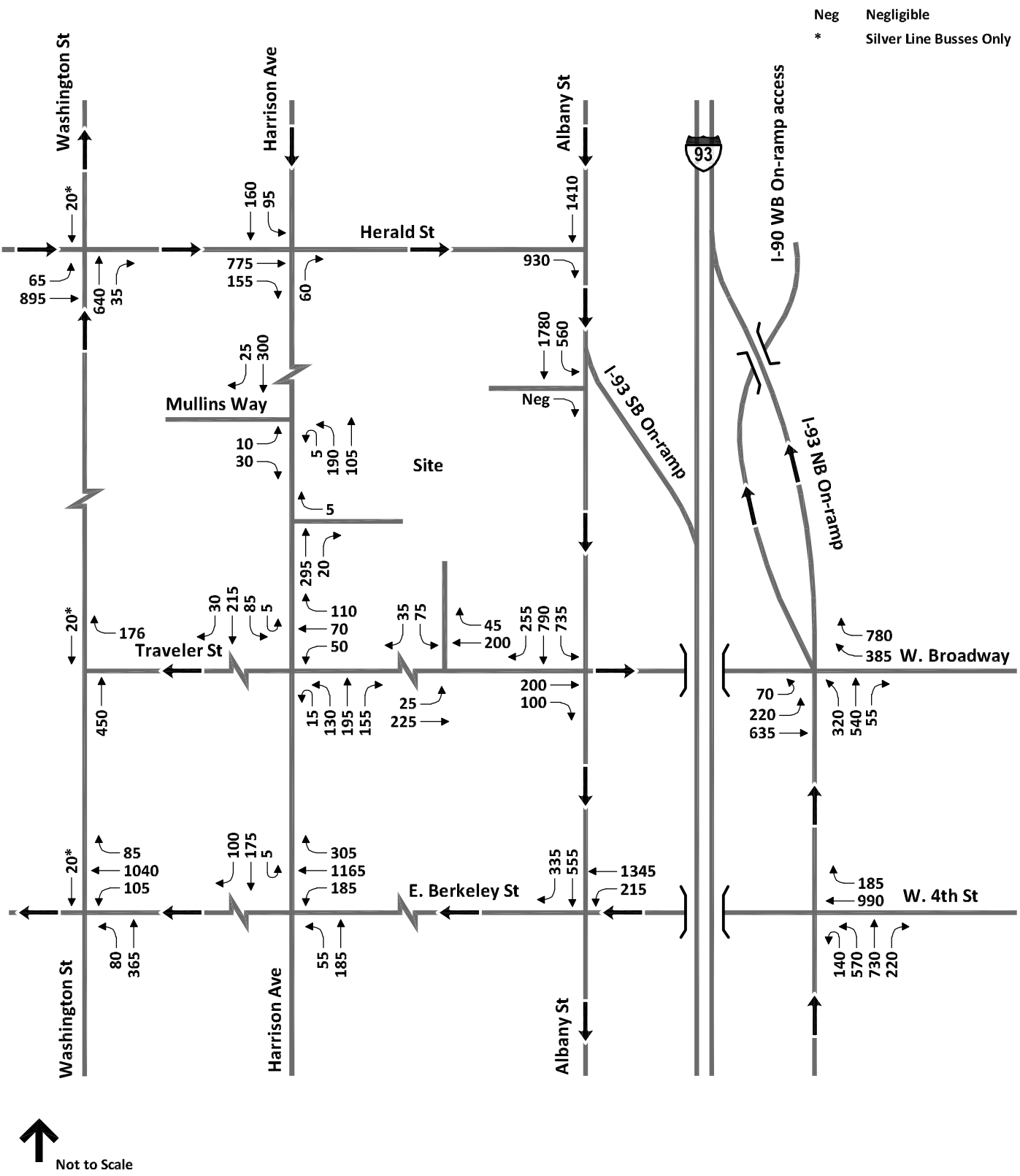
Boston, MA

Figure 3.16

Future No-Build Conditions
Saturday Peak Hour 12PM-1PM
Traffic Volumes

VHB Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



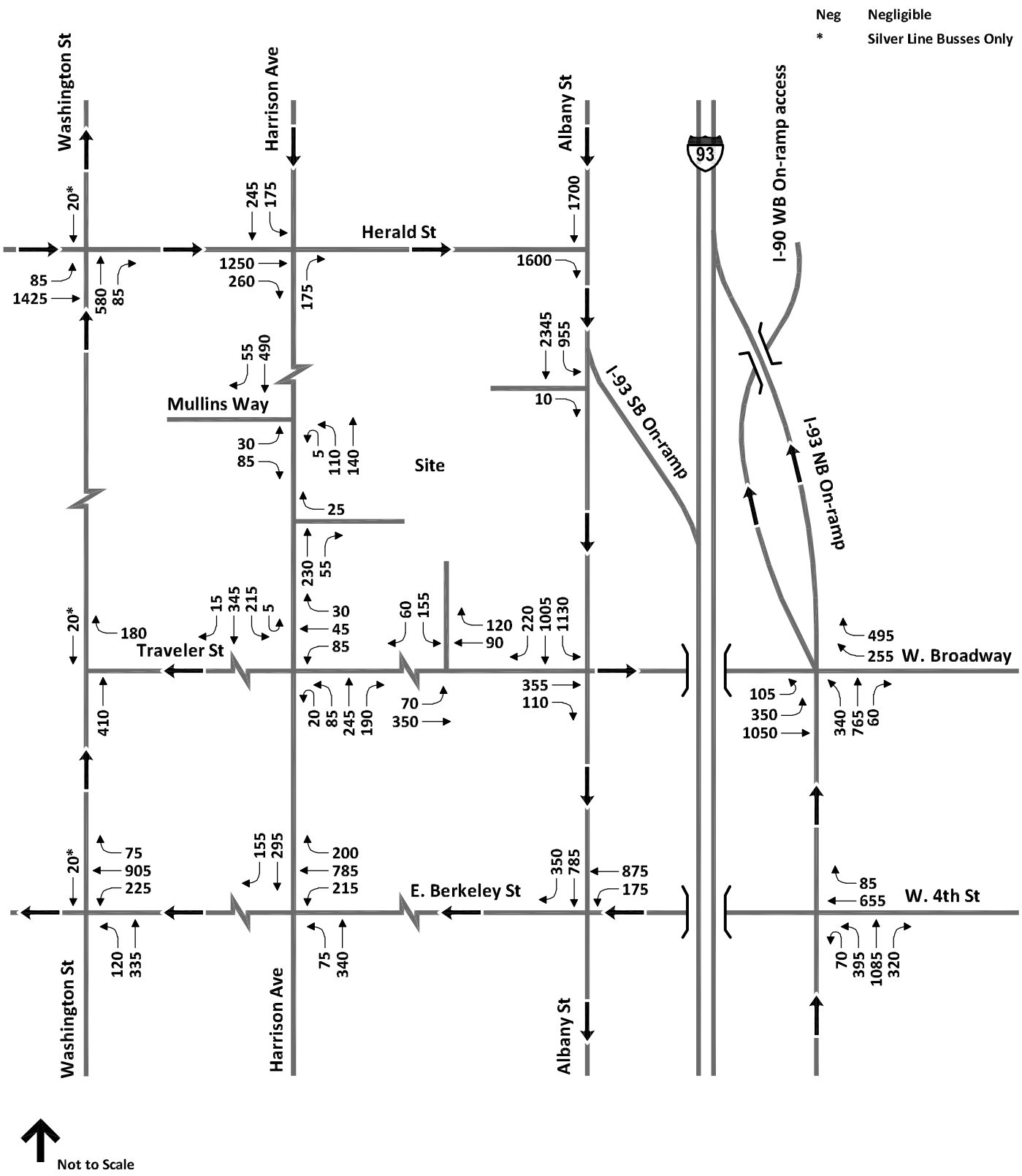
300 Harrison Avenue
Boston, MA

Figure 3.17

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Future Build Conditions
Morning Peak Hour 8AM-9AM
Traffic Volumes



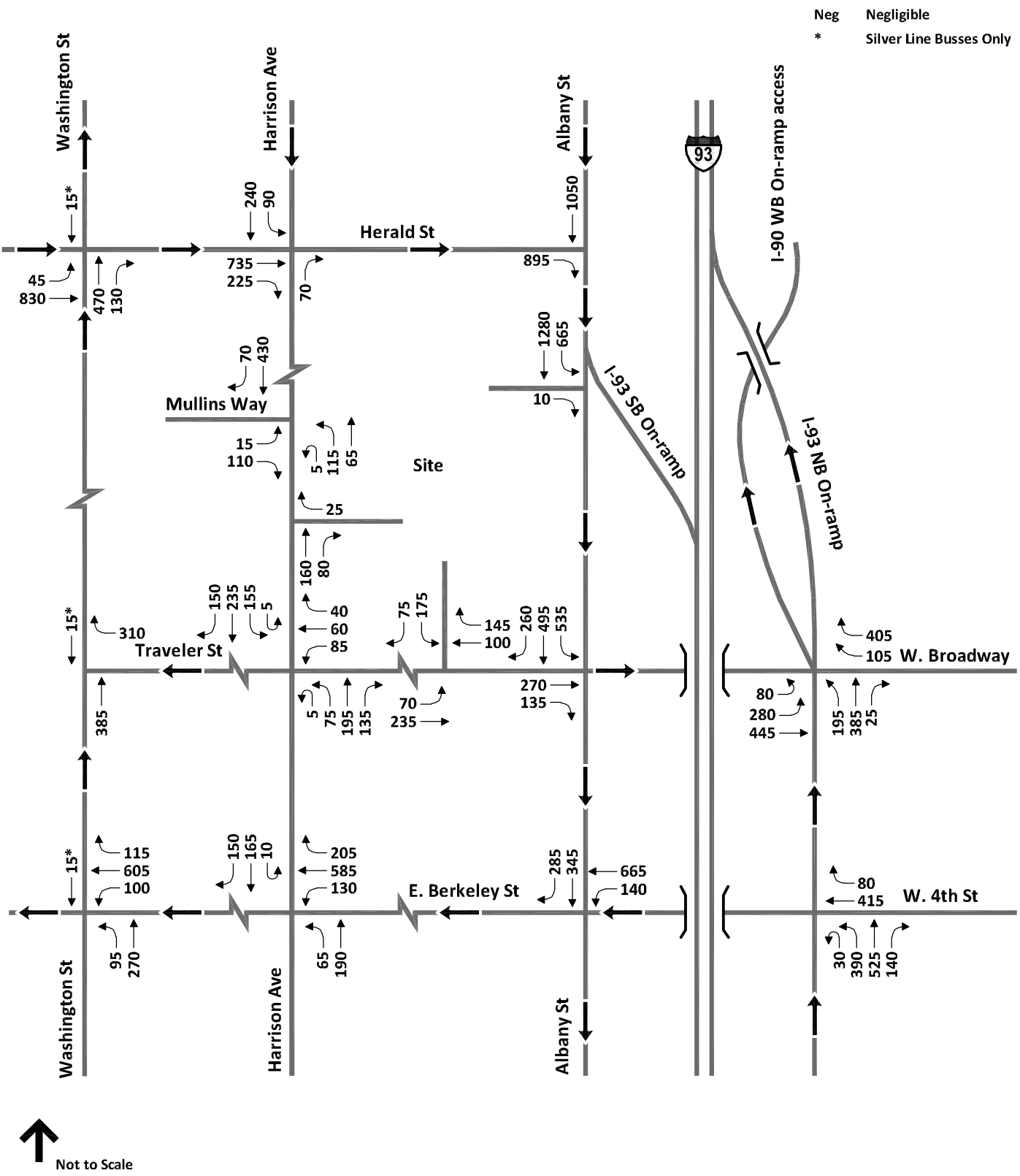
300 Harrison Avenue
Boston, MA

Figure 3.18

Future Build Conditions
Evening Peak Hour 5PM-6PM
Traffic Volumes

VHB Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



300 Harrison Avenue
Boston, MA

Figure 3.19

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Future Build Conditions
Saturday Peak Hour 12PM-1PM
Traffic Volumes

Follow-On Safety/ Operational Study

RAMP TO I-93 SOUTH

ALBANY STREET

Mobility Hub
- Shared Bike Station
- Public Car Share Spaces (ie.Zip-Car ®
- Electric Vehicle Charging Station

Improved Cross-Traffic Restriction:
- Signage
- Surface Treatment
- Reduce Driveway Traffic

Existing Curb Cut Converted to Right-Turn Exit Only

Potential Access to 275 Albany Street

LOADING DOCK

Parking Garage Access/Egress

HERALD STREET

STRUCTURED PARKING

GROCERY/RETAIL

RETAIL J

RETAIL I

Bldg 4

RETAIL H

RES. LOBBY

RES. AMENITIES

Bldg 1

Bldg 2

RETAIL A

RETAIL B

RETAIL C

Bldg 3

RETAIL D

RETAIL E

RES. LOB.

RETAIL F

RETAIL G

Reconfigured Existing Curb Cut

Widened (16-Foot) Sidewalk

New On-Street Parking

TRAVELER STREET

Existing Curb Cuts to be Closed

Existing Curb Cut to be Closed

HARRISON AVENUE

Outdoor Pedestrian Plaza

Existing Curb Cut to be Closed

Signal Timing Revisions

Right-In/Right-Out Driveway

Project Site

Vehicle Access

Bike Parking*

Pedestrian Paths/Sidewalks

Existing Signalized Pedestrian Crossing

*Note: Secure bike parking and storage for residents will be provided within the garage

0 50 100 Feet

300 Harrison Avenue

Boston, MA

Figure 3.20

Proposed Site Transportation and Access Improvements

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

4

Environmental Protection

Introduction

This chapter presents information on the existing environmental conditions in the vicinity of the Project Site, and the potential changes that may occur as a result of the Project. The goal of the Project is to activate the potential of the Site for a variety of uses while avoiding or minimizing potential adverse environmental impacts to the project area to the greatest extent feasible.

As discussed in more detail below, any Project-related impacts will be mitigated by the substantial community benefits the Project will bring to the neighborhood, including the realization of a significant component of the City's planning goals for the South End neighborhood. As demonstrated in the following sections, all identified impacts have be avoided, minimized and/or mitigated for to the extent feasible and as required by local, state, and federal regulation. Temporary construction-period impacts will be managed to minimize disruption to the surrounding neighborhood.

In accordance with Article 80 of the Boston Zoning Code, this PNF/EENF considers the potential for the project impacts in the following categories following Large Project Review guidelines:

- Shadow
- Daylight
- Air Quality
- Noise
- Flood Hazard
- Water Quality
- Groundwater
- Geotechnical Impact
- Solid and Hazardous Waste
- Construction
- Rodent Control
- Green Building/Sustainable Design

A pedestrian wind analysis is not required because the Project is not over 150-feet in height. Chapter 2, *Urban Design* provides detailed descriptions of architectural characteristics, including height and massing, and ground-level treatments, such as pedestrian ways and amenities and landscaping. Chapter 3, *Transportation* provides the detailed traffic and access impact study. Chapter 5, *Infrastructure Systems* provides detailed descriptions of the infrastructure and utilities required to support the Project. Chapter 6, *Historic Resources* describes in detail the historic resources in close proximity to the Site.

■

Key Findings and Benefits

Key findings related to environmental protection include:

- While the study shows the Project will create new shadows, these shadows are consistent with urban development and are not likely to discourage the use of sidewalks or public areas in the vicinity of the Project Site.
- Each viewpoint is expected to experience an increase in skydome obstruction under the 2016 Build Condition, which is to be expected when replacing low-rise building with a building with the varied massing of the Project.
- The air quality assessment demonstrates that the Project complies with CAAA and is consistent with the guidelines of the DEP because the Project will incorporate reasonable and feasible mitigation measures to reduce VOC, NO_X ,PM_{10}, and $PM_{2.5}$, missions in the ozone mesoscale analysis.
- The noise impact analysis determined that the Project will not generate noise impacts at nearby existing sensitive receptor locations.
- The Project Site is not located in a designated flood hazard zone; however, some portions of the Site are located in filled Tidelands, which are "landlocked," as is typical of many areas of Boston.
- According to the *Massachusetts Natural Heritage Atlas* (13th Edition dated 2008), no Estimated Habitats of Rare Wildlife, Priority Sites of Rare Species Habitat, or Certified Vernal Pools occur on or near the Site. Additionally, no federally-listed endangered or threatened species exist on or near the Site.
- The Project Site is located within the Groundwater Conservation Overlay District (GCOD), as defined in Article 32 of the Zoning Code.
- Subsurface conditions of fill over organic soils, silty clay, and a thin layer of glacial till over bedrock. The majority of the existing building (and the portion of the building to be reused), is supported on deep caissons installed to levels below these soils.
- Presently, there is no known subsurface contamination requiring notification to the DEP.
- Any on-site hazardous materials, including asbestos containing materials (ACM) that have been identified in the existing Herald building or may be encountered during construction will be handled in accordance with federal, state, and local regulations.
- Construction impacts are temporary in nature and are typically related to air (dust), noise, and runoff. The following sections describe the potential temporary impacts due to construction activities and proposed mitigation measures to reduce these impacts.

Key benefits related to environmental protection include:

- The proposed mixed-use redevelopment plan will revitalize an underutilized urban area, use land efficiently, promote the use of alternative modes of transportation, encourage pedestrian activity, and improve water quality.
- The Project will incorporate the appropriate level of wall and window noise attenuation to ensure that the interior sound levels will meet the HUD interior noise criteria for residences.

- The Project will improve the quality and quantity of site stormwater runoff compared to existing conditions, including providing for groundwater recharge in accordance with the GCOD.
- Groundwater levels are not expected to be impacted as part of the planned construction due to stormwater infiltration proposed for the Project.
- Regarding solid waste during operations, the building will include recycling facilities/space at each residential floor level and in the parking garage for collection of recyclable materials, and retail tenants will utilize disposal services that recycle waste off-site.
- In accordance with Article 37 of the Boston Zoning Code – Green Buildings, the Proponent intends to incorporate state-of-the-art sustainable design features into the Project in order to achieve a minimum level of "certified" under the U.S. Green Building Council (USGBC) Leadership in Environmental and Energy Design (LEED®) Green Building Rating System.

Analysis Conditions

This PNF/EENF compares the future no-build and build year conditions in order to identify the potential for the Project to impact the resources listed above. Where applicable, the existing conditions are considered for comparison. In order to compare the effects of the proposed development, the following analysis conditions were identified:

- **2011 Existing Condition** represents the baseline analysis conditions for comparison to future conditions.
- **2016 No-Build Condition** represents the anticipated development conditions based on known development projects scheduled to be completed by the time the Project will be completed and in operation without the Project for comparison to future build conditions and the identification of potential environmental impacts.
- **2016 Future Build Condition** represents the anticipated development conditions for the Project and the anticipated development conditions based on known development projects scheduled to be completed in the Project vicinity.

Future conditions were selected based on the estimated construction schedule completion date for the Project and a 5-year time horizon from the 2011 Existing Condition. A comparison between the Future No-Build and Future Build Conditions of the same year show changes anticipated to occur as a result of the Project.

Shadow

The following presents the anticipated changes in the shadows in the project area as a result of the Project. While the study shows the Project will create new shadows, these shadows are consistent with urban development and are not likely to discourage the use of sidewalks or public areas in the vicinity of the Project Site.

Shadow Analysis Methodology

As required by Section 80B-2 of the City of Boston Zoning Code for Large Project review, a shadow impact analysis was conducted for the hours of 9:00 am, 12:00 noon, 3:00 pm and 6:00 pm during the vernal equinox (March 21), summer solstice (June 21), autumnal equinox (September 21), and winter solstice (December 21).

The shadow analysis presents net new shadow for the proposed building, as well as the existing shadows, and illustrates the incremental impact of the Project. The analysis employs the BRA's 3D model of existing conditions, updated with recently completed projects, and also includes the proposed hotel located at 275 Albany Street (between East Berkeley and Traveler Streets.)

The analysis focuses on public open spaces, major pedestrian areas, and the sidewalks adjacent to, and in the vicinity of, the Project Site. Shadows have been determined using the applicable Altitude and Azimuth data for Boston estimated to occur at latitude and longitude 42.36° N, 71.06°W, in accordance with the BRA shadow study guidelines.[1] The results of the shadow impact study are discussed in the following sections and are supported by Figures 4.1a through 4.1d. New Project-related shadows are shown in a blue tone while existing shadow is shown in a gray tone.

Shadow Analysis Results

In general, new shadow from the Project will largely be limited to the Project Site, the abutting properties to the east and west, and the immediate surrounding public ways and sidewalks of Harrison Avenue, Herald Street, and Albany Street. No new shadow from the proposed building is anticipated to fall on any of the area's existing open spaces. Results for each of the time periods studied are presented in the following sections.

Vernal Equinox (March 21) and Autumnal Equinox (September 21)

The shadow impacts from the vernal equinox and autumnal equinox are virtually identical (refer to Figures 4.1a and 4.1c, respectively). At 9:00 am during the both the vernal and autumnal equinox, shadow will be cast in a north-westerly direction. New shadow from the Project will be cast on Harrison Avenue and on properties on the opposite side of Harrison Avenue. At noon, all Project-related shadow will be contained within the Project Site, except for new shadow on Herald Street and the train tracks in the Turnpike depression. At 3:00 pm, shadow will extend to the northeast and Project-related shadow will extend up to Herald Street and on to the train tracks. In the fall, at 6:00pm, similar to the existing shadow, the Project-related shadow will be cast northeast to the adjacent property, and over Herald and Albany Streets. As expected due to the proposed height of Building 4, it will cast new shadow to the northeast onto the adjacent property.

[1] Boston Redevelopment Authority, *Development Review Guidelines*, Appendix 6, 2006.

Summer Solstice (June 21)

At 9:00 am during the summer solstice, shadow will be cast in a westerly direction (Figure 4.1b). New shadow from the Project will be cast on the east side of Harrison Avenue. As the day progresses, the shadows will become shorter and swing to the north. At noon, all Project-related shadows will be contained within the Project Site, except some new shadow on Herald Street. At 3:00 pm, shadow will extend to the northeast where virtually all Project-related shadow will still be contained within the Project Site except some new shadow on Herald Street. At 6:00pm in the summer, shadow will be cast east and, similar to the existing shadow, most of the Project-related shadows will be contained within the Project Site.. As expected, due to the proposed height of Building 4, it will cast new shadow to the east falling on the adjacent properties to the east and on to Albany Street.

Winter Solstice (December 21)

The winter solstice creates the least favorable conditions for sunlight in New England. The sun angle during the winter is lower than in any other season, causing shadows to elongate. At 9:00 am, the morning sun will cast new project shadow to the northwest, extending across Harrison Avenue to the property on the opposite side of Harrison Avenue and to the south side of the Turnpike (Figure 4.1d). At noon shadow will extend across Herald Street immediately to the north. At 3:00 pm shadow will extend northeast, across Herald Street on to the Turnpike depression, and across Albany Street.

■

Shadow Analysis Conclusion

The Project will result in some new shadows being cast on roads, sidewalks, and abutter's property during parts of the day for much of the year, but the majority of new shadows cast will fall within the boundaries of the Project Site or onto adjacent streets including; Herald Street, Albany Street, the Turnpike depression and the I-93 artery. The presence of these new shadows is consistent with a built urban environment. As such, the increase in the shadows within the project area will have a low probability of changing the habits of pedestrians in the neighborhood and is not anticipated to have an adverse affect on the public, particularly in light of the increased numbers of pedestrians that are anticipated to patronize the proposed retail components or those returning home to their apartments. The nature of the Project will, in fact, result in a significant increase in street-level pedestrian activity on the adjoining streets and the surrounding neighborhood.

Daylight

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 Figures 4.2a through 4.2c.

■

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 PNF/EENF were taken from a combination of the BRA City model, an existing conditions survey prepared by VHB, Inc. dated April, 2011, and schematic design plans prepared by Elkus Manfredi Architects dated January 2012. 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.

Viewpoints

The following viewpoints were used for this daylight analysis:

- **Harrison Avenue –** This viewpoint is located on the centerline of Harrison Avenue, centered on the western façade of Buildings 2 and 3.
- **Traveler Street –** This viewpoint is located on the centerline of Traveler Street, centered on the southern façade of Building 4.
- **Herald Street –** This viewpoint is located on the centerline of Herald Street, centered on the northern facing façade of Buildings 1 and 2.

They represent one viewpoint for each building façade when viewed from the adjacent pubic way, sidewalk or property line, as appropriate. The viewpoint from Albany Street was not considered because only minimal sections of the Project Site abut Albany Street. Additionally, the interstate highway is immediately across Albany Street to the northeast and east of the Project Site.

■

Daylight Existing/No-Build Conditions

Under the Existing/No-Build Condition, the majority of the skydome is visible from the selected viewpoints due to the set-back, low-rise nature of the existing building. Figures 4.2a through 4.2c provide the percentage of skydome obstructed under the Existing/No-Build scenarios for Harrison Avenue and Traveler Street, respectively.

■

Daylight Build Conditions

The Project-related daylight impacts for the viewpoints from Harrison Avenue, Traveler Street, and Herald Street are presented in Figures 4.2a, 4.2b, and 4.2c, respectively. Under the 2016 Build Condition, each viewpoint is expected to experience an increase in skydome obstruction due to the increased height of the existing building and the three new buildings. This effect is to be expected when replacing low-rise building with a building with the varied massing of the Project. This change is well within the expected level of view obstruction when considered in the realm of the City's planning objectives for these portions of the Herald Street, Harrison Avenue, and Traveler Street corridors. The desired density and massing of the Project necessitates obstructing a portion of the views at the Site.

The Project will alter the view of the skydome from the adjacent streets and sidewalks. This effect cannot be avoided because the existing building is only one to two stories in height and any development of the Site consistent with the planning goals for the neighborhood (e.g., mixed-use development of higher densities than what currently exist) will necessarily create some skydome impacts. The proposed mixed-use nature of the Project will, by design, increase substantially the foot traffic along the adjacent sidewalks of Harrison Avenue and Traveler Street. Pedestrian enjoyment of the urban experience in this area will be improved through public realm improvements. Given the general lack of pedestrian activity generated by the existing use, the net effect of the Project will be a substantial enhancement of the public realm in this area.

Air Quality

This section presents an overview of and the results for the air quality assessment conducted for the Project. The purpose of the air quality assessment is to demonstrate that the Project satisfies applicable local, state, and federal air quality requirements.

Specifically, the air quality assessment for Project includes the following two analyses:

1. A localized (microscale), or "hot spot," analysis of local carbon monoxide (CO) concentrations.; and
2. A mesoscale analysis, which evaluated the regional ozone precursor impacts of volatile organic compounds (VOC), nitrogen oxides (NO_X), and particulate matter ($PM_{2.5}$ and PM_{10}).

The microscale analysis evaluated Site-specific impacts from vehicles traveling through congested intersections in the project area. The microscale analysis demonstrates that all existing and future CO concentrations will meet the NAAQS. The ozone mesoscale analysis demonstrates that the Project is in

compliance with the DEP's policy on ozone emissions. The Project will incorporate reasonable and feasible mitigation measures, including a Transportation Demand Management (TDM) Plan (as presented in Chapter 3, *Transportation*) to reduce VOCs and NO_X emissions for the build condition as well as $PM_{2.5}$ and PM_{10}. Appendix E includes the support documentation for these analyses.

Regarding new heating boilers and emergency generators, the Proponent will apply for any DEP air permits, as required by DEP regulations under 310 CMR 7.00.

■

Background

The 1990 Clean Air Act Amendments (CAAA) and the Massachusetts State Implementation Plan (SIP) require that proposed projects not cause any new violation of the NAAQS for pollutants of concern, or increase the frequency or severity of any existing violations, or delay attainment of any NAAQS. The air quality study includes a hot spot (microscale) evaluation of mobile source pollutants. The microscale analysis evaluated CO concentrations from roadways and intersections surrounding the Project.

The U.S. Environmental Protection Agency (EPA) and DEP have established guidance for modeling and review for air quality analysis prepared pursuant to the Massachusetts Environmental Policy Act (MEPA) process. The City of Boston requires that air quality analyses prepared for PNFs meet the EPA and DEP guidelines.

■

Pollutants of Concern and Attainment Status

Air pollution is of concern because of its demonstrated effects on human health, in particular, the respiratory effects of the pollutants and their potential toxic effects, as described below.

Carbon Monoxide

Carbon monoxide is a colorless and odorless gas that is a product of incomplete combustion. Carbon monoxide (CO) is absorbed by the lungs and reacts with hemoglobin to reduce the oxygen carrying capacity of the blood. At low concentrations, CO has been shown to aggravate the symptoms of cardiovascular disease. It can cause headaches and nausea and, at sustained high concentration levels, can lead more serious health risks.

CO Attainment Status. Boston is a CO Maintenance area. 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 on the NAAQS.

Particulate Matter

Particulate matter is made up of small solid particles. PM_{10} refers to particulate matter with a nominal aerodynamic diameter of 10 micrometers or less, and $PM_{2.5}$ refers to particulate matter with an aerodynamic

diameter of 2.5 micrometers or less. Particulates can enter the body through the respiratory system. Particulates over 10 micrometers in size are generally captured in the nose and throat and are readily expelled from the body. Particles smaller than 10 micrometers, and especially particles smaller than 2.5 micrometers, can reach the air ducts (bronchi) and the air sacs (alveoli) in the lungs. Particulates are associated with cancer variety of health risks.

PM Attainment Status. Boston is currently attainment/unclassifiable for PM_{10} and $PM_{2.5}$. An attainment/unclassifiable area is an area that does not yet have sufficient data to determine its attainment status. The EPA and Federal Highway Administration (FHWA) are in the process of developing updated modeling guidance for attainment/unclassifiable areas. This air quality evaluation includes a mesoscale analysis using EPA's CAL3QHC, which the model that can best demonstrate compliance with the NAAQS at this time.

Also, although no regulatory limits have yet been set on Ultra Fine Particulates (UFP), at the request of the Boston Environment Department (BED), this section also addresses Ultra-fine Particulate Matter ($PM_{0.1}$).

Ozone (VOCs and NO_x)

Ozone is a strong oxidizer and an irritant that affects the lung tissues and respiratory functions. Exposure to ozone can impair the ability to perform physical exercise, can result in symptoms such as tightness in the chest, coughing, and wheezing, and can ultimately result in asthma, bronchitis, and emphysema.

Volatile organic compounds (VOCs) are a general class of compounds containing hydrogen and carbon and are a precursor to the formation of the pollutant ozone. While concentrations of VOCs in the atmosphere are not generally measured, ground-level ozone is measured and used to assess potential health effects. Emissions of VOCs and NO_X react in the presence of heat and sunlight to form ozone in the atmosphere. Accordingly, ozone is regulated as a regional pollutant and is not assessed on a project-specific basis.

When combustion temperatures are extremely high, as in automobile engines, atmospheric nitrogen gas may combine with oxygen gas to form various oxides of nitrogen. Of these, nitric oxide (NO) and nitrogen dioxide (NO2) are the most significant air pollutants. This group of pollutants is generally referred to as NO_X. Nitric oxide is relatively harmless to humans but quickly converts to NO2. Nitrogen dioxide has been found to be a lung irritant and can lead to respiratory illnesses. Nitrogen oxides, along with VOCs, are also precursors to ozone formation.

Ozone Status. Massachusetts has been determined to be a non-attainment area, statewide, for ozone. The State has been divided into two non-attainment areas, Eastern and Western Massachusetts. On June 15, 2005, the EPA revoked the 1-hour ozone standard for most areas in the country. This action means that the 1-hour ozone non-attainment area classified as "Serious," is no longer applicable for Western Massachusetts. Only the 8-hour ozone NAAQS applies. The Project is located in the Eastern Massachusetts 8-hour ozone non-attainment area, which has been classified as "Moderate."

Air Quality Standards

The EPA has established the NAAQS to protect the public health. The NAAQS for CO are presented in Table 4-1. The predominant source of air pollution anticipated from typical project developments is emissions from Project-related motor vehicle traffic. Carbon monoxide is directly emitted by motor vehicles. Their concentrations can be calculated and compared to the NAAQS.

Table 4-1
National Ambient Air Quality Standards

	Primary Standards		Secondary Standards	
Pollutant	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm (10 mg/m3)	8-hour[1]	None	None
	35 ppm (40 mg/m3)	1-hour[1]	None	None

1 Not to be exceeded more than once per year.

Methodology

Microscale ("Hot Spot") Analysis Methodology

The microscale ("hot spot") analysis conducted for the Project evaluated the emissions of mobile sources at nearby intersections. The mobile source modeling followed the EPA's modeling guidelines.[2] The air quality analysis evaluated the traffic data and determined the intersections that were the most congested and expected to experience an increase in project generated traffic. EPA's mobile source models (MOBILE and CAL3QHC) were used to calculate the worst-case roadway concentrations of CO. EPA's stationary source model (SCREEN3) was used to calculate worst-case concentrations from the proposed parking garages using the traffic and mobile source emission factor data. The microscale analysis added the highest concentrations from the roadway mobile source modeling to the highest concentrations from the stationary source modeling (parking garages) to determined the maximum project's CO concentrations. The maximum concentrations were then compared to the NAAQS.

The microscale analysis conducted for the Project utilized traffic and emissions data for the following 2011 Existing Condition, and 2016 No-Build and Build Conditions (previously described). The microscale analysis utilized the traffic (volumes and speeds) and emission factor data for the 2011 Existing, 2016 No-Build, and 2016 Build Conditions. These data were incorporated into air quality models to demonstrate that the Proposed Project will meet the CAAA criteria. The microscale analysis calculated CO concentrations at congested intersections near the study area under Existing, No-Build, and Build conditions.

2 *Guideline for Modeling Carbon Monoxide From Roadway Intersections*, US Environmental Protection Agency, Office of Air Quality Planning and Standards, Technical Support Division; Research Triangle Park, NC; EPA-454/R-92-006 (Revised); September 1995

The objective of the microscale analysis was to evaluate the CO concentrations caused by the Proposed Project-related traffic at congested intersections in the study area. The intersections in the study area were ranked based on traffic volumes and level of service. The following intersections, which are presented in Figure 4.3, were selected for the microscale analysis:

- Herald Street at Albany Street
- Albany Street at site driveway
- Traveler Street at Front Street
- East Berkeley Street at Front Street
- East Berkeley Street at Albany Street

The microscale analysis calculated maximum 1-hour and 8-hour CO concentrations in the study area intersections studied during the peak CO season (winter). The EPA's computer model CAL3QHC Version 2[3] was used to predict CO concentrations for each intersection studied. Receptor locations were selected near the congested intersections based upon areas where the public has access. The intersection receptors were placed at the edge of the roadway, but not closer than ten feet (three meters) from the nearest travel lane, as required by EPA. The results calculated at these receptor locations represent the highest concentrations at each intersection studied. Receptor locations farther away from the intersections will have lower concentrations because of the CO dispersion characteristics. The receptor locations that are along other roadways in the study area are also expected to have lower CO concentrations than the receptor locations at the intersection. The emission rates for vehicles traveling along these roadways are much lower than the emission rates for vehicles queuing at intersections.

The CO concentrations were calculated directly using the EPA computer model. The 1-hour CO concentrations include a 1-hour background concentration of 3.0 ppm. The 8-hour CO concentrations were derived by applying a persistence factor of 0.70 to the 1-hour CO concentrations. Similar to the 1-hour CO emissions, the concentrations are expressed in parts per million (ppm) and include an 8-hour background concentration of 2.1 ppm.

Mesoscale Analysis Methodology

The purpose of the mesoscale analysis is to estimate the area wide emissions of VOC, NO_X, PM_{10}, and $PM_{2.5}$ during a typical day in the peak ozone season (summer). The mesoscale analysis evaluates the change (with and without the project) in daily (24-hour period) VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions from the average daily traffic volumes, roadway lengths, and vehicle emission rates. DEP guidelines require that the air quality study utilize traffic and emissions data for existing and future (no-build and build) conditions. The traffic and emissions data are incorporated into the EPA and DEP air quality models to generate emissions estimates that demonstrate whether or not a proposed action will have air quality impacts.

[3] *User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations Near Roadway Intersections*, US Environmental Protection Agency, Office of Air Quality Planning and Standards, Technical Support Division; Research Triangle Park, NC; EPA-454/R-92-005; November 1992

The mesoscale air quality analysis utilizes developed traffic data (volumes, speeds, and roadway geometry) and emission factor data for 2011 Existing and 2016 No-Build, 2016 Build, and Build with Mitigation Conditions. The 2016 No-Build Condition included regional background traffic growth and planned roadway improvements without the Project.

The mesoscale study area, at a minimum, includes all the roadway links and intersections that are projected to experience a ten percent increase in traffic from the project and that experience a Level-of-Service (LOS) designation of "D" or lower under existing or future conditions. The major roadways and intersections that were included in the mesoscale analysis are depicted in Figure 4.4 and include:

- Herald Street,
- Albany Street,
- Washington Street
- Harrison Avenue
- I-93
- I-90
- Traveler Street
- East Berkley Street

Emission Rates

All the vehicle emission factors used in the microscale analysis were obtained using the EPA's MOBILE 6.2[4] emissions model. MOBILE 6.2 calculates CO emission factors from motor vehicles in grams per vehicle-mile. The emission rates calculated in this study were adjusted to reflect Massachusetts-specific conditions, such as the state vehicle registration age distribution, the statewide Inspection and Maintenance (I/M) Program, and the Stage II Vapor Recovery System.[5] Emission factors for the mobile sources were determined using the DEP-recommended temperatures for the winter season. VOC, NO_X, PM_{10}, and $PM_{2.5}$ emission factors for the mesoscale analysis were determined using the DEP-recommended temperatures for the summer (ozone) season.

Traffic Data

The air quality assessment utilized motor vehicle traffic data specifically developed for each analysis condition. The Build Conditions used for the microscale analysis include the physical and operational mitigation proposed to improve traffic operations. The microscale analysis used the evening peak hour traffic conditions during the CO season (winter). Vehicle speeds were developed based upon traffic volumes, observed traffic flow characteristics, and roadway capacity. The traffic data were developed based on the traffic data analyzed in this PNF/EENF (see Chapter 3, *Transportation*).

5 MOBILE 6.2 (Mobile Source Emission Factor Model), The May 19, 2004 official release from US EPA, Office of Mobile Sources, Ann Arbor, MI.

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

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Microscale ("Hot Spot") Analysis Results

The microscale CO results under existing and future conditions are presented in Tables 4-2 and 4-3.

Existing Microscale Concentrations

The microscale analysis determined that the 1-hour CO concentrations for the 2011 Existing Condition ranged from a minimum of 4.1 parts per million (ppm) at the intersection of East Berkeley Street and Albany Street to a maximum of 5.6 ppm at the intersection of Albany Street and the proposed site driveway. The corresponding maximum 8-hour CO concentrations ranged from a minimum of 2.9 ppm to a maximum of 3.9 ppm.

Future Microscale Predicted Concentrations

Future estimates of the Project-related emissions, which are presented in Table 4-3, are based upon changes in traffic and emission factor data. The microscale analysis evaluated motor vehicle emissions from nearby intersections and the below-grade parking garage exhaust system from the site. The traffic data include motor vehicle traffic volumes and signal cycle timing. The emission factor data include the years of analysis and roadway speeds. The following section reports on the findings of the microscale analysis for the Project based upon changes in these data.

All the 1-hour and 8-hour concentrations are below the CO NAAQS of 35 and 9 ppm, respectively. These values are consistent with the area's designation as a CO Maintenance area. The results show that the maximum increase for 1-hour and 8-hour CO concentrations between the 2016 No-Build and Build conditions is 0.1 ppm in both cases.

The 1-hour CO concentrations for the 2016 No-Build Condition ranged between 4.0 to 5.2 ppm. The 8-hour CO concentrations for the 2016 No-Build Condition ranged between 2.8 to 3.6 ppm. The 1-hour CO concentrations for 2016 Build Condition ranged between 4.0 to 5.2 ppm. The 8-hour CO concentrations for 2016 Build Condition ranged between 2.8 to 3.6 ppm. The results of the microscale analysis demonstrate that the 2016 No-Build and Build CO concentrations (both 1- and 8-hour values) for the Project are below the NAAQS.

Table 4-2
Predicted Maximum 1-Hour CO Concentrations (Parts Per Million)[1]

Intersection Number	Intersection	Receptor	2011 Existing	2016 No-Build	2016 Build
1	Herald Street at	R1 – I-93 and I-90 Interchange	5.1	4.9	5.0
	Albany Street	R2 – Project Site	4.9	4.7	4.8
		R3 – Train tracks	4.9	4.9	4.8
2	Albany Street at	R4 – I-93 and I-90 Interchange	5.2	5.1	5.1
	site driveway	R5 – Project Site	5.2	5.0	5.1
		R6 – Project Site	5.6	5.2	5.2
3	Travelers Street at	R7 – I-93 overpass	4.8	4.7	4.7
	Front Street	R8 – I-93 overpass	4.3	4.1	4.8
		R9 – I-93 overpass	4.5	4.2	4.7
4	East Berkeley at	R10 – I-93 overpass	5.0	4.9	4.2
	Front Street	R11 – I-93 overpass	4.7	4.6	4.6
		R12 – I-93 overpass	4.8	4.7	4.5
		R13 – I-93 overpass	4.4	4.4	4.2
5	East Berkeley Street	R14 – I-93	4.4	4.4	4.2
	at	R15 – I-93	4.8	4.7	4.5
	Albany Street	R16 – Mobil Gas Station	4.1	4.0	4.0
		R17 – Parking Lot	4.7	4.5	4.4

Source: Vanasse Hangen Brustlin, Inc.
1 The concentrations are expressed in parts per million (ppm) and include a 1-hour background concentration of 3.0ppm. The 1-hour NAAQS for CO is 35 ppm. The emissions presented represent the highest emissions experienced at each intersection.

Table 4-3
Predicted Maximum 8-Hour CO Concentrations (Parts Per Million)[1]

Intersection Number	Intersection	Receptor	2011 Existing	2016 No-Build	2016 Build
1	Herald Street at Albany Street	R1 – I-93 and I-90 Interchange	3.6	3.4	3.5
		R2 – Project Site	3.4	3.3	3.4
		R3 – Train tracks	3.4	3.4	3.4
2	Albany Street at site driveway	R4 – I-93 and I-90 Interchange	3.6	3.6	3.6
		R5 – Project Site	3.6	3.5	3.6
		R6 – Project Site	3.9	3.6	3.6
3	Travelers Street at Front Street	R7 – I-93 overpass	3.4	3.3	3.3
		R8 – I-93 overpass	3.0	2.9	3.4
		R9 – I-93 overpass	3.2	2.9	3.3
4	East Berkeley at Front Street	R10 – I-93 overpass	3.5	3.4	2.9
		R11 – I-93 overpass	3.3	3.2	3.2
		R12 – I-93 overpass	3.4	3.3	3.2
		R13 – I-93 overpass	3.1	3.1	2.9
5	East Berkeley Street at Albany Street	R14 – I-93	3.1	3.1	2.9
		R15 – I-93	3.4	3.3	3.2
		R16 – Mobil Gas Station	2.9	2.8	2.8
		R17 – Parking Lot	3.3	3.2	3.1

1 The concentrations are expressed in parts per million (ppm). 8-Hour CO background of 2.1 ppm and a persistence factor of 0.70 were used. The 8-hour NAAQS for CO is 9 ppm. The emissions presented represent the highest emissions experienced at each intersection.

