1550 Soldiers Field Road and 21 Soldiers Field Place
Residential Development

PROJECT NOTIFICATION FORM **February 21, 2018**

Submitted Pursuant to Article 80B
of the Boston Zoning Code

SUBMITTED BY:

Dinosaur

Dinosaur 1550 LLC
c/o Dinosaur Capital Partners LLC
800 Boylston Street, 27th Floor
Boston, MA 02199

SUBMITTED TO:

boston planning & development agency

Boston Planning and Development Agency
One City Hall Square, 9th Floor
Boston, MA 02201

PREPARED BY:

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IN ASSOCIATION WITH:

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February 21, 2018

Mr. Brian Golden, Director
Boston Planning and Development Agency
One City Hall Square, 9th Floor
Boston, MA 02201
Attn: Lance Campbell, Senior Project Manager

RE: Project Notification Form
Proposed Multi-Family Residential Development
1550 Soldiers Field Road and 21 Soldiers Field Place, Brighton

Dear Director Golden:

On behalf of Dinosaur 1550 LLC (the "Proponent"), an affiliate of Boston-based developer Dinosaur Capital Partners LLC, as developer of two (2) parcels of land totaling 71,984 square feet (1.65 acres) at 1550 Soldiers Field Road and 21 Soldiers Field Place in the City of Boston's Brighton neighborhood (the "Project Site"), we are pleased to submit this Project Notification Form ("PNF") to the Boston Planning and Development Agency ("BPDA") in accordance with the Article 80B-2 Large Project Review requirements of the Boston Zoning Code. The development proposal is for the construction of 211 market-rate apartment units in a six-story building at 1550 Soldiers Field Road (the "Principal Development") and 38 income-restricted homeownership units at 21 Soldiers Field Place in a four-story condominium building (the "Associated Off-Site Project"), with a combined floor area of approximately 223,000 gross square feet, and approximately 175 on-site parking spaces for both building components: including 148 spaces in an underground garage at 1550 Soldiers Field Road building and 27 ground floor garage spaces at 21 Soldiers Field Place (collectively, the "Proposed Project"). Loading and service to both buildings will be from Soldiers Field Place. The Project will include on-site bicycle storage rooms for approximately 249 bicycles.

The public notice for the PNF appears in the February 21, 2018 edition of the *Boston Herald*.

The Proposed Project will exceed the 50,000 square foot size threshold of Article 80 for a project within a Boston neighborhood, and therefore requires several additional filings pursuant to Large Project Review regulations. A Letter of Intent to File a Project Notification Form was filed with the BPDA on January 8, 2018 (attached hereto as Appendix "A").

In support of the Article 80 Large Project Review process, the Proponent has conducted, and continues to conduct, community outreach with neighbors and abutters of the site, including meetings and discussions with elected representatives and other officials. The Proponent has also made presentations to residents of the surrounding neighborhood sponsored by relevant local civic associations.

On behalf of the entire project team, we would like to thank you and the BPDA staff assigned to the Proposed Project, particularly the Senior Project Manager, Lance Campbell, and the reviewing BPDA Urban Designer, Elizabeth Stifel, for their invaluable assistance to date in assisting the development team in shaping the Proposed Project and in completing this comprehensive PNF filing.

We believe that the Proposed Project will constitute a significant positive addition to the Brighton neighborhood by revitalizing this underutilized site with much-needed new transit-oriented housing in an attractive and thoughtfully designed building. We look forward to continuing the Large Project Review process and advancing the Proposed Project through public review with the cooperation of the BPDA, other City officials, members of the Impact Advisory Group, and the Brighton community.

In accordance with BPDA requirements, please find attached six (6) copies of the PNF.

Very truly yours,
MITCHELL I. FISCHMAN ("MLF") CONSULTING LLC

Mitchell L. Fischman, Principal

PUBLIC NOTICE

The Boston Redevelopment Authority ("BRA"), d/b/a the Boston Planning and Development Agency ("BPDA"), pursuant to Article 80B of the Boston Zoning Code ("Code"), hereby gives notice that Dinosaur 1550 LLC (the "Proponent") has submitted a Project Notification Form ("PNF") on February 21, 2018 to the BPDA for a multi-family residential development at 1550 Soldiers Field Road and an income-restricted home ownership development at 21 Soldiers Field Place in the Brighton neighborhood of Boston for the construction of 211 market-rate apartment units in a six-story structure at 1550 Soldiers Field Road (the "Principal Project") and 38 income-restricted homeownership units in a four-story condominium building at 21 Soldiers Field Place (the "Associated Off-Site Project"), with a combined floor area of approximately 223,000 gross square feet, and approximately 175 on-site parking spaces, including 148 spaces in an underground garage at 1550 Soldiers Field Road and 27 screened ground floor garage spaces at 21 Soldiers Field Place (collectively, the "Proposed Project"). The project area includes 1.65 total acres (approximately 71,984 total square feet), with the Principal Project site consisting of a 1.08 acre (approximately 46,997 square foot) parcel at 1550 Soldiers Field Road which is occupied by a two-story office building and associated surface parking, and the Associated Off-Site Project site, which is occupied by a surface parking lot, consisting of the smaller 0.57 acre (approximately 24,987 square foot) parcel located at 21 Soldiers Field Place (collectively, "Proposed Site"). Approvals are requested of the BPDA pursuant to Article 80. The BPDA in the Scoping Determination for such PNF may waive further review pursuant to Section 80B-5.3(d), if, after reviewing public comments, the BPDA finds that such PNF adequately describes the Proposed Project's impacts. The PNF may be reviewed at the Office of the Secretary of the BPDA, Room 910, Boston City Hall, Boston, MA 02201, between 9:00 AM and 5:00 PM, Monday through Friday except legal holidays. A copy of the PNF is available for review at the Boston Public Library ("BPL"), Brighton Branch, 40 Academy Hill Road, Brighton, and at the BPL Honan - Allston Branch, 300 No. Harvard Street, Allston during scheduled business hours. Public comments on the PNF, including the comments of public agencies, should be submitted by email to: lance.campbell@boston.gov or in writing to: Mr. Lance Campbell, Senior Project Manager, BPDA, One City Hall Square, Boston, MA 02201 by March 26, 2018 at the close of business.

BOSTON REDEVELOPMENT AUTHORITY
Teresa Polhemus, Executive Director/Secretary
February 21, 2018

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

Dinosaur 1550 LLC, (the "Proponent"), an affiliate of Boston-based developer, Dinosaur Capital Partners LLC, is submitting this Project Notification Form ("PNF") for a sustainable, transit-oriented development consisting of a multi-family residential apartment building at 1550 Soldiers Field Road and an income-restricted home ownership condominium building at 21 Soldiers Field Place in the Brighton neighborhood (the "Project Site") in accordance with the Article 80 requirements of the City of Boston Zoning Code ("Code"). Please see **Figure 1-1**. **Project Locus - 1550 Soldiers Field Road and 21 Soldiers Field Place,** and **Figure 1-2. USGS Map.**

The Proponent envisions a transformative residential redevelopment of an underutilized site consisting of two parcels uniquely situated at a gateway location in a newly emerging district. The Project Site is located at the northern riverfront edge of the Brighton neighborhood in a walkable and bike friendly location adjacent to the Charles River and the Dr. Paul Dudley White Bicycle Path. It is also walking distance to the new Boston Landing MBTA Commuter Rail Station with its many surrounding retail and entertainment amenities and new employment opportunities.

Specifically, the proposed Project includes the construction of 211 market-rate apartment units in a six-story building at 1550 Soldiers Field Road (the "Principal Project") and 38 income-restricted homeownership units at 21 Soldiers Field Place in a four-story condominium building (the "Associated Off-Site Project"), with a combined floor area of approximately 223,000 gross square feet, and approximately 175 on-site parking spaces including 148 spaces in an underground garage at 1550 Soldiers Field Road building and 27 screened ground floor garage spaces at 21 Soldiers Field Place (collectively, the "Proposed Project"). While the Proposed Project will consist of two (2) new buildings situated on their own separate parcels of land, the overall Project Site will be master planned and designed together, with vehicular access from Soldiers Field Place, compatible site and pedestrian access improvements, robust usable open spaces and related public realm improvements.

The Project Site includes 1.65 total acres (approximately 71,984 total square feet), with the Principal Project site consisting of a 1.08 acre (approximately 46,997 square foot) parcel at 1550 Soldiers Field Road and Associated Off-Site Project consisting of the smaller 0.57 acre (approximately 24,987 square foot) parcel located at 21 Soldiers Field Place.

In order to address Brighton's unique housing needs, the Proposed Project would include both market-rate rental housing at 1550 Soldiers Field Road and income-restricted homeownership opportunities at 21 Soldiers Field Place. The Proponent proposes to provide 18% income-restricted homeownership units off-site rather than 13% affordable rental units on-site as a part of the Proponent's voluntary compliance with the stricter off-site requirements of the City's Inclusionary Development Policy (the "IDP").

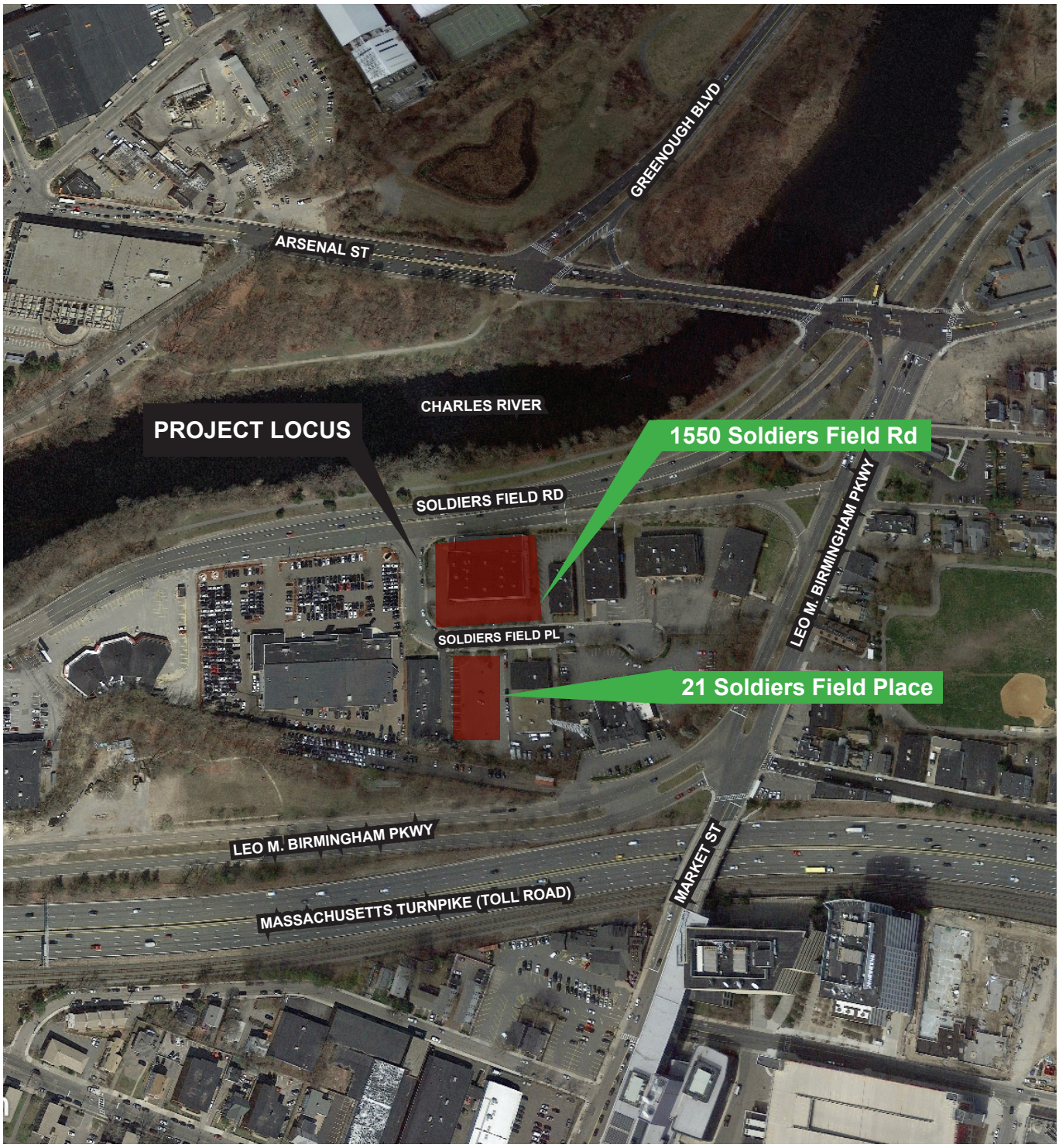


Figure 1-1. Project Locus
1550 Soldiers Field Road, 21 Soldiers Field Place, Brighton

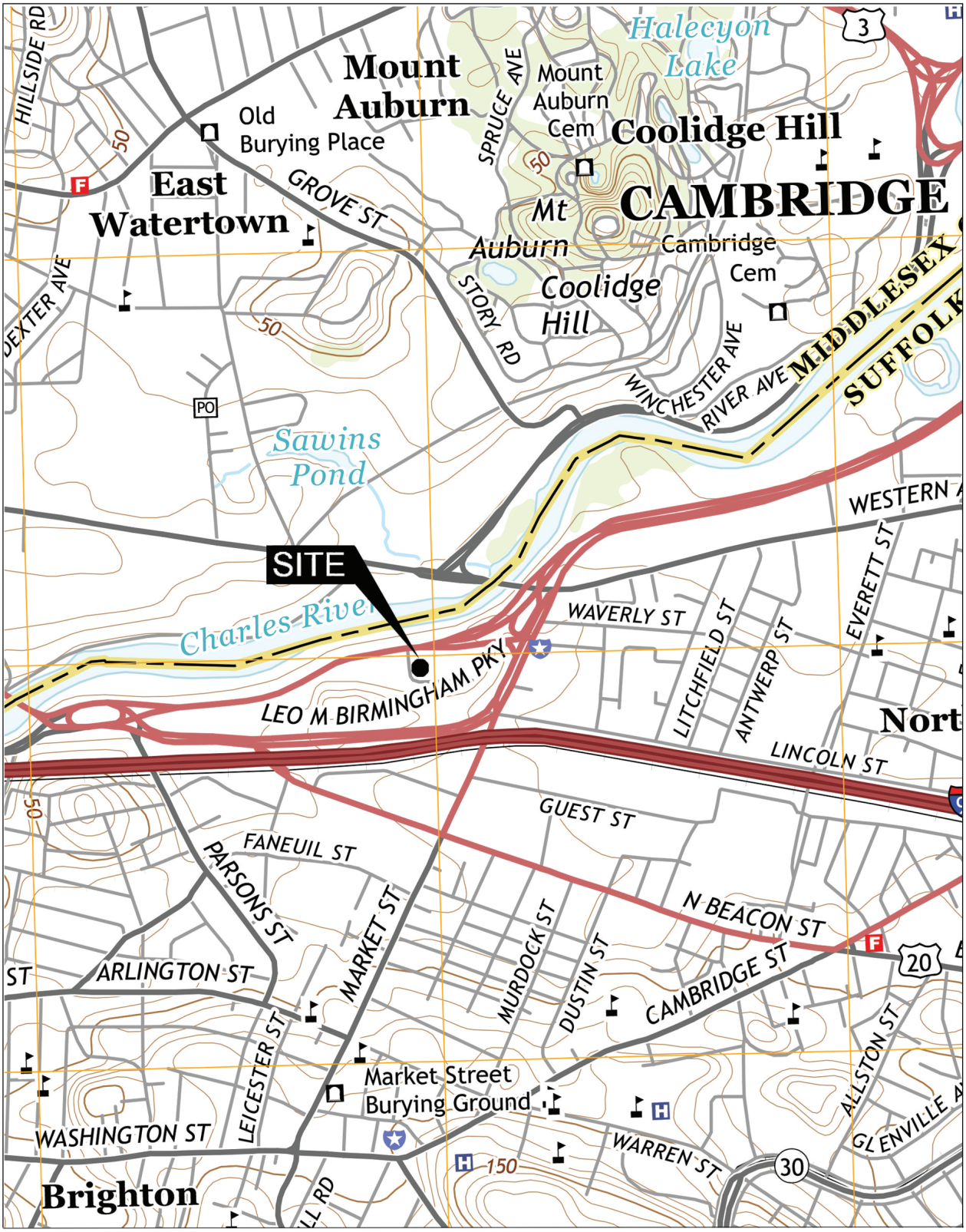


Figure 1-2. USGS Map

1550 Soldiers Field Road / 21 Soldiers Field Place

Situated along the Charles River and a short walk to the newly developed Boston Landing with its own residential, commercial, entertainment and transit uses, the Project Site is ideal for the Proponent's innovative and much-needed market-rate rental and income-restricted condominium homeownership opportunities in two design-forward buildings. The Project is designed to better integrate with, and extend the Brighton neighborhood and connect it to the Charles River and its recreational and bike commuting opportunities. The context of the immediate area supports and is well-suited for the scale and scope of the Proposed Project, which has been carefully designed to respond to, and complement, future growth and planning for the immediate area. Please see **Figures 1-3** thru **1-7**. **Existing Site Photos.**

Consistent with the policy goals of Boston Mayor Martin J. Walsh's 2030 Housing Plan, the Proponent's innovative development program will provide both market-rate rental and a much-needed increase of income-restricted homeownership units in Brighton. In this regard, the proposed 211 units of rental housing at the Principal Project would create 38 new income-restricted homeownership units at the Associated Off-Site Project. At 18% of the total units for the Principal Project, the Proponent's innovative and voluntary housing program would increase IDP's lower requirement of 13% for the Principal Project from 27 units of on-site affordable rental apartments to 38 income-restricted homeownership units, at a new and associated off-site condominium development directly across Soldiers Field Place.

A Letter of Intent to File a Project Notification Form was filed with the Boston Planning and Development Agency on January 8, 2018 (See **Appendix A**).

The nearby neighborhood is a mix of commercial/retail and office/light industrial uses. The site is located in proximity to several public transportation opportunities. The Framingham/Worcester Line of the MBTA Commuter Rail stops at Boston Landing Station, a 12-minute walk and located approximately 1/2 mile southeast of the Project site. The MBTA also operates five bus routes that can be accessed within a short walk from the Project site. The existing MBTA bus lines that run in proximity to the Project site provide access to Cambridge's Harvard and Central Squares, where the MBTA Red Line can be accessed to travel to points in Cambridge and downtown Boston.

1.2 Existing Conditions Plan

The proposed overall site is 1.65 acres (71,984 sf) and includes the Principal Project parcel at 1550 Soldiers Field Road and is bounded to the east by 40 Soldiers Field Pace, to the west by Soldiers Field Place at its intersection with Soldiers Field Road, to the north by Soldiers Field Road, and to the south by Soldiers Field Place. The 1550 Soldiers Field Road site is currently improved by an obsolete and vacant two-story brick 44,800 square foot office building with surface parking at the front and side of the site along Soldiers Field Place. This existing building will be demolished to allow for the new construction. The smaller Associated Off-Site Project site, to be used for the income-restricted homeownership condominium building, is bounded by 15 and 35 Soldiers Field Place and currently improved by a surface parking lot for the use of 1550 Soldiers Field Road. (See **Figure 1-8**. **Existing Conditions Plan.**)

Project site: 1550 Soldiers Field Road

Project site: 1550 Soldiers Field

EXISTING SITE PHOTOS

Project site: 21 Soldiers Field Place (front along SFP)

Project site: 21 Soldiers Field Place (toward rear of parking lot)

EXISTING SITE PHOTOS

15 Soldiers Field Place

Existing pearl ADHC at 35 Soldiers Field Place

EXISTING SITE PHOTOS

40 Soldiers Field Place

44 Soldiers Field Place

EXISTING SITE PHOTOS

50 Soldiers Field Place

End of Cul de Sac on Soldier Field Place

EXISTING SITE PHOTOS

1660 Soldiers Field Road

1660 Soldiers Field Road (from Soldiers Field Place)

AREA PHOTOS

1.3 Detailed Project Program

The proposed Project includes the construction of 211 market-rate apartment units in a six-story building at 1550 Soldiers Field Road (the "Principal Project") and 38 income-restricted homeownership units at 21 Soldiers Field Place in a four-story condominium building (the "Associated Off-Site Project"), with a combined floor area of approximately 223,000 gross square feet, and approximately 175 on-site parking spaces for both building components: including 148 spaces in an underground garage at 1550 Soldiers Field Road building and 27 open-air, ground floor, garage spaces at 21 Soldiers Field Place (collectively, the "Proposed Project"). Please see Project Dimensions in **Table 1-1** below.

The rental apartments currently planned in the Principal Project at 1550 Soldiers Field Road include 60 studios, 87 one-bedroom, and 64 two-bedroom units for a total of 211 units. Garage and service vehicle access will be provided from Soldiers Field Place.

The condominium income-restricted home-ownership units planned at the Associated Off-Site Project at 21 Soldiers Field Place includes 11 studio, 16 one-bedroom, and 11 two-bedroom units, in the same approximate ratio as the unit mix of the Principal Project.

The context of the immediate area is supportive and well-suited for the proposed scale and scope of the Proposed Project. It is a neighborhood transitioning from 1960s vintage strip retail with some existing buildings of two to four stories in height. At 530 Western Avenue, two blocks east of the Project Site, a six-story, 130-unit apartment building is currently under construction.

Table 1-1. Approximate Project Dimensions of Overall Proposed Project

Lot Area	1.65 acres / 71,984 square feet
Gross Square Feet	223,000 gross square feet
Overall FAR	3.1
Floors	6 Floors (1550 Soldiers Field Road) 4 Floors (21 Soldiers Field Place)
Height*	69'11" (1550 Soldiers Field Road) 49'11" (21 Soldiers Field Place)

*Height from Average Front Grade

1.4 Summary of Project Impacts and Mitigation

1.4.1 Urban and Landscape Design

The redevelopment of 1550 Soldiers Field Road and 21 Soldiers Field Place proposes to transform a 1.65 acre site, occupied by a vacant office building and surface parking lot, into a vibrant, pedestrian-friendly, transit-oriented development with much needed housing in the Allston Brighton neighborhood. Two separate buildings will be built – an H-shaped, six-story, 211-unit apartment building along Soldiers Field Road, and 38 affordable condominiums across the street at 21 Soldiers Field Place. Located in a prominent position along Soldiers Field Road, the development will mark a key gateway into a district that is transitioning from commercial/office into mixed use, providing important housing in support of area businesses and the broader Allston Brighton neighborhood. The Project is conceived as a pair of differently scaled, complimentary buildings, each with a character that respects the neighboring context and the changing nature of the neighborhood. The taller apartment building, overlooking the Charles River, meets the ground with gracious landscape courtyards, and marks the site entry with "rippled" decks at its corners. The affordable condominium building extends a gracious entry and lobby along the quiet cul-de-sac of Soldiers Field Place, and sits to the side of its site allowing generous landscaped gardens and a dog run for resident enjoyment.

The Project landscape is designed to enhance the public realm around the Project Site, recognizing its unique location at this prominent gateway into this evolving district. The development edges Soldiers Field Road and will work to engage both existing and improved pedestrian and bike paths that are being considered as part of the circulation to the new Boston Landing transit stop nearby. The landscape and hardscape design for the two buildings is envisioned as a singular element which ties the two parcels together, with strong ties between the interior and exterior of each building.

1.4.2 Sustainable Design

The proposed Project involves developing residences at both 1550 Soldiers Field Road and 21 Soldiers Field Place. The 1550 Soldiers Field Road Project proposes construction of 211 residential units in a six story building with 148 garage spaces. The 21 Soldiers Field Place Project proposes 38 affordable homes in four-story building with 27 screened parking spaces at grade.

To meet the City of Boston requirements, the Project is demonstrating compliance with the LEED BD&C v4 criteria. Both Projects are currently tracking in Silver. 1550 Soldiers Field Road tracks 53 points in the YES column with 34 in the study column. 21 Soldiers Field Place tracks 54 points in the YES column with 33 in the study column. Further study over the coming weeks and months will determine final credit achievement. The credits for the LEED BD&C v4 certification is presented in detail in **Section 3.7.**

1.4.3 Pedestrian Level Wind Conditions

The height of the proposed structure along Soldiers Field Road will not exceed six floors (69'11"), and the proposed building at 21 Soldiers Field Place will not exceed four floors (49'11"). Wind conditions are expected to be similar to that of existing buildings along Soldiers Field Road where nearby buildings range from 1-4 floors.

1.4.4 Shadow Impact Analysis

ICON Architecture, the Project's architect, prepared a shadow study to assess the potential shadow impacts of the Project on the surrounding neighborhood with the shadow drawings contained in detail in **Section 4.1**. Proposed shadow impacts are not extensive. New shadow is generally limited to surrounding streets and adjacent parking lots. Overall, the Project's shadow impacts will be consistent with current patterns and will not adversely impact the Project Site and surroundings.

1.4.5 Daylight Analysis

The proposed six-story building at 1550 Soldiers Field Road is not expected to create an increase in daylight obstruction when compared to the existing two-story building. The proposed four-story building at 21 Soldiers Field Place will lead to additional daylight obstruction as that site is currently improved by only a surface parking lot. Although the 1550 building is taller along Soldiers Field Road than the adjacent buildings, the wide street and its location north of Soldiers Field Place further mitigates possible daylight obstruction. As a result, daylight obstruction values from the Proposed Project are expected to be consistent with, and typical to, the surrounding neighborhood.

1.4.6 Solar Glare

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

1.4.7 Air Quality Analysis

Tech Environmental, Inc., the Project's air quality consultant, conducted analyses to evaluate the existing air quality in the Project area, predict the worst-case air quality impacts from the Project's enclosed parking garages, and evaluate the potential impacts of Project-generated traffic on the air quality at the most congested local intersections (See **Section 4.2**).

Recent representative air quality measurements from the Massachusetts Department of Environmental Protection (DEP) monitors reveal that the existing air quality in the Project area is in compliance with Massachusetts and National Ambient Air Quality Standards (NAAQS) for all of the criteria air pollutants.

The worst-case air quality impacts from the Project's parking garages will not have an adverse impact on air quality. The maximum one-hour and eight-hour ambient CO impacts from the fuel combustion equipment and parking garage, at all locations around the Project site, including background CO concentrations, are predicted to be safely in compliance with the NAAQS for CO.

A microscale air quality analysis was not performed for the Proposed Project due to the estimated Project trip generation having minimal impacts on the overall delays at the one intersection. Therefore, the motor vehicle traffic generated by the Project will not have a significant impact on air quality at this intersection in the Project area and a microscale air quality analysis is not necessary for this Project. The air quality in the Project area will remain safely in compliance with the NAAQS for CO after the Project is built.

1.4.8 Noise Analysis

Tech Environmental, Inc., the Project's noise consultant, conducted a noise study to determine whether the operation of the proposed Project will comply with the Massachusetts DEP Noise Policy and City of Boston Noise Regulations (See **Section 4.3**).

This acoustical analysis involved five steps: (1) establishment of pre-construction ambient sound levels in the vicinity of the Site; (2) identification of potential major noise sources; (3) development of noise source terms based on manufacturer specifications (where available) and similar Project designs; (4) conservative predictions of maximum sound level impacts at sensitive locations using industry standard acoustic methodology; and (5) determination of compliance with applicable City of Boston noise regulations, ordinances and guidelines and with the DEP Noise Policy.

Nighttime ambient baseline sound level (L_{90}) monitoring was conducted at four locations deemed to be representative of the nearby residential areas, during the time period when human activity is at a minimum and any future noise would be most noticeable. The lowest nighttime L_{90} measured in the Project area was 50.5 dBA.

The potential significant sources of exterior sound from the Project have been identified as:

- Two-Hundred Fifty-Two Carrier Model CA16NA018-061 or equivalent single stage air conditioner.
- 4 Greenheck Rooftop ERU exhaust fans
- 4 Greenheck Model CUBE-360-50 Roof Garage Exhaust

The 1550 Soldiers Field Road Project will not create a noise nuisance condition and will fully comply with the most stringent sound level limits set by the Massachusetts DEP Noise Policy and City of Boston Noise Regulations.

1.4.9 Stormwater Management and Water Quality

The Proposed Project is expected to substantially improve the stormwater quality runoff from the site (see **Section 4.6**) and will meet the Boston Water and Sewer Commission (BWSC) Site Plan stormwater requirements. The Project will result in a decrease in impervious area on the site, and will improve the stormwater quality and attenuate the quantity of stormwater runoff being discharged to the BWSC storm drain system through the installation of on-site stormwater management systems and infiltration systems. It is anticipated that the equivalent of 1-inch depth of stormwater over the site's impervious areas will be mitigated by on-site infiltration systems.

In addition to the installation of on-site infiltration systems, stormwater runoff will be treated through the use of deep sump hooded catch basins and stormwater quality treatment units. A stormwater operation and maintenance plan will be developed to support the long-term functionality of the proposed stormwater management systems.

1.4.10 Solid Waste

During the preparation of the Site, debris, including asphalt, trash, and demolition debris will be removed from the Project Site. The Proponent will ensure that waste removal and disposal during construction and operation will be in conformance with the City and DEP's Regulations for Solid Waste.

In order to meet the requirements for the Boston Environmental Department and the LEED™ rating system, the Project will include space dedicated to the storage and collection of recyclables, including dedicated dumpsters at the loading area. The recycling program will meet or exceed the City's guidelines, and provide areas for waste paper and newspaper, metal, glass, and plastics (21 through 27, co-mingled).

1.4.11 Hazardous Waste

The construction of the proposed building foundations will require the removal of the site soils to a depth ranging up to about eight to ten feet below existing grade.

A Phase I Environmental Site Assessment dated October 26, 2017 prepared by McPhail Associates, LLC identified two Historical Recognized Environmental Conditions (HRECs) and one Recognized Environmental Condition (REC) on the subject site as described in **Section 4.5.2**. A subsequent Phase II Environmental Site Assessment dated December 11, 2017, determined that the REC identified during the Phase I ESA is no longer considered an environmental concern.

The Proponent will retain a Licensed Site Professional (LSP) to manage the environmental aspects of the Project, including proper management and/or off-site disposal of any contaminated soil or groundwater encountered during construction. If necessary, the LSP will also prepare the required Massachusetts Contingency Plan (MCP) (310 CMR 40.0000) regulatory submittals.

1.4.12 Geotechnical/Groundwater Impacts Analysis

Groundwater was observed at a depth of approximately 9.5 to 10 feet below the existing ground surface or from approximately Elevation +10.5 to Elevation +9.8 in three borings completed by a contractor under the supervision of McPhail Associates, LLC on October 24, 2017.

Based on the scope of the proposed construction and the subsurface conditions encountered at the site by McPhail in its site investigations, McPhail recommended that the proposed residential buildings at 1550 Soldiers Field Road and 21 Soldiers Field Place be founded on conventional spread footing foundations in conjunction with a soil-supported slab-on-grade.

It is expected that McPhail will be retained to provide design assistance to the design team during the final design phase of the Project. Please see **Section 4.6** for additional information.

1.4.13 Construction Impacts Analysis

Section 4.7 describes impacts likely to result from the Proposed Project's construction and the steps that will be taken to avoid or minimize environmental and transportation-related impacts. The Proponent will employ a construction manager that will be responsible for developing a construction phasing and staging plan and for coordinating construction activities with all appropriate regulatory agencies. The Project's geotechnical consultant will provide consulting services associated with foundation design recommendations, prepare geotechnical specifications, and review the construction contractor's proposed procedures.

Construction is expected to commence in the 3rd quarter of 2018 and will require approximately 18 months to complete.

The Proponent will comply with applicable state and local regulations governing construction of the Project. The Proponent will require that the general contractor comply with the Construction Management Plan ("CMP") developed in consultation with and approved by the Boston Transportation Department ("BTD"), prior to the commencement of construction. The construction manager will be bound by the CMP, which will establish the guidelines for the duration of the Project and will include specific mitigation measures and staging plans to minimize impacts on abutters.

Most construction activities will be accommodated within the current site boundaries. Details of the overall construction schedule, working hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in a Construction Management Plan to be filed with BTD in accordance with the City's transportation maintenance plan requirements. To minimize transportation impacts during the construction period, there will be limited construction worker parking on-site, carpooling will be encouraged, secure on-site spaces will be provided for workers' supplies and tools so they do not have to be brought to the site each day, and subsidies for MBTA passes will be considered. The

Construction Management Plan to be executed with the City prior to commencement of construction will document all committed measures.

1.4.14 Wetlands/Flood Hazard Zone

The Project Site is not a part of a wetland resource area regulated by the Massachusetts Wetland Protection Act. Based on the Preliminary Flood Insurance Rate Maps (FIRM) for Suffolk County (Panel 57 of 131, No. 250286), the Project sites are not located in a special flood hazard area, floodway area, or other flood area.

1.4.15 Historic Resources Component

According to files at the Massachusetts Historical Commission, there are no structures listed in the National or State Register of Historic Places, or the Inventory of Historical and Archaeological Assets of the Commonwealth on the Project Site. It is not expected that the Project will cause adverse impacts on the historic or architectural elements of nearby historic resources outside the Project Site (see **Section 5.0**).

1.4.16 Infrastructure Systems Component

A utility infrastructure system analysis (**Section 6.0**) was completed by Nitsch Engineering, the Project's Civil Engineer. The existing infrastructure surrounding the sites appears sufficient to serve the needs of the Proposed Project. **Section 6.0** describes the existing BWSC sanitary sewer, water, and storm drainage systems surrounding the sites and explains how these systems will serve the development. This analysis also discusses any anticipated Project-related impacts on the existing utilities and identifies mitigation measures to address these potential impacts.

1.4.17 Transportation Component

Section 7.0 presents the comprehensive transportation study completed by Howard Stein Hudson Associates (HSH) for the proposed Project in conformance with the BTD Transportation Access Plan Guidelines (2001). The study analyzes existing conditions within the Project study area, as well as conditions forecast to be in place under the seven-year planning horizon of 2024.

The Project will include the demolition of the existing 44,800 square foot office building and the construction of a new six-story residential building consisting of 211 rental dwelling units and the construction of a new four-story residential building consisting of 38 income-restricted condominium units. Parking will be provided for 175 vehicles at the site in two parking areas. Parking for 148 vehicles will be provided in an underground garage beneath the building located at 1550 Soldiers Field Road and 27 parking spaces will be located in a screened ground floor garage at 21 Soldiers Field Place.

The analysis employs mode use data for the area surrounding the Project Site based on 2000 U.S. Census data and BTD data for Area 17 – North Allston, and identifies the number of trips generated by the Project. The Project will replace an existing office building. Therefore, the overall impact of the Project will include the reduction of the office trips no longer using the Project Site. The Project will add approximately 232 net new vehicle trips on a daily basis, with 0 net new vehicle trips during the a.m. peak hour (-20 entering/20 exiting) and 6 net new vehicle trips during the p.m. peak hour (19 entering/-13 exiting). Office trips usually have a directional distribution of entering in the morning and exiting in the evening whereas residential buildings have the opposite directional distribution of exiting in the morning and exiting in the evening. As a result, any net new peak hour trips are generally in the opposite direction of existing office generated trips.

The Project will contain 175 parking spaces. This results in a parking ratio of approximately 0.70 parking spaces per dwelling unit, consistent with the BTD maximum parking goals. Loading and service operations will occur on-site in a designated loading area. Residential move-in/move-out activity will take place within the Project Site.

Access to the Project Site will be provided by Soldiers Field Place, a dead end roadway off of Soldiers Field Road. As referenced, the site will have two parking areas, a 148-space garage under the 1550 Soldiers Field Road building and a 27-space ground level garage on the first floor of 21 Soldiers Field Place. Existing curb-cuts will be relocated or removed.

The Proponent is committed to implementing a transportation demand management ("TDM") program that supports the City's efforts to reduce dependency on the automobile by encouraging alternatives to driving alone, especially during peak travel periods. Proposed measures include, but are not limited to, providing transit information (schedules, maps, and fare information) to guests and visitors and on-site bicycle storage, providing a guaranteed ride home program to employees, and providing a transit pass program to the employees. The transportation coordinator will oversee all transportation issues including managing vehicular and valet operations, service and loading, valet parking, and TDM programs.

1.4.18 Response to Climate Change Questionnaire

Please see **Appendix E** for the Proponent's Responses to the City of Boston's Climate Change Questionnaire.

1.4.19 Responses to City of Boston Access Guidelines

Please see **Appendix F** for the Proponent's Responses to the City of Boston's Access Guidelines.

2.0 GENERAL INFORMATION

2.1 Applicant Information

2.1.1 Project Proponent

The Proponent is **Dinosaur 1550 LLC**, an affiliate of Boston-based developer Dinosaur Capital Partners LLC. Dinosaur's recent development project experience includes 28 Austin Street, a 68-unit mixed income apartment building built on a municipal parking lot in Newton, 240 Sidney Street, a 96-unit mixed-income apartment building in Cambridge, and One Merrimac Street, a small but highly visible retail project in Boston. The Proponent's principals are Scott Oran and Mark Dufton. Previously, Mr. Oran, while head of Morgan Stanley's real estate investing in the Northeast, directed the redevelopment of 360 Newbury Street in the Back Bay with Boston Residential Group and the acquisition and master planning of Seaport Square, 26 acres in the Seaport, with Boston Global Investors and WS Development.

2.1.2 Project Team

Project Name	1550 Soldiers Field Road / 21 Soldiers Field Place
Property Owner / Developer	**Dinosaur 1550 LLC** **c/o Dinosaur Capital Partners LLC** 800 Boylston Street, 27th Floor Boston, MA 02199 Tel: 617-422-6584 Scott Oran soran@dinosaurcap.com Mark T. Dufton mdufton@dinosaurcap.com
Article 80 Permitting Consultant	**Mitchell L. Fischman Consulting** **("MLF Consulting") LLC** 41 Brush Hill Road Newton, MA 02461 Mitch Fischman mitchfischman@gmail.com Tel: 781-760-1726

Legal Counsel/Outreach	**McDermott Quilty & Miller LLP** 28 State Street, Suite 802 Boston, MA 02109 Tel: 617-946-4600 Joseph Hanley, Esq. - Partner jhanley@mqmllp.com Tel: 617-946-4600, Ext. 4438 Nicholas Zozula, Esq. nzozula@mqmllp.com Tel: 617-946-4600 Ext. 4440
Architect	**ICON Architecture** 101 Summer Street Boston, MA 02110 Tel: 617-451-3333 Nancy Ludwig nludwig@iconarch.com Chuanyangje Xu cxu@iconarch.com Tel: 857-246-7420
Landscape Architect	**Copley Wolff Design Group** Landscape Architects and Planners 10 Post Office Square, Suite 1315 Boston, MA 02109 Tel: 617-654-9000 John Copley jwolff@copley-wolff.com Ian S. Ramey iramey@copley-wolff.com
Transportation Planner / Engineer	**Howard Stein Hudson** 11 Beacon Street, Suite 1010 Boston, MA 02108 Tel: 617-482-7080 Keri Pyke, P.E., PTOE kpyke@hshassoc.com Tel: 617-348-3301 Michael Littman mlittman@hshassoc.com Tel: 617-348-3304

Civil Engineer/ Infrastructure	**Nitsch Engineering** 2 Center Plaza, Suite 430 Boston, MA 02108 Tel: 617-338-0063 Deborah M. Danik, PE, LEED AP BD+C, CPESC DDanik@nitscheng.com Tel: 857-206-8737
Sustainability Consultant	**Soden Sustainability Consulting** 19 Richardson Street Winchester, MA 01890 Tel: 617-372-7857 Colleen Ryan Soden, LEED AP BD+C colleen@sodensustainability.com
Noise and Air Consultant	**Tech Environmental, Inc.** Hobbs Brook Office Park 303 Wyman Street, Suite 295 Waltham, MA 02451 Tel: 781-890-2220 Marc C. Wallace mwallace@techenv.com Tel: 781-890-2220 x30
Geotechnical/ Environmental / 21E Engineer	**McPhail Associates, LLC** 2269 Massachusetts Ave Cambridge, MA 02140 Tel: 617-868-1420 Scott S. Smith, P.E. (Geotechnical) SSS@mcphailgeo.com Tel: 617-868-1420 Ext. 342 Laura D. Pacheco (Environmental) LPacheco@mcphailgeo.com
Surveyor	**Feldman Land Surveyors** 152 Hampden Street Boston, MA 02119 Tel: 617-357-9740 Michael Schultz SMcDonagh@feldmansurveyors.com Tel: 617-708-8614

Construction Commencement	3rd Quarter 2018
Construction Completion	1st Quarter 2020
Status of Project Design	Schematic

2.1.3 Legal Information

Legal Judgments or Actions Pending Concerning the Proposed Project:

None.

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

There is no current or past history of tax arrears on property owned by the Proponent.

Nature and Extent of Any and All Public Easements:

The Site is bounded by utility easements for sewer, electric, telephone and gas. Additionally, there are no utilities that cross the Project Site based on the existing survey.

2.2 Public Benefits

The Proposed Project will provide substantial public benefits to the City of Boston and the Brighton neighborhood. In this regard, the Proposed Project:

- Creates a sustainable transit-oriented residential development in an emerging district;
- Creates 211 units of much-needed rental housing in the Principal Project located at 1550 Soldiers Field Road;
- Creates 38 income-restricted condominium homes (18% of the Principal Project) in the Associated Off-Site Project located at 21 Soldiers Field Place in accordance with the off-site provisions of City's Inclusionary Development Policy (IDP);
- Introduces new neighborhood residents who will provide support to the local community and utilize local businesses;
- Includes a Project scope and scale that will further the residential policy goals of Boston Mayor Martin J. Walsh's 2030 Housing Plan;
- Replaces an obsolete vacant, two-story office building and parking lot;
- Creates a gateway to the Charles River on Soldiers Field Road transitioning away from the current 1960's strip-style, one-story sprawl;

- Offers an opportunity for a transit-oriented location with the new Boston Landing MBTA commuter rail station within walking distance;
- Activates an underutilized site at the crossroads of numerous modes of public transit with ready access to that public transit as well as the state highway system;
- Provides additional residential use to activate Soldiers Field Road and the Charles River in a walkable and bicycle friendly location near the 17-mile Dr. Paul Dudley White bicycle path just across Soldiers Field Road;
- Introduces new street trees, rebuilt sidewalks and other streetscape amenities to improve and enhance the pedestrian landscape and experience;
- Establishes a premier example of sustainable construction and development;
- Creates many new jobs in the construction and building trade industries during construction; and
- Adds substantial new annual property taxes for the City of Boston.

2.3 Regulatory Controls and Permits

2.3.1 Zoning Overview

The combined Project Site includes approximately 1.65 total acres (approximately 71,984 total square feet), with the larger 1.08 acre (approximately 46,997 square foot) parcel at 1550 Soldiers Field Road and the smaller 0.57 acre (approximately 24,987 square foot) parcel located across the street at 21 Soldiers Field Place. The parcel at 1550 Soldiers Field Road is bounded by 40 Soldiers Field Place, to the south by Soldiers Field Place at its intersection with Soldiers Field Road, to the west by Soldiers Field Road, and to the east by Soldiers Field Place. The smaller 21 Soldiers Field Place parcel is bounded by 15 and 35 Soldiers Field Place and is south of 1550 Soldiers Field Road across Soldiers Field Place.

The combined Project Site is located within the Allston/Brighton Neighborhood Zoning District and within its Community Commercial (CC-1) Subdistrict as well as a Greenbelt Protection Overlay District ("GPOD"). Map 7A/7B/7C/7D of the Boston Zoning Maps, adopted by the Zoning Commission of the City of Boston on November 6, 1991, effective November 13, 1991, as amended effective June 22, 2017, governs the Project Site, as does Article 51 of the Zoning Code. As the Proposed Project exceeds 50,000 square-feet of new construction at this particular location in the Brighton neighborhood, it is subject to the BPDA's Large Project Review regulations, pursuant to Article 80 of the Code.

As the Project Site is within 100 feet from a park or parkway, the Proposed Project will be reviewed by Boston Parks and Recreation Commission and approval will be sought. Pursuant to 7-4.11 Permission for Construction Near Parks or Parkways, "No building or structure shall hereafter be erected or altered within a distance of one hundred (100') feet from park or parkway in the City of Boston, without permission in writing having first been obtained from the Parks and Recreation Commission . . ."

The Site and its proposed use are also subject to review under the GPOD and Article 29 of the Code, requiring the Proponent to submit plans to the City of Boston Parks Commission for review, and approval of a Conditional Use Permit from the ZBA. The GPOD is a special zoning district designated along Boston's Greenbelt Roadways. A Greenbelt Roadway includes any landscaped roadway or major thoroughfare that is characterized by open space or landscaping along its right-of-way or that is used primarily by noncommercial or pleasure vehicles. Any Projects proposed in a GPOD must show that it will result in the minimum interference with significant natural features, provide for proper management and maintenance of those features, and avoid excessive runoff and erosion.

While approximately 175 total parking spaces are currently proposed (148 garage spaces in a lower-level garage accessed from Soldiers Field Place along with 27 enclosed ground level garage spaces located at 21 Soldiers Field Place), the final amount of off-street parking and loading will be reviewed and determined by the BPDA pursuant to the provisions of the Article 80 Large Project Review process.

2.3.2 Boston Zoning Code – Use Requirements

The proposed Multifamily Residential Use is a Conditional Use within the relevant Community Commercial 1 Zoning Subdistrict under Article 51 of the Zoning Code.

2.3.3 Boston Zoning Code – Dimensional Requirements

The Proposed Project will include approximately 223,000 feet of gross floor area on a combined site that consists of approximately 71,984 square feet of land, for a resulting Projected combined floor area ratio ("FAR") of approximately 3.10. The CC-1 Zoning Subdistrict establishes a maximum FAR of 1.0. The applicable dimensional regulations under CC-1 Zoning Subdistrict require No Minimum Lot Size, No Additional Lot Area, No Lot Width Minimum and No Side Yard Minimum. The applicable dimensional regulations require a maximum building height of 35 feet, a Front Yard Setback Minimum of seven (7) feet, a Rear Yard Setback Minimum of 20 feet and 50 square feet of usable open space per dwelling unit. The CC-1 Subdistrict allows for the below-referenced dimensional regulations pursuant to Article 51 -Tables D and E of the Code. The Proposed Project will seek Dimensional Variances for excessive FAR, excessive building height, insufficient open space and insufficient yard setbacks.

As the Project is subject to Large Project Review, required off-street parking spaces and off-street loading facilities are expected to be determined as a part of the Large Project Review in accordance with the provisions of Article 80 of the Boston Zoning Code. Design elements of the Proposed Project will also be reviewed pursuant to Large Project Review.

Table 2-1. Community Commercial 1 (CC-1) Subdistrict - Dimensional Requirements

Dimensional Element	Community Commercial 1 (CC-1) Subdistrict	Combined Project (1)	1550 Soldiers Field Road	21 Soldiers Field Place	Conditional Use Permits/ Variance(s) Required?
Minimum Lot Size	None	71,984 sf (1.65 acres)	46,997 sf (1.08 acres)	24,987 sf (0.57 acres)	No
Dwelling Units	---	249	211	38	
Minimum Lot Area Per Dwelling Unit	None	289 sf per dwelling unit	223 sf per dwelling unit	658 sf per dwelling unit	No
Max. Floor Area Ratio	1.0	3.10 (223,000 gsf)	---	---	Yes
Maximum Building Height	35 feet	69’ 11”	69’ 11”	49’ 11”	Yes
Minimum Lot Width	None	289 feet	189 feet	100 feet	No
Minimum Lot Frontage	None	780 feet	680 feet	100 feet	No
Minimum Front Yard	7 feet (2)	0’8”	0’8”	5’3”	Yes
Minimum Side Yard	None (3)	9 feet	10 feet	9 feet	No
Minimum Rear Yard	20 feet (4)	41 feet	n/a	41 feet	No
Minimum Usable Open Space	50 sf (5)	126 sf	---	---	No
Minimum Number of Parking Spaces	N/A	175	148	27	Article 80(6)

1. The dimensions described in this above table may change as the Proposed Project undergoes design review with the BRA.
2. See Section 51-52.1, Street Wall Continuity. In the Western Avenue/Soldiers Field Road Community Commercial Subdistrict (CC-1), the minimum required front yard shall be seven (7) feet. (Text Amd. No. 407 , § 3, 7-23-14)
3. In a Neighborhood Business Subdistrict, no side yard is required except in the case of a lot with a side lot line abutting a Residential Subdistrict, which shall have side yards as if it were in such abutting district. Every side yard so required that does not abut a street line shall, along every lot line on which such yard abuts, be at a level no higher than that of the lowest window sill of the lowest room designed for human occupancy or so occupied, and relying upon natural light or natural ventilation from windows opening on such yard.
4. In a Neighborhood Business Subdistrict, every rear yard required by this code that does not abut a street line shall, along every lot line on which such yard abuts, be at a level no higher than the level of the lowest window sill in the lowest room designed for human occupancy or so occupied, and relying upon natural light or natural ventilation from windows opening on such yard.
5. In a Neighborhood Business Subdistrict, all or a portion of required usable open space may be met by suitably designed and accessible space on balconies of main buildings or on roofs of wings of main buildings, or on the roofs of accessory buildings.
6. Required off-street parking spaces shall be determined through BRA's Large Project Review in accordance with Article 80 of the Code.

2.4 Preliminary List of Permits or Other Approvals Which May be Sought

Agency Name	Permit or Action*
Federal or State Agencies	
U.S. Environmental Protection Agency	Notice of Intent for EPA Construction Activities General Discharge Permit with associated SWPPP, If Required
MA Department of Conservation and Recreation	Possible Sidewalk Repair Plan; Curb-Cut Permit; Street/Sidewalk Occupancy Permit; Permit for Street Opening
MA Department of Environmental Protection, Division of Water Pollution Control	Sewer Connection Self Certification
MA Department of Environmental Protection, Division of Air Quality Control	Fossil Fuel Permit, If Required
Local Agencies	
Boston Planning and Development Agency	Article 80 Review and Execution of Related Agreements; Section 80B-6 Certificate of Compliance
Boston Parks And Recreation Commission	Proposed Project within 100 feet of Greenbelt Overlay District or Land Subject to Parks Commission Review
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Plan
Boston Department of Public Works Public Improvements Commission	Possible Sidewalk Repair Plan; Curb-Cut Permit; Street/Sidewalk Occupancy Permit; Permit for Street Opening
Boston Fire Department	Approval of Fire Safety Equipment
Boston Public Safety Commission – Committee on Licenses	Garage License, Flammable Fuels
Boston Water and Sewer Commission	Approval for Sewer and Water and Connections; Construction Site Dewatering; and Storm Drainage
Boston Zoning Board of Appeal	Variances and Conditional Use Permit(s), if Required
Boston Department of Inspectional Services	Building Permits; Certificates of Occupancy; Other Construction-Related Permits

*This is a preliminary list based on Project information currently available. It is possible that not all of these permits or actions will be required, or that additional permits may be needed.

2.5 Public Review Process and Agency Coordination

In support of the required Article 80 Large Project Review process, the Proponent has conducted, and will continue to conduct, community outreach and related pre-file review to seek input and integrate certain program measures into the Proposed Project. This has included meetings with neighbors and abutters of the Site, including meetings and discussions with the elected representatives and officials from the area, and with the residents of the adjacent Brighton and Allston neighborhoods. In this regard, the Proponent conducted preliminary community outreach to seek initial input and support for the Proposed Project by voluntarily canvassing the neighborhood for its own sponsored initial abutters meeting on November 9, 2017, and hosting a site visit with community leadership. The Proponent and its development team also presented the Proposed Project at community meeting(s) before the Brighton/Allston Improvement Association on December 7, 2017, and with the executive leadership of the Allston Civic Association, in order to receive community-wide input from these two applicable neighborhood organizations.

Additionally, the Proponent has discussed the Proposed Project with representatives of the BPDA prior to filing this Project Notification Form, including BPDA pre-filing meetings on November 15, 2017, December 5, 2017, and January 29, 2018, in order to identify issues/concerns as well as design requirements related to the Project.

In specific response to the input received, the proposed development program was reduced in scale before the filing of this PNF including the introduction of an improved housing program that better reflects the unique dynamics of the Brighton neighborhood, reducing the total rental unit program at the Principal Project (1550 Soldiers Field Road) from 230 units to 211 units, and eliminating the remote at-grade surface parking proposed at 21 Soldiers Field Place, and instead adding much-needed 38 income-restricted homeownership units at this associated off-site development.

In accordance with Article 80 requirements, an Impact Advisory Group ("IAG") was formed to review the Projects filings, and BRA-sponsored neighborhood meeting will be scheduled to review the PNF and receive community comments on the Proposed Project during the PNF public review period.

The Proponent will continue to meet with public agencies, neighborhood representatives, local business organizations, abutting property owners, and other interested parties, and will follow the requirements of Article 80 pertaining to the public review process.

2.6 Development Impact Payment ("DIP") Status

Based on current schematic design plans, it is <u>not</u> anticipated that Development Impact Payments ("DIP"), in accordance with Article 80B-7 of the Code, will be required as the Proposed Project is below the 100,000 gsf threshold for *non-residential uses* where DIP is required, as it contains solely a multifamily residential use.

