301-303 Border Street, East Boston

Submitted Pursuant to Article 80B of the Boston Zoning Code

September 23, 2016

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1.0 PROJECT SUMMARY / OVERVIEW

1.1 Introduction

This Package is being submitted on behalf of City Realty Group, LLC (the "Proponent") for a new approximately 75,167 gross square foot primarily residential development including sixty-four residential units, 984 square foot commercial space, an art gallery in the lobby, forty-two associated parking spaces, and a bike room and bike racks for seventy-four interior bicycle spaces at 301-303 Border Street in the East Boston neighborhood. (Please see **Figure 1.1.** Project Locus.)

The Project Site comprises approximately 17,817 square feet of underutilized commercial land. The Project will include combining five existing parcels into one lot. These parcels include: Parcel ID 0103662000, Parcel ID 0103663000, Parcel ID 0103664000, Parcel ID 0103665000 and Parcel ID 0103666000. The Proposed Project includes a redevelopment of the Project Site, by replacing the existing facilities of an auto repair/service center and an auto services shop with a new residential development with accompanying integrated site, landscape, vehicular and pedestrian access measures and improvements. The current estimated cost of this Project, based upon the most recent plans, is approximately $21,610,000.

The vision of the Project is to revitalize the neighborhood by replacing the existing commercial uses with a residential building that will add new housing units to the increasingly popular East Boston community. As part of the community benefits related to the Proposed Project, the existing and unsightly commercial buildings will be demolished.

The Proposed Project will exceed the 50,000 square foot total build-out requirement for a project in a Boston neighborhood, and therefore required the preparation of filing(s) under the Large Project Review regulations, pursuant to Article 80 of the Boston Zoning Code. The Proponent will also seek zoning dimensional relief from the Code from the Boston Zoning Board of Appeal related to the size and change of use for the Proposed Project.

A Letter of Intent (LOI) to file a Project Notification Form was filed with the Boston Redevelopment Authority for the Proposed Project on March 28, 2016 in accordance with Article 80B of the Boston Zoning Code.

Figure 1-1
Project Locus

1.2 Detailed Project Description

The Proposed Project sits on approximately 17,817 square feet of underutilized land along Border Street, which lies within a Multifamily Residential/Local Services Subdistrict. The site borders Eutaw Street on the side and Meridian Street in the rear. The current site has been used as a commercial parking lot, an auto repair/service center and an auto services shop. As part of the community benefits related to this Project, the old commercial buildings will be demolished and new market rate housing with neighborhood commercial space will be developed. Even though the Project Site is within a Multifamily Residential/Local Services district, historically this area has been comprised of more industrial uses, with limited residential or commercial developments. The Proposed Project will serve to invigorate this section of East Boston and bring residential foot traffic to the neighborhood.

The Proposed Project will be constructed as a six-story residential market rate development with ground floor commercial space. The Proposed Project is ideally situated within close proximity to Airport and Maverick Square MBTA stations' and the Sumner, Callahan, and Ted Williams Tunnels', making it convenient for future resident commuters. The Proposed Project will be in close proximity to Central Square Park and directly abuts a park to the right, which will give residents plenty of open space and green space to utilize. The Project is also walking distance to both Central and Maverick Squares, offering many neighborhood shops and restaurants to service the new residents of the development. The Developers are proposing a project that would include both residential units and neighborhood commercial space that will revitalize an otherwise underutilized site, and will take advantage of its ideal location.

The Developers are proposing a mixed use project that will include sixty-four residential units and 984 square feet of commercial space along the ground floor of the building. The Project will also include the creation of a gym for the residents, and a gallery in the ground level lobby, which will pay homage to the shipbuilding legacy of this particular section of East Boston. The gallery will include photographs and neighborhood artwork from the local artist community. The units will have a mixture of different sizes, which will accommodate East Boston's diverse and growing population. The units will be comprised of one studio unit, seventeen one bedroom/one study units, thirty-seven two bedroom units, and nine three bedroom units. Approximately half the units will have exterior decks, and the Project also includes a proposed common roof deck, which will provide residents with usable outdoor space. The Developers understand that parking is always a concern to the neighborhood residents, and are proposing a ground level interior parking facility that will house forty-two parking spaces and bike racks for twenty-two bikes, as well as an electric car charging station for residents. Furthermore, a separate bike room has been proposed, which will accommodate fifty-two additional bicycles. The Proposed Project's proximity to two MBTA stations will minimalize community impact from resident/patron parking from the Proposed Project.

The second component of the Proposed Project will include 984 square feet of commercial space. The commercial space will accommodate the needs of East Boston's growing population. The Developers have proposed using this space as a yoga studio/juice bar or another comparable use that will encourage local neighborhood shopping. This type of amenity will allow for residents of the neighborhood to walk to the studio from their home or from one of the busy MBTA stations. The East Boston community has been looking to add more commercial space to new projects, to ensure that residents can both live and have access to such opportunities within the community.

The Proposed Project is subject to Large Project Review under Article 80B of the Boston Zoning Code. In parallel with this application, the Proposed Project will seek zoning relief from the Boston Zoning Code at the Boston Zoning Board of Appeal related to the size and change of use of the land and structures that currently sit on them.

The Proposed Project will completely revitalize this section of Border Street, and will bring necessary residential housing to an underutilized corridor. The site is attractive due to its proximity to Central Square Park, Bremen Street Park, train stations, and all of the many shops and restaurants in Central and Maverick Squares'.

Table 1-1. Approximate Project Dimensions of 301-303 Border Street

Lot Area:	17,817
Gross Building Footprint Area:	16,118
Gross Square Feet:	75,167
FAR:	4.23
Floors:	6
Height:	60'9"

2.0 GENERAL INFORMATION

2.1 Project Schedule

Project Schedule: 301-303 Border Street Project	
Construction Commencement:	Spring 2017
Construction Completion:	Fall 2018
Status of Project Design:	Schematic

2.2 Project Proponent

City Realty Group, LLC, founded in 2004, has grown to become a leading full service real estate firm dedicated to buying, selling, renting, developing and managing property in the Boston area. Since its conception, City Realty Group and its managing partners have overseen over $500 million in real estate transactions. City Realty Group's current portfolio consists of over 600 stabilized units as well as over 50 properties currently in various stages of development.

City Realty Group, LLC, is run by Managing Partners Fred Starikov and Steve Whalen. Fred Starikov has eighteen plus years of experience in real estate and has overseen $500 million in real estate transactions. Mr. Starikov has a proven ability to quickly analyze market data and execute plans precisely in order to achieve optimal returns.

Stephen Whalen has over twenty-two years of experience in real estate with broad expertise in commercial and residential property acquisition, disposition and leasing. Mr. Whalen excels in relationship management and conflict resolution and has honed his command of real estate practices while employed with Equis Corp. and NAI Hunneman Commercial.

City Realty Group, LLC has extensive experience in managing and developing real estate, and in managing businesses, which will guide this Proposed Project to completion.

2.3 Public Benefits

The Proposed Project will provide substantial benefits to the City of Boston and the East Boston community. The Proposed Project will generate both direct and indirect economic and social benefits to the East Boston neighborhood. The Proposed Project provides for:

- Creating much needed market rate residential housing in the East Boston Neighborhood.
- Creating on-site affordable condominium units, which will meet the Boston Redevelopment Authority affordable housing standards.
- Revitalizing an industrial parcel and replacing the current automotive repair uses with housing and retail space.

- Creating commercial retail space along the Border Street Corridor to accommodate East Boston's growing population of residents, which will allow residents to not only live, but also shop and have access to amenities in the neighborhood.

- Adopting and maintaining an underutilized neighboring piece of open park land; and adding wi-fi access, water access, greenery, and an ongoing maintenance plan, designed for the community to access and utilize.

- Constructing a building that will incorporate open space in the form of decking and terraces, a Green roof deck space with views of the Chelsea Creek, and energy efficient appliances, which will result in a high LEED standard for the Project.

- Constructing a ground level parking facility that will accommodate deeded parking spaces for the unit owners.

- Creating an open lobby plan that will house community art work that can be viewed by pedestrians through the Building's glass walled ground floor level. The Developers will work with East Boston Museum to display artwork that has historical relevance to East Boston.

- Adopting a design that replicates East Boston's rich nautical theme; with a ship's sweeping sails shown on the exterior of the building.

- Encouraging alternative modes of transportation through the use of bicycling and walking, due to the close proximity of the MBTA at Maverick and Airport stations; and the high number of bicycle stations on the ground floor.

- Creating bike racks and a dedicated bike room for storage of seventy-four bikes within the building to encourage bicycling as a mode of transportation, allowing for less vehicular traffic.

- Creating new sidewalks along Border Street, replacing existing commercial curb cuts with pedestrian sidewalks, which will also allow for the creation of eleven new on-street parking spaces.

- Replacing industrial/commercial automotive uses, that cause both pollution and traffic congestion, with residential use.

- Creating a local indoor/outdoor Yoga Studio that can be utilized by area residents.

- Adding revenue in the form of property taxes to the City of Boston.

- Creating full time jobs (commercial retail).

- Creating temporary construction and labor jobs.

2.4 Compliance with Boston Zoning Code – Use and Dimensional Requirements

The Site is located in a Multifamily Residential/Local Services Subdistrict (MFR/LS) of the East Boston Neighborhood District, Article 53 of the Boston Zoning Code (the "Code"). (See **Table 2-1.** 301-303 Border Street – Zoning Compliance).

The Site consists of 17,817 square feet of land. Multi-family dwellings are an allowed use under Article 53, Table A.

The Proposed Project seeks relief from several requirements of the existing zoning outlined in Article 53. The proposed structure exceeds the maximum allowable floor-area-ration ("FAR"). It also exceeds the height limitations for the district and will require relief from the Zoning Board of Appeal. Other likely zoning violations include total lot size, open space, and various dimensional regulations such as side setback and rear setback. The commercial space on the first floor will also likely require a variance.

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

The Site is located in an area that contains residential and commercial uses. The properties across the street and directly behind the Project Site are similar in size, density and height to the Proposed Project. The design team feels that given this location, and the structures influencing the design, as well as comparable developments in the neighborhood, that the proposed building's height, mass and scale are appropriate for this location.

Table 2.1. 301-303 Border Street - Zoning Compliance

Categories	**MFL/LS Sub District**	**Proposed Project**
Minimum Lot Area (Square Feet)	2,000 S.F. for 2 units	2,000 S.F. for 2 units
Floor Area Ratio	1.0	4.23
Minimum Lot Width	40 Feet	300 Feet
Minimum Lot Frontage	40 Feet	361 Feet
Minimum Front Yard	0+- / Modal	0+- / Modal
Minimum Side Yard	5 Feet	6 Inches
Minimum Rear Yard	10 Feet	9 Inches
Maximum Building Height	35 Feet	60 Feet, 9 Inches
Minimum Useable Open Space Per Dwelling Unit (Square Feet)	200 S.F. / Unit	100 S.F. / Unit
Off-Street Parking Spaces (* To be reviewed in accordance with Article 80 Large Project Review Requirements)	N/A	N/A
Maximum Height of Structures in Rear Yard (above the average natural grade of rear yard)	N/A	N/A

2.5 Public Review Process and Agency Coordination

The 301-303 Border Street development team has provided extensive community outreach efforts for the Proposed Project including community meetings in the East Boston neighborhood, and presentations before the elected officials. As part of the process, the development team has held an abutter's meeting to explain the Project to surrounding neighbors that will be directly impacted during and after construction. The Proponent received positive feedback from the neighbors, and has made design changes accordingly. The development team also appeared three times before the Eagle Hill Civic Association, where they received support for the Project.

As part of the required community outreach process, the Boston Redevelopment Authority in collaboration with East Boston's elected officials has selected an eight-member Impact Advisory Group, (IAG), which the development team will continue to work in conjunction with on the design and community impacts of the Project. The Boston Redevelopment Authority will also hold its own Article 80 required public meeting during which the development team will make a presentation and public comments will be received.

Finally, the development team has met individually with all of East Boston's elected officials and their staff members, including: Representative Adrian Madaro, City Councilor Salvatore LaMattina, and Mayor's Office of Neighborhood Services Liaison for East Boston, Claudia Correa. East Boston's elected officials have had input during the community outreach process, and have had staff presence at all community meetings.

The Proponent has also discussed the Proposed Project with representatives of the Boston Redevelopment Authority ("BRA") prior to filing this Briefing Package in order to identify issues/concerns as well as design requirements related to the Proposed Project. Meetings have been held with the BRA's planners and urban design staff, and the Project design has changed based upon the feedback received.

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.

3.0 URBAN DESIGN AND SUSTAINABILITY

3.1 Site and Surroundings

The Project Site is located in East Boston and is bounded by Border Street, Eutaw Street and City of Boston Green space. The Proposed Site sits on approximately 17,817 square feet of underutilized commercial space along Border Street. The current site has been used as a commercial parking lot, an auto repair/service center and an auto services shop. As part of the proposal these commercial buildings will be demolished and the existing sidewalk along the Border Street property line will be expanded as several curb cuts will be filled in. This process will also allow for the creation of eleven new on-street parking spaces. The Project Site sits across the street from the Mario Umana Middle School Academy, which is located at 312 Border Street. The Project Site is primarily abutted in the rear by a large five-story apartment building and three-family residential buildings. The remainder of the abutting buildings are comprised of multi-family and condominium dwellings and industrial space along Border Street. For existing site pictures see **Appendix B**.

3.2 Shadow Study

A shadow study of the proposed building was performed to gauge the impact on the surrounding community. The presented studies represent 4 different times of year including the winter and summer solstices as well as well as the fall and spring equinoxes. For each date, morning, noon, and evening studies are provided showing the cast shadows as the sun moves through the sky on each day represented.

There will be no shadow impact on the park to the south of the project site. The proposed buildings shadow impact will be the greatest to the residential structures east of the site. Shadows will be cast on these buildings in the late afternoon year round, though the morning and mid-day shadow impact will be minimal throughout the year. The single residential building along Eutaw Street to the north will have similar shadow impacts during the mid-day and evening hours during the winter. This building already receives a similar shadow profile during the mornings year round do to the existing adjacent 6 story building. To the west, the Umana School will be impacted in the early morning during the school year. See **Appendix E** for the complete Shadow Study.

3.3 Urban Design Concept

The proposed project will improve both the public and private realm of the surrounding community by creating a much more conducive use for the site and the neighborhood in general. The following describes the current urban fabric as well as the proposed design principles.

Current Urban Context:

The site is located along Border Street adjacent to the East Boston waterfront. Currently, site utilization consists of numerous auto facilities including repair, storage, service, etc.

To the West is Border Street with the expansive Umana School campus across the street. The campus is perched above the mouth of the Mystic River Near where it splits with the Charles. Views are directed across the river towards Charlestown. Also to the West are industrial and commercial business uses.

To the South of the site is the "Our Garden" public park. The park connects Border Street with Meridian Street by means of a walkway and monumental staircase. Further down Border Street to the south are a mix of housing types, retail, industrial, and business uses leading to the newly renovated Central Square Park. Blocks away down Meridian Street is the recently renovated Maverick Station providing quick and easy access to downtown. Development has begun along this stretch of Border Street as the Seville Theatre project is currently being constructed.

West of the site is a mix of housing types that face on to Meridian Street. Across Meridian, the mix of housing types continues with the introduction of ground floor retail and business uses which continue on both sides of the street south of the site down Meridian. On the corner of Meridian and Eutaw, directly adjacent to the site, exists a 7 story multifamily building that sits more than 70' above the existing site.

On the North side of the site is Eutaw Street with a smaller scale residential context on the adjacent block. Included in the block is another park, the Eagle Hill Memorial Community Garden. Several small businesses are included on the land side of Border Street including a restaurant and auto services. The water side of Border includes an expansive industrial site.

There are numerous community services within the vicinity of the site including a supermarket, department store, post office, library, health center, schools, banks, restaurants, public transportation, and numerous other businesses. The historical utilization of the area was marine industrial in nature including ship building yards.

Design Concept:

Public Connection:

The proposed design works to connect the site to the surrounding neighborhood through providing a more pedestrian friendly use and subsequent associated site improvements. The current automobile uses have 10 garage or driveway openings that continually have cars backing in and out along Border Street. All these openings have associated curb cuts that encumber the sidewalk continuity in terms of pedestrian access and do not allow for much on street parking along this stretch of Border. The proposed project will remove all of these curb cuts and create numerous on street parking spaces as well as eliminate the exiting and entering of the garages and parking lots. All auto access to the building will be on Eutaw Street to further relieve some of the traffic congestion and pedestrian impediment in the area. The sidewalk as proposed will be much more pedestrian friendly as it now exists with the removal of the numerous curb cuts and the addition of street trees and furniture. All this works to create an improved pedestrian connection along Border Street to the developing area south of the site. A gallery depicting the historical marine context of the site is proposed along the building grade level as well as commercial space and residential amenity space open to the street to better facilitate a connection between the private and public realm of the building.

As part of the project, the developers have proposed to adopt the adjacent park in order to better maintain the sometimes underutilized open space. The park is used as a public garden and water connections, lighting, and maintenance is being proposed as part of the project. A

car share of 2 spaces is also being proposed on site along Eutaw Street to further the community connection to the site.