■

Mesoscale Analysis Results

The mesoscale analysis evaluated the change (with and without the project) in daily (24-hour period) VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions from the average daily traffic volumes, roadway lengths, and vehicle emission rates.

Existing Mesoscale Air Quality Conditions

The mesoscale analysis calculated the 2011 mobile source emissions from the major roadways in the study area. These emissions, estimated to be 1,229.8 kilograms per day (kg/day) of VOCs, 4,316.1 kg/day of NO_X, 84.6 kg/day of $PM_{2.5}$, and 144.3 kg/day of PM_{10} establish a baseline to which future emissions can be compared.

Future Predicted Mesoscale Air Quality Conditions

Future estimates of No-Build and Condition emissions are based upon changes in traffic and emission factor data. The traffic data includes traffic volumes, vehicle-miles-of-travel, signal cycle timing, and physical roadway improvements. The emission factor data includes years of analysis and roadway speeds.

The mesoscale analysis presented in Table 4-4 estimated the future regional VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions due to the changes in average daily traffic volume, roadway characteristics, and vehicle emissions for all analysis conditions. Under the 2016 No-Build Condition, VOC emissions are estimated to be 905.9 kg/day, NO_X emissions were estimated to be 2,239.5 kg/day, $PM_{2.5}$ emissions are estimated to be 64.6 kg/day, and PM_{10} emissions are estimated to be 127.8 kg/day (Table 4-4). The 2016 No-Build Condition VOC emissions are lower than the Existing Conditions emissions due to the implementation of state and federal emission control programs, such as the Federal Motor Vehicle Emission Control Program, the Stage II Vapor Recovery System, and the Massachusetts Inspection and Maintenance program.

Table 4-4
Mesoscale Analysis Results (kilograms per day)

Pollutant	Existing Condition	2016 No-Build Condition[1]	2016 Build Condition[2]	2016 Build with Mitigation Condition[3]	2016 Build vs. Build with Mitigation (difference)
Volatile Organic Compounds (VOCs)	1229.80	905.91	907.24	907.20	0.04
Oxides of Nitrogen (NOx)	4316.10	2239.50	2240.79	2240.75	0.04
Particulate Matter ($PM_{2.5}$)	84.64	64.55	64.60	64.60	0.001
Particulate Matter (PM_{10})	144.28	127.83	127.92	127.91	0.003

1 The future no build condition emissions are lower than the existing conditions emissions due to the implementation of state and federal emission control programs, such as the Federal Motor Vehicle Emission Control Program, the Stage II Vapor Recovery System, and the Massachusetts Inspection and Maintenance program.

2 The Build with Mitigation condition used for the air quality analysis includes the TDM Plan proposed in order to improve traffic operations.

Under the 2016 Build Condition, as presented in Table 4-4, the VOC emissions are estimated to be 907.20 kg/day, NO_X emissions were estimated to be 2240.75 kg/day, $PM_{2.5}$ emissions are estimated to be 64.60 kg/day, and PM_{10} emissions are estimated to be 127.91 kg/day. The SIP requires that proposed Project with VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions from the Build Condition that are greater than the No-Build Condition emissions, include all reasonable and feasible emission reduction measures. Although the air quality analysis results do not result in an increase in emissions between No-Build and Build, the Proponent has proposed a series of mitigation measures to address traffic and, therefore, air quality. Table 4-4 presents a summary of the Build Condition with the proposed roadway operational and physical mitigation measures as well as the TDM mitigation measures proposed as part of the Project (Build with Mitigation Condition).

Transportation-related mitigation measures include physical mitigation, such as intersection and the roadway improvements, and trip reduction mitigation measures. The Proponent has committed to trip reduction strategies including a range of TDM measures, which will further reduce the emissions of the Project. The TDM measures are expected to result in reduced air quality impacts associated with a reduction in single-occupancy vehicle trips. The transportation-related mitigation measures are presented and described in Chapter 3, *Transportation*.

The results of the mesoscale analysis demonstrate that the roadway improvements will meet the transportation conformity criteria by reducing both VOC and NO_X emissions. The mitigation measures result in improved geometry and operation in the Project area. The mitigation measures would result in an emission reduction of 0.04 kg/day from the 2016 Build Condition for VOC and NO_X and a negligible reduction for PM_{10}, and $PM_{2.5}$.

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Ultra-Fine Particulate Matter

Ultra-Fine Particulates (UFP) are particles ($PM_{0.1}$) with diameter of 0.1 micrometers or less. They are a concern because they are able to travel deep into the human respiratory system and potentially serve as a carrier for other compounds. In addition, UFP are also more difficult to measured and calculate impacts than PM_{10} and $PM_{2.5}$. Because UFP particles weigh almost nothing, they can stay airborne for a long time. However, $PM_{0.1}$ is a relatively new pollutant of concern. EPA is currently conducting and reviewing numerous air pollution studies to better understand (i.) the types of sources, (ii.) emission characteristics, and (iii.) human health effects associated with this pollutant.

To date, there is no state or federal NAAQS for UFP particles, nor is there any EPA or DEP recommended modeling procedures for assessing UFP particles. Therefore, this pollutant was not directly assessed in this air quality chapter. However, emissions of "respirable" (PM_{10}) and "fine" ($PM_{2.5}$) particulate matter were modeled as part of this Project in the mesoscale analysis. The primary source of $PM_{0.1}$ is expected to be mobile sources, such as breaks and exhausts. The Project is expected to have a small impact on particulate matter. Similar trends would be expected for $PM_{0.1}$ as for PM_{10} and $PM_{2.5}$ because $PM_{0.1}$, PM_{10}, and $PM_{2.5}$ have some distinct similarities in their origins (e.g., mobile sources). The results indicated that the PM_{10} emissions would be reduced by 11% in 2016, as compared to existing conditions, and that the Project would result in an increase of approximately 0.1 kilograms per day. The $PM_{2.5}$ emissions would be reduced by 25% in 2016, and that the Project would result in an increase of less than 0.1 kg/day. The majority of PM reduction in 2016 is due to fuel and engine controls. The Project will include TDM measures for mobile sources and the latest emission controls on mechanical equipment to help decrease the overall emissions of PM_{10}, $PM_{2.5}$, and $PM_{0.1}$, which will help lower potential health risks.

■

Summary of Air Quality Analysis Findings

The air quality assessment demonstrates that the Project complies with local, state, and federal air quality requirements. The microscale analysis evaluated impacts from the Project-generated motor vehicle traffic at the most congested intersections in the Study Area and the parking garage exhaust system. State and federal

modeling procedures were used to determine worst-case concentrations. The results demonstrate that all existing and future build and no-build CO concentrations will be below the NAAQS.

The air quality study demonstrates that the Project conforms with the CAAA because:

- No new violation of the NAAQS will be created,
- No increase in the frequency or severity of any existing violations will occur, and
- No delay in attainment of any NAAQS will result.

The air quality assessment demonstrates that the Project complies with CAAA and is consistent with the guidelines of the DEP because the Project will incorporate reasonable and feasible mitigation measures to reduce VOC, NO_X, PM_{10}, and $PM_{2.5}$, missions in the ozone mesoscale analysis. These mitigation measures include a TDM Plan. The implementation of these mitigation measures will help reduce the VOC, NO_X, PM_{10}, and $PM_{2.5}$, emissions associated with the Project.

Noise

Noise impacts from the Project have been analyzed, including rooftop mechanical equipment and other noise sources (e.g., emergency generators). The noise impact assessment summarized in this section discusses noise background, noise impact criteria, noise analysis methodology, and potential noise impacts. The noise impact assessment included noise monitoring to determine existing sound levels, an evaluation of future sound levels associated with Project mechanical equipment, and an evaluation of noise impacts on future residents from ambient noise. The analysis demonstrates that the Project complies with City of Boston noise regulations and applicable state and federal regulations and guidelines, including U.S. Department of Housing and Urban Development (HUD) interior noise criteria for residential uses. Refer to Appendix F for noise analysis support documentation.

■

Noise Analysis Background

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. These factors include:

- 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 (0 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 4-5 presents a list of common outdoor and indoor sound levels

Table 4-5
Common Outdoor and Indoor Sound Levels

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

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

A variety of sound level indicators can be used for environmental noise analysis. These indicators describe the variations in intensity and temporal pattern of the sound levels. The following is a list of 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.
- Ldn is the day-night average sound level representative of a 24-hour period with a penalty adjustment for sound levels occurring between 10:00 PM and 7:00 AM.

■

Noise Impact Criteria

The City of Boston and HUD have developed noise impact criteria that establish noise thresholds deemed to result in adverse impacts. The noise analysis for the Project compared existing and future sound levels to these criteria and determined whether or not the Project will be impacted by the nearby transportation facilities surrounding the site or generates noise impact at sensitive receptor locations in the vicinity of the Project.

City of Boston Noise Regulation

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

Under Chapter 40, Section 21 of the General Laws of the Commonwealth of Massachusetts and the City of Boston Code, Ordinances, Title 7, Section 50, the Air Pollution Control Commission of the City of Boston has adopted Regulations for the Control of Noise in the City of Boston.[6] These regulations establish maximum allowable sound levels based upon the land use affected by the proposed development. Table 4-6 summarizes the maximum allowable sound levels that should not be exceeded.

Table 4-6
City of Boston Noise Standards by Zoning District

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*.

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6 City of Boston Air Pollution Control Commission, *Regulations for the Control of Noise in the City of Boston.* (website: http://www.cityofboston.gov/Images_Documents/noise_reg_tcm3-13127.pdf)

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

The City of Boston's regulations on construction sound levels state that operation of any construction devices, excluding impact devices, may not exceed 86 dB(A) during any time period.

HUD Noise Impact Criteria

HUD has established guidelines and procedures, which are presented in The Noise Guidebook[7] (Guidebook), in assessing noise impacts on residential developments. The HUD standard is intended to protect residential receptors from sound levels that cause interference with normal activities, such as sleep and conversation

HUD has established an Ldn of 65 dB or lower as an acceptable exterior sound level and an L_{dn} of 45 dB as an interior standard. L_{dn} represents a Day-Night average sound level. This is the average of all sound levels that occur during a 24-hour period, with a significant penalty (10 dB) added to sound levels that occur between 10:00 PM and 7:00 AM. Sound levels above 65 dB but not exceeding 75 dB is normally unacceptable. However with noise attenuation measures (such as special building construction material), a waiver may be granted. HUD considers sound levels above 75 dB to be unacceptable.

HUD's guidance and procedures states that if the proposed residential development is located near a major noise source, such as within 15 miles of an airport, within 1,000 feet of a major highways or roads, or within 3,000 feet of a railroad line, then the Proponent must undertake a noise assessment.

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Noise Analysis Methodology

The noise analysis consists of two components:

1. The evaluation of noise impacts from activities associated with the Project on nearby sensitive receptor locations; and
2. The evaluation of noise impacts from nearby major transportation facilities on the proposed residential units.

Potential Project-Related Noise Impacts

The noise analysis evaluated the sound level impacts associated with the Project's operations, such as mechanical equipment, and loading dock activities. The noise analysis included measurements of existing ambient background sound levels and a quantitative evaluation of potential project generated sound levels. The study area was evaluated and sensitive receptor locations were identified. The analysis determined the overall potential sound levels associated with the mechanical equipment proposed for Project.

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[7] Section 51.103, The N*oise Guidebook*, U.S. Department of Housing and Urban Development, Office of Environment and Energy.

The noise analysis evaluated sound levels associated with potential mechanical equipments, such as heating, ventilating, and air conditioning (HVAC) units, cooling towers, and emergency generators. The noise analysis determined the maximum potential sound levels at the sensitive receptor locations using the manufacturer's technical specifications for the mechanical equipment. Applying the properties of sound propagation over hard ground, the noise analysis projected sound levels to sensitive receptor locations from each of the mechanical equipment to determine the overall maximum sound level that would be experienced at the sensitive receptor locations. The sensitive receptor locations included the property line, nearby residential buildings to the west and south. The analysis assumed sound level reductions due to distance and building blockages from the surrounding buildings.

Because the Project includes emergency generators for building life safety, an appropriate Department of Environmental Protection (DEP) air permit (Self-Certification) will be applied for during the design process. This noise analysis included the sound levels from a 500 kW emergency generator and a 250 kW emergency generator. The DEP regulations (310 CMR 7.00.) also include noise requirements, which need to be documented as meeting the DEP regulations. The Proponent will submit the appropriate permit application to DEP, including the noise mitigation measures (such as acoustic enclosures and exhaust silencers) necessary to meet the DEP's noise criteria during the design phase of the Project.

The noise analysis also evaluated noise associated with loading activities from the Project. The analysis examined the building design, such as location of the loading area and management of deliveries at the Project Site.

Receptor Locations

The noise analysis included evaluation of the study area to identify sensitive receptor locations, which typically include area that have outdoor activities and maybe sensitive to noise associated with the Project. The noise analysis identified four receptor locations in the vicinity of the Project. As shown on Figure 4.5, the receptor locations include the following receptor locations:

- R1 – Project property line
- R2 – South Cove Manor Nursing Home/Trinity Church
- R3 – 406 Harrison Avenue
- R4 – Proposed 275 Albany Street Development

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

Potential Noise Impacts on the Project

The noise analysis also evaluated the potential noise impacts from nearby transportation facilities such airports, railroads, and major highways. HUD's guidance and procedures states that if the proposed residential development is located near a major noise source, such as within 15 miles of an airport, within 1,000 feet of a major highways or roads, or within 3,000 feet of a railroad line, then the Proponent must undertake a noise assessment. The residential component of the Project is located:

- Approximately two miles from Logan International Airport;
- Approximately 65 feet from the MBTA commuter rail tracks;
- Approximately 155 feet from Interstate 90 (I-90); and
- Approximately 225 feet from Interstate 93 (I-93).

The Project is located at distances that are at or within the HUD requiring a noise assessment.

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Existing Noise Conditions

A noise monitoring program was conducted to establish existing sound levels. The Project site is currently occupied by the Boston Herald newspaper media facility. The existing sound levels were measured using a Type 1 sound analyzer (Larson Davis 824). Measurements were conducted during the weekday late night period (12:00 AM to 1:00 AM) at sensitive residential areas on April 29, 2011. The measured sound levels data under existing conditions were dominated by noise from Interstate 93 (Expressway).

The existing measured sound level data are presented in Table 4-7. The L_{90} sound levels range from 57 dB(A) to 65 dB(A) during the nighttime period. These sound levels are typical of an active urban area. The result of the noise monitoring program indicates that the sound levels within the study area currently exceed the City of Boston's nighttime standard of 50 dB(A) for Residential District as well as the nighttime standard of 55 dB(A) Residential/Industrial District. The high existing sound levels are due to the dominate noise sources of vehicles traveling on I-93, nearby building HVAC equipment adjacent to the Project Site.

Table 4-7
Existing Nighttime Sound Levels

Receptor Location	City of Boston Residential District Noise Criteria	Measured L_{90} Sound Levels
R1 – Project Property Line	50 dB(A)	65 dB(A)
R2 – South Cove Manor Nursing Home/Trinity Church	50 dB(A)	57 dB(A)
R3 – 406 Harrison Avenue	50 dB(A)	59 dB(A)
R4 – Proposed 275 Albany Street Development	50 dB(A)	61 dB(A)

Source: Vanasse Hangen Brustlin, Inc., 2011.
Note: Refer to Figure 4.5 for monitoring locations.

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Future Noise Conditions

The noise analysis evaluated the potential noise impacts from mechanical equipments and loading activities. The analysis determined the potential overall maximum sound levels from the retail buildings and residential units.

Potential Project-Related Noise Impacts

Mechanical Equipment

The noise sources included in the analysis were six heating, ventilation, and air conditioning (HVAC)/air handling units, a 750 ton cooling tower, a 375 ton cooling tower, a 500 kW emergency generator, and a 250 kW emergency generator. All mechanical equipments were assumed to be located on the rooftop of the proposed buildings. Using the properties of sound propagation over hard ground, the sound levels associated with the Project's mechanical equipments were projected to the sensitive receptor locations. Table 4-8 presents the Project generated sound levels at the sensitive receptor locations, which range from 43 dB(A) at South Cove Manor Nursing Home to 49 dB(A) at the proposed 275 Albany Street development. The Project generated sound levels meet the City of Boston's noise criteria. In addition, because of the high existing sound levels, the Project will not result in a noticeable increase of sound levels at any of the receptor locations. The Project generated sound levels are substantially below the existing sound levels and will not increase the existing sound levels at the sensitive receptor locations. The Project build sound levels are expected to remain the same as the existing sound levels.

Table 4-8
Project-Related Sound Levels, dB(A)

Receptor Location*	City of Boston Residential District Noise Criteria (Nighttime)	Project Generated Sound Levels
R1 – Project Property Line	50	49
R2 – South Cove Manor Nursing Home/Trinity Church	50	43
R3 – 406 Harrison Avenue	50	43
R4 – Proposed 275 Albany Street Development	50	50

Source: Vanasse Hangen Brustlin, Inc., 2011.
Note: Refer to Figure 4.5 for receptor locations.

Loading Activities

The site layout will be designed to accommodate service and loading operations to occur off-street. The loading docks will be located on the east side of the proposed anchoring retail use facing Albany Street and I-93. The design of the building will provide blockage to the sensitive receptor locations to the west and south sides. The loading dock area will be managed so that service and loading operations do not impact the abutting streets and the main circulation roadway within the Site. Since loading activities will be shielded by the building's design, noise impacts to the sensitive receptor locations will be negligible.

Potential Noise Impacts on the Project

Based on HUD procedures and guidance, the Project is located within distance of the nearby major transportation facilities; therefore, the noise analysis evaluated noise associated with these facilities.

Airport Activity

Logan International Airport is located approximately two miles east of the Project site. Noise data from the 2010 Logan Airport Environmental Data Report[8] indicates that the Project is located beyond the 65 dB Ldn contour. Therefore, the Project will not be impacted by airport activities.

Rail Activity

The Massachusetts Bay Transportation Authority (MBTA) operates railroad tracks located approximately 65 feet north of the Project site. The tracks are utilized by the commuter rail trains and the rapid transit Orange Line. Even though the railroad tracks are in close proximity of the Project Site, the railroad tracks are located below the Project's grade level with a retaining wall providing shielding between the site and railroad tracks. Therefore, the sound level associated with rail activities is negligible.

Roadway Activity

The Project site is in close proximity to I-90 to the north and I-93 to the east. I-90 is approximately 155 feet from the Project Site and is located below grade from the Project Site with a retaining wall providing shielding between the Site and railroad tracks. Therefore, the sound level associated with I-90 is negligible.

I-93 is located approximately 225 feet east of the Project Site with a direct line of Site. The noise analysis included an evaluation of noise associated with vehicular traffic on I-93. Federal Highway Administration's (FHWA) Traffic Noise Model (TNM) was used to determine the sound levels associated with the traffic on I-93. The noise monitoring data was used to validate FHWA's TNM model for this site. The TNM model allows the user to calculate traffic sound levels at receptor locations by inputting traffic volumes, vehicle mix, vehicle speeds, buildings, roadway geometry, and receptor geometry. Once the noise model was validated, it was used to calculate sound levels at the proposed residential building. Average annual daily traffic volumes representative of year 2009 were obtained from the Massachusetts Department of Transportation (MassDOT) and used as inputs to the TNM model. Since TNM inputs require hourly volumes, the daily traffic volumes were applied a factor of 10 percent to reflect peak hour traffic conditions. Table 4-9 summarizes the sound levels associated with the traffic on I-93 at the Project's residential units.

Table 4-9
Predicted Sound Levels at Project Residential Units

Receptor Location	HUD Exterior Noise Criteria	Calculated Ldn Exterior Sound Levels	HUD Interior Noise Criteria	Calculated Ldn Interior Sound Levels
Project Residential Units	>65 dB(A)	75 dB(A)	>45 dB(A)	45 dB(A)

As shown in Table 4-9, the exterior sound levels exceed the HUD criteria for exterior uses. However, the proposed residential units will have limited exposure to exterior sound levels, since the units will be have inoperable windows.

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8 Chapter 6, Boston-Logan International Airport 2010 Environmental Data Report, EOEA #3247, Massachusetts Port Authority, Economic Planning & Development, October 2010.

The internal areas of the buildings can be protected with acoustical walls on the side of the building that faces I-93. In order to create a good interior sound environment, the walls must be designed to reduce the transmission of sound through them. The construction of the wall should consider the following:

- Construction type;
- Construction material; and
- Number and location of openings (windows and doors) through the wall.

One way of evaluating the amount of noise reduction that will occur through a wall is by the sound transmission class (STC) rating. Material with a higher STC rating provides a higher noise reduction. HUD considers interior sound levels exceeding 45 dB(A) to be unacceptable. The exterior walls facing east, towards I-93, should generally have a design goal of STC 27 for the walls and windows in order to reduce the sound levels to be within HUD's interior noise criteria. However, the walls and windows of the units at Buildings 1 and 2, facing towards I-93, should have a design goal of STC 29. The walls and windows of the units at Building 4 facing towards I-93 should have a design goal of STC 30. The wall and window construction will be selected during the design process.

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Conclusion of Noise Impact Assessment

The noise analysis evaluated the sound levels associated with the Project. This analysis determined that the Project will not generate noise impacts at nearby sensitive receptor locations. The sound levels associated with the Project's operations will not contribute to the existing background sound levels, which currently exceed the City of Boston noise standards. The dominant noise source contributing to the existing high sound levels in the study area is existing traffic along I-93.

In addition, the noise analysis evaluated the sound levels that the residential areas within the Project are expected to experience from the existing traffic along I-93. As a result, the Project will incorporate wall and window construction procedures to ensure that the interior sound levels will be below the HUD noise criteria. The design of the residential unit's walls and windows will use appropriate materials necessary to ensure that the sound levels from nearby major transportation facilities will not adversely impact the proposed residential units.

Flood Hazard Districts

While the Project Site is not located in a designated flood hazard zone, the Proponent has considered the vulnerability to flooding from construction and operational standpoints. For example, stormwater management systems have been sized for higher precipitation levels than customary. As discussed below under 'Green Building/Sustainable Design' section below, at this point in preliminary design it is anticipated that the Project will meet the criteria of LEED Sustainable Sites credits 6.1 (Stormwater Design – Quantity Control) and 6.2 (Stormwater Design – Quality Control), which will help address issues related to flooding.

Water Quality

The Project represents an opportunity to improve the quality and reduce the quantity of site stormwater runoff compared to existing conditions. Through the implementation of improved stormwater management practices, the Project will comply with the 2008 DEP Stormwater Management Policy and Standards. The Project includes stormwater infiltration which promote the infiltration or stormwater runoff into the ground and reduce the rate and quantity of stormwater discharged to the drainage system and Boston Harbor. The rate and quantity of stormwater runoff will be reduced through the implementation of subsurface infiltration systems, which will have a positive impact on the surrounding groundwater table as well as a reduced load on BWSC's drainage system. The Project Site is located within the GCOD, as defined in Article 32 of the Zoning Code. This zoning article sets forth requirements that promote the infiltration of runoff from impervious site areas within the district. To meet the guideline, the Project will include an infiltration system with a volume of one-inch multiplied by the proposed site impervious area. Refer to the 'Drainage/Stormwater Management' section of Chapter 5, *Infrastructure Systems* for more information.

The Proponent has considered the vulnerability to flooding from construction and operational standpoints. While the Site is not within the limits of the FEMA-designate flood zone, the portion of the Site at the corner of Herald and Albany Streets is currently approximately one to two feet below the designated 100-year flood elevation for the nearby Fort Point Channel. The stormwater for this area is currently managed by a pump system that handles both site stormwater and building sanitary sewer. The Project will include the filling of this low area by nine to ten feet to bring the site elevation well above the 100-year flood elevation and allowing stormwater from this area to be conveyed by gravity to the Project's stormwater management system. This reduces the building's vulnerability to flooding by eliminating a path for stormwater to directly enter the garage level. The elevation of the electrical equipment and emergency generator that are currently located at the lower level will be raised above the 100-year flood elevation. The site design will also include a significant investment in stormwater management infrastructure to infiltrate a large volume of runoff from the site and building roof areas. The infiltration system will be designed to address Article 32 of the Boston Zoning Code as well as the criteria of LEED Sustainable Sites credits 6.1 (Stormwater Design – Quantity Control) and 6.2 (Stormwater Design – Quality Control). The stormwater management infrastructure is discussed in more detail in Chapter 5, *Infrastructure Systems*.

The Proponent will assist in educating the public and further improving the water quality of local water bodies installing permanently plaques that bear the warning "Don't Dump - Drains to Boston Harbor" adjacent to all existing, modified, and new catch basins.

Groundwater

Groundwater levels measured at on-site wells indicate that groundwater varies between approximately one to 11 feet below ground surface, corresponding to approximately elevations six to ten feet. There are two nearby offsite wells, located west of the site, that are monitored by the Boston Groundwater Trust. One of these wells, located on Herald Street, west of the intersection with Harrison Street indicates groundwater varying between elevations 8.4 and 13.4 feet, but typically below elevation 10 feet over the past five years. A second well, located at the intersection of Herald Street and Mullins Way shows groundwater fluctuating

between about elevation 7.9 and 10.3 feet (but typically 8.5 to 9.5 feet) over the past five years. The existing well locations are shown on Figure 4.6.

Groundwater levels are not expected to be lowered as part of the planned construction. Rather, groundwater levels in portions of the Project Site may increase due to stormwater infiltration proposed for the Project, as discussed in Chapter 5, *Infrastructure Systems*.

Geotechnical Impact

Based on borings performed at the Project Site, subsurface conditions consist of up to about 18 feet of fill over five to 23 feet of organic soils, over approximately 75 to 90 feet of silty clay over a thin (less than 5-foot-thick) layer of glacial till over bedrock. These fill, organic and clay layers are compressible and thus, the majority of the existing building (including the portion of the building to be reused), is supported on deep caissons installed to levels below these compressible soils. Based on design drawings of the existing building, the caissons bear in either the underlying glacial till or bedrock and were designed using a 10 ton per square foot bearing pressure.

The existing caisson foundations will be re-used to support Building 2 and the parking deck. If new foundations are required to support new building loads for these structures, drilled mini-piles will be used. The drilled mini-piles, advanced into the bedrock, can be installed from within the existing building's basement. Building 1 is anticipated to be supported on a combination of existing foundations and either drilled mini-piles, drilled caissons or driven piles installed to glacial till and/or bedrock; the choice of new foundation will depend on their proximity to the existing building. Buildings 3 and 4 are anticipated to be supported on driven piles bearing in the glacial till and/or bedrock. Pre-augering may be required in the upper soils to reduce vibrations during pile driving.

As compared to driven pile foundations, drilled pile or caisson installation produces less vibration; thus, these types of foundations are planned when in close proximity to existing structures. Where existing structures are further away (such as Buildings 3 and 4) driven piles may be used.

Drilled mini-piles, drilled caissons or aggregate pier foundations may be used to support new retaining walls and/or new stand-alone signs at the Project Site. In this case, the foundations may only be advanced into the upper stiff clay soils, depending on structure loads.

The presence of the thick organic deposits raises the potential for settlement of pavements, sidewalks and utilities. To mitigate potential settlement, it is anticipated that lightweight fill will be utilized in the northeastern portion of the site where raises in grade of up to about eight feet are planned. Preloading may be required in the southern proposed parking lot, where a two to four foot raise in grade is planned. A pre-load would involve placing soil to at least the proposed final grade several months prior to utility construction or paving.

Hazardous Materials and Solid Waste

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Hazardous Materials

Presently, there is no known subsurface contamination requiring notification to the DEP. There was a historic release related to replacement of two 10,000 gallon underground storage tanks (USTs) in 1989, at which time approximately 350 cubic yards of petroleum-impacted soil was removed from the Project Site. The two USTs are currently used to store diesel fuel; gasoline was stored in the tanks prior to 1995.

Several environmental studies have been conducted at the Project Site, including a 2007 Environmental Site Assessment conducted by GZA GeoEnvironmental, Inc. (GZA). As part of that study, site history and regulatory databases were reviewed and groundwater samples were collected from three on-site monitoring wells and analyzed for certain constituents. Petroleum constituents were detected in the three groundwater samples analyzed. However, the detected concentrations were not above the Massachusetts Contingency Plan's (MCP's) reporting concentrations applicable for the study Site.

It is possible that contaminated soils will be encountered during construction given the previous release associated with the USTs and the presence of urban fill at the Project Site, as is typical of most Boston properties. If potentially contaminated soils are identified during construction, they will be handled in accordance with applicable regulations. If excess soil needs to be removed from the Project Site, it will be characterized by chemical testing to assess suitable disposal/recycling options. In the event that subsurface contamination exceeding MCP reporting thresholds is encountered, DEP will be notified and the contamination managed in accordance with the MCP.

Asbestos containing materials (ACM) have been identified in the existing Herald building during past hazardous material surveys. Refer to the 'Construction' section below for further details.

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Solid Waste

In accordance with the LEED Prerequisite for Materials and Resources (Storage and Collection of Recyclables), the building will include recycling facilities/space for all uses. For the residential component, each floor and the parking garage will include facilities and space for collection of recyclable materials. The retail tenants will utilize disposal services that recycle waste off-site.

Construction

Construction impacts are temporary in nature and are typically related to air (dust), noise, and runoff. The following sections describe the potential temporary impacts due to construction activities and proposed mitigation measures to reduce these impacts. Construction of the Project will be sequenced. Demolition is anticipated to begin in July 2012 followed by construction Buildings 1, 2, and 3 as well as the reconfigured parking and new parking deck. Depending upon market conditions the project may be sequenced such that

the construction of Building 4 commences after completion and occupancy of Buildings 1,2, and 3. For analysis purposes, all four buildings are assumed to be constructed and in operation by 2016.

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Site Preparation and Construction Staging

The Proponent will continue to work and coordinate with the utility companies to assure compliance and integrity of the Project. A plan to control construction-related impacts including erosion, sedimentation, and other pollutant sources during construction and any land disturbance activities shall be developed and implemented, in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit requirements. Additionally, any construction dewatering discharges will be appropriately controlled and discharged in accordance with the NPDES state and local dewatering standards.

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Construction Air Quality

Retrofitted diesel construction vehicles, or vehicles that use alternate fuels, will be used. The Project will implement an outdoor construction management plan that includes provisions for wheel washing, site vacuuming, and truck covers. The Commonwealth of Massachusetts anti-idling law will be enforced during the construction phase of the Project with the installation of on-site anti-idling signage.

The Project will comply with the requirements of the Clean Construction Equipment Initiative aimed at reducing air emissions from diesel-powered construction equipment. Oxidation catalysts and catalyzed particulate filters will be utilized on all construction vehicles and equipment to reduce air quality degradation caused by emissions from heavy-duty, diesel-powered construction equipment. All pre-2007 diesel construction vehicles working on the Project will be retrofitted using retrofit technologies approved by the United States Environmental Protection Agency (EPA). Additionally, ultra low-sulfur diesel (ULSD) fuel (15 parts per million) will be used for all off-road diesel equipment.

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Construction Noise

The construction activity associated with the Project may temporarily increase nearby sound levels due to the use of heavy machinery. Heavy machinery is expected to be used intermittently throughout the Project's construction phases, typically during daytime periods. The construction phases that will generate the highest sound levels include the demolition of existing buildings, site excavation and grading, and construction of the foundations for the proposed buildings. The City of Boston Regulations for the Control of Noise considers construction sound levels to be an impact to residential land uses if the L_{10} is in excess of 75 dB(A) or the Lmax is in excess of 86 dB(A). A construction management program will be developed with the City of Boston to ensure that the City of Boston noise regulation related to construction noise is met.

The Project is subject to construction-hour restrictions and the residential sound limits established under the Regulations for the Control of Noise in the City of Boston. South End residential and commercial neighbors will be provided with contact names and telephone numbers for comments/complaints regarding these and

other construction-related issues. Additionally, the Proponent will provide this same information to the Fenway News and Back Bay Courant for publication.

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Construction Traffic and Parking

Construction workers and construction trucks will be properly managed to eliminate significant impacts on traffic conditions on surrounding streets during construction. The Project Site offers adequate space for on-site construction staging and parking. The Proponent will work with the BTD to develop a site-specific Construction Management Plan (CMP).

The following elements are typically addressed in the CMP:

- Designation of truck routes for deliveries
- Protection of pedestrian walkways
- Location and sizing of staging areas for on-site storage of construction materials
- Definition of worker parking parameters and measures to maximize related use of public transportation
- Identification of truck waiting areas
- Police officer traffic management
- Construction graphics program
- Interim traffic operation improvements
- Definition of street and sidewalk occupancies
- Definition of work hours

Construction Trip Generation and Worker Parking

The number of workers required during the construction will vary with an estimated average daily workforce of 210 during the peak of construction. Because the workforce will arrive and depart prior to peak commuter traffic periods, these trips are not expected to have a large impact on the area's transportation system. Construction workers will arrive at the job site either via public transportation or by personal vehicles. While some parking will be available for construction workers at the Project Site, the Proponent will work to reduce construction employee vehicle trips through TDM measures, such as:

- Provide secure, on-site storage so that workers do not have to transport tools and equipment each day;
- Offer subsidies and pre-tax payroll deduction for transit pass purchase;
- Provide a ride-matching service;
- Post transit schedules in prominent area; and/or
- Hire local workers.

Construction Truck Routes and Volumes

The vehicular access to the Project Site during the construction period will be from Traveler and Albany Streets. The construction work is not anticipated to generate a high volume during peak hours. Police details may be assigned to all active gate locations to ensure that vehicles are not impacting traffic operations as necessary.

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Construction Hazardous Materials and Solid Waste

Asbestos containing materials (ACM) have been identified in the building at the Site during past hazardous material surveys. The ACM will be abated by a properly licensed contractor prior to building demolition activities. If contaminated soils are identified during construction, they will be handled in accordance with applicable regulations. In the event that subsurface contamination exceeding MCP reporting thresholds is encountered, DEP will be notified and the contamination managed in accordance with the MCP.

Solid waste generated from the demolition of the existing building will be reduced by the reuse of the basement level and part of the first floor slab. All solid waste generated will be sorted on the Site. Some materials will be reused on the Project Site, while others will be recycled off-site or disposed of in accordance with federal, state, and city regulations. The Construction Manager will implement a waste management plan that will seek to divert at least 75 percent of construction and demolition waste material removed from the site from landfills through recycling and salvaging. This credit is expected to be achievable, and may be pursued aggressively in an opportunity to gain an exemplary performance credit of 95 percent construction waste recycling.

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Odor Control During Construction

Initial geotechnical investigations indicate the presence of organics within the project site. Organic soils have the potential to create odors that may impact the area surrounding the project. If these soils are encountered, the Proponent will undertake appropriate mitigation measures to control the odor associated with their removal, such as:

- Removal and replacement of organic materials to provide sufficient bearing for new foundations and utilities
- Cut and cover utility trenches whenever possible
- Protection of open trench sideslopes with plastic sheathing to encapsulate odors
- Treatment of odors with environmentally sensitive products such as sodium bi-carbonate and activated carbon to reduce odors

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Rodent Control During Construction

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

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Public Safety During Construction

The entire perimeter of the construction site will be protected with a 6-foot high temporary chain link construction fence. Vehicular gates will be provided for construction traffic on perimeter roads to allow safe entrance and exiting for construction vehicles and personnel. Additionally, signage will be posted on fencing and construction trailers to alert all personnel to the safety requirements.

Larger deliveries of construction materials may require the use of police details to assist in managing vehicular and pedestrian traffic. Coordination with the Boston Police Department will be essential in providing safe travel routes for pedestrians during peak construction periods.

Rodent Control Post-Construction

Trash and solid waste removal will be handled by the building maintenance staff. The Proponent will maintain a service contract with a professional pest control firm to address rodent/pest control during the operational phase of the redevelopment. In addition, no open top dumpsters will be allowed as an additional precaution to deter infestation.

Green Building/Sustainable Design

The Proponent is committed to redeveloping this section of the South End neighborhood into a livable, sustainable community. The proposed mixed-use redevelopment plan will revitalize an underutilized urban area, use land efficiently, promote the use of alternative modes of transportation, encourage pedestrian activity, and improve water quality. As described more fully in this section, in accordance with Article 37 of the Boston Zoning Code relative to the City's Green Building policies and procedures, the Proponent intends to incorporate state-of-the-art sustainable features into the design of each component of the Project – the retail and residential components–so that it could achieve at minimum level of "Certified" under the USGBC LEED

Green Building Rating System, or "LEED Certifiable."[9] Each component of the development has unique requirements based on its use type and users (i.e., lighting). Refer to the 'Consistency with Applicable Plans and Policies' section of Chapter 1, *Project Description and Alternatives* for a discussion on how the Project addresses the City of Boston Climate Action Plan.

The project design team includes several LEED Accredited Professionals (AP), including the Sustainability Consultant, Robert G. Andrews, Jr., P.E., CEA, LEED AP BD+C. Mr. Andrews' responsibilities include meeting with the Proponent, the project design team and Construction Manager in a sustainable design charrette early in project design, to identify the environmental design goals, motivations and issues, discuss the LEED program impact on the design, build consensus and gain LEED program buy-in from the Proponent and project design team.

This section provides an overview of the sustainable design elements proposed to be included in the Project at this time of preliminary design, specifically the targeted LEED Prerequisites and Credits to demonstrate that the Project will meet the requirements of the article. In accordance with Article 37, a completed preliminary LEED scorecard is provided in Figure 4.7. At this early stage of the design process, specific building system specifications have not yet been determined. System design solutions will be developed in an effort to achieve the targeted LEED credits. The final design and construction of the Project will create a sustainable building to promote the internal building environmental quality for the residents, enhance the surrounding neighborhood locally, and reduce environmental impacts globally. Finally, following construction a tenant manual for both the retail tenants and residential property management will ensure that the sustainability efforts are carried through during operations.

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Article 37 – Green Buildings of the Boston Zoning Code

Through Article 37 – Green Buildings, the City of Boston encourages buildings to decrease energy and water use and cost, improve the efficiency and useful life of building systems and infrastructure, and reduce the burdens imposed by buildings on city services, the environment, and public health. The stated purposes of the article is as follows: "The purposes of this article are to ensure that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston." Any project that is subject to Article 80 Large Project Review is also subject to the requirements of Article 37. The Proponent and project design team has and will continue to evaluate and incorporate sustainable design and energy conservation, for core and shell, as the design process continues.

An interdisciplinary committee, the "Boston Interagency Green Building Committee," consisting of at least one representative of city agencies, including the BRA, BED, BTD, the Inspectional Services Department and the Mayor's Office advises the BRA on a proposed project's compliance with the provisions of the article.

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9 LEED "certifiable" implies that a building meets the energy reduction requirements under the most appropriate LEED building rating system, but has not officially registered with the USGBC to become certified.

Boston Green Building Credits

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

At this preliminary design stage, the Project will evaluate achieving two of the four available Boston Green Building credits (Appendix A of Article 37):

- **Groundwater Recharge.** The Project is located within the GCOD, as defined in Article 32 of the City of Boston Zoning Code.[10] The Project will include infiltration systems with a volume of one-inch multiplied by the proposed site impervious area. The preliminary drainage concept consists of a system of 48-inch perforated pipes surrounded in crushed stone. Refer to Chapter 5, *Infrastructure Systems* for further details.

- **Modern Mobility.** Because the Project Site is in close proximity to both rapid transit and bus service strategies are proposed in order to take advantage of available transportation access, or a TDM Plan. One example of a proposed TDM measure is that property management will be responsible for coordinating and posting transportation information (i.e., public transportation, shuttle services). Refer to Chapter 3, *Transportation* for further detail on the proposed TDM plan. Also, as a way to promote alternative transportation, the Proponent will create a new Mobility Hub, which will include ZipCar® service, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking. Additionally, the Proponent will work with BTD to provide new bicycle facilities and proposes on-site bike storage in the form of bike racks for retail customers and employees and covered and secure bike lockers in the garage for residents.

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Sustainable Sites

- **Construction Activity (Prerequisite).** A management plan will enforce measures to protect adjacent areas from pollution.

- **Site Selection (Credit 1).** The Project Site has previously been completely developed and is located in an urban area. This development does not violate any of the established criteria. This credit is expected to be achievable.

- **Development Density (Credit 2).** The density of the Project development is compatible with surrounding sites. This credit is expected to be achievable.

- **Brownfield Redevelopment (Credit 3).** Asbestos abatement is expected to be needed prior to demolition activity. This credit is expected to be achievable.

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10 This zoning article sets forth guidelines for promoting the infiltration of runoff from impervious site areas within the district.

- **Alternative Transportation (Credits 4.1, 4.2, 4.3, 4.4).** Public transportation access and bicycle storage and shower/changing rooms will be provided in accordance with the Boston Green Building Modern Mobility credit (as discussed previously). The underground parking garage will be reused, and the number of total parking spaces planned will not exceed local zoning requirements. Preferred parking is expected to be included with signage for low-emitting/fuel-efficient vehicles. These credits are expected to be achievable.

- **Stormwater Design (Credits 6.1, 6.2).** The Site is currently completely impervious. The Project proposes to pursue a groundwater recharge program in accordance with the GCOD and the Boston Green Building Groundwater Recharge credit (discussed previously). The Project stormwater treatment program will include removal of total suspended solids in accordance with the SSc6.2 requirements. One option that will be investigated consists of providing a non-structural approach such as a street sweeping plan, combined with upgrading or replacing the existing catch basins with deep sump catch basins and reroute them to an accepted water quality treatment unit (Vortechnics, Stormceptor, etc.) before discharging into the main drainage trunk line. These credits continue to be investigated and developed. Refer to Chapter 5, *Infrastructure Systems* for more information.

- **Heat Island Effects (Credits 7.1, 7.2).** More than 50 percent of the on-site parking will be provided inside the building. A "green/high-emissivity" roof system will be evaluated for covering all areas of the roof. These credits are expected to be achievable.

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Water Efficiency

- **Water Efficient Landscaping (Credit 1).** The Proponent is committed to eliminating landscape irrigation needs through the use of native plantings for groundcover and other drought-tolerant landscaping material. Therefore, all four points under is credit is expected to be achievable.
- **Water Use Reduction (Prerequisite 1, Credits 3.1, 3.2).** Appropriate low-flow and low consumption plumbing fixtures are anticipated to achieve a reduction in water usage of 30 to 40 percent over the baseline.

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Energy and Atmosphere

- **Fundamental Commissioning (Prerequisite 1).** Commissioning of the Mechanical and Electric building systems will be investigated.
- **Minimum Energy Performance (Prerequisite 2).** The energy code utilized for the Project will be the Massachusetts Building Code, Article 13, at a minimum, and ASHRAE Standard 90.1-2007.
- **Refrigerant Management (Prerequisite 3).** Non-CFC-based refrigerants will be utilized for the Project.
- **Optimize Energy Performance (Credit 1).** Preliminary calculations show it is possible that the building will perform approximately 21 percent better than Energy Code minimum requirements in order to comply with MA Stretch Energy Code requirements. This goal will be investigated further as building

systems are evaluated and selected. A water source heat pump system is expected to be used, which will incorporate high-efficiency equipment and control strategies.