3.0 URBAN DESIGN AND SUSTAINABILITY

3.1 Urban Design Overview

The redevelopment of 1550 Soldiers Field Road proposes to transform a 1.65 acre site, occupied by a vacant warehouse and open parking lot, into a vibrant, pedestrian-friendly, transit-oriented development with 249 new residential units in two unique buildings. Located in a prominent position along Soldiers Field Road, the development will mark a key gateway into a district that is transitioning from commercial/office into mixed use, providing important housing in support of area businesses and the broader Allston Brighton neighborhood. The development will enhance this changing district with broad, landscaped courtyards and sidewalks, and take advantage of views across the parkway to the Charles River and its landscaped parkland.

The site is actually two separate assessor parcels bisected by Soldiers Field Place, as follow:

- 1550 Soldiers Field Road is the northern 1.08 acre parcel, bounded by Soldiers Field Road (and the Charles River beyond) to the north, and Soldiers Field Place to the west and south; a single-story office building sits on an adjacent property to the east. The site is currently occupied by a vacant, two-story former warehouse/office building.
- 21 Soldiers Field Place is the southern 0.57 acre parcel. Currently paved for parking to service the building at the 1550 site, and bounded to each side by commercial properties and their parking lots, the site is almost exclusively hardscape. The southern edge of the site is edged by a +/- 20 foot tall retaining wall, atop of which is a discontinued street, now privately owned and used as a parking lot, and a sliver of parkland that abuts Leo Birmingham Parkway. Given the +-20' grade change and intervening private land ownership, there is no connection to Birmingham Parkway.

Currently, access to both sites is provided from Soldiers Field Place.

The Urban Design figures and Sustainability LEED Checklists, are included at the end of this section (please see **Figures 3-1** thru **3-18**).

3.2 Building Design

The proposed Project is conceived as a pair of differently scaled, complimentary buildings, each with a character that respects the neighboring context and the changing nature of the neighborhood.

3.2.1 1550 Soldiers Field Road

1550 Soldiers Field Road consists of 211 apartments in a six-story building over a single level podium garage below grade. The unit mix will include studio, one- and two-bedroom apartments. The building's "H-shaped" plan creates two courtyards between the building wings -- a landscaped entry court to the south, and an outdoor amenity area on the north side looking beyond to the Charles River over Soldiers Field Road. First floor interior amenity areas for the residents will extend between the courtyards. Some private patios will be created adjacent to the apartments that surround the amenity courtyard, and decks for units on upper floors are angled to capture views to the river beyond. The below-grade garage provides parking for 148 cars. The garage will include generous bicycle storage areas and charging stations for electric cars.

3.2.2 21 Soldiers Field Place

21 Soldiers Field Place's four-story scale of this 38-unit income-restricted condominium building steps down to mediate between the lower scaled commercial buildings of the district. The simple, linear mass of the building extends in a north/south direction, aligning the entry lobby directly across from the entry courtyard to 1550. Given its prominent view as one enters the district from Soldiers Field Road, the street facing end volume is highlighted by a broad entry canopy and vertically grouped windows. The broad open space beyond the garage entry is landscaped along the building length, with Projecting balconies for all the units along this west facing façade. A screened at-grade garage provides 27 parking spaces for this building.

3.3 Character and Materials

3.3.1 1550 Soldiers Field Road

Taking inspiration from its location along the Charles River, the 1550 Soldiers Field Road's apartment building's corners playfully "ripple" decks and bays to engage the visual connection to the riverfront. The design approach distinguishes both its prominent Soldiers Field Road location as well as its internal courtyard with the use of varying materials and textures. The rippled corners, alternating between recess and Projection, add shadow and interest to dissolve the inside/outside boundary. The main body of the building is clad with siding, emphasizing the residential quality of the development. At the "ripple" corners, brightly colored shingles clad the angled walls, to provide a rich texture, like that of water walls with a lively patterning. The alternate recessed floors are clad in a "wood-look" siding, connecting to the natural setting of the parkland along the river. This wood-look material highlights recessed corners in the volume as well. Large punched openings in these facades reveal groups of residential decks, and engage the larger scale of this broad parkway, with decks twisting to enhance the river view. A tall crown above the upper story ties the building volumes together.

At the entry courtyard, a Projecting frame groups windows over the building entry in a simple gesture to direct attention to the lobby beyond and the broad, landscaped courtyard.

3.3.2 21 Soldiers Field Place

A similar palette of materials is employed on the 21 Soldiers Field Place building, with siding and wood-look accents providing a strongly residential quality. The decks allow the building to engage the landscaped side yard and retaining wall at the rear of the site. Garage openings are framed with horizontal bands of wood-look siding, offering a residential fencing scale against the landscaped side yard.

3.4 Open Space and Landscape Design

The intention of the Project is to enhance the public realm around the Project site, and develop an appropriately scaled building for the area that recognizes its unique location at this prominent gateway into this evolving district. The development edges Soldiers Field Road and will work to engage improved pedestrian and bike paths that are being considered as part of the circulation to the new Boston Landing transit stop nearby.

The landscape and hardscape design for the proposed 1550 Soldiers Field Road and 21 Soldiers Field Place Project is envisioned as a singular element which ties the two parcels together. New 7' minimum width pedestrian sidewalks are provided along the maintained curb layout with 3'wide vehicular curb tip-downs at driveways and accessible curb ramps at a new crosswalk between the apartment building and condominium building.

Around the apartment building, a minimum 10' wide green buffer is provided along the Soldiers Field Road frontage. The green buffer is comprised of a gently sloped berm that rises about 3' high from the existing sidewalk elevation to the face of building. A low stone or textured concrete garden wall spans between the wings of the building and provides elevation for the 8,000 square foot residential courtyard which is approximately five feet above the sidewalk elevation. A grove of native birch trees runs along the face of the building and extends into the courtyard. The understory planting will be comprised of native river's edge plantings such as Summersweet, Dogwood, and Inkberry. On the west side of the apartment building, a row of street trees are planted at 40 feet on center.

Along Soldiers Field Place a 2,500 square foot south-facing lobby entry courtyard, accessible from the sidewalk is provided along with a drop–off / pick-up zone along the sidewalk. The entry courtyard is buffered from the street by a linear raised planter with shade trees. The planter will have integral bench seating. Garage access and a curb cut for loading are located on the eastern side of the apartment building.

On the condominium building site, a 30-foot wide open space is provided on the west side which includes a 2,500 square foot garden grove space for sitting and socializing and an enclosed 3,000 square foot dog park for use by residents of both parcels. The lobby entry to condominium building has an 800 square foot terrace which opens towards the apartments building. The existing retaining wall on the south end of the condominium site will be cleaned up and new landscaping will be installed to soften the face of the

wall. A 10 foot wide buffer planting strip of birch trees and understory plantings is provided on the east side of the site in addition to a low perimeter fence.

3.5 Vehicular Circulation and Pedestrian Environment

Vehicles will enter each site with direct access into the garages, allowing as much site area as possible to be landscaped. Landscaping will activate the wide sidewalks of Soldiers Field Place, hopefully establishing a new standard for this emerging neighborhood.

3.6 Consistency with Area Plans

This area in the Allston Brighton neighborhood is continuing to evolve, taking advantage of the transit improvements at Boston Landing. The Boston Planning and Development Agency is currently evaluating pedestrian connections throughout this area to provide safer travel to the new transit stop, as well as considering improved means to access the Charles River parkland across Soldiers Field Road. Planning principles will target a reactivated and continuous streetscape. The potential exists for multiple underutilized sites to transform the neighborhood from a scattering of commercial and industrial uses to a vital, mixed-use neighborhood.

This proposed Project represents a step in realizing the goals of a reconnected neighborhood by transforming a vacant building and parking lot into a lively residential community. When completed, the Project will provide improved pedestrian areas for the district and provide much needed housing, including income-restricted homeownership opportunities. It will animate the edges of this emerging mixed-use district.

3.7 Sustainable Design/Energy Conservation

The proposed Project involves developing residences at both 1550 Soldiers Field Road and 21 Soldiers Field Place. The 1550 Soldiers Field Road Project proposes construction of 211 residential units with approximately 148 garage spaces. The 21 Soldiers Field Place Project proposes 38 affordable homes in four-story building with 27 parking spaces at grade.

To meet the City of Boston requirements, the Project is demonstrating the compliance with the LEED BD&C v4 criteria. Both Projects are currently tracking in Silver. 1550 Soldiers Field Road tracks 53 points in the YES column with 34 in the study column. 21 Soldiers Field Place tracks 54 points in the YES column with 33 in the study column. Further study over the coming weeks and months will determine final credit achievement. We have outlined in the narrative below, how the Project (including both buildings) intends to achieve the prerequisites and credits for the LEED BD&C v4 certification.

3.7.1 Introduction

Sustainability informs every design decision. Enduring and efficient buildings conserve embodied energy and preserve natural resources. The Project embraces the opportunity to positively influence the urban environment. Its urban location takes advantage of existing infrastructure

while access to mass transportation will reduce dependence on single occupant vehicle trips and minimize transportation impacts.

The Proponent and the Project design team are committed to an integrated design approach and are using the LEED Building Design and Construction v4 rating system and intend to meet certification as presented above. This rating will meet or exceed Boston's Green Building standard. The LEED rating system tracks the sustainable features of the Project by achieving points in following categories: Location & Transportation; Sustainable Sites; Water Efficiency; Energy and Atmosphere; Materials and Resources; Indoor Environmental Quality; and Innovation and Design Process.

3.7.2 Location and Transportation

The Location and Transportation credit category encourages development on previously developed land; minimizing a building's impact on ecosystems and waterways, regionally appropriate landscaping, smart transportation choices. The Project Site is considered a High Priority Site, as there is some site contamination that will need to be removed. Additionally, the Project is located on a site which meets surrounding existing density requirements within a ¼-mile radius of the Project boundary. There are ample amenities within ½ mile of the Project.

The City of Boston requires 1 bicycle parking space per residential unit. With a proposed 249 dwelling units, we are providing, at a minimum 250 secure and covered bicycle parking spaces. Additionally, the City requires one outdoor/open bicycle parking space per 5 dwelling units, meaning this Project requires 50 outdoor bicycle parking spaces, which will also be provided onsite. Both buildings will achieve a reduced parking footprint by limiting parking to 40% below the baseline set by LEED.

The Project provides access to quality transit as the location is within one-half mile of the Boston Landing Commuter Rail stop and within one-quarter mile of the 86, 70, 70 A, and 64 busses.

3.7.3 Sustainable Sites

The development of sustainable sites is at the core of sustainable design, stormwater runoff management, and reduction of erosion, light pollution, heat island effect, and pollution related to construction and site maintenance are critical to lessening the impact of development.

The Project will create and implement an erosion and sedimentation control plan for all construction activities associated with the Project. The plan will conform to the erosion and sedimentation requirements of the 2012 U.S. Environmental Protection Agency (EPA) Construction General Permit (CGP) or local equivalent, whichever is more stringent.

The Project will complete and document a site survey or assessment that will demonstrate the relationships between the site features and topics, Topography, Hydrology, Climate, Vegetation,

Soils, Human use. The Project will evaluate compliance with light pollution reduction from the building and the site lighting.

In order to reduce the impact of urban heat island effect, more than 75% of the parking spaces will be below grade under an SRI compliant roof along with light colored paving materials.

The Project will also meet the requirements of Light Pollution Reduction.

3.7.4 Water Efficiency

Buildings are major users of our potable water supply and conservation of water preserves a natural resource while reducing the amount of energy and chemicals used for sewage treatment. The goal of the Water Efficiency credit category is to encourage smarter use of water, inside and out. Water reduction is typically achieved through more efficient appliances, fixtures, and fittings inside and water-wise landscaping outside. To satisfy the requirements of the Water Use Reduction Prerequisite and credit, the Project will incorporate water conservation strategies that include low flow plumbing fixtures for water closets and faucets. The landscape will be designed to reduce the need for potable water for irrigation by 50% and select plant material that is native and adaptive.

The Project is targeting a minimum 45% indoor water use reduction from the baseline. All newly installed toilets, urinals, private lavatory faucets, and showerheads that are eligible for labeling will have the Water Sense label.

The Project will evaluate installing permanent water meters that measure the total potable water use for the building and associated grounds in addition to water meters for two or more of the following water subsystems, as applicable to the Project: irrigation, indoor plumbing fixtures and fittings, domestic hot water, boiler. Metering data will be compiled into monthly and annual summaries; and the resulting whole-Project water usage data can be shared with USGBC.

3.7.5 Energy & Atmosphere

According to the U.S. Department of Energy, buildings use 39% of the energy and 74% of the electricity produced each year in the United States. The Energy and Atmosphere credit category encourages a wide variety of energy strategies: commissioning; energy use monitoring; efficient design and construction; efficient appliances, systems and lighting; the use of renewable and clean sources of energy, generated on-site or off-site; and other innovative practices.

Fundamental Commissioning and Enhanced commissioning will be pursued. Envelope commissioning will also be evaluated as an alternative. A whole-building energy simulation will be performed for the Project demonstrating a minimum improvement of 20% for new construction according to ANSI/ASHRAE/IESNA Standard 90.1–2010, Appendix G, with errata. The team will analyze efficiency measures during the design process and account for the results

in design decision-making. The team will use energy simulation of efficiency opportunities and past energy simulation analyses for similar buildings.

The Project will evaluate installing new or use existing building-level energy meters or submeters that can be aggregated to provide building-level data representing total building energy consumption (electricity, natural gas, chilled water, steam, fuel oil, propane, biomass, etc.). To comply with the Fundamental refrigerant management prerequisite. The Project will not use chlorofluorocarbon (CFC)-based refrigerants in new heating, ventilating, air-conditioning, and refrigeration (HVAC&R) systems.

The Project will evaluate renewable energy production. If it is not possible, the buildings will be solar ready. The Project will select refrigerants that are used in heating, ventilating, air-conditioning, and refrigeration (HVAC&R) equipment to minimize or eliminate the emission of compounds that contribute to ozone depletion and climate change.

3.7.6 Materials & Resources

During both construction and operations, buildings generate tremendous waste and use many materials and resources. This credit category encourages the selection of sustainable materials, including those that are harvested and manufactured locally, contain high-recycled content, and are rapidly renewable. It also promotes the reduction of waste through building and material reuse, construction waste management, and ongoing recycling programs.

The Project will provide dedicated areas accessible to waste haulers and building occupants for the collection and storage of recyclable materials for the entire building. Collection and storage areas may be separate locations. Recyclable materials will include mixed paper, corrugated cardboard, glass, plastics, and metals. The Project will also take appropriate measures for the safe collection, storage, and disposal of two of the following: batteries, mercury-containing lamps, and electronic waste.

The Project will develop and implement a construction and demolition waste management plan that will identifying at least five materials (both structural and nonstructural) targeted for diversion. The Project will divert at least 75% of the total construction and demolition material; diverted materials must include at least four material streams. The Project will also consider completing a life-cycle assessment. Careful material selection will be performed for the Project. Where possible the Project hopes to integrate products that have Environmental Product Declarations (EPD). Sourcing of raw materials and corporate sustainability reporting, and Material Ingredients disclosures.

3.7.7 Indoor Environmental Quality

The U.S. Environmental Protection Agency estimates that Americans spend about 90% of their day indoors, where the air quality can be significantly worse than outside. The Indoor Environmental Quality credit category promotes strategies that can improve indoor air through low emitting materials selection and increased ventilation. It also promotes access to natural daylight and views.

The Project will meet the minimum requirements of ASHRAE Standard 62.1–2010, Sections 4–7, Ventilation for Acceptable Indoor Air Quality (with errata), or a local equivalent, whichever is more stringent. The Project will provide enhanced indoor air quality strategies. The Project will provide entryway systems design systems, interior cross-contamination prevention and filtration. The Project will target low emitting materials for all materials within the building interior that is defined as everything within the waterproofing membrane. This includes requirements for product manufacturing volatile organic compound (VOC) emissions in the indoor air and the VOC content of materials.

The Project will develop and implement an indoor air quality (IAQ) management plan for the construction and preoccupancy phases of the buildings, meeting or exceeding all applicable recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2nd edition, 2007, ANSI/SMACNA 008–2008, Chapter 3. The Project will protect absorptive materials stored on-site and installed from moisture damage.

The Project will prohibit the use of all tobacco products inside the buildings and within 25 feet (8 meters) of the building entrances during construction. Daylight will be evaluated for energy efficiency opportunities and benefits for the occupants.

The Project will achieve a direct line of sight to the outdoors for at least 75% of all regularly occupied floor area. View glazing in the contributing area will provide a clear image of the exterior, not obstructed by frits, fibers, patterned glazing, or added tints that distort color balance.

3.7.8 Innovation and Design Process

The Innovation in Design and Innovation in Operations credit categories provide additional points for projects that use new and innovative technologies, achieve performance well beyond what is required by LEED credits, or utilize green building strategies that are not specifically addressed elsewhere in LEED. This credit category also rewards projects for including a LEED Accredited Professional on the team to ensure a holistic, integrated approach to design, construction, operations and maintenance.

Five credits are being pursued and could include the following:

- Innovation in Design: EP Heat Island Reduction (yes)
- Innovation in Design: Green Housekeeping (yes)
- Innovation in Design: Integrated Pest Management (yes)
- Innovation in Design: Education (yes)
- Innovation in Design: Water Rec (yes)

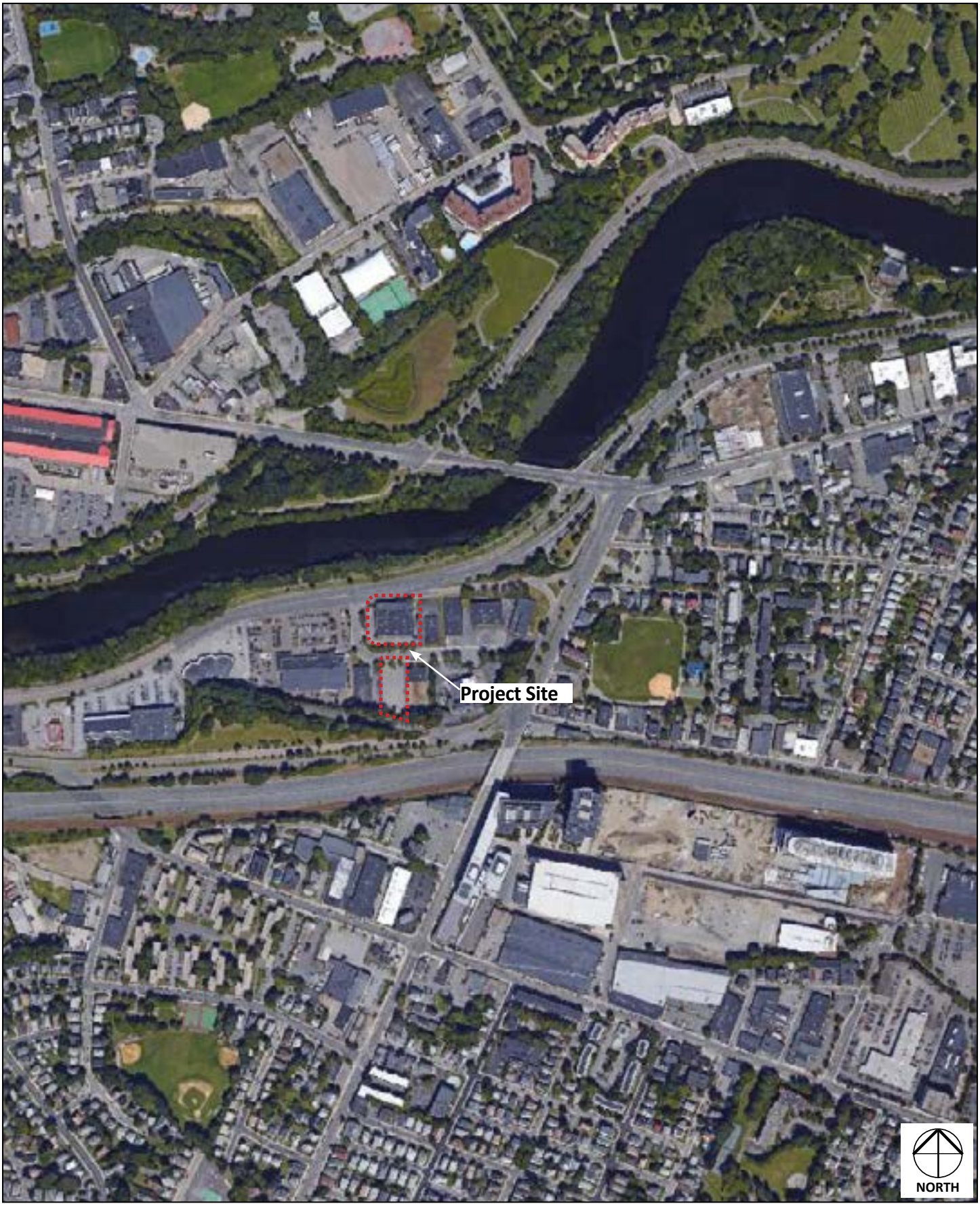
Regional Priority

- Indoor Water Use (yes)
- High Priority Site (yes)
- Regional Priority: Optimize Energy (yes)
- Regional Priority: Renewable Energy (maybe)

3.8 Urban Design Drawings

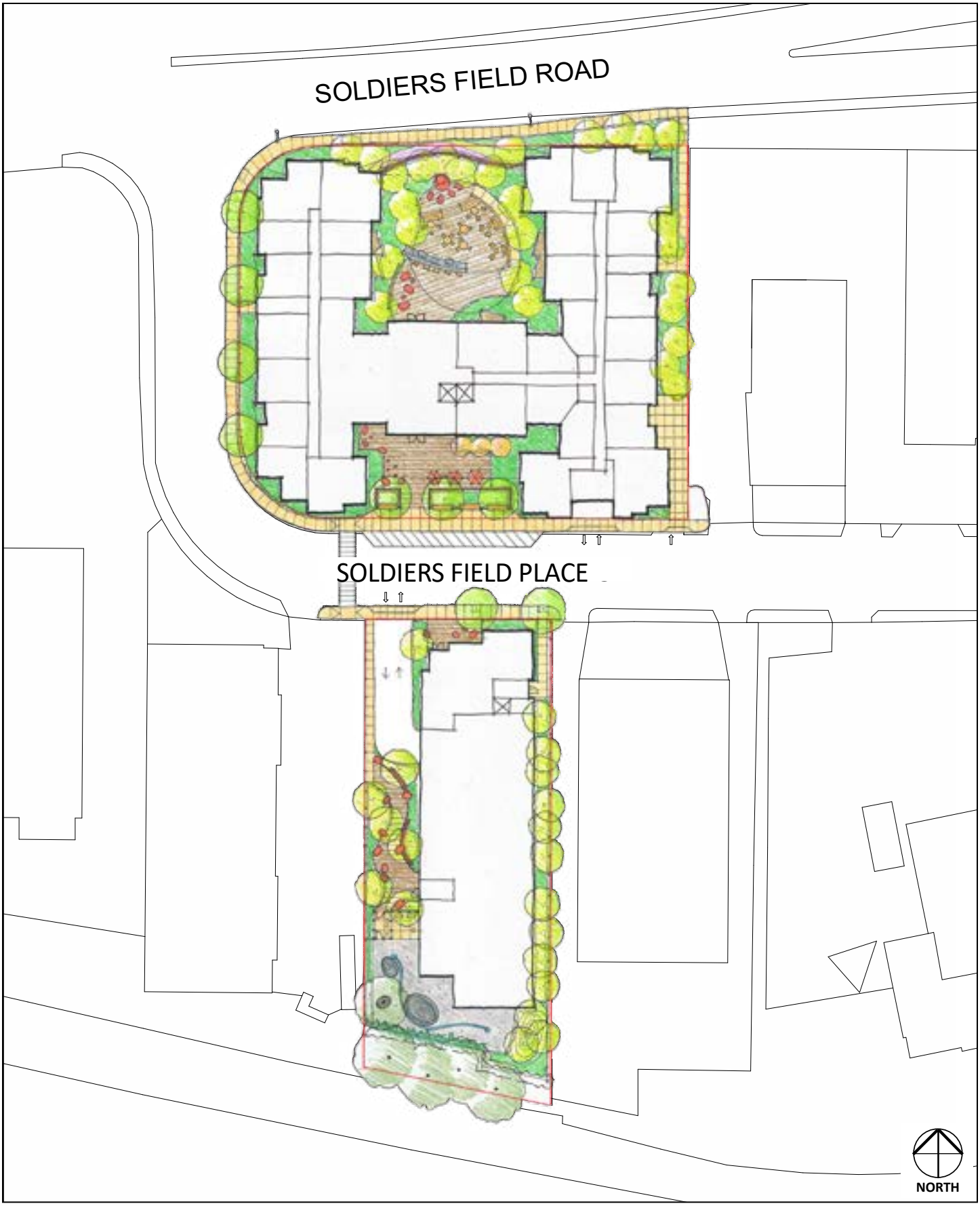
Urban design drawings and renderings depicting the Proposed Project and the two LEED Checklists include:

Figure 3-1: Proposed Development Aerial View
Figure 3-2: Proposed Site- Plan View
Figure 3-3: Landscape Plan
Figure 3-4: Garage Plan
Figure 3-5: First Floor Plan
Figure 3-6: Second/Third Floor Plan
Figure 3-7: Fourth Floor Plan
Figure 3-8: Fifth Floor Plan
Figure 3-9: Sixth Floor Plan
Figure 3-10: Roof Plan
Figure 3-11: Elevations of 1550 Soldiers Field Road
Figure 3-12: Elevations of 21 Soldiers Field Place
Figure 3-13: Perspective Views
Figure 3-14: Perspective Views
Figure 3-15: Perspective Views
Figure 3-16: Perspective Views
Figure 3-17: 1550 Soldiers Field Road - LEED Checklist
Figure 3-18: 21 Soldiers Field Place- LEED Checklist

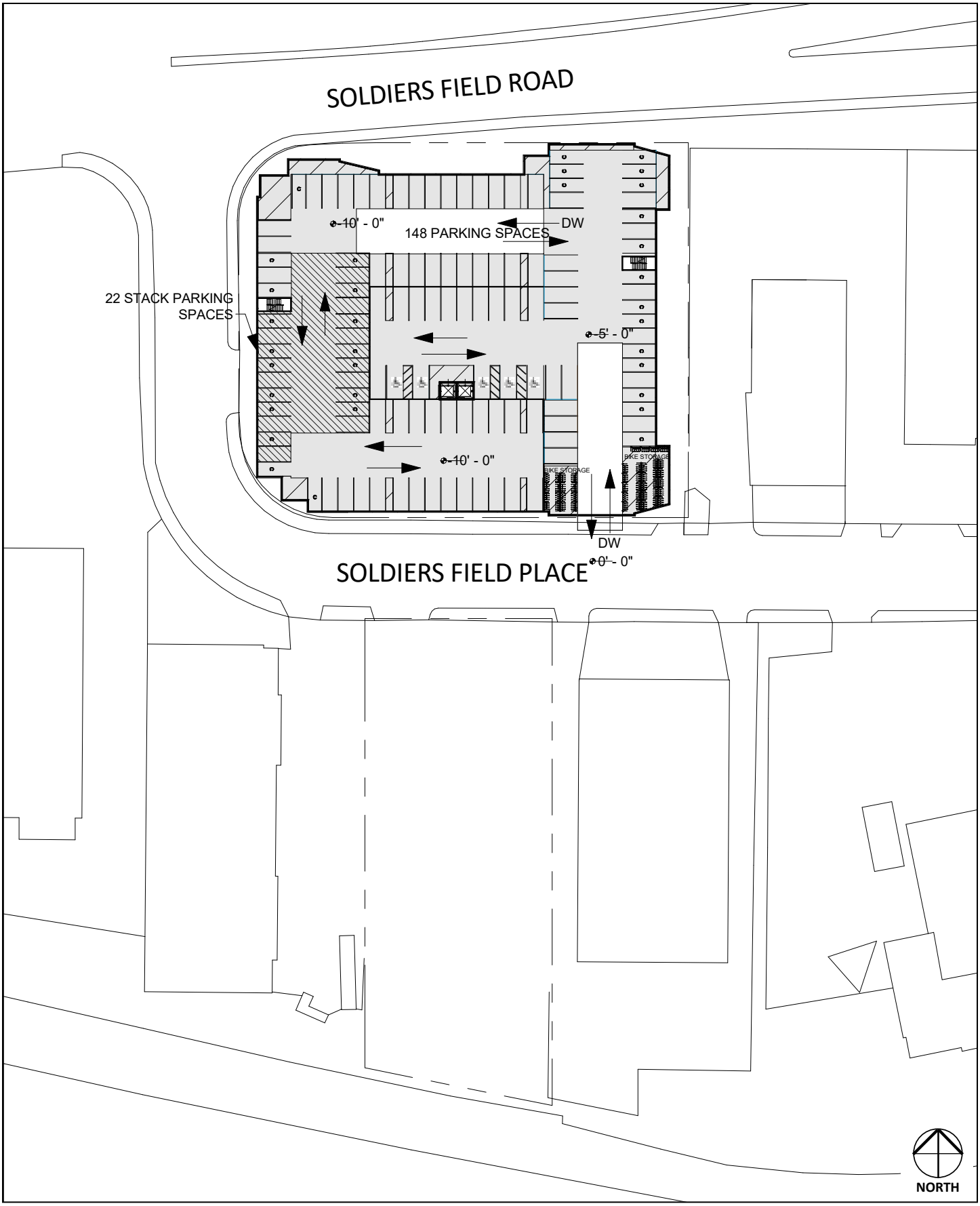


PROPOSED DEVELOPMENT AERIAL VIEW

PROPOSED SITE PLAN



LANDSCAPE PLAN

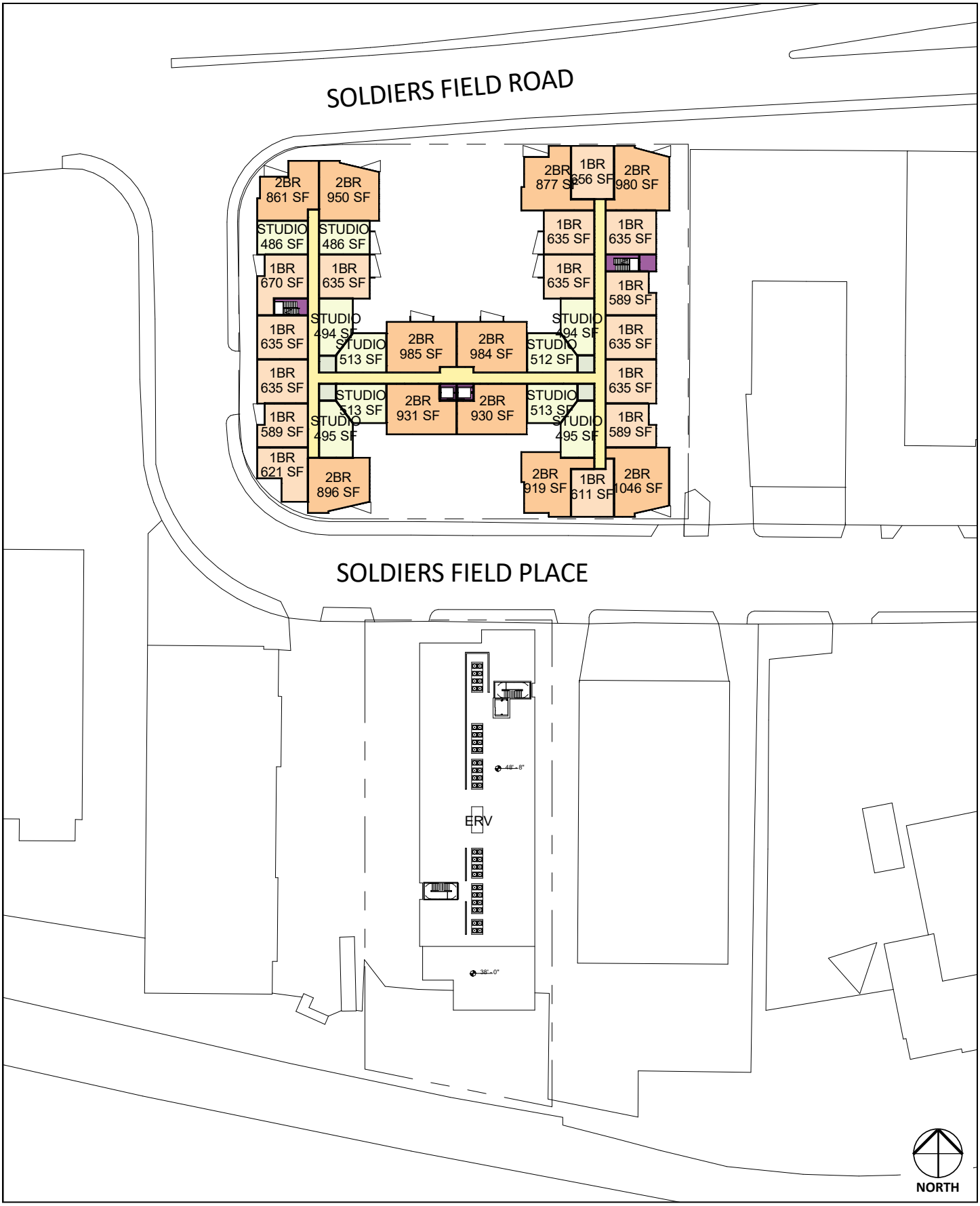

SOLDIERS FIELD ROAD
10' - 0"
148 PARKING SPACES
DW
22 STACK PARKING SPACES
5' - 0"
10' - 0"
BIKE STORAGE
BIKE STORAGE
DW
0' - 0"
SOLDIERS FIELD PLACE
NORTH

GARAGE PLAN

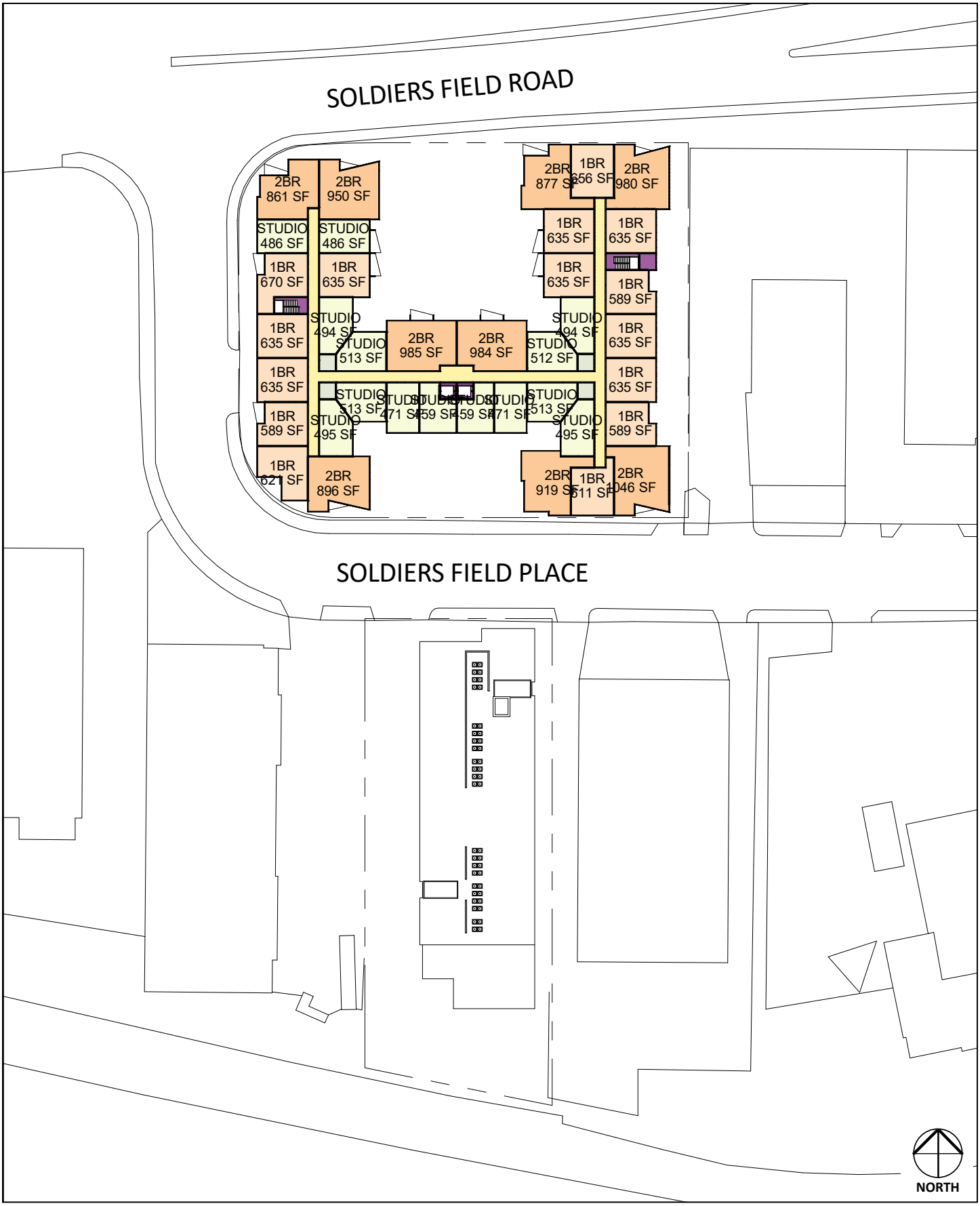
FIRST FLOOR PLAN

SECOND/THIRD FLOOR PLAN

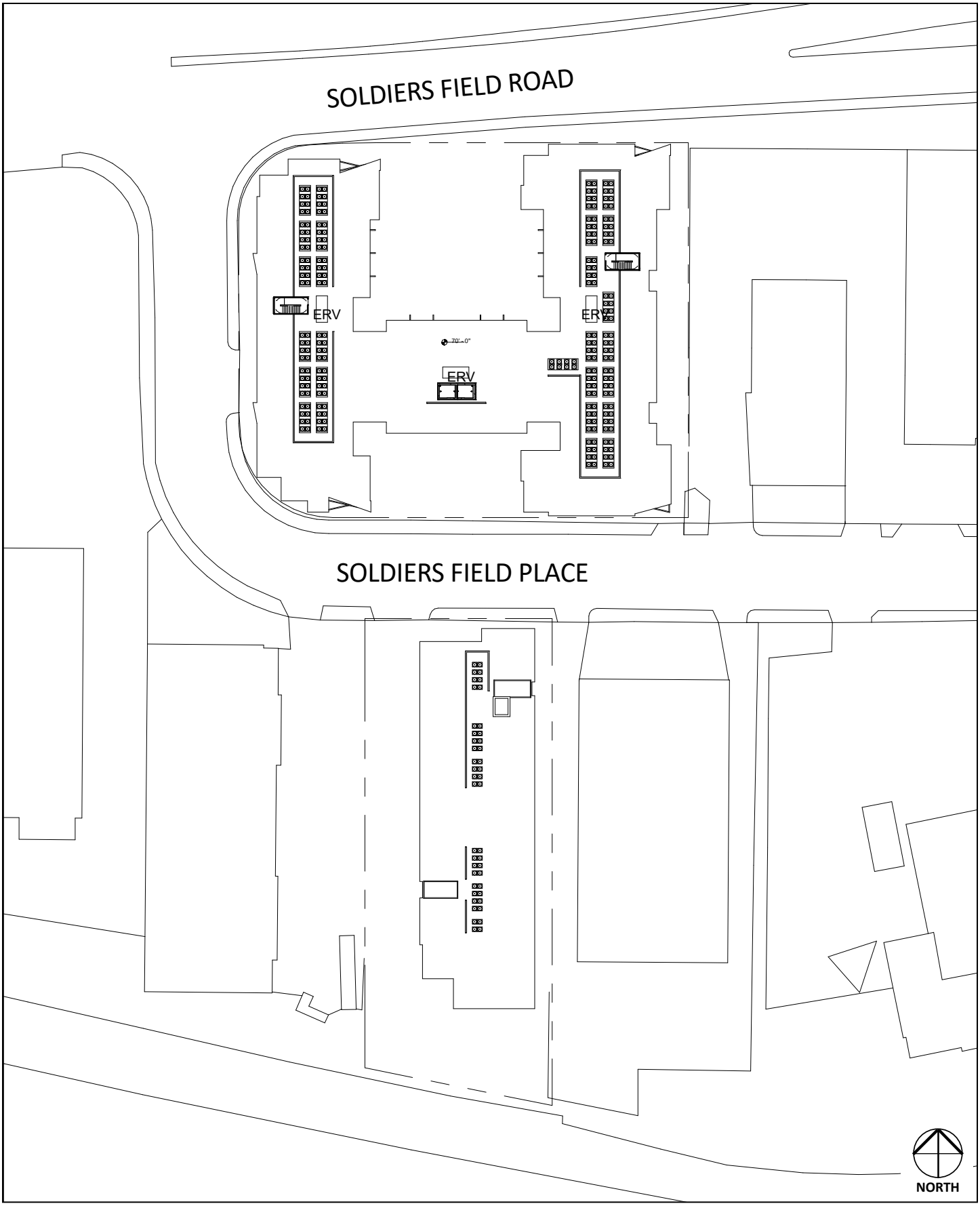
FOURTH FLOOR PLAN



FIFTH FLOOR PLAN



SIXTH FLOOR PLAN



ROOF PLAN

Elevations of 1550 Soldiers Field Road

Elevations of 21 Soldiers Field Place

Bird's eye view of proposed project

View from Soldiers Field Place

PERSPECTIVE VIEWS

View from Soldiers Field Road

View from Soldiers Field Road

PERSPECTIVE VIEWS

21 Soldiers Field Place

21 Soldiers Field Place

PERSPECTIVE VIEWS

View of 21 SFP Park

View of 21 SFP Park

PERSPECTIVE VIEWS

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

Project Checklist

Project Name: 1550 Soldiers Field Road

Date: 8-Feb-18

Figure 3-17

Y	?	N			
	1		Credit	Integrative Process	1

12	2	2	**Location and Transportation**		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
4	1		Credit	Surrounding Density and Diverse Uses	5
3		2	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
1			Credit	Reduced Parking Footprint	1
	1		Credit	Green Vehicles	1

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

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

14	13	6	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
8	4	6	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
	2		Credit	Demand Response	2
	3		Credit	Renewable Energy Production	3
	1		Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

2	5	6	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	3	2	Credit	Building Life-Cycle Impact Reduction	5
	1	1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	1	1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

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

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

3	1	0	**Regional Priority**		4
1			Credit	Regional Priority: Indoor Water Use	1
1			Credit	Regional Priority: High Priority Site	1
1			Credit	Regional Priority: Optimize Energy	1
	1		Credit	Regional Priority: Renewable	1

53	34	23	**TOTALS**	Possible Points:	110

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

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

Project Checklist

Project Name: 21 Soldiers Field Road

Date: 8-Feb-18

Figure 3-18

Y	?	N			
	1		Credit	Integrative Process	1

13	1	2	**Location and Transportation**		**16**
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
3		2	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
1			Credit	Reduced Parking Footprint	1
	1		Credit	Green Vehicles	1

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

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

14	13	6	**Energy and Atmosphere**		**33**
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
8	4	6	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
	2		Credit	Demand Response	2
	3		Credit	Renewable Energy Production	3
	1		Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

2	5	6	**Materials and Resources**		**13**
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	3	2	Credit	Building Life-Cycle Impact Reduction	5
	1	1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	1	1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

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

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

3	1	0	**Regional Priority**		**4**
1			Credit	Regional Priority: Indoor Water Use	1
1			Credit	Regional Priority: High Priority Site	1
1			Credit	Regional Priority: Optimize Energy	1
	1		Credit	Regional Priority: Renewable	1

54	33	23	**TOTALS**	Possible Points:	**110**

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

4.0 ENVIRONMENTAL PROTECTION COMPONENT

4.1 Shadow Impacts Analysis

4.1.1 Introduction

The following shadow study describes and graphically depicts anticipated new shadow impacts from the Project compared to shadows from existing buildings. The study presents the existing and built conditions for the proposed Project for the hours 9:00 AM, 12:00 Noon, and 3:00 PM for the vernal equinox, summer solstice, autumnal equinox, and winter solstice. In addition, shadows are depicted for 6:00 PM during the summer solstice and autumnal equinox.

4.1.2 Vernal Equinox (March 21)

Figures 4-1 through **4-3** depict shadows on March 21.

At 9:00 AM, shadows are cast in a northwesterly direction onto portions of the Soldiers Field Road.

At 12:00 Noon, new shadow is cast in a northerly direction.

At 3:00 PM, new shadow from the Project is cast in a northeasterly direction mostly onto adjacent parking lot.

4.1.3 Summer Solstice (June 21)

Figures 4-4 through **4-7** depict shadow impacts on June 21.

At 9:00 AM, shadows are cast in a westerly direction onto Soldiers Field Place.

At 12:00 Noon, new shadow is cast in a northerly direction.

At 3:00 PM, new shadow from the Project is cast in a northeasterly direction.

At 6:00 PM, new shadow from the Project is cast in an easterly direction onto adjacent 40 Soldiers Field Place.

4.1.4 Autumnal Equinox (September 21)

Figures 4-8 through **4-11** depict shadow impacts on September 21.

At 9:00 AM, shadows are cast in a westerly direction onto portions of Soldiers Field Road.

At 12:00 Noon, new shadow is cast in a northerly direction onto Soldiers Field Road.

At 3:00 PM, new shadow from the Project is cast in a northeasterly direction.

At 6:00 PM, new shadow from the Project is cast in an easterly direction onto adjacent Soldiers Field Place neighborhood.

4.1.5 Winter Solstice (December 21)

Figures 4-12 through **4-14** depict shadow impacts on December 21. Winter sun casts the longest shadows of the year.

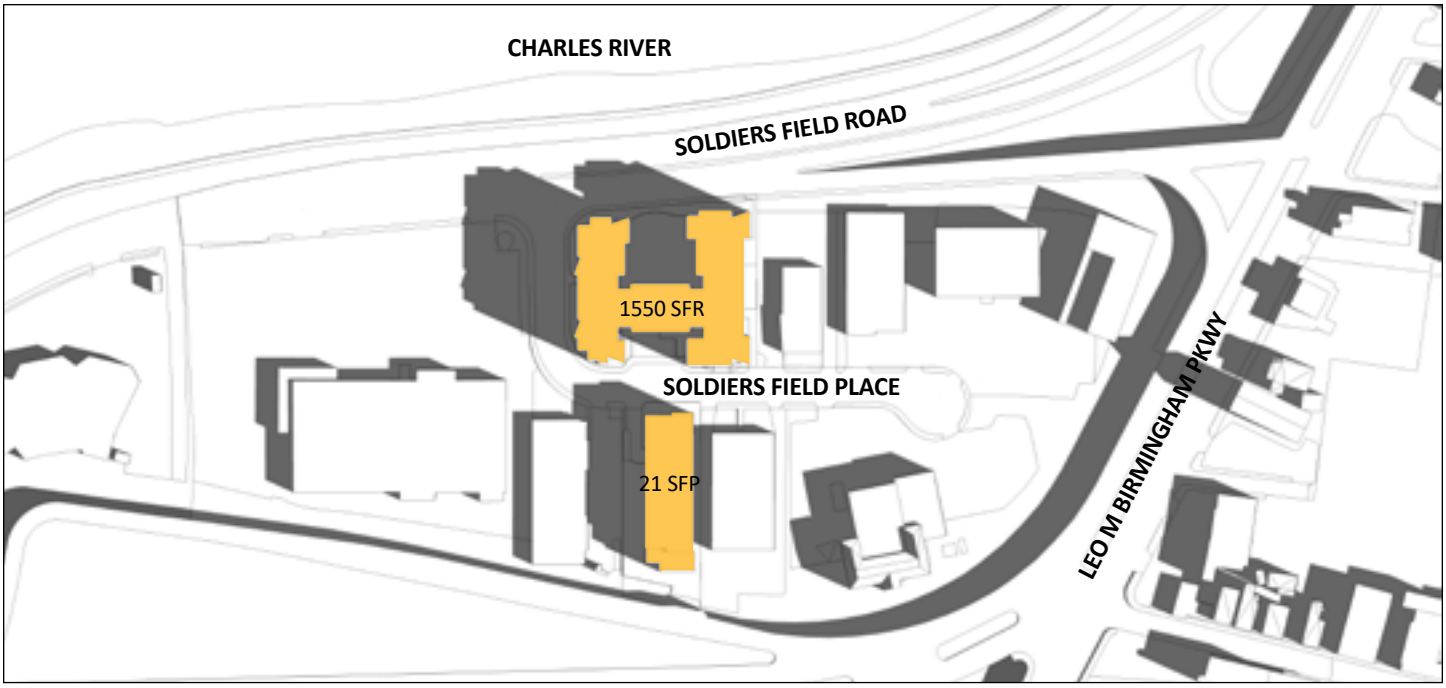
At 9:00 AM, are cast in a westerly direction onto Soldiers Field Road.

At 12:00 Noon, new shadow is cast in a northerly direction onto Soldiers Field Road.

At 3:00 PM, new shadow from the Project is cast in a northeasterly onto Soldiers Field Road and adjacent 35 and 40 Soldiers Field Place.

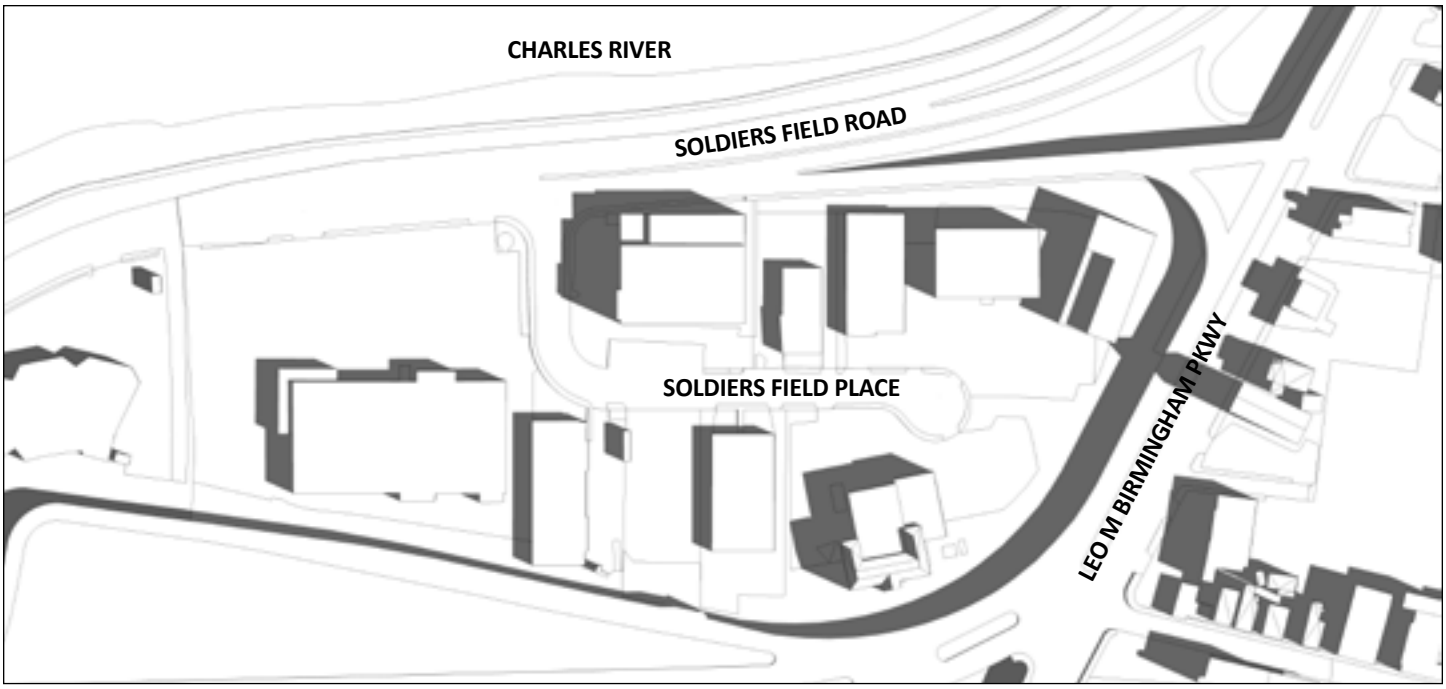
4.1.6 Summary

Proposed shadow impacts are not extensive. New shadow is generally limited to surrounding streets and adjacent parking lots. Overall, the Project's shadow impacts will be consistent with current patterns and will not adversely impact the Project Site and surroundings.