Building Design:

The precedent for the building design was loosely based on the clipper ships that were once built across the street. The variation in the façade looks to assimilate with the deviation of building stock that now exists along Border Street while this also harkens to the differentiation of the numerous sails on the historic ships. This variation also works to break up the large building mass. The majority of the upper floor steps back in order to take away from the height of the building. The height of the building will be six stories with the actual height being less than the adjacent building behind the site. The proposed project will look to combine traditional and modern materials to incorporate the areas past while also making a contemporary statement. Masonry is being used throughout the façade as is prevalent throughout the neighborhood. Concrete with grooved elements will be used on some ground floor elements at the rear of the building playing off the neighboring Umana School. The ground floor street side will be mostly glass to create a connection from the exterior to the interior of the building especially in the commercial areas, the street side viewing gallery, and common residential elements. The majority of the upper floors will be horizontal metal panel in order to create a lightness in line with the concept of the building being influenced by the Clipper ships and their sales that were once built across the street. Other areas of the upper floors will include vertical metal panel in differing widths. Railings will be both glass and metal depending on the location. The rear of the building is simplified, again using metal panel but stepping back at similar intervals in order to break up the large façade. Parking will be located at grade and accommodating 42 parking spaces with a mix of traditional and stacker spaces. The garage is accessed at the rear of the building along Eutaw Street. Several electric car charging stations will be included in the garage. As well, a car share of 2 spaces is being proposed on site along Eutaw Street.

Precedent:

This proposal uses the massing of the clipper ship sails as the driving design inspiration. The tower at the entry represents the main sail as being the most prominent vertical element of the ship. The extension towards Eutaw St at the lower portion of the entry tower alludes to the staysails that occur on the lower portions of the central masts. The large stone base at the entry "sail" acts as a metaphorical anchor for the building as a heavy element holding the ship down while denoting the entry to the building. Moving towards Eutaw Street, the large white bump out is representative of the fore sails on a clipper ship. It is shorter than the main sail and typically of similar size. Because it is forward of the main sail, it usually appears to be significantly wider than the main sail when depicted in drawings and photographs. Thus the representation on the building is that this is the most linear element on the upper portion of the building. At the Eutaw Street corner, the 2 story bump out subtly evokes the jib sails projecting out from the bow. They are also raised up a story to further represent the jib sails seemingly floating of the ship. On the park side of the building the main bump out is symbolic of the rear mizen sails. Though of similar height to the fore sails, they usually appear to be narrower than the fore sails thus the higher expression than that of the Eutaw Street side of the building. The 2 story bump out towards the park represents the smaller spanker sails that seem to morph into the mizen sails in depictions and thus why the 2 pieces are combined in this proposal to form the "L" shape. Many of the balcony openings are stepped to also allude to the staggered sails of the clipper ships.

3.4 Materials and Finishes

The proposed project will look to combine traditional and modern materials to incorporate the areas past while also making a contemporary statement.

Masonry is being used throughout the façade as is prevalent throughout the neighborhood. Concrete with grooved elements will be used on some ground floor elements at the rear of the building playing off the neighboring Umana School.

The ground floor street side will be mostly glass to create a connection from the exterior to the interior of the building especially in the commercial areas, the street side viewing gallery, and common residential elements. The majority of the upper floors will be horizontal metal panel in order to create a lightness in line with the concept of the building being influenced by the Clipper ships and their sales that were once built across the street. Other areas of the upper floors will include vertical metal panel in differing widths. Railings will be both glass and metal depending on the location.

3.5 Sustainable Design/Energy Conservation

Sustainability informs every design decision. Enduring and efficient buildings conserve embodied energy and preserve natural resources. The full development of 301-303 Border Street embraces the opportunity to positively influence the urban environment. Its location takes advantage of existing infrastructure while convenient access to public transportation will reduce dependence on single occupant vehicle trips and minimizes transportation impacts.

Our team is committed to incorporating environmentally sensitive, sustainable design elements into the 301-303 Border Street project. These elements will improve the quality of life for the residents of this project, as well as the surrounding neighborhood, while protecting the environment. In the long run, this will reduce operating costs while increasing value for the project, improving its business viability.

The Proponent is committed to identifying opportunities presented by the development of 301-303 Border Street by setting goals and ensuring that the Project is LEED Silver certifiable at a minimum. The LEED rating system tracks the sustainable features of the project by achieving points in the following categories: Location and Transportation; Sustainable Sites; Water Efficiency; Energy and Atmosphere; Materials and Resources; Indoor Environmental Quality; Innovation; and Regional Priority. For the LEED Project Checklist see **Appendix F.**

3.5.1 Location and Transportation

The Location and Transportation (LT) category rewards thoughtful decisions about building location, with credits that encourage compact development, alternative transportation, and connection with amenities, such as restaurants and parks. The LT category considers the existing features of the surrounding community and how this infrastructure affects occupants' behavior and environmental performance.

Well-located buildings take advantage of existing infrastructure—public transit, street networks, pedestrian paths, bicycle networks, services and amenities, and existing utilities, such as electricity, water, gas, and sewage.

The previously developed site features connectivity to basic services in the community and is located in an urban setting that is well served by the existing utility infrastructure. The site's adjacency to basic services in the community and the development density of its urban context enable the project to satisfy available approaches to Development Density and Community Connectivity credit. In addition, access to two MBTA stations, 10 local bus lines, and on-site bike storage will offer residents and visitors environmentally friendly transportation alternatives.

3.5.2 Sustainable Sites

The Sustainable Sites (SS) category rewards decisions about the environment surrounding the building, with credits that emphasize the vital relationships among buildings, ecosystems, and ecosystem services. It focuses on restoring project site elements, integrating the site with local and regional ecosystems, and preserving the biodiversity that natural systems rely on.

A storm water management plan that reduces impervious cover, promotes infiltrations and captures and treats the storm water runoff will assist in meeting Storm Water Design-Quantity credit. To achieve Heat Island Effect credits and minimize the project's impact on the creation of urban heat islands, a combination of high-albedo roofing membrane, roof top plantings, and ground level planted site areas will maximize solar reflectance and minimize heat gain.

3.5.3 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 high-efficiency plumbing fixtures for water closets, showers, and faucets.

Landscape materials will be selected that enhance sustainability and conservation of resources by virtue of sustainability to site conditions. Native and adaptive plant species will be specified in landscaped areas to reduce the requirement for irrigation in all areas and satisfy the requirements for the Water Efficient Landscaping Credit.

3.5.4 Energy and 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, and other innovative

practices. The team will use an integrated design approach in order to insure this project meets the goals of LEED in this category, in a cost effective manner.

LED, halogen or fluorescent bulbs are used in light fixtures throughout the property. These lights use much less energy, generate less heat and last longer than incandescent bulbs. The Project will meet or exceed a 20% reduction in the ASHRAE 90.1-2010 standard for Minimum Energy Performance through a variety of measures.

3.5.5 Materials and Resources

During both construction and operations, buildings generate waste and use considerable materials and resources. The Materials and Resources (MR) credit category focuses on minimizing the embodied energy and other impacts associated with the extraction, processing, transport, maintenance, and disposal of building materials. The requirements are designed to support a life-cycle approach that improves performance and promotes resource efficiency. Each requirement identifies a specific action that fits into the larger context of a life-cycle approach to embodied impact reduction.

3.5.6 Indoor Environmental Quality

The Indoor Environmental Quality (EQ) category rewards decisions made by project teams about indoor air quality and thermal, visual, and acoustic comfort. Green buildings with good indoor environmental quality protect the health and comfort of building occupants. High-quality indoor environments also enhance productivity, decrease absenteeism, improve the building's value, and reduce liability for building designers and owners. This category addresses the myriad design strategies and environmental factors—air quality, lighting quality, acoustic design, control over one's surroundings—that influence the way people learn, work, and live.

The EQ category combines traditional approaches, such as ventilation and thermal control, with emerging design strategies, including a holistic, emissions- based approach (Low-Emitting Materials credit), source control and monitoring for user-determined contaminants (Enhanced Indoor Air Quality Strategies credit), requirements for lighting quality (Interior Lighting credit), and advanced lighting metrics (Daylight credit).

During construction, an indoor air quality management plan will be implemented to prevent contamination of mechanical systems and absorptive materials. Additionally, in its selection of materials incorporated into the building it will provide for a high level of emissions reduction by the use of certified Low-Emitting Materials for Adhesives and Sealants, Paints, Carpet and Composite Wood.

3.5.7 Innovation and Design Process

Occasionally, a strategy results in building performance that greatly exceeds what is required in an existing LEED credit. Other strategies may not be addressed by any LEED prerequisite or credit but warrant consideration for their sustainability benefits. In addition, LEED is most effectively implemented as part of a cohesive team, and this category addresses the role of a LEED Accredited Professional in facilitating that process. The project will achieve additional credit points for meeting the USGBC pilot credit for "Design for Active Occupants".

3.5.8 Regional Priority

Because some environmental issues are particular to a locale, volunteers from USGBC chapters and the LEED International Roundtable have identified distinct environmental priorities within their areas and the credits that address those issues. These Regional Priority credits encourage project teams to focus on their local environmental priorities. USGBC established a process that identified six RP credits for every location and every rating system within chapter or country boundaries.

3.6 Urban Design Drawings

The Proposed Project's urban design drawings and perspectives are contained in **Appendix A** and include:

A-0 Cover Sheet
A-1.1 Proposed Floor Plans – First Floor
A-1.2 Proposed Floor Plans – Second and Third Floor
A-1.3 Proposed Floor Plans – Fourth and Fifth Floor
A-1.4 Proposed Floor Plans – Sixth Floor and Roof
A-2.1 Proposed Elevations – Front
A-2.2 Proposed Elevations – Rear and Sides

4.0 TRANSPORTATION ANALYSIS

1. Introduction

The purpose of this report is to evaluate the transportation impacts of the proposed development at 301 Border Street in East Boston per the requirements of the Boston Redevelopment Authority's (BRA) Article 80 zoning process.

The proposed project includes a redevelopment and re-use of the project site, by upgrading the existing facilities of an auto shop and introducing a new residential development with accompanying integrated site, landscape, vehicular, and pedestrian access measures and improvements. The vision is to replace the existing garage and window tinting facility with a residential building that will add new housing in increasingly popular East Boston. The scope and scale of the proponent's residential program is also intended to further the residential policy goals of Boston Mayor Martin J. Walsh's 2030 Housing Plan.

East Boston continues its evolution and growth towards a primarily residential area, but with an increased focus on multi-family buildings. The proposed project is consistent with trends in the immediate neighborhood: 248 Meridian Street and Boston East are just some of the nearby projects also adding similar new housing opportunities in East Boston. With convenient access to the airport, Blue Line, local bus routes, and pedestrian and bicycle facilities, the proposed residential building will add needed supply to the City's housing stock in dense, transit adjacent areas. Site improvements will further enhance the walking and pedestrian environment for both residents and the students of the Mario Umana Academy, which serves kindergarten to 8th grade students.

1.1 Project Description

The proposed project consists of approximately 77,000 gross square feet of new floor area on six stories that will:

- Raze the existing auto and body shops from 301 Border Street to 315 Border Street, in addition to the adjacent surface parking lot at 321 and 323 Border Street which currently houses a used car lot.
- Replace the existing auto shops with a new 64-unit residential building of approximately 77,000 gross square feet, with a surface level parking garage for 42 vehicle spaces, a bike room with 64 interior bicycle spaces, and a gym for residents. There will additionally be commercial space for a yoga studio, including an exterior courtyard for outdoor yoga practice.

The project will also introduce overall site integration of the uses, open space and landscaping, common vehicular access, and pedestrian improvements.

The project program is summarized below in **Figure 1.**

Figure 1 Project Program

64 Unit Condominium Building	77,237 gross square feet
Studio units	1
1-bedroom units	17
2-bedroom units	37
3-bedroom units	9
Gym	684 SF +/-
Gallery/Bike Room	430 SF+/-
Parking	42 spaces + 2 car share spaces
Commercial Space (Yoga Studio)	684 SF +/- + 300 SF outdoors

The proposed project is situated within proximity to the MBTA Blue Line stations at Maverick and Airport, making it accessible for future resident commuters. As referenced, the proposed project is in proximity to numerous local parks, providing residents with significant open and green spaces to utilize. The proposed site is also within walking distance to Central Square and Maverick Square neighborhood conveniences, including shops, restaurants, drug stores, and a supermarket, to serve the new residents of the development.

The proposed multi-family residences will have a mixture of unit types and sizes, which will accommodate East Boston's diverse and growing population, including 22 one-bedroom units, 32 two-bedroom units, and 10 three-bedroom units. There will additionally be a commercial space proposed for a yoga studio that will be located on the first floor and include an exterior courtyard. The proponent understands that parking is always a concern to neighborhood residents, and proposes an at-grade parking facility that will house 42 parking spaces, including 14 regular spaces and 28 double stacked parking spaces (roughly 0.66 spaces for each proposed unit), and bike racks for 74 spaces, beyond the requirements of the Boston Transportation Department (BTD) guidelines. Parking spaces will be available to unit owners for a premium that has yet to be determined. Additionally, the proponent proposes the location of two shared cars to be located on the site.

The site circulation plan is designed to create a safe and pleasant entry to the proposed project, and features three residential entrances along Border Street. Service vehicle and a loading area access will be provided from Eutaw Street.

1.2 Study Area and Methodology

Study Area

The project site is located north of the intersection of Border Street and Lexington Street in East Boston and is currently occupied by a variety of auto and body shops (see **Figure 2**). The surrounding neighborhood is predominantly residential, with a mixture of large multi-family buildings, small multi-family buildings, and single-family homes. The project is also located across Border Street from the Mario Umana Academy, a Boston Public School serving grades K-8. The school is set back from Border Street but is accessed from internal driveways and sidewalks along Border Street. The area is a moderately dense, walkable neighborhood situated near commercial and retail districts, and well-served by MBTA bus and rapid transit service. The close proximity of public transportation and neighborhood services will help to reduce potential vehicular traffic impacts of the proposed development.

Methodology

The scope of the analysis completed herein was developed in coordination with the Boston Transportation Department (BTD) and follows the guidelines for the completion of a Transportation Access Plan (TAPA) under the Article 80 review process. This report presents an overview and evaluation of the transportation issues and analysis related to the proposed project. This analysis looks primarily at adjacent intersections and streets, but also includes a broader evaluation of the transportation network surrounding the project site. Specific intersections included for transportation analysis include:

- Border Street and Lexington Street
- Border Street and Umana Academy Driveway
- Border Street and Eutaw Street/Umana Academy Driveway
- Meridian Street and Eutaw Street
- Meridian Street and Lexington Street

1.3 Transportation Analysis Summary

The 301 Border Street project will enhance the project site, Border Street, and the local neighborhood. It is both consistent with current trends in the neighborhood and in furtherance of the residential policy goals of Boston Mayor Martin J. Walsh's 2030 Housing Plan. Moreover, the 301 Border Street project will upgrade and provide housing in the increasingly popular East Boston neighborhood.

The project also supports ongoing initiatives to enhance multi-modal access and choice throughout the City's neighborhoods by improving sidewalk and pedestrian amenities, secure and covered on-site bike parking for future residents of the building, public bicycle racks, and unbundled parking – reducing the incentives for car ownership and incenting less drive alone commuting.

Currently, all but one intersection or approach operates at Level of Service (LOS) C or better, which is well within typically accepted BTD standards. The LOS for all intersections is unaffected as compared to the No Build scenario, with minimal, negligible increases in delay shown.

The project will provide numerous enhancements including a new and more inviting street presence with landscaping, sidewalk upgrades, and fewer curb cuts and driveways that currently serve the existing businesses. With its higher density, walking and biking amenities, and proposed transportation demand management (TDM) measures (see Section 5), the project supports the growth of East Boston as a transit-rich, walkable, bikeable neighborhood. The project will add multimodal supportive infrastructure and encourage new residents to use active modes of transportation and public transit. Specific transportation enhancements include the following:

- Adding a new street-facing residential development, consistent with existing and proposed neighborhood residential uses; this will
    - Activate the street; and
    - Enhance the sense of safety on this section of Border Street
- Add a main entrance, visible and accessible to Border Street, creating a welcoming and pedestrian friendly environment; this includes replacing a fence and curb cuts with a consistent sidewalk and street trees.
- Close six existing curb cuts/driveways
- Create a new, internal driveway serving the parking and connecting to Eutaw Street
- Reconstruct the sidewalk along the site frontage
- Add an open yoga area with landscaping on Border Street, enhancing the public realm
- Provide 0.66 parking spaces per residential unit–within City guidelines-housed in an at grade garage
- Provide one electric vehicle charging station
- Provide two (2) spaces for car sharing vehicles
- Charge a premium for parking to minimize demand.
- Provide 64 bicycle parking spaces (one per unit) in a covered, secure bike room helping to promote bicycle use and convenience amongst future residents