- **Enhanced Commissioning (Credit 3).** An independent commissioning authority will be investigated to perform on-board design reviews and re-commission the building systems after occupancy.
- **Enhanced Refrigerant Management (Credit 4).** Air conditioning equipment refrigerant options will be evaluated to optimize the balance between ozone-depletion and global warming/greenhouse gas production effects. This credit is expected to be achievable.
- **Measurement and Verification (Credit 5).** The appropriate use of measurement and verification equipment will be evaluated as building systems are selected. Property management is expected to perform on-going reviews of system operation, environmental conditions and indoor air quality, energy and water use, and the potential for improvements and innovations.

■

Materials and Resources

- **Storage and Collection of Recyclables (Prerequisite).** Facilities are expected to be provided at each residential floor level and in the parking garage for collection of recyclable materials for removal.
- **Existing Building Reuse (Credits 1.1).** The exact quantity of existing building to be reused remains to be determined and calculated, but the existing basement level will be reused. This credit will be rechecked later in the design process.
- **Construction Waste Management (Credits 2.1, 2.2).** The Construction Manager will implement a waste management plan that will seek to divert at least 75 percent of construction and demolition waste material removed from the site from landfills through recycling and salvaging. This credit is expected to be achievable, and may be pursued aggressively in an opportunity to gain an exemplary performance credit of 95 percent construction waste recycling (see the Innovation in Design credits below).
- **Recycled Content (Credits 4.1, 4.2).** Project Specifications will encourage provision and tracking of materials with recycled content where practical.
- **Regional Materials (Credits 5.1, 5.2).** Project Specifications will encourage provision and tracking of materials that have been manufactured and extracted/harvested within 500 of the Project Site.
- **Certified Wood (Credit 7).** Project Specifications will encourage provision and tracking of these materials where practical.

■

Indoor Environmental Quality

- **Minimum IAQ Performance (Prerequisite 1).** The ventilation code utilized for the Project will be ASHRAE Standard 62.1-2007, as required by the present Massachusetts Building Code.
- **Environmental Tobacco Smoke Control (Prerequisite 2).** The Proponent intends to designate the entire building as a non-smoking facility. In addition, positively pressurized corridors are being investigated to minimize environmental smoke from migrating between private and common areas in the event that smoking is allowed in the building.

- **Outdoor Air Delivery (CO2) Monitoring (Credit 1).** A permanent carbon dioxide monitoring system will be investigated for use in common areas, and retail core and shell areas to provide feedback on ventilation system operation to ensure that the systems maintain design minimum requirements.
- **Increased Ventilation (Credit 2).** The building is expected to be served by both mechanical ventilation (common areas, commercial areas) and natural ventilation (apartment units). Calculations will be performed as the design progresses to determine if it is feasible to exceed the ASHRAE 62.1-2007 ventilation requirements by more than 30 percent in the occupied areas.
- **Construction IAQ Management Plan (Credit 3.1).** Indoor Air Quality Management plans are expected to be implemented during the construction phase per the requirements of this credit.
- **Low-Emitting Materials (Credits 4.1, 4.2, 4.3, 4.4).** Adhesives, sealants, paint, and carpet are expected to be specified with low VOC content limits as prescribed by the respective applicable standards. Composite wood products with no added urea-formaldehyde will be investigated further during design. These credits are expected to be achievable.
- **Indoor Chemical and Pollutant Source Control (Credit 5).** A permanent entryway system is expected to be installed at high-volume building entrances to prevent air contaminants from entering the building. Housekeeping and laundry areas are expected to be separated and exhausted to outside to comply with the requirements of this credit. Air handling units are expected to be provided with appropriate filtration to meet the credit. This credit is expected to be achievable.
- **Controllability of Systems (Credits 6.1, 6.2).** Individual lighting and temperature controls are expected to meet the minimum requirements of these credits. These credits are expected to be achievable in the residential areas of the building.
- **Thermal Comfort (Credit 7.1).** The building envelope and HVAC systems are expected to be designed to meet the requirements of ASHRAE 55-2004. This credit is expected to be achievable.
- **Daylight and Views (Credits 8.1, 8.2).** Daylight exposure will be investigated in detail during the design to determine compliance with the requirements of the credit. Exterior views are expected to be maximized to the extent practical.

■

Innovation in Design

- **Construction Waste Management (Credits 1.1).** As stated above, the Construction Manager will implement a waste management plan that will seek to divert at least 75 percent of construction and demolition waste material removed from the site from landfills through recycling and salvaging. This credit may be pursued aggressively in an opportunity to gain an exemplary performance credit of 95 percent construction waste recycling.
- **Green Housekeeping (Credit 1.2).** The Proponent intends to engage in a green housekeeping policy wherein all cleaning chemicals and cleaning equipment used in common areas shall comply with the Green Seal Standard GS-37 - Cleaning Products for Industrial and Institutional Use, Fifth Edition dated August 28, 2009.
- **Tenant Education and Guidelines (Credit 1.3).** The Proponent intends to develop 'green' tenant guidelines, educational programs, and resources for residents within the building (described further below).

- **Chemical-free Water Treatment (Credit 1.4).** The use of chemical-free water treatment for cooling towers will be evaluated as design progresses.
- **Energy Star Appliances (Credit 1.5).** The Project will seek to reduce overall non-regulated energy use by utilizing Energy Star appliances in the apartment units.

■

Regional Priority Credits

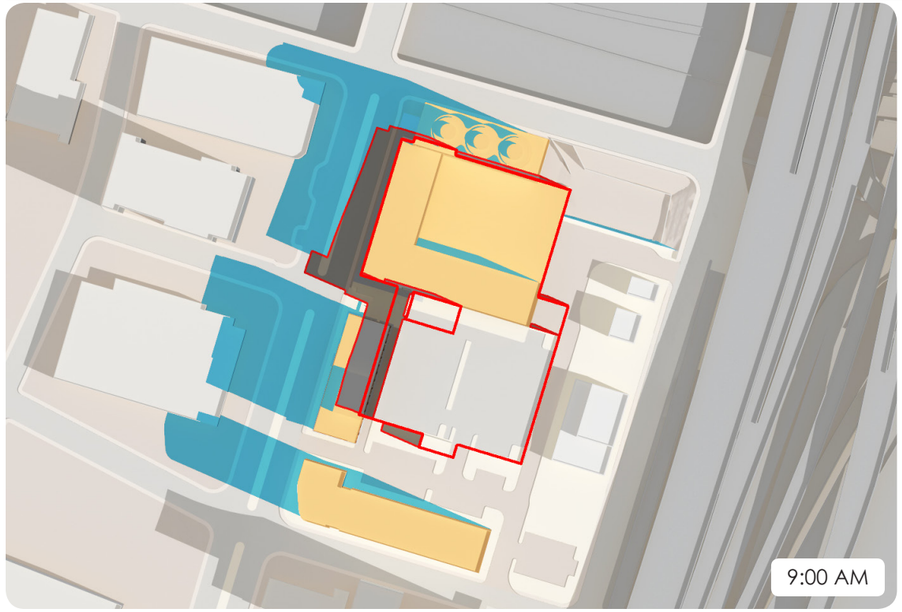
The concept of Regional Priority Credits (RPCs) was introduced in the LEED 2009 rating systems to incentivize the achievement of credits that address geographically specific environmental priorities. RPCs are not new LEED credits, but are existing credits that USGBC chapters and regional councils have designated as being particularly important for their areas and are achieved in the form of a bonus point. The RPCs achievable for the Project are as follows:

- **SSc6.1: Stormwater Design Quantity Control:** The Project will recharge the first inch of rainwater and, therefore, it is expected that this credit will be achieved.
- **SSc3: Brownfield Redevelopment:** The Project will require asbestos abatement and, therefore, it is expected that this credit will be achieved.
- **SSc7.2: Heat Island Effect, Roof:** The Project will utilize light colored, high-albedo roofing materials and, therefore, it is expected that this credit will be achieved..
- **SSc7.1: Heat Island Effect, Non-Roof**: More than 50 percent of the on-site parking will be located in structured parking and, therefore, it is expected that this credit will be achieved.

■

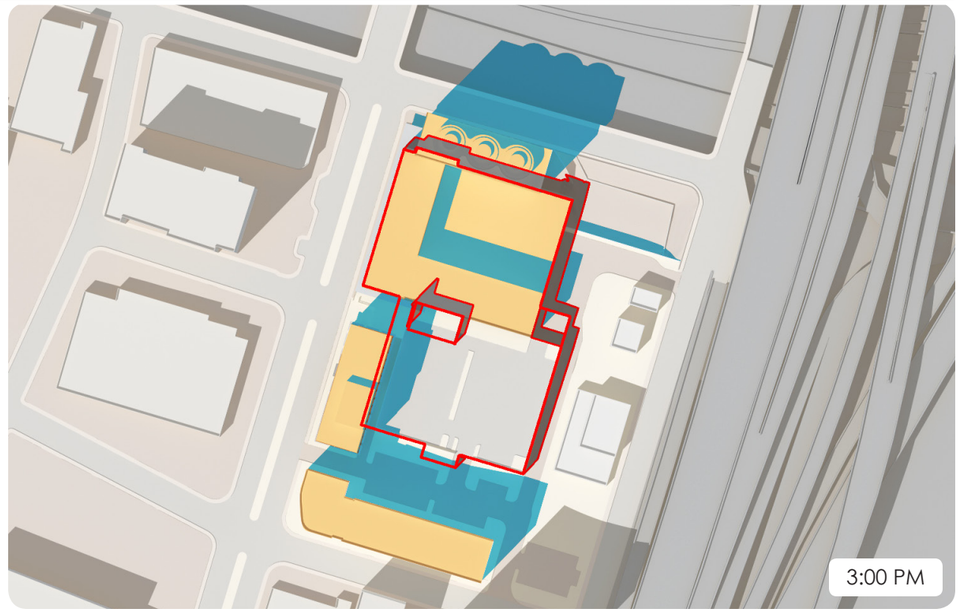
Tenant Guidelines

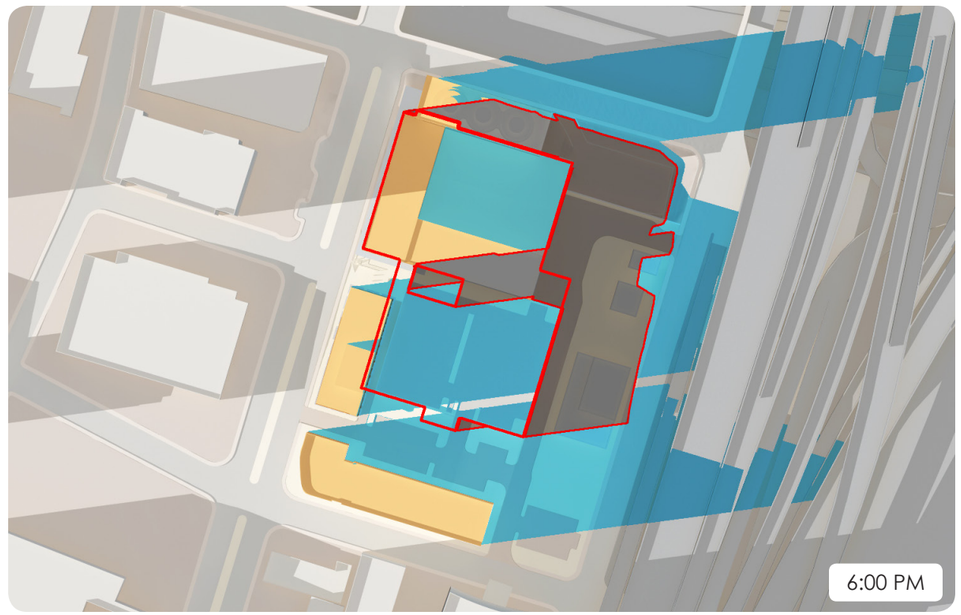
The Proponent will attach to tenant leases (both retail and residential) an exhibit with information on the sustainable/green building features of the Project and how the tenant can participate/support sustainability through their operations and/or use of the leased space. A Retail Tenant Guidelines document will include information on the sustainable aspects of the site and the base retail spaces, and will further encourage the retail tenant(s) to make their build-out as sustainable as possible. This could include recommending utilization of the LEED for Commercial Interiors (CI) rating system criteria as guidance. The Retail Tenant Guidelines may describe the LEED-CI rating program and identify aspects of the core/shell design that could be targeted to make LEED-CI certification easier for the retail tenant(s) to achieve. A Residential Tenant Guidelines will include information on the sustainable aspects of the site and the base residential units/buildings, including education on installed energy star appliances and a copy of the 'No Smoking' policy. These guidelines will further encourage the residential tenant(s) to support the sustainable features, such as tips/measures to reduce energy use, coordinate carpooling to work with other tenants, City of Boston recycling information).



LEGEND

- PROPOSED BUILDING
- PROPOSED SHADOW
- EXISTING BUILDING
- EXISTING SHADOW





300 Harrison Avenue
Boston, MA

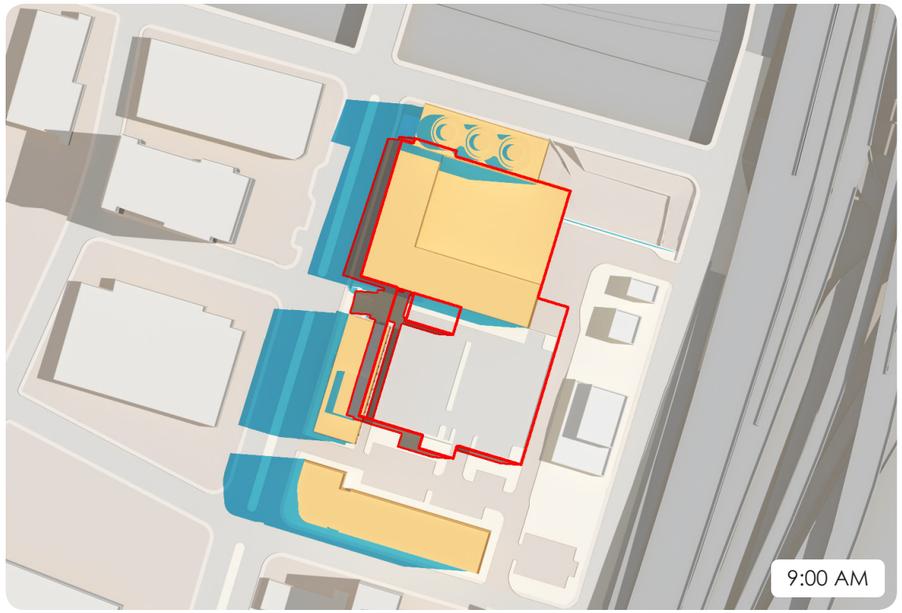
Figure 4.1a

ELKUS | MANFREDI ARCHITECTS

NATIONAL DEVELOPMENT

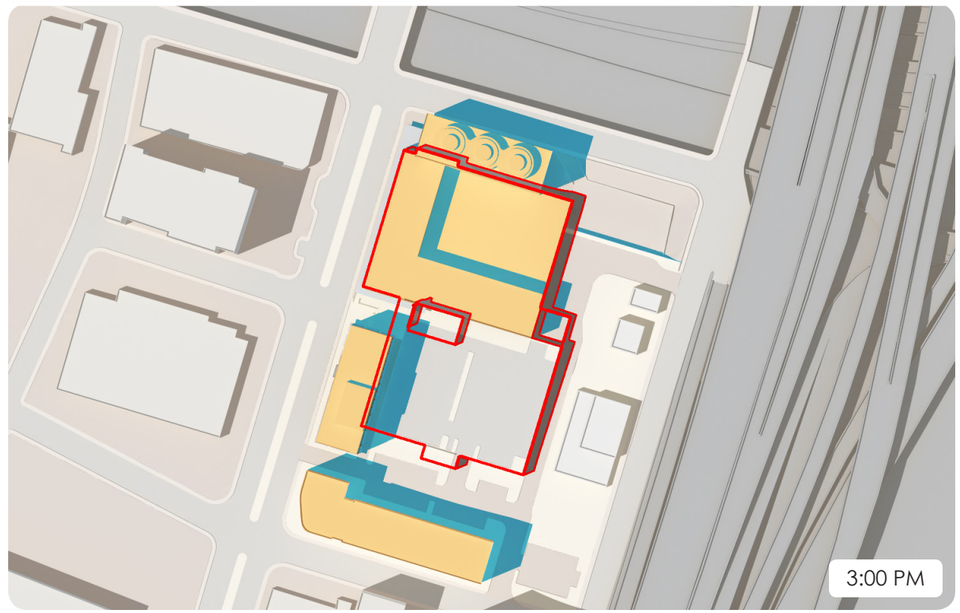
Shadow Impact Studies

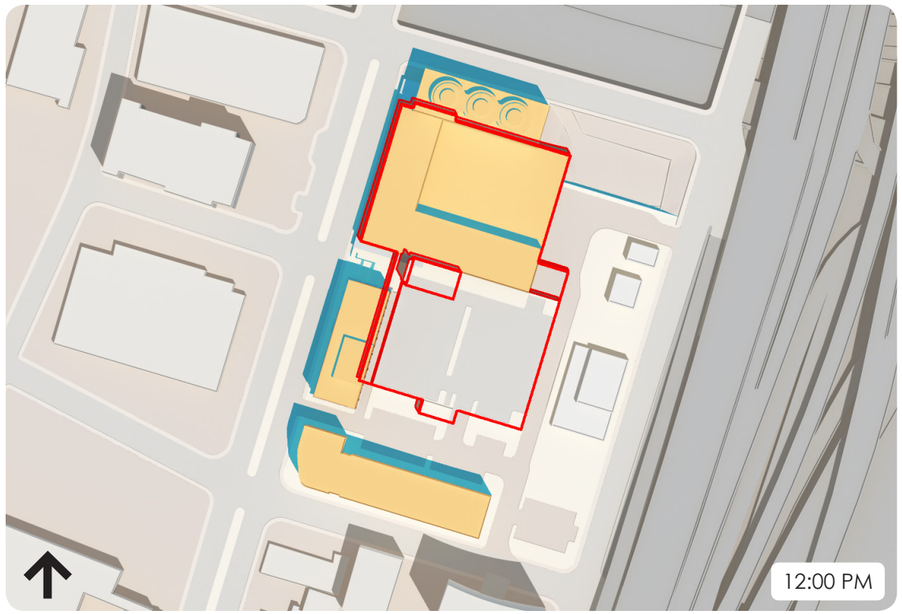
March 21 Vernal Equinox

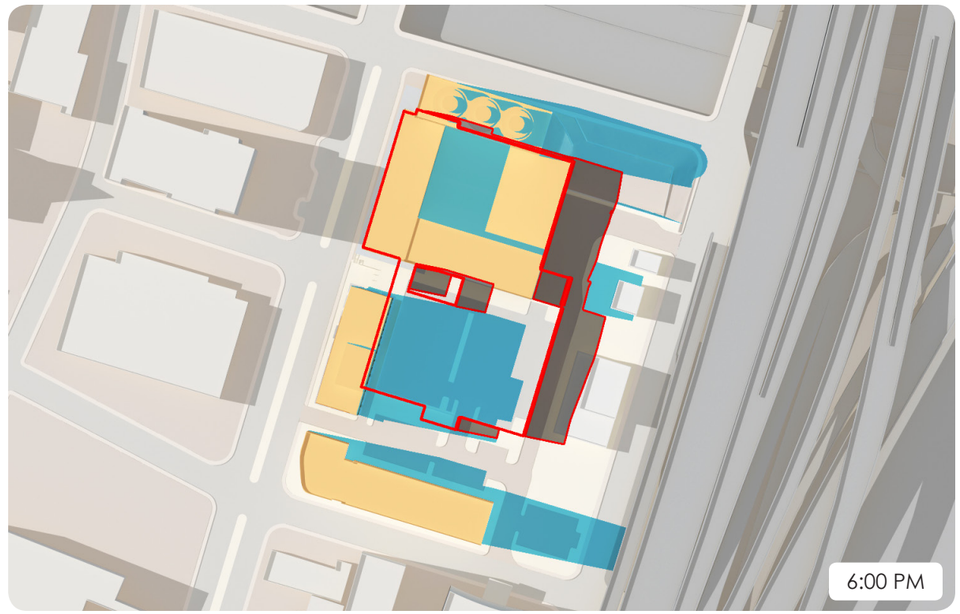


LEGEND

- PROPOSED BUILDING
- PROPOSED SHADOW
- EXISTING BUILDING
- EXISTING SHADOW







300 Harrison Avenue
Boston, MA

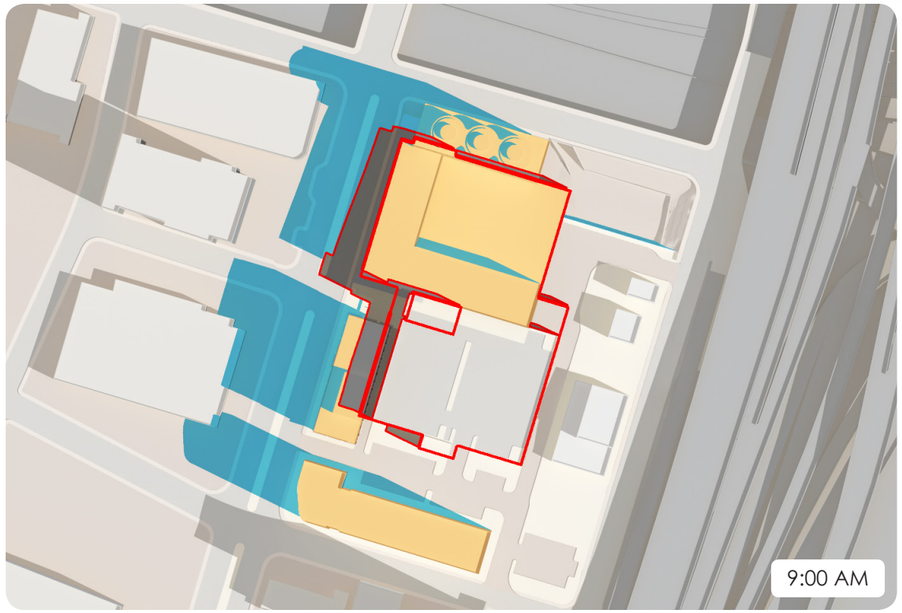
Figure 4.1b

ELKUS | MANFREDI ARCHITECTS

NATIONAL DEVELOPMENT

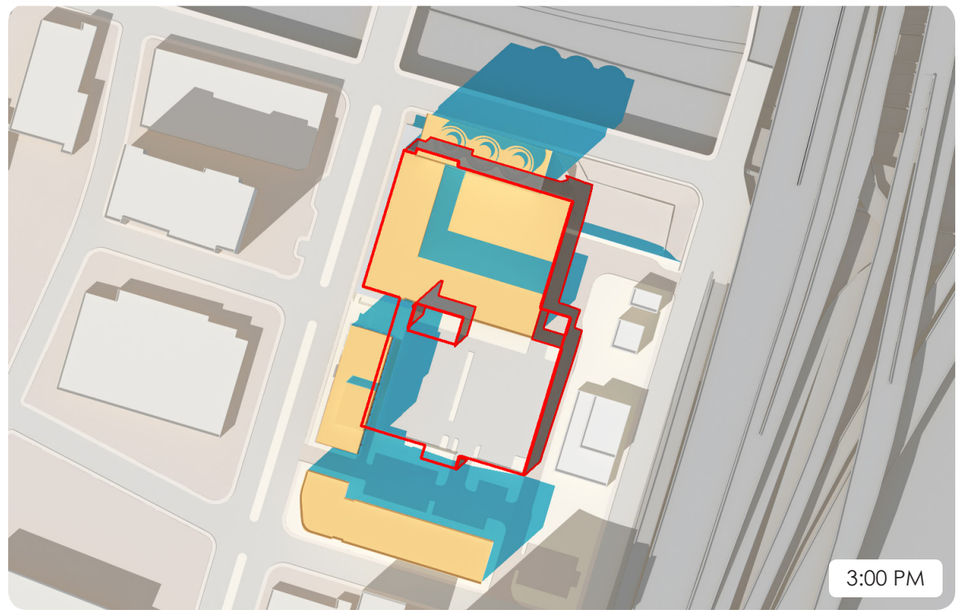
Shadow Impact Studies

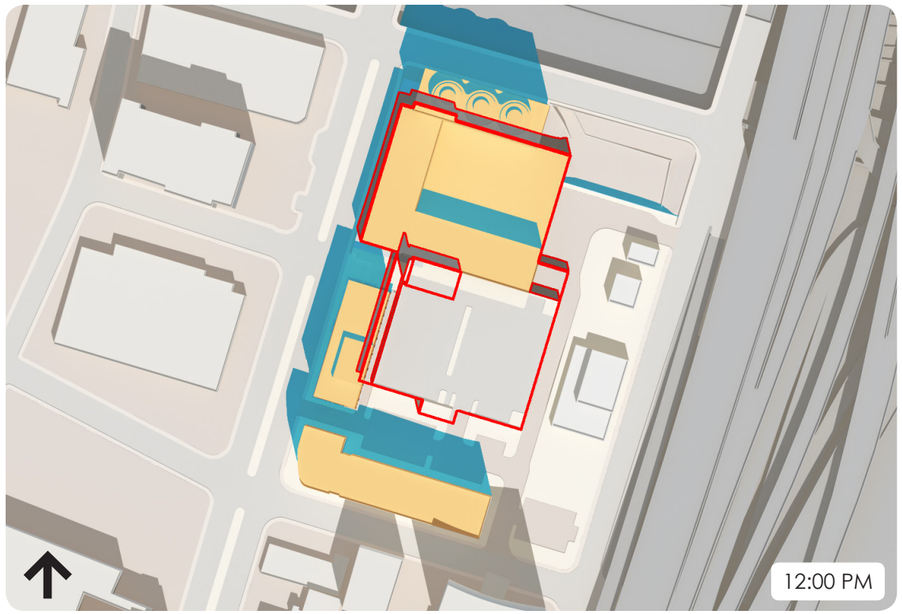
June 21 Summer Solstice

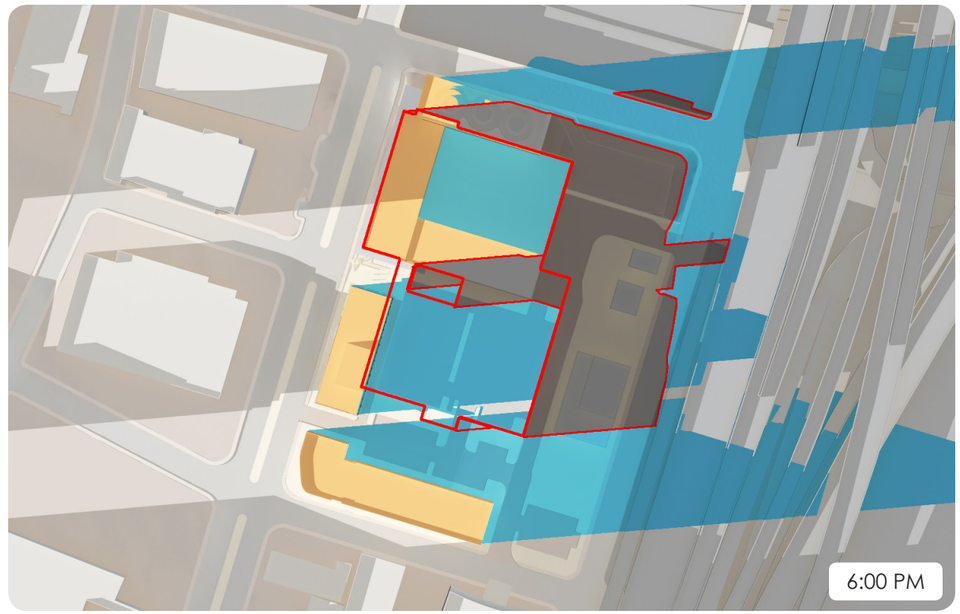


LEGEND

- PROPOSED BUILDING
- PROPOSED SHADOW
- EXISTING BUILDING
- EXISTING SHADOW







300 Harrison Avenue
Boston, MA

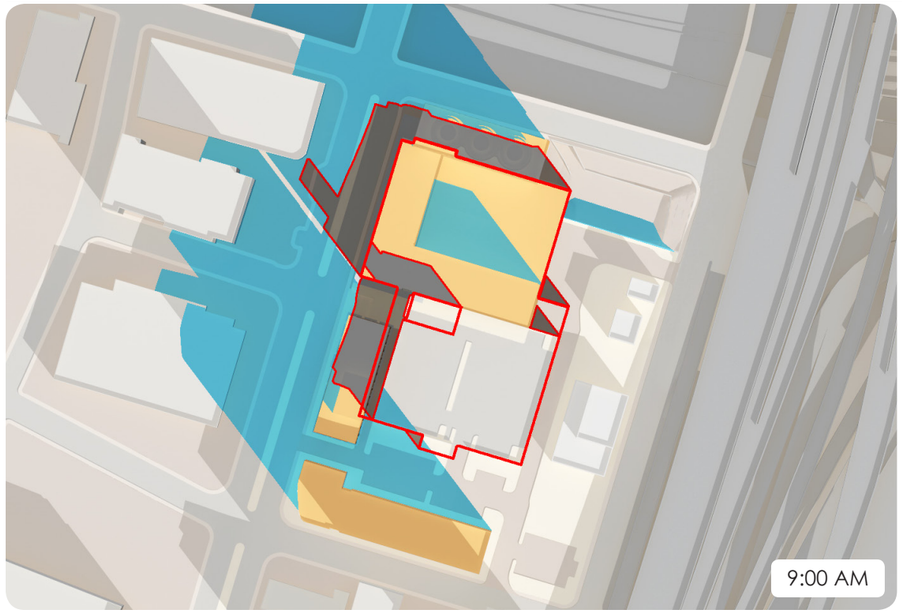
Figure 4.1c

ELKUS | MANFREDI ARCHITECTS

NATIONAL DEVELOPMENT

Shadow Impact Studies

September 21 Autumnal Equinox



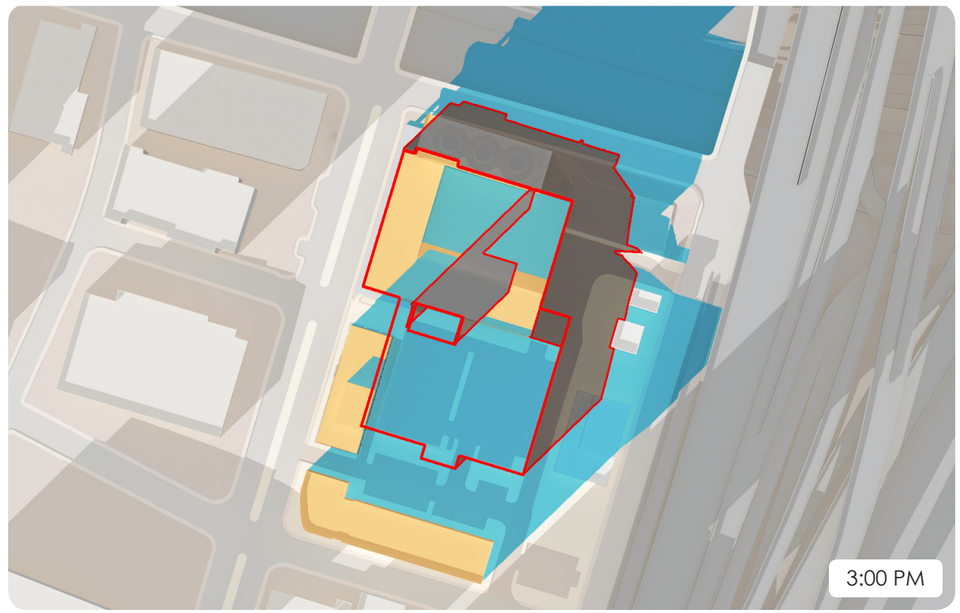
LEGEND

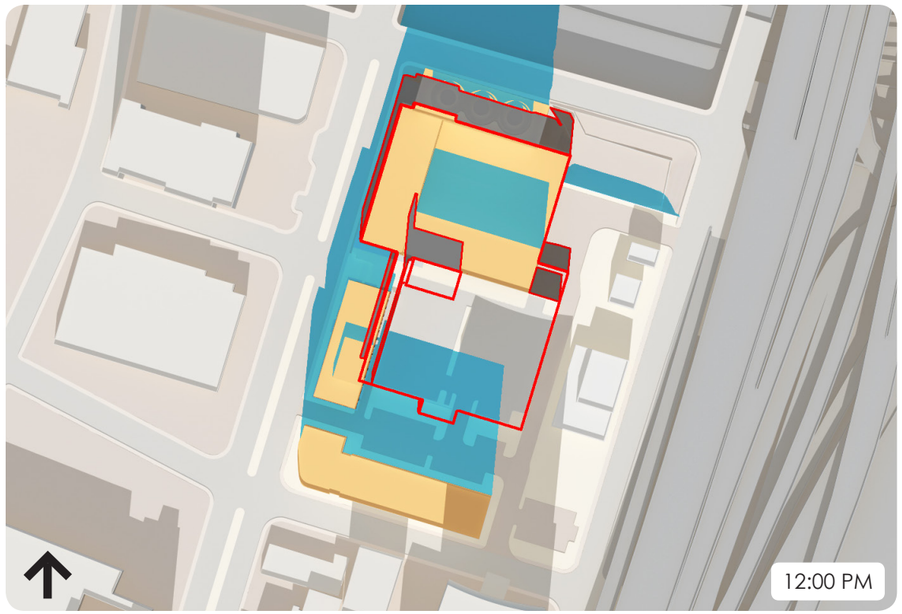
PROPOSED BUILDING

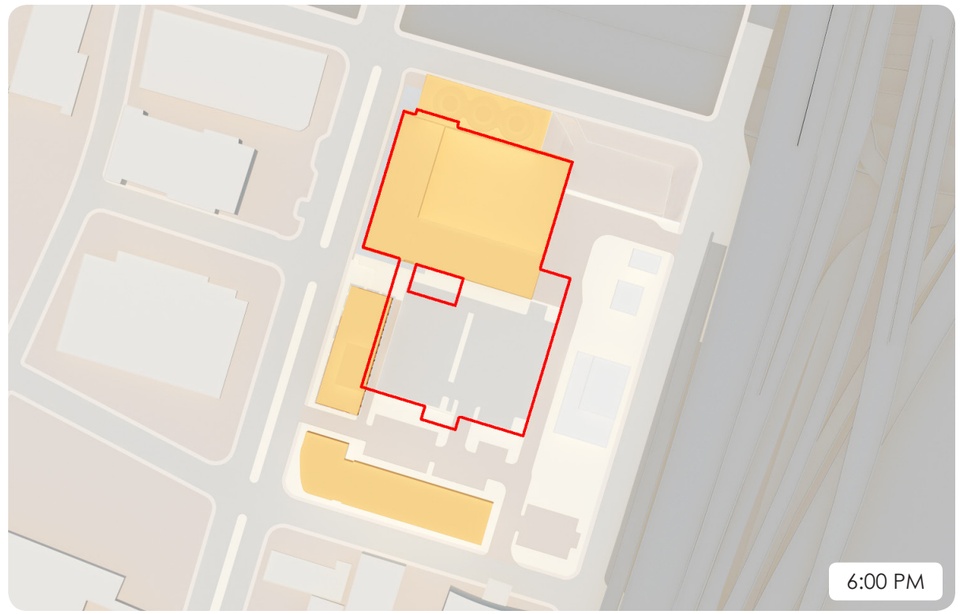
PROPOSED SHADOW

EXISTING BUILDING

EXISTING SHADOW







300 Harrison Avenue
Boston, MA

Figure 4.1d

ELKUS | MANFREDI ARCHITECTS

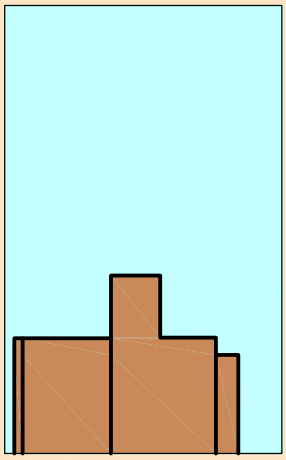
NATIONAL DEVELOPMENT

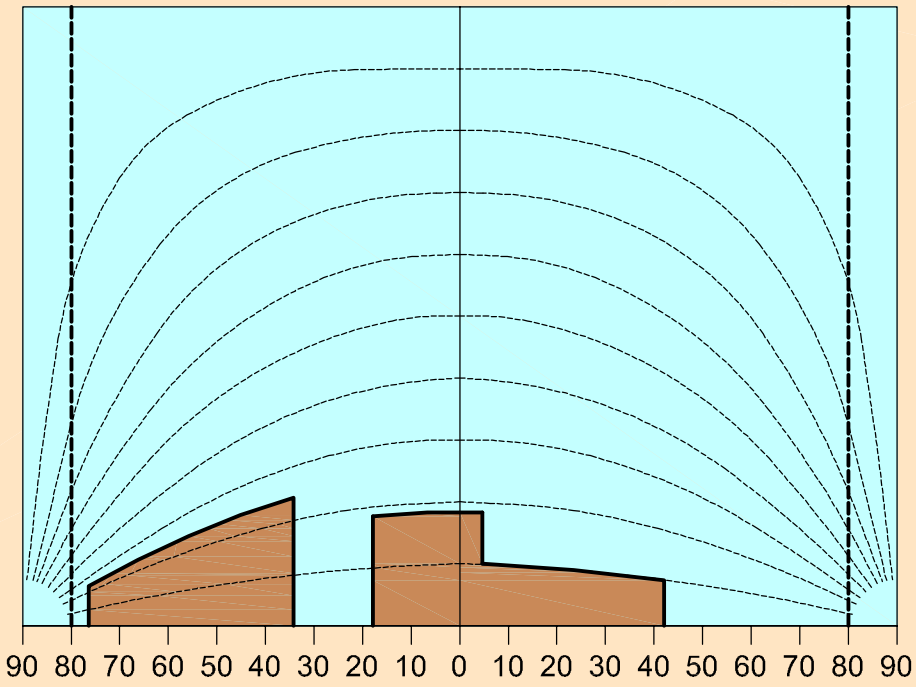
Shadow Impact Studies

December 21 Winter Solstice

Existing

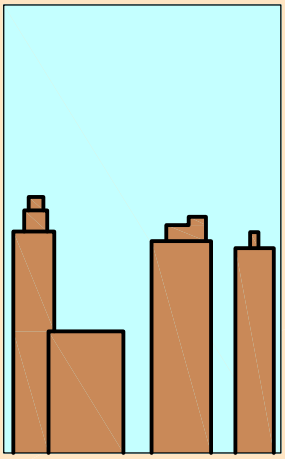
Obstruction of
Skyplane = 11.3%

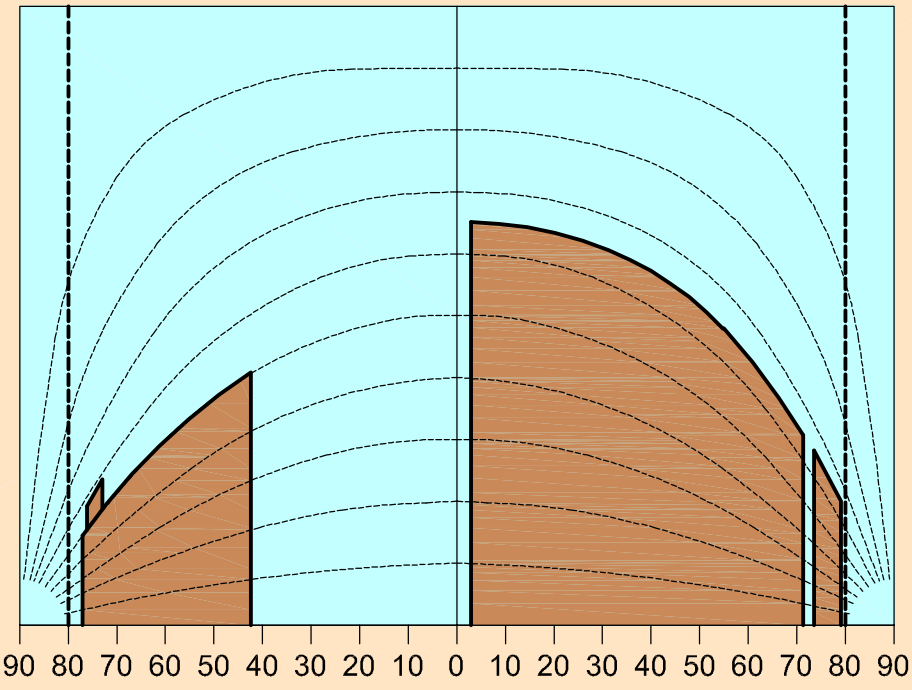




Proposed

Obstruction of
Skyplane = 28.5%





300 Harrison Avenue

Boston, MA

Figure 4.2a

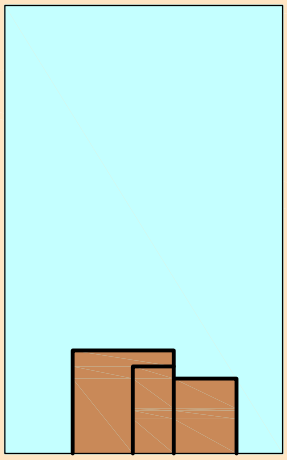
Vanasse Hangen Brustlin, Inc.