9:00 am Proposed **Azimuth 112.7° Altitude 23.4°**

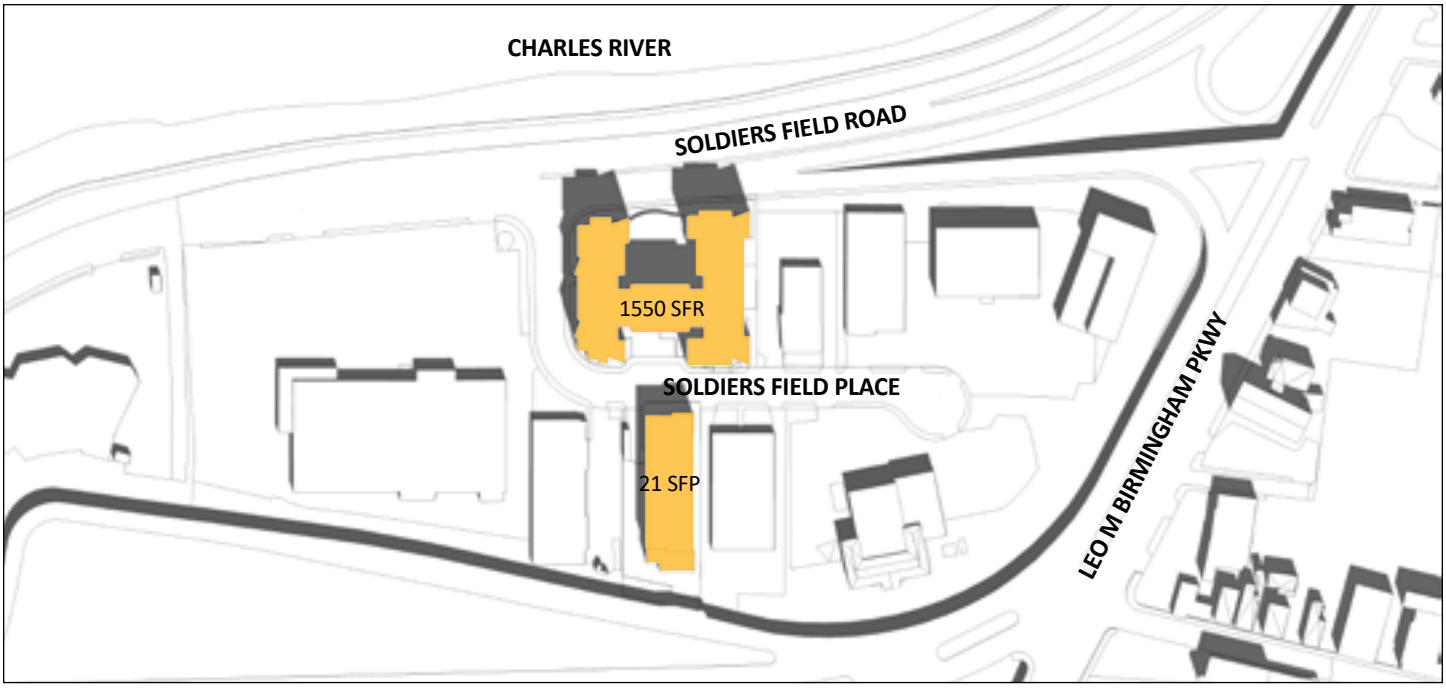
NORTH



9:00 am Existing **Azimuth 112.7° Altitude 23.4°**

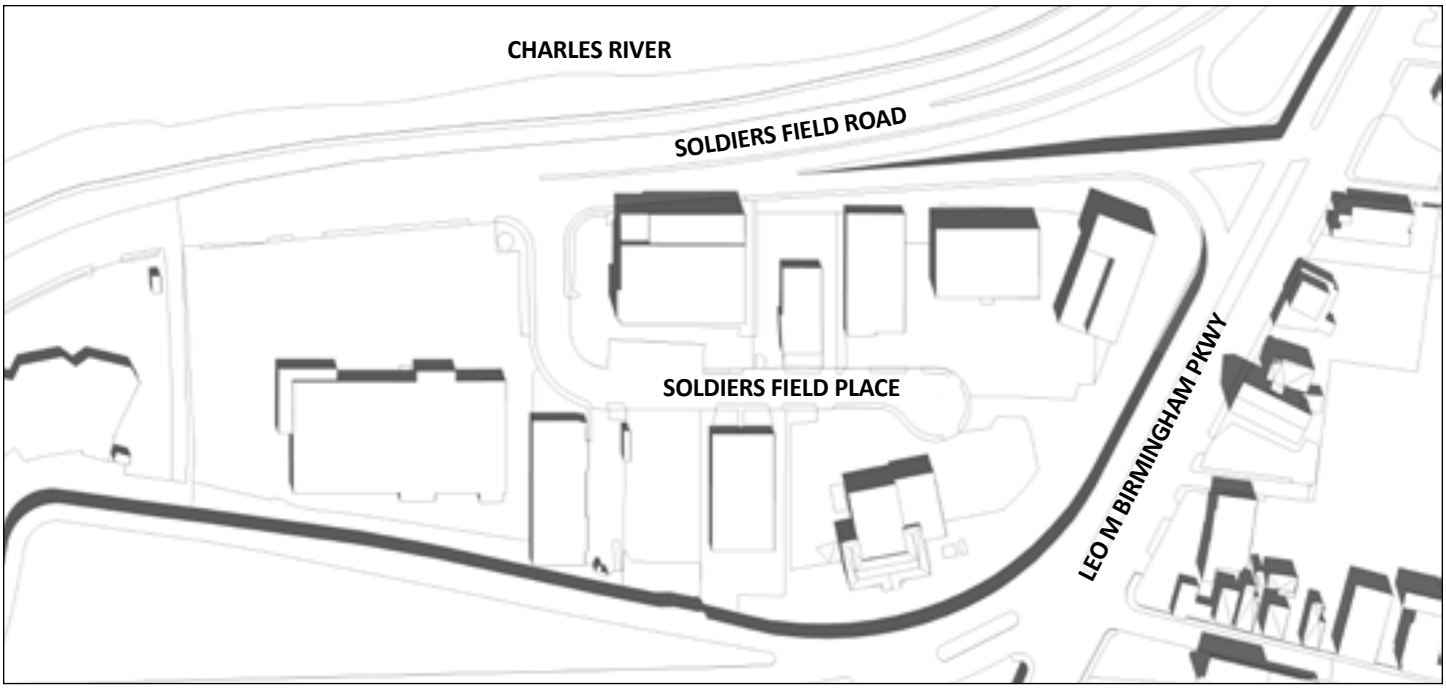
NORTH

SHADOW STUDY - VERNAL EQUINOX



12:00 pm Proposed **Azimuth 161.1° Altitude 46.5°**

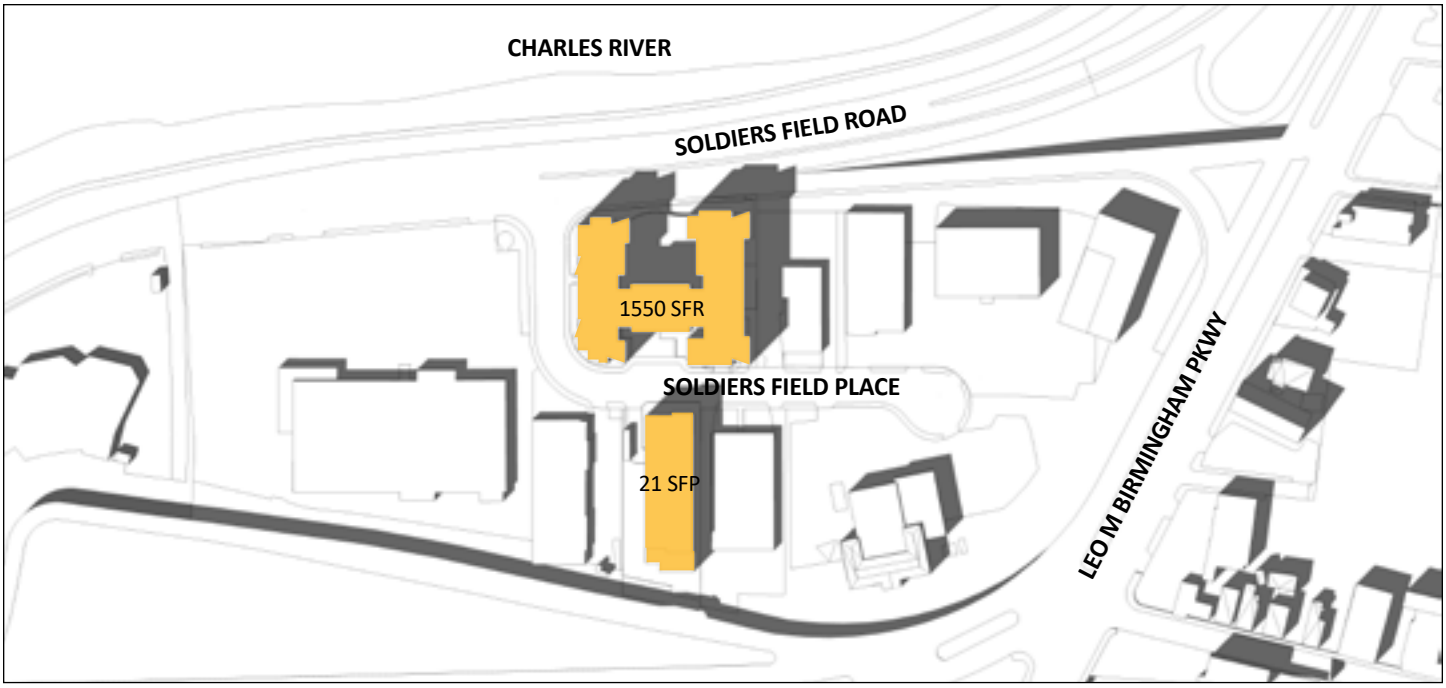
NORTH



12:00 pm Existing **Azimuth 161.1° Altitude 46.5°**

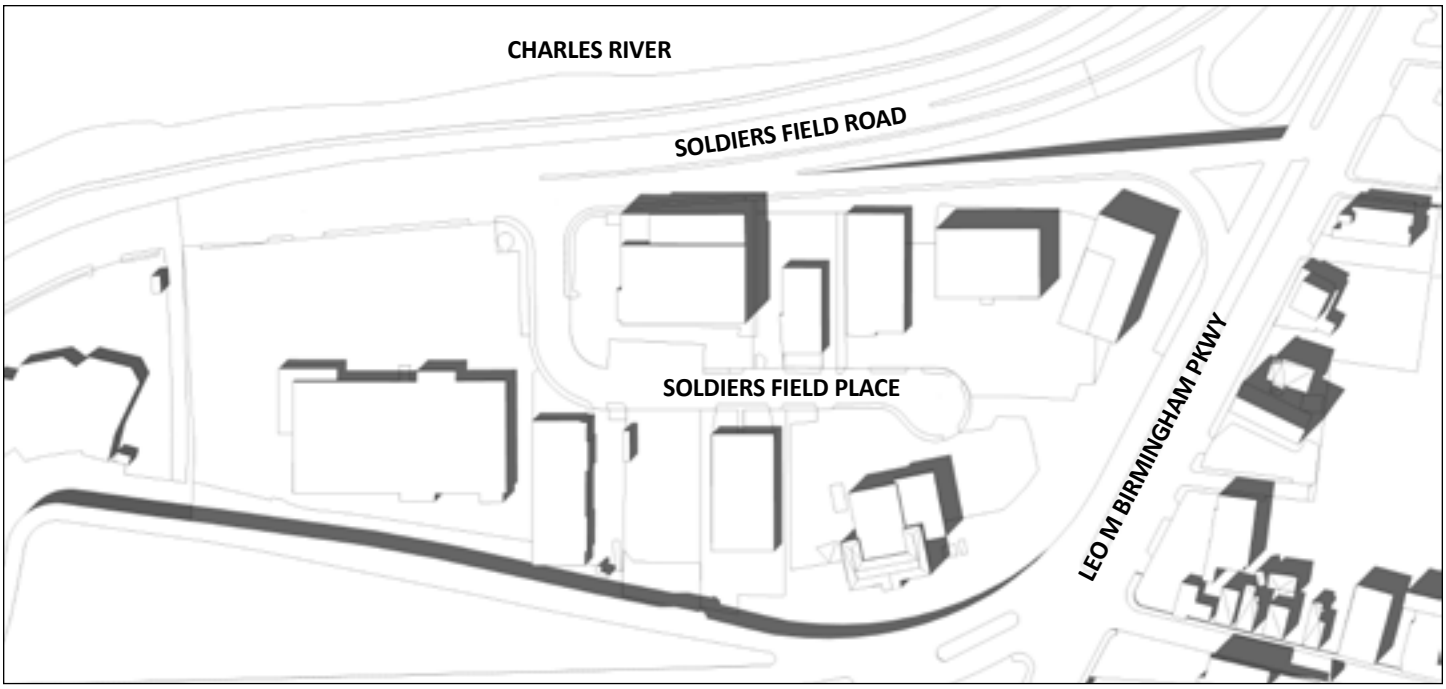
NORTH

SHADOW STUDY - VERNAL EQUINOX



3:00 pm Proposed **Azimuth 223.3° Altitude 39.2°**

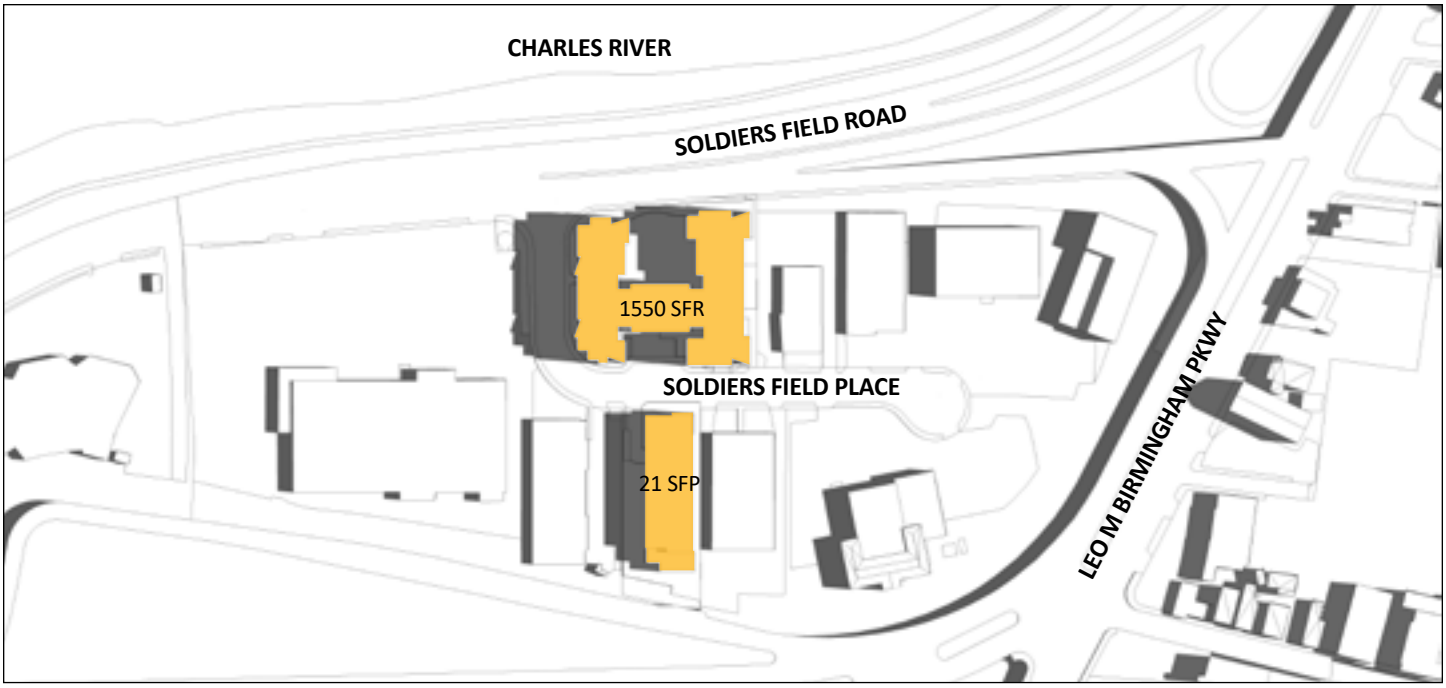
NORTH



3:00 pm Existing **Azimuth 223.3° Altitude 39.2°**

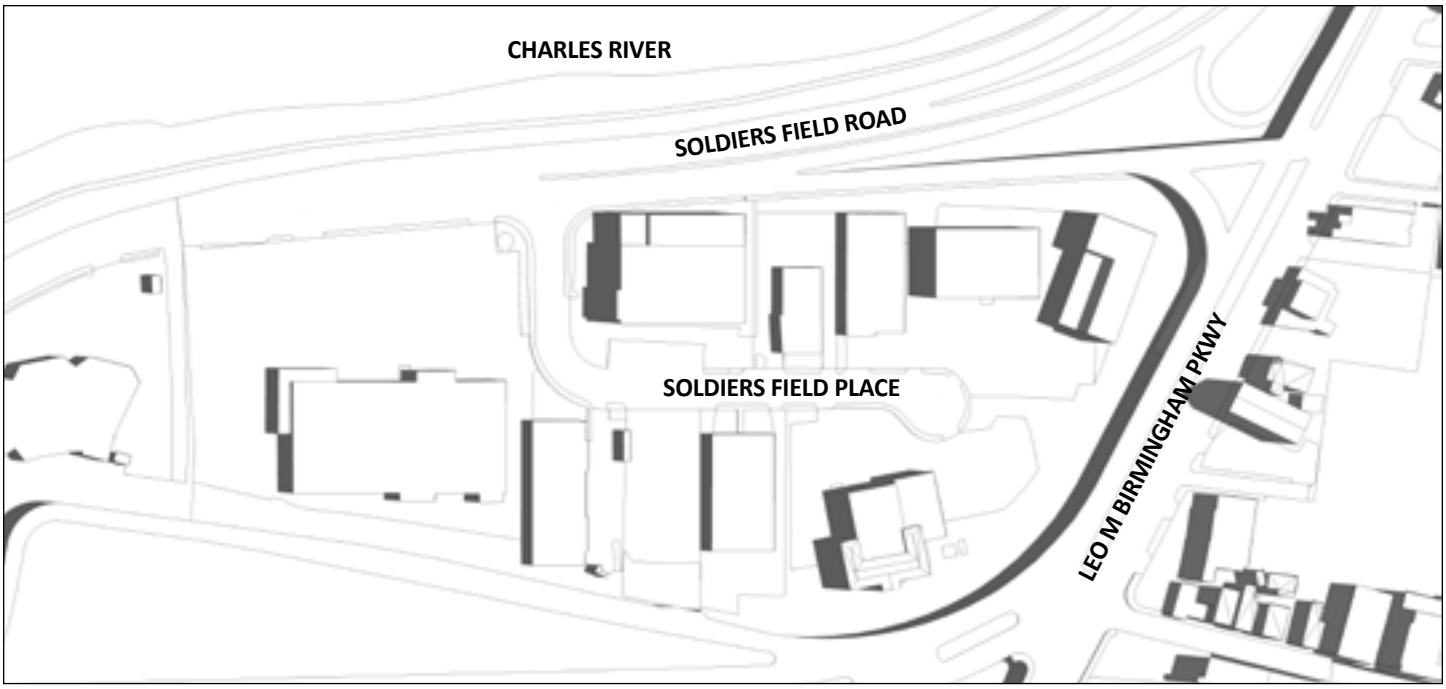
NORTH

SHADOW STUDY - VERNAL EQUINOX



9:00 am Proposed **Azimuth 93.5° Altitude 39.9°**

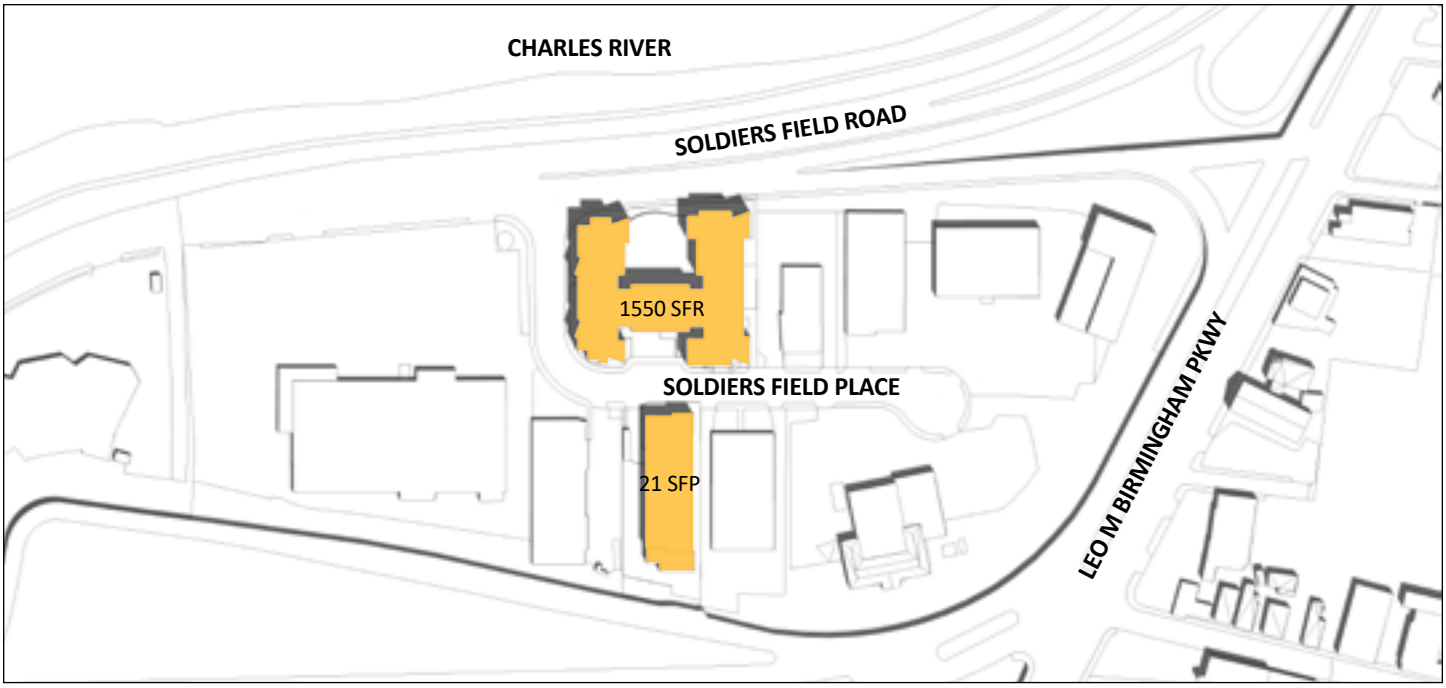
NORTH



9:00 am Existing **Azimuth 93.5° Altitude 39.9°**

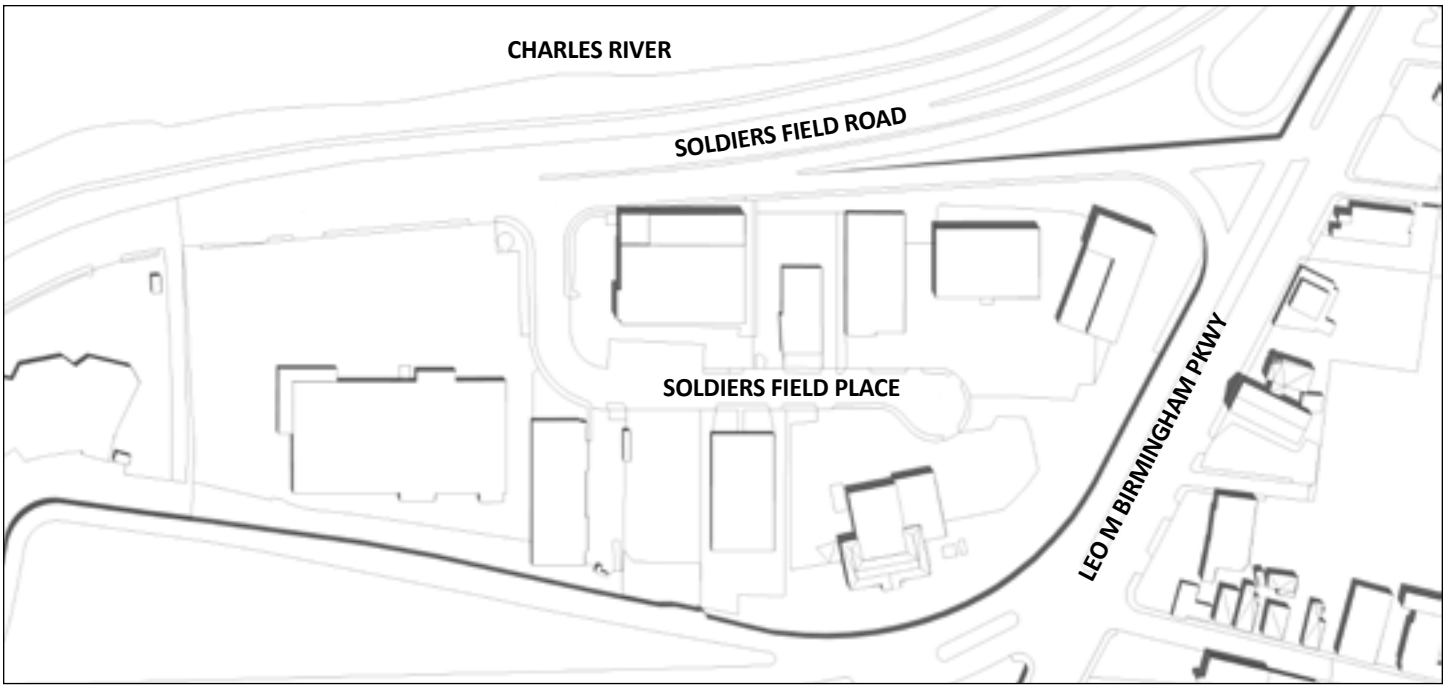
NORTH

SHADOW STUDY - SUMMER SOLSTICE



12:00 Pm Proposed **Azimuth 149.5° Altitude 68.8°**

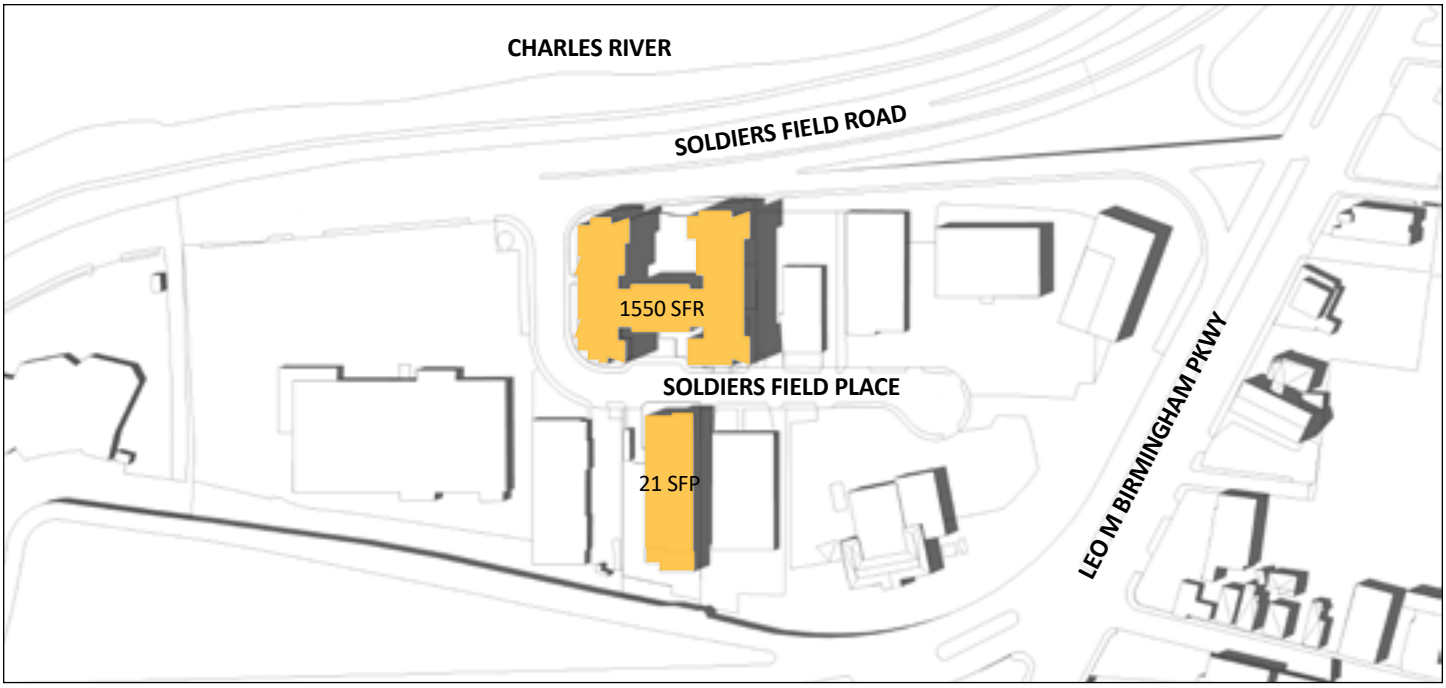
NORTH



12:00 Pm Existing **Azimuth 149.5° Altitude 68.8°**

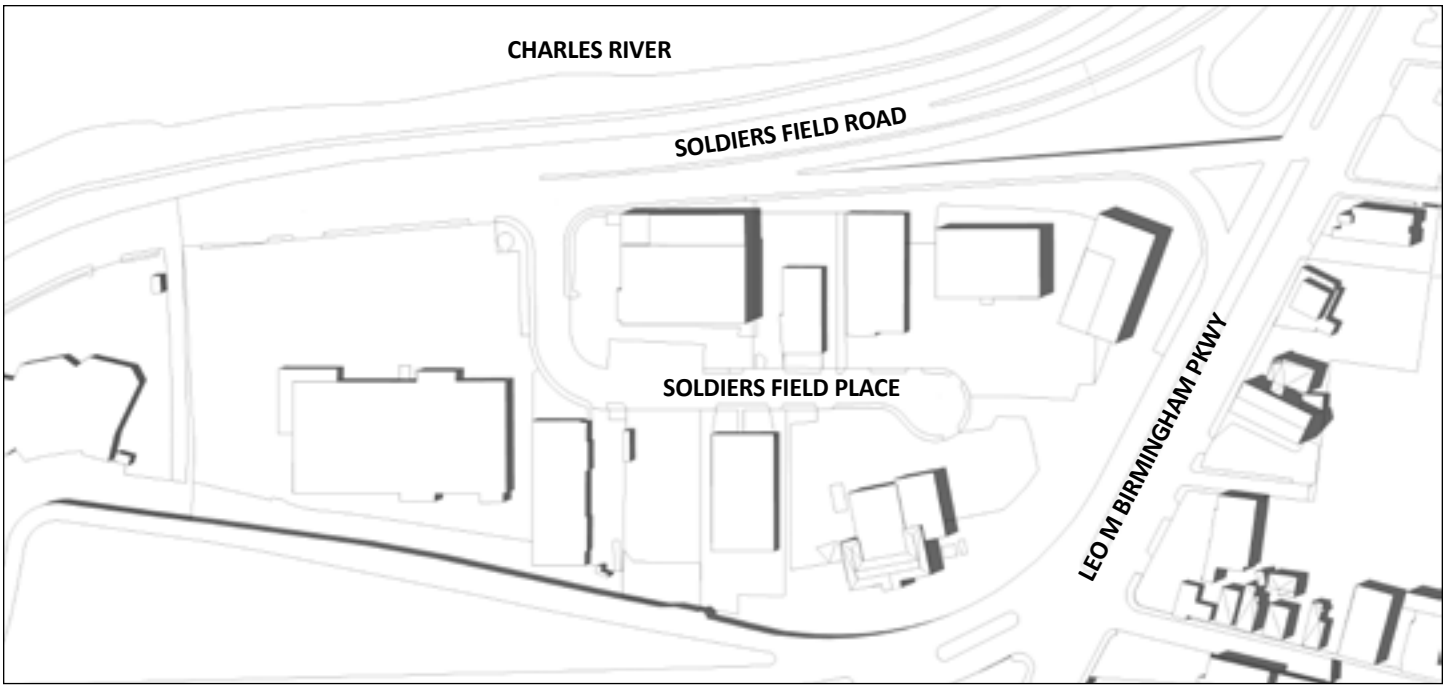
NORTH

SHADOW STUDY - SUMMER SOLSTICE



3:00 Pm Proposed **Azimuth 246.4° Altitude 56.5°**

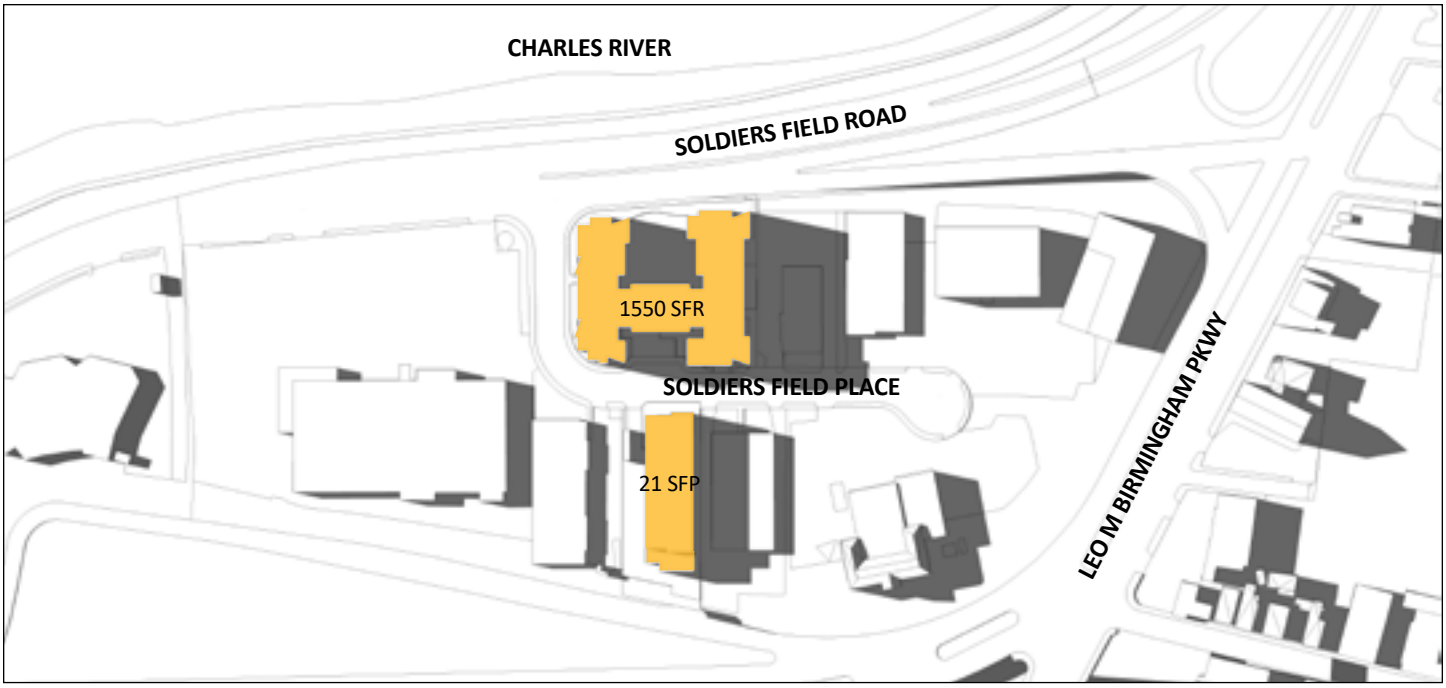
NORTH



3:00 pm Existing **Azimuth 246.4° Altitude 56.5°**

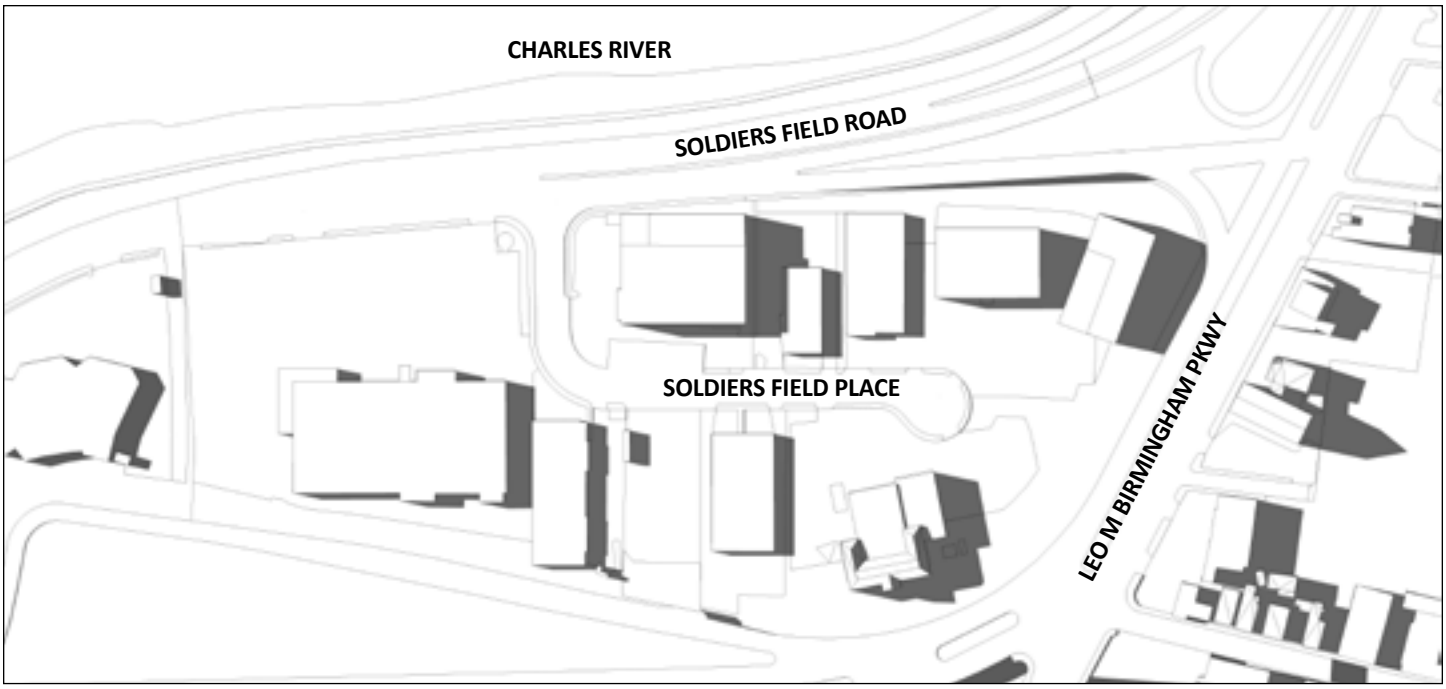
NORTH

SHADOW STUDY - SUMMER SOLSTICE



6:00 pm Proposed **Azimuth 280.7° Altitude 23.8°**

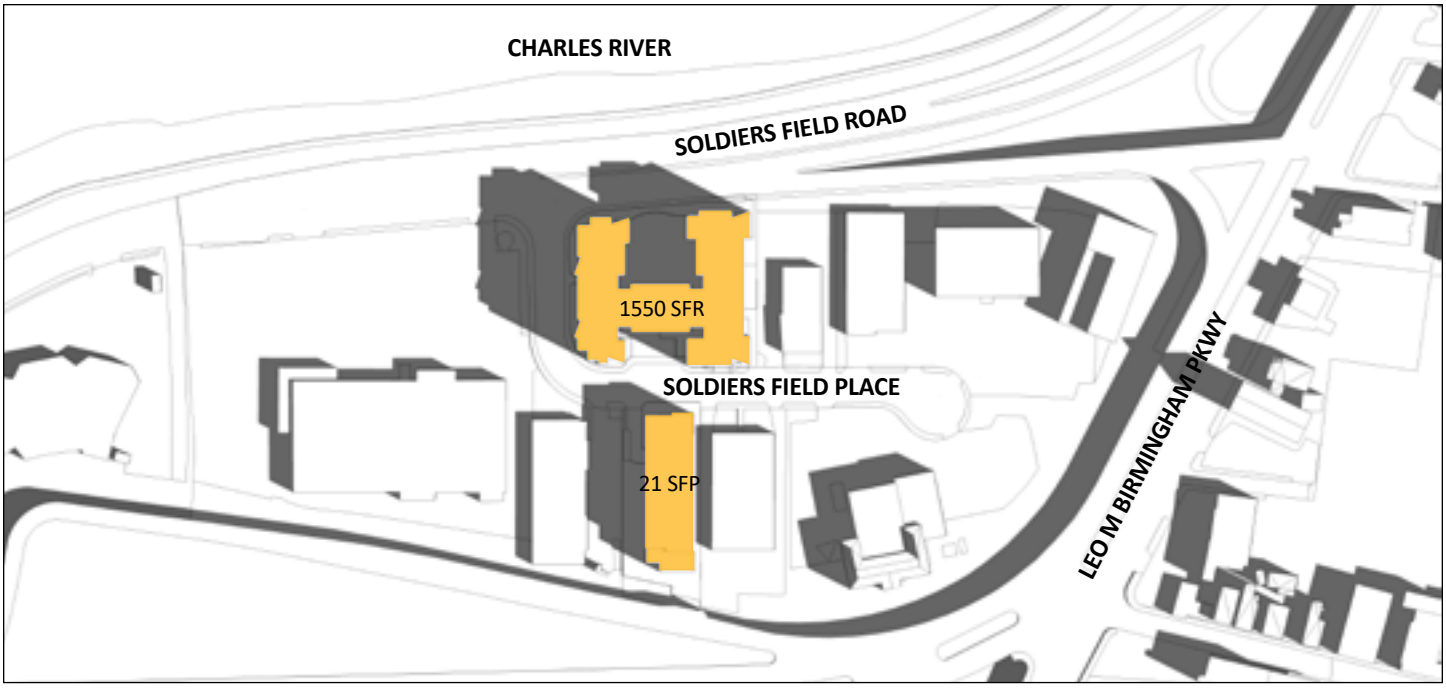
NORTH



6:00 pm Existing **Azimuth 280.7° Altitude 23.8°**

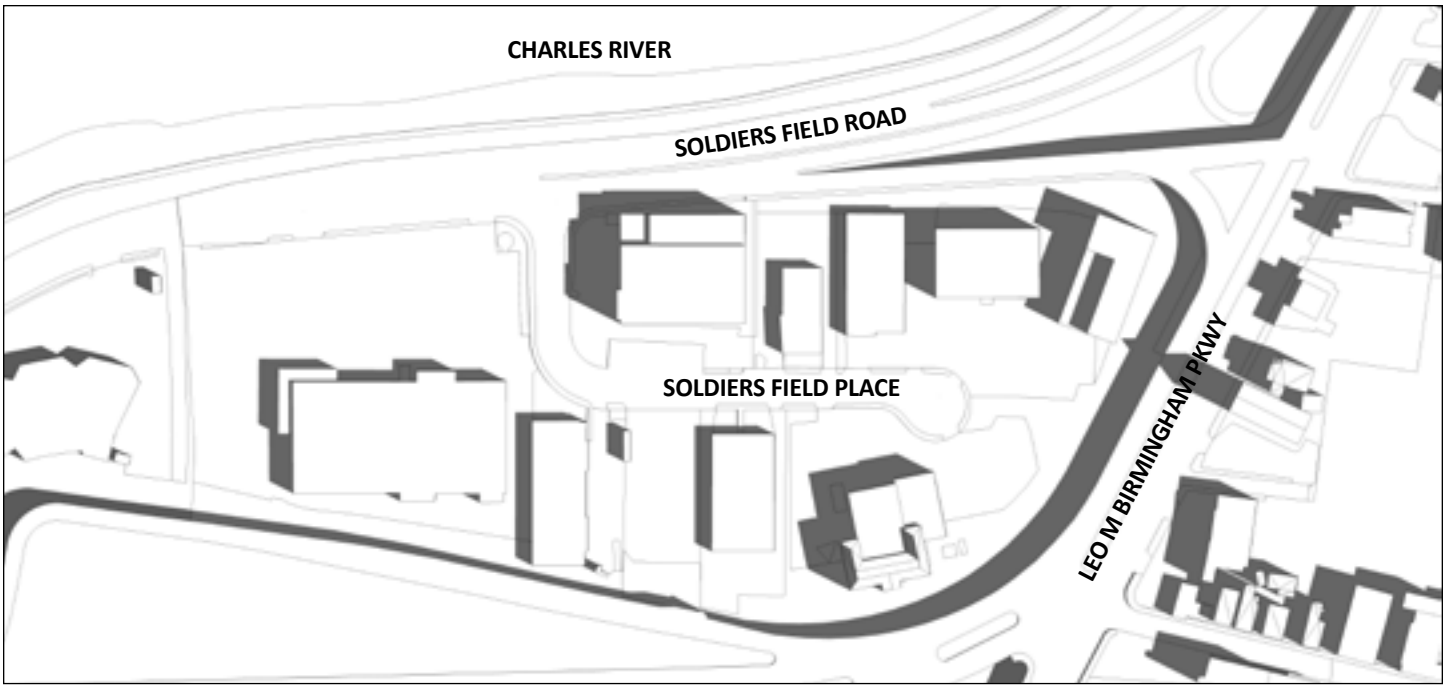
NORTH

SHADOW STUDY - SUMMER SOLSTICE



9:00 am Proposed **Azimuth 23.4° Altitude 112.7 °**

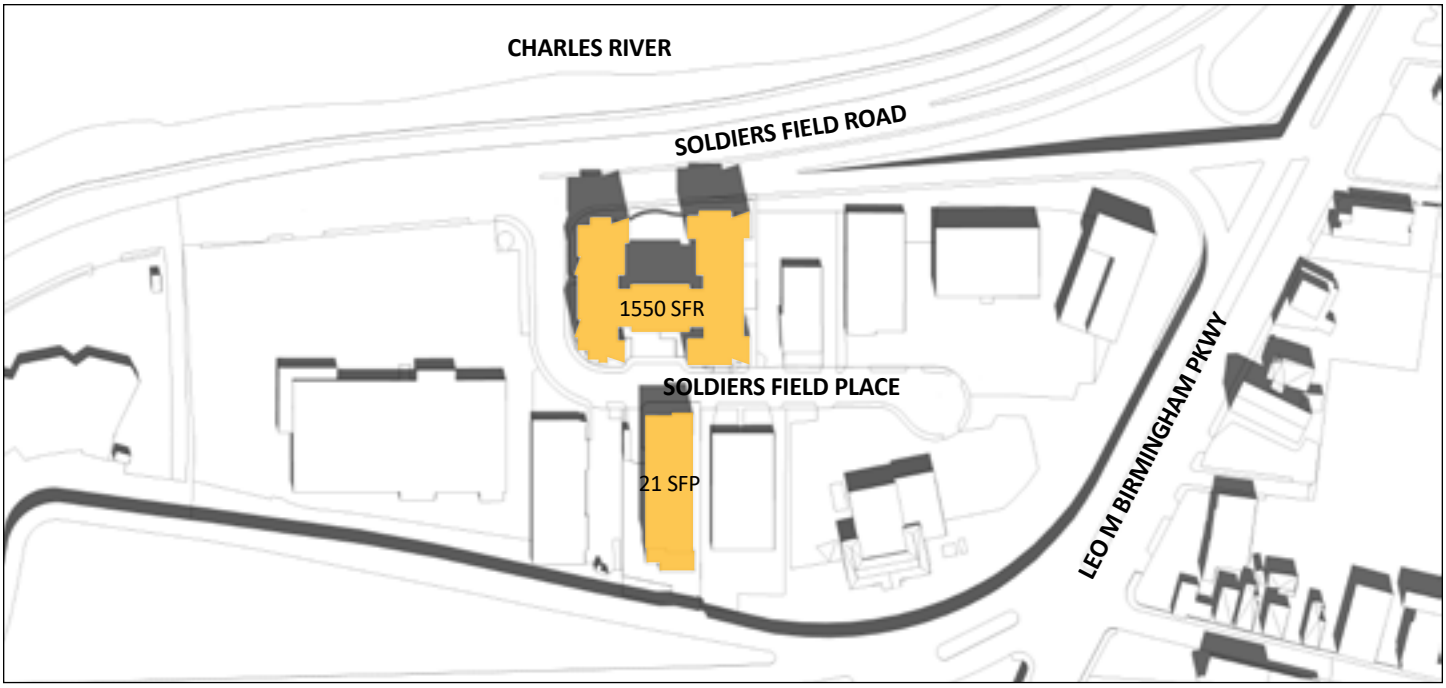
NORTH



9:00 am Existing **Azimuth 23.4° Altitude 112.7 °**

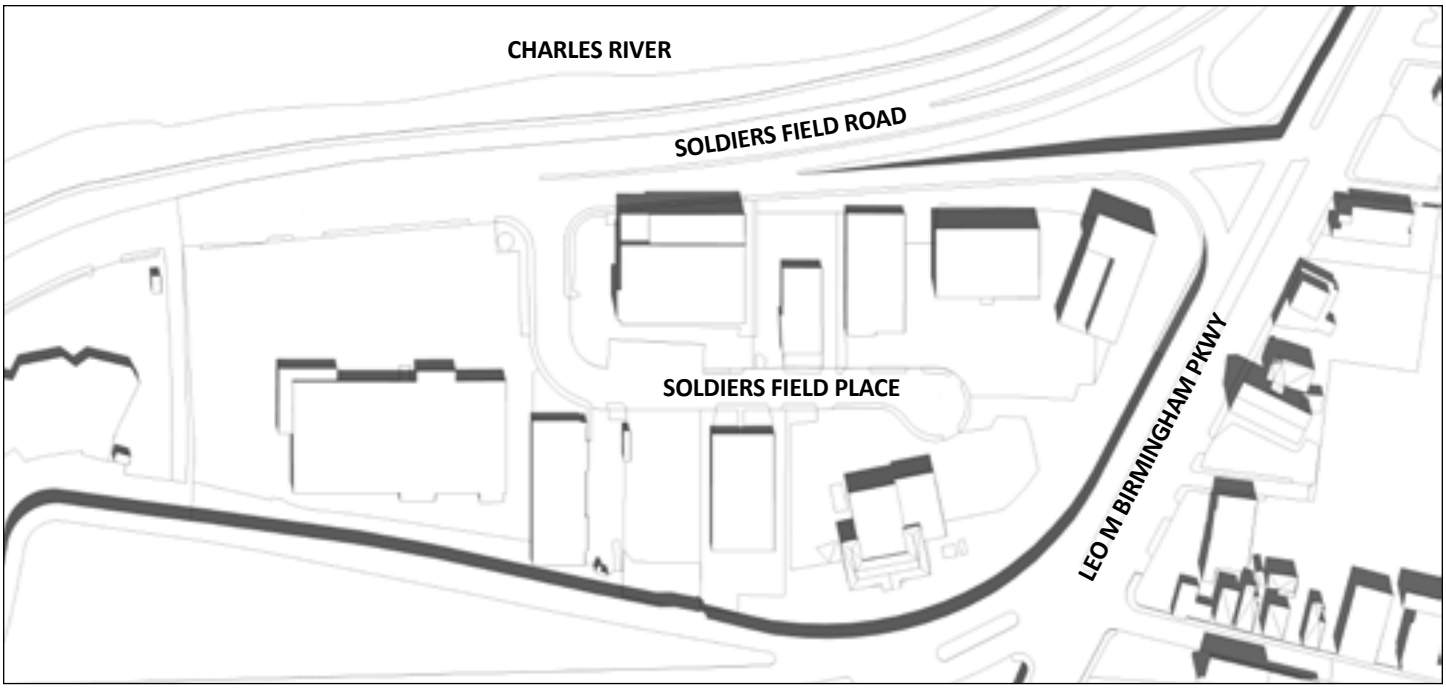
NORTH

SHADOW STUDY - AUTUMNAL EQUINOX



12:00 pm Proposed **Azimuth 166.1° Altitude 47.4°**

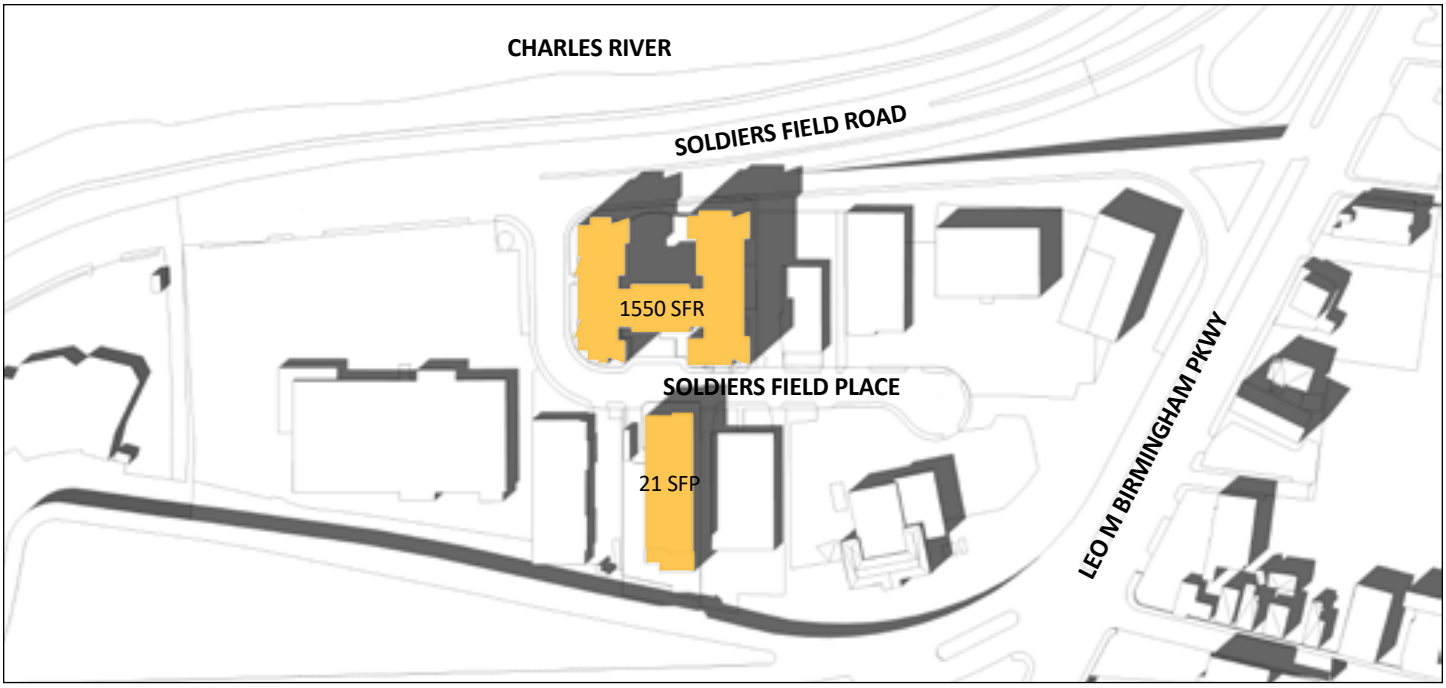
NORTH



12:00 pm Existing **Azimuth 166.1° Altitude 47.4°**

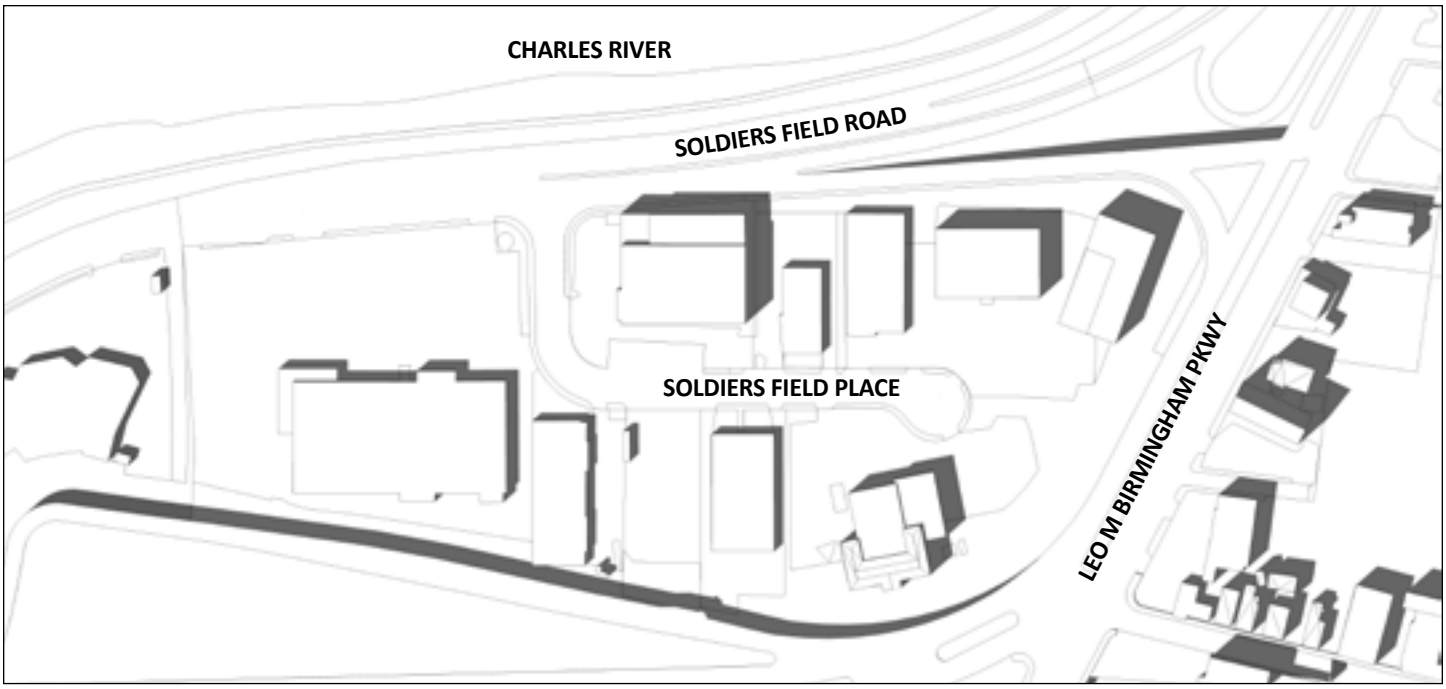
NORTH

SHADOW STUDY - AUTUMNAL EQUINOX



3:00 pm Proposed **Azimuth 227.2° Altitude 37.4°**

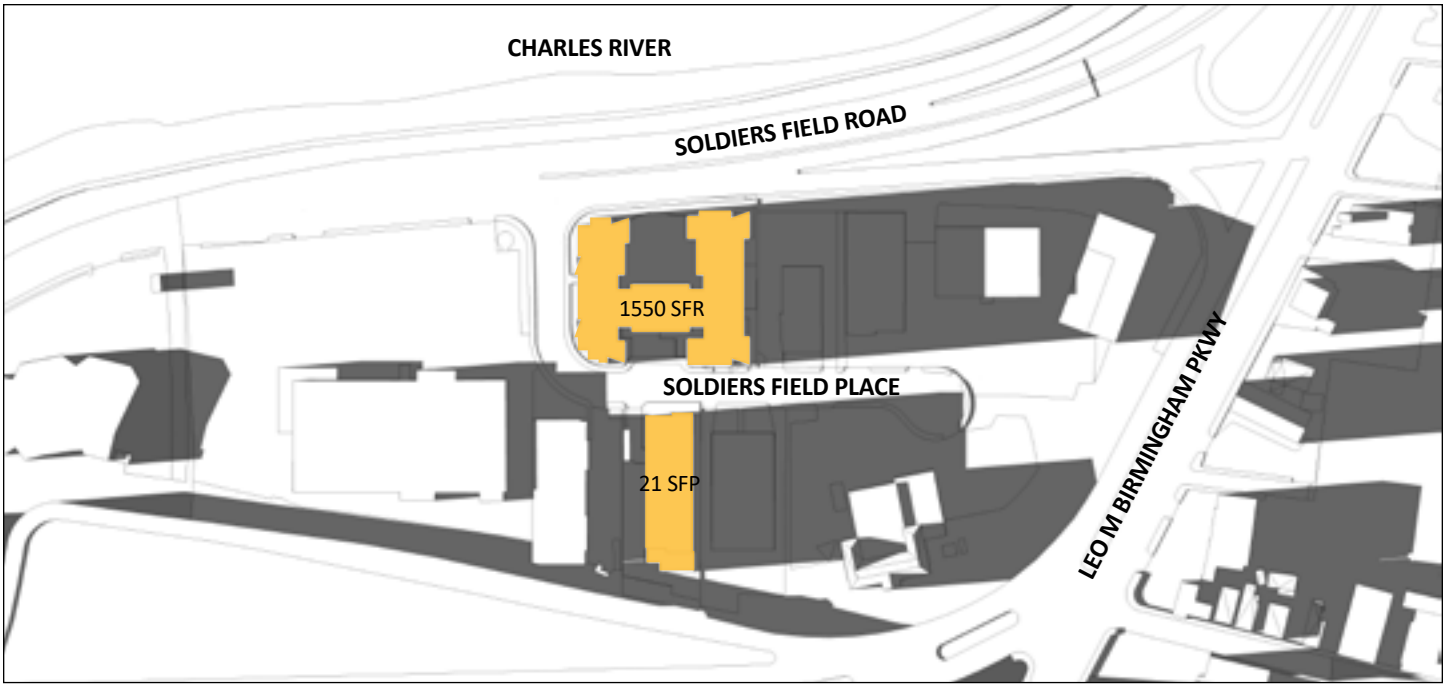
NORTH



3:00 pm Existing **Azimuth 227.2° Altitude 37.4°**

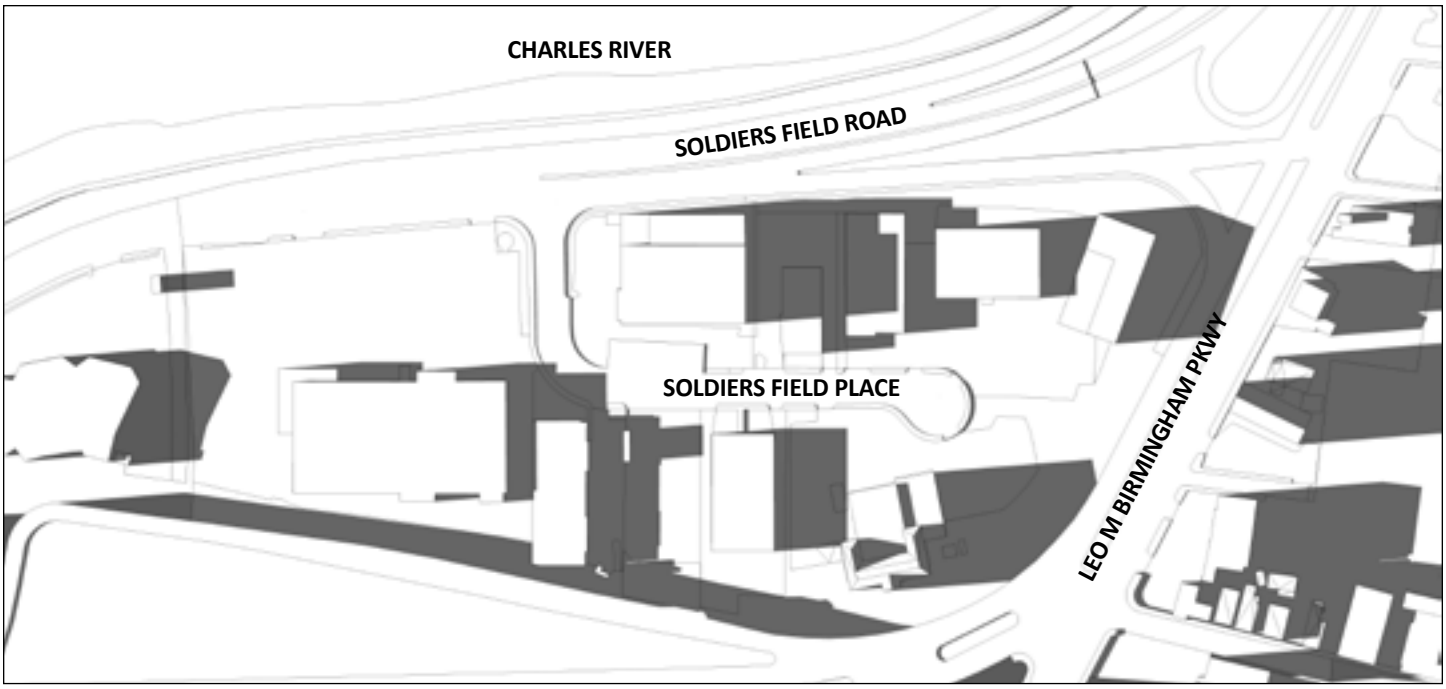
NORTH

SHADOW STUDY - AUTUMNAL EQUINOX



6:00 pm Proposed **Azimuth 264.0° Altitude 7.3°**

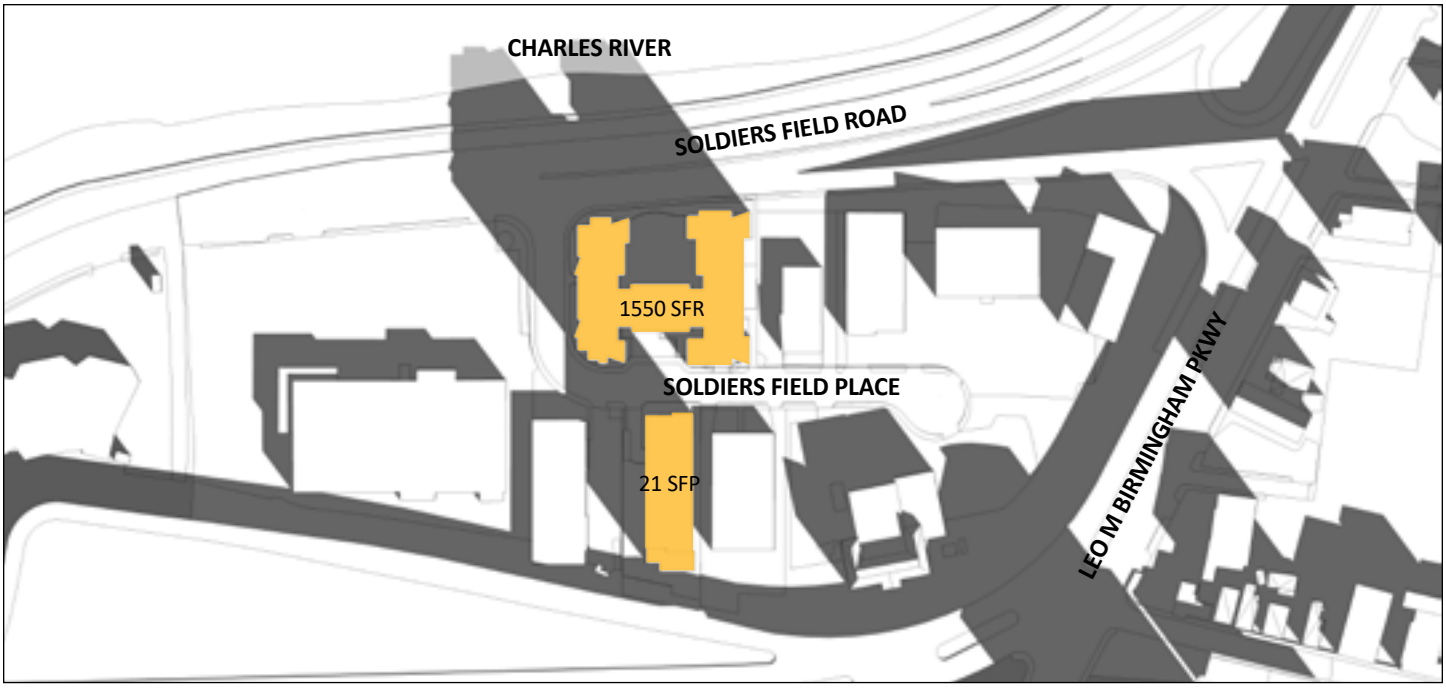
NORTH



6:00 pm Existing **Azimuth 264.0° Altitude 7.3°**

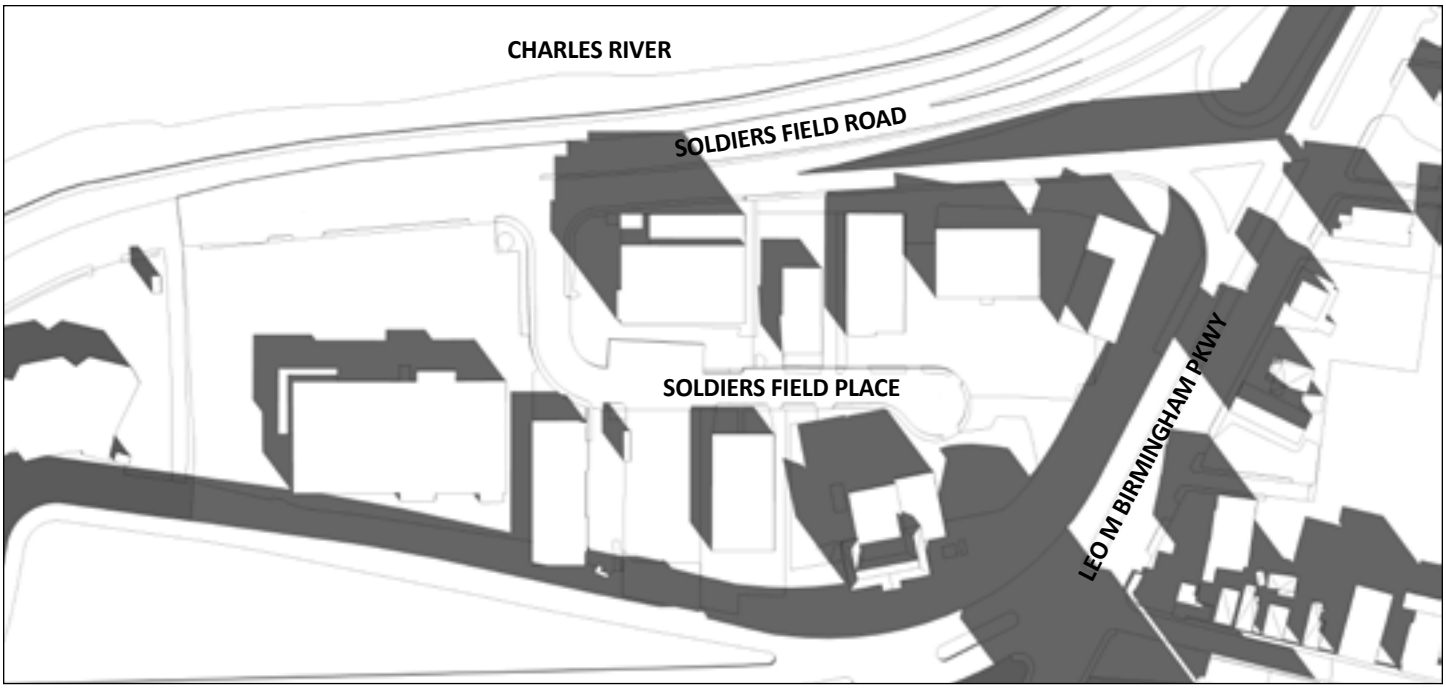
NORTH

SHADOW STUDY - AUTUMNAL EQUINOX



9:00 am Proposed **Azimuth 141.9° Altitude 14.4°**

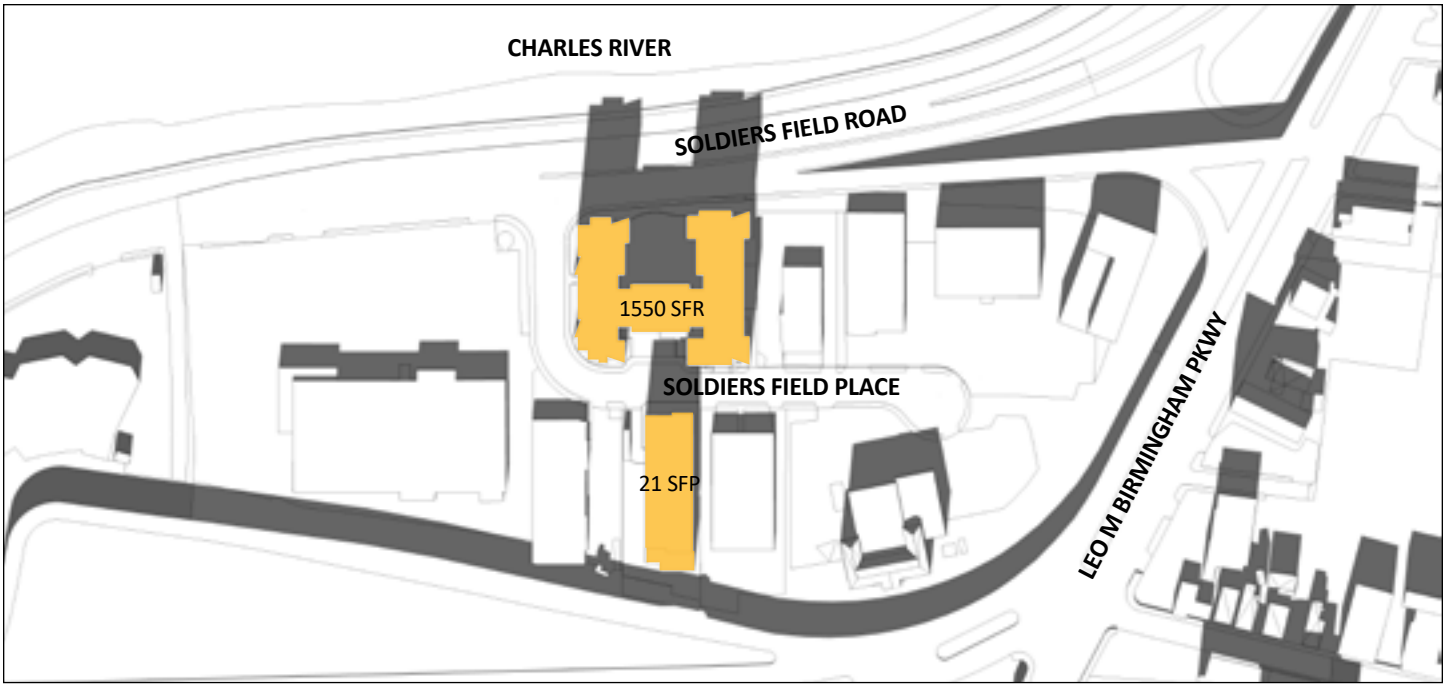
NORTH



9:00 am Existing **Azimuth 141.9° Altitude 14.4°**

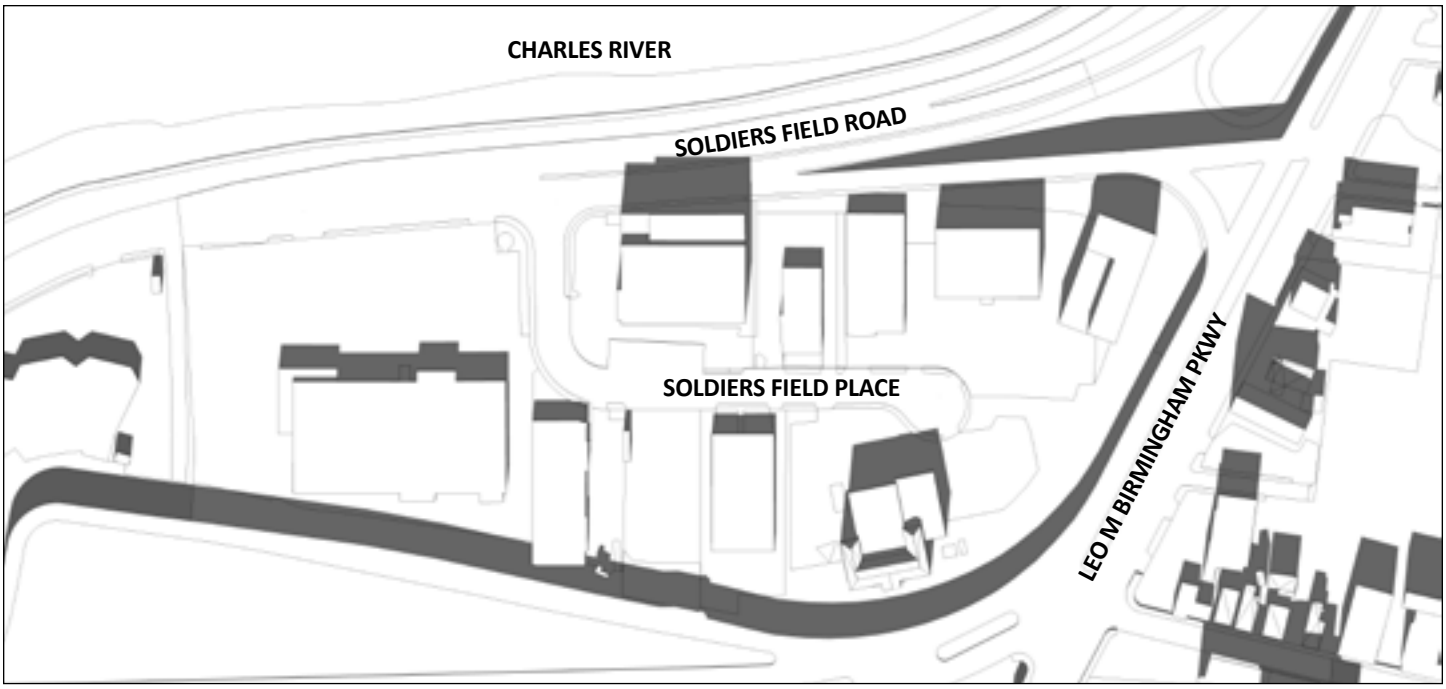
NORTH

SHADOW STUDY - WINTER SOLSTICE



12:00 pm Proposed **Azimuth 184.4° Altitude 24.2°**

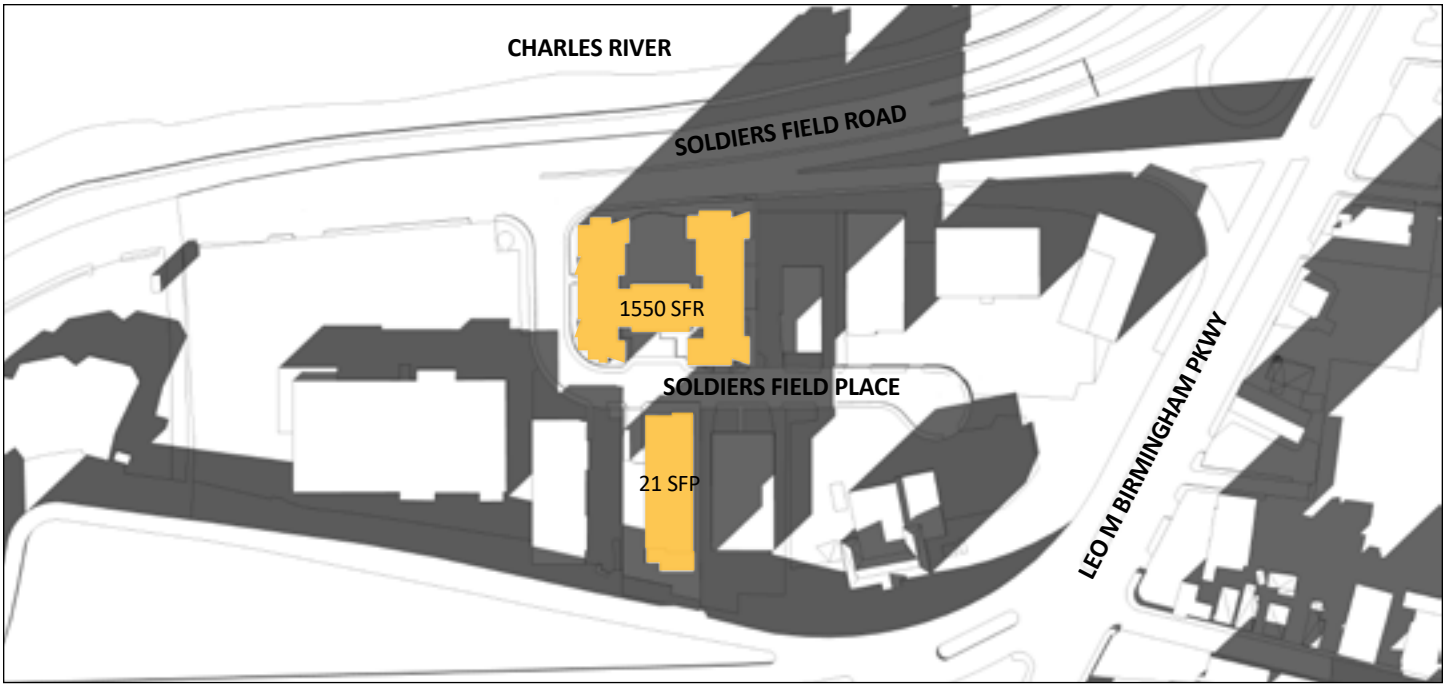
NORTH



12:00 pm Existing **Azimuth 184.4° Altitude 24.2°**

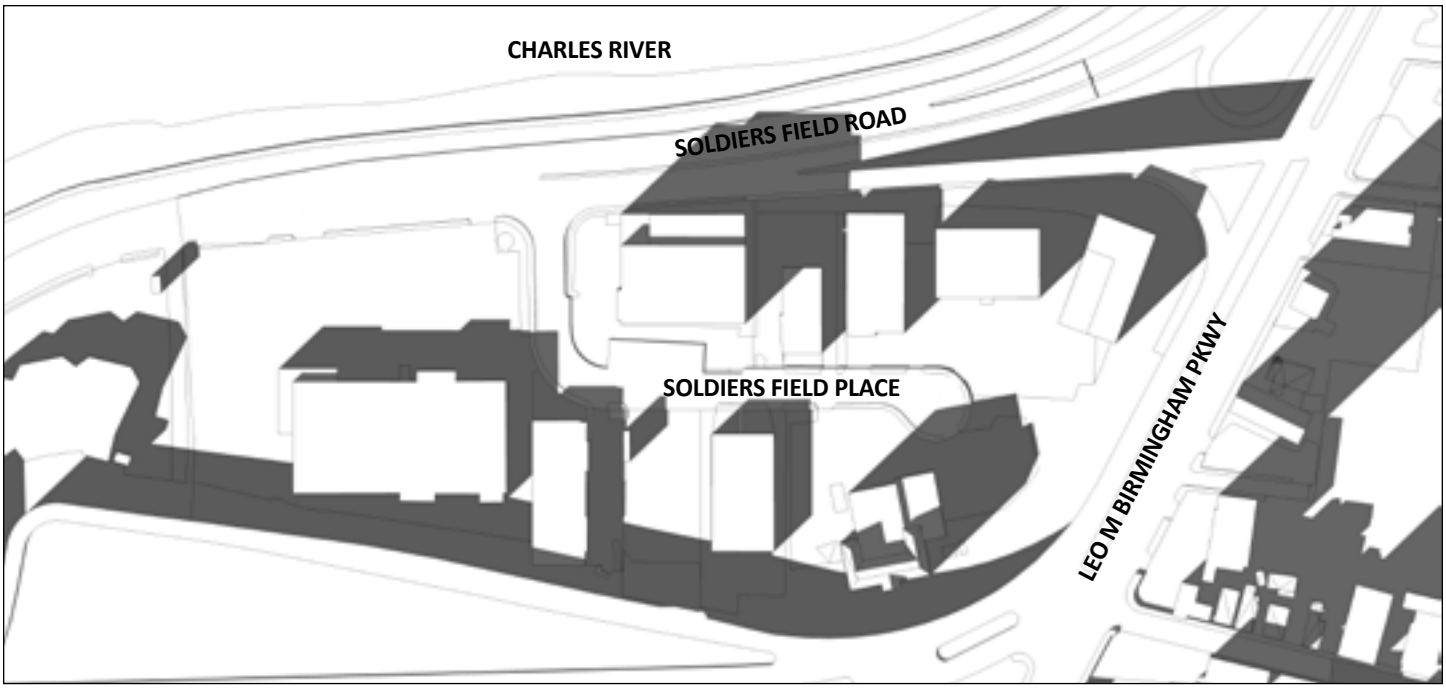
NORTH

SHADOW STUDY - WINTER SOLSTICE



3:00 pm Proposed **Azimuth 225.0° Altitude 10.1°**

NORTH



3:00 pm Existing **Azimuth 225.0° Altitude 10.1°**

NORTH

SHADOW STUDY - WINTER SOLSTICE

4.2 Air Quality

Tech Environmental, Inc. performed air quality analyses for the Proposed Project (the "Project") to be located at 1550 Soldiers Field Road and 21 Soldiers Field Place, Brighton, MA. These analyses consisted of: 1) an evaluation of existing air quality; 2) an evaluation of potential carbon monoxide (CO) impacts from the two proposed parking garages, and 3) a microscale CO analysis for intersections in the Project area that meet the BPDA criteria for requiring such an analysis.

4.2.1 Existing Air Quality

The City of Boston is currently classified as being in attainment of the Massachusetts and National Ambient Air Quality Standards ("NAAQS") for all of the criteria air pollutants except ozone (see **Table 4.2-1**). These air quality standards have been established to protect the public health and welfare in ambient air, with a margin for safety.

The Massachusetts Department of Environmental Protection ("DEP") currently operates air monitors in various locations throughout the city. The closest, most representative DEP monitors for carbon monoxide (CO), nitrogen dioxide (NO_2), fine particulate matter ($PM_{2.5}$) and coarse particulate matter (PM_{10}) are located at Kenmore Square, Boston, MA. The closest, most representative DEP monitor for ozone, lead (Pb) and sulfur dioxide (SO_2) are located at Dudley Square (Harrison Avenue).

Table 4.2-2 summarizes the DEP air monitoring data, for the most recent available, complete three-year period (2014-2016), that are considered to be representative of the Project area. **Table 4.2-2** shows that the existing air quality in the Project area is generally much better than the NAAQS. The highest impacts relative to a NAAQS are for ozone and $PM_{2.5}$. Ozone is a regional air pollutant on which the small amount of additional traffic generated by this Project will have an insignificant impact. The Project's operations will not have a significant impact on local $PM_{2.5}$ concentrations.

Table 4.2-1. Massachusetts and National Ambient Air Quality Standards (NAAQS)

Pollutant	Averaging Time	NAAQS (µg/m^3)
SO_2	1-hour^P 24-hour^P Annual^P (Arithmetic Mean)	196[a] 365[b] 80
CO	1-hour^P 8-hour^P	40,000[b] 10,000[b]
NO_2	1-hour^P Annual$^{P/S}$ (Arithmetic Mean)	188[c] 100
PM_{10}	24-hour$^{P/S}$	150
$PM_{2.5}$	24-hour$^{P/S}$ Annual$^{P/S}$ (Arithmetic Mean)	35[d] 12[e,f]
O_3	8-hour$^{P/S}$	147[g]
Pb	Rolling 3-Month Avg.$^{P/S}$ Calendar Quarter$^{P/S}$ (Arithmetic Mean)	0.15 1.5

P = primary standard; S = secondary standard.

[a] 99th percentile 1-hour concentrations in a year (average over three years).

[b] One exceedance per year is allowed.

[c] 98th percentile 1-hour concentrations in a year (average over three years).

[d] 98th percentile 24-hour concentrations in a year (average over three years).

[e] Three-year average of annual arithmetic means.

[f] As of March 18, 2013, the U.S. EPA lowered the $PM_{2.5}$ annual standard from 15 ug/m^3 to 12 ug/m^3.

[g] Three-year average of the annual 4th-highest daily maximum 8-hour ozone concentration must not exceed 0.075 ppm (147 ug/m^3) (effective May 27, 2008) and the annual PM_{10} standard was revoked in 2006.

Table 4.2-2. Representative Existing Air Quality in the Project Area

Pollutant, Averaging Period	Monitor Location	Value ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS
CO, 1-hour	Kenmore, Boston	2,760	40,000	7%
CO, 8-hour	Kenmore, Boston	1,375	10,000	14%
NO_2, 1-hour	Kenmore, Boston	95.3	188	51%
NO_2, Annual	Kenmore, Boston	32.6	100	33%
Ozone, 8-hour	Harrison Avenue, Boston	110	137	80%
PM_{10}, 24-hour	Kenmore, Boston	53	150	35%
$PM_{2.5}$, 24-hour	Kenmore, Boston	14.0	35	37%
$PM_{2.5}$, Annual	Kenmore, Boston	6.2	12	52%
Lead, Quarterly	Harrison Avenue, Boston	0.017	1.5	1%
SO_2, 1-hour	Harrison Avenue, Boston	17.4	197	9%

Source: MassDEP, http://www.mass.gov/eea/agencies/massdep/air/quality/air-monitoring-reports-and-studies.html, downloaded September 29, 2017.

Notes:

(1) Annual averages are highest measured during the most recent three-year period for which data are available (2013 - 2015). Values for periods of 24-hours or less are highest, second-highest over the three-year period unless otherwise noted.

(2) The eight-hour ozone value is the 3-year average of the annual fourth-highest values, the 24-hour $PM_{2.5}$ value is the 3-year average of the 98th percentile values, the annual $PM_{2.5}$ value is the 3-year average of the annual values – these are the values used to determine compliance with the NAAQS for these air pollutants.

(3) The one-hour NO_2 value is the -year average of the 98th percentile values and the one-hour SO_2 value is the -year average of the 99th percentile values.

(4) Three-year average of the annual 4th-highest daily maximum 8-hour ozone concentration must not exceed 0.070 ppm (137 ug/m^3) (effective December 28, 2015); the annual PM_{10} standard was revoked in 2006 and the 3-hour SO_2 standard was revoked by the US EPA in 2010.

4.2.2 Impacts from the Parking Garage

The Project includes two parking garages, one at 1550 Soldiers Field Road (SFR) and one at 21 Soldiers Field Place, designed to provide parking spaces for a total of 175 vehicles. An analysis of the worst-case air quality impacts from the proposed 1550 SFR parking garage was performed (see **Appendix B**) since it will be enclosed with mechanical ventilation. The procedures used for this analysis are consistent with U.S. EPA's Volume 9 guidance.[1] The objective of this analysis was to determine the maximum CO concentrations inside the garage and at the closest sensitive receptors surrounding the Project. These closest sensitive receptors include: air intakes located

[1] US EPA, "Guidelines for Air Quality Maintenance Planning and Analysis Volume 9 (Revised): Evaluating Indirect Sources," EPA-450/4-78-001, September 1978.

on the proposed building and nearby existing buildings and pedestrians at ground level anywhere near the Project. CO emissions from motor vehicles operating inside the garage were calculated and the CO concentrations inside the garage and surrounding the Project were based on morning and afternoon peak traffic periods.

The objective of this analysis was to determine the maximum CO concentrations at the closest sensitive receptors surrounding the Project. These closest sensitive receptors include: air intakes located on the proposed building and nearby existing buildings, and pedestrians at ground level anywhere near the Project. The parking garage CO emissions were modeled using an U.S. EPA-approved air model.

Garage Ventilation System

The proposed parking garage at 1550 Soldiers Field Road will require mechanical ventilation. The garage ventilation system will be designed to provide adequate dilution of the motor vehicle emissions before they are vented outside. The design of the garage ventilation system will meet all building code requirements. Full ventilation of the garage will require a maximum flow of approximately 31,500 cubic feet per minute (cfm) using three (3) 10,500 cfm exhaust fans. This quantity of air is designed to meet the building code and will be more than adequate to dilute the emissions inside the parking garage to safe levels before they are vented outside.

Peak Garage Traffic Volumes

The peak morning and afternoon one-hour entering and exiting traffic volumes for the two garages are shown in **Table 4.2-3**.

Table 4.2-3. Peak-Hour Garages Traffic Volumes

Period	Entering (vehicles/hour)	Exiting (vehicles/hour)	Total (vehicles/hour)
Morning Peak Hour	8	28	36
Afternoon Peak Hour	29	16	45

Source: Howard-Stein Hudson, Inc.

Motor Vehicle Emission Rates

The U.S. Environmental Protection Agency (EPA) MOVES2014 emission factor model was used to calculate single vehicle CO emissions rates, for a vehicle speed of 5 mph. The inputs to the MOVES2014 model followed the latest guidance from the Massachusetts Department of

Environmental Protection (DEP) and were performed for the future traffic year of 2024. The CO emission rate calculated by MOVES2014 was 2.976 grams per mile (g/mi) for each entering and exiting vehicle. These emission rates apply to wintertime conditions when motor vehicle CO emissions are greatest due to cold temperatures. MOVES2014 model output is provided in the **Appendix B.**

To determine the maximum one-hour CO emissions inside each garage, it was necessary to estimate the distance each motor vehicle will be moving in each parking garage. To be conservative, it was assumed that every car entering or leaving the garage will be operating during that peak hour and travels to or from the furthest parking space. The calculations in **Appendix B** show how long each vehicle will be operating in the garage for both the morning and afternoon peak periods.

Peak Garage CO Emission Rate and CO Concentration Inside the Garage

The peak one-hour CO emission rate for the larger parking garage was calculated to be 0.10 grams per minute for the morning peak hour and 0.13 grams per minute for the afternoon peak hour. Applying the maximum volumetric garage ventilation flow rate for the parking garage, the peak one-hour CO concentration inside the garage was calculated to be 0.081 parts of CO per million parts of air (ppm) for the morning peak hour and 0.101 ppm for the afternoon peak hour. Therefore, the peak one-hour CO concentration inside the garage will be 0.101 ppm with a peak one-hour emission rate of 0.13 grams/minute (0.0021 grams/second), corresponding to the afternoon peak period.

Peak Ambient CO Concentration

Worst-case concentrations of CO from the parking garage were predicted for locations around the building with using AERMOD model (Version16216r) in screening-mode. The results of the air quality analysis for locations outside and around the building are summarized in **Table 4.2-4**. The results in Table 4.3-4 represent all outside locations on and near the Project Site, including nearby building air intakes and nearby residences. **Appendix B** contains the AERMOD model output.

The AERMOD model in screening-mode was used to predict the maximum concentration of CO by modeling the parking garages emissions as volume sources using worst-case meteorological conditions for an urban area. The screening-mode option simulates modeling results predicted by AERMOD. The predicted concentrations presented here represent the worst-case air quality impacts from the parking garage at all locations on and around the Project. AERMOD predicted one-hour average concentrations of air pollutants.

AERMOD predicted that the maximum one-hour CO concentration from the 1550 SFR garage will be 7.78 E-05 ppm (0.09136 $\mu g/m^3$). This concentration represents the maximum CO concentration at any location surrounding the Project. AERSCREEN guidance allows the maximum eight-hour CO impact to be conservatively estimated by multiplying the maximum

one-hour impact by a factor of 0.9 (i.e. the eight-hour impact is 90% of the one-hour impact). The maximum predicted eight-hour CO concentration was determined to be approximately 7.00E-05 ppm (7.78 E-05 ppm x 0.9).