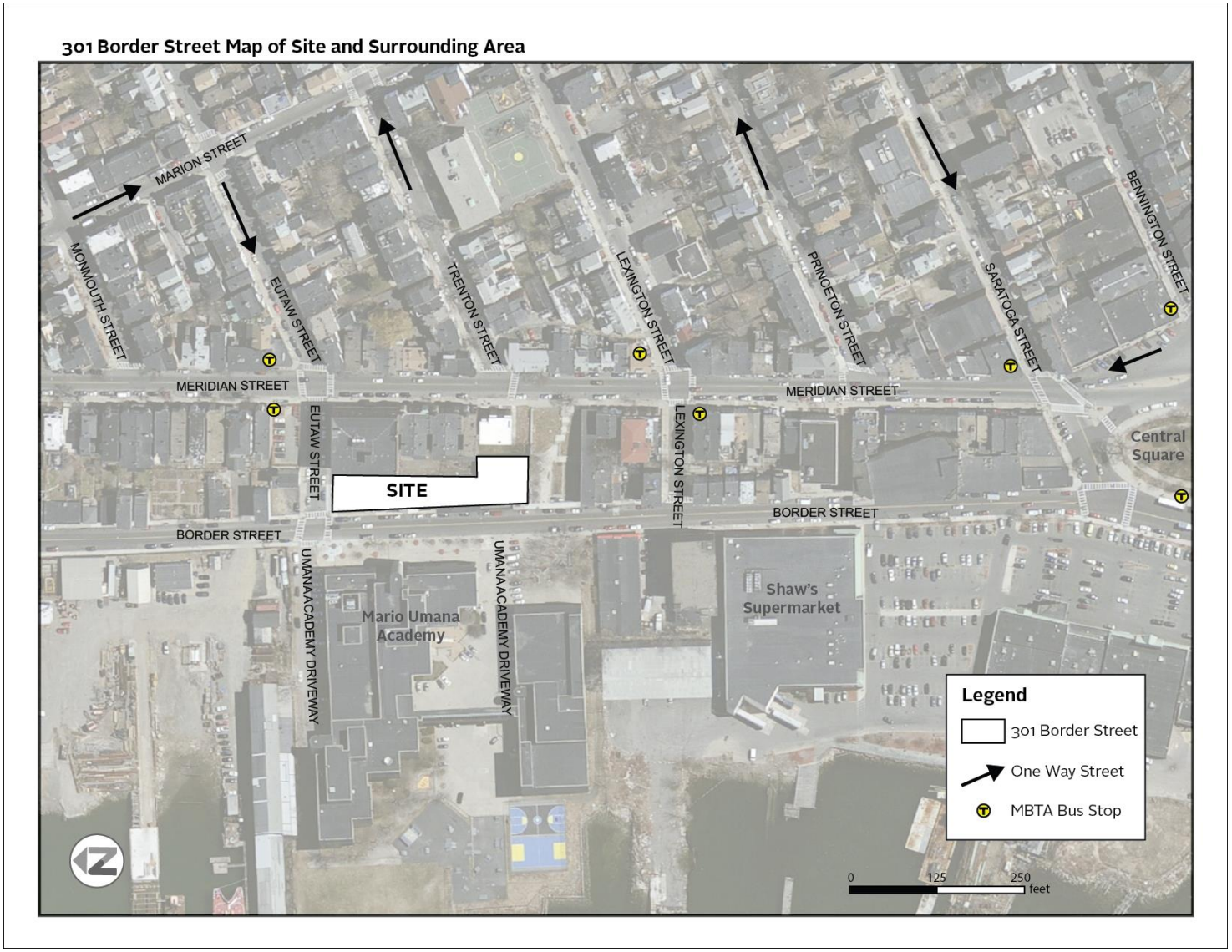
<u>Additional Off-Site Improvements</u>

The project further proposes to provide safety and accessibility improvements adjacent to the site. Adding stop control, and stop bars at key intersections will reinforce current practice, but improve safety and visibility. Crosswalk and pedestrian ramp upgrades will improve the pedestrian environment and enhance walkability for the residents, students, shoppers, and employees of the neighborhood. Proposed improvements will rectify current deficiencies and include:

- Upgrade the pedestrian ramps and crosswalks at the Border Street and Eutaw Street, intersection to meet current City and ADA standards.
    - Provide similar improvements at Border Street and the Umana Academy south driveway
    - Provide similar improvements at Border Street and Lexington Street
- Improve traffic safety with the installation of stop signs on Eutaw Street as it approaches Border Street, and at both approaches to Meridian Street.
- Create a pedestrian ramp along Eutaw Street next to existing alleyway.

- Add 13 outdoor, publicly available bike parking spaces – useful for both visitors and the public

Figure 2: Map of Site and Surrounding Area



2 EXISTING CONDITIONS

2.1 Project Site

The approximately 18,800 square foot project site is located at 301 Border Street in the East Boston neighborhood. The site comprises five parcels including several auto and body shops, and a used car lot. The proposed building will comprise over 77,000 square feet, which will include 64 new residential units, a gym, a bike room, a commercial yoga space, and a 42 space internal garage that will hold an additional two spaces for carshare vehicles. Parking spaces will be available to unit owners for a fee that has yet to be determined. The project site will include one driveway that will provide access to the car share vehicles, and a gated entrance to the garage. The driveway will be accessible on Eutaw Street with the entrance to the garage. Along Border Street the project will eliminate six curb cuts currently used by the existing businesses. Two sets of double doors will provide access to the building, as well as an additional single door, all of which will open directly onto the sidewalk along Border Street. Trees will be added to the sidewalk along this section, and on-street parking will be added along project site on Border Street.

The site is within walking distance of public transportation, restaurants, and retail. Central Square is a four-minute walk to the south, with several other commercial streets in close proximity along Meridian and Bennington streets. Each corridor provides local retail, commercial uses, and services. The site is also within a 15-minute walk of the MBTA's Blue Line which provides access to downtown Boston to the west, and to Revere and Orient Heights to the east. Adjacent properties include a community garden area located immediately south of the site, a large multi-family apartment building at 352 Meridian Street, and seven three-story residential buildings along Meridian Street.

2.2 Existing Use

The site is comprised of five parcels, and is currently occupied by two separate buildings. The first is a two-story brick building at 301-307 Border Street that houses a series of automotive businesses, as well as a religious organization. The second is a block and steel building at 315-317 Border Street that contains a collision and body shop. In addition, there is a parking lot connected to the collision center which contains a used car lot surrounded by a chain link fence. Along Border Street are six curb cuts and driveways that are used by the businesses along the proposed site. To the east of the site is an alleyway accessed from Eutaw Street that leads to an empty parcel of commercial land at the center of the block. To the south of the site is a community garden and park, while the west and north sides of the site are respectively bounded by Border and Eutaw streets.

2.3 Neighborhood Considerations

Directly to the west of the site is the Mario Umana Academy, a Boston Public School for K-8 students. Umana Academy serves as an Expanded Learning Time school with regular school hours running from 7:20 AM to 2:00 PM. The school is located on the west side of Border Street and backs up to the Mystic Channel. The school is accessible with a north driveway that opens onto the intersection of Border and Eutaw streets. This driveway serves an alleyway that employees use for parking. Additionally, the school has a south driveway that opens onto Border Street, and provides access for employees, parents, and school buses. There is a sidewalk running the distance of the school along Border Street with crosswalk connections on the south side of the school as well as at the intersection of Border Street and Eutaw Street.

A field review and traffic counts included observations and counts of the schools impacts on transportation along Border Street and nearby intersections. Area traffic counts included times during the early afternoon in order to assess the volume of vehicles related to the school. Though traffic volumes did rise during the time the afternoon dismissal, overall traffic volumes were still higher during the traditional PM peak.

In addition to traffic conditions, observations of the afternoon dismissal period were conducted in early June to better understand how traffic operated near the school. During the time around the close of the school day, cars begin to queue along the southbound part of Border Street. Some vehicles double park and wait in the traffic lane on Border Street in order to pick up children from school. These backups are typically in the southbound lane and may stretch from the school's south driveway all the way back to north of Eutaw Street. Traffic in the northbound lane additionally backs up as southbound traffic uses the other lane to move around the double parked cars. While these queues and double parked vehicles begin as early as 1:45 PM the observed queued and double parked vehicles had all dispersed by 2:20 PM.

2.4 Study Area Roadways

The following provides a description of area roadways included in the study area, as agreed with the Boston Transportation Department.

Border Street

Border Street is a two-lane, neighborhood roadway under City jurisdiction and traverses the study area in a north-south direction; beginning in the north a short distance from the McArdle Bridge to Chelsea, south towards East Boston's Central Square, and on through the square to the southwest where Border Street continues to its terminus at Sumner Street, just before Lo Presti Park. Border Street is the westernmost street in East Boston, providing access to properties and businesses along the Mystic Channel. Adjacent to the project site, Border Street provides two unmarked travel lanes with unmarked parallel parking on both sides of the street. There are eight unregulated parking spaces along Border Street next to the project site, though parking is largely not allowed next to the project site due to a number of driveways. However, the automotive businesses park vehicles along the street. Parking on the west side of Border Street is typically regulated as "2-Hours Except Resident Permit". The section of Border Street between the two

Umana Academy driveways do not allow parking between 6:00 AM and 3:30 PM on school days, and are unregulated at other times.

The curb-to-curb distance across Border Street measures at approximately 36 feet. Sidewalks are provided on both sides of Border Street with illumination by way of street lights mounted on concrete poles. Land uses along Border Street include a mix of residential, commercial, and industrial parcels along the blocks near the project site, in addition to the school directly across Border Street from the project site.

Eutaw Street

Eutaw Street is a two-lane, neighborhood residential street under City jurisdiction that begins at Umana Academy on Border Street and moves northeast towards East Boston High School. Eutaw Street intersects Border Street on the north side of the site, and it terminates to the west at the opening of the driveway for Umana Academy. Unmarked parallel parking lanes on the north and south side of the street are regulated with "2-Hours Except Resident Permit" parking. With two unmarked travel lanes, and two unmarked parking lanes, Eutaw provides a curb-to-curb distance of approximately 30 feet. Sidewalks run on both sides of the street, with crosswalks at each corner. Land use includes multiple parking lots along Eutaw Street as well as one residential building and the side entrance of a larger multi-family building which fronts on Meridian Street. Lighting is provided by street lights mounted on concrete poles.

Meridian Street

Meridian Street is a minor arterial and neighborhood connector street under City jurisdiction that operates as a north/south two-way from the McArdle Bridge, which connects to Chelsea, southward through Central Square before terminating at Maverick Square. It includes two travel lanes and two lanes of on-street parallel parking with an approximately 39' curb to curb distance. The northbound lane on Meridian Street includes a 5' wide bicycle lane between Central Square and White Street, and a 7' parking lane next to the curb. South of White Street the southbound lane is marked as a sharrow with an unmarked parking lane along the curb. North of White Street there is a marked bike lane in the southbound lane and a marked parking lane, and a sharrow in the northbound lane with an unmarked parking lane. For much of Meridian Street, on-street parking regulations are "2-Hours Except Resident Permit". Sidewalks are present on both sides of the street, with crosswalks at all intersections in the study area. All bus routes in the study area operate along Meridian Street. Meridian Street contains a mix of residential and commercial land uses.

Lexington Street

Lexington Street between Meridian Street and Border Street is a two-way private street open to public travel, while east of Meridian Street it is a two-way public street. Lexington Street is a neighborhood residential street that begins at its intersection with Border Street and moves northeast through the Eagle Hill neighborhood before terminating at Eagle Street. Lexington Street includes two unmarked travel lanes and two unmarked parallel parking lanes, with a curb to curb distance of 29'. Parking is largely unregulated along Lexington closest to the project site, though it includes 15 minutes for pick-up and drop-off parking from 8:00 AM to 6:00 PM, as well as ADA parking. East of Meridian Street

parking is regulated as "2-Hours Except Resident Permit". Sidewalks are on either side of Lexington Street with crosswalks between all corners at the intersection of Meridian Street. The intersection with Border Street only has a crosswalk across Lexington Street, with a crosswalk across Border Street north of the intersection. No buildings have their front on this section of Lexington, though adjacent parcels have a mix of residential and commercial land uses.

Umana Academy Driveway

Umana Academy has two driveways that serve the school. The north driveway is at the terminus of Eutaw Street into Border Street and offers access to an alley that school employees use to park. The driveway has a 23' wide entrance which opens directly onto Border Street. The south driveway is the main entrance to the school and offers parking access to cars. The south driveway does not connect directly across from another street but opens directly onto Border Street with a 20' entrance. It is additionally a short distance north of a midblock crosswalk that connects the school to the community garden on the east side of Border Street.

2.5 Study Area Intersections

Below is a discussion of the area intersections that are adjacent to the site or to the site block. These intersections have been selected due to potential impacts from the proposed project. For a diagram of existing traffic controls please see **Figure 3.**

Border Street and Eutaw Street/Umana Academy North Driveway

The intersection of Border Street and Eutaw Street is an unsignalized T intersection, with Eutaw Street terminating at Border Street, though with additional access to the intersection by the Umana Academy north driveway. There are no stop signs at any approach to the intersection. Border Street and Eutaw Street are two-lane, and bi-directional. Vehicles enter the intersection from three approaches: Border Street northbound, Border Street southbound, and Eutaw Street westbound. Vehicles also enter the intersection from the school driveway moving eastbound. All approaches allow for uncontrolled movements from any of the intersection approaches. The school driveway is accessible via a 24' curb cut. Sidewalks and pedestrian ramps exist at all four corners of the intersection, but not all are accessible or up to code. There are crosswalks across all three intersection approaches as well as across the school driveway. Parking is available on each side of the intersection no matter the approach, though with varying time regulations.

Border Street and Umana Academy South Driveway

Border Street intersects with the Umana Academy south driveway at an unsignalized and unsigned T intersection, directly across from the proposed project site. Border Street is a two-lane and bi-directional street. The Umana Academy driveway has its entrance and exit onto Border Street, allowing for three approaches for vehicles to enter the intersection: Border Street northbound, Border Street southbound, and eastbound driveway traffic. There are no traffic controls at any intersection approach. Sidewalks are present along Border Street, with a crosswalk approximately 50' south of the driveway entrance. The crossing has an accessible pedestrian ramp on the east (site) side, but no

associated ramp on the side of the Umana Academy. Parking is only available on the west side of Border Street north of the driveway entrance, though with time restrictions.

Border Street and Lexington Street

Border Street and Lexington Street is an unsignalized T intersection with Lexington Street terminating at Border Street. There is also access to the intersection from B.D.'s Discount Furniture Store driveway which is slightly offset from Lexington Street. Both Border Street and Lexington Street have two travel lanes, with bi-directional traffic. There are three approaches to the intersection: Border Street northbound, Border Street southbound, and Lexington Street westbound. In addition, there is the furniture store driveway for westbound vehicles. Only the westbound traffic on Lexington Street is stop controlled. Sidewalks exists along all sides of both Border Street and Lexington Street. The furniture store driveway creates a 52' curb cut on the sidewalk along the west side of Border Street. There is no crosswalk across Border Street at this intersection, with one crosswalk across Lexington Street with pedestrian ramps at both sides. Parking is allowed on both sides of each street, and on other side of the intersection along Border Street.

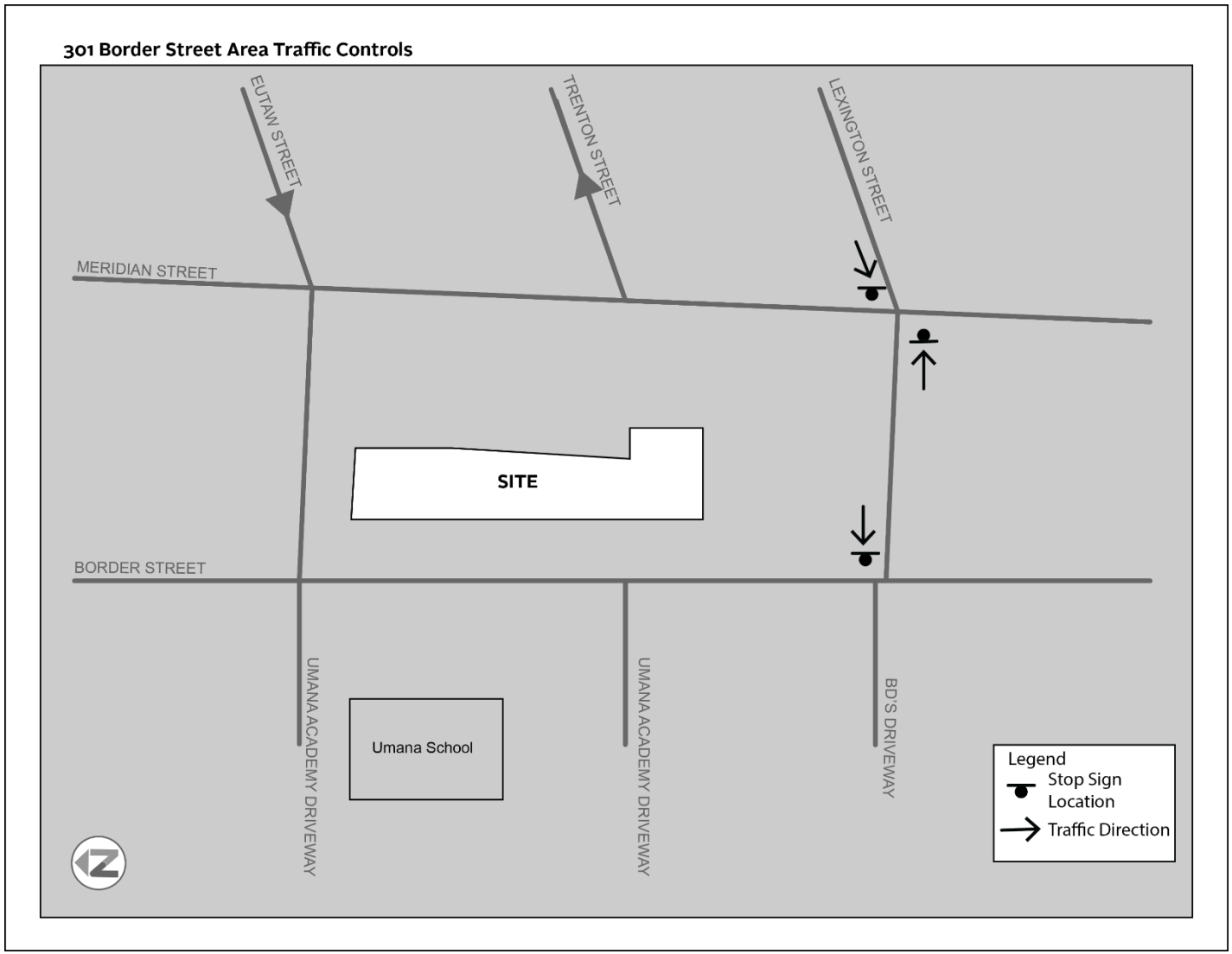
Meridian Street and Lexington Street

Meridian Street and Lexington Street is an unsignalized four-way intersection with traffic entering from four approaches: Meridian Street northbound and southbound, and Lexington Street eastbound and westbound. The Meridian Street approaches are uncontrolled, while both Lexington Street approaches are stop-sign controlled. There are no turning restrictions for this intersection. Both Meridian Street and Lexington Street allow two-way traffic on either side of the intersection. Sidewalks are present along both sides of each street for either side of the intersection. Crosswalks are present across each street's intersection approach, and one pedestrian ramp is present at each intersection corner. Along Meridian Street parking is allowed on the southeast and northwest sections of the intersection. Northeast of the intersection along Meridian Street there is a no parking section, and to the southwest there is an MBTA bus stop. Along Lexington Street parking is allowed along either side of the intersection, except for northeast of the intersection where there is an MBTA bus stop.