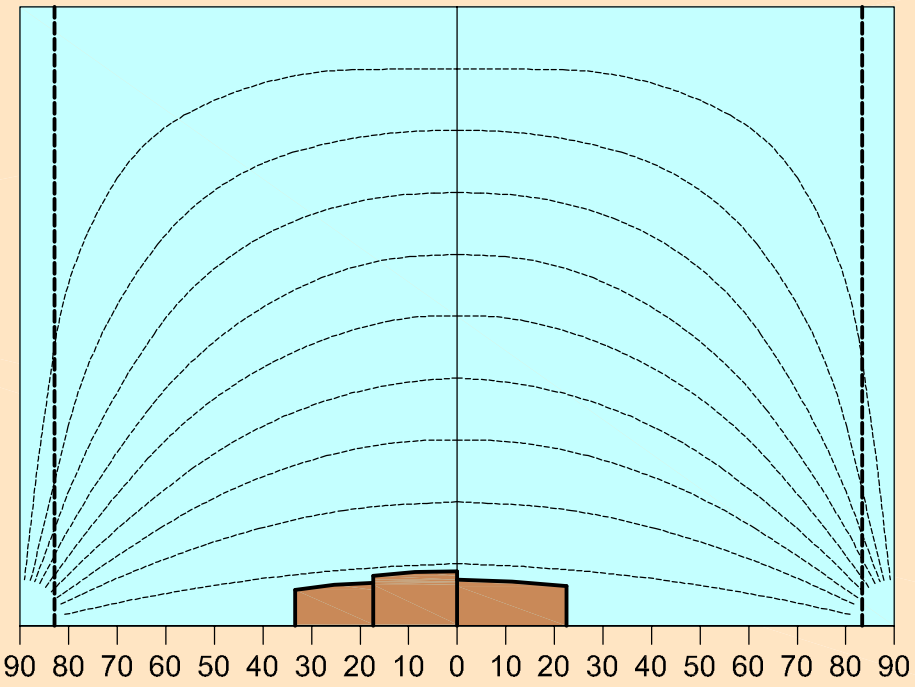
NATIONAL DEVELOPMENT

Daylight Analysis
Center of Harrison Avenue

Existing

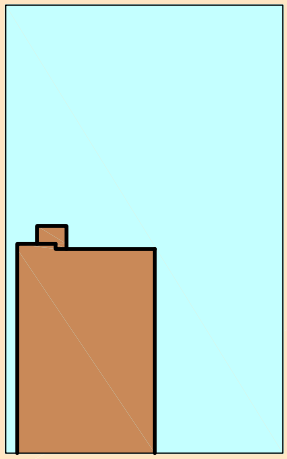
Obstruction of
Skyplane = 2.3

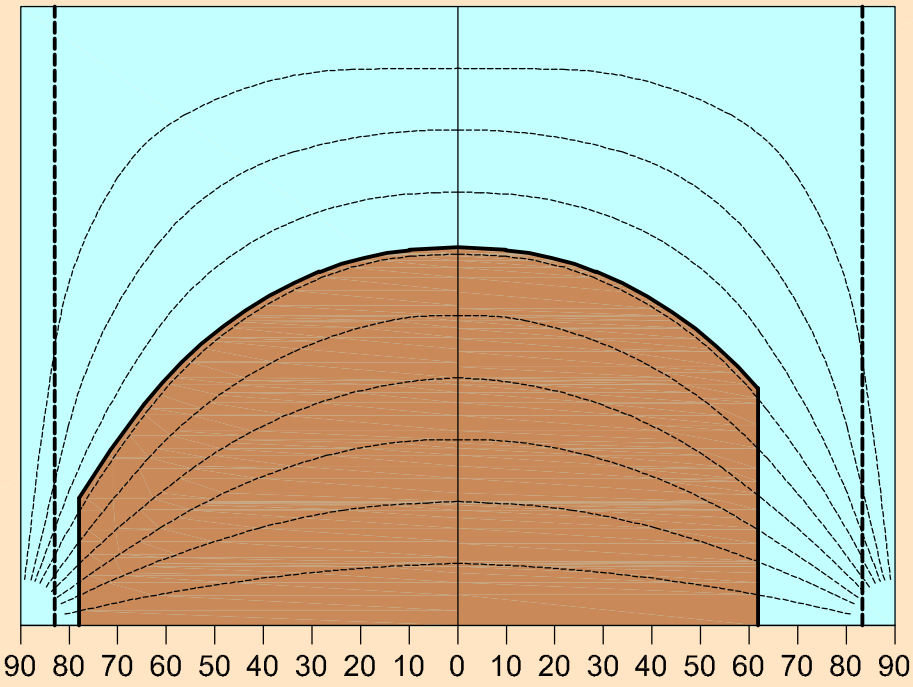




Proposed

Obstruction of
Skyplane = 62.4%





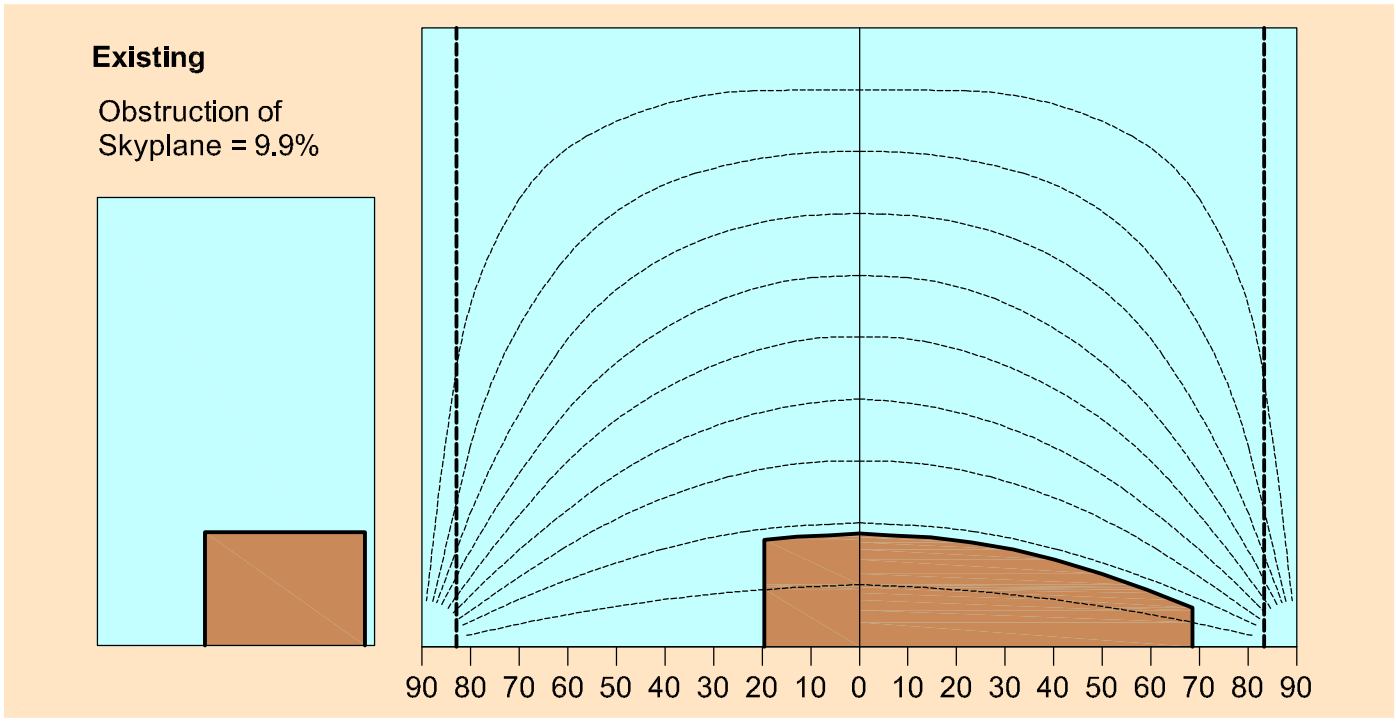
300 Harrison Avenue
Boston, MA

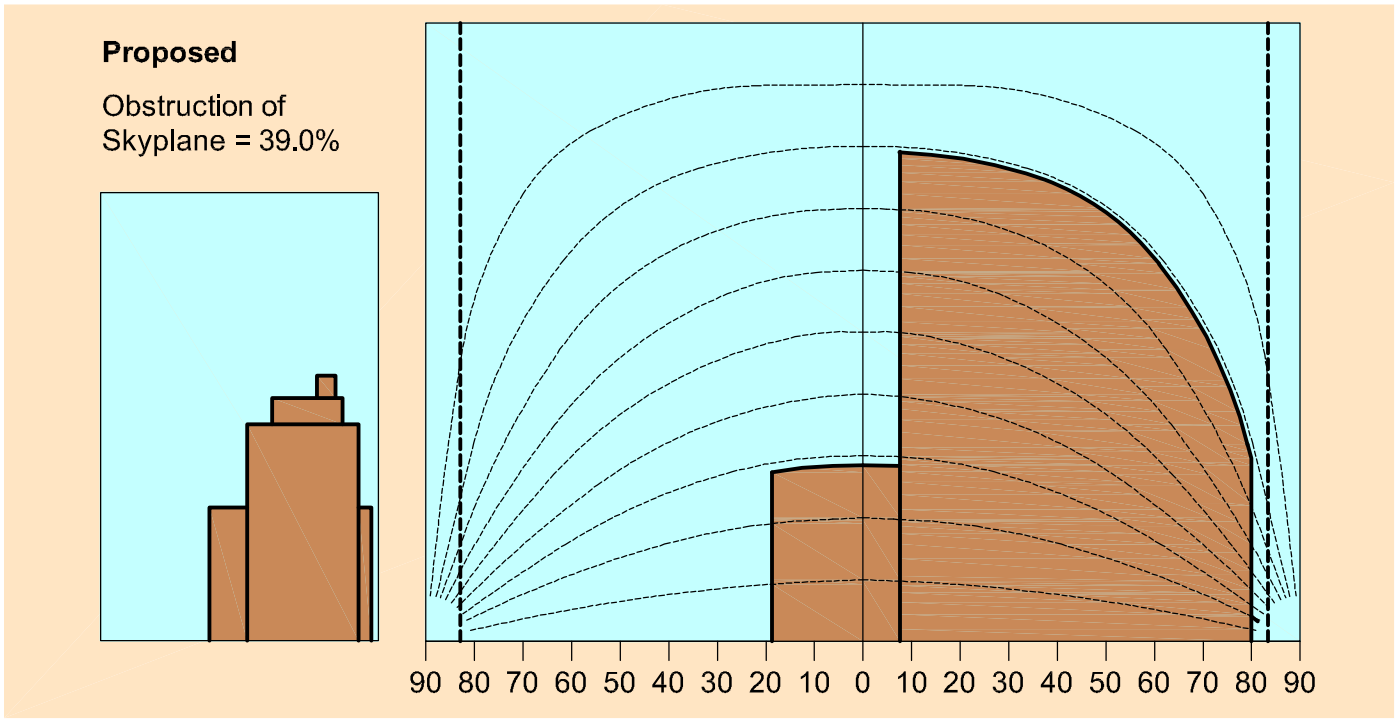
Figure 4.2b

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Daylight Analysis
Center of Traveler Street





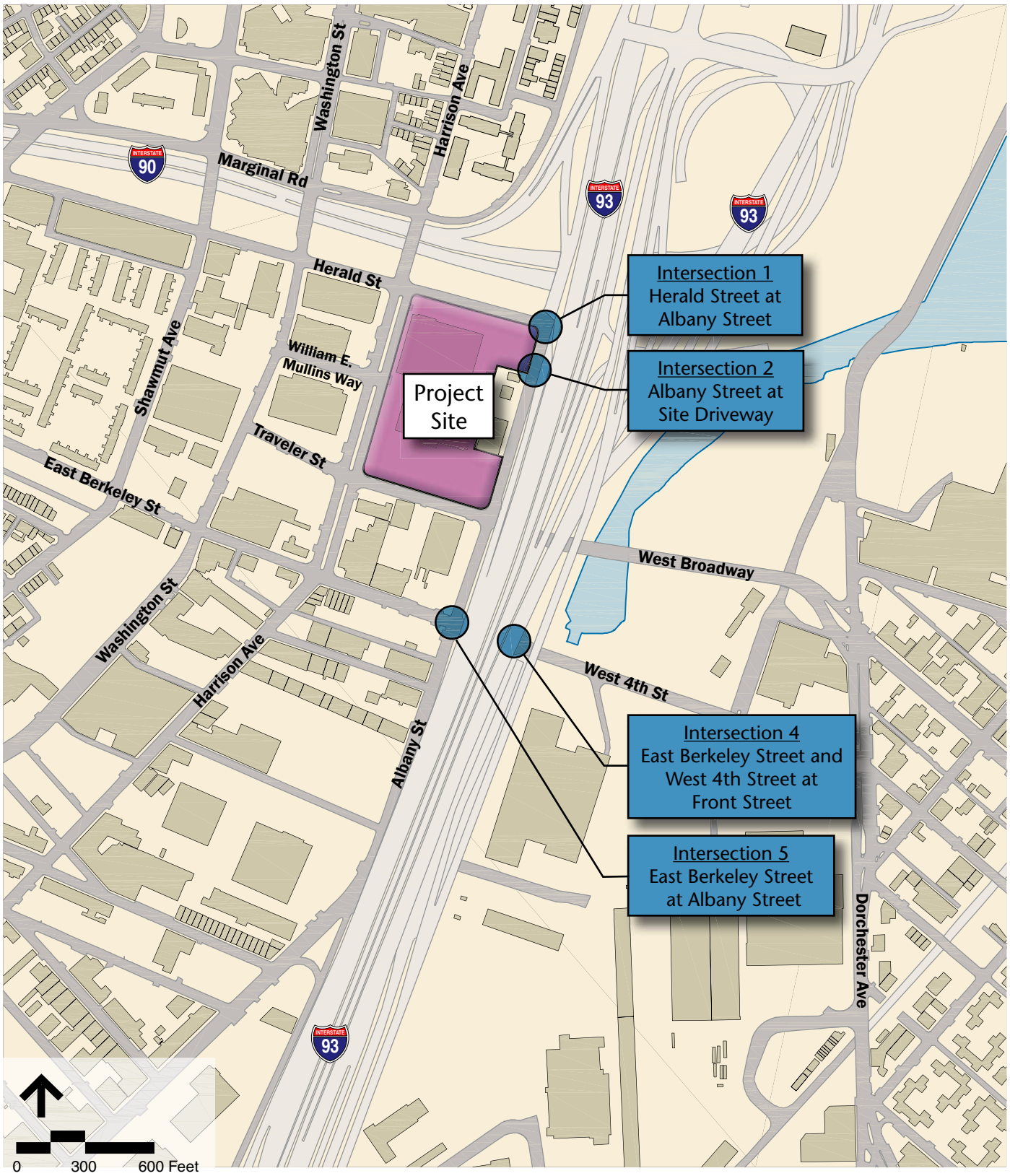
300 Harrison Avenue
Boston, MA

Figure 4.2c

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Daylight Analysis
Center of Herald Street



300 Harrison Avenue
Boston, MA

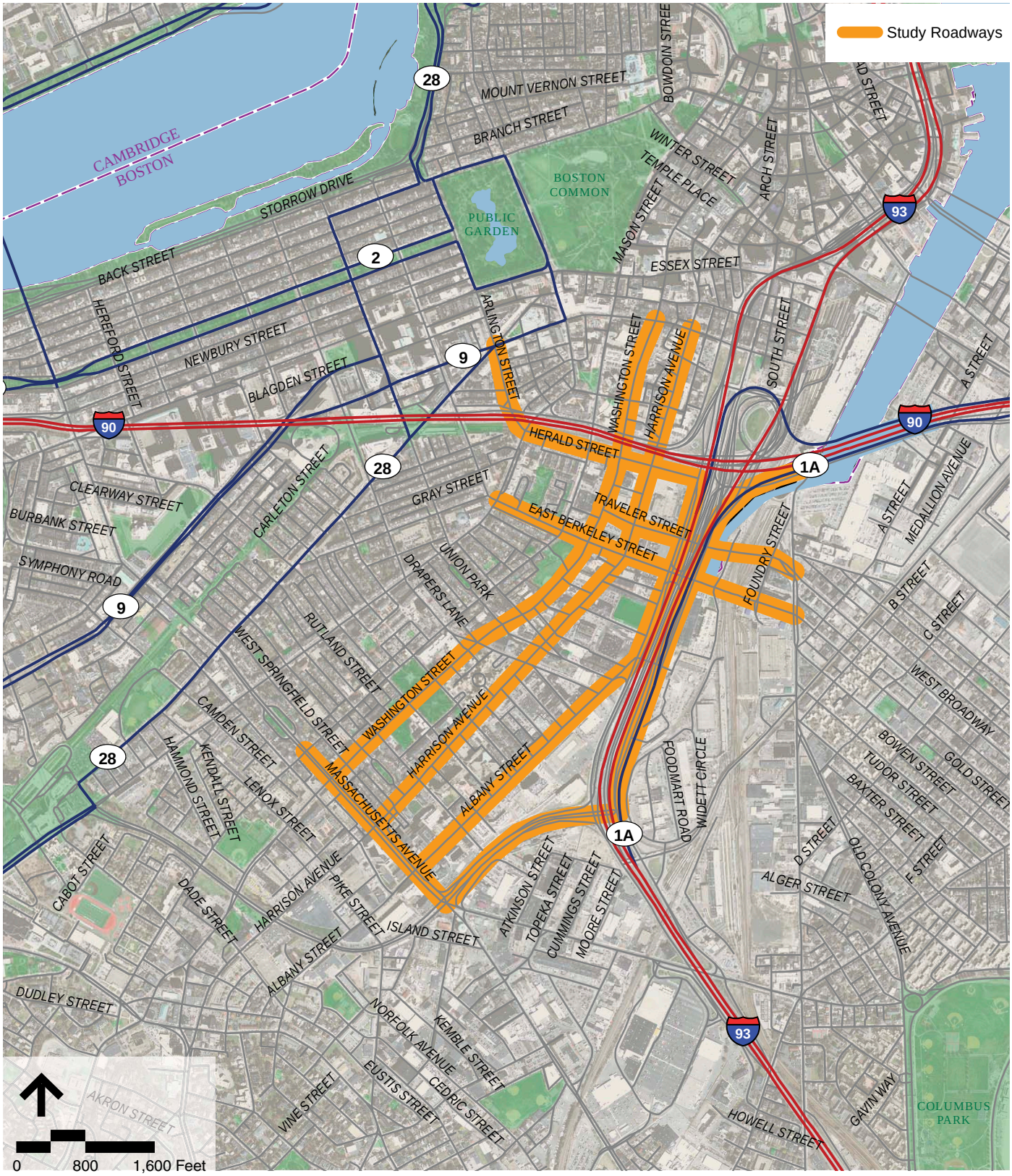
Figure 4.3

Microscale ("hot spot") Analysis
Intersection Locations

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base



300 Harrison Avenue

Boston, MA

Figure 4.4

Mesoscale Analysis Study Roadways

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base

300 Harrison Avenue
Boston, MA

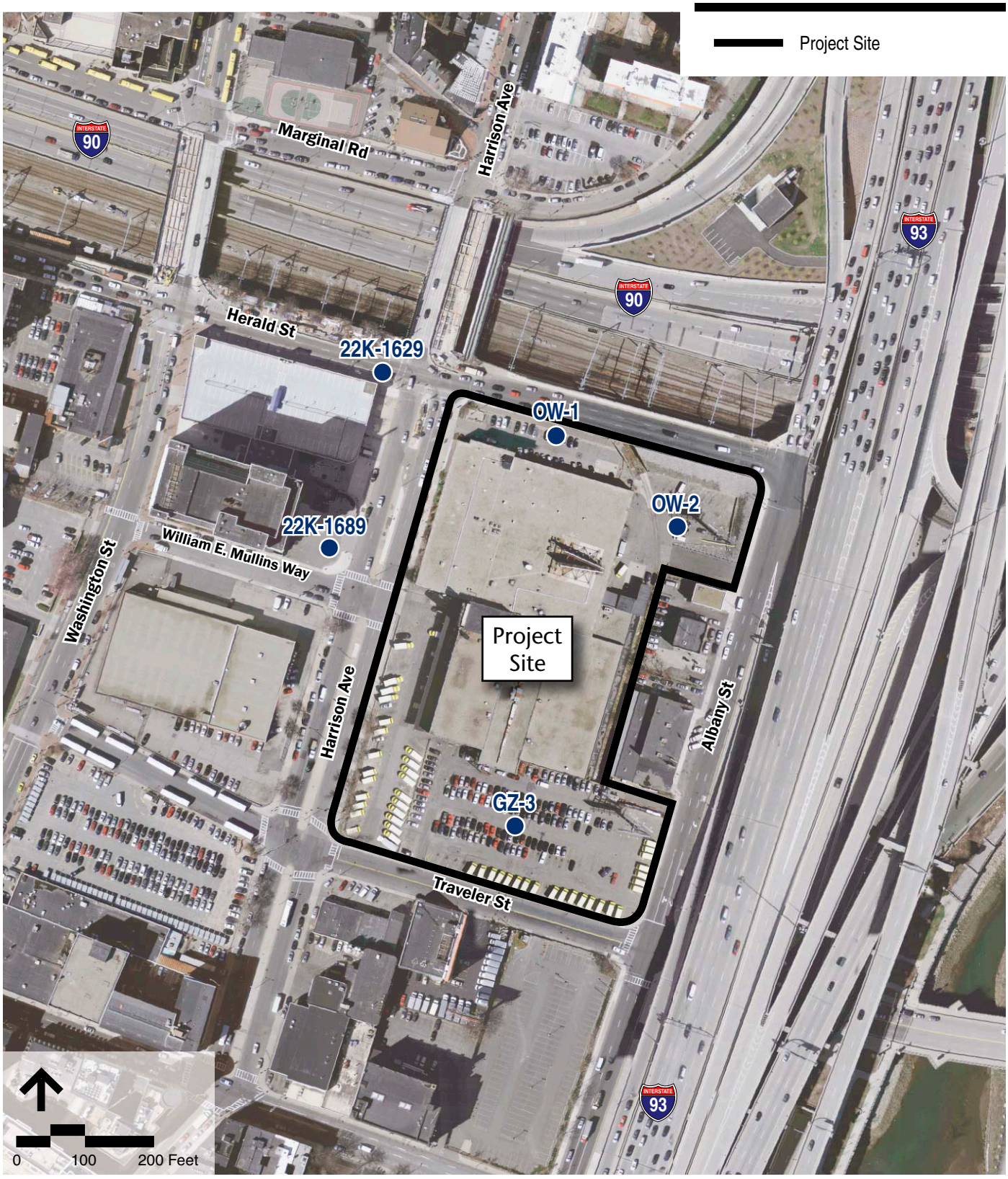
Figure 4.5

Noise Monitoring Locations

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base



300 Harrison Avenue
Boston, MA

Figure 4.6

Existing Groundwater Monitoring Wells

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: MassGIS 15cm Aerial Imagery

LEED 2009 for New Construction and Major Renovations

Project Checklist

Herald Square, Boston, MA 02118

Draft January 2012

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

Energy and Atmosphere — Possible Points: 35

Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
5	4	10	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
3			Credit 5	Measurement and Verification	3
		2	Credit 6	Green Power	2

Materials and Resources — Possible Points: 14

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			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: Exceed MRc2 to >95%	1
1			Credit 1.2	Innovation in Design: Education Display	1
1			Credit 1.3	Innovation in Design: TDM plan (Boston Modern Mobility)	1
	1		Credit 1.4	Innovation in Design: Exceed MRc4 to >30%?	1
1			Credit 1.5	Innovation in Design: Chemical Free Water Treatment	1
1			Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

1			Credit 1.1	Regional Priority: SSc3	1
1			Credit 1.2	Regional Priority: SSc7.2	1
1			Credit 1.3	Regional Priority: SSc6.1;	1
1			Credit 1.4	Regional Priority: SSC7.1; (EAc2, 1%; MRc1.1, 75%)	1

Total — Possible Points: 110

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

300 Harrison Avenue

Boston, MA

Figure 4.7

LEED Scorecard

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: MassGIS 15cm Aerial Imagery

5

Infrastructure Systems

Introduction

This chapter describes the infrastructure systems that will support the Project. The following utilities are evaluated: wastewater, water, stormwater management, natural gas, electricity, and telecommunications. In addition, as discussed in Chapter 4, *Environmental Protection*, consideration is given to the sustainable elements of the energy supply provision for the Project.

The final design process for the Project will include required engineering analyses and will adhere to applicable protocols and design standards, ensuring that the proposed buildings are properly supported by, and in turn properly use the utility infrastructure of the City and private utilities. Detailed design of the Project-related utility systems will proceed in conjunction with the final design of the buildings and their interior mechanical systems.

The systems discussed below include those owned or managed by the Boston Water and Sewer Commission (BWSC), private utility companies, and on-site infrastructure systems. There will be close coordination among these entities and with the project engineers and architects during the construction process for the Project.

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

■

Key Findings and Benefits

The key impact assessment findings related to infrastructure systems include:

- The existing city and utility infrastructure systems are adequately sized to accept the demand associated with the development and operation of the Project, based on initial investigations with the appropriate agencies and utility companies.
- The existing Site is mostly impervious to rainfall infiltration and includes some catch basins that are in disrepair.

- The Project Site is currently serviced by the BWSC for domestic and fire protection water and sanitary sewage conveyance. Based on 314 CMR 7.15, the Project is projected to require a domestic water supply of approximately 81,701 gallons per day and is estimated to generate 74,274 gallons per day of sanitary sewage.

The key Project-related mitigation and/or benefits associated with the infrastructure systems include:

- The Project includes a reduction in paved site areas, stormwater infiltration systems, and new vegetated areas all of which will promote the infiltration of stormwater runoff into the ground and evapotranspiration; thereby, reducing the rate and quantity of stormwater discharged to the drainage system and Boston Harbor.
- The quantity of stormwater runoff will be reduced for the two-year through 100-year storm events, which will have a positive impact due to the reduced load on BWSC's drainage system.
- The quality of stormwater runoff associated with the Project will be improved through the installation of infiltration systems.
- The Project is being designed with performance goals of 30 to 40 percent water efficiency and at minimum a 20 percent energy efficiency in order to comply with Article 37 and potentially achieve a Silver LEED-NC certification level.

Regulatory Framework

This chapter, in addition to a description of existing and future infrastructure connections, discusses the regulatory framework of utility connection reviews and standards. All connections will be designed and constructed in accordance with city, state and federal standards.

- BWSC approval will be required for all water, sewer and stormwater systems.
- Sewer connection permit will be filed with the Massachusetts Department of Environmental Protection (DEP).
- The Boston Fire Department will review the Project with respect to fire protection measures such as siamese connections, hydrants, and standpipes.
- Design of the site access, hydrant locations, and energy systems (gas and electric) will also be coordinated with the respective system owners.
- Where new utility connections are needed and existing connections are to be capped, the excavation will be authorized by the Boston Public Works Department (BPWD) through the street opening permit process, as required.
- Additional information on the regulatory framework for each utility system is included in subsequent sections of this chapter.

A complete list of the state and local permits anticipated associated with Project-related infrastructure is included in the *General Information and Project Summary* chapter. Figure 5.1 shows the existing infrastructure at the Site. Figure 5.2 show the proposed site utilities and connections for the Project.

Drainage/Stormwater Management

Since the Project Site is already mostly impervious to rainfall percolation, construction of the Project will not produce an increase in the rate of stormwater runoff and will provide a reduction in the volume of stormwater runoff.

Stormwater management controls will be established in compliance with BWSC standards, and the Project will not result in the introduction of any peak flows, pollutants, or sediments that would potentially impact the receiving waters of the local BWSC stormwater drainage system.

Existing Drainage Conditions

The Site is currently serviced by a 60-inch drain line drain line in Traveler Street that flows into a regulator in Albany Street before discharging to CSO#068 and the Fort Point Channel. There is a 24-inch drain line in Harrison Avenue, which connects to the Traveler Street main. Refer to Figure 5.1 for the locations of these drain lines.

The existing Site is mostly impervious to rainfall infiltration and includes some catch basins that are in disrepair. The drainage system at the corner of Herald and Albany Streets flows into the sanitary sewer pump before discharging to the sanitary sewer in Albany Street (Figure 5.1).

Proposed Drainage Conditions

Construction of the Project will result in a significant decrease in the rate and quantity of stormwater runoff from the Site. A new closed drainage system including deep-sumped catch basins, water quality BMPs and subsurface infiltration will capture and infiltrate water to the ground. As part of BWSC's review process, the Proponent will consider measures wherever applicable to minimize flows from the Site. Refer to Figure 5.2 for the proposed storm drain system.

Stormwater Quantity

The Project includes a reduction in paved site areas, stormwater infiltration systems, and new vegetated areas all of which will promote the infiltration or stormwater runoff into the ground and evapotranspiration, and reduce the rate and quantity of stormwater discharged to the drainage system and Boston Harbor. The quantity of stormwater runoff is reduced by at least 50 percent for the two-year through 100-year storm events. This will have a positive impact on the surrounding groundwater table as well as a reduced load on BWSC's drainage system.

Table 5-1 contains stormwater volume and peak flow rate estimates for the 2-, 10-, 25-, and 100-year storm events.

Table 5-1
Stormwater Runoff

Existing/Future Condition	2-year storm	10-year storm	25-year storm	100-year storm
Estimated existing runoff rate (cfs)[1]	18.95	27.50	32.97	39.66
Estimated future runoff rate (cfs)	15.11	23.87	29.90	36.16
Estimated existing runoff volume (acre-feet)	1.507	2.224	2.686	3.251
Estimated future runoff volume(acre-feet)	0.513	0.953	1.258	1.649

1 cfs = cubic feet per second

Stormwater Quality

The implementation infiltration systems will have a positive impact on the quality of the stormwater discharged from the Site. Subsurface stormwater infiltration creates an opportunity to replicate the natural water cycle in a dense urban core environment.

Stormwater management controls will be established in compliance with BWSC standards, and the Project will reduce stormwater flow, pollutants, or sediments that would potentially impact the Boston Harbor. In conjunction with the site plan and the General Service Application, the Proponent will submit a stormwater management design plan to the BWSC. Compliance with the standards for the final site design will be reviewed as part of the BWSC Site Plan Review Process.

■

Compliance with Boston Zoning Code Article 32: Groundwater Conservation Overlay District

The Project is located within the Groundwater Conservation Overlay District (GCOD) as defined in Article 32 of the Zoning Code. This zoning article sets forth requirements promoting the infiltration of runoff from impervious site areas within the district. To meet the requirements of this Article, projects within the district must infiltrate to the ground a volume equivalent to 1-inch over the site impervious areas.

The Project will include three infiltration systems to meet this requirement. These systems are sized using the dynamic-field method as described in Volume 3 of the Massachusetts Stormwater Management Handbook. These infiltration systems consist of perforated pipes ore prefabricated chambers surrounded in crushed stone. Table 5-2 summarizes the Article 32 infiltration volume calculations.

Table 5-2
Article 32 Infiltration Volumes

	Area	1-Inch Volume	Volume Provided
Impervious	215,412 SF	17,951 CF	17,816 CF
Pervious	52,128 SF	NA	NA

■

Compliance with DEP Stormwater Management Policy

In 1996, DEP issued the Stormwater Policy that established Stormwater Management Standards aimed at encouraging recharge and preventing stormwater discharges from causing or contributing to the pollution of the surface waters and groundwaters of the Commonwealth. In 1997, DEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy. In 2008, DEP revised the *Stormwater Management Standards and Massachusetts Stormwater Handbook* to promote increased stormwater recharge, the treatment of more runoff from polluting land uses, low impact development (LID) techniques, pollution prevention, removal of illicit discharges to stormwater management systems, and improved operation and maintenance of stormwater best management practices (BMPs). DEP applies the Stormwater Management Standards pursuant to its authority under the Wetlands Protection Act, M.G.L. c. 131, § 40, and the Massachusetts Clean Waters Act, M.G.L .c. 21, §§ 26-53. The revised Stormwater Management Standards have been incorporated in the Wetlands Protection Act Regulations, 310 CMR 10.05(6)(k) and the Water Quality Certification Regulations, 314 CMR 9.06(6)(a).

To demonstrate the ways in which the Project will be consistent with the Stormwater Management Policy, a discussion of each Stormwater Management Standard follows:

Standard #1: Untreated Stormwater

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

The Project will treat the runoff contributed by paved and rooftop areas within the boundaries of the Project Site through appropriate stormwater measures, including subsurface infiltration.

Standard #2: Post-Development Peak Discharge Rates

Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.

The Project includes subsurface infiltration systems will be incorporated to further promote infiltration of stormwater resulting in a reduction of runoff rates.

Standard #3: Recharge to Groundwater

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

The Stormwater Management Standards require the infiltration of 0.6 inch of runoff over the impervious areas of the Site for the best soil types (Type A soils). Given that the Project will infiltrate one-inch over the impervious area the Project exceeds the required infiltration volume for this standard.

Standard #4: 80 Percent Total Suspended Solids Removal

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

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

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

c. *Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.*

For the purposes of TSS removal, rooftop runoff is considered to be clean. Rooftop runoff will discharge directly to the infiltration system. Site runoff will be treated through structural BMPs as required for pretreatment prior to infiltration. The majority of the impervious area will discharge to the site infiltration system.

Standard #5: Higher Potential Pollutant Loads

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

The retail portion Project is considered a land use with higher potential pollutant load (LUHPPL). The recommended mitigation for a LUHPPL is pollutant reduction through source control. The majority of the project's vehicular parking is protected from rainfall significantly mitigating the impacts from the LUHPPL. The remainder of the Site will be treated through structural BMPs and subsurface infiltration.

Standard #6: Protection of Critical Areas

Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water

discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply

The Project Site does not contain any of the critical areas identified above.

Standard #7: Redevelopment Projects

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

The Project is considered a redevelopment; however, it will be in compliance with the stormwater management standards to the maximum extent practicable as described herein.

Standard #8: Erosion/Sediment Controls

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

The Project-related construction documents will include measures and specifications regarding erosion and sediment controls and barriers (e.g., silt fence, hay bales, and catch basin sacks). Construction dewatering discharges will be appropriately controlled and discharged in accordance with National Pollutant Discharge Elimination System (NPDES) state and local dewatering standards.

Standard #9: Operation/Maintenance Plan

A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

An Operation and Maintenance plan will be developed for both construction and post-development, which will include, at a minimum, system ownership information, parties responsible for operation and maintenance, and inspection and maintenance schedules. Routine maintenance is expected to include catch basin cleaning, stormwater control cleaning, and removal of debris from outlets. It is also expected that pedestrian and vehicular access ways will be swept appropriately to control sand applied during winter months.

Measures aimed at minimizing the disposition of site soils to off-site areas, primarily the surrounding streets and existing drainage collection systems, will be a part of the City's required Construction Management Plan. In addition, the Proponent will apply for all appropriate permits for construction activity and dewatering. All efforts will be made to contain sediment, pollutants, and any other construction-related materials within the Site. Stabilized construction exits will be installed at each access point of the work areas to minimize off-site transport of soil by construction vehicles. These exits will remain in place until site areas have been stabilized. In addition, the Proponent will use Best Management Practices (BMPs) during construction including

installing silt sacks on catch basins, a truck-trailer wheel wash station, anti-tracking pads, and covering material piles.

Standard #10: Illicit Discharges

All illicit discharges to the stormwater management system are prohibited.

The Project Site does not include any known illicit discharges. If any illicit discharges are encountered during the construction process, they will be eliminated.

Domestic Water and Fire Protection

■

Existing Water Supply System

Domestic and fire protection water is currently provided to the Site by the BWSC (Figure 5.1). There are five different water systems/service districts within the City, which provide service to portions of the City based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high. The water mains in the vicinity of the Project Site are part of either the southern high or southern low service systems.

The building is currently served by a 12-inch Fire Protection lateral and an 8-inch fire protection line that are both connected to the 12-inch southern high service main in Harrison Avenue, which was laid in 1983. Additionally a third fire protection line connects to the 12-inch low service in Harrison Avenue. This third line no longer connects to the building; however it continues to serve two site hydrants.

The building has two domestic water connections both of which feed the building from the 12-inch southern low main in Harrison Avenue.

■

Proposed Water Supply Demand and Connection

The design anticipates the installation of a private pipe network in the Project Site to serve all of the proposed buildings (Figure 5.2). The site piping will connect to the Southern High system in Albany Street and Harrison Avenue and will include the installation of two master water meters. All existing water service connections will be abandoned and cut and capped at the main.

Compliance with the standards for the water system service connections will be reviewed as part of BWSC's Site Plan Review process. The review includes, but is not limited to, sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and Siamese connections conform to BWSC and Boston Fire Department requirements.

The Project's domestic water demand is based on the estimated sewage generation (74,274 gallons per day, as presented in Table 5-3 below) with an added factor of 10 percent for consumption, system losses, and other

use. Based upon these assumptions, the Project will require approximately 81,701 gallons per day. However, the appropriate low-flow and low consumption plumbing fixtures are anticipated to achieve a reduction in water usage of 30 to 40 percent over the baseline in order to comply with Article 37 of the Boston Zoning Code (as LEED "certifiable") and potentially achieve a LEED-NC Silver level rating, as discussed in Chapter 4, *Environmental Protection*.

Sanitary Sewer

■

Existing Sanitary Sewer System and Generation

Local sanitary sewer service in the City is provided by the BWSC (Figure 5.1). The Site is adjacent to sewer mains in the public streets. These mains include a 16-inch ductile iron sewer located in Harrison Avenue that was newly laid in 2010, a 12-inch ductile iron sewer located in Traveler Street that was newly laid in 2010 and a 30-inch by 36-inch sewer in Albany Street that was re-lined in 2010.

Services from the Site include a 6-inch clay service in Harrison Avenue near the building entrance, a 6-inch ductile iron service in Harrison Avenue that ties to a manhole adjacent to the existing loading docks, and a 10-inch sanitary force main that connects to the 30-inch by 36-inch sewer in Albany Street.

The existing facility includes three floors of space with both office and production space. The basement and first floor levels include space designed and dedicated for the production and distribution of the Boston Herald newspaper. Based on conversations with the Production Manager for the newspaper, the newspaper production area employed approximately 600 employees during two shifts that included 300 employees per shift. The production space includes both a cafeteria and gymnasium. The upper floor includes approximately 75,000 square feet of office space. The estimated total existing sanitary sewer generation rate based upon 314 CMR 7.15 is 17,574 gallons per day, as detailed in Table 5-3.

■

Proposed Sanitary Sewage System Connection and Generation

The building plumbing design has not yet been established, but the design team will make best efforts to reuse existing sanitary services where possible. The sanitary force main will either be reused or re-laid to provide floor drains for the subsurface garage (Figure 5.2). Any food service tenants will have individual exterior grease traps installed on-site in accordance with BWSC's design criteria.

The Project as currently proposed includes a mix of residential, retail and restaurant uses. Table 5-3 summarizes the proposed sanitary sewer generation. The rate includes an assumption that the retail component space will include 5,000 square feet of restaurant space. The total proposed generation of 74,274 gallons per day results in a net increase in flow of 56,700 gallons per day over the existing site use.

Table 5-3
Existing and Future Sewer Generation

Program Type	Units	Generation Rate	Sewer Generation (GPD)
Existing			
Factory/Industrial	600 Employees	20GPD/Employee	12,000
Office	74,312 SF (2nd Floor)	75 GPD/KSF	5,574
Total			17,574
Proposed			
Residential	592 Bedrooms	110 GPD/Bedroom	65,120
Retail[1]	78,075 SF	50 GPD/KSF	3,904
Restaurant[1]	150 seats	35 GPD/seat	5,250
Total			74,274
Net Change			56,700

Note: Based on DEP 314 CMR 7.15 flow calculation factors.
1 Assumes 5,000 square feet of restaurant space as part of the retail component.

Utilities

■

Natural Gas Service

National Grid has gas services in Albany Street, Traveler Street and Harrison Avenue adjacent the Site (Figure 5.1). The building's main heating and cooling system shall be via a water source heat pump system with an estimated load of 600 tons. The building will be heated via gas fired hot water boilers, and domestic hot water shall be produced by a central gas fired system. The peak gas demand for heating and kitchen use is estimated to be 16,500 cubic feet per hour (CFH). The Proponent will work with National Grid to confirm adequate system capacity as design is finalized.

■

Electrical Service

NSTAR owns the electrical system in the vicinity of the Project Site (Figure 5.1). Based on preliminary discussions with NSTAR, adequate service is available in Albany Street to serve the Project. The design anticipates a secondary service with two pad mounted transformer(s). The final service approach and transformer location will be determined during the final design and discussions with NSTAR

The estimated Project-related electrical demand load is approximately 3,200 Kilowatts and 8,500AMPs has been estimated to serve the buildings.

Energy Conservation

Energy conservation measures will be an integral part of the Project-related infrastructure design. The buildings will employ energy-efficient and water-conservation features for mechanical, electrical, architectural, and structural systems, assemblies, and materials where possible. The base configuration of the proposed building will meet the Massachusetts Stretch Energy Code. Mechanical and HVAC systems will be installed to the current industry standards and full cooperation with the local utility providers will be maintained during design and construction. Additional information on energy conservation is provided in the sustainable design section of Chapter 4, *Environmental Protection*.

■

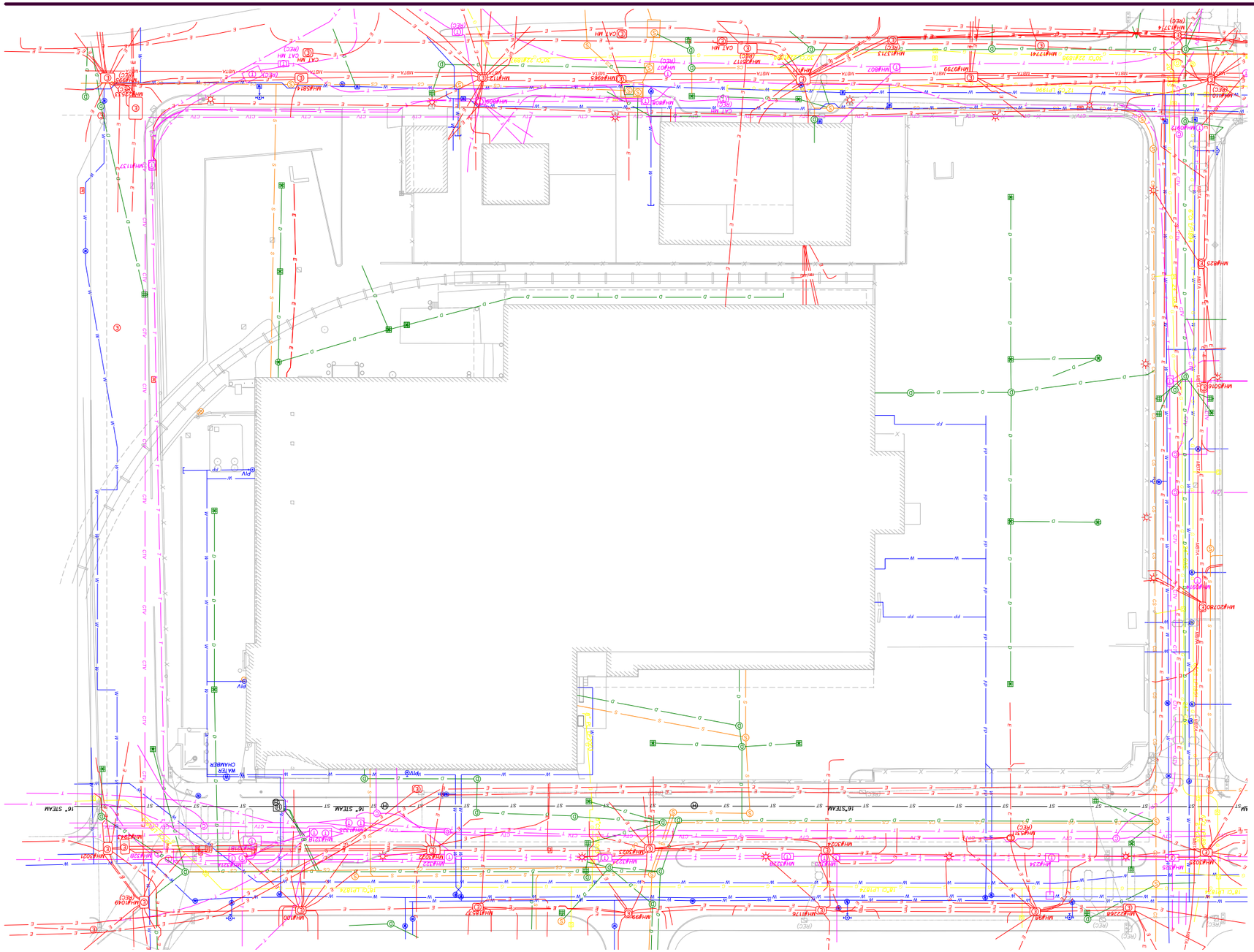
Telecommunications

The Proponent will select private telecommunications companies to provide telephone, cable, and data services. There are several potential candidates with substantial downtown Boston networks capable of providing service. Upon selection of a provider or providers, the Proponent will coordinate service connection locations and obtain appropriate approvals.