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS) to protect the public health and welfare in ambient air, with a margin for safety. The NAAQS for CO are 35 ppm for a one-hour average and 9 ppm for an eight-hour average. The Commonwealth of Massachusetts has established the same standards for CO. Conservatively, urban CO background values of 2.4 ppm for a one-hour period and 1.2 ppm for an eight-hour period were added to the maximum predicted garage ambient impacts to represent the CO contribution from other, more distant, sources. With the conservative background concentration added, the peak, total, one-hour and eight-hour CO impacts from the parking garages, at any location around the building, will be no larger than 2.40008 ppm and 1.20007 ppm, respectively. These maximum predicted total CO concentrations (garage exhaust impacts plus background) are safely in compliance with the NAAQS. This analysis demonstrates that the operation of the parking garage will not have an adverse impact on air quality.

Table 4.2-4. Peak Predicted Parking Garage Air Quality Impacts

Location	Peak Predicted One-Hour Impact (ppm)	One-Hour NAAQS (ppm)	Peak Predicted Eight-Hour Impact (ppm)	Eight-Hour NAAQS (ppm)
Outside – Surrounding the Building* (Parking Garage)	2.40008**	35 (NAAQS)	1.2007**	9 (NAAQS)

NAAQS = Massachusetts and National Ambient Air Quality Standards for CO (ppm = parts per million)
* Representative of maximum CO impact at all nearby residences, buildings, and sidewalks.
** Includes background concentrations of 2.4 ppm for the one-hour period and 1.2 ppm for the eight-hour period.

4.2.3 Microscale CO Analysis for Selected Intersections

The Boston Planning & Development Agency (BPDA) and the Massachusetts DEP typically require a microscale air quality analysis for any intersection in the Project study area where the level of service (LOS) is expected to deteriorate to D and the proposed Project causes a 10% increase in traffic or where the level of service is E or F and the Project contributes to a reduction in LOS. For such intersections, a microscale air quality analysis is required to examine the carbon monoxide (CO) concentrations at sensitive receptors near the intersection.

A microscale air quality analysis was <u>not</u> performed for this Project due to the Project trip generation having minimal impacts on the overall delays at the Soldiers Field Road/Soldiers Field Place intersection. The Project will generate approximately 36 motor vehicle trips during the

morning peak traffic hour and approximately 45 motor vehicle trips during the afternoon traffic hour. Under the Build scenario, the overall LOS will be the same or better during the morning and afternoon peak traffic hour for all intersections. Under the Build scenario, the overall LOS will be the same or better during the afternoon peak traffic hour at the Soldiers Field Road/Soldiers Field Place intersection. **Table 4.2-4** shows a comparison of the Existing (2017) and Build (2024) LOS at this one intersection. The motor vehicle trip generation from the Project will not have a significant impact on motor vehicle delays and air pollutant emissions at the analyzed intersection. Therefore, the motor vehicle traffic generated by the Project will not have a significant impact on air quality in the Project area and a microscale air quality analysis is not necessary for this Project.

Table 4.2-4. Summary of Build Case Level of Service

Intersection	Existing LOS (AM/PM)	Build LOS (AM/PM)	Requires Analysis?
Soldiers Field Road/Soldiers Field Place-Unsignalized	C/B	C/B	NO

The LOS shown represents the overall delay at each signalized intersection and the worst approach at the unsignalized intersection. Percentages shown for LOS D are percent increase in traffic from the Project.

Source: Howard/Stein-Hudson Associates, Inc.

Conclusions

The microscale CO air quality dispersion modeling analysis clearly indicates that the worst-case traffic generated by the Project will not cause or contribute to any violations of the NAAQS for CO, and will not significantly affect air quality. Total CO impacts at the intersections with the largest delays and at the Project site, including the impacts from the fuel combustion equipment and underground garage, are predicted to be safely in compliance with the NAAQS for CO.

4.3 Noise Impacts

Tech Environmental, Inc., performed a noise study to determine whether the operation of the proposed Project will comply with the City of Boston Noise Regulations and the Massachusetts Department of Environmental Protection ("DEP") Noise Policy.

4.3.1 Common Measures of Community Noise

The unit of sound pressure is the decibel (dB). The decibel scale is logarithmic to accommodate the wide range of sound intensities to which the human ear is subjected. A property of the decibel scale is that the sound pressure levels of two separate sounds are not directly additive. For example, if a sound of 70 dB is added to another sound of 70 dB, the total is only a 3-decibel increase (or 73 dB), not a doubling to 140 dB. Thus, every 3 dB increase represents a doubling of sound energy. For broadband sounds, a 3 dB change is the minimum change perceptible to the human ear. **Table 4.3-1** gives the perceived change in loudness of different changes in sound pressure levels.[2]

[2] American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., 1989 ASHRAE Handbook--Fundamentals (I-P) Edition, Atlanta, GA, 1989.

Table 4.3-1. Subjective Effects of Changes in Sound Pressure Levels

Change in Sound Level	Apparent Change in Loudness
3 dB	Just perceptible
5 dB	Noticeable
10 dB	Twice (or half) as loud

Non-steady noise exposure in a community is commonly expressed in terms of the A-weighted sound level (dBA); A-weighting approximates the frequency response of the human ear. Levels of many sounds change from moment to moment. Some are sharp impulses lasting 1 second or less, while others rise and fall over much longer periods of time. There are various measures of sound pressure designed for different purposes. To establish the background ambient sound level in an area, the L_{90} metric, which is the sound level exceeded 90 percent of the time, is typically used. The L_{90} can also be thought of as the level representing the quietest 10 percent of any time period. Similarly, the L_{10} can also be thought of as the level representing the quietest 90 percent of any time period. The L_{10} and L_{90} are broadband sound pressure measures, i.e., they include sounds at all frequencies.

Sound level measurements typically include an analysis of the sound spectrum into its various frequency components to determine tonal characteristics. The unit of frequency is Hertz (Hz), measuring the cycles per second of the sound pressure waves, and typically the frequency analysis examines nine octave bands from 32 Hz to 8,000 Hz. A source is said to create a pure tone if acoustic energy is concentrated in a narrow frequency range and one octave band has a sound level 3 dB greater than both adjacent octave bands.

The acoustic environment in an urban area such as the Project area results from numerous sources. Observations show that major contributors to the background sound level in the Project area include motor vehicle traffic on local and distant streets, aircraft over-flights, mechanical equipment on nearby buildings, nature noises such as insects, tree frogs, small animals, and general city noises such as street sweepers and police/fire sirens. Typical sound levels associated with various activities and environments are presented in **Table 4.3-2**.

4.3.2 Noise Regulations

Commonwealth Noise Policy

The DEP regulates noise through 310 CMR 7.00, “Air Pollution Control.” In these regulations “air contaminant” is defined to include sound and a condition of “air pollution” includes the presence of an air contaminant in such concentration and duration as to “cause a nuisance” or “unreasonably interfere with the comfortable enjoyment of life and property.”

Regulation 7.10 prohibits "unnecessary emissions" of noise. The DEP DAQC Policy Statement 90-001 (February 1, 1990) interprets a violation of this noise regulation to have occurred if the noise source causes either:

1. An increase in the broadband sound pressure level of more than 10 dBA above the ambient level; or
2. A "pure tone" condition.

The ambient background level is defined as the L_{90} level as measured during equipment operating hours. A "pure tone" condition occurs when any octave band sound pressure level exceeds both of the two adjacent octave band sound pressure levels by 3 dB or more.

The DEP does not regulate noise from motor vehicles accessing a site or the equipment backup notification alarms. Therefore, the provisions described above only apply to a portion of the sources that may generate sound following construction of the Project.

Local Regulations

The City of Boston Environment Department regulates noise through the Regulations for the Control of Noise as administered by the Air Pollution Control Commission. The Project is located in an area consisting of commercial and residential uses. The Project will have low-rise residential houses to the north, east, and south. The Project must comply with Regulation 2.2 for noise levels in Residential Zoning Districts at these residential locations**. Table 4.3-3** lists the maximum allowable octave band and broadband sound pressure levels for residential and business districts. Daytime is defined by the City of Boston Noise Regulations as occurring between the hours of 7:00 a.m. and 6:00 p.m. daily except Sunday. Compliance with the most restrictive nighttime residential limits will ensure compliance for other land uses with equal or higher noise limits.

Table 4.3-2. Common Indoor and Outdoor Sound Levels

Outdoor Sound Levels	Sound Pressure (μPa)	Sound Level (dBA)	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 1m
	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	Average Whisper
		15	Broadcast and Recording Studios
	63	10	
		5	Human Breathing
Reference Pressure Level	20	0	Threshold of Hearing

Notes: μPa, or micro-Pascals, describes sound pressure levels (force/area). DBA, or A-weighted decibels, describes sound pressure on a logarithmic scale with respect to 20 μPa (reference pressure level).

Table 4.3-3. Maximum Allowable Sound Pressure Levels (dB) City of Boston

Octave Band (Hz)	Zoning District		
	Residential (Daytime)	Residential (All Other Times)	Business (anytime)
32 Hz	76	68	79
63 Hz	75	67	78
125 Hz	69	61	73
250 Hz	62	52	68
500 Hz	56	46	62
1000 Hz	50	40	56
2000 Hz	45	33	51
4000 Hz	40	28	47
8000 Hz	38	26	44
Broadband (dBA)	**60**	**50**	**65**

4.3.3 Pre-Construction Sound Level Measurements

Existing sound levels, measured for a nearby project recently proposed at 70 Leo Birmingham Parkway, were used to represent baseline conditions for the Project Site. Existing baseline sound levels were measured during the quietest overnight period when human activity and street traffic were at a minimum, and when the Project's mechanical equipment (the principal sound sources) could be operating. Since the Project's mechanical equipment may operate at any time during a 24-hour day, a weekday between 11:00 p.m. and 4:00 a.m. was selected as the worst-case time period, i.e., the time period when Project-related sounds may be most noticeable due to the quieter background sound levels. Establishing an existing background (L_{90}) during the quietest hours of the facility operation is a conservative approach for noise impact assessment and is required by the DEP Noise Policy.

The nighttime noise measurement locations are as follows (see the Figure 1 in the **Appendix C**):

Monitoring Location #1: 14 Lincoln Street, approximately 770 feet southeast of the Project Site

Monitoring Location #2: 32 Portsmouth Street, approximately 1,400 feet east of the Project Site

Monitoring Location #3: 11 Lothrop Street, approximately 1,070 feet northeast of the Project Site

These monitoring locations were selected because they represent the closest residential noise-sensitive locations to the Project.

Broadband (dBA) and octave band sound level measurements were made with a Larson Davis Type 831 environmental sound level analyzer, at each monitoring location, for a duration of approximately thirty minutes. The full octave band frequency analysis was performed on the frequencies spanning 16 to 16,000 Hertz. A time-integrated statistical analysis of the data used to quantify the sound variation was also performed, including the calculation of the L_{90}, which is used to set the ambient background sound level.

The Larson Davis 831 is equipped with a ½" precision condenser microphone and has an operating range of 5 dB to 140 dB and an overall frequency range of 3.5 Hz to 20,000 Hz. This meter meets or exceeds all requirements set forth in the ANSI S1.4-1983 Standards for Type 1 quality and accuracy and the State and City requirements for sound level instrumentation. Prior to any measurements, this sound analyzer was calibrated with an ANSI Type 1 calibrator that has an accuracy traceable to the National Institute of Standards and Technology (NIST). During all measurements, the B&K 2250 was tripod mounted at approximately five feet above the ground in open areas away from vertical reflecting surfaces.

The sound level monitoring was conducted Monday night, July 10, into Tuesday morning, July 11, 2017. Weather conditions during the sound survey were conducive to accurate sound level monitoring: the temperature was 64ºF, the skies were partly cloudy, and the winds were 0 to 3 mph, from the northwest. The microphone of the sound level analyzer was fitted with a 3-inch windscreen to negate any effects of wind-generated noise.

The nighttime sound level measurements taken in the vicinity of the Project Site reveal sound levels that are typical for an urban area. A significant source of existing sound at all locations is motor vehicle traffic on nearby highways and local streets, residential and commercial air handling equipment, crickets and other insects/animals and aircraft over-flights.

The results of the nighttime baseline sound level measurements are presented in **Table 4.3-4**, and the complete measurement printouts are provided in **Appendix C**. The nighttime background L_{90} level was 59.8 dBA at Location #1, 53.1 dBA at Location #2, and 50.5 at Location #3. The octave band data in **Table 4.3-4** show that pure tones were detected in the nighttime noise measurements at Locations #1 and #2 due to local traffic on the adjacent Massachusetts Turnpike.