Meridian Street and Eutaw Street

Meridian Street and Eutaw Street is an unsignalized four-way intersection with traffic entering from four approaches: Meridian Street northbound and southbound, and Eutaw Street eastbound and westbound. Meridian Street is a two-lane and bi-directional street. Eutaw Street is a one-way westbound street east of the intersection, and is a two-way and bi-directional street west of the intersection. The Meridian Street approaches are uncontrolled, and neither Eutaw Street approaches have stop signs. Turning is not allowed onto Eutaw Street east of the intersection from any approach. All other turning movements are allowed. Sidewalks are present along both sides of each street for either side of the intersection. Crosswalks are present across each street's intersection approach, and one pedestrian ramp is present at each intersection corner. Parking is allowed along Meridian Street south of the intersection, but no parking is allowed immediately north of the intersection as there are MBTA bus stops are either side of the street. Parking is allowed on either side of the street for both approaches from Eutaw Street.

Figure 3 Area Traffic Controls



2.6 Parking

Figure 4 Area Parking Regulations

Consistent with BTD guidelines, parking was identified within a quarter-mile radius, or an approximately five-minute walk from the project site. There is significant on-street parking in the surrounding area with a "2-Hours Except Resident Permit" designation, as shown in **Figure 4**. There are however other regulations based on street locations (See **Figure 5)**.

In general, the majority of the on-street parking in the vicinity of the study area is regulated as "2-Hours Except Resident Permit," including along Border Street and Meridian Street. In the immediate vicinity of the project site, Border Street does not accommodate much parking along the project site due to driveways and curb cuts on the east side of the street. On the west side of Border Street across from the project site, parking is not allowed from 6:30 AM to 3:30 PM on school days. North and south of the project site along Border Street parking is generally allowed for "2-Hours Except Resident Permit," though with some unregulated sections of the street. Parking on side streets is not entirely regulated, and most of the neighborhood parking proximate to the study area is regulated as "2-Hours Except Resident Permit."

A detailed map of on-street parking regulations is displayed in **Figure 6**. Based on field assessments and analysis of aerials, there are approximately 13 "2-Hours Except Resident Permit" spaces along Border Street between Eutaw Street and Lexington Street, eight unregulated spaces, and 12 spaces regulated as "No Parking School Days 6:30 AM-3:30 PM" along the same section.

Along Eutaw Street between Border and Meridian there are an estimated 13 spaces regulated as "2-Hours Except Resident Permit." Approximately seven unregulated spaces are available along Lexington Street between Border and Meridian, with an additional two spaces regulated for "15 Minute 8:00 AM-3:00 PM" parking, and one ADA space. There are approximately three unregulated parking spaces along Meridian Street between Eutaw and Lexington streets, and three 15 minute spaces, though most parking along Meridian is for "2-Hours Except Resident Permit."

There are two public off-street lots within a quarter-mile of the study area along Bennington Street and London Street. These lots are owned by the City of Boston, and have 26 and 35 spaces respectively that permit two-hour unpaid parking from 8:00 AM to 6:00 PM. An additional municipal lot can be found just beyond the quarter mile radius of the project site along Porter Street, with 35 unpaid parking spaces. All other off-street parking in the immediate vicinity of the project site is either designated commercial parking, particularly for businesses along Border Street, or school parking. In addition, there are various small off-street lots in the study area for residential purposes. South of the study area there are several large parking lots for the commercial areas around East Boston's Central Square.

Figure 5 On-Street Parking Regulations - Study Area

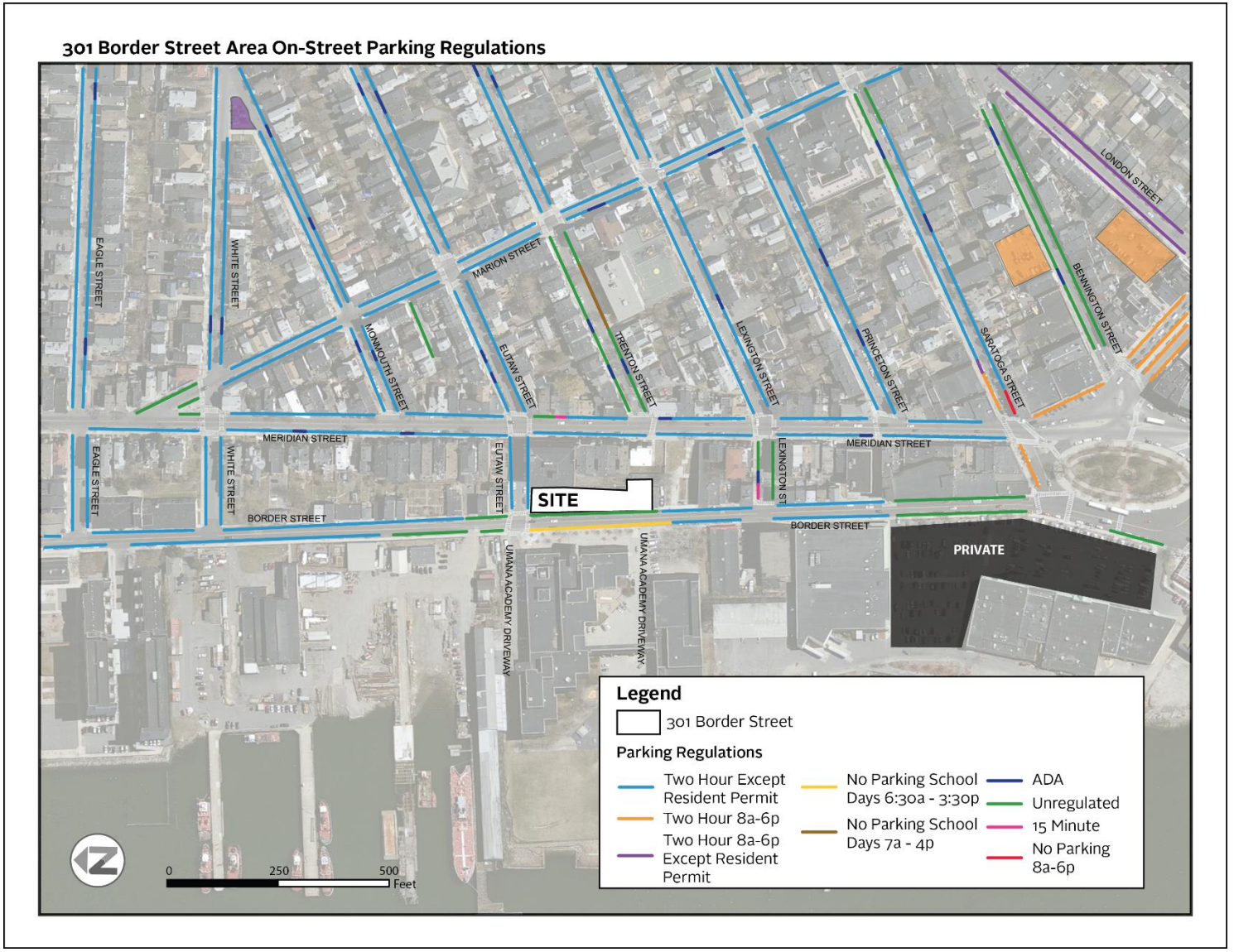
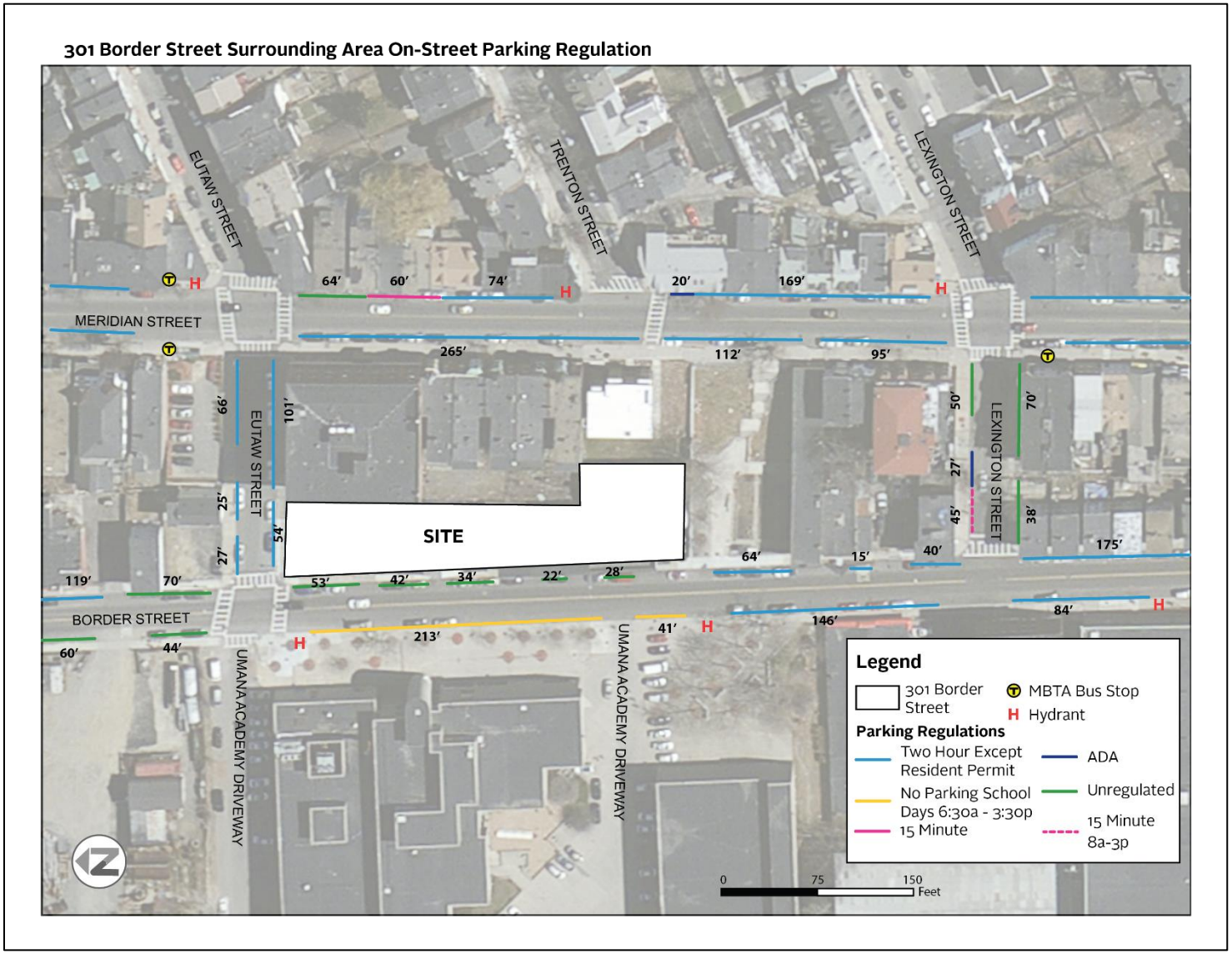


Figure 6 On-Street Parking Regulations - Adjacent Blocks



2.7 Public Transportation

Public transportation access was evaluated within a quarter and a half-mile radius of the project site. The project site is closely located to the MBTA's Routes 114, 116, and 117, with service from the MBTA's Routes 120, and 121 only a few blocks away. **Figure 7** shows that Blue Line train service is slightly beyond a half mile from the project site, but still an important connection for this part of East Boston. Routes 114, 116, and 117 provide service along Meridian Street, just a block from the project site, and offer service to Chelsea to the north, and to the Blue Line's Maverick Station to the south. The Blue Line offers service between Revere to the northeast, and downtown Boston to the southwest. The MBTA's Routes 120, which offers service between the Blue Line's Maverick and Orient Heights stations, and the Route 121, which operates between the Blue Line's Maverick and Wood Island stations, are accessible at stops near Central Square some three blocks from the project site.

Route 114

The study area and the project site are served by the MBTA's Route 114 bus. On Meridian Street there are bus stops within one block of the site for Route 114, which operates between the Blue Line's Maverick Station and Chelsea's Bellingham Square, commuter rail station, and Market Basket by way of Meridian Street and the McArdle Bridge. A northbound bus stop for Route 114 is located just east of the project site at the northeast corner of Eutaw Street and Meridian Street, while a southbound bus stop is located at the northwest corner of the same intersection. Route 114 operates between 9:00 AM and 4:16 PM on weekdays, with no service provided on Saturday or Sunday.

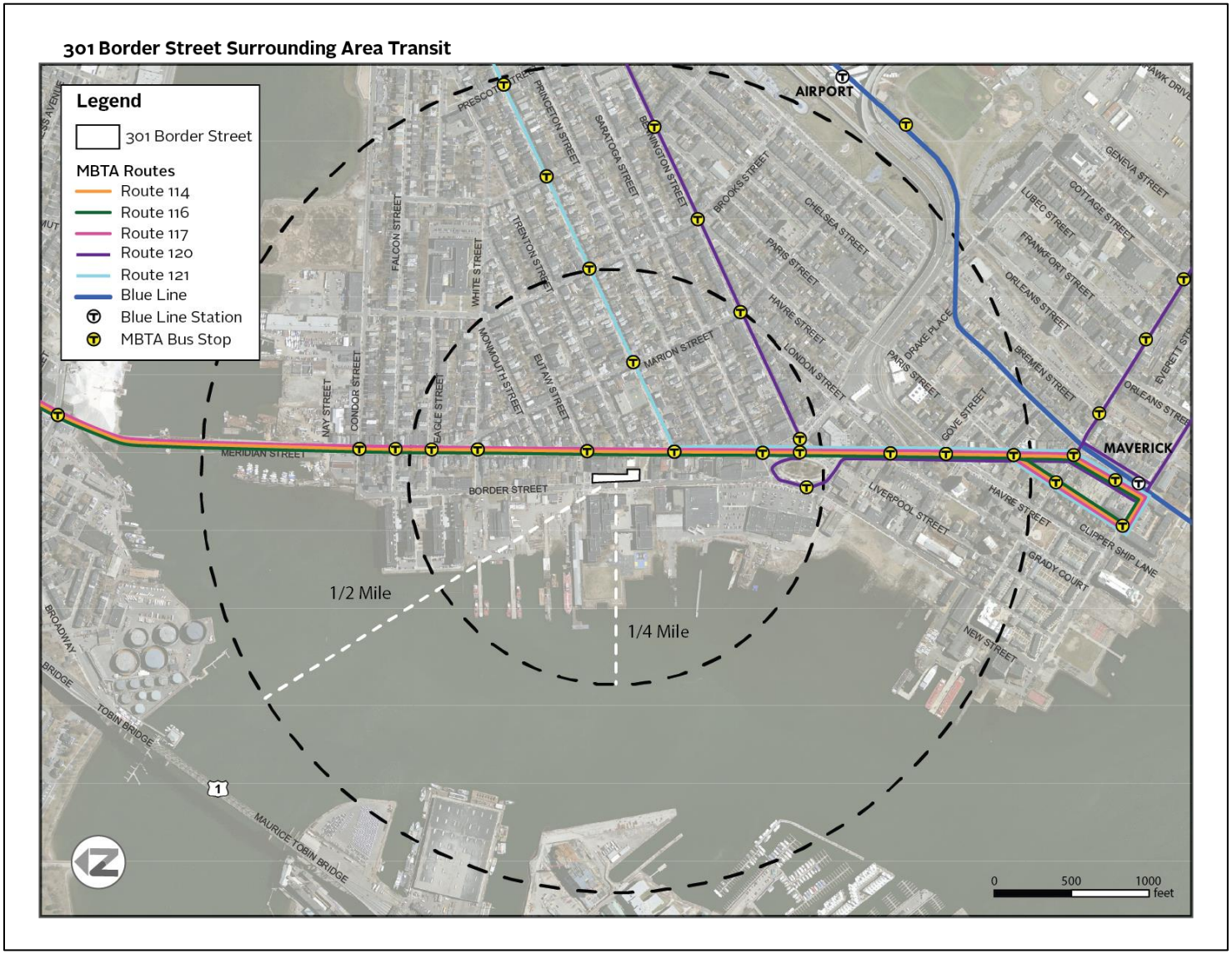
Route 116

The study area and the project site are served by the MBTA's Route 116 bus. On Meridian Street there are bus stops within one block of the site for Route 116, which operates between the Blue Line's Maverick Station, through Chelsea and Revere, and terminating at the Blue Line's Wonderland Station. A northbound bus stop for Route 116 is located just east of the project site at the northeast corner of Eutaw Street and Meridian Street, while a southbound bus stop is located at the northwest corner of the same intersection. Bus Route 116 operates between 5:15 AM and 1:20 AM on weekdays, with similar service windows provided on Saturday and Sunday.