■

Protection of Utilities

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



Legend

- Storm Drain
- Sanitary Sewer/Combined Sewer
- Electric
- Gas
- Steam
- Water
- Telecommunications

0 60 120 Feet

300 Harrison Avenue

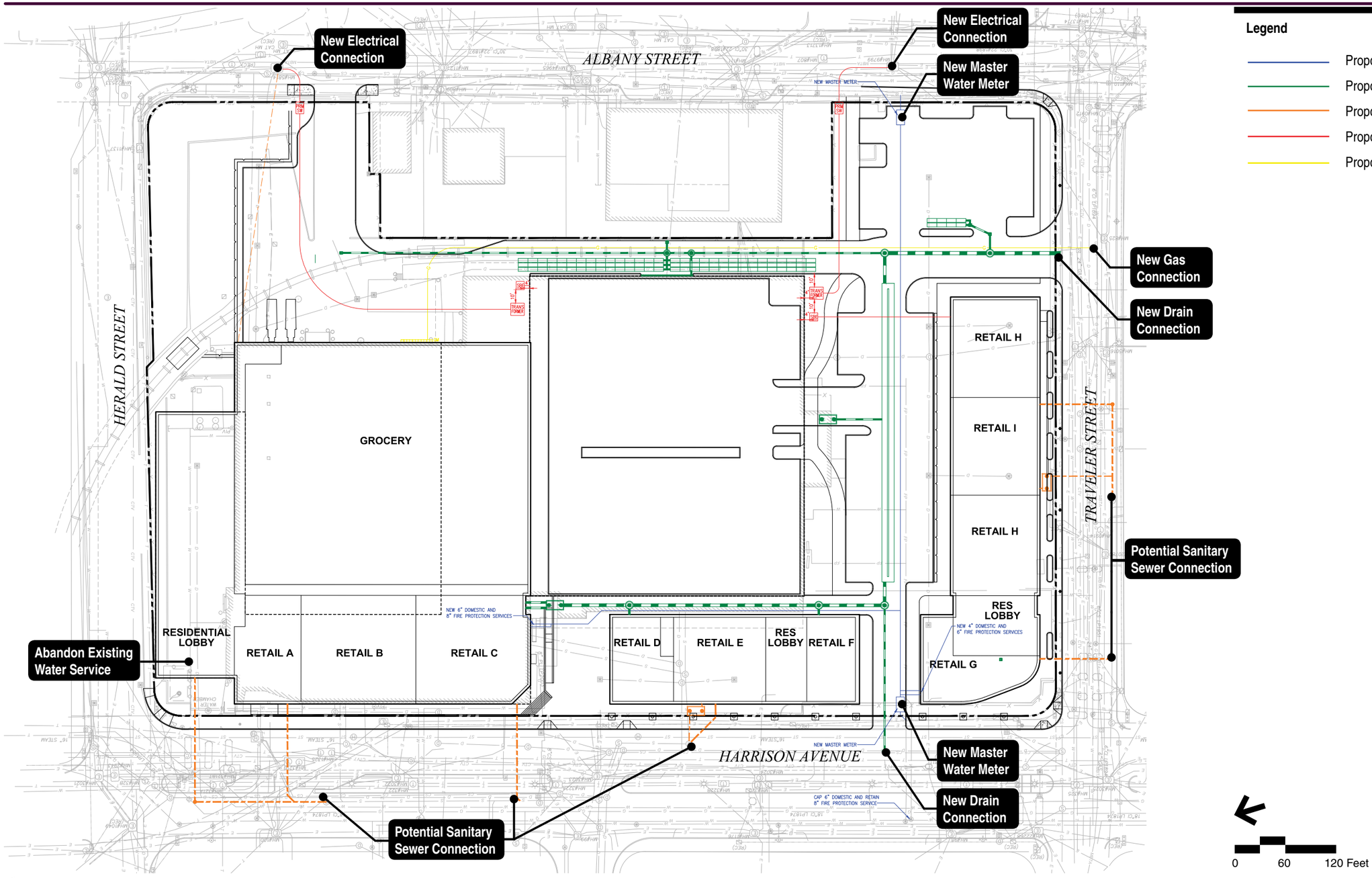
Boston, MA

Figure 5.1

Existing Utilities

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT



300 Harrison Avenue
Boston, MA

Figure 5.2

Proposed Utilities

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

6

Historic Resources

Introduction

This chapter identifies properties that are either in the Inventory of Historic and Archaeological Assets of the Commonwealth or listed in the State Register of Historic Places that are within the Project Site or are within close proximity. This chapter also describes any effects to these properties and proposed mitigation, if required, and Project-related benefits.

A site file search at the Massachusetts Historical Commission (MHC) was completed to identify the resources in the Project Site and those in close proximity. Above-ground resources and previously recorded archaeological resources were identified within a one-quarter mile radius of the Project Site. Figure 6.1 shows the location and proximity of these properties to the Project Site.

This section also addresses the question as to whether the existing Boston Herald building on the Project Site located at 300 Harrison Avenue is architecturally or historically significant, due to the requirement for the South End Landmark Commission to review its significance in light of the partial demolition proposed for the building.

■

Key Findings and Benefits

The key impact assessment findings related to historic and cultural resources include:

- From the mid-19th century to the 1950s the Project Site consisted of a series of short, narrow streets and alleyways with residential tenement buildings known as the New York Streets. In the late 1950s, the Project Site was completely redeveloped for light industrial and manufacturing as part of the City of Boston's urban renewal activity.
- There are numerous properties that are in the Inventory of Historic and Archaeological Assets of the Commonwealth and the State Register of Historic Places within one-quarter mile of the Project Site, including the South End Landmark District (District) and the South End Landmark District Protection Area (in which the Project Site is located).
- The Project Site is located at the extreme northeast corner of the South End Landmark District Protection Area, two blocks from the closest boundary edge of the South End Landmark District.

- The partial removal of sections of the 1957 Boston Herald Traveler building will not have an adverse impact on the building as it is not considered a significant historic resource.
- The Project would not impact the District as it meets the goals of the South End Landmark District Protection Area due to its compatible height, massing, and setback, and complementary design.

The key Project-related benefits related to historic and cultural resources include:

- The Project will have a beneficial impact on the immediate and surrounding area from both an aesthetic and functional standpoint.
- Provide needed neighborhood connection to Downtown and Chinatown, and establish a new residential neighborhood.
- The uses proposed as part of the Project (retail and residential) are consistent with the City's new Harrison Avenue-Albany Street Corridor zoning.
- No physical changes are proposed to the Webb Co. building (an individually inventoried building located to the east of the Herald Traveler building on the same block, but outside of the Project Site boundaries) as part of the Project.

Historic Context

The Project Site is within an area that was completely redeveloped for a light industrial and manufacturing area in the late 1950s as part of the City's urban renewal activities in the South End. The 1957 Boston Herald Traveler building, which currently exists and is in operation on the Site, replaced a series of short, narrow streets and alleyways known as the New York Streets. These streets, which were named after New York cities and towns, were populated with densely clustered brick tenement residential buildings prior to the urban redevelopment activities.

Buildings located in the New York Streets section that were utilized for commercial and industrial use, and therefore compatible with the new industrial zoning, would have had the possibility of being retained during the urban renewal process. One such building in this category remains extant at 237 Albany Street (BOS.12842, BOS.RK; currently known as the F. W. Webb building), to the east of the Project Site on a separate parcel. This brick commercial building was in use as early at 1883, and its industrial nature complemented the post-renewal uses desired for the area. The neighboring two commercial buildings on Albany Street, also east of the Project Site, post-date the urban renewal period in the 1950s. Refer to Figures 6.2 and, Figures 6.3a through 6.3f for site photographs of the existing Herald Building and adjacent buildings.

Historic Resources

There are numerous properties that are in the Inventory of Historic and Archaeological Assets of the Commonwealth and the State Register of Historic Places within one-quarter mile of the Project Site. They consist of the South End Landmark District and the South End Historic District, which are a Local Historic District (LHD) and a National Register District, respectively. These districts have roughly similar boundaries. The Project Site is located within the boundaries of the South End Landmark District Protection Area of the Landmark District (the "Protection Area"). Additionally, eight inventoried areas, which include a total of 36

individually inventories properties are within a one-quarter mile radius of the Project Site. Thirty-seven inventoried properties, which are not located within any area or district, are within a one-quarter mile radius of the Project Site. Figure 6.1 shows and Table 6-1 lists the MHC inventoried and listed historic resources within one-quarter mile of the Project Site. Please note that individually inventoried properties *within* an inventoried area or listed district are not noted on the figure or table.

Table 6-1
MassHistoric Inventoried and Listed Resources

Property Name	Address	MHC Inventory No.	Listed in State Register
South End Historic District (National Register #73000324)	N/A	BOS.AB	Y
South End Landmark District (Local Historic District)	N/A	BOS.AC	Y
South End Landmark Protection Area	N/A	BOS.AD	Y
South End Industrial Survey Area	N/A	BOS.RK	N
Washington-Dover Street Area	N/A	BOS.SE	N
South End Industrial District	N/A	BOS.AH	N
89-103 Hudson Street	89-103 Hudson Street	BOS.BH	N
94-106 Tyler Street	94-106 Tyler Street	BOS.BI	N
Tufts N.E. Medical Center Posner Hall	200 Harrison Avenue	BOS.12790	N
Row Houses	211-219 Harrison Avenue	BOS.12794-12798	N
Row Houses	223-239 Harrison Avenue	BOS.12799-12803	N
Row Houses	1-9 Johnny Court	BOS.12804-12808	N
Row Houses	2-10 Johnny Court	BOS.12809-12812	N
Row Houses	29-39 Oak Street	BOS.12818-12823	N
Row Houses	34-36 Oak Street	BOS.12824-12825	N
Joseph P. Cohen Tenement House	16 Pine Street	BOS.12826	N
Row Houses	18-20 Pine Street	BOS.12827-12828	N
West 4th Street/Foundry Street Bridge	W. 4th Street over railroad tracks	BOS.9007	N
Broadway Bridge	Broadway over Fort Point Channel	BOS.9008	N

Note: Properties listed are within one-quarter mile of the Project Site. Refer to Figure 6.1 for the location of these resources.

Previously inventoried and listed properties located within a one-quarter mile radius of the Project Site are discussed here in three sections. There is much overlap in the boundaries of areas and districts and many individual buildings are included within these same areas and districts. The first section, BOS.AD (the

Protection Area), describes those areas and properties located within the Protection Area, in which the Project Site is located. The second section, South End Historic District (NR# 73000324, BOS.AB) , describes those districts, areas, and properties located within the South End Landmark District, which is a Local Historic District and has roughly the same boundaries as the South End District, a district listed in the National Register. The third section, Chinatown and the Fort Point Channel Industrial area, describes areas and properties located north of the I-90 turnpike corridor, within the Chinatown neighborhood of Boston, in addition to two bridges over the Fort Point Channel and railroad tracks located west of I-93.

■

South End Historic District

The South End Historic District (BOS.AB) listed in the National Register (NR), NR#73000324, is a 238-acre district located south of the Massachusetts Turnpike that was added to the National Register on May 8, 1973. It is described as "the largest remaining Victorian Urban residential neighborhood in the United States." The neighborhood was planned in 1848 and constructed over the next three decades on partially filled land, and attracted well-to-do businessmen and their families. A mixture of architectural styles such as Greek Revival, Renaissance Revival and Second Empire are united by the mostly consistent use of the brick bow front row house with Mansard roof and the brick flat-fronted row house featuring an oriel on the façade, lending a visual cohesiveness to the area. These long, dense blocks of brick row houses are interspersed with urban squares and long parks, designed as respite from the urban environment.

■

South End Landmark District

The South End Landmark District (BOS.AC) is a Local Historic District (LHD) established on November 14, 1983, and its boundaries are nearly identical to, but are slightly larger than that of the National Register District of similar name discussed above (South End Historic District). The major area of deviation between the Local Historic District and the National Register District is on the east boundary; the LHD includes a large area between Pembrook Street, Tremont Street, and West Dedham Street. Other boundary differences include a number of small areas included near the perimeter of the South End Landmark District, which are not included in the South End Historic District (NR #73000324).

Both the South End Industrial Survey Area (BOS.RK) and Washington-Dover Streets Area (BOS.SE), discussed below, partially overlap the South End Landmark District, as well as the Protection Area (BOS.AD), which is also discussed further below.

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South End Landmark Protection Area

Although this area has no form on file at MHC, the South End Landmark Protection Area (BOS.AD), or the Protection Area, was established November 14, 1983 at the same time as the South End Landmark District. The 1957 Boston Herald Traveler building, which is proposed for alteration as part of the Project, is within the Protection Area. This area is in the Inventory of Historic and Archaeological Assets of the Commonwealth, but is not listed in the State Register of Historic Places.

The Protection Area is adjacent to the east of the South End Historic District, extending east to Albany and Frontage Roads, north to the Massachusetts Turnpike, and south to Massachusetts Avenue and Northampton Street. The area contains 13 inventoried properties located within a one-quarter mile radius of the project area, most of which are discussed below in area BOS.RK. However, there is one property, Holy Trinity (German) Church (BOS.15228), which is located within the Protection Area and within one-quarter mile of the project, but is not included in the South End Industrial Survey Area.

Within the Protection Area, there are two smaller areas that are wholly contained by or substantially overlap a portion of both the South End Industrial Survey Area and the Washington-Dover Streets Area (Figure 6.1).

South End Industrial Survey Area

The South End Industrial Survey Area (BOS.RK) is an 83-acre area located south of the Massachusetts Turnpike and east of Albany Street, and forms much of the northern half of the Protection Area (Figure 6.1). A small portion of this area also overlaps the South End Landmark District on the south and west sides. The South End Industrial Survey Area is comprised primarily of industrial and commercial structures dated ca. 1880-1915, described as mostly multi-story, rectangular buildings with regular fenestration, flat roofs, and masonry cladding. A former power station is also included. Used as machine shops and warehouses, the buildings often contain a first-story commercial component, indicated by heavy granite and iron piers with large glazed areas facing the street. Historically, the major industry was furniture making, especially pianos, accompanied by shoemaking, woodworking, and stonecutting businesses.

In March 1990, the MHC issued an opinion that a portion of the South End Industrial Survey Area was eligible for the National Register as a district, in a concurrence statement with FHWA findings as part of the Central Artery-Tunnel project. This portion is roughly bounded by East Berkeley Street, Albany Street, Paul Sullivan Way, and Harrison Avenue. The boundaries of this eligible district do not include the Project Site.

Washington-Dover Streets Area

The Washington-Dover Streets Area (BOS.SE) is located east of the intersection of East Berkeley Street and Washington Street, and overlaps both the Protection Area and the South End Landmark District. The mostly contiguous cluster of masonry buildings at the north boundary of the South End Landmark District represent commercial, residential, and light industrial uses. Constructed ca. 1840-1910, these buildings display a number of different styles, including Greek Revival, Romanesque Revival, Renaissance Revival, and Panel Brick. Several of the buildings have industrial characteristics such as a flat roof, regular fenestration, and rectangular massing; however, a bow front house and a portion of a 19th century hotel still remained when the area was documented.

South End Industrial District

The South End Industrial District (BOS.AH) has no form on file at MHC so its precise boundaries are unknown. There are 12 inventoried properties located in the area within a one-quarter mile radius of the

Project Site. Because the same 12 properties are also located in the Protection Area and the South End Industrial Survey Area, it can be assumed that the district roughly overlaps with these areas.

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Chinatown and the Fort Point Channel Industrial Area

Chinatown and the Fort Point Channel Industrial area include a number of inventoried areas and properties located within a one- quarter mile radius of the Project Site; however, these resources are separated from the Project Site by major highways. The Massachusetts Turnpike, I-90, runs east/west just north of the Project Site and separates it from the Chinatown neighborhood. In addition, the corridor for north/south I-93 runs east of the Project Site and separates it from the Fort Point Channel and the structures and railroads associated with the Channel.

- *Area BOS.BH, 89-103 Hudson Street (BOS.2205-2212)* – This set of Greek Revival row houses on Hudson Street in Chinatown date to the 1840s, as part of the South Cove Development's plan for a terminal and railyards for the Boston and Worcester Railroad. Although missing three of the original units, the remaining brick examples of three-story side hall houses form an intact streetscape typical of the mid-19th century in this area. Greek Revival elements such as granite basements and brownstone window trim are still extant, though dormers have been removed and the units have been remodeled with fourth stories. All eight structures comprising the area are located within one-quarter mile of the Project Site. The MHC issued an opinion that the row houses were eligible for the National Register as part of a possible Chinatown District (MHC eligibility opinion concurrence with FHWA findings, March 1990 as part of the Central Artery-Tunnel project) on 4/18/1990.

- *Area BOS.BI, 94-106 Tyler Street (BOS.2230-2236)* – A set of row houses on Tyler Street in Chinatown, these brick examples are adjacent on the west side to the row houses within Area BOS.BH and were also part of the South Cove Development associated with the Boston and Worcester Railroad. They were constructed 1841-1847, and share similar characteristics with BOS.BH, constructed as three stories tall with side hall plans and recessed entries. Four of the units were removed from the north end in the 1920s. Extant features include stone lintels, gable end chimneys, and dormer windows. Major 20th century alterations include the addition of Mansard and monitor roofs to some of the units, as well as basement stores. The MHC issued an opinion that the houses included in BOS.BI were eligible for the National Register as part of a possible Chinatown District (MHC eligibility opinion concurrence with FHWA findings in conjunction with the Central Artery-Tunnel project, March 1990) on 4/18/1990.

- *Tufts New England Medical Center – Posner Hall, 200 Harrison Avenue (BOS.12790)* – is a four-story dormitory designed 1953-1954 for the Tufts University Medical School by the firm of McKim, Mead and White Associates, located in Chinatown. It was designed in the International Style with banded casement windows, the concrete building features an entry foyer with plywood paneling and aluminum letters spelling "POSNER HALL", and a garden patio and recreation room for use of the students.

- *Row Houses, 211-219 Harrison Avenue (BOS.12794-12798)* – A set of sidehall brick Row Houses constructed in 1836-1837 for developer John Wells, with Federal style features such as gable dormers and dentillated eaves and Greek Revival projecting stone steps. Though originally three stories tall, some of the units have been remodeled to four stories during the late 20th century. Similar extant rows on adjoining Johnny

Court and Oak Street create a partially enclosed rear yard in the center of the block, a common feature of the early layout of residential blocks in the area. (Note: all buildings recorded together on a single form.)

- *Row Houses, 223-239 Harrison Avenue (BOS.12799-12803)* – Another set of three-story brick row house units constructed for John Wells, these houses exhibit a few original Federal and Greek Revival style features such as brownstone lintels, a dentillated cornice, and projecting stone stairs. However, the row has been subjected to many alterations, including the addition of a fourth story and projecting bay window onto 223 Harrison Avenue, replacement of the unit at 231 Harrison Avenue with a concrete factory loft in 1915, and remodeling some of the units into storefronts, including 225 and 227 Harrison Avenue ca. 1880 and 239 Harrison Avenue in 1992. (Note: all buildings recorded together on a single form.)

- *Row Houses, 1-9 Johnny Court (BOS.12804-12808)* – This well-preserved set of three-story brick row houses constructed in 1837-1838 for developer John Wells consists of two double houses and a single side hall residence, all with recessed entries. Federal style details such as gable dormers and a dentillated cornice are still extant, as well as a rear yard formed with a block of row house units on Oak Street which characterized many of the original residential row house blocks in the neighborhood. (Note: all buildings recorded together on a single form.)

- *Row Houses, 2-10 Johnny Court (BOS.12809-12812)*- This set of row houses was built by housewright Andrew Marsh for developer John Wells, and exhibits similar Federal style details to other nearby brick rows developed by Wells, including a dentillated cornice and brownstone lintels. Unlike many of the neighboring blocks, however, this row was constructed with only two stories. The original gable dormers and chimneys have been removed from all units; a four-story façade was added to 4 Johnny Court in 1922, and 2 Johnny Court was remodeled as a four-story structure in the late 20th century. (Note: all buildings recorded together on a single form.)

- *Row Houses, 29-39 Oak Street, (BOS.12818-12823)* – This relatively well-preserved set of brick row houses is one of several constructed in the early 19th century for developer John Wells. Apparently constructed in three phases by different builders, these three-story units have Federal style details such as stone lintels, dentillated cornice, and an extant external paired chimney. Three of the units, however, have been remodeled to a full three stories – 33 Oak Street in 1867 with an Italianate cornice, and 31 and 35 Oak Street in the late 20th century. The building at 39 Oak Street was originally a one-story rear ell for a building on Harrison Street, and was converted into a commercial building in 1922. (Note: all buildings recorded together on a single form.)

- *Joseph P. Cohen Tenement House, 16 Pine Street (BOS.12826)* – This Classical style four-story tenement house was constructed in 1898. The building features yellow brick, and an arched inset entry topped by granite lintels. The building replaced an earlier brick row house, similar to those at 18-20 Pine Street (BOS.12827-12828). All three buildings were recorded together on a single inventory form.

- *Row Houses, 18-20 Pine Street (BOS.12827-12828)* – These houses were some of the last to be developed by John Wells in the South Cove area, dating from 1845. This block originally had three sidehall three-story brick units, with Greek Revival details including corbelled cornices and wood gable dormers. In 1898, the west unit at 16 Pine Street (BOS.12826) was rebuilt as a four story-tenement house – all three buildings are recorded together on the same inventory form.

- *West 4th Street/Foundry Street MBTA Conrail Bridge, West 4th Street over Foundry Street and MBTA/Conrail Tracks (BOS.9007)* – This bridge is a remnant of what was once a larger 1893 bridge, constructed by the Boston Bridge Works. Two pony trusses survive, and are indicated as notable for their double-barreled configuration. However, the extent of alterations and deterioration led MHC to issue an opinion dated 9/16/1988 that the bridge was not individually eligible for the National Register.

- *Broadway Bridge, Broadway over Fort Point Channel (BOS.9008)* – This draw bridge is one of only a handful of surviving movable bridges on the Fort Point Channel and is notable as a center-bearing swing bridge. It was constructed in 1914 by Boston Bridge Works. The MHC issued an opinion that the bridge is individually eligible for the National Register, as well as eligible as part of a possible Fort Point Channel District (MHC eligibility opinion concurrence with FHWA findings, March 1990 for the Central Artery-Tunnel project) on 6/21/1985.

■

Archaeological Resources

A search was completed for archaeological sites within one-quarter mile radius of the Project Site, utilizing MHC base maps. There were no sites recorded within this radius.

Evaluation of Significance of the Boston Herald Traveler Building

The Boston Herald Traveler building at 300 Harrison Avenue does not demonstrate architectural or historic significance due to its modest mid-20th century design that is similar to others in the urban renewal area and because its history as the printing plant and offices of the Boston Herald, one of numerous Boston newspapers, is not a significant event in the area.

The area in which the building is located was cleared as part of an urban renewal project in the 1950s. The area was previously known as the New York Streets area due to its eponymous streets names of prominent Empire State cities and towns. The densely-populated residential area was targeted for slum clearance in 1957 and was rezoned for industrial use (O'Connor 1993, 124). The resulting evictions of its mainly working class residents were mirrored in other renewal projects in Boston, most famously in the city's West End. Although the relocation of the Boston Herald (which also published the Boston Traveler at the time) from the Financial District gave the new industrial area a well-known commercial resident, the relocation was neither directly associated with the decision to proceed with the clearance project nor the subsequent development of the neighborhood itself. By this time, the famous "Newspaper Row" in downtown Boston had broken up, and the Boston Globe had already moved its plant and offices to Dorchester. The location of the Herald's printing operations close to major transportation routes and the ability to develop a site specifically for the newspaper's functions was a logical move. The redevelopment of the neighborhood was one of several pursued by city government in the 1950s and 1960s, and the Boston Herald Traveler building construction was not a defining event in this particular redevelopment project.

The long history of the Boston Herald newspaper company is not associated with the 1957 building itself nor is the construction of this building associated with a notable person. Although the construction of a purpose-built facility likely made operations more efficient, the newspaper's growth in the late 20th century was largely due to management decisions and expansion of coverage. The building was not instrumental in the newspaper's history or people associated with it.

The Boston Herald Traveler building is a standard low-profile warehouse building, common to industrial buildings in the surrounding neighborhood and throughout Boston during the mid-20th century. Its concrete and masonry construction, punctuated by running bands of aluminum-framed multi-paned windows, is not notable in style or form. In addition, other similar industrial buildings can be found throughout the area north and east of the South End Landmark District, a result of the aforementioned urban renewal projects. The most distinctive element of the building is the vertical roof pylon displaying the newspaper name in metal letters, but the large clock which was an integral original part of the pylon has been removed (date unknown).

Potential Impacts to Historic Resources

The partial removal of sections of the 1957 Boston Herald Traveler building will not have an adverse impact on the building as it is not considered a significant historic resource. One individually inventoried building, the Brahman and Dow Valve Company/FW Webb Co. building 237 Albany Street (BOS.12842) located to the east of the Herald Traveler building on the same block, will not be impacted by the Project as no physical changes are proposed to the Webb Co. building as a result of the Project. Furthermore, the Project Site is located at the extreme northeast corner of the Protection Area two blocks from the closest boundary edge of the South End Landmark District (Figure 6.1). The proposed five- to nine-story heights of the buildings (a maximum height of 95 feet) will not exceed heights allowed by the current rezoning recommendations for the Project Site (100 feet) or that allowed within the Protection Area (100 feet). Additionally, the new building will not cast any shadows within the South End Landmark District due to its distance from the boundaries of the district. The Project will have a beneficial impact on the immediate and surrounding area from both an aesthetic and functional standpoint. The uses proposed (retail and residential) are consistent with the City's ongoing Strategic Plan for revitalization of the project area.

■

General Standards and Criteria of the Protection Area

The goals of the Protection Area are to protect views of the adjacent Landmark District, to ensure that new development or major alterations adjacent to the District is architecturally compatible in massing, setback, and height, and to protect light and air circulation within the District. The Project meets these goals due to its compatible height, massing, and setback, and complementary design. The Project's proposed tallest height of 95 feet will not cause any new shadows within the District or require a pedestrian wind analysis under Article 80 – Large Project Review because it is below 150 feet. The Project conforms to the specific standards and criteria for the Protection Area for the following reasons:

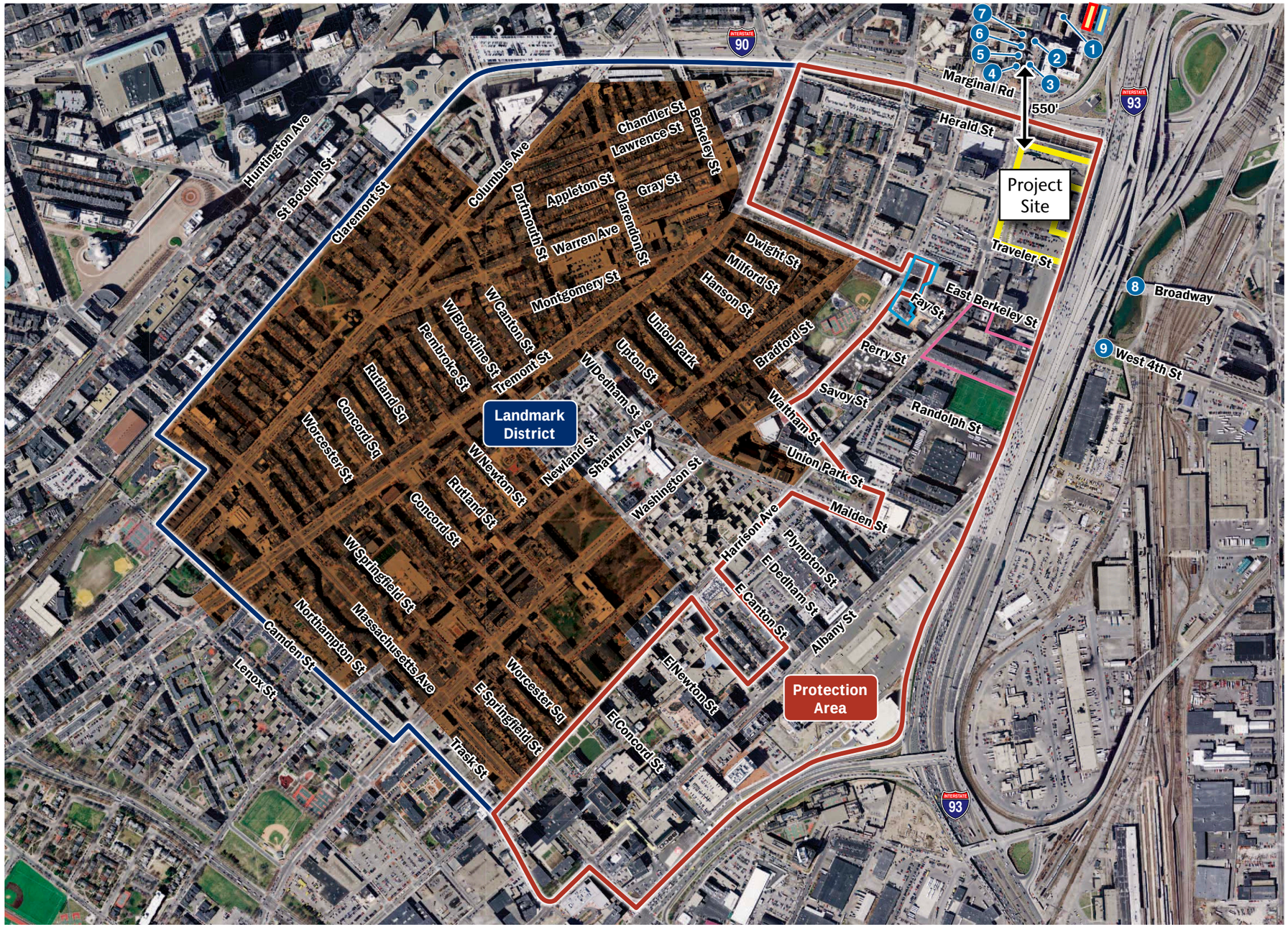
1. Demolition: The existing building will only be partially demolished; the foundation and lowest level will be retained. The existing building, which is associated with the late 1950s urban renewal activities in this area, is not a significant resource within the Protection Area.

2. Land Coverage: The existing building footprint will remain largely unchanged and setbacks will not be reduced from existing.

3. Height of Structures: The tallest height of the Project is 95 feet, which is consistent with the 100 feet allowed in this part of the Protection Area.

4. Topography: No major changes in topography are proposed.

5. Landscape: The proposed landscaping does not obstruct views of the elements of the adjacent Landmark District from any public ways in the Protection Area.



- Project Site
- South End Landmark District (BOS.AC)
- South End Landmark Protection Area (BOS.AD)*
- Washington-Dover Streets Area (BOS.SE)
- South End Industrial Survey Area (BOS.RK)*
- Hudson Street 89-103 (BOS.BH)
- Tyler Street 94-106 (BOS.BI)
- National Register South End Historic District (BOS.AB)

*Note: The South End Industrial District (BOS.AH) has no form on file at MHC so its precise boundaries are unknown. There are 12 inventoried properties located in the district within a one-quarter mile radius of the Project Site. Because the same 12 properties are also located in the Protection Area and the South End Industrial Survey Area, it can be assumed that the district roughly overlaps with these areas.

Inventoried Properties not within Inventoried Areas

1. BOS.12790
2. BOS.12794-12798
3. BOS.12799-127803
4. BOS.12826-12828
5. BOS.12809-12812
6. BOS.12804-12808
7. BOS.12818-12823
8. BOS.9008
9. BOS.9007

0 350 700 Feet

300 Harrison Avenue
Boston, MA

Figure 6.1

Inventoried and Listed Historic Properties within 1/4-mile Radius of the Project Site

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

300 Harrison Avenue

Boston, MA

Figure 6.2

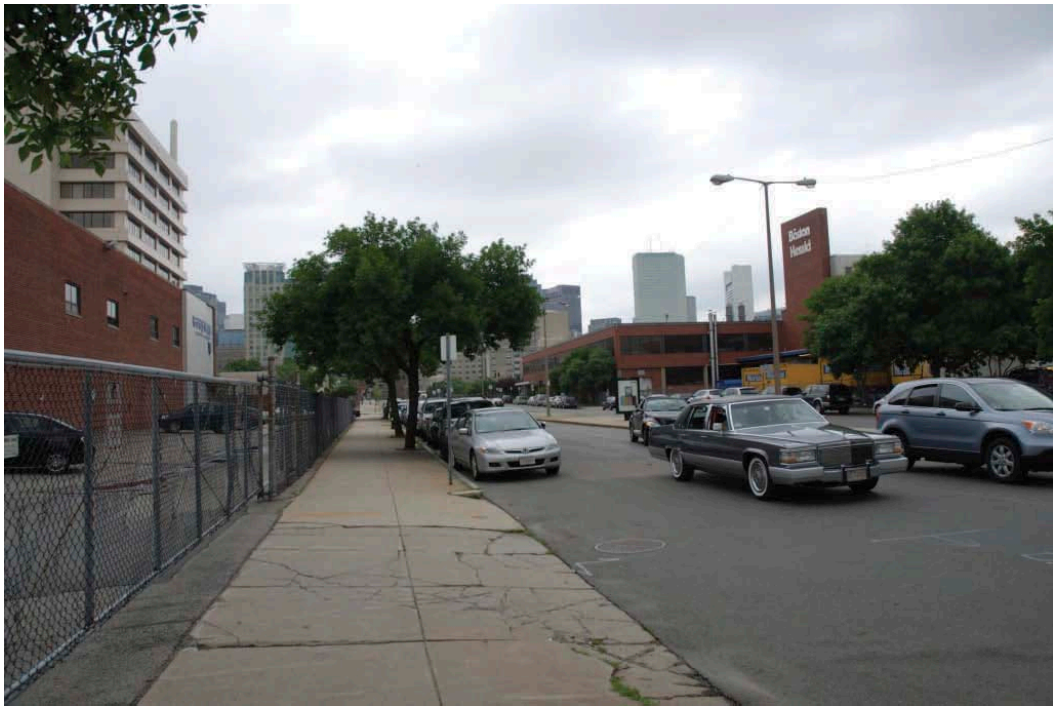
Photo Locations

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base

1. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of front (west) and north side of Herald building. Photographer facing SE, June 2011.



2. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of setting of Herald Building from Traveler Street at Harrison Ave., Photographer facing N, June 2011.

300 Harrison Avenue
Boston, MA

Figure 6.3a

Site Photographs

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base

3. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of the Herald building pylon in center rear of photo from the NW corner of E. Berkeley and Washington Streets, the corner of the South End Landmark District closest to the Herald building. Photographer facing NE, February 2011.

4. Herald Square Project, 300 Harrison Avenue, Boston, MA. View SW from Herald building towards the South End Landmark District. The building in the center is on the SW corner of E. Berkeley and Washington Streets. Photographer facing SW, June 2011.

300 Harrison Avenue
Boston, MA

Figure 6.3b

Site Photographs

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base

5. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of south side of front section of building. Photographer facing N, June 2011.

6. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of Herald building on left and Albany Street side of the Herald building block, which holds three low scale buildings. Photographer facing NW, June 2011.

300 Harrison Avenue
Boston, MA

Figure 6.3c

Site Photographs

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base

7. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of 237 (on left) and 233 (on right) Albany Street, east of the Herald building. Photographer facing SW, June 2011.

8. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of 233 (left) and 217 (right) Albany Street, east of the Herald building. Photographer facing W, June 2011.

300 Harrison Avenue
Boston, MA

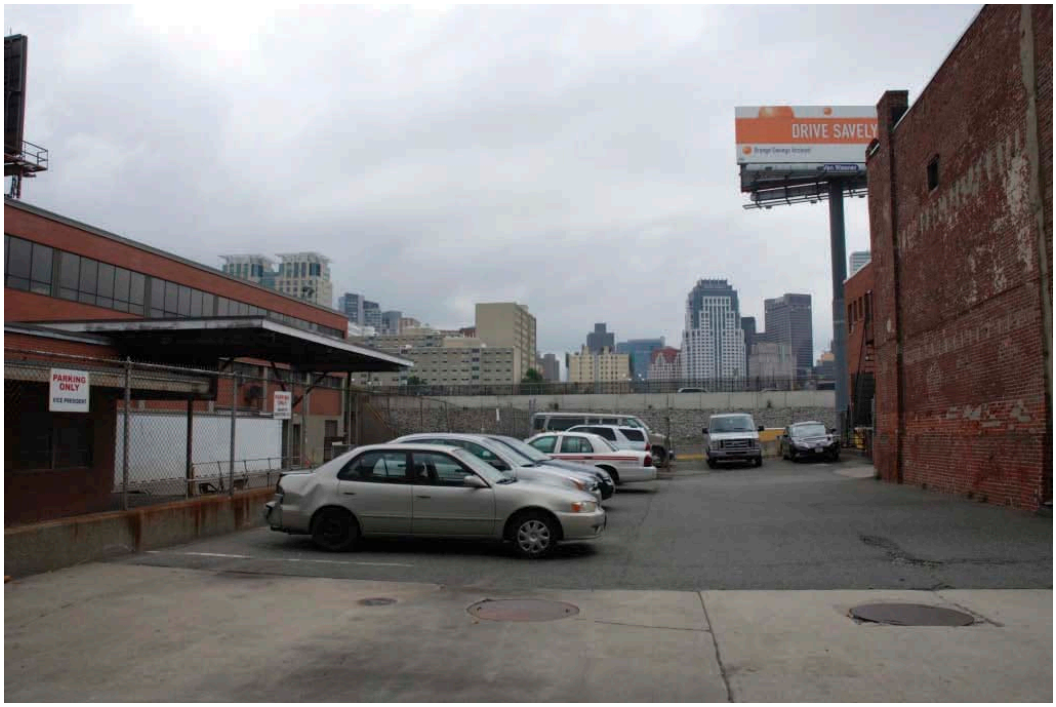
Figure 6.3d

Site Photographs

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base



9. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of area between Herald building on left and 233 and 217 Albany Street on right. Photographer facing N, June 2011.

10. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of north end of rear (east) side of Herald building. Photographer facing NW, June 2011.

300 Harrison Avenue
Boston, MA

Figure 6.3e

Site Photographs

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base

11. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of 217 and 233 Albany Street in rear and Herald building on right, from Herald Street. Photographer facing SE, June 2011.

12. Herald Square Project, 300 Harrison Avenue, Boston, MA. View of north side of Herald building from Herald Street. Photographer facing W, June 2011.

300 Harrison Avenue
Boston, MA

Figure 6.3f

Site Photographs

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: BWSC CAD base

7

Greenhouse Gas Emissions Assessment

Introduction

This chapter provides an overview of the local and state regulatory context related to sustainable design and energy conservation/greenhouse gas (GHG) emissions impacts. The main section of this chapter presents the results of the GHG emissions assessment prepared in accordance with the Executive Office of Energy and Environmental Affairs (EEA) *MEPA Greenhouse Gas Policy and Protocol* (the "Policy"). Refer to Chapter 4, *Environmental Protection* presents an outline of the proposed sustainable planning and design project goals and elements, and any corresponding performance criteria as part of the Project, in accordance with the City of Boston Zoning Code Article 37 – Green Buildings. In accordance with Article 37 of the Boston Zoning Code, the Proponent intends to incorporate state-of-the-art sustainable features into the design of each component of the Project – the retail and residential components–so that it could achieve at minimum level of "certified" under the U.S. Green Building Council (USGBC) Leadership in Environmental and Energy Design (LEED®) Green Building Rating System, or "LEED Certifiable."[1] Each component of the development has unique requirements based on its use type and users (i.e., lighting). The Proponent and project design team has and will continue to evaluate and incorporate sustainable design and energy conservation, for core and shell, as the design process continues.

■

Key Findings and Benefits

Key findings and benefits related to GHG emissions include:

- The Project will meet the MA Stretch Energy Code requirement of 20 percent energy reduction savings where some of this energy savings can be accounted for in the stationary source energy output.
- The incorporation of sustainable design principles will result in a reduction in Project-related GHG stationary source CO_2 emissions (by 16 percent) and mobile source CO_2 emissions (by 3.4 percent).
- The GHG emissions assessment demonstrates that the Project meets the intent and requirements of the MEPA GHG Policy because it estimates potential Project-related GHG emissions and evaluates and incorporates measures to reduce the GHG emissions to the extent practical and feasible.

1 LEED "certifiable" implies that a building meets the energy reduction requirements under the most appropriate LEED building rating system, but has not officially registered with the USGBC to become certified.

Regulatory Context

The following sections provides an overview of the state regulatory context related to energy efficiency and GHG emissions. Refer to the 'Consistency with Applicable Plans and Policies' section of Chapter 1, *Project Description and Alternatives* for the background on the local regulations related to sustainable design and green building construction, including the City's updated Climate Action Plan – *A Climate of Progress* as well as a discussion on how the Project addresses the Commonwealth's smart growth and sustainable principles.

MEPA Greenhouse Gas Policy and Protocol

The Executive Office of Energy and Environmental Affairs (EEA) recently developed and issued the MEPA Greenhouse Gas Emissions Policy and Protocol (the "MEPA GHG Policy") – an initiative under the MEPA review process that requires project proponents to identify and describe the feasible measures to minimize both mobile and stationary source GHG emissions generated by their proposed project(s).[2] Mobile sources consider vehicles traveling to and from a project. Stationary sources consider on-site boilers, heaters, and/or internal combustion engines (direct sources) as well as from the consumption of energy in the form of fossil fuels (indirect sources). Greenhouse gases include several air pollutants, such as Carbon Dioxide (CO_2), methane, hydrofluorocarbons, and perfluorocarbons. The MEPA GHG Policy calls for the evaluation of CO_2 emissions for a land development project because CO_2 is the predominant contributor to global warming and emissions can be reasonably calculated. This evaluation makes use of the terms CO_2 and GHG interchangeably.

The MEPA GHG Policy requires that all projects undergoing MEPA review requiring the submission of an EIR to quantify the Project's GHG emissions and identify measures to avoid, minimize, or mitigate such emissions. In addition to quantifying project-related GHG emissions, the MEPA GHG Policy requires proponents to quantify the effectiveness of proposed improvements in terms of energy savings, and therefore, potential emissions reductions. The goal of the MEPA GHG Policy is to identify and implement measures to minimize or reduce the total GHG emissions anticipated to be generated by that respective project.