Noise monitoring was performed during the daytime at the same locations to establish existing daytime baseline sound levels for comparison with the HUD noise guidelines. The purpose of the HUD guidelines is to provide standards for determining the acceptability of residential project locations with regards to existing sound levels. The HUD criteria regarding the day-night average sound level (L_{dn}) are listed below. These standards apply to L_{dn} measurements taken several feet from the building in the direction of the predominant source of noise.

- Normally Acceptable – L_{dn} not exceeding 65 dBA
- Normally Unacceptable – L_{dn} above 65 dBA but not exceeding 75 dBA
- Unacceptable – L_{dn} above 75 dBA.

These HUD standards do not apply to this Project, but are used as guidance regarding the suitability of the project area with regard to background sound levels.

Daytime sound level measurements were taken in the vicinity of the Project Site to help estimate the L_{dn} for the Project Site. A 30-minute sound level measurement was taken during the afternoon, on Wednesday, June 28, 2017 between 10:00 am. and 10: 30 a.m. at 10 Lincoln Street (Location #1) representing the closest location to the Project Site. This location also represents a worst-case scenario given that it is located approximately 110 to 420 feet closer than the proposed Project buildings and has a clear line of sight to the Massachusetts Turnpike (Turnpike). Therefore, the L_{dn} levels will be lower at the Project Site.

The weather conditions during the sound survey were conducive to accurate sound level monitoring: the skies were overcast, and the winds were 5-10 mph. The microphone of the sound level analyzer was fitted with a 7-inch windscreen to negate any effects of wind-generated noise.

The daytime sound level measurements taken at 10 Lincoln Street reveal sound levels that are typical for an urban area. The main sources of noise during the peak morning traffic period sound level measurement were motor vehicle traffic from the proximate Massachusetts Turnpike, nearby local streets, construction vehicles in the distance, adjacent MBTA Commuter line activity, and aircraft over-flights. The L_{eq} measured during the morning period was 71.4 dBA. The L_{eq} sound level measured during the nighttime at the same location was 66.8 dBA. Using both the daytime and nighttime L_{eq} sound levels, the calculated L_{dn} is 74.2 dBA at 10 Lincoln Street, which is above the HUD guideline noise limit of 65 dBA primarily due to the constant traffic on the Massachusetts Turnpike. The L_{dn} sound level at Location #2 at 32 Portsmouth Street is 64.5 dBA. This location, located comparably north of the Massachusetts Turnpike may be more representative of what can be expected at the Project Site as the Project Site is similarly situated north of the Massachusetts Turnpike and is shielded by topography and vegetation.

In addition, standard building construction practices, without additional soundproofing, will result in at least a 30 dBA reduction of sound from outdoor sound levels. Therefore, sound levels inside the newly constructed buildings on the Project Site will be less than the HUD interior noise guideline of 45 dBA.

Table 4.3-4. Nighttime Baseline Sound Level Measurements, July 10-11 2017

Sound Level Measurement	(Location #1) 14 Lincoln St 11:00 p.m. - 11:30 p.m.	(Location #2) 32 Portsmouth St 11:31 p.m - 12:01 a.m.	(Location #3) 11 Lothrop St 12:03 a.m.- 12:33 a.m.
Broadband (dBA)			
Background (L_{90})	59.8	53.1	50.5
Octave Band L_{90} (dB)			
16 Hz	60.0	53.9	53.6
32 Hz	60.1	55.3	54.0
63 Hz	59.4	56.4	54.7
125 Hz	56.5	51.6	51.0
250 Hz	52.2	45.4	46.4
500 Hz	51.0	46.4	44.9
1000 Hz	57.5	50.8	47.4
2000 Hz	52.7	43.4	41.8
4000 Hz	40.5	31.8	33.4
8000 Hz	29.8	24.7	26.2
16000 Hz	18.5	18.9	18.3
Pure Tone?	Yes	Yes	No

4.3.4 Reference Data and Candidate Mitigation Measures

The mechanical systems for the Proposed Project are in the early design stage. Typical sound power data for the equipment of the expected size and type for the Project have been used in the acoustic model to represent the Project's mechanical equipment. The sound levels from all potential significant Project noise sources are discussed in this section.

The design for the Proposed Project is expected to include the following significant mechanical equipment:

- Two-Hundred Fifty-Two Carrier Model CA16NA018-061 or equivalent single stage air conditioner.
- 4 Greenheck Rooftop ERU exhaust fans
- 4 Greenheck Model CUBE-360-50 Roof Garage Exhaust

The equipment listed above, which will be located on the building rooftop, was included in the noise impact analysis. The Project's traffic was not included in the noise analysis because motor vehicles are exempt under both the City of Boston and Massachusetts DEP noise regulations.

The sound generation profiles for the mechanical equipment noise sources operating concurrently under full-load conditions were used to determine the maximum possible resultant sound levels from the Project Site as a whole, to define a worst-case scenario. To be in compliance with City and DEP regulations, the resultant sound level must not exceed the allowable octave band limits in the City of Boston noise regulation and must be below the allowable incremental noise increase, relative to existing noise levels, as required in the DEP Noise Policy.

This sound level impact analysis was performed using sound generation data for representative equipment to demonstrate compliance with noise regulations. As the building design evolves, the sound generation for the actual equipment selected may differ from the values that were utilized for the analysis.

4.3.5 Calculated Future Sound Levels

Methodology

Future maximum sound levels at the upper floors of all existing residences bordering the Project, and at the nearest residential property lines, were calculated with acoustic modeling software assuming simultaneous operation of all mechanical equipment at their maximum loads.

The Cadna-A computer program, a comprehensive 3-dimensional acoustical modeling software package was used to calculate Project generated sound propagation and attenuation.[3] The model is based on ISO 9613, an internationally recognized standard specifically developed to ensure the highly accurate calculation of environmental noise in an outdoor environment. ISO 9613 standard incorporates the propagation and attenuation of sound energy due to divergence with distance, surface and building reflections, air and ground absorption, and sound wave diffraction and shielding effects caused by barriers, buildings, and ground topography.

Receptors

The location of the Project area is surrounded mainly by commercial buildings, the closest residential building is 710 feet away. The closest/worst-case sensitive (residential) location is to the east of the Project area at 10 Lincoln Street. This location was selected based on the proximity of the equipment (smaller distances correspond to larger noise impacts) and the amount of shielding by the Project (residences further from the Project will experience less shielding from the Project's rooftop mechanical equipment, which may result in larger potential noise impacts from the Project). This location is expected to receive the largest sound level impacts from the Project's rooftop mechanical equipment. It can be classified as a residential zone.

The sound level impacts from the building's mechanical equipment were predicted at the closest residential location, as well as additional residential uses to the east (14 & 16 & 20 Lincoln St), (37 Portsmouth St), and (7 & 11 Lothrop Street). Figure 1 in **Appendix C** shows the locations of

[3]Cadna-A Computer Aided Noise Abatement Program, Version 4.3

the modeled noise receptors. Noise impacts at other nearby noise-sensitive locations (residences, parks, etc.) farther from the Project Site will be less than those predicted for these receptors.

4.3.6 Compliance with State and Local Noise Standards

The City of Boston and DEP noise standards apply to the operation of the mechanical equipment at the proposed Project. The details of the noise predictions are presented in **Tables 4.3-5** through **4.3-11**. The sound impact analysis includes the simultaneous operation of the Project's rooftop HVAC equipment. The predicted sound levels are worst-case predictions that represent all hours of the day, as the analysis assumes full operation of the mechanical equipment 24-hours a day. The typical sound level impacts from the mechanical equipment will likely be lower than what is presented here, since most of the mechanical equipment will operate at full-load only during certain times of the day and during the warmer months of the year, it is not likely that all of the mechanical equipment will operate at the same time. Sound level impacts at locations farther from the Project (e.g. other residences, etc.) will be lower than those presented in this report.

City of Boston Noise Standards

The noise impact analysis results, presented in **Tables 4.3-5** through **4.3-11**, reveal that the sound level impact at the upper floors of the closest residences will be between 30.0 and 35.6 dBA. The smallest sound level impact of 29.9 dBA is predicted to occur at 37 Portsmouth St. The largest sound level impact of 35.6 dBA is predicted to occur at 10 Lincoln St. Noise impacts predicted at all locations are in compliance with the City of Boston's nighttime noise limit (50 dBA) for a residential area. Note that sound levels from the Project will be below the residential nighttime limits at all times. The results also demonstrate compliance with the City of Boston, residential, non-daytime, octave band noise limits at both closest locations.

The City of Boston noise limits for business areas are significantly higher than the nighttime noise limits for residential areas (see **Table 4.3-3**). The Project will also easily comply with the City of Boston business area noise limits at all surrounding commercial properties.

Massachusetts DEP Noise Regulations

The predicted sound level impacts at the worst-case residential locations were added to the measured L_{90} value of the quietest daily hour to test compliance with DEP's noise criteria. Assuming the Project's mechanical noise is constant throughout the day, the Project will cause the largest increase in sound levels during the period when the lowest background noise occurs. Minimum background sound levels (diurnal) typically occur between 12:00 a.m. and 5:00 a.m.

The predicted sound level impacts at the upper floors of the closest residences were added to the L_{90} values measured during the period with the least amount of background noise to test compliance with DEP's noise criteria. The predicted noise impacts at the property line and the closest residences were added to the most-representative measured L_{90} values to determine the

largest possible increase in the sound level at each location during the quietest hour at the Project Site.

As shown in **Tables 4.3-5** through **4.3-11**, the Project is predicted to produce a less than 2 dBA change in the background sound levels at all modeled locations. Therefore, the Project's worst-case sound level impacts during the quietest nighttime periods will be in compliance with the Massachusetts DEP allowed noise increase of 10 dBA. The noise predictions for each octave band indicate that the mechanical equipment will not create a pure tone condition at any location.

Table 4.3-5. Estimated Future Sound Level Impacts – Anytime, 10 Lincoln Street (Closest/Worst Case Residence) – Location R1

Octave Bands	Residential Nighttime Noise Standards	Maximum Predicted Sound Levels*
32 Hz	68	39
63 Hz	67	38
125 Hz	61	36
250 Hz	52	39
500 Hz	46	33
1000 Hz	40	30
2000 Hz	33	25
4000 Hz	28	16
8000 Hz	26	--
Broadband (dBA)	**50**	**36**
Compliance with the City of Boston Noise Regulation?		Yes

Sound Level Metric	Maximum Sound Levels* (dBA)
Existing Nighttime Background, L_{90} (Location #1)	59.8
1550 Soldiers Field Rd*	35.6
Calculated Combined Future Sound Level	59.8
Calculated Incremental Increase	+0.0
Compliance with DEP Noise Policy?	Yes

* Assumes full-load operation of all mechanical equipment.
Note: DEP Policy allows a sound level increase of up to 10 dBA

Table 4.3-6. Estimated Future Sound Level Impacts – Anytime, 14 Lincoln Street – Location R2

Octave Bands	Residential Nighttime Noise Standards	Maximum Predicted Sound Levels*
32 Hz	68	35
63 Hz	67	37
125 Hz	61	36
250 Hz	52	39
500 Hz	46	33
1000 Hz	40	29
2000 Hz	33	25
4000 Hz	28	16
8000 Hz	26	---
Broadband (dBA)	**50**	**35**
Compliance with the City of Boston Noise Regulation?		Yes

Sound Level Metric	Maximum Sound Levels* (dBA)
Existing Nighttime Background, L_{90} (Location #4)	59.8
1550 Soldiers Field Road Project*	35.2
Calculated Combined Future Sound Level	59.8
Calculated Incremental Increase	+0.0
Compliance with DEP Noise Policy?	Yes

*Assumes full-load operation of all mechanical equipment.
Note: DEP Policy allows a sound level increase of up to 10 dBA.

Table 4.3-7. Estimated Future Sound Level Impacts – Anytime, 16 Lincoln Street – Location R3

Octave Bands	Residential Nighttime Noise Standards	Maximum Predicted Sound Levels*
32 Hz	68	38
63 Hz	67	38
125 Hz	61	35
250 Hz	52	39
500 Hz	46	32
1000 Hz	40	29
2000 Hz	33	24
4000 Hz	28	15
8000 Hz	26	--
Broadband (dBA)	**50**	**35**
Compliance with the City of Boston Noise Regulation?		Yes

Sound Level Metric	Maximum Sound Levels* (dBA)
Existing Nighttime Background, L_{90} (Location #3)	59.8
1550 Soldiers Field Rd Project*	34.8
Calculated Combined Future Sound Level	59.8
Calculated Incremental Increase	+0.0
Compliance with DEP Noise Policy?	Yes

*Assumes full-load operation of all mechanical equipment.
Note: DEP Policy allows a sound level increase of up to 10 dBA.

Table 4.3-8. Estimated Future Sound Level Impacts – Anytime, 20 Lincoln Street – Location R4

Octave Bands	Residential Nighttime Noise Standards	Maximum Predicted Sound Levels*
32 Hz	68	38
63 Hz	67	37
125 Hz	61	35
250 Hz	52	38
500 Hz	46	32
1000 Hz	40	28
2000 Hz	33	23
4000 Hz	28	14
8000 Hz	26	--
Broadband (dBA)	**50**	**34**
Compliance with the City of Boston Noise Regulation?		Yes

Sound Level Metric	Maximum Sound Levels* (dBA)
Existing Nighttime Background, L_{90} (Location #1)	59.8
1550 Soldiers Field Rd Project*	34.4
Calculated Combined Future Sound Level	59.8
Calculated Incremental Increase	+0.0
Compliance with DEP Noise Policy?	Yes

*Assumes full-load operation of all mechanical equipment.

Table 4.3-9. Estimated Future Sound Level Impacts – Anytime, 37 Portsmouth Street – Location R5

Octave Bands	Residential Nighttime Noise Standards	Maximum Predicted Sound Levels*
32 Hz	68	34
63 Hz	67	36
125 Hz	61	31
250 Hz	52	33
500 Hz	46	28
1000 Hz	40	24
2000 Hz	33	19
4000 Hz	28	6
8000 Hz	26	--
Broadband (dBA)	**50**	**34**
Compliance with the City of Boston Noise Regulation?		Yes

Sound Level Metric	Maximum Sound Levels* (dBA)
Existing Nighttime Background, L_{90} (Location #3)	53.1
1550 Soldiers Field Rd Project*	29.9
Calculated Combined Future Sound Level	59.8
Calculated Incremental Increase	+0.0
Compliance with DEP Noise Policy?	Yes

*Assumes full-load operation of all mechanical equipment.

Table 4.3-10. Estimated Future Sound Level Impacts – 7 Lothrop Street – Location R6

Octave Bands	Residential Nighttime Noise Standards	Maximum Predicted Sound Levels*
32 Hz	68	36
63 Hz	67	36
125 Hz	61	33
250 Hz	52	36
500 Hz	46	30
1000 Hz	40	26
2000 Hz	33	21
4000 Hz	28	11
8000 Hz	26	--
Broadband (dBA)	**50**	**32**
Compliance with the City of Boston Noise Regulation?		Yes

Sound Level Metric	Maximum Sound Levels* (dBA)
Existing Nighttime Background, L_{90} (Location #2)	50.6
1550 Soldiers Field Rd*	32.2
Calculated Combined Future Sound Level	50.6
Calculated Incremental Increase	+0.0
Compliance with DEP Noise Policy?	Yes

*Assumes full-load operation of all mechanical equipment.

Table 4.3-11. Estimated Future Sound Level Impacts – 11 Lothrop Street – Location R7

Octave Bands	Residential Nighttime Noise Standards	Maximum Predicted Sound Levels*
32 Hz	68	35
63 Hz	67	35
125 Hz	61	33
250 Hz	52	36
500 Hz	46	30
1000 Hz	40	26
2000 Hz	33	21
4000 Hz	28	10
8000 Hz	26	--
Broadband (dBA)	**50**	**32**
Compliance with the City of Boston Noise Regulation?		Yes

Sound Level Metric	Maximum Sound Levels* (dBA)
Existing Nighttime Background, L_{90} (Location #2)	59.8
1550 Soldiers Field Rd*	32.0
Calculated Combined Future Sound Level	59.8
Calculated Incremental Increase	+0.0
Compliance with DEP Noise Policy?	Yes

*Assumes full-load operation of all mechanical equipment.

4.3.7 Conclusions

Sound levels at all nearby sensitive locations and at all property lines will fully comply with the most stringent City of Boston and DEP daytime and nighttime sound level limits.

This acoustic analysis demonstrates that the Project's design will meet the applicable acoustic criteria.

4.4 Stormwater Management and Water Quality

The Proposed Project is expected to substantially improve the stormwater quality runoff from the Site (see **Section 6.0**) and will meet the Boston Water and Sewer Commission (BWSC) Site Plan requirements. The existing storm drain utility infrastructure surrounding the Site appears to be of adequate capacity to service the needs of the Project. The Project will result in a decrease in impervious area on the Site, and will improve the stormwater quality and attenuate the quantity of stormwater runoff being discharged to BWSC storm drain system through the installation of on-site infiltration systems. It is anticipated that the equivalent of 1-inch over the Site's impervious area will be recharged to the greatest extent practicable.

In addition to the installation of on-site infiltration systems, stormwater runoff from vehicular areas will be treated through the use of deep sump hooded catch basins and stormwater quality treatment units. An operation and maintenance plan will be developed to support the long-term functionality of the proposed stormwater management system.

Erosion and sediment controls will be used during construction to protect adjacent properties, the municipal storm drain systems and the on-site storm drain systems. A pollution prevention plan will be prepared for use during construction including during demolition activity.

4.5 Solid and Hazardous Waste Materials

4.5.1 Solid Waste

During preparation of the Site, demolition debris will be removed from the Project Site. The Proponent will ensure that waste removal and disposal during construction and operation will be in conformance with the City and DEP's Regulations for Solid Waste.

Upon completion of construction, the Project is estimated to generate approximately 349 tons of solid waste per year, based on the assumption that each of the 249 units will each generate approximately 1.4 tons per year. A significant portion of the waste will be recycled. The Project will also include ambitious goals for construction waste management in order to meet the requirements for the LEED™ rating system. This strategy will divert demolition and construction waste by reusing and recycling materials.

In order to meet the requirements for the Boston Environmental Department and the LEED™ rating system, the Project will include space dedicated to the storage and collection of recyclables. The recycling program will meet or exceed the City's guidelines, and provide areas for waste paper and newspaper, metal, glass, and plastics (21 through 27, co-mingled).

4.5.2 Hazardous Waste and Materials

The construction of the proposed building foundations will require the removal of the site soils to a depth ranging up to about 8 to 10 feet below existing grade.

A Phase I Environmental Site Assessment dated October 26, 2017 prepared by McPhail Associates, LLC identified two Historical Recognized Environmental Conditions (HRECs) and one Recognized Environmental Condition (REC) on the subject site. A subsequent Phase II Environmental Site Assessment dated December 11, 2017, determined that the REC identified during the Phase I ESA is no longer considered an environmental concern.

The Project proponent will also retain a Licensed Site Professional (LSP) to manage the environmental aspects of the Project, including proper management and/or off-site disposal of any contaminated soil encountered during construction. If necessary, the LSP will also prepare the required Massachusetts Contingency Plan (MCP) (310 CMR 40.0000) regulatory submittals.

4.6 Geotechnical/Groundwater Impacts Analysis

McPhail Associates, LLC completed a subsurface exploration program and preliminary foundation design study for the Project on November 30, 2017.

Based on the scope of the proposed construction and the subsurface conditions encountered at the site by McPhail in its site investigations, McPhail recommended that the proposed residential buildings at 1550 Soldiers Field Road and 21 Soldiers Field Place be founded on conventional spread footing foundations in conjunction with a soil-supported slab-on-grade.

It is expected that McPhail will be retained to provide design assistance to the design team during the final design phase of the Project.

Groundwater

Groundwater was observed at a depth of approximately 9.5 to 10 feet below the existing ground surface or from approximately Elevation +10.5 to Elevation +9.8 in three borings completed by a contractor under the supervision of McPhail Associates, LLC on October 24, 2017.

The Project Site is not located within the Groundwater Conservation Overlay District (GCOD) as outlined in Article 32 of the City of Boston Zoning Code.

4.7 Construction Impact

The following section describes impacts likely to result from the proposed Project construction and the steps that will be taken to avoid or minimize environmental and transportation-related impacts. The Proponent will employ a construction manager that will be responsible for developing a construction phasing and staging plan and for coordinating construction activities with all appropriate regulatory

agencies. The Project's geotechnical consultant will provide consulting services associated with foundation design recommendations, prepare geotechnical specifications, and review the construction contractor's proposed procedures.

4.7.1 Construction Management Plan

The Proponent will comply with applicable state and local regulations governing construction of the Project. The Proponent will require that the general contractor comply with the Construction Management Plan, ("CMP") developed in consultation with and approved by the Boston Transportation Department ("BTD"), prior to the commencement of construction. The construction manager will be bound by the CMP, which will establish the guidelines for the duration of the Project and will include specific mitigation measures and staging plans to minimize impacts on abutters.

Proper pre-construction planning with the neighborhood will be essential to the successful construction of this Project. Construction methodologies that will ensure safety will be employed, signage will include construction manager contact information with emergency contact numbers.

The Proponent will also coordinate construction with other ongoing projects in the neighborhood.

4.7.2 Proposed Construction Program

Construction Activity Schedule

The construction period for the Proposed Project is expected to last approximately 18 months, beginning in the third quarter of 2018 and reaching completion in the first quarter of 2020. The City of Boston Noise and Work Ordinances will dictate the normal work hours, which will be from 7:00 AM to 6:00 PM, Monday through Friday.

Perimeter Protection/Public Safety

The CMP will describe any necessary sidewalk closures, pedestrian re-routings, and barrier placements and/or fencing deemed necessary to ensure safety around the Site perimeter. If possible, the sidewalk will remain open to pedestrian traffic during the construction period. Barricades and secure fencing will be used to isolate construction areas from pedestrian traffic. In addition, sidewalk areas and walkways near construction activities will be well marked and lighted to ensure pedestrian safety.

Proper signage will be placed at every corner of the Project as well as those areas that may be confusing to pedestrians and automobile traffic.

The Proponent will continue to coordinate with all pertinent regulatory agencies and representatives of the surrounding neighborhoods to ensure they are informed of any changes in construction activities.

4.7.3 Construction Traffic Impacts

Construction Vehicle Routes

Estimated truck deliveries and routes are identified at the end of this section. Specific truck routes will be established with BTD through the CMP. These established truck routes will prohibit travel on any residential side streets. Construction contracts will include clauses restricting truck travel to BTD requirements. Maps showing approved truck routes will be provided to all suppliers, contractors, and subcontractors. It is anticipated that all deliveries will be via Soldier Field Road direct to the site, not passing through any residential areas.

Construction Worker Parking

The number of workers required for construction of the Project will vary during the construction period. However, it is anticipated that all construction workers will arrive and depart prior to peak traffic periods.

Limited parking in designated areas of the Project Site and lay-down area(s) will be allowed. Parking will be discouraged in the immediate neighborhood. Further, public transit use will be encouraged with the Proponent and construction manager working to ensure the construction workers are informed of the public transportation options serving the area. Terms and conditions related to worker parking will be written into each subcontractor's contract. The contractor will provide a weekly orientation with all new personnel to ensure enforcement of this policy.

Pedestrian Traffic

The Site abuts sidewalks on two streets. Pedestrian traffic may be temporarily impacted in these areas. The Construction Manager will minimize the impact the construction of the proposed building will have and the adjacent sidewalks. The contractor will implement a plan that will clearly denote all traffic patterns. Safety measures such as jersey barriers, fencing, and signage will be used to direct pedestrian traffic around the construction site and to secure the work area.

4.7.4 Construction Environmental Impacts and Mitigation

Construction Air Quality

Construction activities may generate fugitive dust, which will result in a localized increase of airborne particle levels. Fugitive dust emission from construction activities will depend on such factors as the properties of the emitting surface (e.g. moisture content), meteorological variables, and construction practices employed.

To reduce the emission of fugitive dust and minimize impacts on the local environment the construction contractor will adhere to a number of strictly enforceable mitigation measures. These measures may include:

- Using wetting agents to control and suppress dust from construction debris;
- Ensuring that all trucks traveling to and from the Project Site will be fully covered;
- Removing construction debris regularly;
- Monitoring construction practices closely to ensure any emissions of dust are negligible;
- Cleaning streets and sidewalks to minimize dust and dirt accumulation;
- Monitoring construction activities by the job site superintendent and safety officer; and
- Wheel-washing trucks before they leave the Project Site during the excavation phase.

Construction Noise Impacts

To reduce the noise impacts of construction on the surrounding neighborhood, a number of noise mitigation measures will be included in the CMP. Some of the measures that may be taken to ensure a low level of noise emissions include:

- Initiating a proactive program for compliance to the City of Boston's noise limitation impact;
- Scheduling of work during regular working hours as much as possible;
- Using mufflers on all equipment and ongoing maintenance of intake and exhaust mufflers;
- Muffling enclosures on continuously operating equipment, such as air compressors and welding generators;
- Scheduling construction activities so as to avoid the simultaneous operation of the noisiest construction activities;
- Turning off all idling equipment;
- Reminding truck drivers that trucks cannot idle more than five (5) minutes unless the engine is required to operate lifts of refrigeration units;
- Locating noisy equipment at locations that protect sensitive locations and neighborhoods through shielding or distance;
- Installing a site barricade at certain locations;
- Identifying and maintaining truck routes to minimize traffic and noise throughout the Project;
- Replacing specific construction techniques by less noisy ones where feasible-e.g., using vibration pile driving instead of impact driving if practical and mixing concrete off-site instead of on-site; and
- Maintaining all equipment to have proper sound attenuation devices.

4.7.5 Rodent Control

The City of Boston enforces the requirements established under Massachusetts State Sanitary Code, Chapter 11, 105 CMR 410.550. This policy establishes that the elimination of rodents is required for issuance of any building permits. During construction, rodent control service visits will be made by a certified rodent control firm to monitor the situation.

4.7.6 Utility Protection During Construction

The Contractor will notify utility companies and call "Dig Safe" prior to excavation. During construction, infrastructure will be protected using sheeting and shoring, temporary relocations, and construction staging as required. The Construction Contractor will be required to coordinate all protection measures, temporary supports, and temporary shutdowns of all utilities with the appropriate utility owners and/or agencies. The Construction Contractor will also be required to provide adequate notification to the utility owner prior to any work commencing on their utility. Also, in the event a utility cannot be maintained in service during switch over to a temporary or permanent system, the Construction Contractor will be required to coordinate the shutdown with the utility owners and Project abutters to minimize impacts and inconveniences.

5.0 HISTORIC RESOURCES COMPONENT

This section provides a discussion of the history of the Project Site and the historic resources/ districts in the Project vicinity.

5.1 Historic Resources on the Project Site and Property History

Based on the historical records completed by McPhail Associates for the Phase I Environmental Site Assessment Report (October 2017), and McPhail's review of the Sanborn Fire Insurance Atlases of Boston, revealed that the southern parts of both sites were originally occupied by Bowker Fertilizer Company, and the northern portion of the 1550 Soldiers Field Road site was occupied by the Rendering House of the Slaughtering and Melting Associations' Abattoir from at least 1884 through 1950. In addition, the surrounding buildings were associated with the slaughter houses transitioned to commercial spaces in 1964.

According to files at the Massachusetts Historical Commission, no on-site structures are listed in the National or State Register of Historic Places, or the Inventory of Historical and Archaeological Assets of the Commonwealth. It is not expected that the Project will cause adverse impacts on any historic or architectural elements of nearby historic resources outside the Project Site (please see **Figure 5-1** for identifications of historic resources in the Project vicinity).

5.2 Historic Districts and Resources

The Project Site is not within, nor does it directly abut, any listed historic districts or resources.

The area directly surrounding the Project Site is characterized by mostly nonresidential properties with commercial and office uses. On the other side of Soldiers Field Road is the Charles River. Nearby areas include the new residential uses being proposed and developed along Leo M. Birmingham Parkway and WGBH offices and mixed uses within the Boston Landing complex, which has been completed over the last 7-8 years, on the other side of the Massachusetts Turnpike.

Leo M. Birmingham Parkway (Shown as "B" in **Figure 5-1**) is listed on the State and National Register of Historic Places.

The property at 58 Leo M. Birmingham Parkway (as shown as No. 4 in **Figure 5-1**) was completed in 1895, is referenced in a Boston Landmarks Commission (BLC) Information Form as an intact example of a late 19th century club/storefront building with arcaded triple windows with keystone on third story, with a gable front, in a highly visible location. Another nearby property, and group of buildings, at 1420-1440 Soldiers Field Road, completed in 1890-1899 (as shown as "A" in **Figure 5-1**) was occupied by the former Metropolitan District Commission Offices and more recently the MDC police and maintenance offices. Based on a BLC Information Form, the remaining buildings are a rambling, horizontally massed shingle- style complex around a central courtyard, representing the only extant Brighton example of a

Project Site

.25 mi Radius

Properties on the National Register of Historic Places

Properties included in the Massachusetts Inventory of Historic and Archaeological Assets

MLF CONSULTING LLC

Figure 5-1. Historic Resources
1550 Soldiers Field Road / 21 Soldiers Field Place

shingle-style complex around a central courtyard, and representing the only extant Brighton example of shingle style used for a municipal building.

These historic resources and others within one-quarter-mile radius of the Proposed Project are summarized in **Table 5-1** that follows.

Table 5-1. Historic Resources in the Vicinity of the Project Site

Key to Historic Resources in Figure 5-1	Historic Resource	Source of Listing
Properties on the State and National Register of Historic Places		
A	**Charles River Reservation Speedway – Upper Basin Headquarters (BOS.ZQ)**	**MHC**
B	**Leo M. Birmingham Parkway (BOS. 9608)**	**MHC**
Properties Included the MA Inventory of Historical and Archaeological Assets		
1	**Charles River Reservation – Arsenal Street Bridge (WAT. 942)**	**MHC**
2	**Soldiers Field Underpass at Western Avenue (BOS. 9605)**	**MHC**
3	**Storrow, James J. School (BOS. 8065) 20 Lothrop Street**	**MHC**
4	**Roddy Hall (BOS. 8108) 58 Leo M. Birmingham Parkway**	**MHC**

The Proposed Project is not expected to have effects on any of the listed historically significant resources in **Table 5-1.**

5.3 Archaeological Resources

No known archaeological resources were located within the Project Site during the review of Massachusetts Historic Commission files and MACRIS, therefore no impacts to archaeological resources are anticipated.

6.0 INFRASTRUCTURE SYSTEMS COMPONENT

6.1 Introduction

The Project includes the demolition of the existing office building site located at 1550 Soldiers Field Road, on the north side of Soldiers Field Place, and the redevelopment of the parking lot located at 21 Soldiers Field Place, on the south side of Soldiers Field Place. The proposed Project will be comprised of the construction of a mid-rise apartment complex and parking on the 1550 Soldiers Field Road site and a construction of a mid-rise income-restricted residential condominium development and parking on the 21 Soldiers Field Place site.

The existing infrastructure surrounding the Project Sites appears sufficient to service the needs of the Proposed Project. The following sections describe the existing sanitary sewer, water, storm drainage, electrical, steam, gas, telecom, and cable systems surrounding the sites and explain how these systems will service the development. The analysis also discusses any anticipated Project-related impacts to the utilities and identifies mitigation measures to address these potential impacts.

A detailed infrastructure analysis will be performed when the Project proceeds to the Design Development Phase. The Project's team will coordinate with the appropriate utilities to address the capacity of the area utilities to provide services for the new building. A Boston Water and Sewer Commission (BWSC) Site Plan Approval and General Service Application are required for the new water, sanitary sewer, and storm drain connections. In addition, a Storm Water Pollution Prevention Plan will be submitted specifying best management practices (BMPs) for protecting the BWSC drainage systems during construction.

A Drainage Discharge Permit Application is required from BWSC for any construction dewatering. The appropriate approvals from the Massachusetts Water Resource Authority (MWRA), Massachusetts Department of Environmental Protection (MassDEP), and the U.S. Environmental Protection Agency (EPA) will also be sought if required for construction dewatering.

6.2 Sanitary Sewer System

6.2.1 Existing Sewer System

The BWSC owns and maintains the sanitary sewer system that services the Project. The BWSC sewer system ultimately connects to the Massachusetts Water Resources Authority (MWRA) interceptors for conveyance, treatment, and disposal through the MWRA Deer Island Wastewater Treatment Plant. Existing BWSC sanitary sewer mains are located in Soldiers Field Place adjacent to the Project.

Soldiers Field Place

There is an existing 10-inch BWSC sewer main in Soldiers Field Place which flows in a westerly direction turning into a northerly direction following the street. The 10-inch BWSC sewer main increases to a 12-inch BWSC sewer main which flows in a northerly direction to cross Soldiers Field Road to connect to an 81-inch by 108-inch BWSC sewer main, the Charles River Valley Sewer. The Charles River Valley Sewer flows in an easterly direction and ultimately flows to the MWRA Deer Island Waste Water Treatment Plant for treatment and disposal.

The existing sewer system is illustrated in **Figure 6-1.**

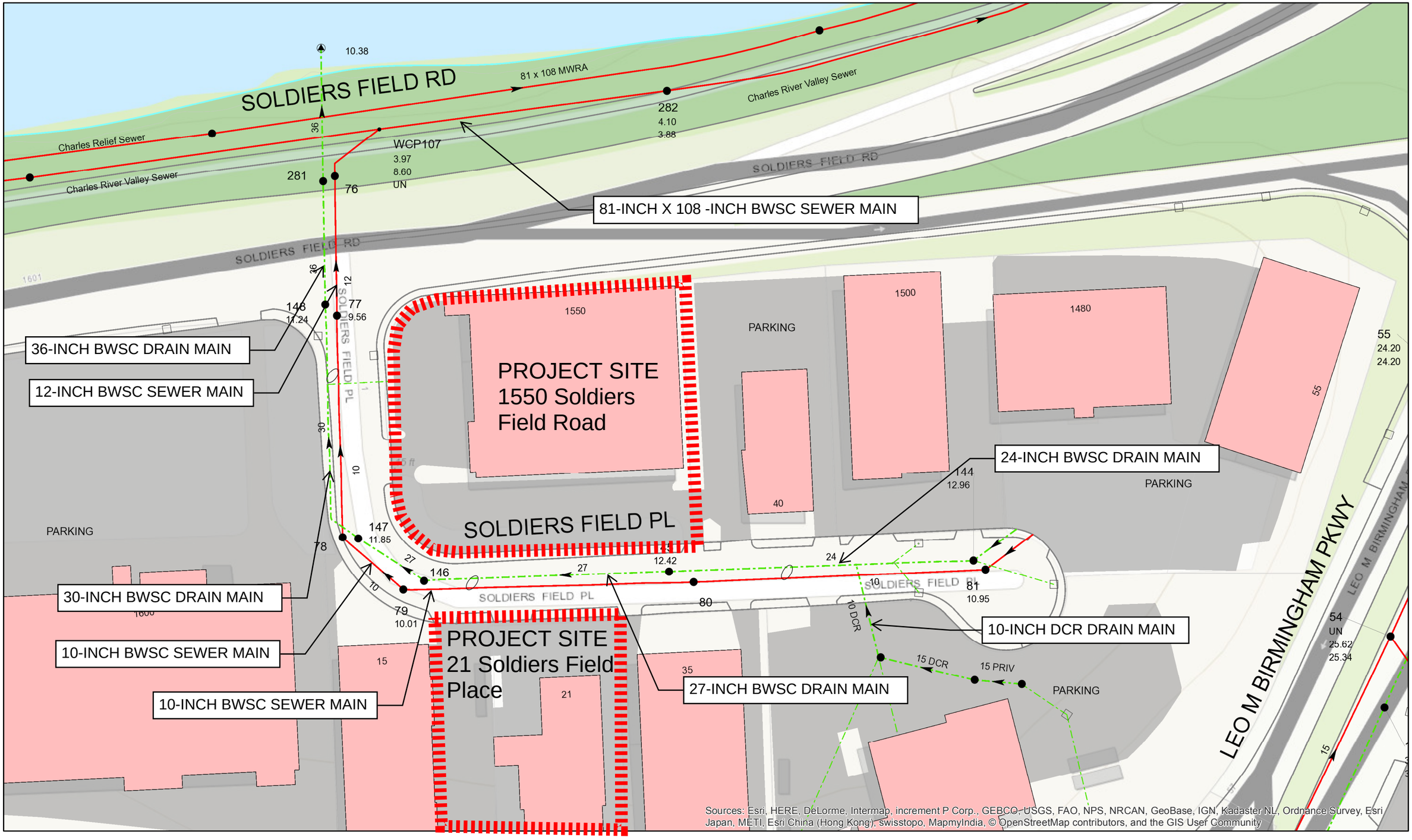
The Proponent will work with BWSC to determine where existing building sewer connections are located at the 1550 Soldiers Field Road site so they can be cut and capped at the main.

The Project's existing sanitary flows were estimated using 310 CMR 15.203 for office uses. 310 CMR 15.203 lists typical sewage generation values by the site use and are conservative values for estimating the sewage flows from the sites. The 310 CMR 15.203 values are used to evaluate new sewage flows, or to estimate existing sewer flows to determine the approximate increase or decrease in sewer flows due to the Project.

There is an existing office building at 1550 Soldiers Field Road and the existing average daily sewage generation is estimated to be approximately 3,360 gallons per day (gpd). There is an existing parking lot at 21 Soldiers Field Place with no sewage flow. The existing building program is summarized in **Table 6-1.**

6.2.2 Project-Generated Sewage Flow

The existing Project Site consists of an office building and surface parking lot. The Project's sewage generation rates were estimated using 310 CMR 15.203 lists, the existing sanitary flows generated is estimated to be 3,360 gpd. The Proposed Project will generate an estimated 35,420 gallons per day (gpd) based on design sewer flows provided in 310 CMR 15.203-The State Environmental Code, Title 5 and the proposed building program as summarized in **Table 6-1.**



BOSTON WATER AND SEWER

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Figure 6-1
BWSC Sanitary Sewer and Storm Drain Map

Table 6-1. Projected Sanitary Sewer Flows

Use	Size/Unit	310 CMR Value (gpd/unit)	Total Flow (gpd)
Existing Office Building and Parking Lot (1550 Soldiers Field Road)			
Office Building	44,800	75 gpd/1000 sq. ft.	3,360
Parking Lot	0	0	0
Total Existing Sewer Flow (gpd)			**3,360**
Proposed Residential Project (using 310 CMR values)			
Rental Housing Units (1550 Soldiers Field Rd)	273 bedrooms	110/bedroom	30,030
Homeownership Units (21 Soldiers Field Place)	49 bedrooms	110/bedroom	5,390
Total Proposed Sewer Flows (gpd)			**35,420**
Increase in Sewer Flows (gpd)			**32,060**

6.2.3 Sanitary Sewage Connection

The proposed building will require new sanitary sewer connections to the BWSC sewer system. Connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process for the Project. This process will include a comprehensive design review of the proposed service connections, an assessment of Project demands and system capacity, and the establishment of service accounts. Coordination with BWSC will include review and approval of the design, capacity, connections, and flow increase resulting from the proposed discharges to the sanitary sewer system. In total, the complete Project sewer generation is expected to increase wastewater flows by approximately 32,060 gpd.

It is anticipated that the proposed buildings' sanitary services will tie into the 10-inch sanitary sewer main in Soldiers Field Place. Any required parking garage floor drains will be routed through an oil and sand trap in accordance with the BWSC's Requirements for Site Plans and plumbing code requirements, prior to discharge to the BWSC sanitary sewer system.

The Proponent will submit a Site Plan to the BWSC for review and approval. Based on the proposed estimated sanitary flow, which is greater than 15,000 gpd, BWSC will require the removal of infiltration/inflow (I/I) at a minimum ratio minimum 4:1 ratio of I/I removed to wastewater generated.

6.2.4 Sewer System Mitigation

To help conserve water and reduce the amount of sewage generated by the proposed Project, the Proponent will investigate the use of water-efficient toilets, aerated shower-heads, and low-flow lavatory faucets, in compliance with pertinent Code requirements to reduce water usage and sewage generation.

6.2.5 Sewage Capacity and Impacts

The adjacent existing BWSC sewer system in Soldiers Field Place and potential building service connections to the sewer system were analyzed.

Table 6-2 indicates the hydraulic capacity of the existing 10-inch BWSC sewer main in Soldiers Field Place. The minimum hydraulic capacity is 0.52 million gallons per day (MGD) or 0.08 cubic feet per second (cfs) for the 10-inch BWSC sewer main in Soldiers Field Place.

Based on an average daily flow estimate for the Project of 35,420 gpd or 0.03 MGD, which is an increase of 32,060 gpd or 0.03 MGD from the existing building; and with a factor of safety estimate of 10 (total estimate = 0.03 MGD x 10 = 0.3 MGD); no capacity issues are expected within the BWSC sewer systems in Soldiers Field Place.

Table 6-2. Sewer Hydraulic Capacity Analysis

Manhole (BWSC Number)	Distance (feet)	Invert Elevation (up)	Invert Elevation (down)	Slope (%)	Diameter (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Soldiers Field Place								
80 to 79	223	10.5	10.2	0.13%	10	0.013	0.80	0.52
79 to 78	63	10.2	10.1	0.16%	10	0.013	0.87	0.56
78 to 77	169	10.1	9.7	0.24%	10	0.013	1.07	0.69
Minimum Flow Analyzed:							0.80	0.52

Notes: 1. Manhole numbers taken from BWSC Sewer System Map
2. Flow Calculations based on Manning's Equation

6.3 Water System

6.3.1 Existing Water Service

Water for the Project will be provided by the BWSC. There are five water systems within the City, and these provide service to portions of the City based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high. Water mains are labeled by their pipe size, year installed, pipe material, and year cement lined (CL), if applicable. There is an existing BWSC water main in Soldiers Field Place.

The water main in the vicinity of the Project are owned and maintained by BWSC. BWSC record drawings indicate there is an existing 8-inch CICL installed in the year 1960 in Soldiers Field Place. The water main is part of the Northern Low service network. Record Drawings indicate that the existing building at 1550 Soldiers Field Road has a 6-inch fire protection and domestic water services which connect to the 8-inch water main in Soldiers Field Place. The existing building and water services shown on record plans for 21 Soldiers Field Place have since been removed from the site and only a parking lot exists there today. The existing BWSC water system is shown in **Figure 6-2**.

The sites are within the service radius of two (2) hydrants. There are two hydrants (H62 and H70) on the south side of Soldiers Field Road between the two sites and to the west of the site at 1550 Soldiers Field Road. The Proponent will confirm that the hydrants are sufficient for the development with BWSC and the Boston Fire Department (BFD) during the detailed design phase.

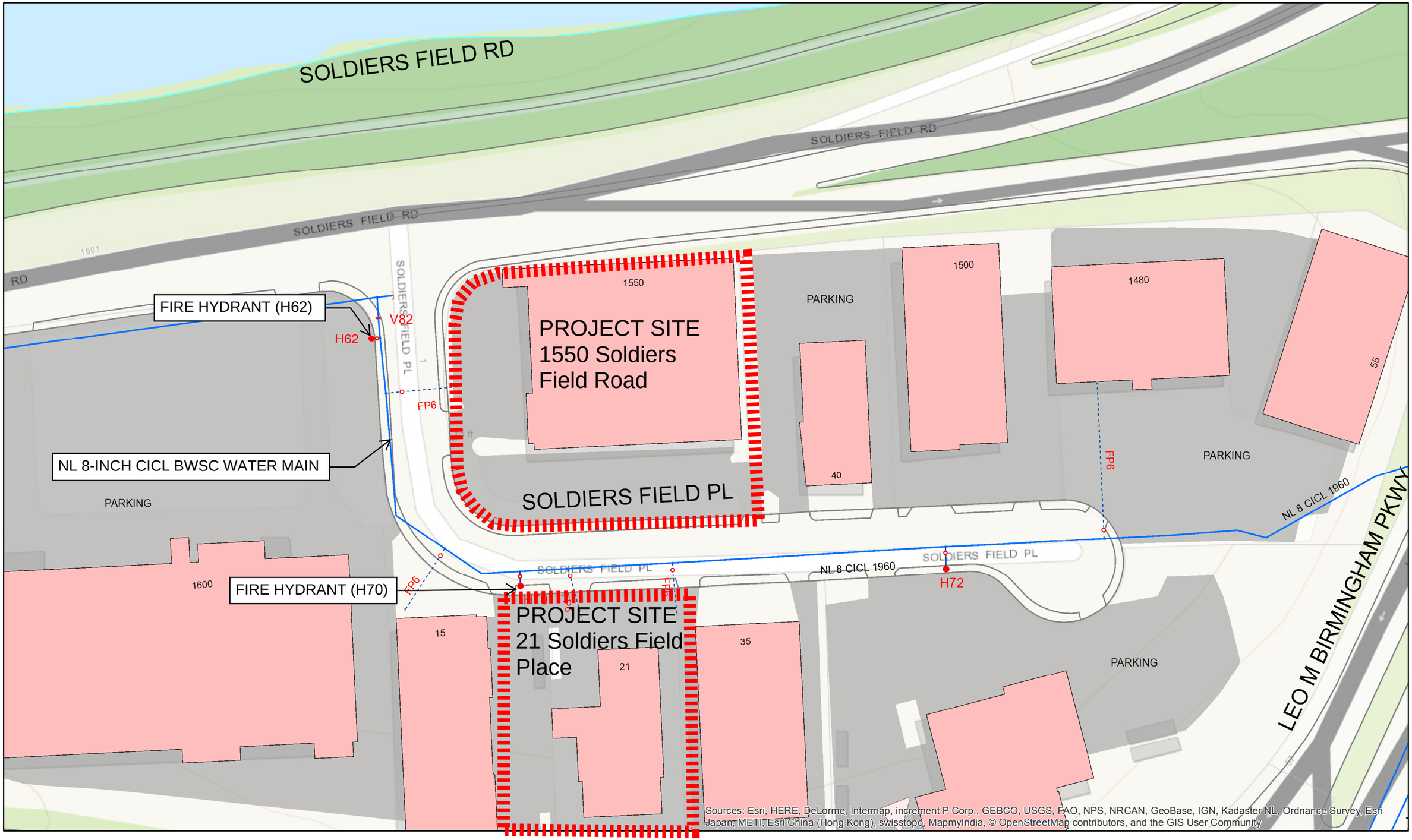
BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the sites was requested by the Proponent. There was no record data available near the proposed Project Sites. As the design progresses, the Proponent will request hydrant flows to be conducted by the BWSC adjacent to the sites. The Proponent will confirm that the water main flow and pressure are sufficient for the redevelopment and coordinate any proposed changes with BWSC and the Boston Fire Department (BFD) during the detailed design phase.

6.3.2 Anticipated Water Consumption

The Project's water demand estimate for domestic services is based on the Project's estimated sewage generation, described above. A conservative factor of 1.1 (10%) is applied to the estimated average daily wastewater flows calculated with 310 CMR 15.203 values to account for consumption, system losses and other usages to estimate an average daily water demand. The Project's estimated total domestic water demand is 38,962 gpd. Water for the Project will be supplied by the BWSC water system in Soldiers Field Place.

6.3.3 Proposed Water Service

Domestic water and fire protection services for the Project will be directly tapped from the 8-inch water main in Soldiers Field Place. The water supply systems servicing the buildings will be gated so as to minimize public hazard or inconvenience in the event of a water main break. Each building will require domestic water and fire protection services. Final locations and sizes of the services will be determined during the detailed design phase and submitted to BWSC for review and approval through the Site Plan Approval process.



BOSTON WATER AND SEWER

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Figure 6-2
BWSC Water Supply Map

Water service to the building will be metered in accordance with BWSC's requirements. The property owner will provide a suitable location for a Meter Transmission Unit (MTU) as part of BWSC's Automatic Meter Reading System. A backflow preventer will be installed on the fire protection service and will be coordinated with BWSC's Cross Connection Control Department. This review will include sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and Boston Fire Department requirements.

6.3.4 Water Supply System Mitigation

As discussed in the Sewer System Mitigation Section, water conservation measures such as the use of water-efficient toilets, low-flow lavatory faucets, and aerated showerheads in compliance with pertinent Code requirements are being considered to reduce potable water usage. Water usage for landscape irrigation will be reduced by the selection of native and adaptive plantings and using soil moisture sensors as part of the irrigation system.

6.4 Storm Drainage System

6.4.1 Existing Drainage Conditions

There is an existing 27-inch BWSC drain main in Soldiers Field Place which flows in a westerly direction which turns northerly and increases to a 30-inch BWSC drain main. The 30-inch pipe continues northerly and increases to a 36-inch BWSC drain main, which ultimately discharges to the Charles River. The existing BWSC storm drain system is shown in **Figure 6-1**.

The existing site at 1550 Soldiers Field Road contains an office building, bituminous asphalt with a few planting areas with trees and grass. Stormwater runoff from the paved area flows overland to the adjacent catch basins in Soldiers Field Place untreated and stormwater collected from the existing building roof is recharged prior to overflow to the 30-inch BWSC drain main Soldiers Filed Place.

The existing site at 21 Soldiers Field Place is a parking lot. The parking lot has two catch basins which collect stormwater from the site. The collected stormwater is related to a particle separator before flowing into the 27-inch BWSC drain main in Soldiers Field Place. Stormwater runoff from both sites ultimately flows to discharge to the Charles River.

6.4.2 Proposed Drainage Systems

The Project is expected to substantially improve the stormwater quality runoff from the sites and will meet the Boston Water and Sewer Commission (BWSC) Site Plan requirements. The existing BWSC storm drain utility infrastructure surrounding the sites appears to be of adequate capacity to service the needs of the Project. The Project will result in a decrease in impervious area on the sites and will improve the stormwater quality and attenuate the quantity of stormwater runoff being discharged to BWSC storm drain system through the installation of on-site infiltration

systems. It is anticipated that the equivalent of 1-inch of stormwater over the sites' impervious areas will be recharged to the greatest extent practicable.

In addition to the installation of on-site infiltration systems, stormwater runoff will be treated through the use of deep sump hooded catch basins and stormwater quality treatment units. A stormwater operation and maintenance plan will be developed to support the long-term functionality of the proposed stormwater management systems.

6.4.3 Stormwater Quality

The Project will improve the quality of stormwater leaving the sites through the installation of on-site infiltration systems and therefore is not expected to have negative impacts on the water quality of the Charles River. The proposed Project infiltration systems will reduce phosphorous levels in the stormwater runoff from the sites. Erosion and sediment controls will be used during construction to protect adjacent properties and the municipal storm drain system. These controls will be inspected and maintained throughout the construction phase until the areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

Necessary dewatering will be conducted in accordance with applicable Federal, State, and BWSC discharge permits. Once construction is complete, the Proposed Project will be in compliance with BWSC Site Plan requirements.

6.4.4 MassDEP Stormwater Management Policy Standards

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

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

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

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

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

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

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

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

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

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

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

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

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

Standard 5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the

Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

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

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

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

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

Compliance: The Project will meet this Standard. The Project is a redevelopment.

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

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

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

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

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

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

6.5 Electric Systems

Eversource owns and maintains the electrical transmission system in the vicinity of the Proposed Project. There is existing overhead service in the Project Area. It is expected that electrical service can be provided by Eversource. Electric power supply design and any upgrades that may be required, will be further coordinated with Eversource as the design for each phase progresses. The Proponent will investigate energy conservation measures, including high-efficiency lighting.

6.6 Telephone and Cable Systems

Verizon, Comcast, and RCN provide telephone service in the Project area. It is anticipated that telephone service can be provided by any of the providers. Any upgrades will be coordinated with the provider. Telephone systems will be reviewed with the provider as the design progresses.

6.7 Steam and Gas Systems

The Proposed Project will not require steam service and there is no steam infrastructure in the Project area.

National Grid provides natural gas in the Project area. National Grid owns and maintains a 4-inch main in Soldiers Field Place. It is expected that there is an adequate supply of natural gas in the area for the proposed building use. The actual size and location of the building services will be coordinated with National Grid.

6.8 Utility Protection During Construction

The Contractor will notify utility companies and call "Dig Safe" prior to excavation. During construction, infrastructure will be protected using sheeting and shoring, temporary relocations, and construction staging as required. The Construction Contractor will be required to coordinate all protection measures, temporary supports, and temporary shutdowns of all utilities with the appropriate utility owners and/or agencies. The Construction Contractor will also be required to provide adequate notification to the utility owner prior to any work commencing on their utility. Also, in the event a utility cannot be maintained in service during the switch over to a temporary or permanent system, the Construction Contractor will be required to coordinate the shutdown with the utility owners and Project abutters to minimize impacts and inconveniences.

7.0 TRANSPORTATION COMPONENT

7.1 Introduction

The Proponent has engaged Howard Stein Hudson (HSH) to conduct an evaluation of the transportation impacts of the Project in the Brighton neighborhood of Boston, Massachusetts. This transportation study adheres to the Boston Transportation Department (BTD) Transportation Access Plan Guidelines and BPDA Article 80 Large Project Review process. This study includes an evaluation of existing conditions, future conditions with and without the Project, projected parking demand, loading operations, transit services, and pedestrian activity.