Route 117

The study area and the project site are served by the MBTA's Route 117 bus. On Meridian Street there are bus stops within one block of the site for Route 117, which operates between the Blue Line's Maverick Station, through Chelsea and Revere, before terminating at the Blue Line's Wonderland Station. A northbound bus stop for Route 117 is located just east of the project site at the northeast corner of Eutaw Street and Meridian Street, while a southbound bus stop is located at the northwest corner of the same intersection. Bus Route 117 operates between 4:25 AM and 12:54 AM on weekdays, with similar service windows provided on Saturday and Sunday. Route 117 additionally provides limited inbound trips in the early morning between Haymarket Station in downtown Boston and Wonderland Station in Revere.

Figure 7 301 Border Street Area Public Transportation



MBTA Buses

Within a half-mile of 301 Border Street there are several MBTA bus routes serving destinations including Maverick Square, Chelsea, and Revere. Many of the routes run partially on Meridian Street which connects Maverick Square to the McArdle Bridge and Chelsea. Service typically runs every 9-18 minutes during weekday peak hours, with midday frequencies ranging from 16-50 minutes. Further detail on nearby bus service is provided below, in **Figure 8**.

Figure 8 Proximate MBTA Bus Routes

114	Bellingham Square - Maverick Station	50 Minutes. Midday service only	No weekend service
116	Wonderland Station - Maverick Station via Revere Street	16-18 Minutes/ 16-30 Minutes	25-40 Minutes
117	Wonderland Station - Maverick Station via Beach St.	9-16 Minutes/ 20-30 Minutes	30-40 Minutes
120	Orient Heights Station - Maverick Station via Bennington St., Jeffries Point & Waldemar Loop	16-25 Minutes/ 20-30 Minutes	16-60 Minutes
121	Wood Island Station - Maverick Station via Lexington Street	30 Minutes. Peak service only.	No weekend service

2.8 Pedestrian Connections

Border Street, the project environs and East Boston in general is walkable and accommodating to travel on foot. According to the Boston Transportation Department, 35% of all trips taken in East Boston are on foot. Within the study area, sidewalks are provided on both sides of all surrounding streets, with marked crosswalks across most streets at most intersections. **Figure 9** describes curb-cut locations near the site that conflict with safe and comfortable pedestrian movement by creating conflict zones with vehicles. In addition to these curb cuts, there is a curb in the sidewalk along Eutaw Street on the east side of the alleyway that is adjacent to the site, making that section of the sidewalk ADA inaccessible.

Pedestrian conditions in the area vary among the area intersections. Below is a discussion of each intersection's pedestrian and ADA conditions.

Border Street and Eutaw Street/Umana Academy North Driveway

The intersection at Border and Eutaw streets has ladder crosswalks across all approaches to the intersection, including across the driveway. Sidewalks are present along both sides of Eutaw and Border streets. Each of the four corners has a pedestrian ramp leading from sidewalk into the crosswalk. The southwest corner of the intersection has separate pedestrian ramps for each adjacent crosswalk, while the other three corners have only one ramp that is shared by the adjoining crosswalks. The pedestrian ramps on the west side of the intersection are both ADA accessible. The northeast corner pedestrian ramp does not have a tactile pad making it not up to ADA accessible. The southeast corner pedestrian ramp has the necessary elements for ADA access, however there is a large steel pole mounted utility box that sits within the breadth of the crosswalk and thus not up to ADA standards. There are no pedestrian signals at this intersection.

Border Street and Umana Academy South Driveway

The intersection at Border Street and the Umana Academy driveway has no crosswalks. The Umana Academy driveway however is at grade with the connecting sidewalks, though without any marking paint. There are small concrete bollards to prevent cars from driving onto the sidewalk. A ladder crosswalk across Border Street is located approximately 50' south of the intersection. This crosswalk has an ADA accessible ramp on the east side of Border Street, but no ramp at all on the west side of the street. There are no pedestrian signals at this intersection.

Border Street and Lexington Street

The intersection at Border and Lexington streets has one ladder crosswalk across Lexington Street, with no crosswalks across Border Street. Sidewalks are available along all pedestrian approaches to the intersection. The closest crosswalk across Border Street is north of the intersection, and described in the section above. Neither pedestrian ramp is ADA accessible given the lack of tactile pads. The southeast pedestrian ramp may additionally exceed recommended grades to meet ADA standards. The driveway at BD's Furniture Store is at grade and does not break the sidewalk along the west side of Border Street. There are no pedestrian signals at this intersection.

Meridian Street and Lexington Street

The intersection at Meridian and Lexington streets has ladder crosswalks across all approaches to the intersection, and has sidewalks along both sides of each street. A single shared pedestrian ramp is present at all four corners of the intersection, and all are nearly ADA accessible. The northeast and southwest corners have obstructions within the recommended width of the ramp space or within the width of the crosswalk. There are no pedestrian signals at this intersection.

Meridian Street and Eutaw Street

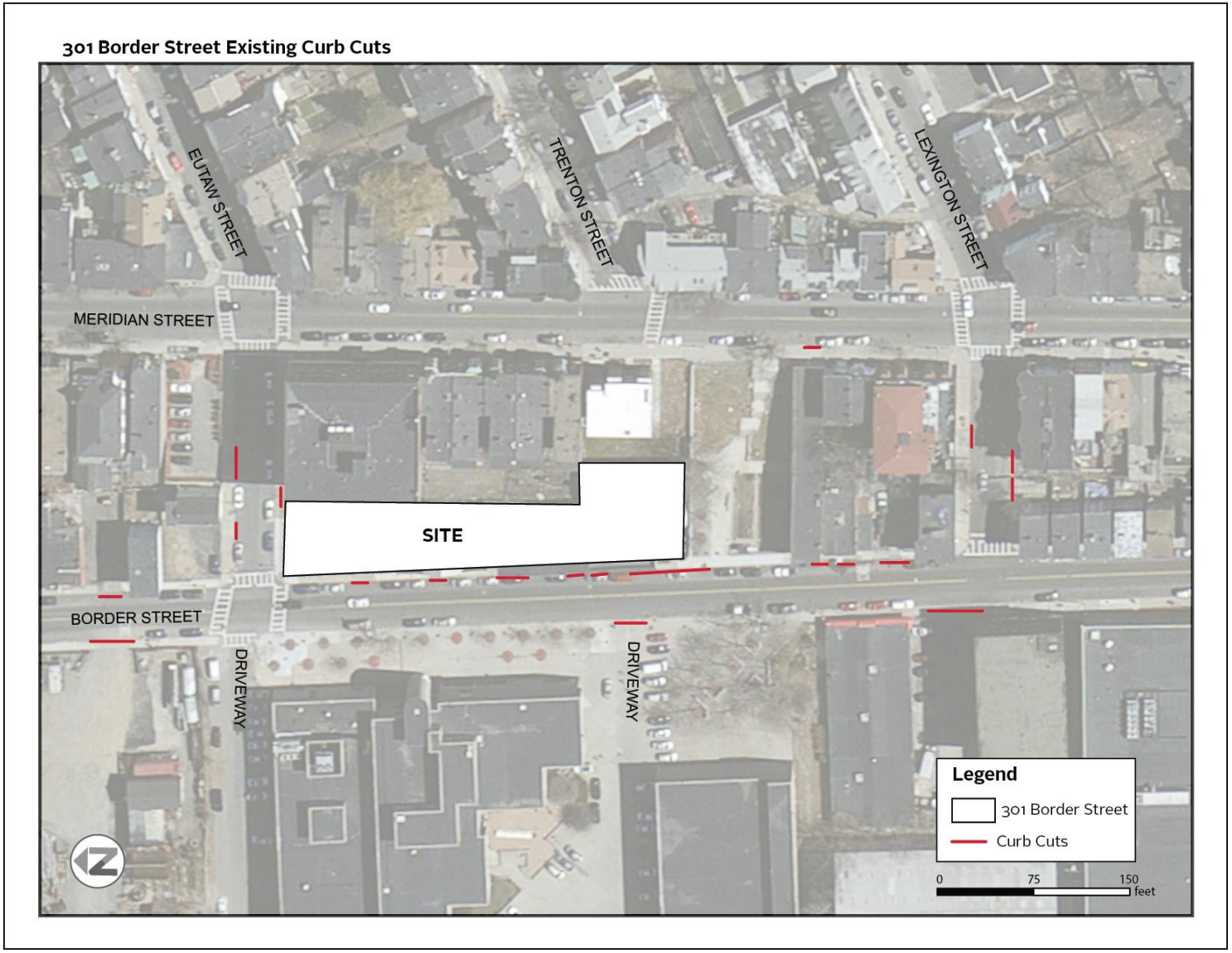
The intersection at Meridian and Eutaw streets has ladder crosswalks across all approaches to the intersection, and has sidewalks along both sides of each street. There is a single shared pedestrian ramp at each intersection corner, none of which meet ADA accessibility standards due to a lack of tactile pads. The northwest pedestrian ramp, in

addition to not having direct access to Meridian Street, has too steep a grade to meet ADA recommendations. There are no pedestrian signals at this intersection.

2.9 Bicycle Connections

Within the study area, formal bicycle accommodations are provided on Meridian Street and are marked by sharrow pavement markings on the southbound side, and a marked bicycle lane on the northbound side for the section of the street south of White Street. North of White Street, there is a marked southbound bicycle lane and a sharrow on the northbound side of the street. Border Street appears to provide sufficient width (combined travel lane and shoulder, where present) to support bicycle travel in a shared travelled-way configuration. Hubway, the bicycle sharing system for the City of Boston, currently does not have any stations in East Boston. No bicycle parking was identified in the area, except at the Mario Umana Academy.

Figure 9 Existing Site Curb Cuts



3 TRAFFIC CAPACITY ANALYSIS

The following traffic capacity analysis was conducted to create a detailed baseline understanding of the existing transportation conditions in the study area. The scope of the analysis was confirmed with the Boston Transportation Department.

3.1 Existing Conditions Analysis

In order to document existing traffic patterns and levels, vehicle, pedestrian, and bicycle turning movement counts (TMCs) were conducted on Wednesday, June 15, 2016 at five study intersections proximate to the proposed 301 Border Street project site:

- Border Street at Eutaw Street/North Driveway
- Border Street at South Driveway
- Border Street at Lexington/BDs Driveway
- Meridian Street at Eutaw Street
- Meridian Street at Lexington Street.

Counts included heavy vehicles and cars, and pedestrians and bicyclists were recorded from 7:00 AM to 9:00 AM and 1:30 PM to 5:30 PM. The afternoon data collection was intended to capture a midafternoon peak representing the end of the school day at Umana Academy in addition to typical afternoon peak commute time. That said, the latter peak showed overall greater traffic volumes than the midafternoon peak and was used for analysis included in this submittal.

The morning peak hour was observed between 7:00 and 8:00 AM for all study intersections. The PM peak hour ran from 4:30 to 5:30 PM, with the exception of Border Street at the Umana Academy South Driveway, which experienced its peak from 4:15 to 5:15 PM.

These volumes are depicted in **Figure 10**, **Figure 11** and **Figure 12**. Full, complete traffic count data, including the school hours, are provided in the Transportation Appendix of this report. The analysis herein documents patterns in volumes and turning movement counts on study area intersections. The existing conditions network was then used as baseline to create the 2021 No-Build scenario and Build scenarios also documented herein.

3.2 Existing Traffic Volumes

Vehicles

Vehicle volumes within the study area are relatively low and typical of neighborhood streets with no approach showing more than 500 peak hour vehicles. As shown in **Figure**

10, neighborhood residential streets in the study area carry lower volumes of vehicular traffic compared to Border and Meridian streets. Border Street has volumes between 120 and 300 vehicles per peak period. Southbound traffic volumes are higher in the AM peak period, while northbound traffic volumes are higher in the PM peak period. Meridian Street, a minor arterial and neighborhood connector, serves over 300 vehicles in each direction in both the AM and PM peak periods. Southbound traffic volumes on Meridian Street are higher in the AM peak period, and northbound traffic volumes are higher in the PM peak period. Overall, Meridian Street experiences higher volumes over the PM peak than the AM peak.

Of the local residential streets, Lexington Street carries higher volumes with between 50-70 vehicles in either direction moving between Meridian and Border streets per peak period (both AM and PM), and even higher volumes for the portion of Lexington Street east of Meridian Street. Westbound volumes on Lexington Street are higher in the AM peak than the PM peak. Eastbound volumes on Lexington vary their peak according to the street section. Eutaw Street serves fewer vehicle volumes than Lexington Street, particularly between Meridian and Border streets where the proposed site entrance is located. Volumes along this section of Eutaw Street are higher in the AM peak period with 55-60 vehicles for both eastbound and westbound traffic. East of Meridian Street, Eutaw Street serves 60-65 vehicles for both the AM and PM peaks.

Notably, traffic volumes generated from the school peak in the early afternoon before the PM peak along Border Street. The school driveways serve fewer than 25 vehicles during the AM peak and, and have even lower volumes during the PM peak.

Bicycles

Peak hour bicycle volumes were also observed and recorded at the locations described above. The counts showed relatively low bicycle activity within the study area. The highest bicycle volumes are concentrated along Meridian Street, most frequently moving northbound in the PM peak, as well as northbound on Border Street. Currently there are few existing bicycle facilities within a half-mile radius from the site. **Figure 11** shows existing bicycle volumes by intersection for the morning and evening peak hours.

Pedestrians

Peak hour pedestrian volumes were recorded as part of the transportation counts at area intersections. As shown in **Figure 12**, pedestrian volumes in the study area are typically higher in the midday or AM peak period, likely due to pedestrian traffic related to Umana Academy. At many area intersections the PM peak has the lowest pedestrian volume of the day. The intersections along Border Street in particular have considerably high pedestrian volumes.

3.3 Existing Traffic Capacity

To assess the traffic operations at study area intersections, turning movement counts and volumes were compiled and evaluated utilizing the procedures outlined by the 2010 Highway Capacity Manual (HCM), and reported in accordance with BTD's standards for transportation impact analysis. Each intersection within the study area was analyzed with summary results for Level of Service (LOS), reporting the summary vehicular delay with a

letter grade A to F. In addition, reported in this section is volume to capacity ratio (V/C), the stop time delay in seconds and the 50th and 95th percentile queue lengths in feet. The intersection capacity analysis worksheets are provided in the Appendix of this report. A summary chart of the results of this analysis is shown in **Figure 13** below.

As shown in **Figure 13**, each approach at the unsignalized intersections operate at either LOS C or better, with minimal delay and queue lengths. In both the AM and PM peak periods, all approaches operate at LOS C or better, which is notable in an urban environment. All anticipated traffic queues are estimated at fewer than 40 feet, with at most a 25 second delay at the intersection.