Massachusetts Stretch Energy Code

As part of the *Green Communities Act of 2008*, Massachusetts developed an optional building code that gives cities and towns the ability to choose stronger energy performance in buildings than the state building code (the "Stretch Energy Code").[3] Codified by the Board of Building Regulations and Standards as 780 CMR Appendix 115.AA of the 8th edition Massachusetts Building Code, the Stretch Energy Code is an appendix to the Massachusetts building code, based on further amendments to the International Energy Conservation

2 *MEPA Greenhouse Gas Policy and Protocol*, Executive Office of Energy and Environmental Affairs, effective November 1, 2007 (revised version effective May 5, 2010).

3 Effective January 1, 2011, the City of Boston adopted the Stretch Energy Code (8th Edition Building Code, Appendix 115.AA); there is a concurrency period through June 30, 2011. Its adoption brings to Boston a standard that requires new commercial buildings over 5,000 square feet in size, including multi-family residential buildings over three stories, to operate at an energy efficiency level 20% better than that required under the base energy code criterion, ASHRAE 90.1-2007.

Code (IECC).[4] The Stretch Energy Code increases the energy efficiency code requirements for new construction (both residential and commercial) and for major residential renovations or additions in municipalities that adopt it.

In 2010, the City of Boston was designated a Green Community under the Green Communities Designation and Grant Program, an initiative of the Department of Energy Resources (DOER). In order to be designated a Green Community and, therefore, eligible for grant money available annually, communities are required to meet five rigorous qualification criteria one of which includes minimizing life-cycle costs, such as adopt and implement the Stretch Energy Code. The goal of the grant program is for a municipality to use grant money to assist residents, businesses, and the municipality departments/facilities reduce energy use or install renewable energy systems.

In order to provide consistency among communities, once adopted the Stretch Energy Code can only go into effect on January 1st or July 1st, and there must be at least six months between adoption and when the stretch code becomes mandatory.[5] For the City of Boston, the Stretch Energy Code was adopted as of January 1, 2011, and will be mandatory on July 1, 2011. The *Green Communities Act of 2008* requires that Massachusetts adopt each new IECC within one year of its release, the IECC is updated on a 3-year cycle so the next version will be IECC 2012.

The Stretch Energy Code applies to both residential and commercial buildings and, specifically, for new commercial buildings over 5,000 square feet in size, including multi-family residential buildings over three stories. The Stretch Energy Code offers a streamlined and cost effective route to achieving approximately 20 percent better energy efficiency than the state's base energy code by either meeting the performance standard of 20 percent better than ASHRAE 90.1-2007, or using a prescriptive energy code. As demonstrated herein, the Project aims to be at least 21 percent energy efficient in order to meet the Stretch Energy Code.

Greenhouse Gas Emissions Assessment

Consistent with the current MEPA GHG Policy (dated May 5, 2010), the Project has been evaluated for both stationary and mobile source GHG emissions. To provide for energy efficiency and reduced stationary source GHG emissions, the Proponent has evaluated the following three key planning and design criteria:

1. Methods to reduce overall energy demand through appropriate design and sizing of systems;
2. Methods to incorporate cost-effective energy-optimizing systems; and
3. Methods to supplement the required energy demand with self-generated energy (e.g., on-site renewable energy source).

4 The International Energy Conservation Code (IECC) is a building energy code created by the International Code Council. It is a model code adopted by many state and municipal governments in the United States for the establishment of minimum design and construction requirements for energy efficiency, and is updated on a three year cycle. Since July 1, 2010, the baseline energy conservation requirements of the MA State Building Code defaulted to the latest published edition, currently the IECC 2009, with Massachusetts amendments as approved by the Board of Building Regulations and Standards.

5 Massachusetts Department of Energy Resources, *Q&A for MA Stretch Energy Code Appendix 780CMR 115.AA*, February 2011. (website: http://www.mass.gov/Eoeea/docs/doer/green_communities/grant_program/Stretch-Code-QA-Feb10-2011.pdf)

Summary of Findings of the GHG Assessment

The stationary source assessment has identified supplemental elements, beyond those elements required in the 8th Edition of the Massachusetts State Building Code, (the "Building Code"), including compliance with the Massachusetts Energy Stretch Code,[6] that will be implemented to reduce the stationary source GHG emissions related to the Project. In some identified instances, the Proponent has had to make assumptions on certain Project elements, such as interior fit-out and specific HVAC equipment efficiency ratings. These assumptions have been used to calculate the estimated GHG emissions reduction associated with the Project, which result in an approximately 16 percent reduction in stationary source GHG emissions when compared to the Building Code-compliant development standard. The Proponent is committed to design and construct the Project to meet the criteria to become LEED Certifiable, as discussed earlier.

In order to provide the Proponent with the flexibility necessary to develop a Project that is marketable and viable to a variety of potential users, the Proponent is committed to implementing a performance standard of 20 percent improvement in energy efficiency (at minimum) through incorporation of same or comparable measures to those identified. Based upon the building uses, the Project will achieve an overall 16 percent reduction of the Project's stationary source GHG emissions by implementing a variety of building improvements over the MA Building Code minimum requirements. The specific improvements may be subject to design modification as needed to achieve the GHG emissions reduction based on the final building program and design.

The mobile source analysis estimated the area-wide GHG emissions from vehicle traffic for a period of one year. The change in GHG emissions from traffic were based on the average yearly traffic volumes, roadway lengths and vehicle emissions factors for existing and new trips for weekday and weekend conditions. Using the EPA's COMMUTER model Version 2.1,[7] the mobile source analysis also calculates changes in GHG emissions due to proposed roadway mitigation measures and transportation demand management program as detailed in Chapter 3,*Transportation*. Mobile source GHG emissions are based upon actual and estimated traffic volumes, distance traveled and the applicable GHG emission rates. The COMMUTER model evaluates the study area and the proposed Project to identify mitigation measures that would reduce, or eliminate, vehicle trips and mobile source GHG emissions. Using these traffic parameters, the Project will result in an approximately three percent reduction in mobile source GHG emissions when compared to the Project-generated mobile source emissions.

Stationary Source CO_2 Emissions Assessment

The following section describes the methodology for calculating direct and indirect stationary source CO_2 emissions and presents the results for all analyses.

6 Appendix 120.AA, known as the Stretch Energy Code, was adopted by the Massachusetts Board of Building Regulations and Standards in May 2009, as an optional appendix to the Massachusetts Building Code 780 CMR.

7 COMMUTER, version 2.0 release from EPA (U.S. Environmental Protection Agency)

Stationary Source Assessment Methodology

Direct stationary source CO_2 emissions include those emissions from the facility itself, such as boilers, heaters, and internal combustion engines. Indirect stationary source CO_2 emissions are derived from the consumption of electricity, heat, or cooling from off-site sources, such as electrical utility or district heating and cooling systems. The direct and indirect stationary source CO_2 emissions from the proposed building sources are calculated using the computer-based eQUEST model[8] based on assumptions for the Project's building elements, such as (but not limited to) the specific type of use(s) of the building, building configuration and architecture type, interior fit-out, HVAC equipment efficiency ratings, and the implementation of a Building Management System. As described in Chapter 1, *Project Description and Alternatives*, the proposed mixed-use program includes a total of approximately 548,900 square feet, including ground-floor retail and/or restaurant space with residential on the upper floors. The proposed building configuration and project elements were evaluated at a planning level. Because the Project is in schematic planning stages at the time of this filing, various assumptions related to building architecture, interior fit-out, and some operational measures are assumed (these assumptions are listed in the 'Stationary Source-Related Improvements' section below).

The eQUEST model estimates the amount of energy consumed by buildings from their projected electricity and gas usage based on building design and system assumptions using Appendix G, ASHRAE 90.1-2007.[9] The amount of consumed energy is then converted into the amount of CO_2 emitted using the standardized conversion factor.[10] The stationary source assessment calculated CO_2 emissions for the following two build conditions:

- **2016 Build Condition with MA Building Code**: The Project assuming typical construction materials and building equipment/systems that meet the minimum requirements of the MA Building Code (8th Edition), or the base code.[11]
- **2016 Build Condition with Stretch Energy Code (Design with Improvements):** The Project assuming building design and system improvements in order to meet the MA Stretch Energy Code.[12] Based on the current design and preliminary building modeling results, the Proponent is committed to implementing the Project to meet the Stretch Energy Code requirement of 20 percent energy reduction savings where some of this energy savings can be accounted for in the stationary source energy output. The energy reduction that can be accounted for in the stationary source assessment presented herein accounts for a reduction of 297 tons per year in greenhouse gas (CO_2) emissions.

8 eQUEST (the Quick Energy Simulation Tool), version 3.60 release from James J. Hirsch, DBA James J. Hirsch & Associates, Camarillo, CA.
9 US Green Building Council, *LEED 2009 for New Construction and Major Renovations Rating System*, USGBC Member Approved November 2008 (Updated February 2011).
10 906 lb CO2/MWh was used to convert electricity consumption into the amount of CO2 emissions (2007 ISO-New England Marginal Emissions Report). 117.08 lb CO2/Mbtu was used to convert gas consumption into the amount of CO2 emissions (The Energy Information Administration Documentation for Emissions for GHG).
11 Massachusetts Building Code 780 CMR, 8th Edition, August 2010.
12 Massachusetts Building Code Appendix 120.AA, 'Stretch' Energy Code, adopted by the Massachusetts Board of Building Regulations and Standards in May 2009.

Future Build Stationary Source CO_2 Emissions

The following section presents the findings of the stationary source (direct and indirect) assessment for the Project. As described above in the 'Stationary Source Analysis Methodology' section, the stationary source CO_2 emissions assessment quantifies the direct and indirect stationary source CO_2 emissions for the future build conditions. The Project's building sources include direct emissions such as boilers, heaters, and internal combustion engines as well as indirect emissions from the consumption of energy. The Project will also generate CO_2 emissions through electricity use and burning of fossil fuels.

As presented in Table 7-1, under the 2016 Build Condition with MA Building Code, the CO_2 emissions are estimated to be 1,864 tons per year. This condition, which serves as a baseline for which to compare an improved condition, assumes that the Project would be constructed according to MA Building Code, 8th Edition (amended August 2010).

With the building design and system improvements in place, under the 2016 Build Condition with Stretch Energy Code (Design with Improvements), the direct and indirect stationary source CO_2 emissions for the Project are estimated to be approximately 1,567 tons per year, which represents a reduction of 297 tons per year, or a 15.9 percent, compared to the MA State Building Code Condition (Table 7-1). These reductions are due to the assumed building design improvements, including higher-efficiency boilers, energy recovery ventilation and air cooled chillers, energy star equipment, energy efficient windows and glazing treatments. The stationary source CO_2 emissions percent reduction for the Project under the 2016 Build Condition with Stretch Energy Code (Design with Improvements) was quantified as follows:

$$Reduction\ \% = \frac{Reductions\ Due\ to\ Project\ Improvements}{Project\text{-}Generated\ Emissions}$$

The percent reduction in stationary source emissions due to Project improvements is:
297/1,864 = 0.1593 x 100 = 15.9%.

Table 7-1
Stationary Source CO_2 Emissions (tons per year)

2016 Build Condition with MA Building Code (Base Code)[1]	2016 Build Condition with MA Stretch Energy Code (Design with Improvements)[2]	2016 Reductions Due to Project Improvements	Percent Reduction of Project Improvements to Project Emissions
1,864	1,567	297	16%

1. The proposed mixed-use program includes a total of approximately 548,900 square feet, including ground-floor retail and/or restaurant space with residential on the upper floors (approximately 85,000 sf of retail and 463,900 sf/471 units of residential) using typical construction materials and rooftop equipment that meet the minimum requirements of the MA Building Code.
2. Includes the current Project assuming some level of building improvements better than the MA Building Code requirements consistent with the MA Stretch Code using Appendix G of ASHRAE 90.1-2007 modeled with eQUEST and Energy Star Commitments. Refer to the 'Stationary Source-Related Improvements' section below.

As listed in the 'Proposed Stationary Source Project Improvements' section below, the 2016 Build Condition with Stretch Energy Code (Design with Improvements) includes building design and system improvements

assumed at this stage of design that were accounted for in the eQUEST model (refer to Table 7-2). Refer to Appendix G of this PNF/EENF for the model inputs and results. The proposed building design and system improvements have been developed to meet the MA Stretch Energy Code requirement of 20 percent better. In addition, the building will be LEED Certifiable, in accordance with the Article 37 of the City of Boston Zoning Ordinance. As shown in Table 7-1, it is anticipated that this energy reduction, in part, will be accomplished by implementation of mitigation measures in the core and shell of the buildings. The GHG mitigation measures can be divided into the building's construction materials, architecture, and heating and cooling processes. Additional improvements that were not included in the eQUEST model are expected to further reduce energy usage as well as greenhouse gas (CO_2) emissions, discussed below.

Stationary Source CO_2 Emissions Project Improvements

Substantial efforts have been made to ensure that the use of energy to heat and cool the building has been minimized. The Proponent has committed, at this early stage of conceptual design, to integrate energy efficient design- and system-related improvements to meet the MA Stretch Energy Code resulting in a reduction of Project-related stationary source GHG emissions (when compared to the minimum MA Energy Code requirements). The stationary source GHG emissions reductions associated with the proposed building improvements, such as architectural design and treatments, were quantified as part of the eQUEST model, as presented in Table 7-2.

Other beneficial improvements that are not included as part of the eQUEST model or are associated potential GHG emissions reductions not quantifiable at this stage of conceptual design are also discussed. Additionally, through the development of a Tenant Manual, the Proponent is committed to working with the future Projects' tenants to incorporate energy reduction measures as part of their construction and/or fit-out, which will ensure meeting the CO_2 emissions benefits (reductions) calculated in this assessment and possibly resulting in additional stationary source CO_2 emissions benefits. To assist future building tenants in evaluating and/or implementing an energy efficient fit-out of their space, the Proponent will include energy-efficient options to consider in the standard commercial interior specifications as part of the leasing or other tenant information materials to be prepared for the Project, where applicable.

Site and Building Design Improvements

Table 7-2 presents the proposed building improvements most of which were included as part of the eQUEST model. It is anticipated that the implementation of the above-mentioned mitigation measures will be implemented in the core and shell of the buildings. The specific improvements may be subject to design modification as needed to achieve the GHG emissions reduction based on the final building program and design.

Table 7-2
Proposed Building Improvements Assumed as part of the eQUEST Model

Design Element	MA State Building Code	Proposed Improvement (in accordance with the Stretch Energy Code)
Heat Pump	EER = 11.2 for pumps up to 1.5 ton; EER = 12 for pumps above 1.5 ton	EER = 13 for pumps up to 1.5 ton; EER = 13.5 above 1.5 ton.
Roof Top Unit/Air Conditioner: 5000 CFM,100% outside air	EER = 10.8.	EER = 11.8.
Grocery Roof Top Unit	EER = 10.8	Suggest EER = 12; Evaporative RTU would be 14 minimum
Lighting	Maximum allowed	20% below code, with fixture and lamps sections and occupancy controls
Energy Management System	None; electric controls	Central plant with electric control at apartments. Water source heat pumps.
Apartment toilet exhaust:	Continuous, 80 CFM/toilet plus make-up air	Continuous variable air volume (VAV), at 40 CFM/toilet room, plus make-up air
Dryer booster exhaust fan	Continuous, 100 CFM/apartment plus make-up air	Ventless dryers; no fan on roof, no make-up air
Garage exhaust	0.75 CFM/SF, continuous operation	CO sensor/controls, 0.05 CFM/SF for 20 hrs/day, 0.75 CFM/SF for 4 hrs/day
Windows: Use of windows with lower heat gain to reduce summer cooling demand	U=0.45, SHGC = 0.40	Suggest U=0.29, SHGC = 0.30
Roof: Use of higher insulation for roof construction	R-20 ci	Suggest R=27 ci
Water Conservation and Wastewater Reduction	Existing Conditions	Integrated Planning; 35% Reduction
Walls: Use of higher insulation for exterior walls	R-13 + R-7.5 ci	R-13 + R-7.5 ci
Exterior Lighting	Lighting Density= 0.2W/sf	Lighting Density= 0.15W/sf LED Lighting will be used for public spaces and internal walkways

Note: The Proponent's commitment to sustainable design and emissions reduction measures through the implementation of some combination of these measures, which will be finalized upon the identification of Project users/tenants in order to meet the MA Stretch Code requirements and to become LEED certifiable and, therefore, achieve a reduction in GHG emissions, in accordance with the MEPA GHG Policy.

For the potential grocery use, the Proponent has consulted the Grocery Store 50% Energy Savings Technical Support Document (TSD) at the suggestion of the DOER.[13] The TSD was developed by the Commercial Buildings Group at National Renewable Energy Laboratory (NREL), under the direction of the U.S. Department of Energy Office of Energy Efficiency & Renewable Energy's Building Technologies Program. The TSD documents technical analysis and design guidance for grocery stores to achieve whole-building energy savings of at least 50 percent compared to baseline models that satisfy ASHRAE 90.1-2004 and ASHRAE 90.1-2007. The following energy efficiencies referenced in this study have been incorporated into the potential grocery component of the Project:

- Improved lighting technologies to reduced lighting power density,
- Core and shell Improvements such as skylights, overhangs, HVAC equipment, higher efficiency equipment and demand control ventilation systems,
- Higher efficiency refrigerated cases, and evaporative cooling tower condensers.
- Hot water condensers with up to 93% efficiency, and
- Oversized cooling towers to allow a 20% reduction in motor size.

Other Beneficial Improvements

The below-mentioned Project-related improvements are expected to provide further reduce stationary source CO_2 emissions, but are either not quantifiable as part of the eQUEST model or at this stage of conceptual design.

Water Source Heat Pumps

The Proponent will install water source heat pumps for the Project. When properly designed and installed, they not only reduce energy use, but lower maintenance costs and extend equipment life since they have no exposed outdoor equipment. They are very simple devices and have only a slight difference from traditional heat pumps. While the added cost of a ground loop, lake loop, or water well is substantial, the simple water/ground source heat pump itself should cost no more than a standard heat pump and much less than the interior components of larger building HVAC systems.

Building Commissioning and Energy Management

The Proponent is committed to ensuring that the energy systems are maintained and operate properly. In order to meet the requirements of LEED, the Proponent will commit to commissioning of building energy systems (Prerequisite EA1) to ensure that building HVAC systems are calibrated and working as efficiently as they are intended. The Proponent is also investigating engaging an independent, or third party, commissioning authority to perform on-board design reviews and re-commission the building systems after occupancy, per the requirements of LEED credit EA3 – Enhanced Commissioning. Additionally, as part of LEED credit EA5 - Measurement and Verification, the appropriate use of measurement and verification equipment will be evaluated as building systems are selected. Property management is expected to perform on-going reviews of system operation, environmental conditions and indoor air quality, energy and water use, and the potential for improvements and innovations.

13 Leach, Matthew, et al., National Renewable Energy Laboratory, *Grocery Store 50% Energy Savings Technical Support Document*, Technical Report NREL/TP-550-46101, September 2009. (website: http://www.nrel.gov/docs/fy09osti/46101.pdf)

Energy Star Equipment

While non-regulated process load appliances, such as computers, copiers, and kitchen equipment are not included as part of the EQUEST building energy model, an estimated 30 percent reduction in energy use was taken off of the miscellaneous electricity to account for Energy Star products in the tenant spaces.[14] With users not fully identified at this time, it is not possible to accurately estimate the number and/or type of these appliances, which depend, in large part, on the nature of the ultimate Project users. However, the Proponent intends to request that future users meet energy conservation requirements where possible, such as using Energy Star products in the tenant spaces, which will reduce the overall electricity consumption and, therefore, reduce stationary source CO_2 emissions. The Proponent intends to identify the installation of Energy Star appliances as well as other specific energy conservation measures as part of the Project Tenant Manual outlined in a section dedicated to energy conservation.

Renewable Energy Evaluation

The Proponent has and will continue to consider and evaluate opportunities for supporting renewable energy, where applicable and feasible as project design advances. As part of this GHG assessment, the Proponent conducted a preliminary evaluation of wind, solar, and geothermal power as well as the purchase of renewable energy credits.

Wind Power

Wind power can be produced by wind turbines. The installation of a wind turbine requires a fall/safety zone. The Proponent will follow up with an evaluation by a third party installer for the cost effectiveness of a wind turbine system which will require a review of the wind strength and pattern, the identification of a proposed site, the permitting issues and cost.

Solar Power

Solar, or Photovoltaic (PV), panels are comprised of an array of small solar cells that convert sunlight to electricity. The constant and significant improvements in PV technologies are making PV systems lighter and more cost efficient. The Proponent is committed to evaluating the potential for a future PV system installation as an on-site renewable energy option. To support this commitment, the proposed buildings with flat open areas greater than 20,00SF will be designed to accommodate the weight and wind load associated with a typical/currently available PV system installation.

The estimated buildings' roof areas are presented in Table 7-3. Based on the site layout and potential usable roof areas there does not appear to be any areas that would lend themselves to a PV system. All of the usable roof areas are estimated to be under 20,000SF which generally would not work for a commercial PV system. The one roof that comes close is the Grocery section of Building 2 however, because this building is lower than the residential portion of the building there would shadow issues as well as aesthetic/solar glare issues for the residences overlooking the lower roof section.

14 Compared to standard office equipment (non-Energy Star rated), Energy Star-qualified office equipment imaging products and appliances used 30 to 75 percent less electricity according to the Energy Star website: http://www.energystar.gove/index.cfm?c=ofc

Table 7-3
Potential Roof Area for Solar Power

Building	General Roof Area	Potential Usable Roof Area[1]	Potential for Solar Power (>20,00KSF)
Building 1	11 KSF	1 KSF	No
Building 2 (Residential Section)	26 KSF	16 KSF	No
Building 2 (Grocery+ Section)	29 KSF	19 KSF	No[2]
Building 3	10 KSF	0 KSF	No
Building 4	20 KSF	10 KSF	No

1 Usable roof area was assumed to be area less 10kSF which is reserved for other roof equipment.
2 The roof area is close to being a possibility however because of the because this portion of the building is lower than the residential portion there would shadowing issues as well as aesthetic/solar glare issues for the residences overlooking the lower roof section.

Geothermal Power

Geothermal power can be an attractive energy source of energy because, in most locations, the heat can be obtained more cheaply than from most any alternative; however, the energy contained in geothermal resources, in contrast to other sources like oil and gas, is at a relatively low heat concentration. The generation of electricity using geothermal technology to lower resource temperatures, or in very small plant sizes, absent unusual considerations, while technically feasible, is not an appropriate economic choice. Additionally, design and construction of a geothermal heat pump system is not a cost effective approach for the Project because of the readily available gas and electric utility infrastructure existing at the Project Site and to the existing building (to be reused). Furthermore, higher maintenance requirements are anticipated for geothermal systems as well as the limited flexibility of a water source heat pump system. Therefore, it was concluded that geothermal power is not a cost-effective measure for the Project and that resources would be better spent on high-efficient building systems/improvements.

Green Power/Renewable Energy Credits

Renewable Energy Credits (RECs), or Green Power, consists of the purchase of electricity from the energy provider that was generated using renewable energy off-site, such as water, solar, wind, or geothermal resulting in the reductions of CO_2 emissions associated with the Project. The purchase of RECs or Green Power depends on the availability from the ultimate provider and the final design of the Project. As part of the LEED certification process, the Proponent has evaluated the feasibility of purchasing RECs a under the EA Credit 6 – Green Power. It has been determined that obtaining this LEED credit would be costly and is difficult to apply to a residential building where tenants have separate meters. Additionally, the LEED credit requires only a two-year contract and, therefore, would not result in CO_2 emissions benefits in the long-term. It is for these reasons that the Proponent has determined it would be most beneficial for to invest in building improvements, such as high efficiency systems or lighting instead of RECs or off-site Green Power. Proponent is committing to the stretch code requirements where the building will provide 20 percent greater building energy efficiency that the Massachusetts Building Code.

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Mobile Source CO_2 Assessment

The following section describes the methodology for calculating mobile source GHG emissions and presents the results of the assessment for all analysis conditions.

Mobile Source Assessment Methodology

The GHG mobile source analysis was conducted following procedures similar to the ozone mesoscale analysis. Mobile source GHG emissions are based upon the traffic volumes, the distance traveled and the GHG emission rates. The mobile source emissions are calculated by performing a yearly mesoscale analysis to evaluate the changes in CO_2 emissions for the existing and future conditions within the traffic study area. The air quality study includes an analysis of the ozone precursor emissions (mesoscale analysis). The mesoscale analysis estimates the area wide CO_2 emissions from vehicle traffic for a time period of one year. Mobile source emissions were calculated by performing an annual GHG emissions mesoscale analysis to evaluate the estimated change in CO_2 emissions for the existing and future conditions within the study area. The future year of analysis was selected such that it is consistent with MEPA's GHG Policy, which requires that a project look five years into the future from the current year of analysis. The mobile source CO_2 assessment was conducted for the following conditions:

- **2011 Existing Condition:** reflects existing traffic volumes in the traffic study area.
- **2016 No-Build Condition:** assuming no changes to the Project Site and background growth associated with other planned projects and general background regional growth; and
- **2016 Build Condition:** assuming the 2016 No-Build Condition background growth with the Project fully constructed and in operation.
- **2016 Build with Mitigation Condition:** assuming the 2016 No-Build Condition background growth with the Project fully constructed and in operation with all proposed transportation-related mitigation measures in place, including TDM measures.

The GHG analysis also calculates the changes in CO_2 emissions due to the traffic mitigation measures and TDM program using the EPA's COMMUTER[15] model Version 2.1 and appropriate traffic procedures. The COMMUTER model evaluates the Study Area and the Project to identify measures that would reduce, or eliminate, vehicle trips and mobile source GHG emissions.

Mobile Source Emission Rates

Currently MOBILE6.2 has a simple estimate of CO_2 emissions factors that do not vary by speed, temperature, fuel content, or the effects of vehicle inspection maintenance programs. It was determined that the study area was large enough to assume that variation in these parameters does not have a significant net effect. The emission rates calculated in this air quality study are adjusted to reflect Massachusetts-specific conditions.

15 COMMUTER, Version 2.1 released from the U.S. Environmental Protection Agency.

Traffic Data

The air quality study used traffic data (volumes, delays, and speeds) developed for each analysis condition. The mesoscale analysis for CO_2 emissions used a yearly traffic volume for weekday and weekend periods. Vehicle speeds are developed based upon traffic volumes, observed traffic flow characteristics, and roadway capacity.

Existing Mobile Source CO_2 Emissions

Table 7-4 presents CO_2 emissions from mobile sources under all conditions. The calculation of 2011 Existing Condition mobile source emissions provides a base for which future years are evaluated. The mobile source analysis calculated the 2011 CO_2 emissions from the major roadways in the study area. These emissions, estimated to be 14,451 tons/year, establish a baseline to which future emissions can be compared.

Future Mobile Source CO_2 Emissions

Future Project-related mobile source CO_2 emissions calculations are based upon changes in traffic and emission factor data. The traffic data includes traffic volumes, vehicle miles traveled, roadway operations, and physical roadway improvements. The emission factor data included emission reduction programs, years of analysis, and roadway speeds. While not included in the mobile source GHG analysis, the proposed Project will include an on-site Electric Vehicle charging station, as discussed further below in the *Mobile Source Emissions Project Improvements* section that will reduce energy demand and GHG emissions.

The mobile source analysis estimated the future study area CO_2 emissions due to the changes in traffic and emission data. Under the 2016 No-Build Condition, CO_2 emissions were estimated to be 15,920 tons per year. Under the 2016 Build Condition, the CO_2 emissions were estimated to be 16,569 tons per year. Specific details of the proposed improvements that will help to reduce mobile source project emissions are discussed below.

The mobile source CO_2 emissions percent reduction for the Project under the Build Condition: Design with Improvements was quantified as follows:

$$Reduction\ \% = \frac{Reductions\ Due\ to\ Project\ Improvements}{Project\text{-}Generated\ Emissions}$$

The percent reduction in mobile source emissions due to Project improvements is:
22/649 = 0.0339 x 100 = 3.4%.

Table 7-4
Mobile Source CO_2 Emissions Analysis Results (tons per year)

Analysis Condition	2011 Existing Conditions	2016 No-Build Conditions	2016 Build Conditions	Project-Related CO_2 Emmission[1]	2016 Build with Mitigation Conditions	2016 Build vs. Build with Mitigation (difference)[2]	Percent Reduction of Project Improvements to Project Emissions
Project Study Area	14,451	15,920	16,569	649	16,547	22	3.4%

1 Represents the difference in CO_2 emissions between the Build and No-Build Conditions.
2 Represents the difference in CO_2 emissions between the Build with Improvements and the Build Conditions.

While the mobile source analysis calculated GHG reductions based upon TDM measures (presented in Chapter 3, *Transportation*), it is important to point out that the VMT for the 2016 Build Condition includes reductions in trips due to improved transit and pedestrian access that result in lower GHG emissions than would be the case if the Project were located in a different area. For example, the Project-generated vehicle trips were reduced by approximately 50 percent due to the urban location, access to public transit, and pedestrian usage.

As represented in Table 7-5, a total reduction of 22 tons per year of mobile source CO_2 emissions, or a 3.4 percent reduction from the 2016 project emissions, would result under the 2016 Build with Mitigation Condition due to roadway operations and physical roadway improvements.

Table 7-5
Total Daily New Trips by Trucks, Employees, and Customers[1]

Total Daily Trips (in + out)

	Total Trips	Employee Trips	Other Trips (Customers/Residents)	Trucks[2]
Residential	1,698	N/A	1,698	Neg.
Retail/Grocery	1,626	160	1,446	20
Streetfront Retail	2,090	194	1,878	18
Total	5,414	354	5,022	38

	Trips	Percent of Total
Trucks	38	0.7%
Employees	354	6.5%
Customers	5,022	92.8%
Total	5,414	100%

1 Not including transit trips, bikes or pedestrians. Volumes represent total trip generation for the Project – no reduction or credit applied to reflect existing or former use of site.
2 Source: (FHWA) *Quick Response Freight Manual.* Truck generation for grocery store assumed to be double standard soft-good retail rate of 0.324 truck trips per 1,000 sf.

The mobile CO_2 emissions were further broken down by trip type, as presented in Table 7-5. This breakdown was based on the trip generation analysis from the traffic study. Table 7-6 presents the percentage breakdown of mobile source GHG emissions by trip type. The total Project-related mobile source GHG emissions from are 649 tons per year.

Table 7-6
Mobile CO_2 Emissions by Trip Type (tons per year)

Total Emissions from Proposed Projects = 649 tons/year[1]		
Trip Type	Percent of Total	CO_2 Emissions
Trucks	0.7%	4.5
Employees	6.5%	42.2
Residences/Customers	92.8%	602.3
Total	100%	649

1 Based on Table 7-4: Mobile Source CO_2 Emissions Analysis Results.

Mobile Source CO_2 Emissions Project Improvements

The following summarizes the on- and off-site transportation mitigation measures which are expected to result in a reduction of mobile source CO_2 emissions:

- Roadway and signal timing improvements
- Reduce curb cuts and provide new signage to improve site access and roadway circulation
- Implement a TDM plan to reduce vehicle traffic trips
- Promote alternative modes of transportation through the creation of a new Mobility Hub
- Limit on-site parking for future residents (0.75 spaces/unit)

The transportation-related improvements are shown on Figure 3.20. In addition to these general improvements, the Proponent is committed to providing a Mobility Hub, which is expected to help reduce the mobile source greenhouse gas emissions and further support existing infrastructure initiatives in Massachusetts. The proposed Mobility Hub is anticipated to include:

- Electric Vehicle Charging Stations
- Zip Cars
- Public Bicycles
- Transit Schedules

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Conclusion of the GHG Emissions Assessment

The overall sustainable design goals and specific sustainable design and operational measure demonstrate that the Proponent is committed to construction and operating a sustainable and environmental-sensitive

development. The incorporation of these sustainable design principles will result in a reduction in Project-related GHG stationary source and mobile source emissions.

The GHG emissions assessment demonstrates that the Project meets the intent and requirements of the MEPA GHG Policy because it estimates potential Project-related GHG emissions and evaluates and incorporates measures to reduce the GHG emissions to the extent practical and feasible. The GHG emissions assessment is based upon the best information available at the current planning phase. The Project will meet the MA Stretch Energy Code requirement of 20 percent energy reduction savings where some of this energy savings can be accounted for in the stationary source energy output. Because tenants and users are not yet fully identified, the Proponent reserves the right to substitute comparable GHG reduction measures in order to achieve the GHG reduction commitment presented herein as Project design advances.

8

Proposed Mitigation and Draft Section 61 Findings

Introduction

As required by 301 CMR 11.07(6)(j) of MEPA, this chapter presents a consolidated overview of the proposed mitigation and other environmental and community benefits proposed in order to minimize potential impacts from the Project. The draft Section 61 Findings are provided at the end of the chapter.

Summary of Public Benefits

Project-related benefits include housing creation, urban design improvements, job opportunities, expanded retail options, and additional tax revenues. By replacing an underutilized industrial building, the Project will substantially contribute to improving the pedestrian and retail vitality, as well as the urban design and architectural character of the area. Specific public benefits include:

Neighborhood Design Benefits

- Redevelop an underutilized, isolated, and inaccessible industrial property, which since the mid-1950s has resulted in a high number of single-occupancy and truck trips into a vibrant transit- and pedestrian-oriented mixed-use development.
- Transform Harrison Avenue into a main residential entrance with a welcoming presence, including seasonal outdoor seating and new neighborhood retail shops. The main entrance for grocery/retail and parking will be from Herald Street.
- Encourage pedestrian activity through new retail and residential uses creating liveliness along Harrison Avenue as an extension of the South End neighborhood and connection to Chinatown.
- Support the BRA's Strategic Plan by:
  - Introducing a dense urban mix of interactive neighborhood uses, including "18-hour" commercial and residential uses;
  - Creating a more walkable, pedestrian-friendly site and area through improved street frontage along Harrison Avenue and a pedestrian node at William E. Mullin's Way;
  - Improving the public realm though streetscape enhancements consistent with the Strategic Plan Streetscape Guidelines; and

  - Increased building heights and density.
- Introduce high-quality architecture and diverse architecture styles to provide a transformative effect for the neighborhood.
- Provide new public realm benefits, including sidewalks with increased width and streetscape enhancements.
- Revitalize an underutilized urban area, use land efficiently, promote the use of alternative modes of transportation, encourage pedestrian activity, and improve water quality.
- In accordance with Article 37 of the Boston Zoning Code relative to the City's Green Building policies and procedures, the Proponent intends to incorporate state-of-the-art sustainable features into the design of each component of the Project – the retail and residential components–so that it could achieve at minimum level of "Certified" under the U.S. Green Building Council (USGBC) Leadership in Environmental and Energy Design (LEED®) Green Building Rating System, or "LEED Certifiable."[1]

Site Improvements

- Provide new site landscaping treatments and hardscape design elements.
- Provide new energy-efficient and "night-sky friendly" site lighting fixtures.
- Implement streetscape improvements along the Project Site frontage.
- Reduce, reuse, and rehabilitate existing unattractive surface parking (typically occupied by large Boston Herald delivery vehicles parked during daytime hours) with a well-landscaped and well-lit surface parking and a new parking deck hidden from the public walkways.
- Increase pervious area through Low Impact Design (LID) elements (stormwater infiltration systems and vegetated areas) to promote the infiltration of stormwater runoff into the ground and evapotranspiration, in accordance with the Groundwater Conservation Overlay District (GCOD) and DEP Stormwater Management Policy; thereby, reducing the rate and quantity of stormwater discharged to the drainage system and Boston Harbor.
- The quantity of stormwater runoff resulting in, which will have a positive impact due to the reduced loads on BWSC's drainage system.

Transportation Improvements

- Enhance pedestrian safety and circulation through improved/upgraded sidewalks and street crossings, and improved illumination of pedestrian walkways.
- Provide new transit-accessible retail and residential uses (reduced single-occupancy vehicle trips to the Site).
- Promote efficient roadway traffic circulation with reduced curb cuts and new signage.
- Provide pavement markings, lane demarcation, and/or striping to discourage unsafe traffic maneuvers from Albany Street exit to the existing I-93 ramp.

1 LEED "certifiable" implies that a building meets the energy reduction requirements under the most appropriate LEED building rating system, but has not officially registered with the USGBC to become certified.

- Provide new bicycle facilities (in coordination with BTD), including on-site bike storage for retail customers and employees as well as covered/secure bike storage for residents. The Project Site is in close proximity to an existing bike trail that is planned to be extended.
- Create the opportunity for a "Mobility Hub," including ZipCar®, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking.

Infrastructure Improvements

- Utilize the existing adequate infrastructure capacity requiring no major infrastructure upgrades.
- Upgrade on–site drainage system resulting in reduced rates and quantities of stormwater discharged to the drainage system and Boston Harbor.

Economic and Community Benefits

- Create 250 to 450 construction jobs in all trades.
- Create approximately 60 to 75 new transit-accessible employment opportunities (permanent part-time and full-time jobs).
- Increase annual property tax revenue for the City of Boston ($1,000,000).
- Provide for substantial investment ($500,000) in streetscape and public realm improvements.
- Provide approximately 471 new units of housing in close proximity to downtown Boston 62 units of which will be affordable rental housing (15 percent of the market rate units).

Transportation

Figure 3.20 shows the on- and off-site transportation improvement proposed as part of the Project. Based on the potential Project-related impacts, background growth, nearby proposed projects, and consultation with the City of Boston and MassDOT, the Proponent is committed to providing transportation-related mitigation measures, including off-site roadway improvements and measures to encourage alternative modes of transportation, such as improved conditions for bicyclists and pedestrians. These measures are intended both to mitigate potential impacts associated with the additional Project-related traffic, and to help address existing traffic operational and safety deficiencies where possible.

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Off-Site Roadway Improvements

The Proponent is committed to supporting the City's transportation initiatives in the direct vicinity of the Project Site, as outlined in the Harrison-Albany Corridor Strategic Plan. To help support and accommodate the City's transportation initiatives, the Proponent will provide the following mitigation measures:

- **Traveler Street/Harrison Avenue.** To reallocate approximately 10 to 12 seconds of green time from Traveler Street to Harrison Avenue. Accordingly, the Proponent will coordinate with BTD to determine the exact nature of any signal timing revisions at this location, which is part of the city-wide coordinated signal system.

- **Herald Street/Albany Street.** While there are no apparent capacity-enhancing measures that could be implemented, the crash analysis presented earlier in Chapter 3, *Transportation* indicates that this intersection experiences crashes at a lower expected rate, this location could still benefit from a Roadway Safety Audit (RSA). If such an effort has not already recently been undertaken, the Proponent would conduct a RSA to identify potential safety issues and possible opportunities for safety improvements considering all roadway users. This effort would be coordinated with MassDOT, the City of Boston, and other stakeholders so that measures can be identified to help minimize the risk and severity of crashes.
- **Albany Street Driveway.** At a minimum "RIGHT TURN ONLY" signage would be posted facing traffic exiting from the Project Site onto Albany Street. Such a restriction can also be further amplified through a more prominent treatment, such as replacing the striping with a scored-concrete "rumble-strip" treatment making it more difficult for motorists to ignore than standard roadway striping. Any improvements in this area will need to be reviewed and approved by MassDOT in conjunction with the Access Permit application that will be required.
- **Traveler Street.** In conjunction with the Project and pending BTD approval, the Proponent would install signs and or/ pavement markings to reflect twelve new parallel parking spaces provided on Traveler Street along the site frontage between Harrison Street and the site driveway, while still maintaining single travel lanes in each direction on the roadway. Additionally, the Proponent will also be replacing the narrow existing sidewalk along the Traveler Street frontage with a 16-foot wide sidewalk and of street trees. An easement for pedestrian purposes will be granted to the city for the widened sidewalk.
- **Wayfinding Signs.** The Proponent proposes to install prominent directional signage in the vicinity of the Project Site to help ensure that visitors can find their way to and from Route I-93 and Route I-90 without difficulty. The exact details of this signage program will be coordinated with BTD and MassDOT (for any directional signs proposed on Albany Street).

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Transportation Demand Management (TDM)

The following Transportation Demand Management TDM measures will be implemented:

- Provide secure bicycle storage for building residents and employees.
  - Appropriately designed bike racks will be provided at select, highly-visible locations within the Site. The racks will be securely mounted and feature current designs to properly secure bikes of all kinds with the ability for them to be properly locked. These racks will be located at centralized locations to serve the proposed retail stores (customers and employees).
  - Covered and secure bike storage will be provided within the garage for the residents.
- In keeping with the goals of the City of Boston's "Boston Bikes" program, the Proponent will be providing spaces on-site for a bike-sharing station as part of a Mobility Hub. The exact details of the operation of this Mobility Hub and the bike share station will be determined through ongoing consultation between the Proponent and the City staff advancing the bicycling program. The Project Site plan depicts this Mobility Hub being provided at the southeast corner of the property adjacent to the Albany Street/Traveler Street intersection. This is a prominent location along Traveler Street, which has been identified by BRA as a "Primary Green Corridor".
- Provide a space for a car-sharing service, such as ZipCar®, as part of a new Mobility Hub.

- Provide space on-site for an EV charging station as part of a new Mobility Hub.
- Provide preferential parking for alternative-fueled and/or hybrid vehicles.
- Implement TDM measures for the entire Project. Specifically, the provision of bicycle racks, improved pedestrian walkways, and proximity to public transportation including several bus lines, Silver Line routes and both the MBTA Orange and Red Lines should help to minimize the need for vehicular travel. The residential buildings may be desirable to commuters already using these routes to travel into Boston.
- Potential retail tenants will be encouraged to provide employer subsidies and/or discounts to employees who purchase monthly or multiple trip transit passes.
- Potential retail tenants will be encouraged to provide a guaranteed ride home program, in conjunction with MassRIDES, to eliminate an often-cited deterrent to carpool and vanpool participation.
- Potential retail tenants will be encouraged to offer direct deposit to employees.
- Designate an on-site Transportation Coordinator to oversee parking and loading operations as well as promote alternative transportation measures. The person in this role will coordinate with retail tenants and residents to help promote a reduced reliance on single-occupant motor-vehicle travel to the Project Site. To that end, the TDM measures identified in the following sections will be implemented under the direction and supervision of this person. The duties of the transportation coordinator may include, but not be limited to:
  - Acting as a liaison with retail employers and MassRIDES.
  - Assisting retail employees and residents with ride matching and transportation planning.
  - Disseminating information on alternate modes of transportation and developing transportation related marketing and education materials, including a website. This includes posting relevant public transit information potentially at an outdoor kiosk included as part of the Mobility Hub. This would include, but is not limited to, providing transit information such as maps and schedules to new residents and tenants in an orientation package.
  - Developing and maintaining information pertaining to pedestrian and cycling access to and from the Project Site.
  - Encourage tenants to provide on-site transit pass sales to employees and residents.