The study area intersection will continue to operate at the same Level of Service as under the No-Build conditions during both the a.m. and p.m. peak hours. The Project will have minimal impact on the study area intersection, on the existing public transportation services, or the existing pedestrian and bicycle facilities in the area.

7.1.1 Project Description

The Project Site is located on two parcels across the street from each other at 1550 Soldiers Field Road and 21 Soldiers Field Place. The northern parcel is generally bound by Soldiers Field Road to the north, Soldiers Field Place to the south and west and an office building to the east. The southern parcel is generally bound by Soldiers Field Place to the north, one-story commercial buildings to the east and west, and Leo Birmingham Parkway to the south. The Project Site currently consists of an existing two-story office building at 1550 Soldiers Field Road and a surface parking lot at 21 Soldiers Field Place.

The Project will include the demolition of the existing 44,800 square foot (sf) office building and the surface parking lot and consist of the construction of two new residential buildings. The proposed building located at 1550 Soldiers Field Road will be a six-story building with 211 dwelling units and an underground parking garage with 148 parking spaces. The proposed building located at 21 Soldiers Field Place will be a four-story building with 38 dwelling units and an at-grade parking garage with 27 parking spaces.

7.1.2 Study Area

The transportation study area consists of one unsignalized intersection, Soldiers Field Road at Soldiers Field Place. The study area intersection is shown in **Figure 7-1.**

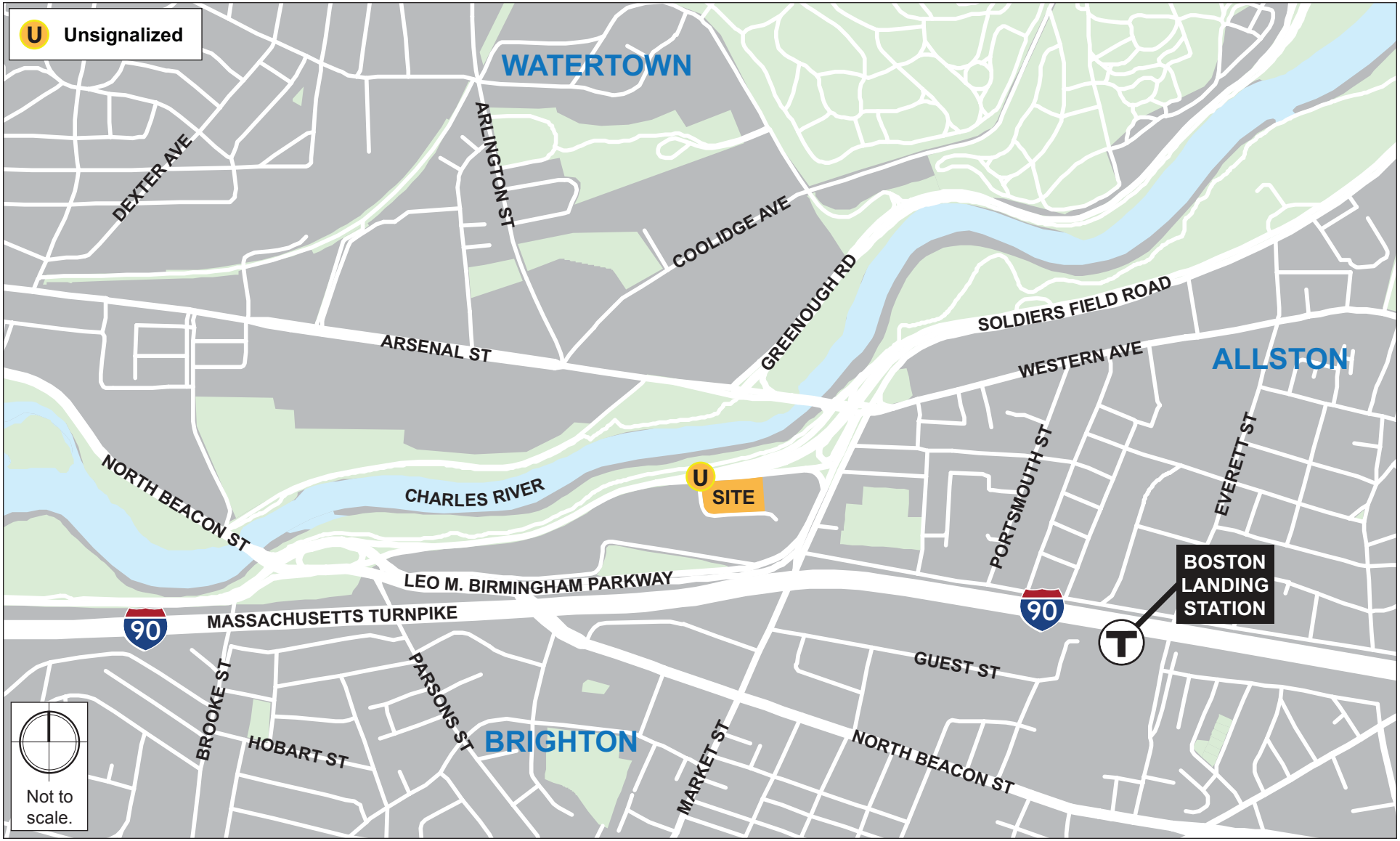


Figure 7-1.
Study Area Intersections

7.1.3 Study Methodology

This transportation study and its supporting analyses were conducted in accordance with BTD guidelines, and are described below.

The Existing (2017) Condition analysis includes an inventory of the existing transportation conditions that was undertaken in the Fall of 2017 such as traffic characteristics, parking, curb usage, transit, pedestrian circulation, bicycle facilities, loading, and site conditions. Existing counts for vehicles, bicycles, and pedestrians were collected at the study area intersections. A traffic data collection effort forms the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analysis evaluates potential transportation impacts associated with the Project. The long-term transportation impacts are evaluated for the year 2024, based on a seven-year horizon from the year the traffic data was collected.

The No-Build (2024) Condition analysis includes general background traffic growth, traffic growth associated with specific developments (not including this Project), and transportation improvements that are planned in the vicinity of the Project site.

The Build (2024) Condition analysis includes a net increase in traffic volume due to the addition of Project-generated trip estimates and to the traffic volumes developed as part of the No-Build (2024) Condition analysis. The transportation study identified expected roadway, parking, transit, pedestrian, and bicycle accommodations, as well as loading capabilities and deficiencies.

The final part of the transportation study identifies measures to mitigate Project-related impacts and to address any traffic, pedestrian, bicycle, transit, safety, or construction related issues that are necessary to accommodate the Project. An evaluation of short-term traffic impacts associated with construction activities is also provided.

7.2 Existing Conditions

This section includes descriptions of existing study area roadway geometries, intersection traffic control, peak-hour vehicular, pedestrian, and bicycle volumes, average daily traffic volumes, transit availability, parking, curb usage, and loading conditions.

7.2.1 Existing Roadway Conditions

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

Soldiers Field Road is a two-way, four-lane roadway abutting to the north side of the Project site. Soldiers Field Road is classified as a principal arterial roadway under the Department of

Conservation and Recreation's (DCR's) jurisdiction and runs in a predominately east-west direction between Storrow Drive to the east and North Beacon Street to the west. There is a sidewalk provided along the south side of the roadway. On-street parking is prohibited along both sides of the roadway.

Soldiers Field Place is a two-way, two-lane dead-end roadway located adjacent to the west and south of the Project site. Soldiers Field Place is classified as a local roadway under BTD jurisdiction. Sidewalks and on-street parking are both provided along both sides of the roadway.

7.2.2 Existing Intersection Conditions

The existing study area intersections are described below. Intersection characteristics such as traffic control, lane usage, pedestrian facilities, pavement markings, and adjacent land use are described.

Soldiers Field Road/Soldiers Field Place is a three-legged, unsignalized intersection located adjacent to the northwest corner of the Project site. The Soldiers Field Road eastbound approach consists of two through lanes and a through/right-turn lane. The Soldiers Field Road westbound approach consists of two through lanes. The Soldiers Field Place northbound approach consists of one right-turn only lane. Crosswalks and wheel chair ramps are not provided across any of the legs of the intersection.

7.2.3 Existing Parking and Curb Use

An inventory of the existing on-street parking in the vicinity of the Project was performed. The curb use is unrestricted along Soldiers Field Place, and there is no on-street parking allowed along Soldiers Field Road.

7.2.4 Car Sharing Services

Car sharing enables easy access to short-term vehicular transportation. Vehicles are rented on an hourly or daily basis, and all vehicle costs (gas, maintenance, insurance, and parking) are included in the rental fee. Vehicles are checked out for a specific time period, and returned to their designated location.

Zipcar is the primary company in the Boston car sharing market. There are currently four Zipcar locations in the vicinity of the Project site. The nearby car sharing locations are shown in **Figure 7-2.**

7.2.5 Existing Traffic Data

Traffic volume data was collected at the study area intersection on Thursday, October 12, 2017. Turning Movement Counts (TMCs) and vehicle classification counts were conducted during the

weekday a.m. peak period and the weekday p.m. peak period (7:00 – 9:00 a.m. and 4:00 – 6:00 p.m., respectively). The traffic classification counts included car, heavy vehicle, pedestrian, and bicycle movements. Based on the TMC data, the vehicular traffic peak hours for the study area intersection are 8:00 a.m. – 9:00 a.m. and 5:00 p.m. – 6:00 p.m. The detailed traffic counts are provided in **Appendix D.**

Seasonal Adjustment

To account for seasonal variation in traffic volumes throughout the year, data provided by MassDOT was reviewed. The most recent (2011) MassDOT Weekday Seasonal Factors were used to determine the need for seasonal adjustments to the October 2017 TMCs. The seasonal adjustment factor for roadways similar to the study area (Group 6) is 0.92. This indicates that average month traffic volumes are approximately 8% less than the traffic volumes that were collected. The traffic counts were not adjusted downward to reflect average month conditions in order to provide a conservatively high analysis consistent with the peak season traffic volumes. The MassDOT 2011 Weekday Seasonal Factors are provided in **Appendix D**.

7.2.6 Existing (2017) Traffic Volumes

The existing traffic volumes that were collected in October 2017 were balanced through the network and used to develop the Existing (2017) Condition traffic volumes. The Existing (2017) weekday a.m. and p.m. peak hour traffic volumes are shown in **Figure 7-3.**

7.2.7 Existing Pedestrian Conditions

The existing pedestrian facilities in the vicinity of the Project site are varied. Concrete sidewalks are provided along both sides of Soldiers Field Place, and an adjacent asphalt sidewalk is provided along the south side of Soldiers Field Road permitting pedestrian access east to Leo Birmingham Parkway and west to several area businesses and restaurants including Staples, Workbar, Starbucks, McDonalds, and IHOP. But in addition, the site is bounded by two four-lane arterial roadways with no crosswalks or pedestrian signal equipment allowing pedestrians to safely cross Soldiers Field Road to the north or Leo M. Birmingham Parkway to the east.

7.2.8 Existing Bicycle Conditions

In recent years, bicycle use has increased dramatically throughout the City of Boston. The Project Site is located across Soldiers Field Road from the Paul Dudley White Bike Path. The Paul Dudley White Bike Path is a 22.9-mile off-road shared-use path on both sides of the Charles River. It runs from the Museum of Science in Boston to Prospect Street in Waltham. Cyclists from the Project Site must cross Soldiers Field Road or cross Leo Birmingham Parkway to access the Bike Path. A grade crossing from the Bike Path is provided on Soldiers Field Road just west of the Project Site.

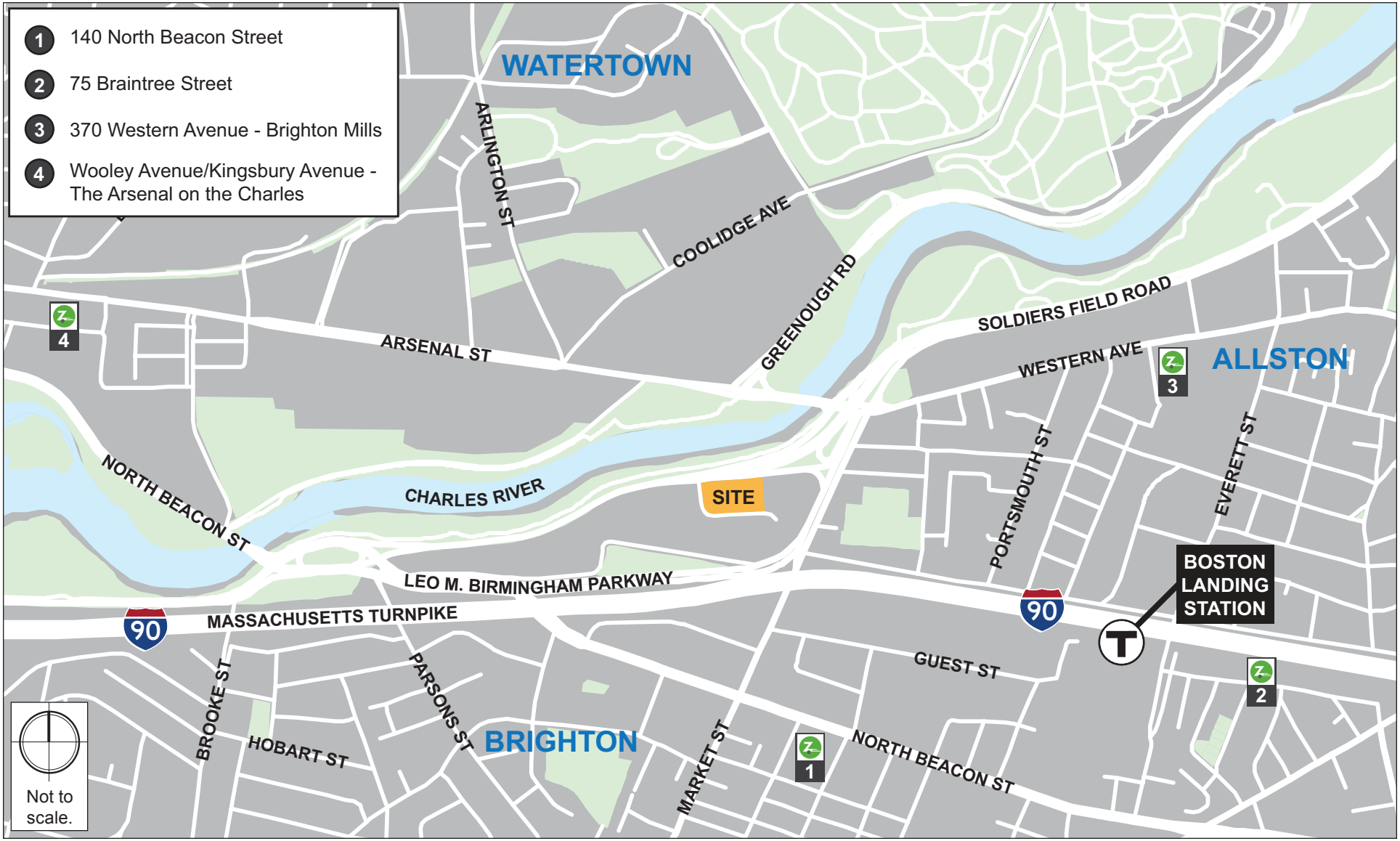


Figure 7-2.
Car Sharing Services

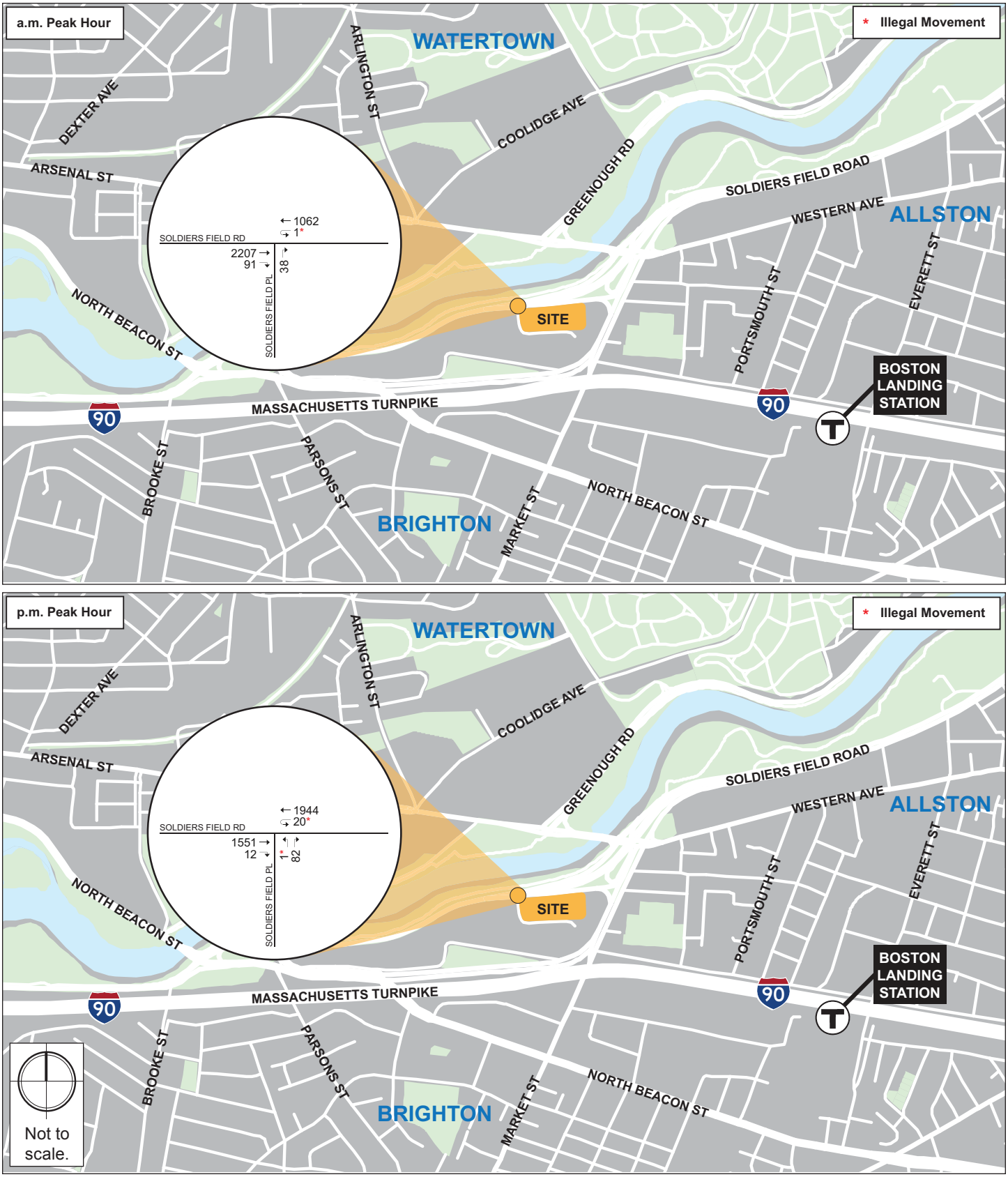


Figure 7-3.
Existing (2017) Condition Traffic Volumes, Weekday a.m. and p.m. Peak Hours

Bicycle Sharing Services

The site is also served by bicycle sharing stations provided by Hubway. Hubway is the bicycle sharing system in the Boston area, which was launched in 2011 and consists of over 185 stations and 1,800 bicycles in four municipalities. There are two Hubway locations near the Project site, as shown in **Figure 7-4.**

7.2.9 Existing Public Transportation

The Project is located in Boston's Brighton neighborhood with several public transportation opportunities. The Project is close to the new Boston Landing Station along the MBTA Framingham/Worcester commuter rail line as well as several bus routes, including the 64 bus, the 70 bus, the 70A bus, and the 86 bus. The following describes each public transportation route located in the vicinity of the Project site. The nearby public transit services are shown in **Figure 7-5** and summarized in **Table 7-1**.

Commuter Rail Framingham/Worcester Line

Boston Landing Station is located approximately one-half mile east of the Project site. The station is served by the Framingham/Worcester Line of the MBTA commuter rail system and runs between South Station in Boston to the east and Union Station in Worcester to the west. The Framingham/Worcester Line operates with weekday service from 4:45 – 1:00 a.m. with approximately 11-44 minute peak hour headways. Weekend service runs from 6:40 – 12:30 a.m. with 120 minute headways. During the weekdays, select trains stop at Boston Landing Station with 14 trains out of 28 stopping in the inbound direction and 11 out of 27 stopping in the outbound direction. All trains stop on Saturdays and Sundays.

MBTA Bus Routes

There are four bus lines with service near the Project site. The MBTA Route 86 Bus has a stop along Leo M. Birmingham Parkway less than 1,000 feet from the Project site. The MBTA Route 70 Bus and MBTA Route 70A Bus have stops along Western Avenue about 1/4 of a mile from the Project site. The MBTA Route 64 Bus provides service along North Beacon Street, approximately ½ mile from the site.

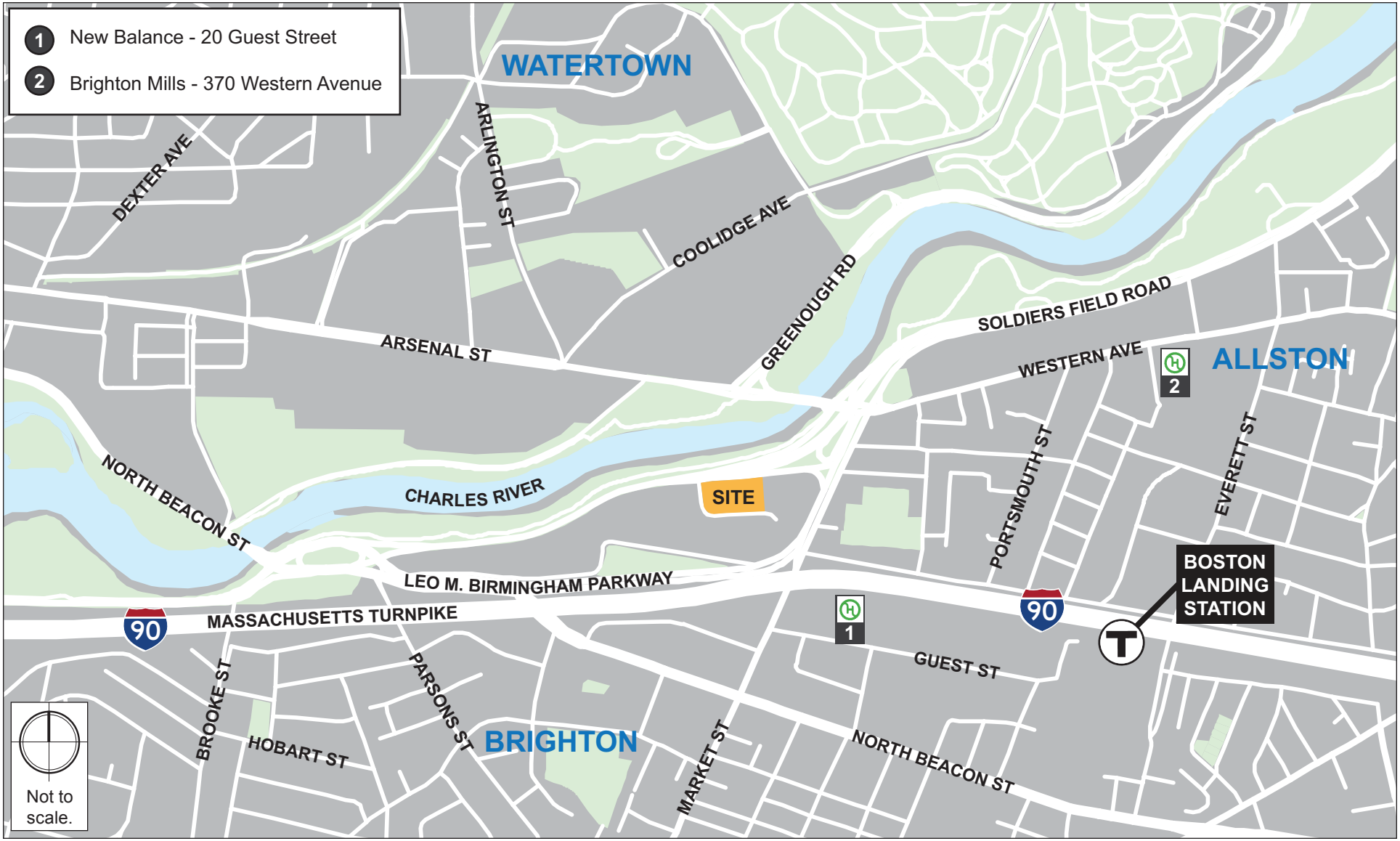


Figure 7-4.
Bicycle Sharing Locations

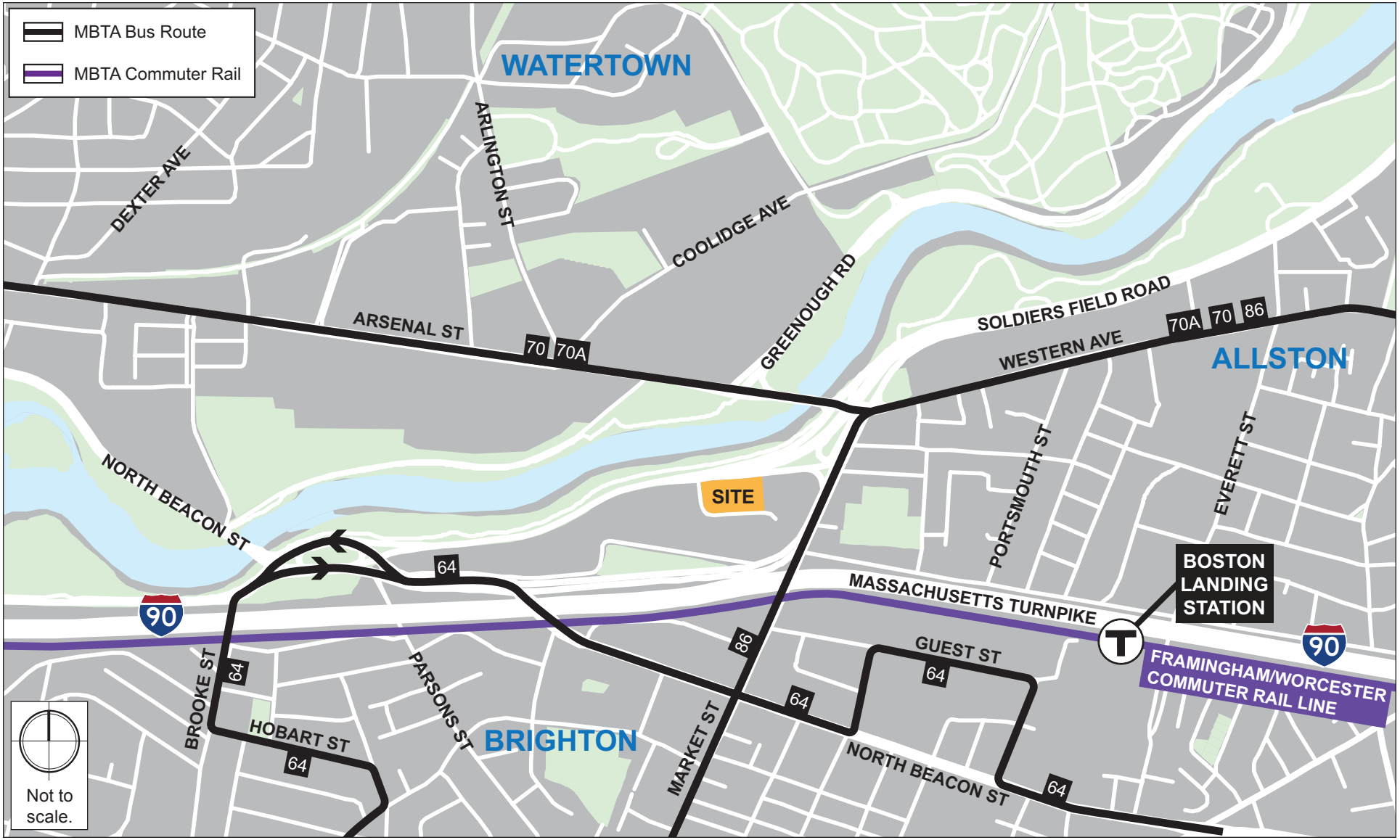


Figure 7-5.
Existing Public Transportation

Table 7-1. Existing Public Transportation

Route	Description	Peak-hour Headway (mins)*
Commuter Rail		
Framingham/ Worcester Line	South Station, Boston – Union Station, Worcester	11-44
Local Bus routes		
64	Oak Square – University Park or Kendall/MIT	13-20
70	Cedarwood, Market Place Drive, or Central Square, Waltham – University Park	5-25
70A	North Waltham – University Park	30
86	Sullivan Square Station – Reservoir Station (Cleveland Circle)	10-17

* Source: MBTA.com, October 2017. Headways vary.

7.2.10 Traffic Operations Analysis

The criterion for evaluating traffic operations is level of service (LOS), which is determined by assessing average delay experienced by vehicles at intersections and along intersection approaches. Trafficware's Synchro (version 9) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 Highway Capacity Manual (HCM).

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. **Table 7-2** displays the intersection LOS criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst condition, with significant traffic delay. LOS D or better is typically considered desirable during the peak hours of traffic in urban and suburban settings.

Table 7-2. Vehicle Level of Service Criteria

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

Source: 2010 Highway Capacity Manual, Transportation Research Board.

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

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

The 50th percentile queue length, measured in feet, represents the maximum queue length during a cycle of the traffic signal with typical (or median) entering traffic volumes. The 95th percentile queue length, measured in feet, represents the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line during five percent of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only five percent of the time and would typically not occur during off-peak hours. Since volumes fluctuate throughout the hour, the 95th percentile queue represents what can be considered a "worst case" scenario. Queues at the intersection are generally below the 95th percentile queue throughout the course of the peak hour. It is also unlikely that the 95th percentile queues for each approach to the intersection will occur simultaneously.

7.2.11 Existing (2017) Condition Traffic Operations Analysis

Table 7-3 summarizes the Existing (2017) Condition capacity analysis for the study area intersection during the a.m. and p.m. peak hours. The detailed analysis sheets are provided in **Appendix D**.

Table 7-3. Existing (2017) Condition Capacity Analysis Summary, Weekday Peak Hours

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Weekday a.m. Peak Hour				
Soldiers Field Road/Soldiers Field Place	**-**	**-**	**-**	**-**
Soldiers Field EB thru | thru | thru/right	A	0.0	0.53	0
Soldiers Field WB thru | thru	A	0.0	0.32	0
Soldiers Field Place NB right	C	18.0	0.17	15
Weekday p.m. Peak Hour				
Soldiers Field Road/Soldiers Field Place	-	-	-	-
Soldiers Field EB thru | thru | thru/right	A	0.0	0.37	0
Soldiers Field WB thru | thru	A	0.0	0.61	0
Soldiers Field Place NB right	B	13.9	0.18	16

As shown in **Table 7-3**, the intersection and corresponding approaches operate at an acceptable LOS (LOS D or better) under the Existing (2017) Condition. The Soldiers Field Road eastbound and westbound approaches functions under free control and operate at LOS A during both the a.m. and p.m. peak hours. The Soldiers Field Place northbound approach functions under stop-control and operate at LOS C during the a.m. peak hour and LOS B during the p.m. peak hour. The Soldiers Field Place northbound approach operates better during the p.m. peak hour due to the lower volume along Soldiers Field Road in the eastbound direction. The queue length along the Soldiers Field Place northbound approach is less than one vehicle during both the a.m. and p.m. peak hours.

7.3 No-Build (2024) Condition

The No-Build (2024) Condition reflects a future scenario that incorporates anticipated traffic volume changes associated with background traffic growth independent of any specific project, traffic associated with other planned specific developments, and planned infrastructure improvements that will affect travel patterns throughout the study area. The No-Build (2024) Condition does not include the impact of the Project. These infrastructure improvements include roadway, public transportation, pedestrian and bicycle improvements.

7.3.1 Background Traffic Growth

The methodology to account for generic future background traffic growth, independent of this Project, may be affected by changes in demographics, smaller scale development projects, or projects unforeseen at this time. Based on a review of recent and historic traffic data collected recently and to account for any additional unforeseen traffic growth, a traffic growth rate of one-half percent per year, compounded annually, was used.

7.3.2 Specific Development Traffic Growth

Traffic volumes associated with known development projects can affect traffic patterns throughout the study area within the future analysis time horizon. Eight such projects were specifically accounted for in the traffic volumes for future scenarios, while others were included in the general background traffic growth. The specific development projects that have been incorporated into the traffic study are mapped on **Figure 7-6.**

Western Avenue Residence – This project is located at 530 Western Avenue and includes the construction of 132 residential units, 5,175 sf of ground floor retail space, to be supplemented with 108 parking spaces, 132 indoor secure bike parking spaces, and an additional 30 outdoor bike parking spaces. This project is currently under construction.

Elan Union Market – This project is located at the northeast corner of Irving Street and Arsenal Street in Watertown, and there is a smaller parcel across Irving Street. It includes the construction of two residential buildings consisting of 282 apartment units, over 11,000 sf of retail space, and

Figure 7-6.
Specific Development Projects

parking for 420 vehicles. The project will also construct a small park and a 10-foot wide bicycle path adjacent to the site connecting to the Community Path in Watertown Square. This project is currently under construction.

Arsenal Yards – This project is located at 485 Arsenal Street in Watertown and includes an expansion of the Arsenal Mall consisting of approximately 165,000 sf of office space, a 150-room hotel, 425 residential units, and 325,000 sf of retail space including a grocery store, a bowling alley, and movie theater. This project is currently under construction.

Arsenal on the Charles – This project is located along the south side of Arsenal Street bordered by Beacon Street, Charles River Road, and just west of School Street. It is in Watertown and includes the expansion of the Arsenal on the Charles mixed-use development. The project will consist of the construction of approximately 285,000 sf of office space, 41,000 sf of retail and restaurant space, and 38,000 sf of covered open space for events and food trucks. After the construction there will be a total of 3,073 total parking spaces in the garages and surface lots for all uses on site (including the existing uses). This project is currently under construction.

Boston Landing – This project calls for a 1.43 million square feet development consisting of the 250,000 square foot world headquarters for New Balance (250,000 square feet), A 350,000 square foot sports complex, a 140,000 square feet boutique hotel, three office buildings totaling 650,000 square feet, and 65,000 square feet of retail and restaurant space. The project has also recently completed a new commuter rail station providing service along the Framingham/Worcester Line. This project is currently under construction.

70 Leo M. Birmingham Parkway – This project calls for the construction of 82 residential units and parking for 65 vehicles in two underground parking levels. This project is currently under review by the BPDA.

1650 Soldiers Field Road – This project calls for the demolition of a former liquor store and construction of an automobile dealership that will consist of approximately 26,200 sf and include approximately 86 parking spaces. This project is currently under review by the BPDA.

7.3.3 Proposed Infrastructure Improvements

A review of planned improvements to roadway, transit, bicycle, and pedestrian facilities was conducted to determine if there are any nearby improvement projects in the vicinity of the study area. The proposed infrastructure improvements are listed below:

Boston Landing – As previously mentioned, the Boston Landing project recently completed a new commuter rail station providing service along the Framingham/Worcester Line. Currently over 45% of the rush hour trains along the line stop at the station. However, it is planned as more of the Boston Landing development is constructed and occupied, the service to the new commuter rail station will increase.

Arsenal Street Corridor – MassDOT completed the Arsenal Street Corridor Study in June 2017 to evaluate the existing transportation condition, along with the effect many proposed developments will have in the area and identify some multimodal transportation improvements along the corridor. The alternatives that were identified include bike lanes, bus lanes, traffic signal optimization, and transit signal priority, among others.

Western Avenue / Soldiers Field Road / Leo M. Birmingham Parkway Improvements - The BPDA in conjunction with BTD, DCR and MassDOT, have begun a planning effort to develop short-term and long-term transportation improvements on roadways close to the intersection of Western Avenue, Soldiers Field Road, and Leo M. Birmingham Parkway. Roadway re-design and operational improvement concepts will provide improved roadways, access, and safety for walking, cycling, and driving. The initial package of improvement concepts were shared with the public to receive feedback at a community meeting on January 31, 2018.

7.3.4 No-Build (2024) Condition Traffic Volumes

The 0.5% per year growth rate, compounded annually, was applied to the Existing (2017) Condition traffic volumes, then the traffic volumes associated with the background development projects listed above were added to develop the No-Build (2024) Condition traffic volumes. The No-Build (2024) weekday a.m. and p.m. peak hour traffic volumes are shown in **Figure 7-7.**

7.3.5 No-Build (2024) Condition Traffic Operations Analysis

The No-Build (2024) Condition capacity analysis uses the same methodology as the Existing (2017) Condition capacity analysis. **Table 7-4** present the No-Build (2024) Condition capacity analysis for the weekday a.m. and p.m. peak hours. The shaded cells in the tables indicate a decrease in LOS between the Existing (2017) Condition and the No-Build (2024) Condition to an LOS below LOS D. The detailed analysis sheets are provided in **Appendix D**.

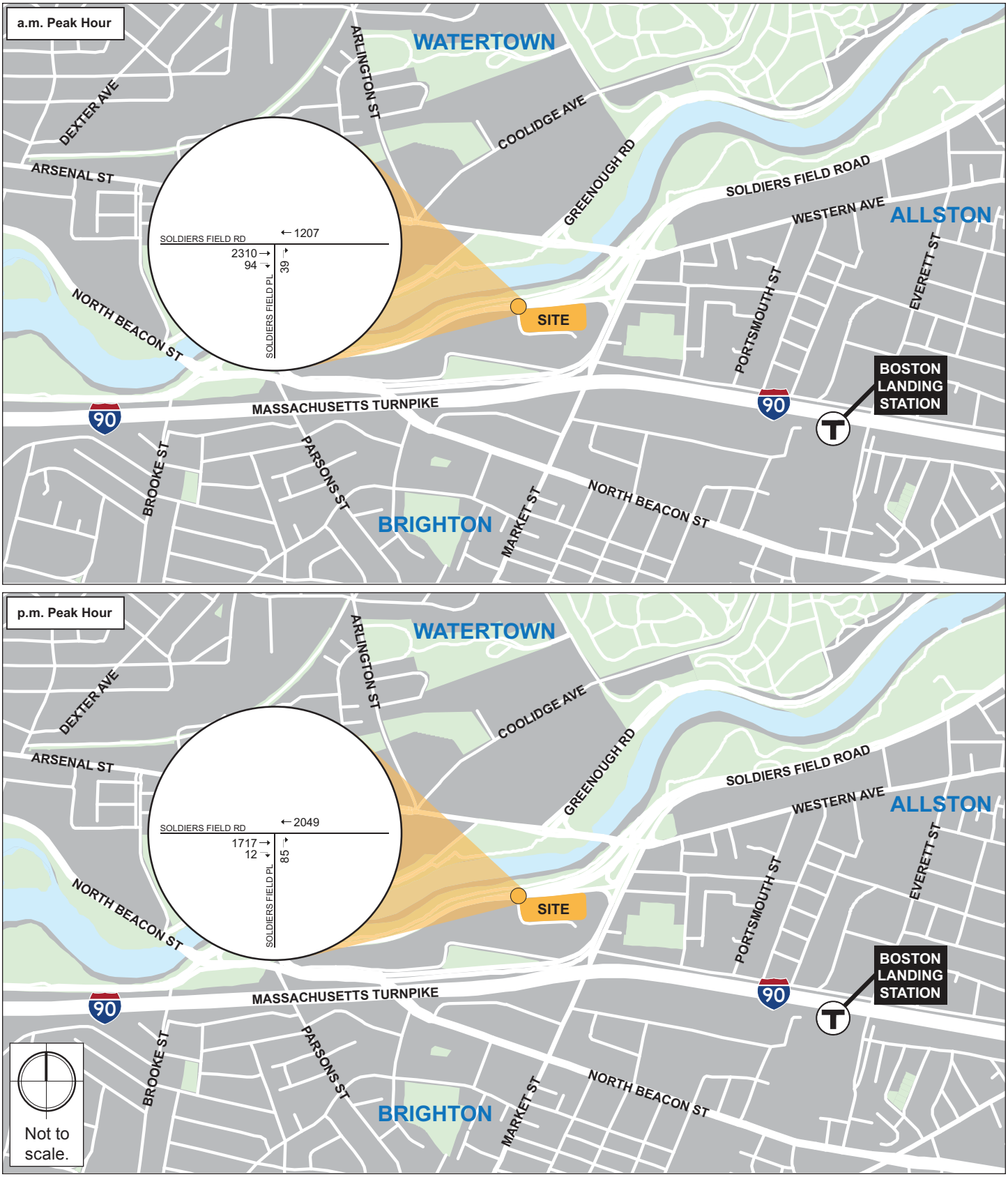


Figure 7-7.
No-Build (2024) Condition Traffic Volumes, Weekday a.m. and p.m. Peak Hours

Table 7-4. No-Build (2024) Condition Capacity Analysis Summary, Weekday Peak Hours

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Weekday a.m. Peak Hour				
Soldiers Field Road/Soldiers Field Place	**-**	**-**	**-**	**-**
Soldiers Field EB thru | thru | thru/right	A	0.0	0.55	0
Soldiers Field WB thru | thru	A	0.0	0.37	0
Soldiers Field Place NB right	C	18.9	0.18	16
Weekday p.m. Peak Hour				
Soldiers Field Road/Soldiers Field Place	-	-	-	-
Soldiers Field EB thru | thru | thru/right	A	0.0	0.41	0
Soldiers Field WB thru | thru	A	0.0	0.65	0
Soldiers Field Place NB right	B	14.9	0.20	18

As shown in **Table 7-4**, the intersection and corresponding approaches continue to operate at an acceptable LOS (LOS D or better) under the No-Build (2024) Condition. The Soldiers Field Road eastbound and westbound approaches continue to operate at LOS A with no increase in the delay during both the a.m. and p.m. peak hours. The Soldiers Field Place northbound approach continues to operate at LOS C during the a.m. peak hour and LOS B during the p.m. peak hour. The delay is projected to increase by one second or less, and the queue lengths are projected to increase by two feet or less during both the a.m. and p.m. peak hours. These increases are due to the general background growth rate and the nearby development projects in the area.

7.4 Build (2024) Condition

As previously discussed, the Project will demolish the existing 44,800 sf office building and the surface parking lot and consist of the construction of two new residential buildings. The proposed building located at 1550 Soldiers Field Road will be a six-story building with 211 dwelling units and an underground parking garage with 148 parking spaces. The proposed building located at 21 Soldiers Field Place will be a four-story building with 38 dwelling units and an at-grade parking garage with 27 parking spaces.

7.4.1 Vehicle and Pedestrian Site Access and Circulation

Vehicular access for the Project will be provided from Soldiers Field Place for both buildings. The driveway to the building at 21 Soldiers Field Place will be to the west of the building and lead to an at-grade garage under the building. The driveway to 1550 Soldiers Field Road will be located at the southeast corner of the building and lead to an underground parking garage. This building will also have an on-street loading zone for residential pick-up and drop-offs and off-

street loading for move-in and move-out located to the east of the building. Pedestrian access to both buildings will also be located along sidewalks on Soldiers Field Place with a crosswalk between the two. Both buildings also have secondary exits on the side of each building. The site access plan is shown in **Figure 7-8.**

7.4.2 Parking

BTD has developed district based maximum parking guidelines throughout the City of Boston for residential buildings near the MBTA (within a 10-minute walk from rapid transit service) or distant from the MBTA (farther than a 10-minute walk from rapid transit service). The closest MBTA station is the Boston Landing Station, which is approximately a 12-14 minute walk from the Project Site. Therefore, the maximum allowable parking ratio for a residential building more than 10 minutes' walk to an MBTA station is 1.0 – 1.5 parking spaces per residential unit.

The Project will provide a total of 175 parking spaces for 249 residential units resulting in a parking ratio of 0.70 parking spaces per residential unit, which is under the allowable maximum of 1.0–1.5 required by BTD.

7.4.3 Loading and Service Accommodations

Residential units primarily generate delivery trips related to small packages and prepared food on a daily basis. Move-in/move-out activity is also related to residential units, although less frequent. Loading and service operations for the Project will occur in off-street loading areas along the dead-end roadway, Soldiers Field Place. This space will accommodate all deliveries, trash pick-up, and residential move-in/move-out activity.

7.4.4 Bicycle Accommodations

BTD has established guidelines requiring projects subject to Transportation Access Plan Agreements to provide secure bicycle parking for residents and short-term bicycle racks for visitors. Based on BTD guidelines, the Project will supply 249 indoor secure bicycle parking/storage spaces at a ratio of one per residential unit. Public bicycle racks will be available for guests and visitors as well.

7.4.5 Trip Generation Methodology

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

To estimate the number of trips expected to be generated by the Project, data published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual were used. ITE

Figure 7-8.
Site Plan

provides data to estimate the total number of unadjusted vehicular trips associated with the Project. In an urban setting well-served by transit, adjustments are necessary to account for other travel mode shares such as walking, bicycling, and transit.

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

Land Use Code 221 – Multifamily Housing (Mid Rise). The Multifamily Housing (mid-rise) land use includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and ten floors. Trip generation estimates are based on average vehicular trip rates per dwelling unit.

Land Use Code 310 – General Office Building. The General Office Building land use is defined as an office building containing multiple tenants. An office building typically contains a mixture of professional services. Trip generation estimates are based on average vehicular trip rates per 1,000 sf of office space.

7.4.6 Mode Share

BTD provides vehicle, transit, and walking mode split rates for different areas of Boston. The Project is located in Area 17 – North Allston. The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA). The person trips were then distributed to the existing office mode share and the proposed residential mode shares as shown in **Table 7-5.**

Table 7-5. Travel Mode Shares

Land Use		Vehicle Occupancy Rate[1]	Walk/Bike Share	Transit Share	Vehicle Share
Daily					
Existing Office[2]	In	1.13	19%	12%	69%
	Out	1.13	19%	12%	69%
Proposed Residential[3]	In	1.13	31%	22%	47%
	Out	1.13	31%	22%	47%
a.m. Peak					
Existing Office[2]	In	1.13	23%	18%	59%
	Out	1.13	23%	12%	65%
Proposed Residential[3]	In	1.13	33%	30%	37%
	Out	1.13	36%	21%	43%
p.m. Peak					
Existing Office[2]	In	1.13	23%	12%	65%
	Out	1.13	23%	18%	59%
Proposed Residential[3]	In	1.13	36%	21%	43%
	Out	1.13	33%	30%	37%

1 2009 National Household Travel Survey.
2 Based Boston Transportation Department rates for Area 17 – North Allston. Work trips.
3 Based Boston Transportation Department rates for Area 17 – North Allston. Home trips.

7.4.7 Project Trip Generation

In order to account for the proposed trips on the Project site, the mode share percentages shown in **Table 7-5** were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates for the Project. The existing trips were subtracted to the Project trips to estimate the total net-new trips by mode, as shown in **Table 7-6**. The detailed trip generation information is provided in **Appendix D.**

Table 7-6. Trip Generation Summary

Time Period		Walk/Bicycle Trips	Transit Trips	Primary Vehicle Trips
Daily				
Existing Office[1]	In	47	30	150
	Out	47	30	150
	Total	94	60	300
Proposed Residential[2]	In	237	168	319
	Out	237	168	319
	Total	474	336	638
Net New	In	190	138	169
	Out	190	138	169
	Total	380	376	338
a.m. Peak Hour				
Existing Office[1]	In	12	9	27
	Out	2	1	4
	Total	14	10	31
Proposed Residential[2]	In	9	8	8
	Out	27	16	28
	Total	36	24	36
Net New	In	-3	-1	-19
	Out	25	15	24
	Total	22	14	5
p.m. Peak Hour				
Existing Office[1]	In	2	1	5
	Out	11	9	26
	Total	13	10	31
Proposed Residential[2]	In	33	16	29
	Out	18	15	16
	Total	51	31	45
Net New	In	31	15	24
	Out	7	6	-10
	Total	38	21	14

1 Based on ITE LUC 710 (General Office Building) 44,800 sf
2 Based on ITE LUC 221 (Multifamily Housing Mid-Rise) 249 units

7.4.8 Trip Distribution

The trip distribution identifies the various travel paths for vehicles associated with the Project. Trip distribution patterns for the Project were based on BTD's origin-destination data for Area 17 – North Allston, and trip distribution patterns presented in traffic studies for nearby projects. The trip distribution patterns for the Project are illustrated in **Figure 7-9**. The existing office trips to be removed and the proposed residential trips were applied to the street network using the same trip distribution pattern.