Figure 10 Existing Peak Hour Vehicle Volumes

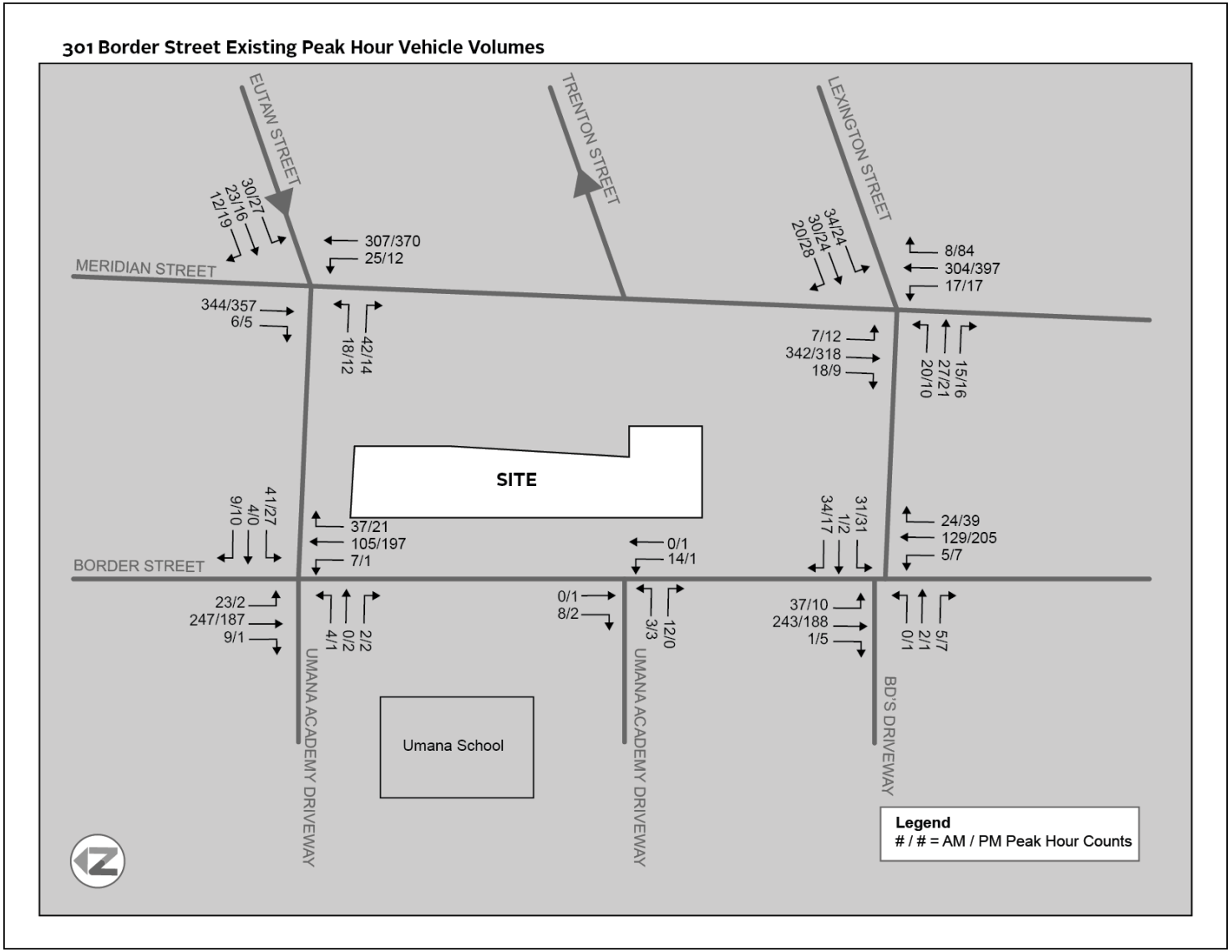


Figure 11 Existing Peak Hour Bicycle Volumes

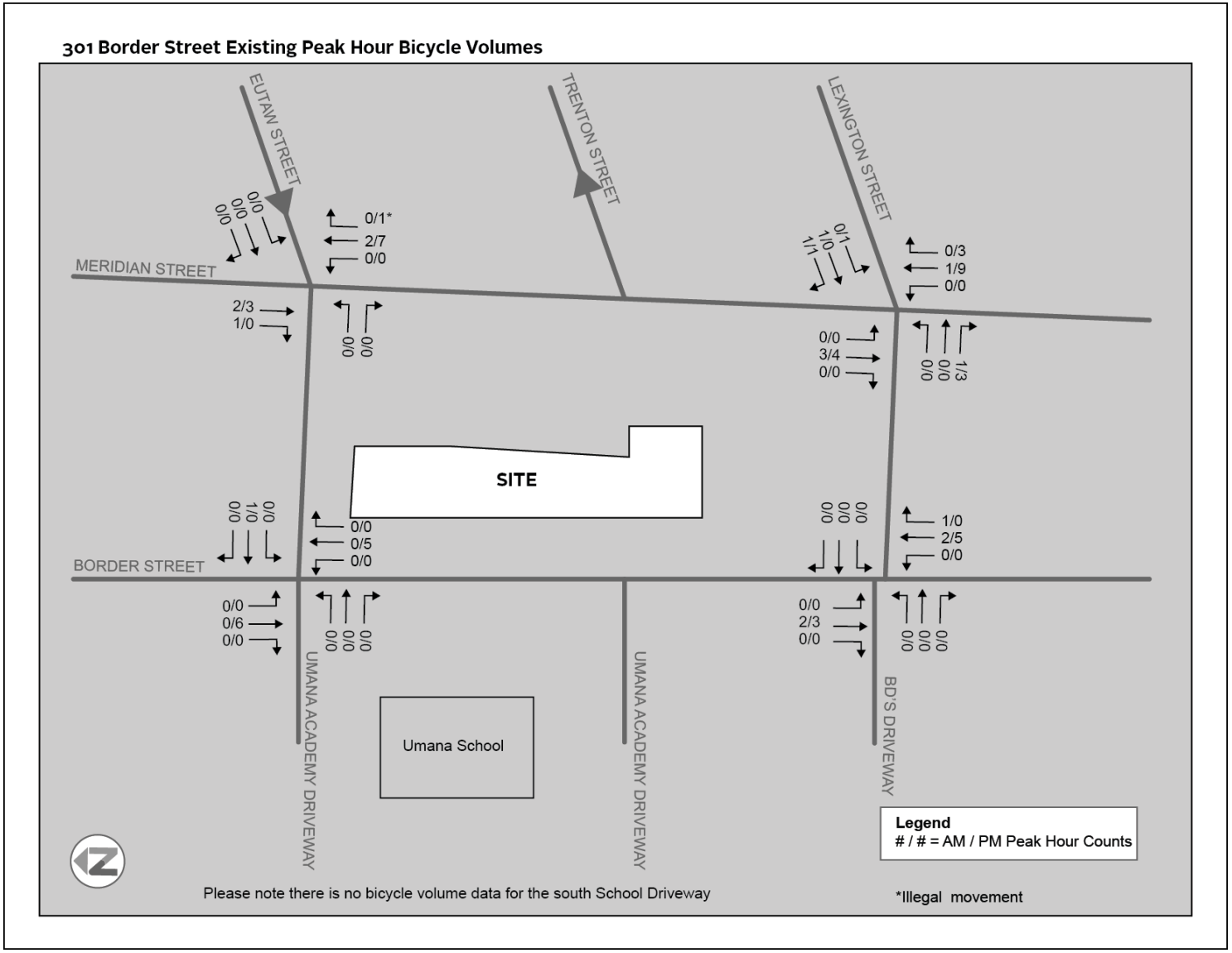


Figure 12 Existing Peak Hour Pedestrian Volumes

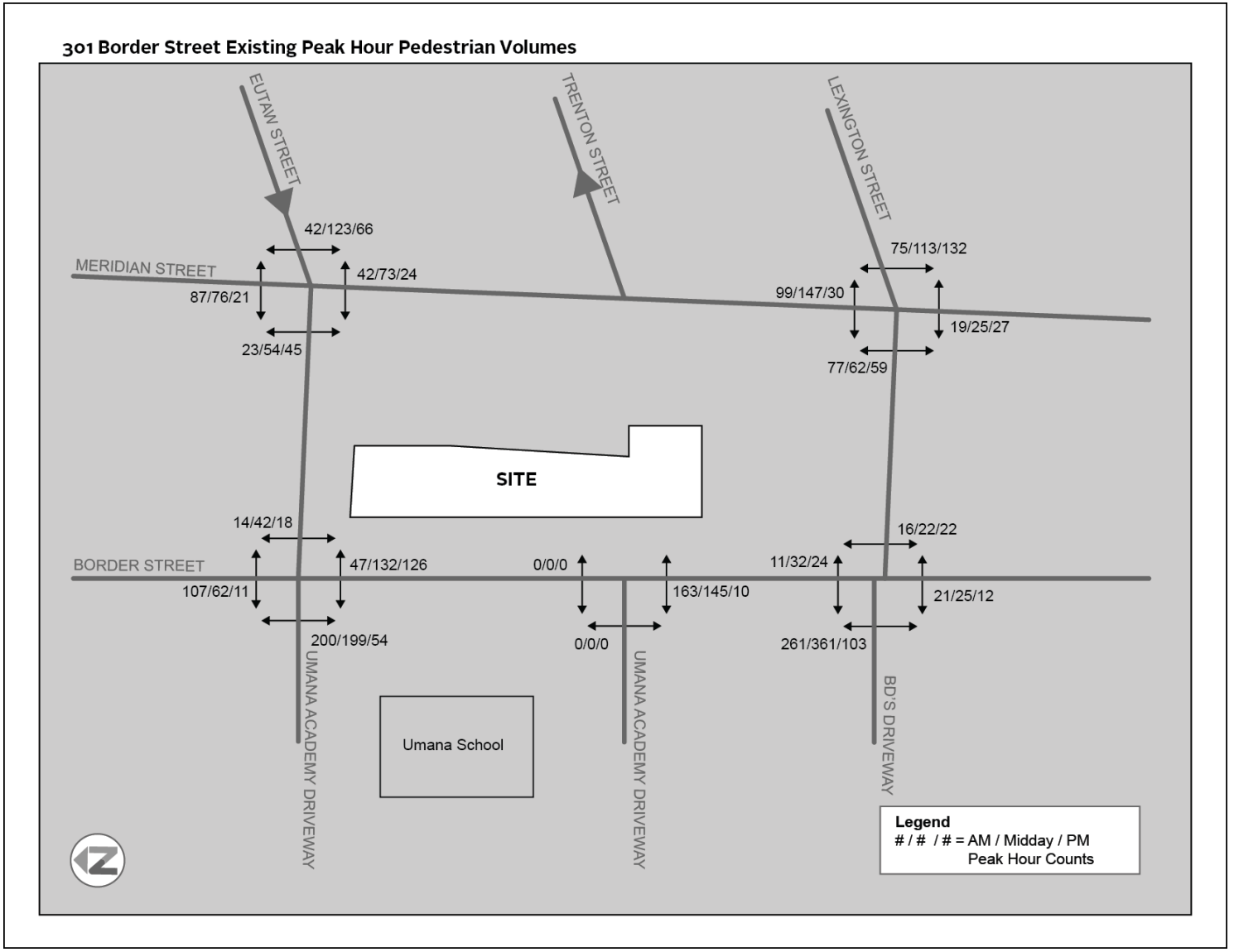


Figure 13 Existing Level of Service Summary

Intersection	AM Peak Hour				PM Peak Hour			
	LOS	Delay	V/C	Queue 95th	LOS	Delay	V/C	Queue 95th
Border Street at Eutaw Street/Umana North Driveway								
Border. NB	A	0.9	0.02	2	A	0	0.00	0
Border. SB	A	1.5	0.05	4	A	0.2	0.00	0
Umana EB	C	21.4	0.08	7	B	11.4	0.03	2
Eutaw WB	C	24.4	0.34	37	B	1.1	0.09	7
Border Street at Umana South Driveway								
Border. NB	A	1.1	0.03	2	A	0.1	0.00	0
Border. SB	A	0	0.25	0	A	0	0.18	0
Umana WB	B	11.8	0.07	5	B	10.9	0.01	1
Border Street at Lexington Street/Access Drive								
Border. NB	A	0.5	0.01	1	A	0.5	0.01	1
Border. SB	A	1.8	0.05	4	A	0.6	0.01	1
Access EB	B	14.9	0.02	2	B	11.4	0.20	3
Lexington WB	B	13.1	0.18	16	B	12.0	0.12	10
Meridian Street at Lexington Street								
Meridian. NB	A	0.7	0.02	2	A	0.7	0.03	2
Meridian SB	A	0.3	0.01	1	A	0.7	0.02	2
Lexington EB	C	18.8	0.28	28	C	17.9	0.20	19
Lexington WB	C	19.0	0.31	33	C	20.7	0.31	32
Meridian Street at Eutaw Street								
Meridian. NB	A	1.2	0.04	3	A	0.5	0.02	1
Meridian SB	A	0	0.27	0	A	0	0.25	0
Eutaw EB	B	14.0	0.20	19	B	13.5	0.09	8
Eutaw WB	C	17.7	0.28	29	C	15.5	0.20	18

4 EVALUATION OF LONG-TERM IMPACTS

4.1 Future No Build Conditions (2021)

To provide a baseline comparison for the project impacts of the proposed 301 Border Street development, a future "no-build" analysis was conducted for a five-year timeframe in accordance with BTD requirements. This process entailed creating a forecast network for the year 2021 that builds upon the existing traffic conditions as outlined previously. Following BTD's guidelines for the development of a No Build scenario, this analysis takes into account other permitted area developments, planned infrastructure changes, and a background growth rate. Projects included in the analysis below were used for the development of the No Build scenario were selected in consultation with BTD.

Adjacent Developments

The East Boston neighborhood has seen the completion and proposal of several new developments in the area near Central Square, just a few blocks south of the project site. Below are short descriptions of recently completed or proposed projects near 301 Border Street. Future traffic volumes projected by the developments below were added to the traffic network analysis for this project.

- **Residential Development, 248 Meridian Street, East Boston, Massachusetts:** A 66-unit residential community with 44 parking spaces located at 248 Meridian Street, in East Boston, Massachusetts. This project is currently under construction.
- **Residential Development, 41-43 Saratoga Street, East Boston, Massachusetts:** An 18-unit residential building with 10 parking spaces at 41-43 Saratoga Street in East Boston, Massachusetts. This project has completed construction.
- **Residential Development, 151 Liverpool Street, East Boston, Massachusetts:** The development of a new residential building to provide 24 residential units, and parking for 35 vehicles. This project is under review by the BRA.
- **Residential Development, Boston East at 102-148 Border Street, East Boston, Massachusetts:** A 200 residential unit building with 120 underground spaces located at 102-148 Border Street along the East Boston harbor. This project is currently under construction.

Infrastructure Projects

The following infrastructure project was identified within the larger area of the project site based on information from the Boston Transportation Department (BTD):

- **East Boston Central Square Redesign:** This intersection improvement project consists of redesigning the current intersection with an improved focus on pedestrian and bicycle movements in addition to improving access for all users. The redesign is also expected to reduce congestion and improve commercial opportunities in the area.

No additional roadway or intersection improvement projects were identified, beyond routine maintenance activities by the Boston Redevelopment Authority (BRA) Capital Construction Department.

Analysis

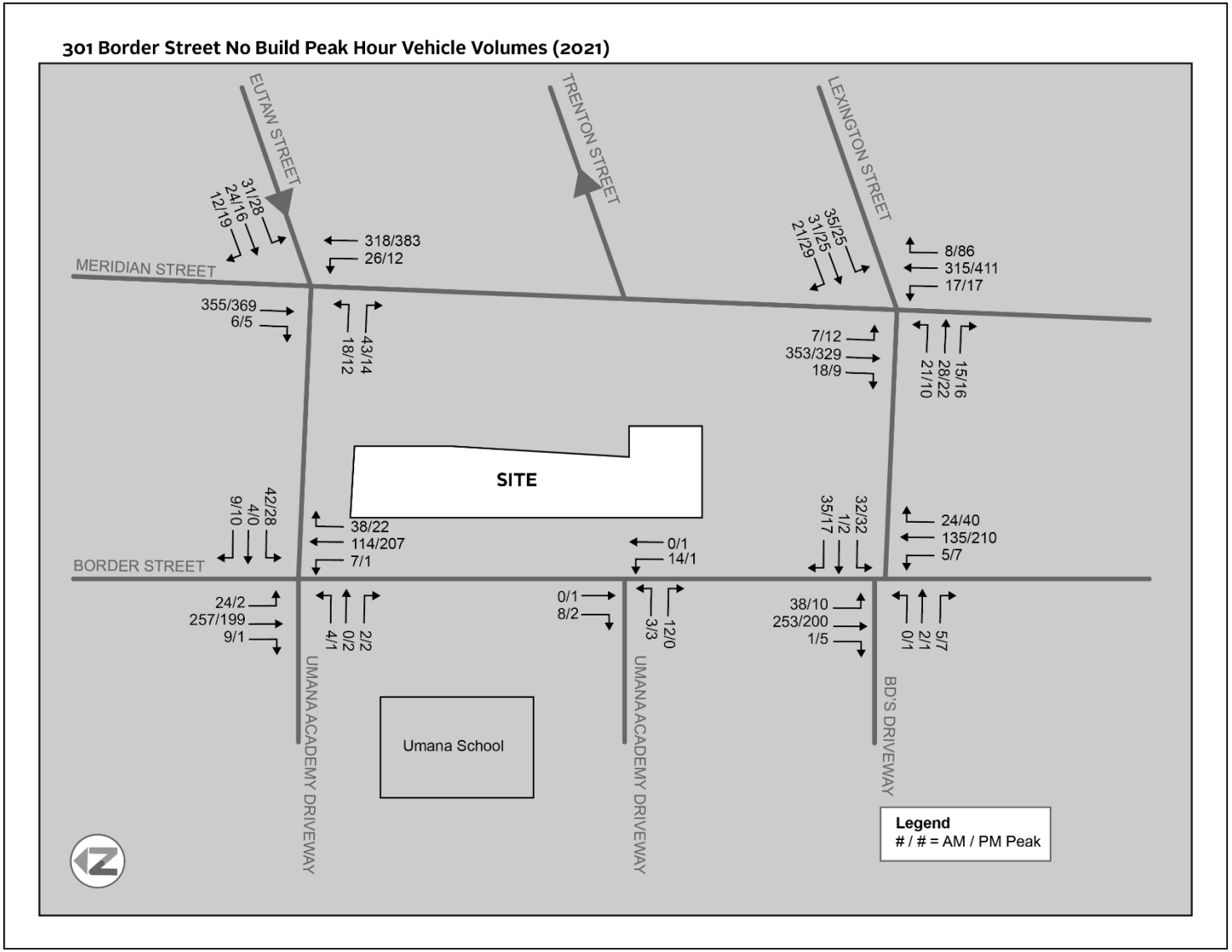
Included with the developments and changes described above, the No Build Analysis (2021) included a 0.5% annual growth rate. For the No Build (2021) condition, traffic impacts were evaluated at the following intersections:

- Border Street and Lexington Street
- Border Street and Umana Academy Driveway
- Border Street and Eutaw Street/Umana Academy Driveway
- Meridian Street and Eutaw Street
- Meridian Street and Lexington Street

4.1.1 Future No Build (2021) Volumes

Expected project generated trips from the developments described above were added to create the Future N0-Build volumes. **Figure 14** displays peak hour vehicle traffic volumes for the forecasted 2021 No-Build scenario. Vehicle volumes are anticipated to grow at 0.5% annually. Volume growth in the future no build scenario includes the added projected volumes from the project at 248 Meridian Street, and the Boston East Project at 102-148 Border Street, which had volumes shown for intersections south of the study area. These latter trips were carried through from the respective transportation analyses through the 301 Border Street study area on Border Street and Meridian Street. Volume growth is shared both along Border Street and Meridian Street.

Figure 14 No-Build Peak Hour Vehicle Volumes (2021)



4.1.2 Future No-Build (2021) Traffic Capacity

The future No-Build vehicle volumes were added to the Existing Conditions network, and again analyzed to assess the expected transportation system for the No-Build scenario. Each identified intersection was analyzed for LOS with grades on the quality of traffic from A to F, as well as the volume to capacity ratio, the stop time delay in seconds, and the 50th and 95th percentile queue lengths in feet. The intersection capacity analysis worksheets are provided in the Appendix of this report. A summary chart of the results of this analysis is shown in **Figure 15**. Among all the intersections, traffic operations for the Future No-Build scenario are largely unchanged compared to existing condition. The exceptions are for westbound along Eutaw Street at the intersection with Border Street, and the driveway access at BD's Furniture Store near the intersection of Border and Lexington streets. Nearly all approaches operate at LOS C or better. The exception is for westbound Eutaw Street at Border Street, which experiences a change in LOS from C to LOS D, despite adding only an additional second of average delay per vehicle.