All TDM measures will be formalized in the Transportation Access Plan Agreement (TAPA) to be executed with BTD. The Proponent will seek to attract a variety of retail shops and service-oriented tenants on the ground of the building along Harrison Avenue. As most of these businesses will be small shops, there will not be the same levels of TDM opportunities internal to each individual business as would be available with a larger employer, but employees who work on-site will be able to take advantage of the transportation guidance and programs coordinated by the overall TDM program.

Greenhouse Gas Emissions

This section presents the proposed mitigation and other beneficial measures that would result in reduced Greenhouse Gas (GHG) emissions. Chapter 7, *Greenhouse Gas Emissions Assessment* presents outline of the additional proposed sustainable planning and design elements.

As presented in Chapter 7, *Greenhouse Gas Assessment*, the Proponent has evaluated stationary and mobile source GHG emissions. This assessment demonstrates that the Project will reduce its GHG emissions as compared to an unimproved baseline condition, in accordance with the GHG assessment methodology mandated by the *MEPA Greenhouse Gas Emissions Policy and Protocol* (the "Policy").

Stationary Source GHG Emissions Related Improvements

Site and Building Design Improvements

As presented in Chapter 7, *Greenhouse Gas Emissions Assessment*, substantial efforts have been made to ensure that the use of energy to heat and cool the building has been minimized. The Proponent has committed, at this early stage of conceptual design, to integrate energy efficient design- and system-related improvements to meet the MA Stretch Energy Code resulting in a reduction of Project-related stationary source GHG emissions (when compared to the minimum MA Energy Code requirements). The stationary source GHG emissions reductions associated with the proposed building improvements, such as architectural design and treatments, were quantified as part of the eQUEST model (refer to Table 7-2). It is anticipated that the implementation of the above-mentioned mitigation measures will be implemented in the core and shell of the buildings. The specific improvements may be subject to design modification as needed to achieve the GHG emissions reduction based on the final building program and design.

For the potential grocery use specifically, the Proponent has consulted the Grocery Store 50% Energy Savings Technical Support Document (TSD) at the suggestion of the DOER.[2] The TSD was developed by the Commercial Buildings Group at National Renewable Energy Laboratory (NREL), under the direction of the U.S. Department of Energy Office of Energy Efficiency & Renewable Energy's Building Technologies Program. The TSD documents technical analysis and design guidance for grocery stores to achieve whole-building energy savings of at least 50 percent compared to baseline models that satisfy ASHRAE 90.1-2004 and ASHRAE 90.1-2007. The following energy efficiencies referenced in this study have been incorporated into the potential grocery component of the Project:

- Improved lighting technologies to reduced lighting power density,
- Core and shell Improvements such as skylights, overhangs, HVAC equipment, higher efficiency equipment and demand control ventilation systems,
- Higher efficiency refrigerated cases, and evaporative cooling tower condensers.
- Hot water condensers with up to 93 percent efficiency, and

2 Leach, Matthew, et al., National Renewable Energy Laboratory, *Grocery Store 50% Energy Savings Technical Support Document*, Technical Report NREL/TP-550-46101, September 2009. (website: http://www.nrel.gov/docs/fy09osti/46101.pdf)

- Oversized cooling towers to allow a 20 percent reduction in motor size.

Other Building Improvements

Other beneficial improvements that are not quantified as part of the eQUEST model or are associated potential GHG emissions reductions not quantifiable at this stage of conceptual design are also discussed in Chapter 7, *Greenhouse Gas Emissions Assessment*. Such measures include:

- Installation of water source heat pumps;
- Ensuring that the energy systems are maintained and operate properly through building commissioning;
- Installation of Energy Star Equipment; and
- Development of a Tenant Manual.

When properly designed and installed, water source heat pumps not only reduce energy use, but lower maintenance costs and extend equipment life since they have no exposed outdoor equipment.

In order to meet the requirements of LEED, the Proponent will commit to commissioning of building energy systems (Prerequisite EA1) to ensure that building HVAC systems are calibrated and working as efficiently as they are intended. The Proponent is also investigating engaging an independent, or third party, commissioning authority to perform on-board design reviews and re-commission the building systems after occupancy (per the requirements of LEED credit EA3 – Enhanced Commissioning). Additionally, as part of LEED credit EA5 - Measurement and Verification, the appropriate use of measurement and verification equipment will be implemented.

While non-regulated process load appliances, such as computers, copiers, and kitchen equipment are not included as part of the EQUEST building energy model, an estimated 30 percent reduction in energy use was taken off of the miscellaneous electricity to account for Energy Star products in the tenant spaces.[3] With users not fully identified at this time, it is not possible to accurately estimate the number and/or type of these appliances, which depend, in large part, on the nature of the ultimate Project users. However, the Proponent intends to request that future users meet energy conservation requirements where possible, such as using Energy Star products in the tenant spaces, which will reduce the overall electricity consumption and, therefore, reduce stationary source CO_2 emissions. The Proponent intends to identify the installation of Energy Star appliances as well as other specific energy conservation measures as part of the Project Tenant Manual outlined in a section dedicated to energy conservation.

Mobile Source GHG Emissions Related Improvements

The following summarizes the on- and off-site transportation mitigation measures which are expected to result in a reduction of mobile source CO_2 emissions:

- Roadway and signal timing improvements

3 Compared to standard office equipment (non-Energy Star rated), Energy Star-qualified office equipment imaging products and appliances used 30 to 75 percent less electricity according to the Energy Star website: http://www.energystar.gove/index.cfm?c=ofc.

- Reduce curb cuts and provide new signage to improve site access and roadway circulation
- Implement a TDM plan to reduce vehicle traffic trips
- Promote alternative modes of transportation through the creation of a new Mobility Hub
- Limit on-site parking for future residents (0.5 spaces/unit)

The transportation-related improvements are shown on Figure 3.20. In addition to these general improvements, the Proponent is committed to providing a Mobility Hub, which is expected to help reduce the mobile source greenhouse gas emissions and further support existing infrastructure initiatives in Massachusetts. The proposed Mobility Hub is anticipated to include:

- Electric Vehicle Charging Stations
- Zip Cars
- Public Bicycles
- Transit Schedules

Stormwater Management

Construction of the Project will result in a significant decrease in the rate and quantity of stormwater runoff from the Site. A new closed drainage system including deep-sumped catch basins, water quality BMPs and subsurface infiltration will capture and infiltrate water to the ground. As part of BWSC's review process, the Proponent will consider measures wherever applicable to minimize flows from the Site. Refer to Figure 5.2 for the proposed drainage system.

Stormwater Quantity

The Project includes a reduction in paved site areas, stormwater infiltration systems, and new vegetated areas all of which will promote the infiltration or stormwater runoff into the ground and evapotranspiration, and reduce the rate and quantity of stormwater discharged to the drainage system and Boston Harbor. The quantity of stormwater runoff is reduced for the two-year through 100-year storm events resulting in a positive impact on the surrounding groundwater table as well as a reduced load on BWSC's drainage system. Table 5-1 contains stormwater volume and peak flow rate estimates for the 2-, 10-, 25-, and 100-year storm events.

Stormwater Quality

The implementation infiltration systems will have a positive impact on the quality of the stormwater discharged from the Project Site. Subsurface stormwater infiltration creates an opportunity to replicate the natural water cycle in a dense urban core environment.

Stormwater management controls will be established in compliance with BWSC standards, and the Project will reduce stormwater flow, pollutants, and/or sediments to the receiving waters of the local BWSC stormwater drainage system that would potentially impact the Boston Harbor. In conjunction with the site plan and the General Service Application, the Proponent will submit a stormwater management design plan to the BWSC. Compliance with the standards for the final site design will be reviewed as part of the BWSC Site Plan Review Process.

The Project stormwater management system will meet the requirements of the Groundwater Conservation Overlay District (GCOD), as defined in Article 32 of the Zoning Code, and will be consistent with the DEP Stormwater Management Policy (refer to Chapter 5, *Infrastructure Systems*).

Water and Wastewater

The Project's potable water demand is approximately 81,701 gallons per day and the estimated sewage generation is 74,274 gallons per day (based on 314 CMR 7.15).[4] These rates include an assumption that the retail component includes a 5,000-square foot restaurant.

The building plumbing design has not yet been established, but the design team will make best efforts to reuse existing sanitary services where possible. Any food service tenants will have individual exterior grease traps installed on-site in accordance with BWSC's design criteria. Additionally, the appropriate low-flow and low consumption plumbing fixtures are anticipated to achieve a reduction in water usage of 30 to 40 percent over the baseline in order to comply with Article 37 of the Boston Zoning Code (as LEED "certifiable") and potentially achieve a LEED-NC Silver level rating.

Chapter 91 Public Benefit Determination

The Project is subject to the jurisdiction of the 2007 statute "*An Act Relative to Licensing Requirements for Certain Tidelands*" (2007 Mass. Acts ch. 168, sec 8) (the Act) because it contains landlocked filled tidelands as defined therein. Based on historic shoreline data published by MassGIS and developed by Massachusetts Department of Environmental Protection and the Office of Coastal Zone Management, the Project Site is located on former tidelands completely filled by the mid 1800s. This determination is based on the definitive historic map for this section of Boston prepared by E.S. Chesbrough in 1852.

The Act, and the Massachusetts Waterways Regulations (310 CMR 9.00) exempt landlocked filled tidelands from licensing under M.G.L. Chapter 91. Landlocked tidelands are defined by the Act as:

> *"…any filled tideland which on January 1, 1984 were entirely separated by a public way or interconnected public ways from any flowed tidelands, except for that portion of such filled tidelands which are presently located (a) within 250 feet of the high water mark…"*

4 Water demand is based on the estimated sewage generation with an added factor of 10 percent for consumption, system losses, and other use.

The Project Site is located greater than 300 feet from the existing shoreline of the Fort Point Channel and is separated from this water sheet by several interconnected Public Ways. We conclude, therefore, the site is located on landlocked tidelands. The Project exceeds EIR review thresholds as defined in 301 CMR 11.03 and requires a Public Benefit Determination in accordance with the regulations at 301 CMR 13.00.

The Act requires projects subject to MEPA to consider a project's potential impacts on groundwater and in cases where projects are located in areas of known low groundwater include measures to avoid, minimize or mitigate potential impacts. The project site is located within the City of Boston's Groundwater Overlay Protection District and is located in an area of low groundwater.

The Act requires the Secretary to consider the following when making a Public Benefit Determination:

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

The Secretary is also instructed by the Act to consider the differences between tidelands, landlocked tidelands and great ponds when assessing the public benefit and shall consider the practical impact of the public benefit on development.

The following sections describe how the Project provides appropriate public benefits and is adequately protective of the Public Trust rights inherent in tidelands.

■

Purpose and effect of the development

The purpose of the Project is the adaptive reuse and redevelopment of the existing approximately 6.22-acre soon-to-be vacant former Boston Herald industrial site as a vibrant mixed use redevelopment providing new residential and retail uses, and public realm improvements. The existing approximately 111,000-square foot industrial warehouse, printing, and distribution facility was developed by the Boston Herald Company in the late 1950s and served as the paper's primary Boston operations facility until first quarter of 2012. The facility, as designed, is no longer configured to serve the operational needs of the paper and is being repositioned to meet community needs for residential and retail facilities.

The anticipated effect of the Project will be the substantial improvement of the 6.22 areas from a closed industrial facility to an active and vibrant mixed use development for people to live and shop servicing a vital community need (i.e., new housing and grocery/retail). The current facility provides few opportunities for employment and offers virtually no public access.

■

Impact on Abutters and Community

The Project will result in a substantial net benefit to the community by converting an under-utilized, limited access industrial site into a vibrant and dense mixed use urban community that will extend and reinforce the existing mixed-use residential character of the northeast quadrant of the South End and bring "18-hour" activity to the area. A detailed analysis of the Project-related benefits to the neighborhood is provided in Chapter 2, *Urban Design*.

In summary, the Project will have a transformative effect on the neighborhood by creating a new 6.22-acre residential and retail center enlivening not just the city block it comprises, but the surrounding streets. The Project will create a visually attractive and inviting site through integrating the proposed improvements with the surrounding urban landscape. Effective use of building scale, public realm improvements to sidewalks, walkways and new landscaping will emphasize the new residentially-dominated pedestrian friendly site. The planned approximately 85,000 square feet of new retail uses, including space for a potential grocery will provide a strong incentive to attract project abutters and members of the wider South End community to the underutilized Project Site.

The potential direct traffic impacts will be mitigated through a comprehensive package of transportation improvements describing in Chapter 3, *Transportation* and summarized above. These improvements have been and will continue to be designed in close consultation with the BTD and will encourage alternatives to single-occupancy vehicle use, improve vehicular circulation, and pedestrian safety.

■

Enhancement of the Property

The Project will enhance the property by converting an unused industrial building to active commercial and residential uses. The property will be redeveloped as a modern facility with improvements in the streetscape, landscaping, appearance, stormwater and air quality. The planned improvements will result in a neighborhood-friendly development with pedestrian-scale improvements replacing the former industrial/distribution nature of the site. The site will be transformed into a visually attractive, safe, clean, and well-kept facility when compared to the existing conditions.

■

Benefits to the Public Trust Rights in Tidelands or Other Associated Rights

As the former headquarters, printing press, and distribution center for the Boston Herald newspaper, the Project Site has had an industrial character for the past 50 years. The Project Site was closed off to the general public during this occupancy. While the Boston Herald's occupancy of the site provided important employment opportunities and was a vital part of city life through publication of the news on a daily basis, these roles were as a routine matter provided within a generally closed site.

The proposed redevelopment provides the opportunity to reactivate the site by reestablishing a vital public realm component, as described in Chapter 1, *Project Description and Alternatives* and Chapter 2, *Urban Design*.

The Project proposes to improve the site's public realm component by changing the site uses from industrial to a vibrant transit- and pedestrian-oriented mixed-use development consisting of street-level retail with residential on the upper floors.

The traditional public trust rights in tidelands, the right to fish fowl and navigate have long been precluded at the site by the historic filling and development of the South End. However, the modern expression of these traditional public trust rights on filled land isolated from the existing water sheet will be realized by the conversion from industrial to residential/retail mixed uses and the opening of the site to direct public access where none has existed for over 50 years.

■

Community Activities on the Site

The Project will result in a substantial net improvement to community activities at the site by converting the prior industrial use to residential and retail occupancy. The Boston Herald's use of the Project Site was generally closed to the public as a matter of protecting safety. The proposed adaptive reuse will encourage community use of the site through the introduction of approximately 85,000 square feet of commercial space. Additionally, the planned 417 residential units in four buildings (three new) will create a new vibrant community and encourage passive and active community use of the 6.22-acre site. The proposed ground-floor retail will serve the on-site residences and the surrounding neighborhood creating new opportunities for community use of the site where none presently exist.

■

Environmental Protection/Preservation

The Proponent is committed to redeveloping the Project Site in accordance with all applicable local, state and federal environmental protection regulations. Table S-1 in the *General Information and Project Summary* chapter provides a list of the estimated 27 local, state, and federal permits or approvals anticipated to be required.

Chapter 4, *Environmental Protection* examines the potential for the Project to result in environmental impacts to the project area and includes detailed description of how the project avoids, minimizes or mitigates potential impacts related to:

- Shadow
- Daylight
- Air Quality
- Noise
- Flood Hazard
- Water Quality
- Groundwater
- Geotechnical Impact
- Solid and Hazardous Waste
- Construction
- Rodent Control
- Green Building/Sustainable Design

Chapter 6, *Historic Resources* describes the existing historic properties and districts in the vicinity of the Project Site and demonstrates that the Project will not result in any adverse affect on property listed on the State and National Register of Historic Properties. The Project complies with the recently adopted zoning changes, including building height and massing requirements.

This chapter includes a detailed description of the substantial public benefits anticipated to result from the Project and proposed mitigation measures related to transportation, GHG emissions, stormwater, water wastewater and construction.

■

Public health and safety

The Project will promote public health and safety through implementing a site design that provides safe and universally accessible facility from all directions. The design includes on-site and off-site transportation improvements to increase pedestrian and bicyclist safety and accessibility in the neighborhood. Improvements include landscape and appropriate lighting and signage to provide a safe well-lit environment for residents, visitors, customers and employees on a 24/7 basis.

■

General welfare

The Project will protect the general welfare by replacing the existing industrial use with a modern pedestrian scale mixed use neighborhood. The Project will comply with all applicable local, state, and federal environmental protection standards, and will be constructed in accordance with a Construction Management Plan subject to review and approval by the BTD.

■

Protection of Groundwater

The Project Site is located in the Boston GCOD and is subject to the applicable City of Boston Zoning Code Article 32. As described in Chapter 5, *Infrastructure Systems,* the Project protects groundwater levels at the site by adaptive reuse of existing infrastructure and building foundations and a net reduction of stormwater runoff from the site. The site design includes new vegetated areas, and a stormwater management system sized to infiltrate the first one-inch of rainfall to groundwater. Groundwater levels are not expected to fall as a result of the Project and may increase as a result of stormwater infiltration.

Construction Period

Construction impacts are temporary in nature and are typically related to stormwater runoff, air (dust and emission from diesel-powered construction equipment), noise, construction truck traffic, and hazardous materials and solid waste. Mitigation measures for construction-related impacts generally include erosion and sedimentation control, dust management, air emission controls for construction vehicles, compliance with construction-hour restrictions and the residential sound limits, implementation of a Construction Management Plan for truck traffic, solid waste recycling, odor and rodent control, and public safety management. Refer to Chapter 4, *Environmental Protection* for the mitigation measures proposed to reduce construction-related impacts.

Draft Section 61 Findings

■

Draft Letter of Commitment to MassDOT

January 31, 2012

Mr. Lionel Lucien, P.E.
Massachusetts Department of Transportation
Public/Private Development Unit
10 Park Plaza, Room 4150
Boston, MA 02116

Re: **Letter of Commitment** (for use in preparing Section 61 Finding)
Ink Block – South End
300 Harrison Avenue, Boston, Massachusetts

Dear Mr. Lucien:

On behalf of National Development (the "Proponent"), Vanasse Hangen Brustlin, Inc. (VHB) has prepared this letter for your consideration in the preparation of the Section 61 Finding for the Ink Block-South End redevelopment project (the "Project") in Boston. This letter of commitment defines traffic impacts and identifies proposed mitigation measures associated with the redevelopment of 111,000 square feet of (mostly vacant) industrial/warehouse type uses. We request that you review this information and issue a Section 61 Finding so that the Proponent may proceed with permitting and design with the appropriate Massachusetts Department of Transportation (MassDOT) departments and the City of Boston. The obligations discussed in this letter of commitment are subject to (i) the Proponent proceeding with the Project; and (ii) the Proponent obtaining all necessary local and state approvals to effectuate the proposed transportation improvements.

The Project Site and Description
The proposed redevelopment site is approximately 6.22-acre located at 300 Harrison Avenue in the South End neighborhood of Boston, Massachusetts (the "Project Site"). The Project Site lies at the northeastern edge of the South End Neighborhood bordering both the Chinatown and Downtown neighborhoods. The Project Site is bounded by Herald Street to the north, Albany Street to the east, Traveler Street to the south, and Harrison Avenue to the west. The Massachusetts Turnpike, Interstate-90 (I-90), runs east-west is located just north of Herald Street, and Interstate-93 (Route 3) runs north-south and is located just east of Albany Street. The property adjacent to the Site along Albany Street (located on the same block) consists of three buildings occupied by F.W. Webb Plumbing Supply, I.O.T.A. Independent Taxi, and the Transit Insurance Agency. The entire Site is located within a designated Economic Development Area of the South End Neighborhood District (refer to the 'Regulatory Controls and Anticipated Approvals/Permits' section below for further details on existing zoning).

An approximately 111,000-square foot, two-story industrial building with office on the upper level and below-grade parking spaces currently exists on the Site. The Site has been improved with surface parking for approximately 274 cars and/or delivery trucks and 15 trailer spaces. The existing building, which includes office space, an employee gym and cafeteria, and warehousing/distribution space, is currently used by Herald

Media for its editorial and human resources staff, and for newspaper distribution operations in the Boston Metro area. Historically, the building was also used for newspaper printing operations.

The Proponent proposes the construction of three new buildings and the adaptive re-use of the existing Boston Herald industrial building into a vibrant and quality mixed-use redevelopment that will enhance the surrounding neighborhood by redeveloping an underutilized area and providing residential housing and an attractive retail facility with convenient parking in a safe, appropriately illuminated setting (the "Project"). The approximately 548,900-square foot Project consisting of four buildings will create 471 new residential units and approximately 85,000 square feet of retail space. The retail component includes a grocery store and multiple smaller-scale ground-floor local retail spaces and/or restaurant space. The Project will provide a total of 411 parking spaces, including 67 surface parking spaces (reconfigured existing surface parking) to serve retail customers and employees, 234 spaces within the reconfigured existing below-grade parking to serve residential tenants and their visitors, and a new 110-space parking deck to serve retail customers and employees.

Overall Project Traffic Impacts

The additional traffic generated by the Project is expected to have negligible impacts on the area's transportation infrastructure with the implementation of the proposed site access plan and accompanying mitigation measures. When accounting for shared trips and local mode share, per Boston Transportation Department (BTD) guidelines, the Project is expected to result in an increase of 3,920 and 7,362 vehicles trips on a typical weekday and Saturday, respectively. The Project Site is currently well served by transportation infrastructure, including access to Route I-93 and is in close proximity to public transit (MBTA Silver Line, the Red Line Broadway Station, and multiple bus routes).The results of the analysis indicate that there will be no substantial changes in level of service (LOS) in the study area as a result of the Project.

Specific Project Traffic Impacts and Mitigation Measures

The Proponent proposes the following transportation-related mitigation measures as part of the Project:

- Eliminate two redundant active curb cuts on Harrison Avenue (to be replaced by right-in/right-out access) and one curb cut on Traveler Street with consolidated access being provided on Traveler Street opposite a proposed driveway to a planned development site located at 275 Albany Street.
- Provide pavement markings, lane demarcation, and/or striping to discourage unsafe traffic maneuvers from Albany Street exit to the existing Route I-93 South ramp.
- The Project will investigate the feasibility of modifying signal timing changes at Traveler Street/Harrison Avenue to address existing operational deficiencies at this location.
- Enhance pedestrian safety and circulation through improved/upgraded sidewalks and accompanying streetscape amenities on Harrison Avenue and Traveler Street adjacent to the Project Site, improvements to select portions of sidewalk located along Herald Street and Albany Street as well as and improved illumination of on-site pedestrian walkways.
- Create a thru-block pedestrian connection from Harrison Avenue to Albany Street.
- Implement a Transportation Demand Management (TDM) plan to discourage single-occupant vehicular travel to/from the Project.
- Create a new Mobility Hub (to include ZipCar® service, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle charging station and parking).
- Provide new bicycle facilities (in coordination with BTD), including on-site bike storage for retail customers and employees as well as covered/secure bike storage for residents.

- Provide a dedicated loading area (for retail and residents) at the northeast corner of the Project Site to allow for off-street loading to maintain an active streetscape along the site frontage while helping to minimize any on-site conflicts between trucks and residents or visitors.

We respectfully request that you consider this letter of commitment during the issuance of the Section 61 Finding for this Project upon review of the information presented in the joint PNF/EENF. If you have any questions, please contact me at (617) 924-1770.

Best regards,
VANASSE HANGEN BRUSTLIN, INC.

Patrick T. Dunford, P.E.
Transportation Engineer/Project Manager

Cc: Sherry Clancy, National Development
Walter Heller, P.E., Acting District Highway Director, MassDOT District 6
Vineet Gupta, Director of Policy & Planning, Boston Transportation Department

■

DEP Connection/Extension Permit

D R A F T

MASSACHUSETTS DEPARTMENT
OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER POLLUTION CONTROL
M.G.L. CHAPTER 30, SECTION 61

PROJECT NAME: Ink Block – South End

PROJECT LOCATION: Boston, Massachusetts

PROJECT PROPONENT: National Development

EEA NUMBER: To be assigned

I. Project Description

The Proponent proposes the construction of three new buildings and the adaptive re-use of the existing approximately 111,000-square foot Boston Herald industrial building located at 300 Harrison Avenue in the South End neighborhood of Boston into a vibrant and quality mixed-use redevelopment (the "Project"). The Project will enhance the surrounding neighborhood by redeveloping an underutilized area and providing residential housing and an attractive retail facility with convenient parking in a safe, appropriately illuminated setting. The approximately 548,900-square foot Project consisting of four buildings will create 471 new residential units and approximately 85,000 square feet of retail space. The retail

component includes a grocery store and multiple smaller-scale ground-floor local retail spaces and/or restaurant space. The Project will provide a total of 411 parking spaces, including 67 surface parking spaces (reconfigured existing surface parking) to serve retail customers and employees, 234 spaces within the reconfigured existing below-grade parking to serve residential tenants and their visitors, and a new 110-space parking deck to serve retail customers and employees. A total of 411 parking spaces will serve the Project in the form of reconfigured existing surface parking and below-grade parking, and a new parking deck.

II. Project Impacts

The total proposed generation of 74,274 gallons per day results in a net increase in flow of 56,700 gallons per day over the existing site use. Table 1 summarizes the proposed sanitary sewer generation.

Table 1
Existing and Future Sewer Generation

Program Type	Units	Generation Rate	Sewer Generation (GPD)
Existing			
Factory/Industrial	600 Employees	20GPD/Employee	12,000
Office	74,312 SF (2nd Floor)	75 GPD/KSF	5,574
Total			17,574
Proposed			
Residential	592 Bedrooms	110 GPD/Bedroom	65,120
Retail[1]	78,075 SF	50 GPD/KSF	3,904
Restaurant[1]	150 seats	35 GPD/seat	5,250
Total			74,274
Net Change			56,700

Note: Based on DEP 314 CMR 7.15 flow calculation factors.
GPD Gallons per day
SF Square Feet
1 Assumes a 5,000-square foot restaurant as part of the retail component.

III. Mitigation Measures

The Project design aims to reuse existing sanitary services where possible. The sanitary force main will either be reused or re-laid to provide floor drains for the subsurface garage. Any food service tenants will have individual exterior grease traps installed on-site in accordance with BWSC's design criteria. Appropriate low-flow and low consumption plumbing fixtures are anticipated to achieve a reduction in water usage of 30 to 40 percent over the baseline in order to comply with Article 37 of the Boston Zoning Code. The Proponent will contribute to the Boston Water and Sewer Commission Sewer Separation program as there are no potential infiltration and inflow (I/I) mitigation projects in the vicinity in the Project to be completed.

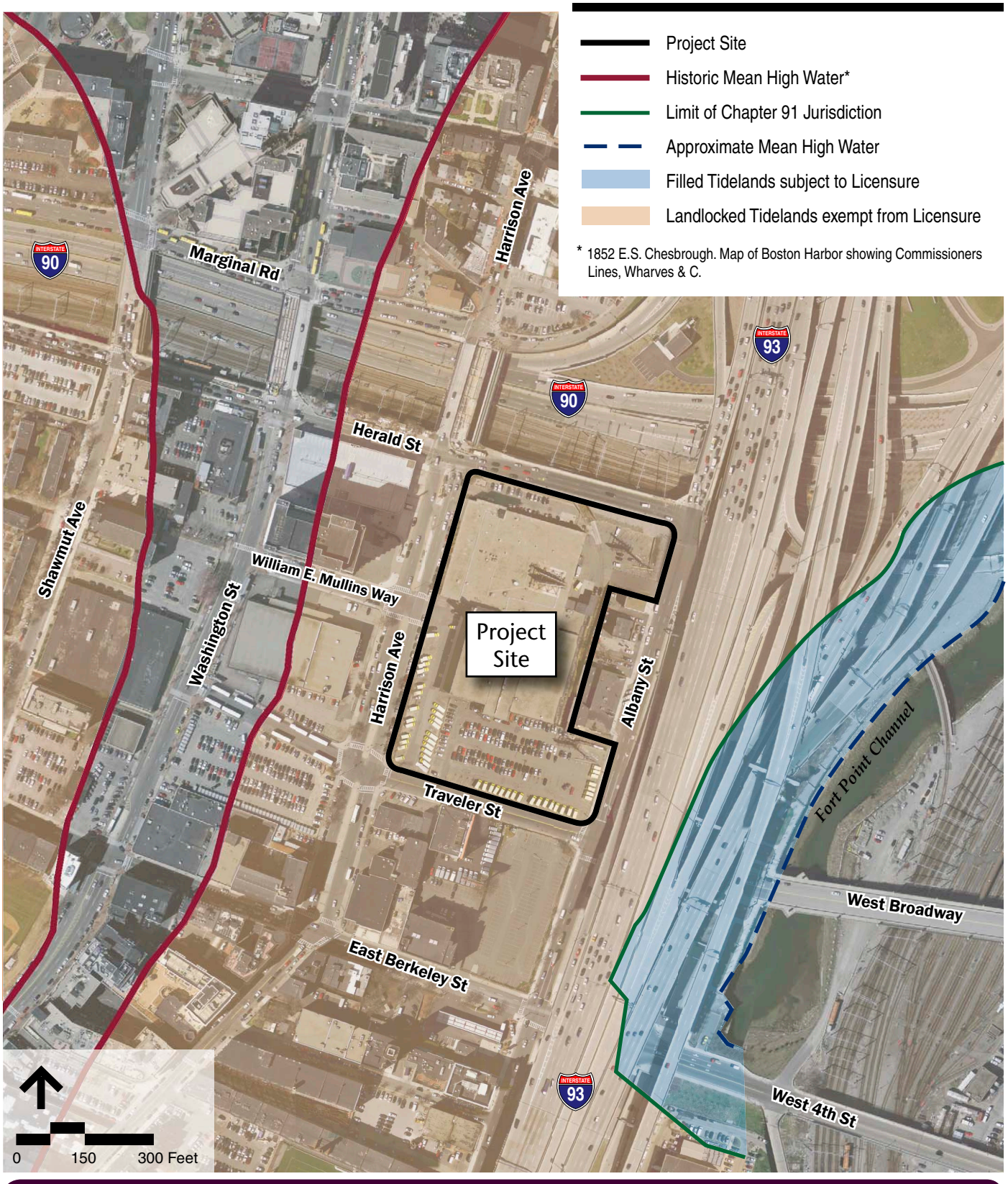
IV. Findings

The DEP hereby finds that, with construction of the sewer system described above and with implementation by the Proponent of the mitigation measures described above, all practicable

means and measures will be taken to avoid or minimize adverse sewer discharge impacts to the environment relating to the development of the Project. The DEP will include appropriate conditions in the sewer connection permit to ensure implementation of the mitigation measures described herein.

_____ _____

Date Commissioner



300 Harrison Avenue
Boston, MA

Figure 8.1

Chapter 91 Landlocked Tidelands

Vanasse Hangen Brustlin, Inc.

NATIONAL DEVELOPMENT

Source: Mass DEP; MassGIS 15cm Aerial Imagery

9

Project Certification

This joint expanded PNF/ENF has been submitted to the Boston Redevelopment Authority, as required by Article 80 of the Zoning Code, on the 3rd of February 2012.

Proponent
National Development

Sherry Clancy
Project Manager

Preparer
Vanasse Hangen Brustlin, Inc.

Lauren DeVoe, AICP, LEED AP-BD+C
Environmental Planner

Appendix A
MEPA Distribution List

MEPA Distribution List

In accordance with Section 11.16 of the MEPA regulations (301 CMR 11.00), National Development, as the Proponent, has distributed this joint PNF/EENF to the following state and local agencies, community organizations, and other interested parties.

It is anticipated that this PNF/EENF will be noticed in the next edition of the *Environmental Monitor* published on or about February 8, 2012 commencing the 30-day public review period. Thus, comments on the PNF/EENF are due to the MEPA Office no later than March 9, 2012. To request a copy of this document, please contact Lauren DeVoe at (617) 924-1770 or email at ldevoe@vhb.com.

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Federal Agencies

EPA New England, Region 1
Attention: NPDES Permit Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

■

State Agencies

Secretary Richard K. Sullivan, Jr. (submitted herein)
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Department of Environmental Protection
Commissioner's Office
One Winter Street
Boston, MA 02108

DEP/Northeast Regional Office
Attn: MEPA Coordinator
205B Lowell Street
Wilmington, MA 01887

Massachusetts Department of Transportation
Public/Private Development Unit
10 Park Plaza
Boston, MA 02116

Massachusetts Department of Transportation - District #6
Attn: MEPA Coordinator
185 Kneeland Street
Boston, MA 02111

Massachusetts Historical Commission
The MA Archives Building
220 Morrissey Boulevard
Boston, MA 02125

Metropolitan Area Planning Council
60 Temple Place/6th floor
Boston, MA 02111

Massachusetts Water Resource Authority
Attn: MEPA Coordinator
100 First Avenue
Charlestown Navy Yard
Boston, MA 02129

Department of Environmental Protection
Attention: Nancy Seidman
One Winter Street
Boston, MA 02114

Department of Energy Resources
Attention: John Ballam
100 Cambridge Street, Suite 1020
Boston, MA 02114

■

City of Boston

Peter Meade, Chief Economic Development Office
Boston Redevelopment Authority
Attn: Erico Lopez, Project Assistant
1 City Hall Square
Boston, MA 02201

Bill Linehan, City Councilor – District 2
1 City Hall Square, Suite 550
Boston, MA 02201-2043

Boston Conservation Commission
1 City Hall Square
Room 805
Boston, MA 02201

Paula A. Johnson, MD, MPH – Chairperson
Boston Public Health Commission Board of Health
1010 Massachusetts Ave., 6th Floor
Boston, MA 02118

Appendix B
Letter of Intent

THE MCCORMACK FIRM, LLC
Attorneys at Law

ONE INTERNATIONAL PLACE - 7TH FLOOR
BOSTON, MASSACHUSETTS 02110

Phone 617•951•2929
Fax 617•951•2672

Michael J. McCormack
Joseph H. Aronson
Brian C. Duffey
Amy M. Soisson
Marc L. LaCasse
Stephen D. Rosenberg
David T. Mitrou

Gerald S. Frim
Laura G. Ryan
Robert P. La Hait
Barbara A. Burke
Nadine M. Bailey
John H. Lacey

Eric L. Brodie
Mary-Elise Connolly
Caroline M. Fiore
Patrick J. Moynihan
Kathleen M. Colbert
Of Counsel

Sender's E-Mail
mlacasse@mccormackfirm.com

June 7, 2011

Peter Meade, Director
Boston Redevelopment Authority
Boston City Hall, 9th Floor
Boston, MA 02201

Re: Herald Square
300 Harrison Avenue
Letter of Intent to file Project Notification Form

Dear Mr. Meade:

This office represents Boston Herald Realty, LLC [Proponent], the owner of the Boston Herald property located at 300 Harrison Avenue. This letter serves as Notice of Intent to file a Project Notification Form [PNF] under Article 80B for Large Project Review with the Boston Redevelopment Authority [BRA] in connection with the proposed redevelopment of the property.

The proposed project site consists of 6.22 acres bounded by Herald Street, Albany Street, Traveler Street, and Harrison Avenue. The project Proponent intends to undertake an adaptive re-use of the existing building to create a vibrant mixed-use development that will enhance the surrounding neighborhood by introducing new residential and retail activity in what is presently an under-utilized industrial site. The site will be transformed from an inaccessible fenced-in city block to a vibrant 18 hour mixed-use complex. As envisioned by the BRA's on-going Harrison/Albany Strategic Plan, this redevelopment will integrate the neighborhood areas of the South End, Chinatown and South Boston.

The redevelopment concept includes a mix of 262 residential rental units [including on-site affordable housing]; 63,748 square feet of new retail space; and rehabilitation of existing basement space for 236 underground parking spaces. Site improvements will include new landscaping, a significant reduction in impervious surfaces, storm water infiltration and reconstruction of 192 surface parking spaces. A number of sustainable building and site elements have been incorporated into the design, construction and operations of the Project. In addition to compliance with Boston Zoning Code Article 37 – Green Buildings, the Proponent intends to strive for a Silver rating under the LEED 2009 New Construction and Major Renovations Program.

The project includes public realm improvements through the creation of outdoor seating, public garden spaces, wider sidewalks and streetscape for pedestrians. Overall, the project will improve the architectural character, urban design, retail vitality and pedestrian experience in the vicinity. The City and the region as a whole will benefit from job creation, housing and additional tax revenues.

National Development will lead a team of professional planners, engineers and consultants with extensive experience in the development of mixed-use projects. The team has already conducted a number of pre-review planning meetings with the BRA staff in accordance with Article 80B-5(1), and has undertaken significant outreach with elected officials, abutters and interested neighborhood groups. The Proponent looks forward to working collaboratively with the BRA, other city agencies and all members of the community to produce the best plan possible for this location, in this economic environment.

The PNF will be filed later this month in accordance with the procedural provisions of Article 80B-5(2). On behalf of the Proponent and the development team, we look forward to working with you and your staff to achieve a successful development project that will greatly benefit the neighborhood and the City of Boston.

Sincerely,

Marc L. LaCasse

Appendix C
Environmental Notification Form

Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act (MEPA) Office

Environmental Notification Form

For Office Use Only

EEA#: _____

MEPA Analyst: _____

The information requested on this form must be completed in order to submit a document electronically for review under the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: **Ink Block – South End**		
Street Address: **300 Harrison Avenue**		
Municipality: **Boston**	Watershed: **Boston Harbor**	
Universal Transverse Mercator Coordinates: **UTM 19, 46 89 966N, 3 30 047E**	Latitude: **42° 20' 43"N** Longitude: **71° 03' 47"W**	
Estimated commencement date: **Spring 2012**	Estimated completion date: **Spring 2014**	
Project Type: **Mixed-Use Redevelopment**	Status of project design: **50** %complete	
Proponent: **National Development**		
Street Address: **2310 Washington Street**		
Municipality: **Newton Lower Falls**	State: **MA**	Zip Code: **02462**
Name of Contact Person: **Lauren DeVoe**		
Firm/Agency: **Vanasse Hangen Brustlin, Inc./VHB**	Street Address: **101 Walnut Street**	
Municipality: **Watertown**	State: **MA**	Zip Code: **02472**
Phone: **(617) 924-1770**	Fax: **(617) 924-2286**	E-mail: **ldevoe@vhb.com**

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
☒Yes ☐No

If this is an Expanded Environmental Notification Form (ENF) (see 301 CMR 11.05(7)) or a Notice of Project Change (NPC), are you requesting:

a Single EIR? (see 301 CMR 11.06(8)) ☐Yes ☐No
a Special Review Procedure? (see 301CMR 11.09) ☐Yes ☐No
a Waiver of mandatory EIR? (see 301 CMR 11.11) ☒Yes ☐No
a Phase I Waiver? (see 301 CMR 11.11) ☐Yes ☐No

(Note: Greenhouse Gas Emissions analysis must be included in the Expanded ENF.)

Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?

--301 CMR 11.03 (6)(a)(6) Generation of 3,000 or more New adt on roadways providing access to a single location.
--301 CMR 11.03 (6)(b)(13) Generation of 2,000 or more New adt on roadways providing access to a single location.

Which State Agency Permits will the project require?

--Direct Highway Access Permit from MA Department of Transportation (MassDOT), Highway Division for site access off of Albany Street (provides direct access to Interstate 93 and under jurisdiction of MassDOT).

--Sewer Connection/Extension Permit from the MA Department of Environmental Protection (DEP) for generating over 50,000 gallons per day of sanitary sewage.
--Air Quality Permit (under 310 CMR 7.00) from the DEP Division of Air Quality Control for heating boilers and emergency generators (to be determined if required).

Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres: **None**

Summary of Project Size & Environmental Impacts	**Existing**	**Change**	**Total**
LAND			
Total site acreage	**±6.22 acres**		
New acres of land altered		**-0-**	
Acres of impervious area	**±5.73 acres**	**(±0.27 acres)**	**±5.46 acres**
Square feet of new bordering vegetated wetlands alteration		**-0-**	
Square feet of new other wetland alteration		**-0-**	
Acres of new non-water dependent use of tidelands or waterways		**±6.22 acres**[1]	
STRUCTURES			
Gross square footage	**±111,000 gsf**	**±437,800 gsf**	**±548,800 gsf**
Number of housing units	**-0-**	**471 units**	**471 units**
Maximum height (feet)	**±30 feet**	**varies**	**±100 feet**
TRANSPORTATION			
Vehicle trips per day **Unadjusted**	**2,022** **[372]**	**7,968**[2] **[13,782]**	**9,990**[2] **[14,154]**
Adjusted	**1,494** **[278]**	**3,920**[3] **[7,362]**	**5,414**[3] **[7,640]**
Parking spaces	**389 spaces**[4]	**+22 spaces**	**411 spaces**[5]
WASTEWATER			
Water Use (Gallons per day)	**±19,331 GPD**	**±62,370 GPD**	**±81,701 GPD**
Water withdrawal (GPD)	**-0-**	**-0-**	**-0-**
Wastewater generation/treatment (GPD)	**±17,574 GPD**[6]	**±56,700 GPD**[6]	**±74,274 GPD**[6]
Length of water mains (miles)	**NA**	**NA**	**NA**
Length of sewer mains (miles)	**NA**	**NA**	**NA**

Has this project been filed with MEPA before?
☐ Yes (EEA #_____) ☒No

Has any project on this site been filed with MEPA before?
☐ Yes (EEA #_____) ☒No

1 Landlocked tidelands. Source: Massachusetts DEP/CZM Historic Shoreline Mapping Project and MassGIS.
2 Trip estimates were based on standard rates from the Institute of Transportation Engineers (ITE) *Trip Generation* (8th Edition, 2008).

Unadjusted trips do not account for shared trips or local mode share.

3 Adjustments were made to the ITE base trips to account for shared trips and local mode share following guidelines of the Boston Transportation Department (BTD) for individual city zones. This mode-shared calculation is critical to the evaluation of overall Project-related traffic impacts as there will be a mixture of automobile travel to the Project Site, along with residents and customers that utilize public transit or walk and/or bike. Refer to Chapter 3, *Transportation* for further explanation. Values shown are for weekday conditions, with Saturday values shown in brackets.

4 The existing site is improved with approximately 274 surface parking spaces and 15 trailer spaces. There are approximately 100-spaces below-grade under the existing Boston Herald building.

5 The existing on-site parking will be reused resulting in an overall reduction in surface parking and an increase in structured parking spaces. Approximately 67 surface parking spaces (reconfigured existing surface parking) will be provided for serve retail customers. The existing below-grade parking will be reconfigured to provide a total of 234 spaces for use by residential tenants and their visitors as well as property management staff. An additional 110 spaces will be created in the form of a parking deck.

6 Based on DEP 314 CMR 7.15 flow calculation factors.

GENERAL PROJECT INFORMATION – all proponents must fill out this section

PROJECT DESCRIPTION:

Describe the existing conditions and land uses on the project site:

The approximately 6.22-acre Project Site located at 300 Harrison Avenue in the South End neighborhood of Boston, Massachusetts. The Project Site lies at the northeastern edge of the South End Neighborhood bordering both the Chinatown and South Boston neighborhoods, and is bounded by Herald Street to the north, Albany Street to the east, Traveler Street to the south and Harrison Avenue to the west. The Massachusetts Turnpike, Interstate-90 (I-90), runs east-west just north of Herald Street, and directly to the east of Albany Street lies the elevated (approximately 30 feet) Southeast Expressway (Interstate-93/Route 3, or I-93), which runs north-south.