7.4.9 Build (2024) Traffic Volumes

The net-new vehicle trips were distributed through the study area based on the trip distribution pattern. The Project-generated trips for the a.m. and p.m. peak hours are shown in **Figure 7-10**. The Project-generated trips were then added to the No-Build (2024) Condition vehicular traffic volumes to develop the Build (2024) Condition vehicular traffic volumes. The Build (2024) Condition a.m. and p.m. peak hour traffic volumes are shown on **Figure 7-11.**

7.4.10 Build (2020) Condition Traffic Operations Analysis

The Build (2024) Condition analysis uses the same methodology as the Existing (2017) Condition analysis and No-Build (2024) Condition analysis. **Table 7-7** presents the Build (2024) Condition capacity analysis for the a.m. and p.m. peak hours. The shaded cells in the tables indicate a worsening in LOS between the No-Build (2024) Condition and the Build (2024) Condition. The detailed analysis sheets are provided in **Appendix D.**

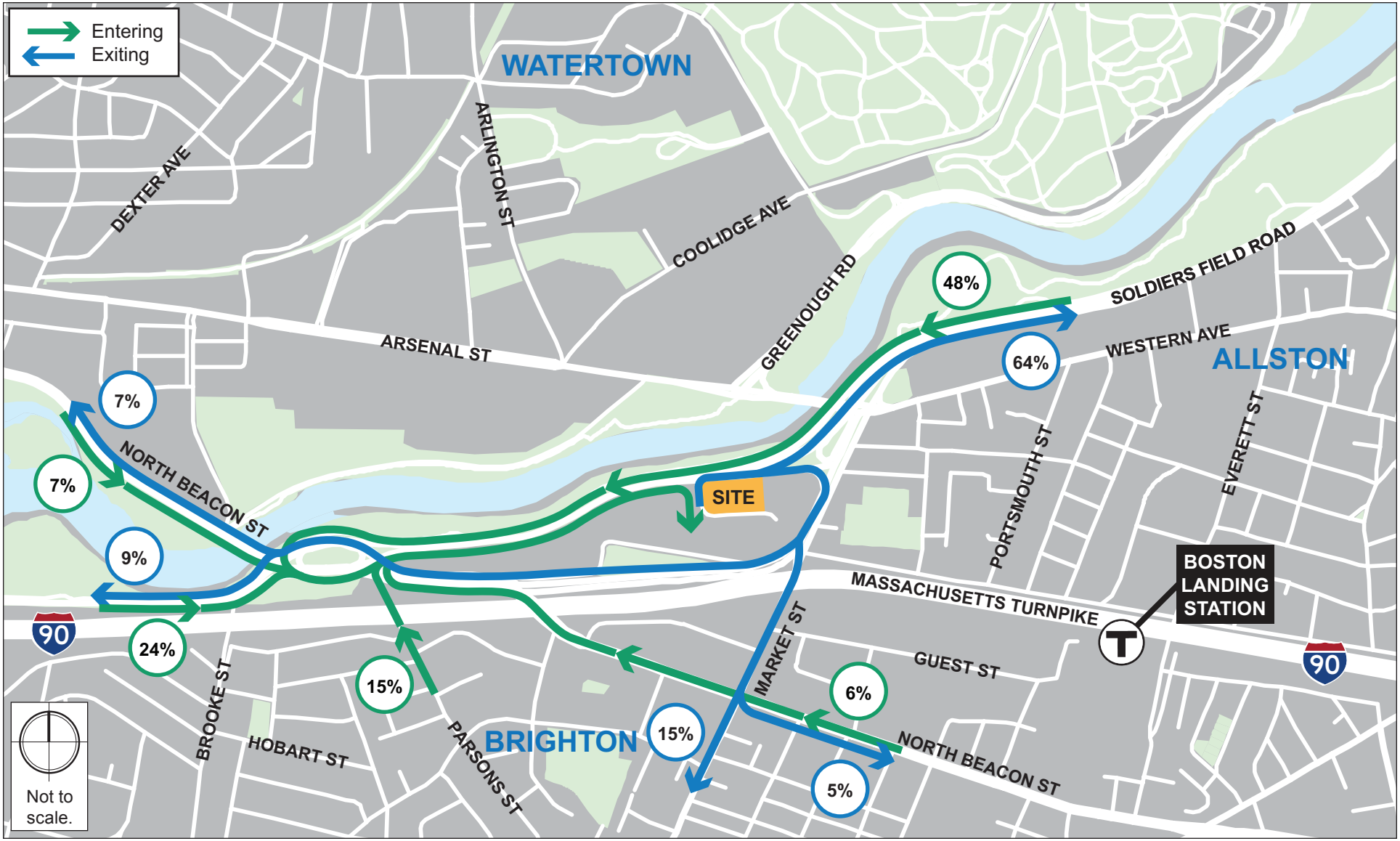


Figure 7-9.
Trip Distribution

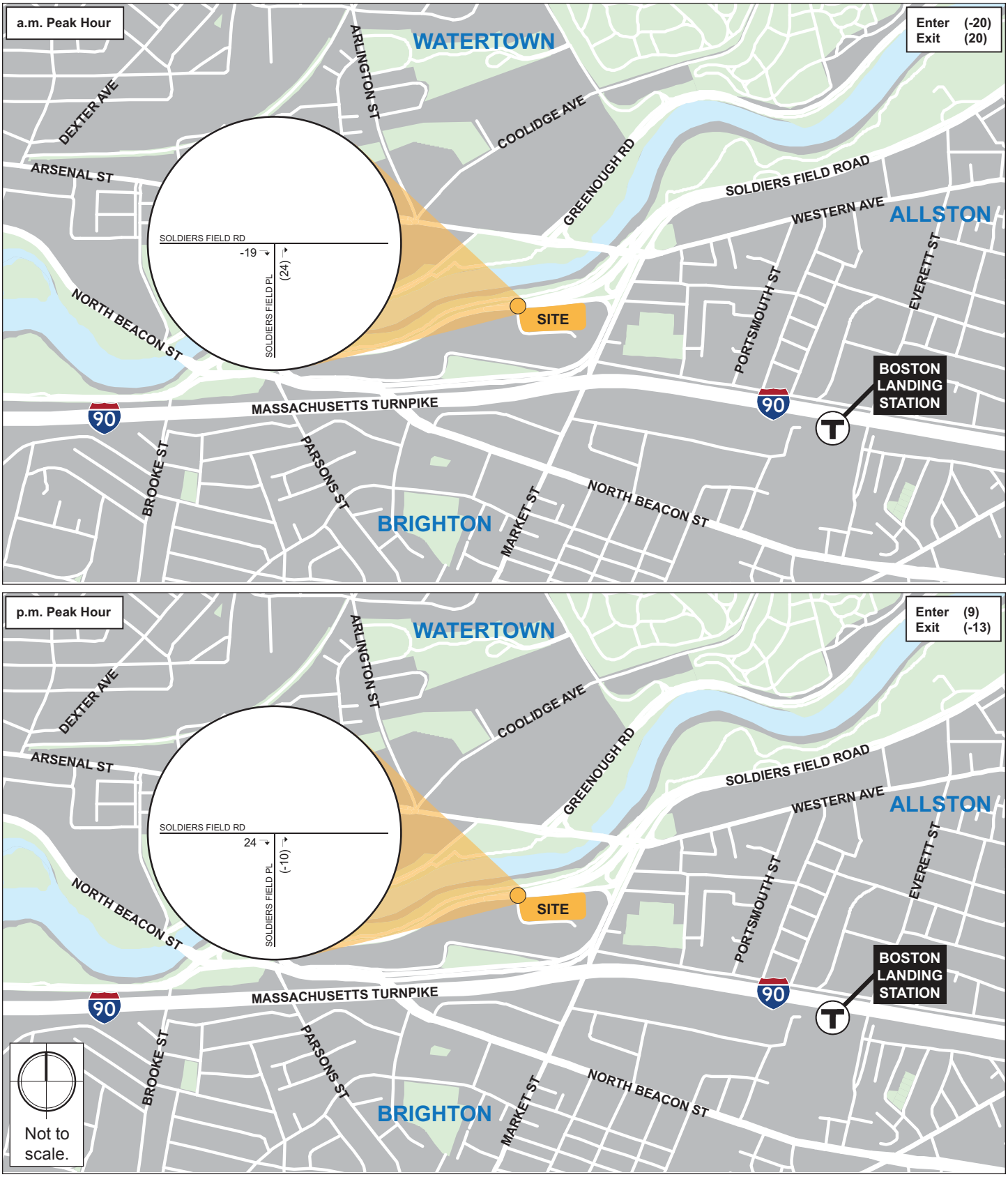


Figure 7-10.
Project-generated Trips, Weekday a.m. and p.m. Peak Hours

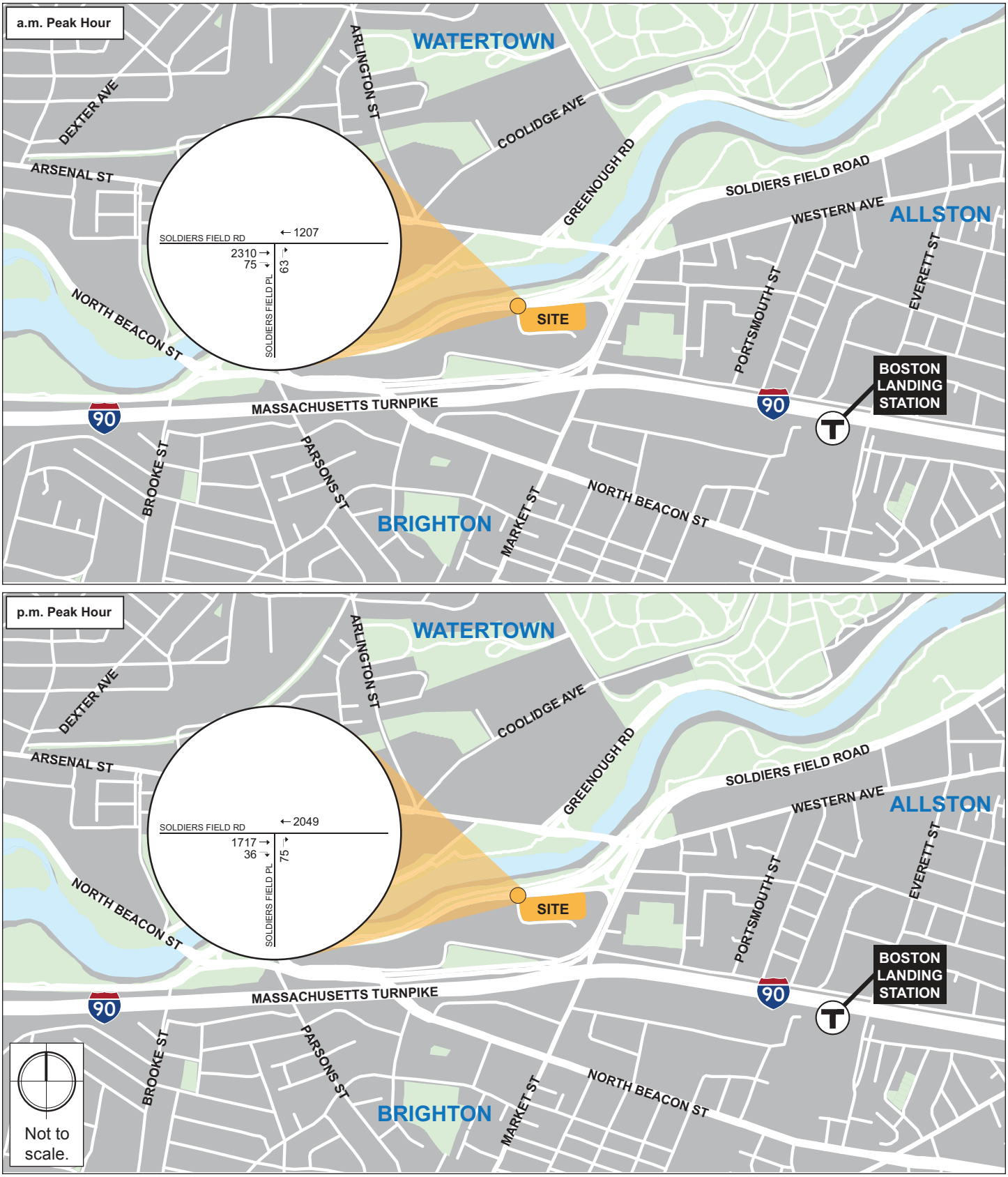


Figure 7-11.
Build (2024) Condition Traffic Volumes, Weekday a.m. and p.m. Peak Hours

Table 7-7. Build (2024) Condition Capacity Analysis Summary, Weekday Peak Hours

Intersection/Approach	LOS	Delay (s)	V/C Ratio	95th Percentile Queue (ft)
Weekday a.m. Peak Hour				
Soldiers Field Road/Soldiers Field Place	**-**	**-**	**-**	**-**
Soldiers Field EB thru | thru | thru/right	A	0.0	0.55	0
Soldiers Field WB thru | thru	A	0.0	0.37	0
Soldiers Field Place NB right	C	20.8	0.29	29
Weekday p.m. Peak Hour				
Soldiers Field Road/Soldiers Field Place	-	-	-	-
Soldiers Field EB thru | thru | thru/right	A	0.0	0.41	0
Soldiers Field WB thru | thru	A	0.0	0.65	0
Soldiers Field Place NB right	B	14.8	0.18	16

As shown in **Table 7-7**, the intersection and corresponding approaches continue to operate at an acceptable LOS (LOS D or better) under the Build (2024) Condition. The Soldiers Field Road eastbound and westbound approaches continue to operate at LOS A with no increase in the delay during both the a.m. and p.m. peak hours. The Soldiers Field Place northbound approach continues to operate at LOS C during the a.m. peak hour and LOS B during the p.m. peak hour. The delay in the a.m. is projected to increase by less than two seconds due to the extra vehicles leaving the site in the morning. The change in delay in the p.m. is negligible compared to the No-Build Condition.

7.5 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project related traffic impacts. TDM will be facilitated by the nature of the Project (which does not generate significant peak hour trips) and its proximity to numerous public transit alternatives.

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

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

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

- Orientation Packets: The Proponent will provide orientation packets to new residents and tenants containing information on available transportation choices, including transit routes/schedules and nearby vehicle sharing and bicycle sharing locations. On-site management will work with residents and tenants as they move in to help facilitate transportation for new arrivals.
- Provide an annual (or more frequent) newsletter or bulletin summarizing transit, ridesharing, bicycling, alternative work schedules, and other travel options.
- Transportation Coordinator: The Proponent will designate a transportation coordinator to oversee transportation issues, including parking, service and loading, and deliveries, and will work with residents as they move in to raise awareness of public transportation, bicycling, and walking opportunities.
- Live Transportation Board: The Proponent will provide real time updates for nearby train, and bus schedules as well as nearby Hubway and Zipcar availability in the building lobby.
- Electric Vehicle Charging: The Proponent will explore the feasibility of providing electric vehicle charging station(s) within the garage.
- Vehicle Sharing Program: The Proponent will explore the feasibility of providing spaces in the garage for a car sharing service.
- Bicycle Accommodation: The Proponent will provide bicycle storage in secure, sheltered areas for residents. Subject to necessary approvals, public use bicycle racks for visitors will be placed near building entrances.

7.6 Transportation Mitigation Measures

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

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

The Project expects to contribute to mitigation measures to improve the exiting transportation condition in the area. Additional pedestrian improvements could be appropriate for the Project, especially improving the pedestrian route across Leo Birmingham Parkway or to the Charles River.

Further mitigation measures will be discussed with BTD as the Project moves through the permitting process. All mitigation measures will be detailed in the TAPA.

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

7.7 Evaluation of Short-term Construction Impacts

Most construction activities will be accommodated within the current site boundaries. Details of the overall construction schedule, working hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in a Construction Management Plan to be filed with BTD in accordance with the City's transportation maintenance plan requirements.

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

- Limited construction worker parking on-site;
- Encouragement of worker carpooling;
- Consideration of a subsidy for MBTA passes for full-time employees; and

- Providing secure spaces on-site for workers' supplies and tools so they do not have to be brought to the site each day.

The Construction Management Plan to be executed with the City prior to commencement of construction will document all committed measures.

8.0 COORDINATION WITH GOVERNMENTAL AGENCIES

8.1 Architectural Access Board Requirements

This Project will comply with the requirements of the Architectural Access Board. The Project will also be designed to comply with the Standards of the Americans with Disabilities Act.

8.2 Massachusetts Environmental Policy Act

Based on information currently available, development of the Proposed Project will not result in a state permit/state agency action and meet a review threshold that would require MEPA review by the MEPA Office of the Executive Office of Energy and Environmental Affairs.

8.3 Boston Civic Design Commission

The Project is expected to exceed the 100,000 gross square feet size threshold requirement for review by the Boston Civic Design Commission.

8.4 Boston Parks and Recreation Commission

As the Proposed Project is adjacent to Soldiers Field Road, which is located within the Greenbelt Protection Overlay District (GPOD) as referenced in Article 51 of the Boston Zoning Code, review by the Boston Parks and Recreation Commission will be required.

9.0 PROJECT CERTIFICATION

This form has been circulated to the Boston Planning and Development Agency as required by Article 80 of the Boston Zoning Code.

Dinosaur 1550 LLC

By: Scott Oran, Its Manager

February 21, 2018
Date

Mitchell L. Fischman ("MLF") Consulting LLC

Signature of Preparer
Mitchell L. Fischman, Principal

02/21/18
Date

APPENDIX A – LETTER OF INTENT TO FILE PNF, JANUARY 8, 2018

McDERMOTT
QUILTY &
MILLER LLP

28 STATE STREET, SUITE 802
BOSTON, MA 02109

30 ROWES WHARF, SUITE 600
BOSTON, MA 02110

January 8, 2018 **VIA HAND DELIVERY**

Mr. Brian Golden, Director
Boston Planning and Development Agency
One City Hall Square, 9th Floor
Boston, MA 02201
Attn: Mr. Lance Campbell, Project Manager

RE: Letter of Intent to File Project Notification Form
Article 80 - Large Project Review
1550 Soldiers Field Road and 21 Soldiers Field Place, Ward 22, Brighton

Dear Director Golden:

Our office represents Dinosaur 1550 LLC (the "Proponent"), an affiliate of Dinosaur Capital Partners LLC, as the proposed owner-developer of two (2) parcels of land at 1550 Soldiers Field Road and 21 Soldiers Field Place in the City of Boston's Brighton neighborhood (the "Project Site"). The purpose of this letter is to notify the Boston Planning and Development Agency (the "BPDA") of the Proponent's intent to file a Project Notification Form (the "PNF") with the BPDA, pursuant to Article 80-B of the City's Zoning Code (the "Code") and in accordance with the Mayor's Executive Order Relative to the Provision of Mitigation by Development Projects, as amended.

The Proponent envisions a transformative residential redevelopment of an underutilized Project Site uniquely situated at edge of the Brighton neighborhood, with enhanced pedestrian connectivity to the new MBTA Boston Landing Commuter Rail Station, its many retail amenities and new employment opportunities and the nearby Charles River recreational area at this potential gateway location. In order to address Brighton's unique housing needs, the proposed project would include both rental and homeownership opportunities, with a greater percentage of income-restricted units exclusively dedicated to homeownership as part of the Proponent's voluntary measures under the City's Inclusionary Development Policy (the "IDP"). As a result, the proposed project would increase the creation of income-restricted units to 18% based on its principal development at 1550 Soldiers Field Road, rather than the IDP's standard on-site requirement for 13% of the proposed project's rental apartment units.

In particular, the proposed project includes the construction of 211 market-rate apartment units in a six-story structure at 1550 Soldiers Field Road (the "Principal Development") and 38 income-restricted homeownership units at 21 Soldiers Field Place in a four-story condominium building (the "Associated Off-Site Project"), with a combined floor area of approximately

201,517 gross square feet and approximately 180 on-site parking spaces for both building components; including 148 spaces in an underground garage at the 1550 Soldiers Field Road building and 32 open-air garaged spaces at 21 Soldiers Field Place (collectively, the "Proposed Project"). While the Proposed Project will consist of two (2) new buildings situated on their own separate parcels of land, the overall Project Site will be master planned and designed together, with vehicular access from Soldiers Field Place, compatible site and pedestrian access improvements, robust usable open space and related public realm measures.

The Project Site includes 1.65 total acres (approximately 71,984 total square feet), with the Principal Development site consisting of a 1.08-acre (approximately 46,997 square feet) parcel at 1550 Soldiers Field Road and the smaller 0.57-acre (approximately 24,987 square feet) parcel located at 21 Soldiers Field Place. Situated along the Charles River and a very close walk to the new Boston Landing, the Project Site is an ideal location for the Proponent's innovative creation of high-quality residential housing for a variety of rental and homeownership units, with much-needed income-restricted condominium homeownership opportunities at a design-forward development with enhanced pedestrian connectivity, robust usable open space and new public realm measures to better integrate with the Brighton neighborhood. The context of the immediate area is also supportive and well-suited for the scale and scope of the Proposed Project, which has been carefully calculated with certain design measures to respond to and complement future growth and planning for the immediate area (*See Figure 1. Project Locus- 1550 Soldiers Field Road and 21 Soldiers Field Place, Brighton*).

Consistent with the policy goals of Mayor Walsh's 2030 Housing Plan, the Proponent's innovative development program will provide both market-rate rental and a much-needed increase of income-restricted homeownership units in Brighton. In this regard, the proposed 211 units of rental housing at the Principal Development would create 38 new income-restricted homeownership units at the Associated Off-Site Project. At 18% of the total units for the Principal Development, the Proponent's innovative and voluntary housing program would increase and replace IDP's standard requirement of 13% for the Principal Development, from 27 units of on-site affordable rental apartments to 38 income-restricted homeownership units, at a new and associated off-site condominium development directly across the street.

As the Proposed Project exceeds 50,000 square-feet of new construction at this particular location in the Brighton neighborhood, it is subject to the BPDA's Large Project Review regulations, pursuant to Article 80 of the Code. The Expanded PNF filing is expected to address many issues normally presented in a Draft Project Impact Report ("DPIR"), including a transportation analysis, and air, noise, shadow, infrastructure, historic resources and other environmental evaluations of potential project impacts and any needed mitigation measures. The Project Site is located in the Community Commercial (CC-1) Subdistrict of the Allston-Brighton Neighborhood Zoning District as well as a Greenbelt Protection Overlay District. This existing zoning treats the proposed Multifamily Residential Use as a Conditional Use and limits certain dimensional, density, lot, floor area, off-street parking/loading and other requirements for the Proposed Project, pursuant to Article 51 and other sections of the Code. The Proponent expects to seek relief from the Zoning Board of Appeal to address differences between the Proposed Project and the existing Zoning Code requirements for Allston-Brighton.

Prior to submitting this Letter of Intent (the "LOI"), the Proponent conducted extensive community outreach and related pre-file review to seek input and integrate certain responsive program measures into the Proposed Project. As part of this preliminary outreach process, the Proponent canvassed the neighborhood for its own voluntary abutters meeting at the Project Site, conducted initial meetings with community leadership, local elected and appointed officials and presented the Proposed Project at a community meeting with the Brighton Allston Improvement Association. In specific response to the input received, the development program was then reduced in scale with an improved housing program that better the unique dynamics of the Brighton neighborhood, *from* a 230 unit rental apartment building at the Principal Development site with 13 % onsite affordable rental units and remote above-grade parking at 21 Soldiers Field Place; *to now* include 211 units at the Principal Development with the preferred creation of much-needed homeownership units rather than a standalone parking deck at 21 Soldiers Field Place. With continued guidance from the BPDA, we look forward to further processing the Proposed Project with these important constituencies, as part of Article 80 Large Project Review.

Thank you for your time and attention to this Proposed Project, and our team looks forward to working with you, the BPDA staff, prospective members of the Impact Advisory Group, local elected officials and the community towards a positive outcome. Please do not hesitate to contact me should you have any questions or for more information regarding the Proposed Project.

Very truly yours,

Joseph P. Hanley, Esq.
Partner - McDermott, Quilty & Miller, LLP

Attachment:
Figure 1. Project Locus - 1550 Soldiers Field Road and 21 Soldiers Field Place, Brighton

cc: Lance Campbell, BPDA Project Manager
Jonathan Greeley, BPDA Director of Development Review and Policy
Michael Christopher, BPDA Intergovernmental Liaison
District City Councilor Mark Ciommo
Warren O'Reilly, Allston-Brighton Mayor's Office of Neighborhood Services
State Senator William N. Brownsberger
State Representative Michael J. Moran

Figure 1. Project Locus
1550 Soldiers Field Road, Brighton

APPENDIX B – AIR QUALITY APPENDIX

APPENDIX B
AIR QUALITY

1550 SOLDIERS FIELD ROAD & 21 SOLDIERS FIELD PLACE
PROJECT NOTIFICATION FORM

*** MODELOPTs: NonDFAULT CONC FLAT NOCHKD SCREEN NODRYDPLT NOWETDPLT URBAN

                                        ***   MODEL SETUP OPTIONS SUMMARY   ***
- -

**Model Is Setup For Calculation of Average CONCentration Values.

  -- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses URBAN Dispersion Algorithm for the SBL for   1 Source(s),
  for Total of   1 Urban Area(s):
  Urban Population =   22159.0 ; Urban Roughness Length = 1.000 m

**Model Allows User-Specified Options:
        1. Stack-tip Downwash.
        2. Model Assumes Receptors on FLAT Terrain.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Used.

**Other Options Specified:
        NOCHKD   - Suppresses checking of date sequence in meteorology files
        SCREEN   - Use screening option
which forces calculation of centerline values

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: OTHER

**Model Calculates 1 Short Term Average(s) of: 1-HR

**This Run Includes: 1 Source(s);   1 Source Group(s); and   764 Receptor(s)

               with: 0 POINT(s), including
                          0 POINTCAP(s) and   0 POINTHOR(s)
                and: 1 VOLUME source(s)
                and: 0 AREA type source(s)
                and: 0 LINE source(s)
                and: 0 OPENPIT source(s)
                and: 0 BUOYANT LINE source(s) with   0 line(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 16126

**Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

```
**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     5.00 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      3.6 MB of RAM.

**Input Runstream File:          EmissionsScreening2_5yrs_OTHER.DTA
**Output Print File:             EmissionsScreening2_5yrs_OTHER.LST

**File for Summary of Results:   W:\Apps\aermod\4274\EmissionsScreening2_5yrs_OTHER.SUM

*** AERMOD - VERSION 16216r ***   *** 1550 Soldiers Field                                                ***        02/12/18
*** AERMET - VERSION 16126  ***   *** CO Screening                                                       ***        16:07:34
                                                                                                                    PAGE   2
*** MODELOPTs:    NonDFAULT  CONC  FLAT  NOCHKD  SCREEN  NODRYDPLT  NOWETDPLT  URBAN

                                        *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                                          (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1

               NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

                                  *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                       (METERS/SEC)

                                                1.54,   3.09,   5.14,   8.23,  10.80,
*** AERMOD - VERSION 16216r ***   *** 1550 Soldiers Field                                                ***        02/12/18
*** AERMET - VERSION 16126  ***   *** CO Screening                                                       ***        16:07:34
                                                                                                                    PAGE   3
*** MODELOPTs:    NonDFAULT  CONC  FLAT  NOCHKD  SCREEN  NODRYDPLT  NOWETDPLT  URBAN

                                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

  Surface file:   Urban.sfc                                                                          Met Version: 16126
  Profile file:   Urban.PFL
  Surface format: FREE
  Profile format: FREE
  Surface station no.:    11111                 Upper air station no.:    22222
                 Name: UNKNOWN                                    Name: UNKNOWN
                 Year:   2010                                     Year:   2010

First 24 hours of scalar data
```

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
10	01	01	1	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	10.	10.0	255.2	2.0
10	01	02	2	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	20.	10.0	255.2	2.0
10	01	03	3	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	30.	10.0	255.2	2.0
10	01	04	4	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	40.	10.0	255.2	2.0
10	01	05	5	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	50.	10.0	255.2	2.0
10	01	06	6	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	60.	10.0	255.2	2.0
10	01	07	7	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	70.	10.0	255.2	2.0
10	01	08	8	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	80.	10.0	255.2	2.0
10	01	09	9	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	90.	10.0	255.2	2.0
10	01	10	10	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	100.	10.0	255.2	2.0
10	01	11	11	01	-1.2	0.043	-9.000	0.020	-999.	21.	5.5	1.00	1.62	0.21	0.50	110.	10.0	255.2	2.0

```
 10 01 12  12 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  120.    10.0  255.2    2.0
 10 01 13  13 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  130.    10.0  255.2    2.0
 10 01 14  14 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  140.    10.0  255.2    2.0
 10 01 15  15 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  150.    10.0  255.2    2.0
 10 01 16  16 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  160.    10.0  255.2    2.0
 10 01 17  17 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  170.    10.0  255.2    2.0
 10 01 18  18 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  180.    10.0  255.2    2.0
 10 01 19  19 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  190.    10.0  255.2    2.0
 10 01 20  20 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  200.    10.0  255.2    2.0
 10 01 21  21 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  210.    10.0  255.2    2.0
 10 01 22  22 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  220.    10.0  255.2    2.0
 10 01 23  23 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  230.    10.0  255.2    2.0
 10 01 24  24 01   -1.2  0.043 -9.000  0.020 -999.   21.      5.5  1.00    1.62   0.21    0.50  240.    10.0  255.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 10 01 01 01   10.0 1   10.    0.50   255.3   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)

 *** AERMOD - VERSION 16216r ***   *** 1550 Soldiers Field                                              ***        02/12/18
 *** AERMET - VERSION 16126  ***   *** CO Screening                                                     ***        16:07:34
                                                                                                                   PAGE   4
 *** MODELOPTs:    NonDFAULT  CONC  FLAT  NOCHKD  SCREEN  NODRYDPLT  NOWETDPLT  URBAN

                                          *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***


                              ** CONC OF OTHER    IN MICROGRAMS/M**3                          **

                                                DATE                                                                     NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)            RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.09136  ON 10011206: AT (  228889.30,   901021.30,     5.00,     5.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

                        *** AERMOD - VERSION 16216r ***   *** 1550 Soldiers Field                                                 ***
02/12/18
 *** AERMET - VERSION 16126  ***   *** CO Screening                                                     ***        16:07:34
                                                                                                                   PAGE   5
 *** MODELOPTs:    NonDFAULT  CONC  FLAT  NOCHKD  SCREEN  NODRYDPLT  NOWETDPLT  URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of           0 Fatal Error Message(s)
 A Total of           1 Warning Message(s)
 A Total of           0 Informational Message(s)

 A Total of       18504 Hours Were Processed
 A Total of           0 Calm Hours Identified
 A Total of           0 Missing Hours Identified (  0.00 Percent)

    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***
```

INDOOR GARAGE ANALYSIS PROGRAM

PROJECT: 1550 SOLDIERS FIELD ROAD GARAGE PEAK PM HOUR - YEAR: 2018

DISTANCE IN: 117.5 METERS
DISTANCE OUT: 117.5 METERS

NUMBER OF EXIT LANES: 1 LANE(S)
TOTAL EXIT VOLUME: 12 VEH/HOUR

CO RATE: 2.976 GRAMS CO/MILE

SPEED IN GARAGE: 5.0 M.P.H.

VENT CFM: 38,500 CFM

TOTAL CO EMISSIONS = 0.1267 GRAMS/MIN = 0.0021 GRAMS/SEC
TOTAL VENTILATION = 1,090 CU. M/MIN

PEAK 1-HOUR CO CONCENTRATION FROM VEHICLES: 0.101 PPM

MOVES2014 OUTPUT-1550 Soldiers Field Road

Road Type ID	Link Length (miles)	Link Volume (Vehicles/Hr)	Link Avg Speed (Miles/Hr)	Pollutant	Emission Factor (Grams/veh-mi)
5	0.073	28	5	CO	2.976
5	0.073	35	5	CO	2.976

MOVES2014 OUTPUT-21 Soldiers Field Place

Road Type ID	Link Length (miles)	Link Volume (Vehicles/Hr)	Link Avg Speed (Miles/Hr)	Pollutant	Emission Factor (Grams/veh-mi)
5	0.034	8	5	CO	2.976
5	0.034	10	5	CO	2.976

APPENDIX C – NOISE APPENDIX

APPENDIX C
NOISE

1550 SOLDIERS FIELD ROAD & 21 SOLDIERS FIELD PLACE

PROJECT NOTIFICATION FORM

Page **Contents**

FIGURE 1
Sound Monitoring & Modeling Locations
1550 Soldiers Field Rd
Allston, MA

TECH environmental
FOCUSED KNOWLEDGE. REAL SOLUTIONS.

Cadna Noise Modeling Results

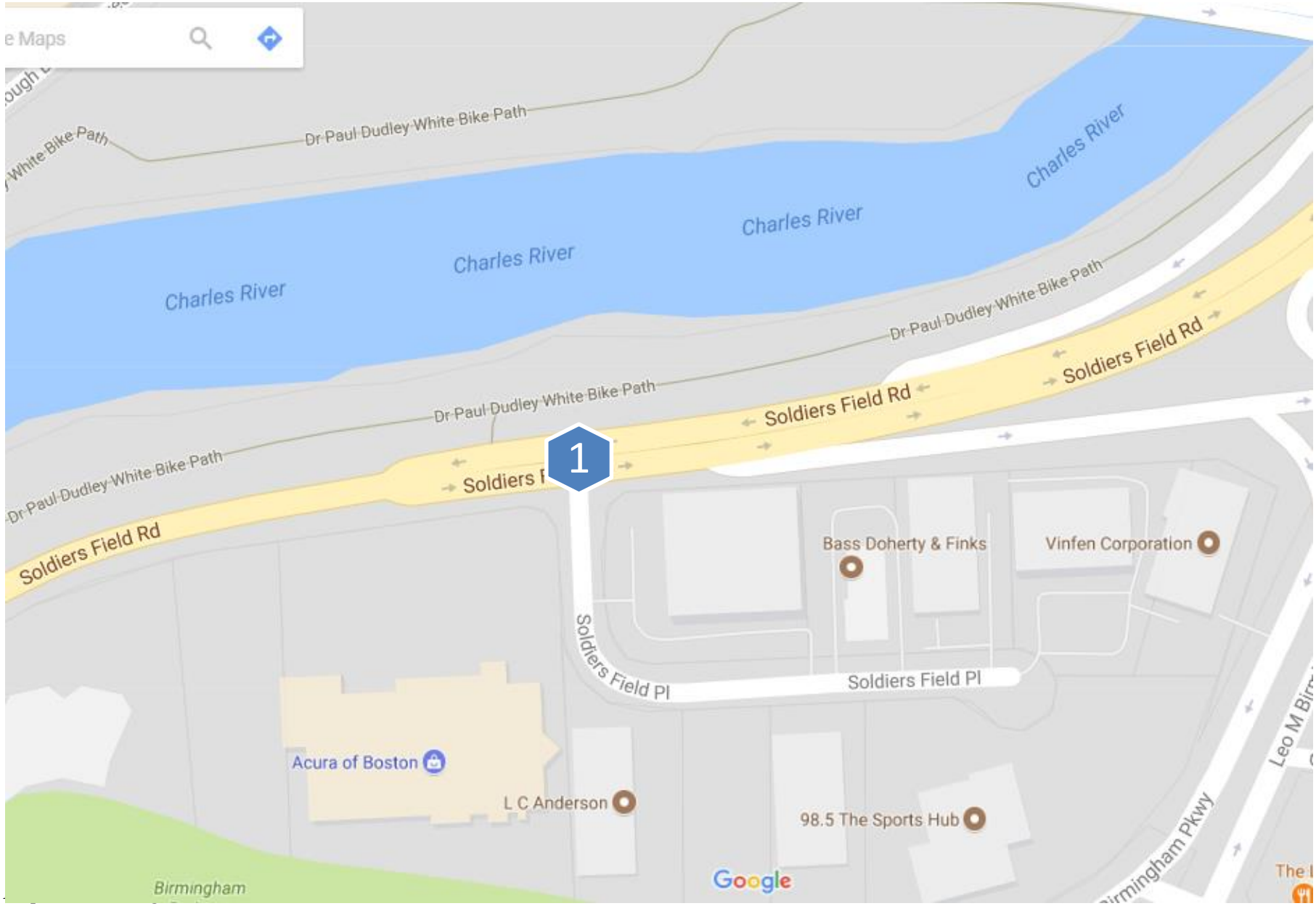
City of Boston Noise Ordinance Analysis

Name	ID	Level Lr	Octave Band Day										Height	Coordinates		
		Day	Night	31	63	125	250	500	1000	2000	4000	8000		X	Y	Z
		(dBA)	(dBA)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(m)	(m)	(m)	(m)
10 Lincoln St	Receptor	35.6	35.6	38.6	38.4	35.9	39.4	33	29.5	24.9	16.2	-6.3	8	229095.3	900991.62	19.83
14 Lincoln St	Receptor	35.2	35.2	38.3	38.1	35.6	39	32.7	29.1	24.5	15.5	-7.8	8	229104.65	900988.9	19.8
16 Lincoln St	Receptor	34.8	34.8	37.9	37.7	35.2	38.6	32.3	28.8	24.1	14.9	-9.3	8	229114.52	900987.85	19.84
20 Lincoln St	Receptor	34.4	34.4	37.5	37.3	34.8	38.2	31.9	28.3	23.5	14	-11.5	10	229129.09	900983.97	21.81
7 Lothrop St	Receptor	32.2	32.2	35.8	35.6	33	35.7	29.8	26.3	21.4	10.9	-19.7	5	229182.33	901137.82	17.11
11 Lothrop St	Receptor	31.8	31.8	35.3	35.2	32.6	35.5	29.5	25.9	20.8	9.9	-22.2	7	229201.83	901135.82	19.16
37 Portsmouth St	Receptor	29.9	29.9	33.7	33.5	30.9	33.3	27.7	24	18.5	5.8	-31.8	8	229279.01	901079.31	19.47

MassDEP Noise Policy Analysis

	Nighttime					
	Name	**ID**	**Project Level (dBA)**	**Background Level (dBA)**	**Total New Level (dBA)**	**Increase Over Existing (dBA)**
R1	10 Lincoln St	Top_Floor	35.6	59.8	59.8	0.0
R2	14 Lincoln St	Top_Floor	35.2	59.8	59.8	0.0
R3	16 Lincoln St	Top_Floor	34.8	59.8	59.8	0.0
R4	20 Lincoln St	Top_Floor	34.4	53.1	53.1	0.0
R5	7 Lothrop St	Top_Floor	32.2	50.5	50.5	0.0
R6	11 Lothrop St	Top_Floor	31.8	59.8	59.8	0.0
R7	37 Portsmouth St	Top_Floor	29.9	59.8	59.8	0.0

APPENDIX D – TRANSPORTATION APPENDIX



BOSTON TRAFFIC DATA	BTD ID: 120_040 _HSH	Brighton, MA	# of TMC's: 01	Client: Howard Stein Hudson
		Collect on October 12, 2017	# of ATR's: 00	Contact: Michael Littman

Client:	Michael Littman
Project #:	120_040_HSH_Brighton
BTD #:	Location 1
Location:	Brighton, MA
Street 1:	Soldiers Field Road
Street 2:	Soldiers Field Place
Count Date:	10/12/2017
Day of Week:	Thursday
Weather:	Sunny, 60°F

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TOTAL (CARS & TRUCKS)

	Soldiers Field Place Northbound				Southbound				Soldiers Field Road Eastbound				Soldiers Field Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	3	0	0	0	0	0	0	502	8	0	1	178	0
7:15 AM	0	0	0	2	0	0	0	0	0	0	514	9	0	0	201	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	511	14	0	0	216	0
7:45 AM	0	0	0	3	0	0	0	0	0	0	497	19	0	0	242	0
8:00 AM	0	0	0	4	0	0	0	0	0	0	541	22	0	0	259	0
8:15 AM	0	0	0	9	0	0	0	0	0	0	563	25	1	0	266	0
8:30 AM	0	0	0	14	0	0	0	0	0	0	557	23	0	0	273	0
8:45 AM	0	0	0	11	0	0	0	0	0	0	546	21	0	0	264	0

	Soldiers Field Place Northbound				Southbound				Soldiers Field Road Eastbound				Soldiers Field Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	18	0	0	0	0	0	0	331	6	0	0	322	0
4:15 PM	0	0	0	15	0	0	0	0	0	0	338	7	0	1	375	0
4:30 PM	0	0	0	11	0	0	0	0	0	0	348	9	1	0	413	0
4:45 PM	0	0	0	16	0	0	0	0	0	0	345	8	0	1	419	0
5:00 PM	0	1	0	20	0	0	0	0	0	0	378	5	2	0	424	0
5:15 PM	0	0	0	21	0	0	0	0	0	0	397	2	6	0	482	0
5:30 PM	0	0	0	22	0	0	0	0	0	0	392	3	7	0	521	0
5:45 PM	0	0	0	19	0	0	0	0	0	0	384	2	5	0	517	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Soldiers Field Place Northbound				Southbound				Soldiers Field Road Eastbound				Soldiers Field Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**38**	**0**	**0**	**0**	**0**	**0**	**0**	**2207**	**91**	**1**	**0**	**1062**	**0**
PHF	**0.68**				**0.00**				**0.98**				**0.97**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**0.0%**

PM PEAK HOUR 5:00 PM to 6:00 PM	Soldiers Field Place Northbound				Southbound				Soldiers Field Road Eastbound				Soldiers Field Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**0**	**82**	**0**	**0**	**0**	**0**	**0**	**0**	**1551**	**12**	**20**	**0**	**1944**	**0**
PHF	**0.94**				**0.00**				**0.98**				**0.93**			
HV %	**0.0%**	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Littman
Project #:	120_040_HSH_Brighton
BTD #:	Location 1
Location:	Brighton, MA
Street 1:	Soldiers Field Road
Street 2:	Soldiers Field Place
Count Date:	10/12/2017
Day of Week:	Thursday
Weather:	Sunny, 60°F

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TRUCKS

	Soldiers Field Place Northbound				Southbound				Soldiers Field Road Eastbound				Soldiers Field Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

AM PEAK HOUR 7:45 AM to 8:45 AM	Soldiers Field Place Northbound				Southbound				Soldiers Field Road Eastbound				Soldiers Field Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**
PHF	**0.00**				**0.00**				**0.50**				**0.50**			

PM PEAK HOUR 4:15 PM to 5:15 PM	Soldiers Field Place Northbound				Southbound				Soldiers Field Road Eastbound				Soldiers Field Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**
PHF	**0.25**				**0.00**				**0.50**				**0.25**			

Client:	Michael Littman
Project #:	120_040_HSH_Brighton
BTD #:	Location 1
Location:	Brighton, MA
Street 1:	Soldiers Field Road
Street 2:	Soldiers Field Place
Count Date:	10/12/2017
Day of Week:	Thursday
Weather:	Sunny, 60°F

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PEDESTRIANS & BICYCLES

	Soldiers Field Place Northbound					Soldiers Field Road Southbound					Soldiers Field Road Eastbound					Soldiers Field Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
7:00 AM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0	
7:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
7:30 AM	0	0	0	1		0	0	0	0		0	1	0	0		0	0	0	0	
7:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
8:00 AM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0	
8:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
8:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
8:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

	Soldiers Field Place Northbound					Soldiers Field Road Southbound					Soldiers Field Road Eastbound					Soldiers Field Road Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
4:00 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
4:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
4:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
4:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
5:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
5:15 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
5:30 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0	
5:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

AM PEAK HOUR[1] 8:00 AM to 9:00 AM	Soldiers Field Place Northbound					Soldiers Field Road Southbound					Soldiers Field Road Eastbound					Soldiers Field Road Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0	

PM PEAK HOUR[1] 5:00 PM to 6:00 PM	Soldiers Field Place Northbound					Soldiers Field Road Southbound					Soldiers Field Road Eastbound					Soldiers Field Road Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	0	0	1		0	0	0	0		0	1	0	0		0	0	0	0	

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

MASSACHUSETTS HIGHWAY DEPARTMENT - STATEWIDE TRAFFIC DATA COLLECTION

2011 WEEKDAY SEASONAL FACTORS *

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

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

RECREATIONAL: (ALL YEARS)

**GROUP 3A:

1. CAPE COD (ALL TOWNS)

2.PLYMOUTH(SOUTH OF RTE.3A)

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

3.MARTHA'S VINEYARD

4.NANTUCKET

***GROUP 3B:

5.PERMANENTS 2 & 189

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

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

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

2011 AXLE CORRECTION FACTORS

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

ROUND OFF

0 - 999.....10

> 1,000.....100

Apply I-84 factor to stations:

3290, 3921, 3929

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2207	91	0	1062	0	38
Future Volume (Veh/h)	2207	91	0	1062	0	38
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.97	0.97	0.68	0.68
Hourly flow rate (vph)	2252	93	0	1095	0	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			2345		2846	797
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2345		2846	797
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	83
cM capacity (veh/h)			213		14	334

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	901	901	543	548	548	56
Volume Left	0	0	0	0	0	0
Volume Right	0	0	93	0	0	56
cSH	1700	1700	1700	1700	1700	334
Volume to Capacity	0.53	0.53	0.32	0.32	0.32	0.17
Queue Length 95th (ft)	0	0	0	0	0	15
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	18.0
Lane LOS						C
Approach Delay (s)	0.0			0.0		18.0
Approach LOS						C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1551	12	0	1944	0	82
Future Volume (Veh/h)	1551	12	0	1944	0	82
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.93	0.93	0.94	0.94
Hourly flow rate (vph)	1583	12	0	2090	0	87
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1595		2634	534
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1595		2634	534
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	82
cM capacity (veh/h)			416		20	493

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	633	633	329	1045	1045	87
Volume Left	0	0	0	0	0	0
Volume Right	0	0	12	0	0	87
cSH	1700	1700	1700	1700	1700	493
Volume to Capacity	0.37	0.37	0.19	0.61	0.61	0.18
Queue Length 95th (ft)	0	0	0	0	0	16
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.9
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2310	94	0	1207	0	39
Future Volume (Veh/h)	2310	94	0	1207	0	39
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.97	0.97	0.68	0.68
Hourly flow rate (vph)	2357	96	0	1244	0	57
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			2453		3027	834
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2453		3027	834
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	82
cM capacity (veh/h)			193		11	316

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	943	943	567	622	622	57
Volume Left	0	0	0	0	0	0
Volume Right	0	0	96	0	0	57
cSH	1700	1700	1700	1700	1700	316
Volume to Capacity	0.55	0.55	0.33	0.37	0.37	0.18
Queue Length 95th (ft)	0	0	0	0	0	16
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	18.9
Lane LOS						C
Approach Delay (s)	0.0			0.0		18.9
Approach LOS						C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1717	12	0	2049	0	85
Future Volume (Veh/h)	1717	12	0	2049	0	85
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.93	0.93	0.94	0.94
Hourly flow rate (vph)	1752	12	0	2203	0	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1764		2860	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1764		2860	590
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	80
cM capacity (veh/h)			359		14	453

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	701	701	362	1102	1102	90
Volume Left	0	0	0	0	0	0
Volume Right	0	0	12	0	0	90
cSH	1700	1700	1700	1700	1700	453
Volume to Capacity	0.41	0.41	0.21	0.65	0.65	0.20
Queue Length 95th (ft)	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		14.9
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2310	74	0	1207	0	59
Future Volume (Veh/h)	2310	74	0	1207	0	59
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.97	0.97	0.68	0.68
Hourly flow rate (vph)	2357	76	0	1244	0	87
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			2433		3017	824
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2433		3017	824
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	73
cM capacity (veh/h)			197		11	321

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	943	943	547	622	622	87
Volume Left	0	0	0	0	0	0
Volume Right	0	0	76	0	0	87
cSH	1700	1700	1700	1700	1700	321
Volume to Capacity	0.55	0.55	0.32	0.37	0.37	0.27
Queue Length 95th (ft)	0	0	0	0	0	27
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	20.4
Lane LOS						C
Approach Delay (s)	0.0			0.0		20.4
Approach LOS						C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1717	31	0	2049	0	72
Future Volume (Veh/h)	1717	31	0	2049	0	72
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.93	0.93	0.94	0.94
Hourly flow rate (vph)	1752	32	0	2203	0	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1784		2870	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1784		2870	600
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	83
cM capacity (veh/h)			352		14	447

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	701	701	382	1102	1102	77
Volume Left	0	0	0	0	0	0
Volume Right	0	0	32	0	0	77
cSH	1700	1700	1700	1700	1700	447
Volume to Capacity	0.41	0.41	0.22	0.65	0.65	0.17
Queue Length 95th (ft)	0	0	0	0	0	15
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.7
Lane LOS						B
Approach Delay (s)	0.0			0.0		14.7
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

District-Based Parking Goals

The City uses a district-based approach to manage off-street parking. These goals provide a broad policy framework that will:

- Serve as a guide for the community in each district in planning for their neighborhoods.
- Provide developers with broad standards to adhere to when designing their projects.
- Used as a starting point for district studies and rezoning efforts.

The goals are based on the unique characteristics of each neighborhood such as existing land use, available parking supply, housing density, local street capacity, and cumulative impacts of new and proposed development. The fundamental principal, however, is based on an area's access to public transportation. Districts with good transit access require less parking spaces per square foot or per unit. Even within districts, projects on streets closer to MBTA stations should have less parking spaces than streets further away.

Table 8 summarizes the parking ratio goals for Boston's neighborhoods. Tables 9 and 10 itemize the parking ratio goals for each city district, the minimum requirements in existing zoning, and the existing public transportation access.

Traditionally zoning laws included only minimum parking requirements for projects. This requirement is changing as awareness has increased about the economic and land use disadvantages of requiring parking spaces. As a result, minimum required parking spaces are being reviewed and potentially supplemented with maximum parking spaces. For any project subject to or electing to comply with Article 80 Large Project Review, required off-street parking spaces shall be determined through such review based on the parking ratio goals shown below.

Additional parking principles include the following:

- All development should accommodate associated parking and loading activity *onsite*.
- shares the existing parking supply between different users at different times.
- Make provisions for bicycle, car and vanpool sharing.

Table 8 – Summary of District-based Parking Goals/Guidelines

LOCATION	OFFICE/NON-RESIDENTIAL SPACES PER 1,000 SQUARE FEET	RESIDENTIAL SPACES PER UNIT [2]	HOTEL SPACES PER UNIT
Financial District/Government Center/ Bullfinch Triangle, North End, West End/ Massachusetts General Hospital, Beacon Hill, Chinatown/Leather District, Bay Village, Back Bay, South End (west of Tremont Street)	0.4	0.5-1.0	0.4
South End (east of Tremont Street), Boston Medical Center, Lower Roxbury/Crosstown	0.75-1.0	1.0-1.5	0.4
Dudley Square, Mission Hill	0.75-1.0	0.5-1.0	0.4
Longwood Medical Area, West Fenway/Kenmore, East Fenway	0.75	0.75	0.4
South Boston Waterfront	Down to 0.7[1]	1.0-1.5	0.4
Allston/Brighton, Charlestown, Dorchester, East Boston, Jamaica Plain, Mattapan, Roxbury, South Boston (residential neighborhood)	**DISTANT FROM MBTA STATION** 1.0-1.5 **NEAR MBTA STATION** 0.75-1.25	**DISTANT FROM MBTA STATION** 1.0-1.5 **NEAR MBTA STATION** 0.75-1.25	
Hyde Park, Roslindale, West Roxbury	1.0-1.5	1.0-1.5	

Notes: 1. With proposed MBTA improvements in place.
2. Lower parking ratios may be appropriate for housing types such as elderly, lodging housed, transitorial housing, and group residences.