Figure 15 Future No Build (2021) Traffic Operations Summary

Intersection	AM Peak Hour				PM Peak Hour			
	LOS	Delay	V/C	Queue 95th	LOS	Delay	V/C	Queue 95th
Border Street at Eutaw Street/Umana North Driveway								
Border. NB	A	0.9	0.02	2	A	0	0.00	0
Border. SB	A	1.6	0.05	4	A	0.2	0.00	0
Umana EB	C	21.9	0.09	7	B	11.5	0.03	2
Eutaw WB	D	25.3	0.36	39	B	11.2	0.09	7
Border Street at Umana South Driveway								
Border. NB	A	1.1	0.03	2	A	0.1	0.00	0
Border. SB	A	0	0.26	0	A	0	0.20	0
Umana WB	B	11.9	0.07	5	B	11.0	0.01	1
Border Street at Lexington Street/Access Drive								
Border. NB	A	0.5	0.01	1	A	0.5	0.01	1
Border. SB	A	1.8	0.06	4	A	0.6	0.01	1
Access EB	C	15.1	0.02	2	B	11.5	0.03	3
Lexington WB	B	13.3	0.18	17	B	12.1	0.13	11
Meridian Street at Lexington Street								
Meridian. NB	A	0.7	0.02	2	A	0.8	0.03	2
Meridian SB	A	0.3	0.01	1	A	0.7	0.02	2
Lexington EB	C	19.3	0.29	30	C	18.4	0.20	19
Lexington WB	C	19.5	0.32	34	C	21.3	0.33	34
Meridian Street at Eutaw Street								
Meridian. NB	A	1.2	0.04	3	A	0.5	0.02	1
Meridian SB	A	0	0.27	0	A	0	0.26	0
Eutaw EB	B	14.2	0.21	19	B	13.6	0.10	8
Eutaw WB	C	18.3	0.30	31	C	15.7	0.20	19

4.2 Build Conditions

4.2.1 Site Access and Circulation

Proposed site access and circulation will have beneficial impacts to the project site, surrounding neighborhood and all future occupants of the new residential building. The residential building will front Border Street, providing an improved sidewalk, closed curb

cuts, and streetscape improvements including street trees. The main lobby of the residential building is pulled back slightly from the property line, and a door immediately adjacent to the main entryway and lobby provides access to a covered, secure, dedicated bike room. The northernmost entrance on Border Street uses a single door to provide access to the bike room as well as to a community space room, while the south entrance will have double doors just to the side of the outdoor yoga studio.

By siting the main residential entrances on Border Street, the design team hopes to improve the safety, movement, and user perception of this portion of the street. Main entrances will connect to the residential entry, elevators, and parking facility. These multiple doorways will help provide convenient pedestrian access to the site and to the surrounding neighborhood. New sidewalks will be completed by the project along Border Street, and the overall pedestrian circulation area will be increased, benefitting not just the site, but the surrounding neighborhood.

An improved, wide curb cut on Eutaw Street will provide two-way access to the building. This entrance will be heavily treated to ensure attractiveness, safety and integration with the overall site. This driveway will be slightly west of the existing alleyway. From the garage entrance, on the interior of the site, open access will be provided to two car share vehicles, and to a resident gate for at-grade parking. An existing, additional curb cut serving the alley to the immediate east of the site will be improved for pedestrian access.

Parking spaces behind the gate will provide 42 spaces for residents. 14 regular parking spaces will be available, and additional 28 double-stacked parking spaces will also be available.

4.2.2 Trip Generation

To estimate the number of vehicle, transit, walk, and bicycle trips associated with the proposed 301 Border Street project, trip generation analysis and estimates were developed based on the most recent data presented in the ITE Trip Generation Manual, 9th Edition. The project consists of two new components, and so trip estimates were based on the ITE trip rates for Land Use 220 (Apartment), and the ITE trip rates for Land Use 492 (Health/Fitness Club). The ITE land use category and the corresponding trip rates used for analysis are shown in **Figure 16** below:

Figure 16 ITE Trip Generation Rates

	Trips per Dwelling Unit	Trips per 1000 SF
Weekday	6.65	32.93
Saturday	6.39	20.87
AM Peak Hour*	0.51	1.41
PM Peak Hour*	0.62	3.53

*Peak hour of adjacent street traffic

As compared to the standard development used in ITE analyses, the study area has a low driving rate. Thus the following analysis uses Boston Transportation Department Area 7 mode split assumptions to accurately reflect the number of trips amongst the various

modes of travel. Furthermore, the analysis also uses the average vehicle occupancy for Boston per the 2014 American Community Survey to convert vehicle trips to person trips. The current ratio is 1.08 person trips for every vehicle trip.

Figure 17 Site Generated Person and Vehicle Trips

	Entering Person Trips	Entering Vehicle Trips	Exiting Person Trips	Exiting Vehicle Trips	Total Daily Person Trips	Total Vehicle Trips
Daily Avg. Mode Shares						
Auto	124	115	124	115	248	230
Transit	39		39		78	
Walk	67		67		133	
AM Peak Mode Shares						
Auto	4	3	13	12	17	15
Transit	1		7		8	
Walk	3		8		11	
PM Peak Mode Shares						
Auto	13	12	8	7	21	19
Transit	7		2		9	
Walk	8		5		13	
Saturday Mode Shares						
Auto	119	110	133	123	252	233
Transit	38		27		65	
Walk	64		62		126	

4.3 Trip Distribution and Assignment

A trip distribution was developed characterizing the overall split of person trips by mode and then assigning the vehicle trips to the network. As shown in **Figure 17** the majority of site generated trips for all uses and time periods are person trip by automobile. Over 45% of daily site generated trips are expected to be made by transit or walking. Transit trips are additionally walking trips based on the assumption that transit riders typically travel to the nearest bus stop or train station on foot.

To determine auto trips, person trips by automobile were re-calculated into vehicle trips using the same vehicle occupancy rate used to derive overall person trips (1.08). These auto trips were then assigned to the network using the directional distribution shown in **Figure 18**. This vehicle distribution was prepared using BTD's mode share guidelines for Area 7 (East Boston) and show vehicle trip percentages between East Boston and the rest of the Boston region.

Thirty-three percent of site-generated exiting vehicle trips are assumed to move northbound on Border Street or Meridian Street in order to access to the McArdle Bridge and Chelsea, or areas further north. Conversely, nearly two-thirds of exiting vehicle trips are expected to use Border Street and Meridian Street in order to access other parts of East Boston, as well as the Williams and Sumner tunnels in order to reach the rest of Boston and the interstate system.

In turn, a majority of trips are anticipated to enter the site from the south using Border and Meridian streets, and arriving from the rest of Boston and other areas. Overall 64% of trips are expected to exit to or arrive from points accessible from Border or Meridian streets south of the project site. Thirty-three percent of all site generated trips are anticipated to use Border or Meridian streets for both entering and exiting from and to areas north of the site, while 3% of trips are expected to use a mix of Lexington, Trenton, and Eutaw streets to travel to and from areas to the east and northeast of the site. A summary of expected vehicle movements can be viewed in **Figure 19**.

4.3.1 Future Build Volumes

Using the 2021 No Build as a basis, the 2021 Build network incorporates the proposed site plan and resulting project generated traffic volumes into a new network for the AM and PM peak hours. **Figure 20** highlights the resulting traffic volumes on the network for the 2021 build year.

4.3.2 Future Build Capacity Analysis

The 2021 Future Build network was completed by adding the site generated vehicle trips to the 2021 No Build network described above. Each intersection within the study area was again analyzed for Level of Service (LOS), reporting the quality of traffic with a letter grade A to F, volume to capacity ratio (V/C), the stop time delay in seconds and the 50th and 95th percentile queue lengths. The intersection capacity analysis worksheets are provided in the Appendix of this report. A summary chart of the results of this analysis is shown in **Figure 21** below. All intersections and approaches operate at the same level as the No Build Scenario. Nearly all approaches operate at LOS C or better. The exception is for westbound Eutaw Street at Border Street, which is projected to operate at LOS D in the No Build and Build scenarios. We note that only a slight (less than one second) increase in delay is shown in the No Build, and the Build is essentially unchanged. The LOS for each approach at all signalized intersections is unaffected as compared to the No Build scenario, with minimal, negligible increases in delay. In addition to the existing network the proposed site driveway along Eutaw Street is projected to operate at LOS A, and will minimal delays.