Existing building improvements consist of an approximately 111,000-square foot, two-story office and industrial building (the Herald Building) with approximately 100 below-grade parking spaces. The Herald Media newspaper company currently uses a portion of the building, but plans to vacate the building by the by January 31, 2012. The first story of the building is used as warehousing and distribution operations, and the upper level includes office space, and an employee gym and cafeteria for the Herald Media editorial and human resources staff. Prior to the fall of 2008, the building was also used for newspaper printing operations. The existing site is improved with approximately 274 surface parking spaces and 15 trailer spaces.

Describe the proposed project and its programmatic and physical elements:

The Proponent, National Development, proposes the construction of three new residential buildings and the adaptive re-use of the existing Boston Herald industrial building for retail, residential and structured parking uses. The Project will consist of approximately 548,900 gross square feet of mixed use redevelopment that will enhance the surrounding neighborhood at this gateway to the South End by introducing residential, retail, and public realm improvements to this underutilized 6.22 acre parcel. Four residential apartment buildings containing approximately 471 rental units and 85,000 square feet of new retail and restaurant space will provide "18 hour" activity and increased safety in this area consistent with the BRA Harrison – Albany Strategic Plan. Improved urban design features including, street wall and streetscape, coupled with diverse architectural character and building massing, will achieve the goal of increased height and density and create vibrancy and connection to adjacent neighborhoods and green corridors.

The Project Site is currently fully developed and well served by infrastructure, some of which has been recently up-graded. Based upon initial investigation with the appropriate agencies and utility companies, existing systems are adequately sized to accept the demand associated with the Project. The Project will change the character of vehicle traffic to the site, reducing the truck traffic and statistically increasing the passenger car trips. However, because of the close proximity of public transit including; the MBTA Silver Line, the Red Line Broadway Station and multiple bus routes, many residents, visitors, employees and customers are expected to access the site via alternative means of transportation. Increases in potable water consumption and sewage generation consistent with the change in use of the property are

insubstantial. Temporary construction impacts will be minimized due re-use of infrastructure, foundation systems and sufficiency of on-site construction staging areas.

NOTE: The project description should summarize both the project's direct and indirect impacts (including construction period impacts) in terms of their magnitude, geographic extent, duration and frequency, and reversibility, as applicable. It should also discuss the infrastructure requirements of the project and the capacity of the municipal and/or regional infrastructure to sustain these requirements into the future.

Describe the on-site project alternatives (and alternative off-site locations, if applicable), considered by the proponent, including at least one feasible alternative that is allowed under current zoning, and the reasons(s) that they were not selected as the preferred alternative:

Preliminary redevelopment options considered as part of the site planning and programming process for the Project included retail- and office-only programs as well as a mixed-use development program allowed under zoning before the area was rezoned as part of the BRA's planning initiative for the project area (the Harrison-Albany Corridor Strategic Plan). To be consistent with the goals and objectives of the community, the Proponent evaluated ways to increase density at the site in light of the zoning changes, including 30-foot increase in allowable height. In developing the Preferred Alternative, aspects such as re-use of existing buildings and marketability of the reused buildings were considered in various conceptual designs. The Proponent's commitments to mitigate Project-related impacts and redevelop the Site, in concert with sustainable design and development principles, resulted in a redevelopment plan that achieves both the goals of the Proponent and the community. Refer to Chapter 1, *Project Description and Alternatives* for further information.

NOTE*: The purpose of the alternatives analysis is to consider what effect changing the parameters and/or siting of a project, or components thereof, will have on the environment, keeping in mind that the objective of the MEPA review process is to avoid or minimize damage to the environment to the greatest extent feasible. Examples of alternative projects include alternative site locations, alternative site uses, and alternative site configurations.*

Summarize the mitigation measures proposed to offset the impacts of the preferred alternative:

The Proponent is committed to providing transportation-related mitigation measures, including off-site roadway improvements and measures to encourage alternative modes of transportation, such as improved conditions for bicyclists and pedestrians. The Project provides the opportunity for a "Mobility Hub," including ZipCar®, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking. These measures are intended both to mitigate potential impacts associated with the additional Project-related traffic, including a reduction in mobile source CO_2 emissions and to help address existing traffic operational and safety deficiencies where possible. Additionally, substantial efforts have been made to ensure that the use of energy to heat and cool the building has been minimized. The Proponent has committed, at this early stage of conceptual design, to integrate energy efficient design- and system-related improvements to meet the MA Stretch Energy Code resulting in a reduction of Project-related stationary source GHG emissions (when compared to the minimum MA Energy Code requirements). In accordance with Article 37 of the Boston Zoning Code relative to the City's Green Building policies and procedures, the Proponent intends to incorporate state-of-the-art sustainable features into the design of each component of the Project so that it could achieve at minimum level of "Certified" under the U.S. Green Building Council (USGBC) Leadership in Environmental and Energy Design (LEED®) Green Building Rating System, or "LEED Certifiable." In addition to reduced energy, measures to achieve a Silver rating include water conservation measures, such as no permanent irrigation system and installation of appropriate low-flow plumbing fixtures anticipated to achieve a 30 to 40 percent reduction in water usage. In accordance with the Groundwater Conservation Overlay District (GCOD) and DEP Stormwater Management Policy, upgrades to on –site drainage system, including on-site infiltration systems will result in reduced rates and quantities of stormwater discharged to the drainage system and Boston Harbor.

If the project is proposed to be constructed in phases, please describe each phase:

Construction of the Project will be sequenced. Demolition is anticipated to begin in July 2012 followed by construction of Buildings 1, 2, and 3. Building 4 is planned to be constructed once all housing units in Buildings 1 through 3 are occupied. For analysis purposes, all four buildings are assumed to be constructed and in operation by 2016.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN:

Is the project within or adjacent to an Area of Critical Environmental Concern?

☐ Yes (Specify_____)

☒ No

if yes, does the ACEC have an approved Resource Management Plan? ___ Yes ___ No;
If yes, describe how the project complies with this plan.

_____

Will there be stormwater runoff or discharge to the designated ACEC? ___ Yes ___ No;
If yes, describe and assess the potential impacts of such stormwater runoff/discharge to the designated ACEC.

_____

RARE SPECIES:

Does the project site include Estimated and/or Priority Habitat of State-Listed Rare Species? (see http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/priority_habitat_home.htm)

☐ Yes (Specify_____) ☒ No

HISTORICAL /ARCHAEOLOGICAL RESOURCES:

Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

☒ Yes (Specify **The Project Site is located within the boundaries the South End Landmark District Protection Area of the South End Landmark District**) ☐ No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources? ☐ Yes (Specify_____) ☒ No

WATER RESOURCES:

Is there an Outstanding Resource Water (ORW) on or within a half-mile radius of the project site? ___Yes _**X**_No; if yes, identify the ORW and its location. _____

(NOTE: Outstanding Resource Waters include Class A public water supplies, their tributaries, and bordering wetlands; active and inactive reservoirs approved by MassDEP; certain waters within Areas of Critical Environmental Concern, and certified vernal pools. Outstanding resource waters are listed in the Surface Water Quality Standards, 314 CMR 4.00.)

Are there any impaired water bodies on or within a half-mile radius of the project site? _**X**_Yes __No; if yes, identify the water body and pollutant(s) causing the impairment:

The Boston Inner Harbor, including the Fort Point Channel, which is within ½-mile of the Project Site is a Category 5 water body with priority organics and pathogens causing the impairment requiring a TMDL.

Source: Massachusetts Department of Environmental Protection, *Proposed Massachusetts Year 2010 Integrated List of Waters*, April 2010.
Web link: http://www.mass.gov/dep/water/resources/10list3.pdf

Is the project within a medium or high stress basin, as established by the Massachusetts Water Resources Commission? ___Yes _X_No

STORMWATER MANAGEMENT:

Generally describe the project's stormwater impacts and measures that the project will take to comply with the standards found in MassDEP's Stormwater Management Regulations:

The Project includes stormwater infiltration systems, which will promote the infiltration of stormwater runoff into the ground thereby reducing the quantity of stormwater discharged to the drainage system and Boston Harbor. The quantity of stormwater runoff will be reduced for the two-year through 100-year storm events, respectively, which will have a positive impact due on the surrounding groundwater table as well as a reduced load on BWSC's drainage system. The quality of stormwater runoff associated with the Project will be improved through the implementation of infiltration systems. The stormwater management measures for the Project will be consistent with the DEP Stormwater Management Policy. Refer to Chapter 5, *Infrastructure Systems* for additional information.

MASSACHUSETTS CONTINGENCY PLAN:

Has the project site been, or is it currently being, regulated under M.G.L.c.21E or the Massachusetts Contingency Plan? Yes _**X**_ No ___ ; if yes, please describe the current status of the site (including Release Tracking Number (RTN), cleanup phase, and Response Action Outcome classification):

RTN 3-2724 - This RTN is associated with an Underground Storage Tank (UST) replacement in 1989. Approximately 350 CY of contaminated soil was excavated and disposed of offsite as part of the UST replacement. This RTN is presumed to be closed as it is not recognized by the MassDEP's online hazardous waste site searchable web site at: http://db.state.ma.us/dep/cleanup/sites/search.asp.

Is there an Activity and Use Limitation (AUL) on any portion of the project site? Yes ___ No _**X**_ ;
if yes, describe which portion of the site and how the project will be consistent with the AUL: _____.

Are you aware of any Reportable Conditions at the property that have not yet been assigned an RTN?
Yes ___ No _**X**_ ; if yes, please describe:_____

SOLID AND HAZARDOUS WASTE:

If the project will generate solid waste during demolition or construction, describe alternatives considered for re-use, recycling, and disposal of, e.g., asphalt, brick, concrete, gypsum, metal, wood:

As discussed in Chapter 4, *Environmental Protection*, asbestos containing materials (ACM) have been identified in the building at the Site during past hazardous material surveys. The ACM will be abated by a properly licensed contractor prior to building demolition activities. If contaminated soils are identified during construction, they will be handled in accordance with applicable regulations. In the event that subsurface contamination exceeding MCP reporting thresholds is encountered, DEP will be notified and the contamination managed in accordance with the MCP.

Solid waste generated from the demolition of the existing building will be sorted on the Site. Some materials will be reused on the Project Site, while others will be recycled off-site or disposed of, in accordance with federal, state, and city regulations. Additionally, in order to meet LEED credit MRc2.1 and 2.2, the Construction Manager will implement a waste management plan that will seek to divert at least 75 percent (and will strive to divert 95 percent) of Project-related construction and demolition waste material from landfills through recycling and salvaging.

(NOTE: Asphalt pavement, brick, concrete and metal are banned from disposal at Massachusetts landfills and waste combustion facilities and wood is banned from disposal at Massachusetts landfills. See 310 CMR 19.017 for the complete list of banned materials.)

Will your project disturb asbestos containing materials? Yes _**X**_ No ___ ;
if yes, please consult state asbestos requirements at http://mass.gov/MassDEP/air/asbhom01.htm

Describe anti-idling and other measures to limit emissions from construction equipment:

As discussed in Chapter 4, *Environmental Protection*, retrofitted diesel construction vehicles or vehicles that use alternate fuels will be used during construction. The Project will implement an outdoor construction management plan that includes provisions for wheel washing, site vacuuming, and truck covers. The Commonwealth of Massachusetts anti-idling law will be enforced during the construction phase of the Project with the installation of on-site anti-idling signage.

Oxidation catalysts and catalyzed particulate filters will be utilized on all construction vehicles and equipment to reduce air quality degradation caused by emissions from heavy-duty, diesel-powered construction equipment. All pre-2007 diesel construction vehicles working on the Project will be retrofitted using retrofit technologies

approved by the United States Environmental Protection Agency (EPA). Additionally, ultra low-sulfur diesel fuel will be used for all off-road diesel equipment.

DESIGNATED WILD AND SCENIC RIVER:

Is this project site located wholly or partially within a defined river corridor of a federally designated Wild and Scenic River or a state designated Scenic River? Yes ___ No _**X**_ ;
if yes, specify name of river and designation:

If yes, does the project have the potential to impact any of the "outstandingly remarkable" resources of a federally Wild and Scenic River or the stated purpose of a state designated Scenic River? Yes ___ No ___ ; if yes, specify name of river and designation: _____;
if yes, will the project will result in any impacts to any of the designated "outstandingly remarkable" resources of the Wild and Scenic River or the stated purposes of a Scenic River.
Yes ___ No ___ ;
if yes,describe the potential impacts to one or more of the "outstandingly remarkable" resources or stated purposes and mitigation measures proposed.

ATTACHMENTS:

1. List of all attachments to this document. **Refer to the Table of Contents.**
2. U.S.G.S. map (good quality color copy, 8-½ x 11 inches or larger, at a scale of 1:24,000) indicating the project location and boundaries. **Refer to Figure S.1.**
3.. Plan, at an appropriate scale, of existing conditions on the project site and its immediate environs, showing all known structures, roadways and parking lots, railroad rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities. **Refer to Figure 1.1.**
4 Plan, at an appropriate scale, depicting environmental constraints on or adjacent to the project site such as Priority and/or Estimated Habitat of state-listed rare species, Areas of Critical Environmental Concern, Chapter 91 jurisdictional areas, Article 97 lands, wetland resource area delineations, water supply protection areas, and historic resources and/or districts. **Refer to Figure 8.1 for Chapter 91 landlocked tidelands and Figure 6.1 for historic resources within ¼-mile of the Project Site.**
5. Plan, at an appropriate scale, of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase). **Refer to Figure 1.2.**
6. List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2). **Refer to Appendix A.**
7. List of municipal and federal permits and reviews required by the project, as applicable. **Refer to Table S-1 of the *General Information and Project Summary* chapter.**

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1)
___ Yes _**X**_ No; if yes, specify each threshold:

II. Impacts and Permits

A. Describe, in acres, the current and proposed character of the project site, as follows:

	Existing	Change	Total
Footprint of buildings	**2.8**	**0.6**	**3.4**
Internal roadways	**-0-**	**-0-**	**-0-**
Parking and other paved areas	**3.0**	**(1.0)**	**2.0**
Other altered areas	**0.4**	**0.4**	**0.8**
Undeveloped areas	**-0-**	**-0-**	**-0-**
Total: Project Site Acreage	**6.2**	**NA**	**6.2**

B. Has any part of the project site been in active agricultural use in the last five years?
___ Yes _**X**_ No; if yes, how many acres of land in agricultural use (with prime state or locally important agricultural soils) will be converted to nonagricultural use?

C. Is any part of the project site currently or proposed to be in active forestry use?
___ Yes _**X**_ No; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a forest management plan approved by the Department of Conservation and Recreation:

D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97? ___ Yes _**X**_ No; if yes, describe:

E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction? ___ Yes _**X**_ No; if yes, does the project involve the release or modification of such restriction? ___ Yes ___ No; if yes, describe:

F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A? ___ Yes _**X**_ No; if yes, describe:

G. Does the project require approval of a new urban renewal plan or a major modification of an existing urban renewal plan under M.G.L.c.121B? ___ Yes _**X**_ No; if yes, describe:

III. Consistency

A. Identify the current municipal comprehensive land use plan
Title:_____ Date_____

B. Describe the project's consistency with that plan with regard to:
1) economic development _____
2) adequacy of infrastructure _____
3) open space impacts _____
4) compatibility with adjacent land uses_____

Refer to Chapter 1, *Project Description and Alternatives* for a discussion of project consistency with applicable local land use plans.

C. Identify the current Regional Policy Plan of the applicable Regional Planning Agency (RPA)
RPA: **The City of Boston is located within the Metropolitan Area Planning Council (MAPC) planning area.**

Title: **MetroFuture: Making a Greater Boston Region** Date: **May 2008**

Refer to the Chapter 1, *Project Description and Alternatives* for a discussion of project consistency with the applicable regional plan.

D. Describe the project's consistency with that plan with regard to:
1) economic development _____
2) adequacy of infrastructure _____
3) open space impacts _____

RARE SPECIES SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **rare species or habitat** (see 301 CMR 11.03(2))? ___ Yes _**X**_ No; if yes, specify, in quantitative terms:

(NOTE: If you are uncertain, it is recommended that you consult with the Natural Heritage and Endangered Species Program (NHESP) prior to submitting the ENF.)

B. Does the project require any state permits related to **rare species or habitat**? ___ Yes _**X**_ No

C. Does the project site fall within mapped rare species habitat (Priority or Estimated Habitat?) in the current Massachusetts Natural Heritage Atlas (attach relevant page)? ___ Yes _**X**_ No.

D. If you answered "No" to all questions A, B and C, proceed to the **Wetlands, Waterways, and Tidelands Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Rare Species section below.

II. Impacts and Permits

A. Does the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)? ___ Yes ___ No. If yes,

1. Have you consulted with the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP)? ___Yes ___No; if yes, have you received a determination as to whether the project will result in the "take" of a rare species? ___ Yes ___ No; if yes, attach the letter of determination to this submission.

2. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No; if yes, provide a summary of proposed measures to minimize and mitigate rare species impacts

3. Which rare species are known to occur within the Priority or Estimated Habitat?

4. Has the site been surveyed for rare species in accordance with the Massachusetts Endangered Species Act? ___ Yes ___ No

4. If your project is within Estimated Habitat, have you filed a Notice of Intent or received an Order of Conditions for this project? ___ Yes ___ No; if yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations? ___ Yes ___ No

B. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No; if yes, provide a summary of proposed measures to minimize and mitigate impacts to significant habitat:

WETLANDS, WATERWAYS, AND TIDELANDS SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wetlands, waterways, and tidelands** (see 301 CMR 11.03(3))? ___ Yes _**X**_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits (or a local Order of Conditions) related to **wetlands, waterways, or tidelands**? ___ Yes _**X**_ No; if yes, specify which permit:

The Project includes the change in use of approximately 6.22 acres of landlocked filled tidelands. A Public Benefit Determination pursuant to Chapter 168 of the Acts of 2007 and 310 CMR 13.00, is required to be issued by the Secretary of the Executive Office of Energy and Environmental Affairs following the MEPA process. Refer to Chapter 8, *Proposed Mitigation and Draft Section 61 Findings* for a discussion of the Chapter 91 Public Benefit Determination.

C. If you answered "No" to both questions A and B, proceed to the **Water Supply Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wetlands, Waterways, and Tidelands Section below.

II. Wetlands Impacts and Permits

A. Does the project require a new or amended Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A)? ___ Yes ___ No; if yes, has a Notice of Intent been filed? ___ Yes ___ No; if yes, list the date and MassDEP file number: _____; if yes, has a local Order of Conditions been issued? ___ Yes ___ No; Was the Order of Conditions appealed? ___ Yes ___ No. Will the project require a Variance from the Wetlands regulations? ___ Yes ___ No.

B. Describe any proposed permanent or temporary impacts to wetland resource areas located on the project site:

C. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent:

Coastal Wetlands	Area (square feet) or Length (linear feet)	Temporary or Permanent Impact?
Land Under the Ocean	_____	_____
Designated Port Areas	_____	_____
Coastal Beaches	_____	_____
Coastal Dunes	_____	_____
Barrier Beaches	_____	_____
Coastal Banks	_____	_____
Rocky Intertidal Shores	_____	_____
Salt Marshes	_____	_____
Land Under Salt Ponds	_____	_____
Land Containing Shellfish	_____	_____
Fish Runs	_____	_____
Land Subject to Coastal Storm Flowage	_____	_____
Inland Wetlands		
Bank (lf)	_____	_____
Bordering Vegetated Wetlands	_____	_____
Isolated Vegetated Wetlands	_____	_____
Land under Water	_____	_____
Isolated Land Subject to Flooding	_____	_____
Borderi ng Land Subject to Flooding	_____	_____
Riverfront Area	_____	_____

D. Is any part of the project:
1. proposed as a **limited project**? ___ Yes ___ No; if yes, what is the area (in sf)?____
2. the construction or alteration of a **dam**? ___ Yes ___ No; if yes, describe:
3. fill or structure in a **velocity zone** or **regulatory floodway**? ___ Yes ___ No
4. dredging or disposal of dredged material? ___ Yes ___ No; if yes, describe the volume of dredged material and the proposed disposal site:
5. a discharge to an **Outstanding Resource Water (ORW)** or an **Area of Critical Environmental Concern (ACEC)**? ___ Yes ___ No
6. subject to a wetlands restriction order? ___ Yes ___ No; if yes, identify the area (in sf):
7. located in buffer zones? ___Yes ___No; if yes, how much (in sf) _____

E. Will the project:
1. be subject to a local wetlands ordinance or bylaw? ___ Yes ___ No
2. alter any federally-protected wetlands not regulated under state law? ___ Yes ___ No; if yes, what is the area (sf)?

III. Waterways and Tidelands Impacts and Permits

A. Does the project site contain waterways or tidelands (including filled former tidelands) that are subject to the Waterways Act, M.G.L.c.91? ___ Yes ___ No; if yes, is there a current Chapter 91 License or Permit affecting the project site? ___ Yes ___ No; if yes, list the date and license or permit number and provide a copy of the historic map used to determine extent of filled tidelands:

B. Does the project require a new or modified license or permit under M.G.L.c.91? ___ Yes ___ No; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water-dependent use? Current ___ Change ___ Total ___
If yes, how many square feet of solid fill or pile-supported structures (in sf)?

C. For non-water-dependent use projects, indicate the following:
Area of filled tidelands on the site:_____
Area of filled tidelands covered by buildings:_____
For portions of site on filled tidelands, list ground floor uses and area of each use:
_____
Does the project include new non-water-dependent uses located over flowed tidelands? Yes ___ No ___
Height of building on filled tidelands_____

Also show the following on a site plan: Mean High Water, Mean Low Water, Water-dependent Use Zone, location of uses within buildings on tidelands, and interior and exterior areas and facilities dedicated for public use, and historic high and historic low water marks.

D. Is the project located on landlocked tidelands? ___ Yes ___ No; if yes, describe the project's impact on the public's right to access, use and enjoy jurisdictional tidelands and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

E. Is the project located in an area where low groundwater levels have been identified by a municipality or by a state or federal agency as a threat to building foundations? ___Yes ___ No; if yes, describe the project's impact on groundwater levels and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

F. Is the project non-water-dependent **and** located on landlocked tidelands **or** waterways or tidelands subject to the Waterways Act **and** subject to a mandatory EIR? ___ Yes ___

No;
(NOTE: If yes, then the project will be subject to Public Benefit Review and Determination.)

G. Does the project include dredging? ___ Yes ___ No; if yes, answer the following questions:
What type of dredging? Improvement ___ Maintenance ___ Both ____
What is the proposed dredge volume, in cubic yards (cys) _____
What is the proposed dredge footprint ____length (ft) ___width (ft)____depth (ft);
Will dredging impact the following resource areas?
Intertidal Yes__ No__; if yes, ___ sq ft
Outstanding Resource Waters Yes__ No__; if yes, ___ sq ft
Other resource area (i.e. shellfish beds, eel grass beds) Yes__ No__; if yes __ sq ft
If yes to any of the above, have you evaluated appropriate and practicable steps to: 1) avoidance; 2) if avoidance is not possible, minimization; 3) if either avoidance or minimize is not possible, mitigation?
If no to any of the above, what information or documentation was used to support this determination?
Provide a comprehensive analysis of practicable alternatives for improvement dredging in accordance with 314 CMR 9.07(1)(b). Physical and chemical data of the sediment shall be included in the comprehensive analysis.
Sediment Characterization
Existing gradation analysis results? __Yes ___No: if yes, provide results.
Existing chemical results for parameters listed in 314 CMR 9.07(2)(b)6? ___Yes ____No; if yes, provide results.
Do you have sufficient information to evaluate feasibility of the following management options for dredged sediment? If yes, check the appropriate option.

Beach Nourishment ___
Unconfined Ocean Disposal ___
Confined Disposal:
Confined Aquatic Disposal (CAD) ___
Confined Disposal Facility (CDF) ___
Landfill Reuse in accordance with COMM-97-001 ___
Shoreline Placement ___
Upland Material Reuse____
In-State landfill disposal____
Out-of-state landfill disposal ____
(NOTE: This information is required for a 401 Water Quality Certification.)

IV. Consistency:

A. Does the project have effects on the coastal resources or uses, and/or is the project located within the Coastal Zone? ___ Yes ___ No; if yes, describe these effects and the projects consistency with the policies of the Office of Coastal Zone Management:

B. Is the project located within an area subject to a Municipal Harbor Plan? ___ Yes ___ No; if yes, identify the Municipal Harbor Plan and describe the project's consistency with that plan:

WATER SUPPLY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **water supply** (see 301 CMR 11.03(4))? ___ Yes _**X**_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **water supply**? ___ Yes _**X**_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Wastewater Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Water Supply Section below.

II. Impacts and Permits

A. Describe, in gallons per day (gpd), the volume and source of water use for existing and proposed activities at the project site:

	Existing	Change	Total
Municipal or regional water supply	_____	_____	_____
Withdrawal from groundwater	_____	_____	_____
Withdrawal from surface water	_____	_____	_____
Interbasin transfer	_____	_____	_____

(NOTE: Interbasin Transfer approval will be required if the basin and community where the proposed water supply source is located is different from the basin and community where the wastewater from the source will be discharged.)

B. If the source is a municipal or regional supply, has the municipality or region indicated that there is adequate capacity in the system to accommodate the project? ___ Yes ___ No

C. If the project involves a new or expanded withdrawal from a groundwater or surface water source, has a pumping test been conducted? ___ Yes ___ No; if yes, attach a map of the drilling sites and a summary of the alternatives considered and the results. _____

D. What is the currently permitted withdrawal at the proposed water supply source (in gallons per day)? _____Will the project require an increase in that withdrawal? ___Yes ___No; if yes, then how much of an increase (gpd)? _____

E. Does the project site currently contain a water supply well, a drinking water treatment facility, water main, or other water supply facility, or will the project involve construction of a new facility? ___ Yes ___No. If yes, describe existing and proposed water supply facilities at the project site:

	Permitted Flow	Existing Avg Daily Flow	Project Flow	Total
Capacity of water supply well(s) (gpd)	_____	_____	_____	_____
Capacity of water treatment plant (gpd)	_____	_____	_____	_____

F. If the project involves a new interbasin transfer of water, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?

G. Does the project involve:

1. new water service by the Massachusetts Water Resources Authority or other agency of the Commonwealth to a municipality or water district? ___ Yes ___ No
2. a Watershed Protection Act variance? ___ Yes ___ No; if yes, how many acres of alteration?
3. a non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking

water supply for purpose of forest harvesting activities? ___ Yes ___ No

III. Consistency

Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:

WASTEWATER SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wastewater** (see 301 CMR 11.03(5))? ___ Yes _**X**_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **wastewater**? _**X**_ Yes __ No; if yes, specify which permit:

--Sewer Connection/Extension Permit from the Massachusetts Department of Environmental Protection.

C. If you answered "No" to both questions A and B, proceed to the **Transportation -- Traffic Generation Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wastewater Section below.

II. Impacts and Permits

A. Describe the volume (in gallons per day) and type of disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00 for septic systems or 314 CMR 7.00 for sewer systems):

	Existing	Change	Total
Discharge of sanitary wastewater	**17,574**	**56,700**	**74,274**
Discharge of industrial wastewater	**0**	**0**	**0**
TOTAL	**17,574**	**56,700**	**74,274**

	Existing	Change	Total
Discharge to groundwater	**0**	**0**	**0**
Discharge to outstanding resource water	**0**	**0**	**0**
Discharge to surface water	**0**	**0**	**0**
Discharge to municipal or regional wastewater facility	**0**	**0**	**0**
TOTAL	**0**	**0**	**0**

B. Is the existing collection system at or near its capacity? ___ Yes _**X**_ No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

C. Is the existing wastewater disposal facility at or near its permitted capacity? ___ Yes _**X**_ No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project involve construction of a new facility? ___ Yes _**X**_ No; if yes, describe as follows:

	Permitted	Existing Avg Daily Flow	Project Flow	Total
Wastewater treatment plant capacity (in gallons per day)	_____	_____	_____	_____

E. If the project requires an interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or new?

(NOTE: Interbasin Transfer approval may be needed if the basin and community where wastewater will be discharged is different from the basin and community where the source of water supply is located.)

The Project includes an existing interbasin transfer as the Project Site is located in the Boston Harbor basin and the Deer Island Treatment Plant discharges to the Mass Coastal basin.

F. Does the project involve new sewer service by the Massachusetts Water Resources Authority (MWRA) or other Agency of the Commonwealth to a municipality or sewer district? ___ Yes _**X**_ No

G. Is there an existing facility, or is a new facility proposed at the project site for the storage, treatment, processing, combustion or disposal of sewage sludge, sludge ash, grit, screenings, wastewater reuse (gray water) or other sewage residual materials? ___ Yes _**X**_ No; if yes, what is the capacity (tons per day):

	Existing	Change	Total
Storage	_____	_____	_____
Treatment	_____	_____	_____
Processing	_____	_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

H. Describe the water conservation measures to be undertaken by the project, and other wastewater mitigation, such as infiltration and inflow removal.

The Project design will include low-flow fixtures in the residential units. The Proponent will contribute to the Boston Water and Sewer Commission Sewer Separation program as there are no potential infiltration and inflow mitigation projects in the vicinity in the Project to be completed.

III. Consistency

A. Describe measures that the proponent will take to comply with applicable state, regional, and local plans and policies related to wastewater management:

B. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? ___ Yes _**X**_ No; if yes, indicate the EEA number for the plan and whether the project site is within a sewer service area recommended or approved in that plan:

TRANSPORTATION SECTION (TRAFFIC GENERATION)

I. Thresholds / Permit

A. Will the project meet or exceed any review thresholds related to **traffic generation** (see 301 CMR 11.03(6))? _**X**_ Yes ___ No; if yes, specify, in quantitative terms:

--301 CMR 11.03 (6)(a)(6) Generation of 3,000 or more New adt on roadways providing access to a single location.
--301 CMR 11.03 (6)(b)(13) Generation of 2,000 or more New adt on roadways providing access to a single location.

B. Does the project require any state permits related to **state-controlled roadways**? _**X**_ Yes ___ No; if yes, specify which permit:

--Direct Highway Access Permit from MA Department of Transportation, Highway Division

C. If you answered "No" to both questions A and B, proceed to the **Roadways and Other Transportation Facilities Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Traffic Generation Section below.

II. Traffic Impacts and Permits

A. Describe existing and proposed vehicular traffic generated by activities at the project site:

	Existing	Change	Total
Number of parking spaces	**405**	**+6**	**411**
Surface Spaces	*297*	*(120)*	*177*
Garage Spaces	*108*	*+126*	*234*
Number of vehicle trips per day	**1,494**	**+3,920**	**5,414**
[Saturday]	**[278]**	**[+7,362]**	**[7,640]**
ITE Land Use Code(s):	*****	**NA**	******

* Source: Trip Generation, 8th Edition, Institute of Transportation Engineers, Washington D.C., 2008. LUC 110 (General Light Industrial) and LUC 710 (General Office Building) used to estimate trip generation for individual former site components. The base trip generation estimates were subsequently categorized into transit, walk, bike or vehicular trips following BTD's guidelines for Zone 15.

** Source: Ibid. LUC 220 (Apartment), LUC 820 (Shopping Center) and LUC 850 (Supermarket) used to estimate trip generation for the individual site components. The base trip generation estimates were subsequently categorized into transit, walk, bike or vehicular trips following BTD's guidelines for Zone 15.

B. What is the estimated average daily traffic on roadways serving the site?

Roadway	Existing	Change	Total
1. **Harrison Avenue (south of Herald Street)**	**6,190***	**+415****	**6,605**
[Saturday]	**[6,160*]**	**[+570**]**	**[6,730]**
2. **Albany Street (north of Traveler Street)**	**23,600***	**+1,375****	**24,975**
[Saturday]	**[18,020*]**	**[+415**]**	**[18,435]**

* Source: Automatic traffic recorder counts conducted by VHB, March 2011.

** Change in future roadway volume associated with the Project account for shared trips, transit use, bicyclists/pedestrians and pass-by trips. Future roadway volume projection , as presented in Chapter 3, *Transportation* do not account for former trips generated by Boston Herald; actual volume increases may be lower.

C. If applicable, describe proposed mitigation measures on state-controlled roadways that the project proponent will implement:

The Albany Street/Herald Driveway is a three-way unsignalized intersection in which Albany Street is intersected by one of the site driveways from the west. On-ramp access to I-93 Southbound is provided in close proximity to the intersection on the east side of Albany Street. As part of the Project, in coordination with the MassDOT Highway Division, this site driveway will be improved with either pavement markings, lane demarcation, and/or striping to discourage unsafe traffic maneuvers from Albany Street exit directly to the existing I-93 ramp. To further limit turning movements at this location, this driveway will be restricted to exiting right-turn movements only, with entering right-turns being prohibited.

D. How will the project implement and/or promote the use of transit, pedestrian and bicycle facilities and services to provide access to and from the project site?

The Project provides the opportunity to create a new Mobility Hub (to include ZipCar® service, or a comparable car-sharing service, a public shared bicycle station, and a public Electrical Vehicle (EV) charging station and parking). Additionally, the Project will provide new bicycle facilities (in coordination with BTD), including on-site bike storage for retail customers and employees as well as covered/secure bike storage for residents.

C. Is there a Transportation Management Association (TMA) that provides transportation demand management (TDM) services in the area of the project site? ____ Yes _**X**_ No; if yes, describe if and how will the project will participate in the TMA:

D. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation facilities? ____ Yes _**X**_ No; if yes, generally describe:

E. If the project will penetrate approach airspace of a nearby airport, has the proponent filed a Massachusetts Aeronautics Commission Airspace Review Form (780 CMR 111.7) and a Notice of Proposed Construction or Alteration with the Federal Aviation Administration (FAA) (CFR Title 14 Part 77.13, forms 7460-1 and 7460-2)?

The Project will be 65 feet in height and will not penetrate the approach airspace of Boston-Logan Airport.

III. Consistency

Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:

The Proponent has been closely monitoring the progress of the on-going Harrison-Albany Corridor Strategic Plan being undertaken by the Boston Redevelopment Authority (BRA) in this area. The Project will support with the City's vision in this area as highlighted with the following transportation-related improvements:

- **Assist with the creation of on-street parking (pending BTD approval) on Traveler Street adjacent to the Project Site;**
- **Provide parking ratios consistent with BTD's goals for this subarea, and rehabilitating the existing, unattractive surface parking with a well-landscaped and well-lit parking lot with a reduction of approximately 180 surface spaces compared to existing conditions;**
- **Eliminate of existing curb cuts on Traveler Street and Harrison Avenue; site also being reconfigured so that existing Albany Street driveway will be oriented solely to exiting site employees and delivery trucks, as compared to current parking garage access and egress to this curb cut;**
- **Create a new "Mobility Hub" with car share service, such as ZipCar, a public bicycle share station, and a public EV charging station as well as bicycle storage for retail customers and employees and covered/secure bicycle storage for residents to reduce single-occupant**

automobile travel to the site;

- **Enhance pedestrian safety and circulation through improved/upgraded sidewalks and accompanying streetscape amenities on Harrison Avenue and Traveler Street adjacent to the Project Site, improvements to select portions of sidewalk located along Herald Street and Albany Street as well as and improved illumination of on-site pedestrian walkways; and**
- **Create new development frontage and curbside activity as well as promotes thru-block pedestrian pathways.**

The City is also advancing a city-wide bike-sharing program known as "Hubway" under which there will be 61 bike-sharing stations provided within the city for approximately 600 bicycles. This program began operating in July 2011 and the ultimate goal is for it to expand to the greater Boston region with accommodations for over 5,000 bikes at 300 bike sharing stations. In keeping with the goals of this program, the Proponent will be providing spaces on-site for a bike-sharing station as part of the proposed Mobility Hub (previously mentioned). The exact details of the location and operation of this facility will be determined through ongoing consultation between the Proponent and the City staff advancing the bicycling program. Additionally, appropriately designed bike racks will be provided at highly-visible, centralized locations within the Project Site for retail customers and employees. The racks will be securely mounted and feature current designs to properly secure bikes of all kinds with the ability for them to be properly locked. For residents, covered secure bike storage will be provided in the parking garage.

The bicycle amenities proposed as part of the Project could be particularly attractive given the Project Site's proximity to the South Bay Harbor Trail. This new bike path is currently under development and, upon completion, will extend from Lower Roxbury to Fan Pier to the north. Construction of this Project will be funded through a combination of federal and private sources. This bicycle/pedestrian trail will connect multiple neighborhoods to each other and to Boston Harbor. The route is over three miles long traveling along roadways, bridges and through both public and private property. With its location near the middle portion of the South Bay Harbor Trail the proposed bike-sharing station on the Project Site could be particularly attractive.

TRANSPORTATION SECTION (ROADWAYS AND OTHER TRANSPORTATION FACILITIES)

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **roadways or other transportation facilities** (see 301 CMR 11.03(6))? ___ Yes _**X**_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **roadways or other transportation facilities**? ___ Yes _**X**_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Energy Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Roadways Section below.

II. Transportation Facility Impacts

A. Describe existing and proposed transportation facilities in the immediate vicinity of the project site:

B. Will the project involve any

1. Alteration of bank or terrain (in linear feet)? _____
2. Cutting of living public shade trees (number)? _____
3. Elimination of stone wall (in linear feet)? _____

III. Consistency -- Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan (TIP), the State Bicycle Plan, and the State Pedestrian Plan:

ENERGY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **energy** (see 301 CMR 11.03(7))? ___ Yes _**X**_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **energy**? ___ Yes _**X**_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Air Quality Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Energy Section below.

II. Impacts and Permits

A. Describe existing and proposed energy generation and transmission facilities at the project site:

	Existing	Change	Total
Capacity of electric generating facility (megawatts)	_____	_____	_____
Length of fuel line (in miles)	_____	_____	_____
Length of transmission lines (in miles)	_____	_____	_____
Capacity of transmission lines (in kilovolts)	_____	_____	_____

B. If the project involves construction or expansion of an electric generating facility, what are:

1. the facility's current and proposed fuel source(s)?
2. the facility's current and proposed cooling source(s)?

C. If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way? ___Yes ___No; if yes, please describe:

D. Describe the project's other impacts on energy facilities and services:

III. Consistency

Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services:

AIR QUALITY SECTION

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **air quality** (see 301 CMR 11.03(8))? ___ Yes _**X**_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **air quality**? ___ Yes _**X**_ No; if yes, specify which permit:

The Project may require an air quality permit (under 310 CMR 7.00) for heating boilers and emergency generators (to be determined).

C. If you answered "No" to both questions A and B, proceed to the **Solid and Hazardous Waste Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Air Quality Section below.

II. Impacts and Permits

A. Does the project involve construction or modification of a major stationary source (see 310 CMR 7.00, Appendix A)? ___ Yes ___ No; if yes, describe existing and proposed emissions (in tons per day) of:

	Existing	Change	Total
Particulate matter	_____	_____	_____
Carbon monoxide	_____	_____	_____
Sulfur dioxide	_____	_____	_____
Volatile organic compounds	_____	_____	_____
Oxides of nitrogen	_____	_____	_____
Lead	_____	_____	_____
Any hazardous air pollutant	_____	_____	_____
Carbon dioxide	_____	_____	_____

B. Describe the project's other impacts on air resources and air quality, including noise impacts:

III. Consistency

A. Describe the project's consistency with the State Implementation Plan:

B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:

SOLID AND HAZARDOUS WASTE SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **solid or hazardous waste** (see 301 CMR 11.03(9))? ___ Yes _**X**_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **solid and hazardous waste**? ___ Yes _**X**_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Historical and Archaeological Resources Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Solid and Hazardous Waste Section below.

II. Impacts and Permits

A. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of solid waste? ___ Yes ___ No; if yes, what is the volume (in tons per day) of the capacity:

	Existing	Change	Total
Storage	_____	_____	_____
Treatment, processing	_____	_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

B. Is there any current or proposed facility at the project site for the storage, recycling, treatment or disposal of hazardous waste? ___ Yes ___ No; if yes, what is the volume (in tons or gallons per day) of the capacity:

	Existing	Change	Total
Storage	_____	_____	_____
Recycling	_____	_____	_____
Treatment	_____	_____	_____
Disposal	_____	_____	_____

C. If the project will generate solid waste (for example, during demolition or construction), describe alternatives considered for re-use, recycling, and disposal:

D. If the project involves demolition, do any buildings to be demolished contain asbestos? ___ Yes ___ No

E. Describe the project's other solid and hazardous waste impacts (including indirect impacts):

III. Consistency

Describe measures that the proponent will take to comply with the State Solid Waste Master Plan:

HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

I. Thresholds / Impacts

A. Have you consulted with the Massachusetts Historical Commission? ___ Yes _**X**_ No; if yes, attach correspondence. For project sites involving lands under water, have you consulted with the Massachusetts Board of Underwater Archaeological Resources? ____Yes ____ No; if yes, attach correspondence

B. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? _**X**_ Yes ___ No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? ___ Yes _**X**_ No; if yes, please describe:

C. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes _**X**_ No; if yes, does the project involve the destruction of all or any part of such archaeological site? ___ Yes ___ No; if yes, please describe:

D. If you answered "No" to all parts of both questions A, B and C, proceed to the **Attachments and Certifications** Sections. If you answered "Yes" to any part of either question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below.

II. Impacts

Describe and assess the project's impacts, direct and indirect, on listed or inventoried historical and archaeological resources:

There are numerous properties that are in the Inventory of Historic and Archaeological Assets of the Commonwealth and the State Register of Historic Places within one-quarter mile of the Project Site, including the South End Landmark District and the South End Landmark District Protection Area (in which the Project Site is located). Partial removal of sections of the 1957 Boston Herald Traveler building will not have an adverse impact on the building as it is not considered a significant historic resource. One individually inventoried building, the Brahman and Dow Valve Company/FW Webb Co. building 237 Albany Street located to the east of the Herald Traveler building on the same block, will not be impacted by the Project as no physical changes are proposed to the Webb Co. building as a result of the Project. The Project would not impact the District as it meets the goals of the South End Landmark District Protection Area due to its compatible height, massing, and setback, and complementary design. Refer to Chapter 6, *Historic Resources* for additional information.

III. Consistency

Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources:

Although this area has no form on file at MHC, the South End Landmark Protection Area was established November 14, 1983, the same time as the South End Landmark District. The 1957 Boston Herald Traveler building, which is proposed for alteration as part of the Project, is within the Protection Area and, therefore, is subject to review by the South End Landmark Commission. This area is in the Inventory of Historic and Archaeological Assets of the Commonwealth, but is not listed in the State Register of Historic Places. The goals of the Protection Area are to protect views of the adjacent Landmark District, to ensure that new development or major alterations adjacent to the District is architecturally compatible in massing, setback, and height, and to protect light and air circulation within the District. Refer to Chapter 6, *Historic Resources* for additional information.

CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

   (Name) **Boston Globe** (Date) **February 3, 2012**

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

Signatures:

1/30/12 — Date — Signature of Responsible Officer or Proponent

1/31/12 — Date — Signature of person preparing NPC (if different from above)

Sherry Clancy, LEED AP	**Lauren DeVoe, AICP, LEED AP BD+C**
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