Table 9 – Parking Goals by Sections of the City within Boston Proper

PARKING REQUIREMENTS IN EXISTING ZONING	PROPOSED PARKING RATIO GOALS	PUBLIC TRANSPORTATION ACCESS
BACK BAY		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Residential: 0.4-1.0 spaces/unit based on Floor Area Ratio	• Office: 0.4 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• Orange and Green Lines • Commuter rail (Back Bay Station) • Express and local bus • Private commuter/shuttle services • Back Bay TMA programs
BAY VILLAGE		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Hotel: 0.7 spaces/hotel room • Residential: 0.7 spaces/unit	• Office: 0.4 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• Orange and Green Lines • Local MBTA bus routes
BEACON HILL		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Residential: 0.7 spaces/unit	• Office: 0.4 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• Red Line • Local MBTA bus routes
CHINATOWN/LEATHER DISTRICT		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Office: Maximum 1/1,500 square feet (Planned Development Area only) • Residential: 0.4-1.0 spaces/unit based on Floor Area Ratio	• Office: 0.4 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• Orange and Red Lines • Commuter rail (South Station) • Express and local MBTA bus routes • Private commuter/shuttle services • Silver Line (under construction)
FINANCIAL DISTRICT/GOVERNMENT CENTER/BULFINCH TRIANGLE		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Parking requirements range from no parking required for any project to parking required for residential projects based on project location.	• Office: 0.4 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• All rapid transit lines • Commuter rail (North and South Stations) • Express and local MBTA bus routes • Water transportation • Private commuter/shuttle services • Silver Line (under construction) • Artery Business Committee TMA programs
NORTH END		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Residential: 0.2-1.0 spaces/unit based on housing type or Floor Area Ratio	• Office: 0.4 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• Orange, Green and Blue Lines • Commuter rail (North Station) • Express and local MBTA bus routes • Water transportation • Private commuter/shuttle services
SOUTH END (EAST OF TREMONT STREET)		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Hotel: 0.7 spaces/hotel room • Residential: 0.7 spaces/unit	• Non-residential: 0.75-1.0 spaces/ 1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 1.0-1.5 spaces/unit based on housing type	• Orange Line (north side of area) • Local and CT MBTA bus routes • Silver Line (under construction) • Proposed Urban Ring • Interinstitutional TMA programs

Table 9 (Continued) – Parking Goals by Sections of the City within Boston Proper

PARKING REQUIREMENTS IN EXISTING ZONING	PROPOSED PARKING RATIO GOALS	PUBLIC TRANSPORTATION ACCESS
SOUTH END (WEST OF TREMONT STREET)		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Hotel: 0.7 spaces/hotel room • Residential: 0.7 spaces/unit	• Office: 0.4 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• Orange Line • Commuter rail (Back Bay Station) • Local and CT MBTA bus routes • Back Bay TMA programs
SOUTH END (BOSTON MEDICAL CENTER)		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Hotel: 0.7 spaces/hotel room • Residential: 0.7 spaces/unit	• Non-residential: 0.75-1.0 spaces/ 1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 1.0-1.5 spaces/unit based on housing type	• Local and CT MBTA bus routes • Silver Line (under construction) • Proposed Urban Ring • Interinstitutional TMA programs
WEST END/MASSACHUSETTS GENERAL HOSPITAL		
• Restricted Parking District • Part of Boston Proper Parking Freeze • Residential: 0.5-0.6 spaces/unit	• Office: 0.4 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• Orange, Green and Red Lines • Commuter rail (North Station) • Express and local MBTA bus routes • Water transportation • Private commuter/shuttle services • Artery Business Committee TMA programs

Table 10 – Parking Goals by Section of the City outside Boston Proper

PARKING REQUIREMENTS IN EXISTING ZONING	PROPOSED PARKING RATIO GOALS	PUBLIC TRANSPORTATION ACCESS
ALLSTON/BRIGHTON		
• Office/Retail: 2.0 spaces/1,000 square feet • Residential: 0.5-2.0 spaces/unit based on housing type • Ongoing North Allston Neighborhood Strategic Plan	**Distant from MBTA Station** • Non-residential: 1.0-1.5 spaces/ 1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type **Near MBTA Station** • Cost of parking for employees should be equal to or greater than transit cost • Non-residential: 0.75-1.25 spaces/ 1,000 square feet • Residential: 0.75-1.25 spaces/unit based on housing type	• Green Line • Local MBTA bus routes
CHARLESTOWN		
• Office: 0.4-2.0 spaces/1,000 square feet based on Floor Area Ratio • Retail: 2.0 spaces/1,000 square feet • Residential: None-2.0 spaces/unit based on housing type, Floor Area Ratio or location	**Distant from MBTA Station** • Non-residential: 1.0-1.5 spaces/ 1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type **Near MBTA Station** • Cost of parking for employees should be equal to or greater than transit cost • Non-residential: 0.75-1.25 spaces/ 1,000 square feet • Residential: 0.75-1.25 spaces/unit	• Orange Line • Local MBTA bus routes • Proposed Urban Ring • Water transportation (Navy Yard)

Table 10 (Continued)– Parking Goals by Section of the City outside Boston Proper

PARKING REQUIREMENTS IN EXISTING ZONING	PROPOSED PARKING RATIO GOALS	PUBLIC TRANSPORTATION ACCESS
DORCHESTER		
• Restricted Parking District in the Savin Hill area • Ongoing rezoning • Office/Retail: 1.0-2.0 spaces/1,000 square feet • Residential: 0.5-1.0 spaces/unit based on housing type and Floor Area Ratio • Restaurant: 4.0 spaces/1,000 square feet	**Distant from MBTA Station** • Non-residential: 1.0-1.5 spaces/ 1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type **Near MBTA Station** • Cost of parking for employees should be equal to or greater than transit cost • Non-residential: 0.75-1.25 spaces/ 1,000 square feet • Residential: 0.75-1.25 spaces/unit based on housing type	• Red Line • Commuter Rail at JFK/UMass • Local MBTA bus routes • Proposed Urban Ring • Proposed improved Fairmount Line
EAST BOSTON		
• East Boston Parking Freeze • Municipal Harbor Planning initiative • Office/Retail: 2.0 spaces/1,000 square feet • Residential: 0.5-2.0 spaces/unit based on housing type • Restaurant: 4.0 spaces/1,000 square feet	**Distant from MBTA Station** • Non-residential: 1.0-1.5 spaces/ 1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type **Near MBTA Station** • Cost of parking for employees should be equal to or greater than transit cost • Non-residential: 0.75-1.25 spaces/ 1,000 square feet • Residential: 0.75-1.25 spaces/unit based on housing type	• Blue Line • Local MBTA bus routes • Proposed Urban Ring
EAST FENWAY		
• Restricted Parking District • Ongoing East Fenway Neighborhood Strategic Plan rezoning process • Residential: 0.7 spaces/unit	• Non residential including institutional research and development: 0.75 spaces/1,000 square feet • Residential: 0.75 spaces/unit	• Orange and Green Lines • Commuter Rail at Ruggles Station • Local and CT MBTA bus routes • Proposed Urban Ring
HYDE PARK		
• Office/Retail: Based on Floor Area Ratio • Residential: 0.4-1.0 spaces/unit based on Floor Area Ratio	• Non-residential: 1.0-1.5 spaces/ 1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type • Near MBTA stations, cost of parking for employees should be equal to or greater than transit cost	• Commuter Rail • Local MBTA Bus routes • Proposed improved Fairmount Line
JAMAICA PLAIN		
• Ongoing Jackson Square planning initiative • Office/Retail: 2.0 spaces/1,000 square feet • Residential: 0.2-1.5 space/unit based on housing type • Hotel: 0.7 spaces/hotel room	**Distant from MBTA Station** • Non-residential: 1.0-1.5 spaces/1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type **Near MBTA Station** • Cost of parking for employees should be equal to or greater than transit cost • Non-residential: 0.75-1.25 spaces/ 1,000 square feet • Residential: 0.75-1.25 spaces/unit based on housing type	• Orange Line and Green Line (E Branch) • Local MBTA bus routes • Proposed Urban Ring

Table 10 (Continued) – Parking Goals by Section of the City outside Boston Proper

PARKING REQUIREMENTS IN EXISTING ZONING	PROPOSED PARKING RATIO GOALS	PUBLIC TRANSPORTATION ACCESS
LONGWOOD MEDICAL AREA		
• Restricted Parking District • Institutional Overlay District • Residential: 0.6-0.9 spaces/unit based on Floor Area Ratio	• Non residential including institutional research and development: 0.75 spaces/1,000 square feet • Residential: 0 .75 spaces/unit	• Green Line • Commuter Rail at Ruggles and Yawkey Stations • Local and CT MBTA bus routes • Private shuttle services • Proposed Urban Ring • MASCO Commute Works TMA programs
LOWER ROXBURY/CROSSTOWN		
• Ongoing Roxbury Master Plan and rezoning • Office: 0.5 spaces/1,000 square feet • Residential: 0.2-1.0 spaces/unit based on housing type	• Non residential: 0.75-1.0 spaces/ 1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 1.0-1.5 spaces/unit based on housing type	• Local and CT MBTA bus routes • Silver Line (under construction) • Proposed Urban Ring
MISSION HILL		
• Ongoing planning initiative • Office/Retail: 2.0 spaces /1,000 square feet • Residential: 0.2-1.0 spaces/unit based on housing type • Hotel: 0.7 spaces/hotel room	• Non residential: 0.75-1.0 spaces/ 1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit based on housing type	• Orange and Green Lines • Local and CT MBTA bus routes • Mission Link Bus
MATTAPAN		
• Office/Retail: 2.0 spaces /1,000 square feet • Residential: 0.2-1.0 spaces/unit based on housing type • Hotel: 0.7 spaces/hotel room	**Distant from MBTA Station** • Non-residential: 1.0-1.5 spaces/ 1,000 square feet. • Residential: 1.0-1.5 spaces/unit based on housing type **Near MBTA Station** • Cost of parking for employees should be equal to or greater than transit cost • Non-residential: 0.75-1.25 spaces/ 1,000 square feet • Residential: 0.75-1.25 spaces/unit based on housing type	• Red Line and Mattapan High Speed Trolley • Local MBTA bus routes • Commuter Rail at Morton Street Station • Proposed Silver Line extension • Proposed improved Fairmount Line
ROSLINDALE		
• Office/Retail: Based on Floor Area Ratio • Residential: 0.4-1.0/unit based on Floor Area Ratio	• Non-residential: 1.0-1.5 spaces/ 1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type • Near MBTA stations, cost of parking for employees should be equal to or greater than transit cost	• Commuter Rail • Local MBTA Bus routes

Table 10 (Continued) – Parking Goals/Guidelines by Section of the City outside Boston Proper

PARKING REQUIREMENTS IN EXISTING ZONING	PROPOSED PARKING RATIO GOALS	PUBLIC TRANSPORTATION ACCESS
ROXBURY		
• On-going Roxbury Master Plan and rezoning • Office: 0.5 spaces/1,000 square feet • Hotel: 0.7 spaces/hotel room • Residential: 0.2-1.0 spaces/unit based on housing type	**Distant from MBTA Station** • Non-residential: 1.0-1.5 spaces/ 1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type **Near MBTA Station** • Cost of parking for employees should be equal to or greater than transit cost • Non-residential: 0.75-1.25 spaces/ 1,000 square feet • Residential: 0.75-1.25 spaces/unit based on housing type	• Orange Line • Local MBTA bus routes • Proposed Urban Ring • Proposed Silver Line extension • Proposed improved Fairmount Line
ROXBURY (DUDLEY SQUARE)		
• Ongoing Dudley Square Transportation and Air Quality Study process • Office: 0.5 spaces/1,000 square feet • Residential: 0.2-1.0 spaces/unit	• Non-residential: 0.75-1.0 spaces/ 1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 0.5-1.0 spaces/unit	• Local and CT3 MBTA bus routes • Silver Line (under construction) • Proposed Urban Ring
SOUTH BOSTON (RESIDENTIAL NEIGHBORHOOD)		
• Restricted Parking District • Residential: 0.2-1.5 spaces/unit based on housing type or Floor Area Ratio	**Distant from MBTA Station** • Non-residential: 1.0-1.5 spaces/1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type **Near MBTA Station** • Cost of parking for employees should be equal to or greater than transit cost • Non-residential: 0.75-1.25 spaces/ 1,000 square feet • Residential: 0.75-1.25 spaces/unit based on housing type	• Red Line (west of area) • Local MBTA bus routes
SOUTH BOSTON (WATERFRONT AND FORT POINT)		
• Restricted Parking District • Ongoing planning and rezoning • Residential: 0.4-1.0 spaces/unit based on Floor Area Ratio	• South Boston Parking Freeze • Non-residential: Gradually decrease parking ratio to 0.7 spaces/1,000 square feet • Hotel: 0.4 spaces/hotel room • Residential: 1.0-1.5 spaces/unit	• Local and CT3 MBTA bus routes • Water transportation • Silver Line (under construction) • Proposed Urban Ring • South Boston Seaport District TMA programs
WEST FENWAY/KENMORE		
• Restricted Parking District • On-going planning and rezoning • Residential: 0.7 spaces/unit	• Parking Restricted Overlay District • Non residential including institutional research and development: 0.75 spaces/1,000 square feet (max.) • Residential: 0.75 spaces/unit (min. and max.)	• Green Line • Commuter Rail at Yawkey Station • Local and CT MBTA bus routes • Proposed Urban Ring service
WEST ROXBURY		
• Office/Retail: 2.0 spaces/1,000 square feet • Residential: 0.2-1.5 spaces/unit based on housing type • Hotel: 0.7 spaces/hotel room	• Non-residential: 1.0-1.5 spaces/ 1,000 square feet • Residential: 1.0-1.5 spaces/unit based on housing type • Near MBTA stations, cost of parking for employees should be equal to or greater than transit cost	• Commuter Rail • Local MBTA Bus Routes

1550 Soldiers Field Road

Trip Generation Assessment

HOWARD STEIN HUDSON
2-Oct-2017

xx HARD CODED TO BALANCE

Land Use	Size	Category	Directional Split	Average Trip Rate	Unadjusted Vehicle Trips	Assumed National Vehicle Occupancy Rate[1]	Unadjusted Person-Trips	Transit Share[3]	Transit Person-Trips	Walk/Bike/ Other Share[3]	Walk/ Bike/ Other Trips	Auto Share[3]	Auto Person-Trips	Assumed Local Auto Occupancy Rate[4]	Total Adjusted Auto Trips
Daily Peak Hour															
Multifamily Housing (Mid Rise)	249	Total		5.440	1,354	1.13	**1,530**	22%	**336**	31%	**474**	47%	**720**	1.13	**638**
	units	In	50%	2.720	677	1.13	**765**	22%	**168**	31%	**237**	47%	**360**	1.13	**319**
		Out	50%	2.720	677	1.13	**765**	22%	**168**	31%	**237**	47%	**360**	1.13	**319**
AM Peak Hour															
Multifamily Housing (Mid Rise)	249	Total		0.360	89	1.13	**101**		**24**		**36**		**41**	1.13	**36**
	units	In	26%	0.094	23	1.13	**26**	30%	**8**	33%	**9**	37%	**9**	1.13	**8**
		Out	74%	0.266	66	1.13	**75**	21%	**16**	36%	**27**	43%	**32**	1.13	**28**
PM Peak Hour															
Multifamily Housing (Mid Rise)	249	Total		0.440	110	1.13	**125**		**31**		**43**		**51**	1.13	**45**
	units	In	61%	0.268	67	1.13	**76**	21%	**16**	36%	**27**	43%	**33**	1.13	**29**
		Out	39%	0.172	43	1.13	**49**	30%	**15**	33%	**16**	37%	**18**	1.13	**16**

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational
2. Based on ITE Trip Generation Handbook, 3rd Edition method
3. Mode shares based on peak-hour BTD Data for Area 17
4. Local vehicle occupancy rates based on 2009 National vehicle occupancy rates
5. ITE Trip Generation Manual, 10th Edition, LUC 221 (Multifamily Housing Mid-Rise (3-10 floors)), average rate

APPENDIX E –RESPONSES TO CLIMATE CHANGE QUESTIONNAIRES

boston planning & development agency

Climate Resiliency Checklist

NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

A.1 - Project Information

APPENDIX E1: 1550 Soldiers Field Road

Project Name:	1550 Soldiers Field Road			
Project Address:	1550 Soldiers Field Road,			
Project Address Additional:				
Filing Type (*select*)	***PNF***			
Filing Contact	Mitchell L. Fischman	MLF Consulting	mitchfischman@gmail.com	t: 781-760-1726
Is MEPA approval required	*Yes/**no***		*Date*	

A.3 - Project Team

Owner / Developer:	Dinosaur
Architect:	ICON Architecture
Engineer:	Traffic- Howard Stein Hudson, Civil: Nitsch Engineering, Landscape Architect: Copley Wolff
Sustainability / LEED:	Soden Sustainability Consulting
Permitting:	
Construction Management:	

A.3 - Project Description and Design Conditions

List the principal Building Uses:	Residential
List the First Floor Uses:	Lobby
List any Critical Site Infrastructure and or Building Uses:	Electrical Service for Residential Use

Site and Building:

Site Area:	*Bldg 1 = 46,997 SF*	Building Area:	*Bldg 1 = 185,000 S*
Building Height:	*Bldg 1 = 69'-6;*	Building Height:	*Bldg 1 = 6 Stories*
Existing Site Elevation – Low:	*Bldg 1 = 19.14 Ft BCB*	Existing Site Elevation – High:	*Bldg 1 = 20.97 Ft BCB*
Proposed Site Elevation – Low:	*Same as ABoveFt BCB*	Proposed Site Elevation – High:	*Same as Above Ft BCB*
Proposed First Floor Elevation:	*Bldg 1 = 25.0 Ft BCB*	Below grade levels:	*Half Level below grade Parkingfor*

			the 1550 SFR Stories

Article 37 Green Building:

LEED Version - Rating System :	LEED v4 BD&C	LEED Certification:	*Yes / **No***
Proposed LEED rating:	*Certified/**Silver**/ Gold/Platinum*	Proposed LEED point score:	*53 Pts.*

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined			***TBD***
Annual Electric:	*(kWh)*	Peak Electric:	*(kW)*
Annual Heating:	*(MMbtu/hr)*	Peak Heating:	*(MMbtu)*
Annual Cooling:	*(Tons/hr)*	Peak Cooling:	*(Tons)*
Energy Use - Below ASHRAE 90.1 - 2013:	*%*	Have the local utilities reviewed the building energy performance?:	*Yes / no*
Energy Use - Below Mass. Code:	*%*	Energy Use Intensity:	*(kBtu/SF)*

Back-up / Emergency Power System

Electrical Generation Output:	*(kW)*	Number of Power Units:	
System Type:	*(kW)*	Fuel Source:	

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

Electric:	*(kW)*	Heating:	*(MMbtu/hr)*
		Cooling:	*(Tons/hr)*

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

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

B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions:	*(Tons)*

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

The 1550 SFR building is oriented in an East/West direction, with entry court facing south. Initial energy modeling will be performed to determine window and shading requirements as the design progresses.

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

Buildings are oriented for tight urban sites, but will vary window for elevational exposure.

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

The project will incorporate energy efficiency measures such as lighting and temperature controls, and high efficiency lighting.

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

The project team will iinvestigate the potential for on-site renewable energy.

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

TBD

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

The mechanical engineer will be providing the energy model. We will be partnering with the utilities to participate in the incentive program.

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2˚F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low:	*Deg.*	Temperature Range - High:	*Deg.*
Annual Heating Degree Days:		Annual Cooling Degree Days	

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90°:	#	Days – Above 100°:	#
Number of Heatwaves / Year:	#	Average Duration of Heatwave (Days):	#

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

C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

10 Year, 24 Hour Design Storm: *5.14 In.*

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

Capture stormwater and provide on-site stormwater retention and groundwater recharge. Improved landscape features to increase site perviousness.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

On-site stormwater retention and stormwater infiltration.

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, sea levels in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA SFHA? *NO*

What Zone: N/A

Current FEMA SFHA Zone Base Flood Elevation: *N/A*

Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online BPDA SLR-FHA Mapping Tool to assess the susceptibility of the project site. *NO*

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

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

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented on the BPDA Sea Level Rise - Flood Hazard Area (SLR-FHA) map, which depicts a modeled 1% annual chance coastal flood event with 40 inches of sea level rise (SLR). Use the online BPDA SLR-FHA Mapping Tool to identify the highest Sea Level Rise - Base Flood Elevation for the site. The Sea Level Rise - Design Flood Elevation is determined by adding either 24" of freeboard for critical facilities and infrastructure and any ground floor residential units OR 12" of freeboard for other buildings and uses.

Sea Level Rise - Base Flood Elevation:	*Ft BCB*		
Sea Level Rise - Design Flood Elevation:	*Ft BCB*	First Floor Elevation:	*Ft BCB*
Site Elevations at Building:	*Ft BCB*	Accessible Route Elevation:	*Ft BCB*

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

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

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

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

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

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

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

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

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

boston planning & development agency

Climate Resiliency Checklist

NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

A.1 - Project Information

APPENDIX E2: 21 Soldiers Field Place

Project Name:	21 Soldiers Field Place			
Project Address:	21 Soldiers Field Place			
Project Address Additional:				
Filing Type (*select*)	***PNF***			
Filing Contact	Mitchell L. Fischman	MLF Consulting	mitchfischman@gmail.com	t: 781-760-1726
Is MEPA approval required	*Yes/**no***		*Date*	

A.3 - Project Team

Owner / Developer:	Dinosaur
Architect:	ICON Architecture
Engineer:	Traffic- Howard Stein Hudson, Civil: Nitsch Engineering, Landscape Architect: Copley Wolff
Sustainability / LEED:	Soden Sustainability Consulting
Permitting:	
Construction Management:	

A.3 - Project Description and Design Conditions

List the principal Building Uses:	Residential
List the First Floor Uses:	Lobby
List any Critical Site Infrastructure and or Building Uses:	Electrical Service for Residential Use

Site and Building:

Site Area:	*Bldg 2 = 24,987 SF*	Building Area:	Bldg 2 = 38,000 GSF
Building Height:	*Bldg 2 = 45'-0"*	Building Height:	*Bldg 2 = 4 Stories*
Existing Site Elevation – Low:	*Bldg 2 = 19.54 Ft BCB*	Existing Site Elevation – High:	*Bldg 2 = 22 Ft BCB*
Proposed Site Elevation – Low:	*Same as ABoveFt BCB*	Proposed Site Elevation – High:	*Same as Above Ft BCB*
Proposed First Floor Elevation:	*Bldg 2 = 20.5 Ft*	Below grade levels:	

	BCB		

Article 37 Green Building:

LEED Version - Rating System :	LEED v4 BD&C	LEED Certification:	*Yes / **No***
Proposed LEED rating:	*Certified/**Silver**/ Gold/Platinum*	Proposed LEED point score:	*54 Pts.*

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined			*TBD*
Annual Electric:	*(kWh)*	Peak Electric:	*(kW)*
Annual Heating:	*(MMbtu/hr)*	Peak Heating:	*(MMbtu)*
Annual Cooling:	*(Tons/hr)*	Peak Cooling:	*(Tons)*
Energy Use - Below ASHRAE 90.1 - 2013:	*%*	Have the local utilities reviewed the building energy performance?:	*Yes / no*
Energy Use - Below Mass. Code:	*%*	Energy Use Intensity:	*(kBtu/SF)*

Back-up / Emergency Power System

Electrical Generation Output:	*(kW)*	Number of Power Units:	
System Type:	*(kW)*	Fuel Source:	

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B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions:	*(Tons)*

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

The 21 SFP building runs in a North/South direction due to site layout. Initial energy modeling will be performed to determine window and shading requirements as the design progresses.

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

Buildings are oriented for tight urban sites, but will vary window for elevational exposure.

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

The project will incorporate energy efficiency measures such as lighting and temperature controls, and high efficiency lighting.

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

The potential for on-site renewable energy will ill be investigated by the project team.

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

TBD

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

The mechanical engineer will be providing the energy model. We will be partnering with the utilities to participate in the incentive program.

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2˚F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

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C.2 - Extreme Heat – Adaptation Strategies

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E – Sea Level Rise and Storms

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Is any portion of the site in a FEMA SFHA? *NO*

What Zone: N/A

Current FEMA SFHA Zone Base Flood Elevation: *N/A*

Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online BPDA SLR-FHA Mapping Tool to assess the susceptibility of the project site. *NO*

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

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

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented on the BPDA Sea Level Rise - Flood Hazard Area (SLR-FHA) map, which depicts a modeled 1% annual chance coastal flood event with 40 inches of sea level rise (SLR). Use the online BPDA SLR-FHA Mapping Tool to identify the highest Sea Level Rise - Base Flood Elevation for the site. The Sea Level Rise - Design Flood Elevation is determined by adding either 24" of freeboard for critical facilities and infrastructure and any ground floor residential units OR 12" of freeboard for other buildings and uses.

Sea Level Rise - Base Flood Elevation:	*Ft BCB*		
Sea Level Rise - Design Flood Elevation:	*Ft BCB*	First Floor Elevation:	*Ft BCB*
Site Elevations at Building:	*Ft BCB*	Accessible Route Elevation:	*Ft BCB*

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

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

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

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

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

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

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

APPENDIX F – RESPONSES TO COB ACCESS GUIDELINES

Article 80 – Accessibility Checklist

A requirement of the Boston Planning & Development Agency (BPDA)
Article 80 Development Review Process

The Mayor's Commission for Persons with Disabilities strives to reduce architectural, procedural, attitudinal, and communication barriers that affect persons with disabilities in the City of Boston. In 2009, a Disability Advisory Board was appointed by the Mayor to work alongside the Commission in creating universal access throughout the city's built environment. The Disability Advisory Board is made up of 13 volunteer Boston residents with disabilities who have been tasked with representing the accessibility needs of their neighborhoods and increasing inclusion of people with disabilities.

In conformance with this directive, the BDPA has instituted this Accessibility Checklist as a tool to encourage developers to begin thinking about access and inclusion at the beginning of development projects, and strive to go beyond meeting only minimum MAAB / ADAAG compliance requirements. Instead, our goal is for developers to create ideal design for accessibility which will ensure that the built environment provides equitable experiences for all people, regardless of their abilities. As such, any project subject to Boston Zoning Article 80 Small or Large Project Review, including Institutional Master Plan modifications and updates, must complete this Accessibility Checklist thoroughly to provide specific detail about accessibility and inclusion, including descriptions, diagrams, and data.

For more information on compliance requirements, advancing best practices, and learning about progressive approaches to expand accessibility throughout Boston's built environment. Proponents are highly encouraged to meet with Commission staff, prior to filing.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
   http://www.ada.gov/2010ADAstandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
3. Massachusetts State Building Code 780 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/building-codebbrs.html
4. Massachusetts Office of Disability – Disabled Parking Regulations
   http://www.mass.gov/anf/docs/mod/hp-parking-regulations-summary-mod.pdf
5. MBTA Fixed Route Accessible Transit Stations
   http://www.mbta.com/riding_the_t/accessible_services/
6. City of Boston – Complete Street Guidelines
   http://bostoncompletestreets.org/
7. City of Boston – Mayor's Commission for Persons with Disabilities Advisory Board
   www.boston.gov/disability
8. City of Boston – Public Works Sidewalk Reconstruction Policy
   http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
9. City of Boston – Public Improvement Commission Sidewalk Café Policy
   http://www.cityofboston.gov/images_documents/Sidewalk_cafes_tcm3-1845.pdf

Glossary of Terms:

1. ***Accessible Route*** – A continuous and unobstructed path of travel that meets or exceeds the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 20
2. ***Accessible Group 2 Units*** – Residential units with additional floor space that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 9.4
3. ***Accessible Guestrooms*** – Guestrooms with additional floor space, that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 8.4
4. ***Inclusionary Development Policy (IDP)*** – Program run by the BPDA that preserves access to affordable housing opportunities, in the City. For more information visit: http://www.bostonplans.org/housing/overview
5. ***Public Improvement Commission (PIC)*** – The regulatory body in charge of managing the public right of way. For more information visit: https://www.boston.gov/pic
6. ***Visitability*** – A place's ability to be accessed and visited by persons with disabilities that cause functional limitations; where architectural barriers do not inhibit access to entrances/doors and bathrooms.0

1. Project Information: *If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.*			
Project Name:	**1550 Soldiers Field Road**		
Primary Project Address:	**1550 Soldiers Field Road**		
Total Number of Phases/Buildings:	**One building/ single phase**		
Primary Contact (Name / Title / Company / Email / Phone):	**Dinosaur Capital Partners LLC** 800 Boylston, 27th Floor, Boston Scott Oran or Mark Dufton – 617.422.6584		
Owner / Developer:	**Dinosaur Capital Partners LLC** 800 Boylston, 27th Floor, Boston Scott Oran or Mark Dufton – 617.422.6584		
Architect:	**ICON Architecture, Inc** 101 Summer Street, Boston 02110 617.451.3333 Nancy Ludwig, FAIA nludwig@iconarch.com		
Civil Engineer:	**Nitsch Engineering**		
Landscape Architect:	**Copley Wolff Design Group**		
Permitting:	**MLF Consulting LLC** 781.760.1726 Mitch Fischman, mitchfishman@gmail.com		
Construction Management:	**Not known at this time**		
At what stage is the project at time of this questionnaire? Select below:			
	PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BPDA Board Approved
	BPDA Design Approved	Under Construction	Construction Completed:
Do you anticipate filing for any variances with the Massachusetts Architectural Access Board (MAAB)? ***If yes,*** identify and explain.	Typical variances requested are for sink depth and outlets at decks.		
2. Building Classification and Description:			

This section identifies preliminary construction information about the project including size and uses.				
What are the dimensions of the project?				
Site Area:	*46,997SF*	Building Area:		*230,000 GSF (includes 21 Soldiers Field Place)*
Building Height:	*69'11" FT.*	Number of Stories:		*6 Flrs.*
First Floor Elevation:	NA	Is there below grade space:		*YES*
What is the Construction Type? (Select most appropriate type)				
	Wood Frame	Masonry	Steel Frame	Concrete
What are the principal building uses? (IBC definitions are below – select all appropriate that apply)				
	Residential – One - Three Unit	**Residential - Multi-unit, Four +**	Institutional	Educational
	Business	Mercantile	Factory	Hospitality
	Laboratory / Medical	Storage, Utility and Other		
List street-level uses of the building:	*Lobby, Entry*			

3. Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and institutions, such as (but not limited to) hospitals, elderly & disabled housing, and general neighborhood resources. Identify how the area surrounding the development is accessible for people with mobility impairments and analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the neighborhood where this development is located and its identifying topographical characteristics:	The nearby Allston Brighton neighborhood is a mix of retail commercial and office use. The setting is along Soldiers Field Road, edging the Charles River Parkland. The properties a nestled at the base of a hillside that leads up to properties along Leo Birmingham Parkway.
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	The site is a mile-long walk from the new Boston Landing development and its MBTA Commuter Rail Station on the Framingham/Worcester line. Several buses stop nearby, including the 64, 70, 70A and the 86 bus, with between 1000 feet to up to ½ mile.
List the surrounding institutions: hospitals, public housing, elderly and disabled housing	Institutional uses located on Soldiers Field Place include the 98.5 Radio Station, Dacha Adult Day Care, Brighton Day Rehab. Charles River Community Health is nearby on Western Avenue. The Daly Skating Rink and Play Fields and

developments, educational facilities, others:	Community Rowing New Balance and WGBH are located with other retail and commercial facilities within a half mile at the new Boston Landing district.
List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	Nearby recreational facilities include Portsmouth Street Playground and the Charles River parkland.
4. Surrounding Site Conditions – Existing: *This section identifies current condition of the sidewalks and pedestrian ramps at the development site.*	
Is the development site within a historic district? ***If yes,*** identify which district:	NO.
Are there sidewalks and pedestrian ramps existing at the development site? ***If yes***, list the existing sidewalk and pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:	City Street sidewalks surround the site on the north, south, and east. These sidewalks will be replaced as part of the new development.
Are the sidewalks and pedestrian ramps existing-to-remain? ***If yes,*** have they been verified as ADA / MAAB compliant (with yellow composite detectable warning surfaces, cast in concrete)? ***If yes,*** provide description and photos:	Sidewalks will be replaced as part of the new development.
5. Surrounding Site Conditions – Proposed *This section identifies the proposed condition of the walkways and pedestrian ramps around the development site. Sidewalk width contributes to the degree of comfort walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Wider sidewalks allow people to walk side by side and pass each other comfortably walking alone, walking in pairs, or using a wheelchair.*	
Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? ***If yes***, choose which Street Type was	The Soldiers Field Road sidewalk will be designed to match the existing condition. The Soldiers Field Place sidewalk will be designed as a "Neighborhood Residential" street under Complete Streets.

applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.	
What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:	The Soldiers Field Road sidewalk will be replaced in its current alignment with new cement concrete and will have a maximum 1.5% cross slope. The minimum width will be 7'-6" broken out as follows: 6" curb zone, 2' furnishing zone, 5' pedestrian zone and a variable width frontage zone ranging from 4' to up to 15' to face of building. The Soldiers Field Place sidewalk will have a 1.5% cross slope and will be nearly flat longitudinally. The total minimum width is 7'-6" broken out as follows: 6" curb zone, 2' furnishing zone, 5' pedestrian zone and a variable width frontage zone ranging from 0' to up to 10' to face of building.
List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?	Soldiers Field Road sidewalk: The curb will be granite (new to replace existing bituminous), the furnishing zone and pedestrian zones will be cement concrete. The frontage zone will be landscaping. The curb, frontage and pedestrian zones will be on City of Boston pedestrian right of way, while the frontage zone will be on private property. Soldiers Field Place sidewalk: The curb will be granite (existing), the furnishing zone and pedestrian zones will be cement concrete. The frontage zone will be a mix of cement concrete or landscaping. The curb, frontage and pedestrian zones will be on City of Boston pedestrian right of way, while the frontage zone will be on private property.
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way? ***If yes,*** what are the proposed dimensions of the sidewalk café or furnishings and what will the remaining right-of-way clearance be?	No, currently all programming of the sidewalk areas will occur on the development's private property.
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	These are public sidewalks.

Will any portion of the Project be going through the PIC? ***If yes,*** identify PIC actions and provide details.	We will need to go to PIC for the curb cut for the driveway(s).
6. Accessible Parking: *See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability – Disabled Parking Regulations*.	
What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?	148 Parking Spaces are provided in a below grade garage.
What is the total number of accessible spaces provided at the development site? How many of these are "Van Accessible" spaces with an 8 foot access aisle?	Four (4) accessible spaces are located in the below grade garage near the elevator core for the building. One space will be van accessible.
Will any on-street accessible parking spaces be required? ***If yes,*** has the proponent contacted the Commission for Persons with Disabilities regarding this need?	No.
Where is the accessible visitor parking located?	Accessible visitor parking can be in the garage.
Has a drop-off area been identified? ***If yes,*** will it be accessible?	Drop off area will be in front of the building. Sidewalks and the entry courtyard are graded to allow accessibility.
7. Circulation and Accessible Routes: *The primary objective in designing smooth and continuous paths of travel is to create universal access to entryways and common spaces, which accommodates persons of all abilities and allows for visitability with neighbors*.	
Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	Flush Condition.
Are the accessible entrances and standard entrance integrated? ***If yes,*** *describe.* ***If no,*** what is the reason?	Yes. Ground floor access will be flush with the sidewalk/entry courtyard grade.

If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.	All future way finding signage will be developed to meet Building Code and Accessibility Board Requirements.
8. Accessible Units (Group 2) and Guestrooms: (If applicable) *In order to facilitate access to housing and hospitality, this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing and hotel rooms.*	
What is the total number of proposed housing units or hotel rooms for the development?	211 Apartments
If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP (Inclusionary Development Policy) units?	All Units are for rent.
If a residential development, how many accessible Group 2 units are being proposed?	11 Apartments will be Group 2.
If a residential development, how many accessible Group 2 units will also be IDP units? ***If none***, describe reason.	To be determined as part of PNF process.
If a hospitality development, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? ***If yes,*** provide amount and location of equipment.	Not applicable.
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs / thresholds at entry, step to balcony, others. ***If yes***, provide reason.	All non-Group 2 units will be designed as Group 1 units under the MAAB. There will be no barriers.
Are there interior elevators, ramps or lifts located in the development	Building has elevators.

for access around architectural barriers and/or to separate floors? ***If yes***, describe:	
9. Community Impact: *Accessibility and inclusion extend past required compliance with building codes. Providing an overall scheme that allows full and equal participation of persons with disabilities makes the development an asset to the surrounding community.*	
Is this project providing any funding or improvements to the surrounding neighborhood? Examples: adding extra street trees, building or refurbishing a local park, or supporting other community-based initiatives?	To be determined.
What inclusion elements does this development provide for persons with disabilities in common social and open spaces? Example: Indoor seating and TVs in common rooms; outdoor seating and barbeque grills in yard. Will all of these spaces and features provide accessibility?	The indoor and outdoor amenity areas will be accessible.
Are any restrooms planned in common public spaces? ***If yes,*** will any be single-stall, ADA compliant and designated as "Family"/ "Companion" restrooms? ***If no***, explain why not.	We will design the restrooms to meet requirements of the plumbing code. We can provide a single stall ADA compliant restroom somewhere in the amenity area.
Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff? ***If yes,*** did they approve? ***If no,*** what were their comments?	Not at this time. This will be done during the review period for the PNF.
Has the proponent presented the	Not at this time. This will be done during the review period for the PNF

proposed plan to the Disability Advisory Board at one of their monthly meetings? Did the Advisory Board vote to support this project? ***If no,*** what recommendations did the Advisory Board give to make this project more accessible?	

10. Attachments

Include a list of all documents you are submitting with this Checklist. This may include drawings, diagrams, photos, or any other material that describes the accessible and inclusive elements of this project.

Provide a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations, including route distances.

See Diagrams 10-1 and 10-2

Provide a diagram of the accessible route connections through the site, including distances.

See Diagrams 10-1 and 10-2

Provide a diagram the accessible route to any roof decks or outdoor courtyard space? (if applicable)

The courtyard spaces are accessible directly off the elevator lobby.

Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry.

Group 2 Units will be designed and located as the plans are developed.

Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible elements of this project.

This completes the Article 80 Accessibility Checklist required for your project. Prior to and during the review process, Commission staff are able to provide technical assistance and design review, in order to help achieve

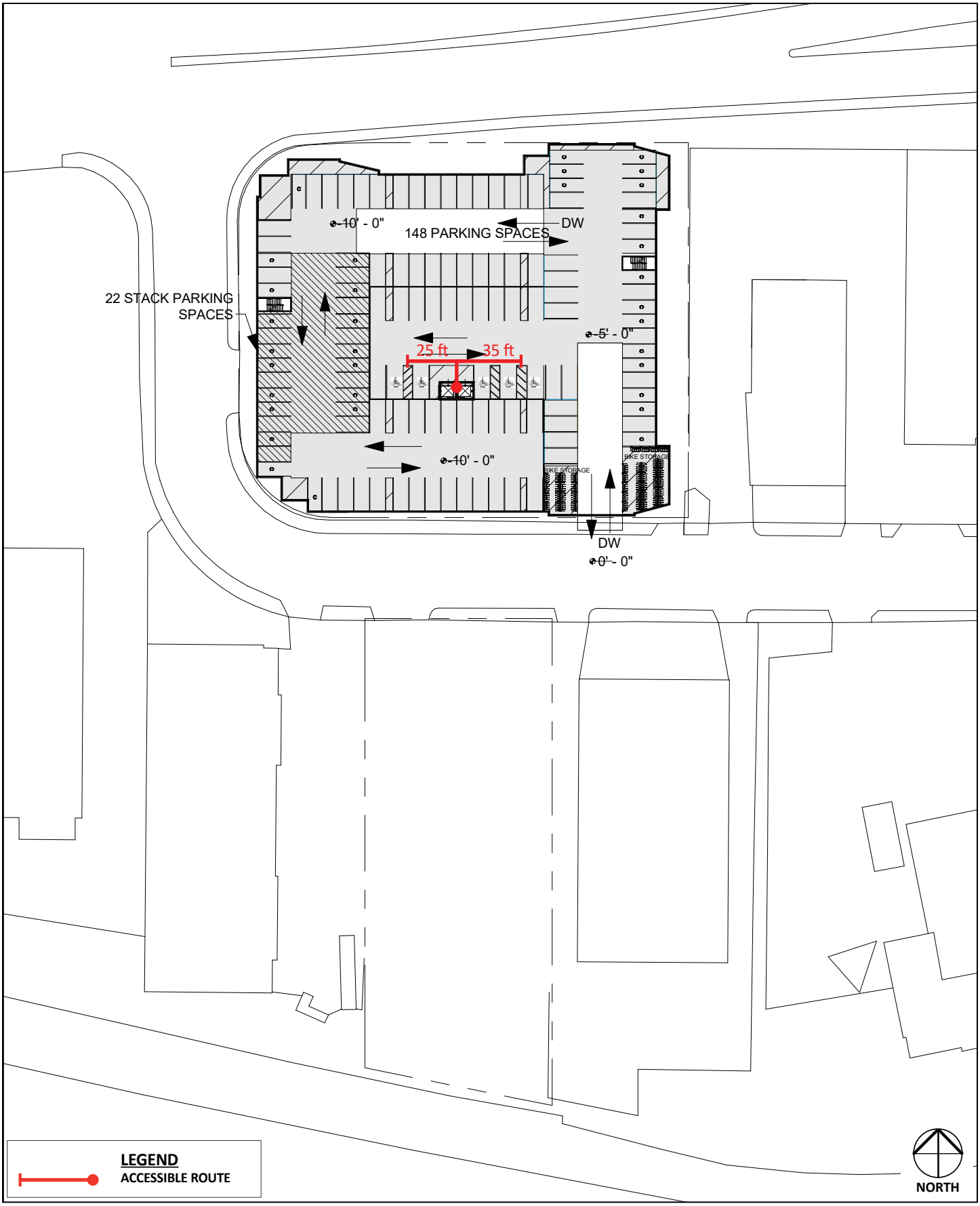
ideal accessibility and to ensure that all buildings, sidewalks, parks, and open spaces are usable and welcoming to Boston's diverse residents and visitors, including those with physical, sensory, and other disabilities.

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

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

Architectural Access staff can be reached at:

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


10' - 0"
148 PARKING SPACES
DW
22 STACK PARKING SPACES
5' - 0"
25 ft
35 ft
10' - 0"
BIKE STORAGE
BIKE STORAGE
DW
0' - 0"
LEGEND
ACCESSIBLE ROUTE
NORTH


SOLDIERS FIELD ROAD
2BR 862 SF
2BR 950 SF
STUDIO 486 SF
STUDIO 486 SF
1BR 589 SF
1BR 635 SF
COURTYARD
TRASH /MEP
AMENITY/LOBBY 4803 SF
2BR 984 SF
1BR 635 SF
1BR 589 SF
1BR 621 SF
2BR 896 SF
1BR 768 SF
STUDIO 513 SF
STUDIO 495 SF
2BR 877 SF
1BR 656 SF
2BR 980 SF
1BR 635 SF
1BR 635 SF
1BR 635 SF
1BR 589 SF
STUDIO 494 SF
STUDIO 512 SF
1BR 635 SF
1BR 635 SF
1BR 606 SF
2BR 919 SF
2BR 884 SF
LOADING
55 ft
DROP-OFF
SOLDIERS FIELD PLACE
CONFERENCE RM
VES
MAIL ROOM
LAUNDRY
LOBBY 1771 SF
MEP
MEP
BIKE STORAGE
STORAGE
45 ft
27 PARKING SPACES
GARDEN
DOG PARK
LEGEND
ACCESSIBLE ROUTE
NORTH

Article 80 – Accessibility Checklist

A requirement of the Boston Planning & Development Agency (BPDA)
Article 80 Development Review Process

The Mayor's Commission for Persons with Disabilities strives to reduce architectural, procedural, attitudinal, and communication barriers that affect persons with disabilities in the City of Boston. In 2009, a Disability Advisory Board was appointed by the Mayor to work alongside the Commission in creating universal access throughout the city's built environment. The Disability Advisory Board is made up of 13 volunteer Boston residents with disabilities who have been tasked with representing the accessibility needs of their neighborhoods and increasing inclusion of people with disabilities.

In conformance with this directive, the BDPA has instituted this Accessibility Checklist as a tool to encourage developers to begin thinking about access and inclusion at the beginning of development projects, and strive to go beyond meeting only minimum MAAB / ADAAG compliance requirements. Instead, our goal is for developers to create ideal design for accessibility which will ensure that the built environment provides equitable experiences for all people, regardless of their abilities. As such, any project subject to Boston Zoning Article 80 Small or Large Project Review, including Institutional Master Plan modifications and updates, must complete this Accessibility Checklist thoroughly to provide specific detail about accessibility and inclusion, including descriptions, diagrams, and data.

For more information on compliance requirements, advancing best practices, and learning about progressive approaches to expand accessibility throughout Boston's built environment. Proponents are highly encouraged to meet with Commission staff, prior to filing.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
   http://www.ada.gov/2010ADAstandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
3. Massachusetts State Building Code 780 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/building-codebbrs.html
4. Massachusetts Office of Disability – Disabled Parking Regulations
   http://www.mass.gov/anf/docs/mod/hp-parking-regulations-summary-mod.pdf
5. MBTA Fixed Route Accessible Transit Stations
   http://www.mbta.com/riding_the_t/accessible_services/
6. City of Boston – Complete Street Guidelines
   http://bostoncompletestreets.org/
7. City of Boston – Mayor's Commission for Persons with Disabilities Advisory Board
   www.boston.gov/disability
8. City of Boston – Public Works Sidewalk Reconstruction Policy
   http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
9. City of Boston – Public Improvement Commission Sidewalk Café Policy
   http://www.cityofboston.gov/images_documents/Sidewalk_cafes_tcm3-1845.pdf

Glossary of Terms:

1. ***Accessible Route*** – A continuous and unobstructed path of travel that meets or exceeds the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 20
2. ***Accessible Group 2 Units*** – Residential units with additional floor space that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 9.4
3. ***Accessible Guestrooms*** – Guestrooms with additional floor space, that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 8.4
4. ***Inclusionary Development Policy (IDP)*** – Program run by the BPDA that preserves access to affordable housing opportunities, in the City. For more information visit: http://www.bostonplans.org/housing/overview
5. ***Public Improvement Commission (PIC)*** – The regulatory body in charge of managing the public right of way. For more information visit: https://www.boston.gov/pic

6. ***Visitability*** – A place's ability to be accessed and visited by persons with disabilities that cause functional limitations; where architectural barriers do not inhibit access to entrances/doors and bathrooms.

1. Project Information:

If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.

Project Name:	**21 Soldiers Field Place**
Primary Project Address:	**21 Soldiers Field Place**
Total Number of Phases/Buildings:	**One building/ single phase**
Primary Contact (Name / Title / Company / Email / Phone):	**Dinosaur Capital Partners LLC** 800 Boylston, 27th Floor, Boston Scott Oran or Mark Dufton – 617.422.6584
Owner / Developer:	**Dinosaur Capital Partners LLC** 800 Boylston, 27th Floor, Boston Scott Oran or Mark Dufton – 617.422.6584
Architect:	**ICON Architecture, Inc** 101 Summer Street, Boston 02110 617.451.3333 Nancy Ludwig, FAIA nludwig@iconarch.com
Civil Engineer:	**Nitsch Engineering**
Landscape Architect:	**Copley Wolff Design Group**
Permitting:	**MLF Consulting LLC** 781.760.1726 Mitch Fischman, mitchfishman@gmail.com
Construction Management:	**Not known at this time**

At what stage is the project at time of this questionnaire? Select below:

PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BPDA Board Approved
BPDA Design Approved	Under Construction	Construction Completed:

Do you anticipate filing for any variances with the Massachusetts Architectural Access Board (MAAB)? ***If yes,*** identify and explain.	Typical variances requested are for sink depth and outlets at decks.

2. Building Classification and Description:

This section identifies preliminary construction information about the project including size and uses.

What are the dimensions of the project?

Site Area:	*24,987 SF*	Building Area:	*223,000GSF (Includes 21 Soldiers Field Road)*
Building Height:	*49' 11'.*	Number of Stories:	*4 Flrs.*
First Floor Elevation:	NA	Is there below grade space:	*NO*

What is the Construction Type? (Select most appropriate type)

	Wood Frame	Masonry	Steel Frame	Concrete

What are the principal building uses? (IBC definitions are below – select all appropriate that apply)

	Residential – One - Three Unit	**Residential - Multi-unit, Four +**	Institutional	Educational
	Business	Mercantile	Factory	Hospitality
	Laboratory / Medical	Storage, Utility and Other		

List street-level uses of the building:	*Lobby, Entry*

3. Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and institutions, such as (but not limited to) hospitals, elderly & disabled housing, and general neighborhood resources. Identify how the area surrounding the development is accessible for people with mobility impairments and analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the neighborhood where this development is located and its identifying topographical characteristics:	The nearby Allston Brighton neighborhood is a mix of retail commercial and office use. The setting is along Soldiers Field Road, edging the Charles River Parkland. The properties a nestled at the base of a hillside that leads up to properties along Leo Birmingham Parkway.
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	The site is a mile-long walk from the new Boston Landing development and its MBTA Commuter Rail Station on the Framingham/Worcester line. Several buses stop nearby, including the 64, 70, 70A and the 86 bus, with between 1000 feet to up to ½ mile.
List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others:	Institutional uses located on Soldiers Field Place include the 98.5 Radio Station, Dacha Adult Day Care, Brighton Day Rehab. Charles River Community Health is nearby on Western Avenue. The Daly Skating Rink and Play Fields and Community Rowing New Balance and WGBH are located with other retail and commercial facilities within a half mile at the new Boston Landing district.

List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	Nearby recreational facilities include Portsmouth Street Playground and the Charles River parkland.
4. Surrounding Site Conditions – Existing: *This section identifies current condition of the sidewalks and pedestrian ramps at the development site.*	
Is the development site within a historic district? ***If yes,*** identify which district:	NO.
Are there sidewalks and pedestrian ramps existing at the development site? ***If yes***, list the existing sidewalk and pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:	City Street sidewalks surround the site on the north, south, and east. These sidewalks will be replaced as part of the new development.
Are the sidewalks and pedestrian ramps existing-to-remain? ***If yes,*** have they been verified as ADA / MAAB compliant (with yellow composite detectable warning surfaces, cast in concrete)? ***If yes,*** provide description and photos:	Sidewalks will be replaced as part of the new development.
5. Surrounding Site Conditions – Proposed *This section identifies the proposed condition of the walkways and pedestrian ramps around the development site. Sidewalk width contributes to the degree of comfort walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Wider sidewalks allow people to walk side by side and pass each other comfortably walking alone, walking in pairs, or using a wheelchair.*	
Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? ***If yes***, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.	The Soldiers Field Place sidewalk will be designed as a "Neighborhood Residential" street under Complete Streets.

What are the total dimensions and slopes of the proposed sidewalks? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone:	Soldiers Field Place sidewalk will have a 1.5% cross slope and will be nearly flat longitudinally. The total minimum width is 7'-6" broken out as follows: 6" curb zone, 2' furnishing zone, 5' pedestrian zone and a variable width frontage zone ranging from 0' to up to 10' to face of building.
List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?	Soldiers Field Place sidewalk: The curb will be granite (existing), the furnishing zone and pedestrian zones will be cement concrete. The frontage zone will be a mix of cement concrete or landscaping. The curb, frontage and pedestrian zones will be on City of Boston pedestrian right of way, while the frontage zone will be on private property.
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way? ***If yes,*** what are the proposed dimensions of the sidewalk café or furnishings and what will the remaining right-of-way clearance be?	No, currently all programming of the sidewalk areas will occur on the development's private property.
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	These are public sidewalks.
Will any portion of the Project be going through the PIC? ***If yes,*** identify PIC actions and provide details.	We will need to go to PIC for the curb cut for the driveway(s).
6. Accessible Parking: *See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability – Disabled Parking Regulations*.	
What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?	27 Parking Spaces are provided in an at-grade garage under the residential units and behind the lobby to the building.
What is the total number of accessible spaces provided at the development site? How many of these are "Van Accessible" spaces with an 8 foot access aisle?	Two of the 27 spaces will be accessible. One space will be van accessible.

Will any on-street accessible parking spaces be required? ***If yes,*** has the proponent contacted the Commission for Persons with Disabilities regarding this need?	No.
Where is the accessible visitor parking located?	One of the accessible spaces can be used for visitor parking.
Has a drop-off area been identified? ***If yes,*** will it be accessible?	Drop off area will be in front of the building. Sidewalks are graded to allow accessibility.
7. Circulation and Accessible Routes: *The primary objective in designing smooth and continuous paths of travel is to create universal access to entryways and common spaces, which accommodates persons of all abilities and allows for visitability with neighbors*.	
Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	Flush Condition.
Are the accessible entrances and standard entrance integrated? ***If yes,*** *describe.* ***If no,*** what is the reason?	Yes. Ground floor access will be flush with the sidewalk/entry courtyard grade.
If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.	All future way finding signage will be developed to meet Building Code and Accessibility Board Requirements.
8. Accessible Units (Group 2) and Guestrooms: (If applicable) *In order to facilitate access to housing and hospitality, this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing and hotel rooms.*	
What is the total number of proposed housing units or hotel rooms for the development?	Thirty-eight (38) Condominiums are proposed.
If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP (Inclusionary Development Policy)	All units will be for sale.

units?	
If a residential development, how many accessible Group 2 units are being proposed?	Two Group 2 units are proposed.
If a residential development, how many accessible Group 2 units will also be IDP units? ***If none***, describe reason.	To be determined in the future.
If a hospitality development, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? ***If yes,*** provide amount and location of equipment.	Not applicable.
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs / thresholds at entry, step to balcony, others. ***If yes***, provide reason.	All non-Group 2 units will be designed as Group 1 units under the MAAB.
Are there interior elevators, ramps or lifts located in the development for access around architectural barriers and/or to separate floors? ***If yes***, describe:	Yes, building will have an elevator.
9. Community Impact: *Accessibility and inclusion extend past required compliance with building codes. Providing an overall scheme that allows full and equal participation of persons with disabilities makes the development an asset to the surrounding community.*	
Is this project providing any funding or improvements to the surrounding neighborhood? Examples: adding extra street trees, building or refurbishing a local park, or supporting other community-based initiatives?	To be determined.
What inclusion elements does this	The indoor and outdoor amenity areas will be accessible.

development provide for persons with disabilities in common social and open spaces? Example: Indoor seating and TVs in common rooms; outdoor seating and barbeque grills in yard. Will all of these spaces and features provide accessibility?	
Are any restrooms planned in common public spaces? ***If yes,*** will any be single-stall, ADA compliant and designated as "Family"/ "Companion" restrooms? ***If no***, explain why not.	We will design the restrooms to meet requirements of the plumbing code. We can provide a single stall ADA compliant restroom somewhere in the amenity area.
Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff? ***If yes,*** did they approve? ***If no,*** what were their comments?	Not at this time. This will be done during the review period for the PNF.
Has the proponent presented the proposed plan to the Disability Advisory Board at one of their monthly meetings? Did the Advisory Board vote to support this project? ***If no,*** what recommendations did the Advisory Board give to make this project more accessible?	Not at this time. This will be done during the review period for the PNF

10. Attachments

Include a list of all documents you are submitting with this Checklist. This may include drawings, diagrams, photos, or any other material that describes the accessible and inclusive elements of this project.

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See Diagrams 10.1 and 10.2

Provide a diagram of the accessible route connections through the site, including distances.

See Diagram 10.1 and 10.2

Provide a diagram the accessible route to any roof decks or outdoor courtyard space? (if applicable)

Landscaped yard/courtyard is accessible from first floor.

Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry. **Location and layout will be determined as project is further developed.**
Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible elements of this project.

This completes the Article 80 Accessibility Checklist required for your project. Prior to and during the review process, Commission staff are able to provide technical assistance and design review, in order to help achieve ideal accessibility and to ensure that all buildings, sidewalks, parks, and open spaces are usable and welcoming to Boston's diverse residents and visitors, including those with physical, sensory, and other disabilities.

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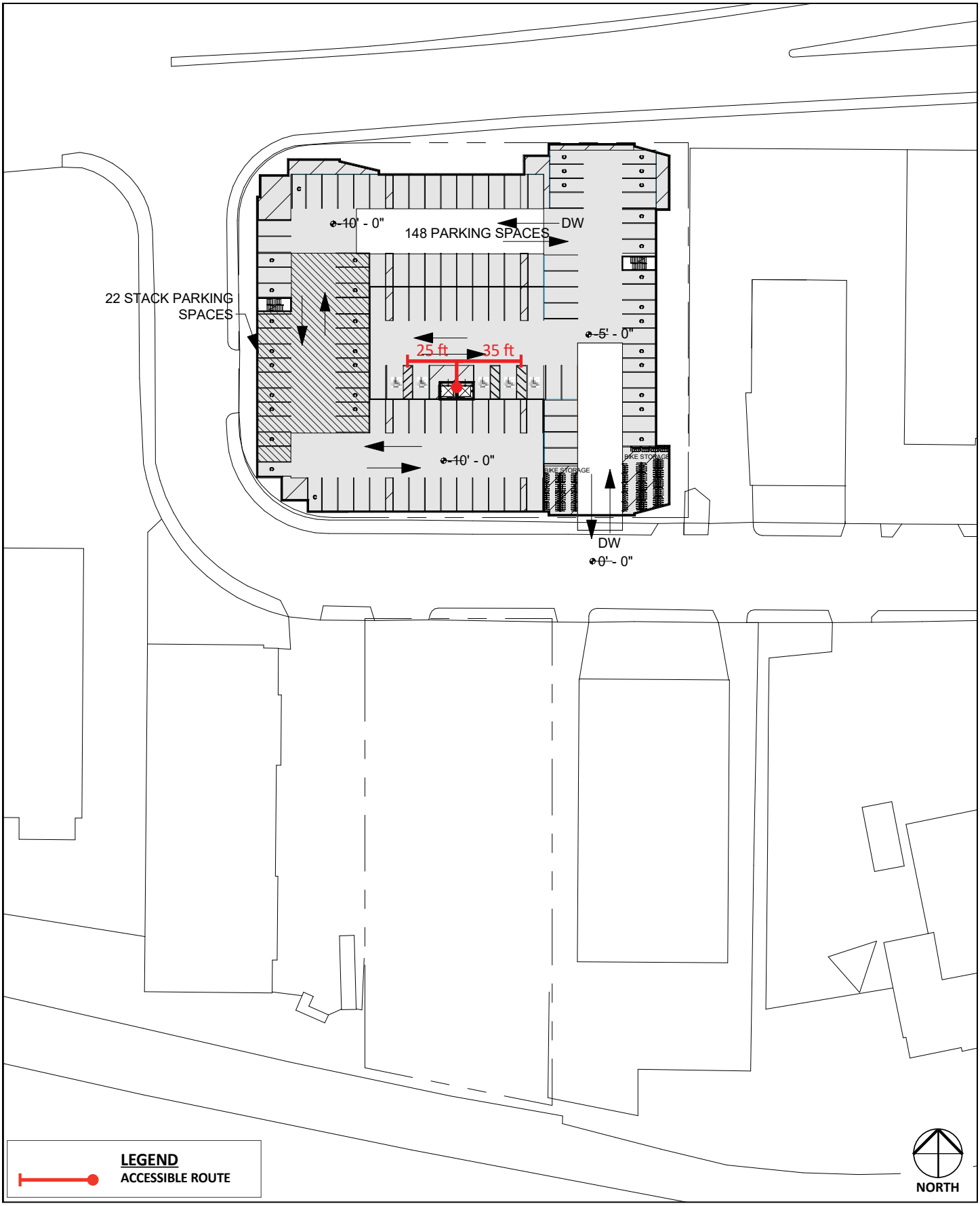
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