Figure 18 Vehicles Entering and Exiting by Percentage

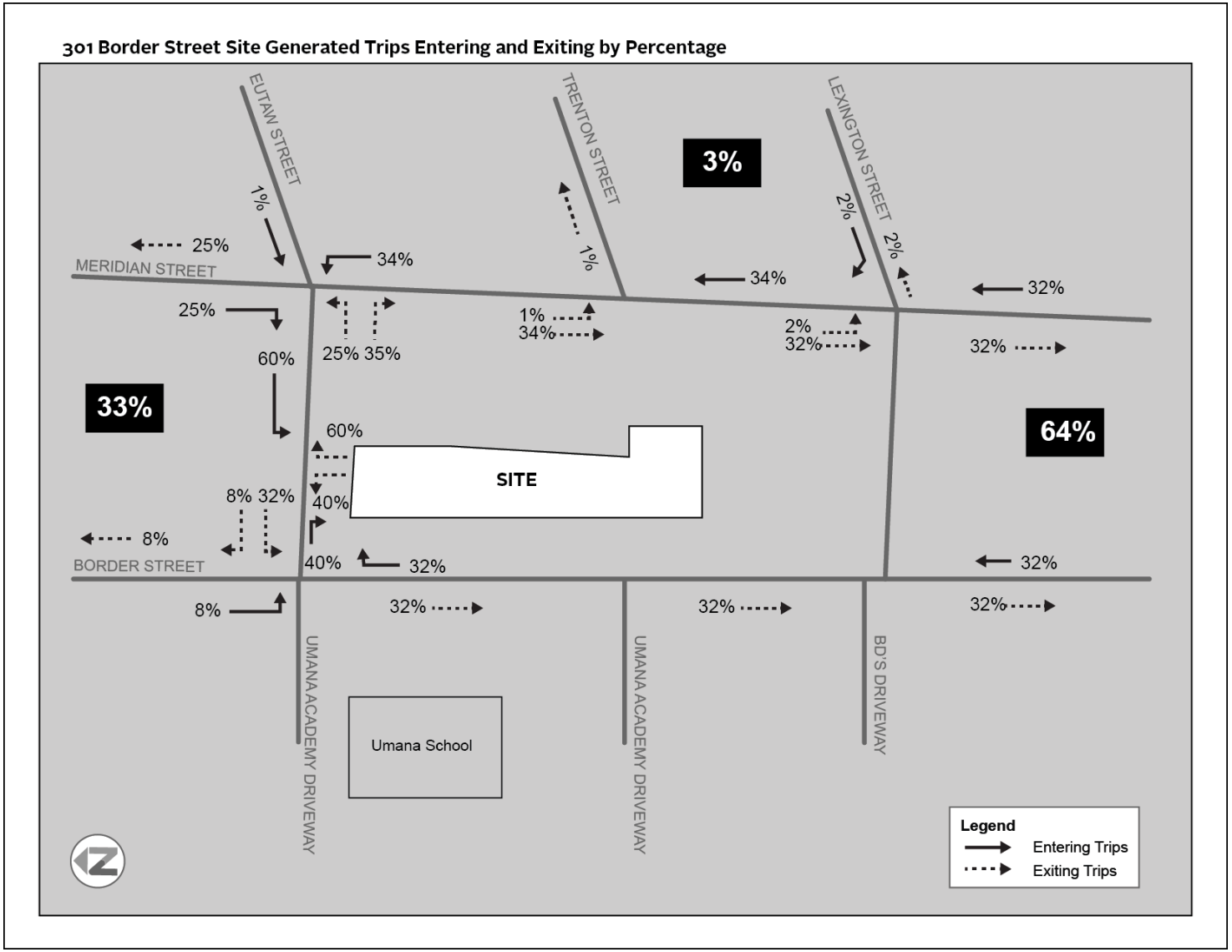


Figure 19 Site Generated Trips

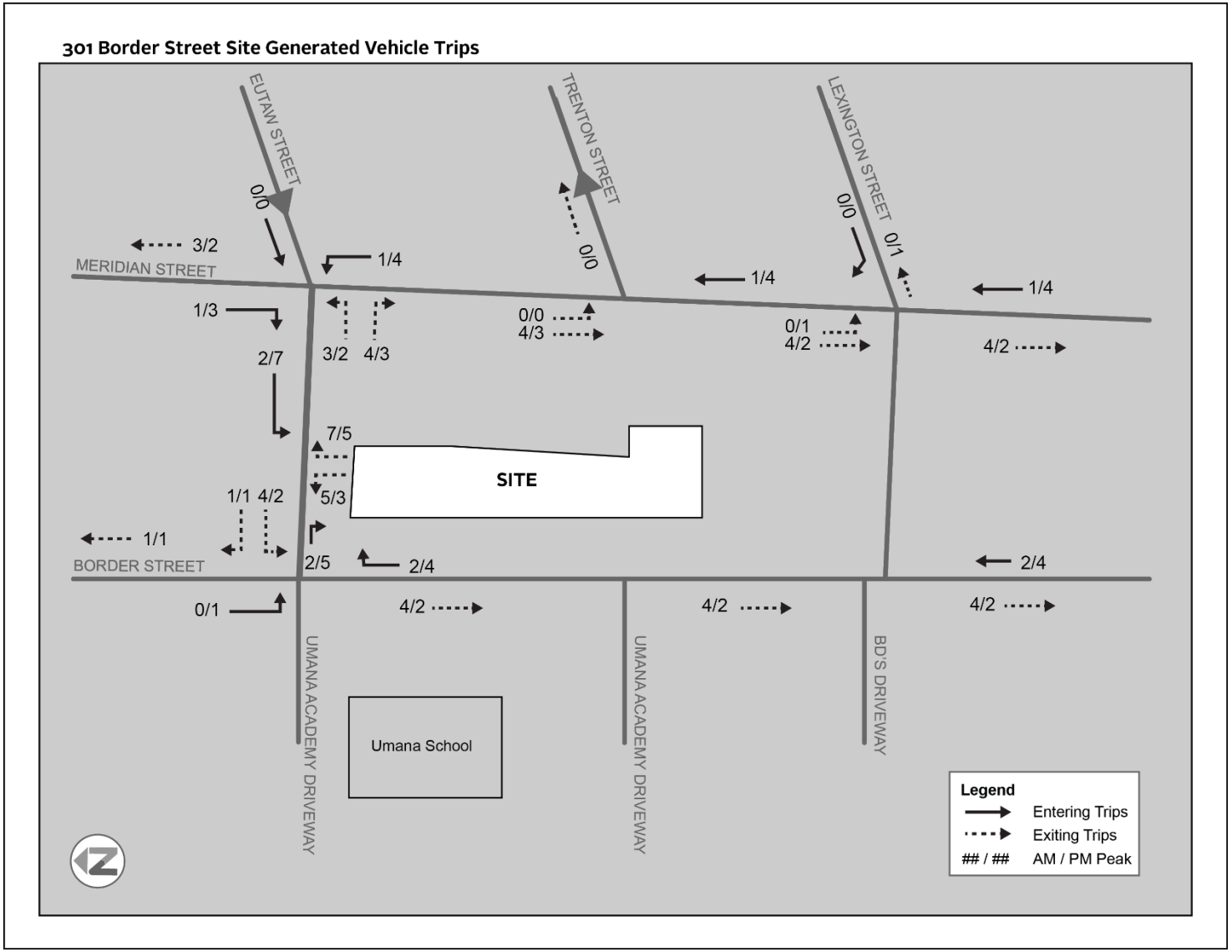


Figure 20 Future Build Vehicle Volumes

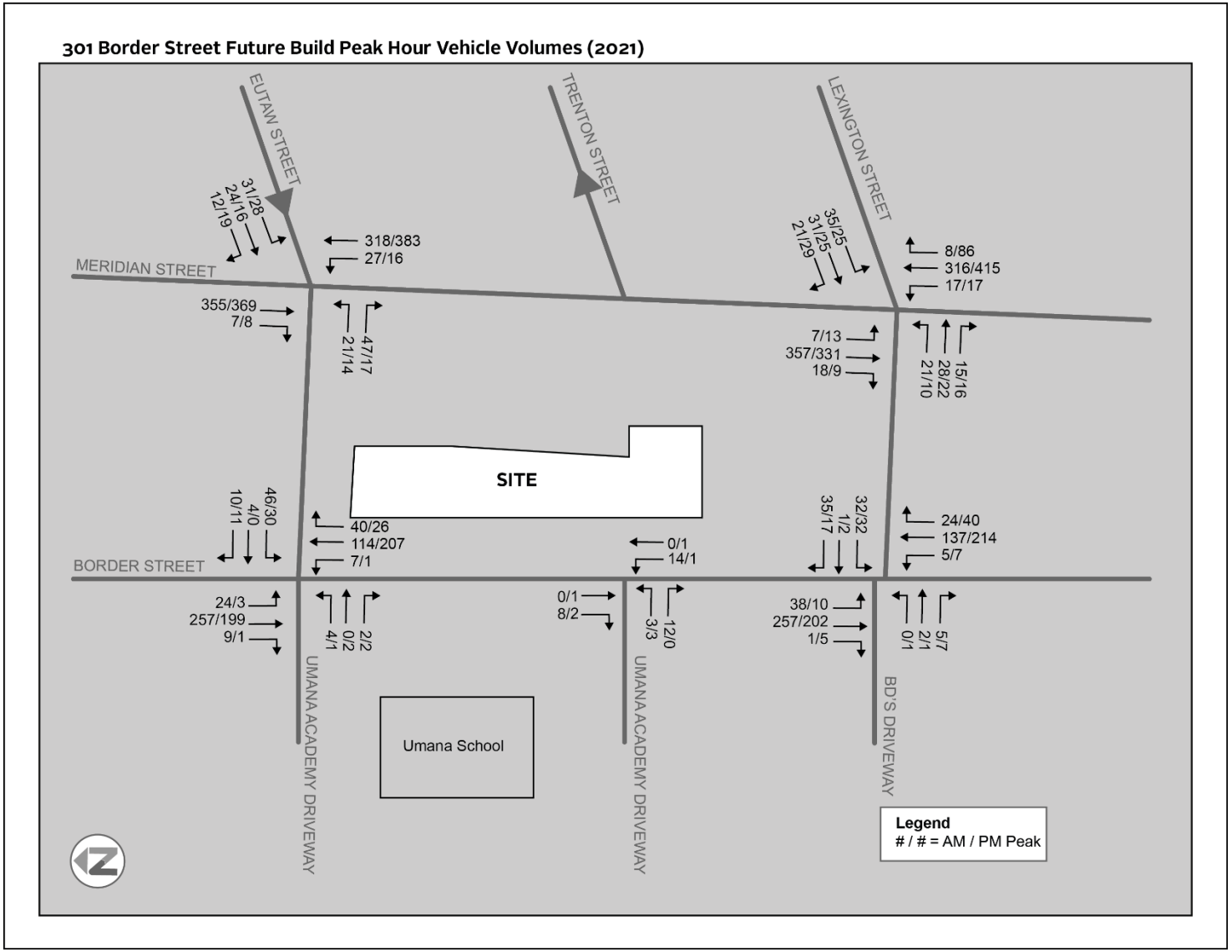


Figure 21 Future Build (2021) Intersection Capacity Analysis

Intersection	AM Peak Hour				PM Peak Hour			
	LOS	Delay	V/C	Queue 95th	LOS	Delay	V/C	Queue 95th
Border Street at Eutaw Street/Umana North Driveway								
Border. NB	A	0.9	0.02	2	A	0	0.00	0
Border. SB	A	1.6	0.05	4	A	0.2	0.00	0
Umana EB	C	21.8	0.09	7	B	11.6	0.03	2
Eutaw WB	D	25.5	0.37	41	B	11.3	0.10	8
Border Street at Umana South Driveway								
Border. NB	A	1.1	0.03	2	A	0.1	0.00	0
Border. SB	A	0	0.26	0	A	0	0.20	0
Umana WB	B	12.0	0.07	5	B	11.0	0.01	1
Border Street at Lexington Street/Access Drive								
Border. NB	A	0.5	0.01	1	A	0.5	0.01	1
Border. SB	A	1.8	0.06	4	A	0.6	0.01	1
Access EB	C	15.1	0.02	2	B	11.5	0.03	3
Lexington WB	B	13.3	0.18	17	B	12.1	0.13	11
Meridian Street at Lexington Street								
Meridian. NB	A	0.7	0.02	2	A	0.8	0.03	2
Meridian SB	A	0.3	0.01	1	A	0.8	0.03	2
Lexington EB	C	19.5	0.29	29	C	18.6	0.21	19
Lexington WB	C	19.6	0.32	34	C	21.5	0.33	35
Meridian Street at Eutaw Street								
Meridian. NB	A	1.3	0.04	3	A	0.7	0.02	2
Meridian SB	A	0	0.27	0	A	0	0.26	0
Eutaw EB	B	14.7	0.23	23	B	13.8	0.11	9
Eutaw WB	C	18.6	0.30	30	C	16.0	0.21	19
Eutaw EB	A	0.0	0.04	0	A	0.0	0.02	0
Eutaw WB	A	0.2	0.02	0	A	1.2	0.01	0
Site Access NB	A	8.9	0.01	1	A	8.7	0.01	1

4.3.3 Parking Supply and Demand

The proposed project includes a new 64-unit residential building of approximately 77,000 gross square feet, with an at-grade parking facility for 42 vehicle spaces and 74 interior and 13 exterior bicycle spaces. Parking supply is allocated as follows:

- New residential building, is built atop a 42 space facility accessed via a driveway and gate.
- Stackers will be used to maximize the parking created within the site.
- Two (2) publicly accessible carshare vehicle spaces will also be created within the facility.
- Circulation and access to all of the parking is via an internal driveway.
- An electric vehicle charging station(s) are provided, consistent with City guidelines.
- Consistent with best practices, parking will be available at a premium to select units, reducing overall demand in this walkable area.

The proposed parking supply maximizes available space for parking, which contributes to this mixed-use, dense, walkable neighborhood. BTD's off-street parking guidelines recommend a maximum parking ratio of between 0.75 and 1.25 spaces per residential unit, or 1,000 square feet of non-residential development. The project is proposing a basic transportation demand management (TDM) program for the residential building, which also includes offering spaces at a premium to lower the project's demand for parking. The proposed 301 Border Street development corresponds to about 0.66 spaces per unit for the 64 units. These ratios for the development are shown in **Figure 22** below.

Figure 22 Parking Ratio

Unit	64	42	0.66 spaces/ unit

4.3.5 Bicycle Accommodations

The proposed project is dedicated to supporting multimodal alternatives. With the site's close proximity to the local bus routes, the Blue Line, local neighborhood retail and commercial areas and jobs, bicycling has the potential to serve future residents and visitors. A secure and protected bicycle room is proposed with highly visible and convenient access adjacent to the main entrance on Border Street.

The proposed project is also committed to meeting the city of Boston's Bicycle Parking Requirements, shown in **Figure 23**, which are intended to encourage bicycling, promote physical exercise, and reduce energy use and emissions in keeping with overall City bicycling goals. The development further supports Hubway, the City of Boston's bicycle sharing program and will advocate for its expansion in East Boston.

Figure 23 City of Boston Bicycle Parking Requirements

Condominiums	1 secure/covered space per unit (64 units)	74 secure/covered 13 outdoor

	1 outdoor/covered or outdoor/open space per 5 units (64/5 = 12.8)	
	TOTAL	87

5 TRANSPORTATION MITIGATION MEASURES

The 301 Border Street project will enhance the project site, Border Street, and the local neighborhood. It will create an inviting new street presence featuring landscaping, sidewalk upgrades, and a non-centrally located, consolidated driveway providing access to the new residential building. Vehicle capacity analysis shows a negligible change in delay at all project area intersections, with no change in Level of Service at any approach between the No Build and Build scenarios.

With its higher density, walking and biking amenities and proposed TDM measures (see following section), the project supports the growth of East Boston as a transit-rich, walkable, bikeable neighborhood. The project will add multimodal supportive infrastructure and help to encourage new residents towards active modes of transportation use and riding transit. Specific transportation enhancements include the following:

- Adding a new street-facing residential development, consistent with existing and proposed neighborhood residential uses; this will
    - Activate the street; and
    - Enhance the sense of safety on this section of Border Street
- Adds a main entrance, visible and accessible to Border Street, creating a welcoming and pedestrian friendly environment, replacing a fence and curb cuts with a consistent sidewalk and street trees.
- Closes six existing curb cuts/driveways
- Creates a new, internal driveway serving the parking and connecting to Eutaw Street
- Reconstructs the sidewalk along the site frontage
- Adds open yoga area with landscaping on Border Street, enhancing the public realm
- Provides 0.66 parking spaces per residential unit–housed in an at grade garage
- Provides one electric vehicle charging station
- Provide two (2) car sharing spaces within the garage
- Charge a premium for parking to minimize demand.
- Provides 64 bicycle parking spaces (1 per unit) in a covered, secure bike room helping to promote bicycle use and convenience amongst future residents

Additional Off-Site Improvements

The project further proposes to provide safety and accessibility improvements adjacent to the site. Adding stop control, and stop bars at key intersections will reinforce current practice, but improve safety and visibility. Crosswalk and pedestrian ramp upgrades will improve the pedestrian environment and enhance walkability for the residents, students, shoppers, and employees of the neighborhood. Proposed improvements will rectify current deficiencies and include:

- Upgrades the pedestrian ramps and crosswalks at the Border Street and Eutaw Street, intersection to meet current City and ADA standards.
    - Provide similar improvements at Border Street and the Umana Academy south driveway
    - Provide similar improvements at Border Street and Lexington Street
- Improves traffic safety with the installation of stop signs on Eutaw Street as it approaches Border Street, and at both approaches to Meridian Street.

- Creates a pedestrian ramp along Eutaw Street next to existing alleyway.
- Adds 13 outdoor, publicly available bike parking spaces – useful for both visitors and the public

5.1 Transportation Demand Management

Transportation demand management (TDM) comprises a variety of strategies designed to reduce single-occupancy vehicle (SOV) travel and encourage public transit, walking, bicycling and other more space efficient and less costly modes. As a residential development in an area heavily supported by transit accessibility, the project is likely to attract residents and tenants who can rely primarily on non-auto travel for work, errands, and recreation. Nevertheless, the implementation of TDM programs is critical to helping ensure that residents and visitors can meet their mobility needs using the variety of transportation options available in the surrounding neighborhood. The project intends to adopt the following measures and programs to benefit their residents, and the surrounding neighborhood, while reducing vehicular traffic and potential environmental impacts.

Programmatic

- Provide information on travel alternatives onsite and with lease information;
- Encourage the use of non-auto modes for residents, employees and visitors;
- Post signs and enforce idling laws on the internal driveway; and
- Work with area developments on transportation issues including investigating joining a nearby transportation management association (TMA).

Parking

- Provide 0.66 parking spaces per unit;
- Offer parking spaces at a premium to project residents to reduce parking demand;
- Provide space for an electric vehicle charging station in the garage as needed; and
- Encourage tenants to carpool/vanpool.

Public Transportation

- Provide information of travel alternatives onsite in a visible and easily accessible location within the building's common areas;

Pedestrian/Bicycle

- Provide free, secure, weather protected, on-site bicycle parking for residents and visitors;
- Provide an attractive sidewalk along all site frontages to improve and enhance the area's walkability;
- Promote Hubway, the City of Boston's bicycle sharing program and work to add stations in the neighborhood;
- Provide publicly accessible bicycle spaces in the area surrounding the site

5.0 GEOTECHNICAL INFORMATION

A subsurface exploration program was completed on August 5, 2016. The results of the program indicate that subsurface conditions consist of 5 to 13 feet of fill overlying organic silt to depths of 16 to 21 feet below the ground surface along Border Street These layers are underlain by medium dense to dense silty glacial till. Groundwater was encountered at a depth of 5 feet below grade. It is anticipated that the building will be submitted on deep foundations such as helical piles, pressure injected footings and/or rammed aggregate piers. See **Appendix G** for the complete Geotechnical Report.

6.0 ADDITIONAL PROJECT INFORMATION

6.1 Preliminary List of Permits or Other Approvals Which May Be Sought

Agency Name	Permit or Action*
Local Agencies	
Boston Redevelopment Authority	Article 80 Review and Execution of Related Agreements; Section 80B-6 Certificate of Compliance
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Plan
Boston Department of Public Works, Public Improvement Commission	Possible Sidewalk Repair Plan; Curb-Cut Permit; Street/Sidewalk Occupancy Permit; Other
Boston Zoning Board of Appeals	Possible Variances and Dimensional Relief from Existing Zoning Code Requirements
Boston Public Safety Commission, Committee on Licenses	Permit for Storage of Fuel in (Emergency Storage) Tanks; Garage Licenses
Boston Fire Department	Approval of Fire Safety Equipment
Boston Water and Sewer	Approval for Sewer and Water Connections; Construction Site Dewatering; and Storm Drainage
Boston Parks Department	Approval for Site Location in Relation to Nearby Parks
Boston Department of Inspection 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.

6.2 Project Team

Project Name: 301-303 Border Street	Project Team Information
Property Owner / Developer	City Realty Group, LLC 320 Washington Street Brookline, MA 02445 Fred Starikov, Fred.Starikov@cityrealtyboston.com Steve Whalen, Steve.Whalen@cityrealtyboston.com
Article 80 Permitting Consultant / Legal Counsel / Outreach	Drago & Toscano, LLP 15 Broad Street, Suite 610 Boston, MA 02109 Jeffrey Drago, Esq., Jdrago@dtlawllp.com Matthew Eckel, Esq., Matt@dtlawllp.com
Architect	Choo and Company, Inc. 1 Billings Road, #2 Quincy, MA 02171 Arthur Choo, arthur@choo-design.com Shane Losi, shanel@choo-design.com
Transportation Planner / Engineer	Nelson/Nygaard 77 Franklin Street Boston, MA 02110 Ralph DeNisco, rdenisco@nelsonnygaard.com
Civil Engineer/Geotechnical Engineer	Design Consultant, Inc. 120 Middlesex Ave., Suite 20 Somerville, MA 02145 Stephen Sawyer, SSawyer@dci-ma.com Paul Costello, PCostello@dci-ma.com Michael Clark, MClark@dci-ma.com
Environmental / 21E Engineer	FSL Associates, INC. 358 Chestnut Hill Avenue Boston, MA 02135
Construction Management	New Boston Builders 12 Ericsson Street Boston, MA 02122

CODE ANALYSIS

Applicable Codes:

IBC 2009 w/ MA Amendments (780 CMR)
City of Boston Zoning Code
527 CMR MA Fire Prevention Regulations
521 CMR MA Architectural Access Board
248 CMR MA Gas & Plumbing Code
524 CMR MA Elevator Code (2004 ASME A17.1)
IEEC 2009/2012 & MA 780 CMR 115.AA Stretch Energy Code

Occupancy Classification:

	Proposed
	R-2
	B

Construction Type:

Building Level		Proposed	Notes
1st Floor		TYPE 1A	
Upper Floors		TYPE 2B	

Building Height & Area Limitations (780 CMR Chapter 5)

Code Citation	Construction Type 2B		
	Height	Area	Notes
Table 503			
Section 504.2 Sprinkler Height Increase	Additional 1 story and 20'	16000 PER FL	
Section 506.3 Sprinkler Area Increase		Additional 200%	32000
Section 506.2 Frontage Area Increase		If≥F/P-0.25W/30	(379/762'-25')+ 90'/30=16000 s.f.
Section 506.1 Total Area Increase		As=At+(At x If)/At x Is)	
Total Allowed	55' & 3'	64000 sf / fl	
Actual Proposed	6 ST 61' SEE 506.2 FOR ALLOWANCE	14500 MAX PER FL	

Building Areas:

Building Level	FAR GSF	Total GSF	Notes
1st Floor	3715	16118	
2nd Floor	14446	14446	
3rd Floor	14504	14504	
4th Floor	14256	14256	
5th Floor	14040	14040	
6th Floor	13730	13730	
Roof Level	871	871/3012 roof deck	

Sprinkler Requirements: (780 CMR Chapter 9)

System Type & Use		Proposed	Notes
		NFPA 13	

Occupant Load: (780 CMR Table 1004.1.1 or Actual)

Floor	Occupant Type	Floor Area	Floor Area Per Occupant	Total Occupant Load
1st Floor	Garage	17602	300	43
	Business	684	100	7
	Residential	2632	200	14
2nd Floor	Residential	14446	200	73
3rd Floor	Residential	14504	200	73
4th Floor	Residential	14256	200	72
5th Floor	Residential	14040	200	71
6th Floor	Residential	13730	200	69
Roof Level	Residential	3883	200	20

Means of Egress: Number of Exits (1021.1)(1021.2)

Building Level	Occupant Load	Required Exits	Proposed Exits	Notes
1st Floor	64	2+1 business	4	
2nd & 3rd Floor	73	2	2	
4th Floor	72	2	2	
5th Floor	71	2	2	
6th Floor	69	2	2	
Roof Level	20	2	2	

Means of Egress: Width (Section 1005)

Building Level	Occupant Load	Limiting Width Factor	Egress Element Width	Egress Element Occupant Allowance
1st Floor	64	Door (.2" per person)	36	180
2nd & 3rd Floor	73	Stair (.3" per person)	48	160
4th Floor	72	Stair	48	160
5th Floor	71	Stair	48	160
6th Floor	69	Stair	48	160
Roof Level	20	Stair	48	160

Means of Egress: Exit Travel Distance (Table 1016.1)

Occupancy	w/o Sprinkler	W/ Sprinkler	Notes
s		250	
r-2		250	

Means of Egress: Exit Width

Occupancy	Corridors/ Stairs	Doors	Notes
Required	44"	36"	
Proposed	48"	36	

Means of Egress: General Notes

Travel:
Max Exit Access Travel Distance: 1016.1
A,F-1,M,R-1,I-1 250' (with Sprinkler)
B, 300' (with Sprinkler)
F-2,S-2,U 400' (with Sprinkler)
Common Path of Egress Travel: 1014.3
All 75' (with Sprinkler)
B, F, S, I-3 100' (with Sprinkler)
R-2 125' (with Sprinkler)

Means of Egress: Stair Notes (Section 1009)

Width 44" (36" less than 50 people)
Headroom (80")
Min Tread Depth 11" (10" inside residential unit)
Max Riser Height 7" (7 3/4" inside residential unit)
units)
Handrail Height 34-38" Max 4.5" projection into width
bottom
Guardrails 42" min high/ Max 4" opening limitation

Means of Egress: Ramp Notes

Slope greater than 1/20 Requires Railings
Min 48" clear between railings
1/12 Max slope
Max slope run 30'
Continuous Handrails Both Sides
Upper Handrail Height 34-38" Lower Rail Height 18-20"
Handrail Extension 12" at Top & Bottom
Max Cross Slope to be 1/50 (2%)
Guardrails 42" min high/ Max 4" opening limitation
Clearance Between Wall and Railing 1.5"
Edge Curbs (2" min) to be provided at all drop offs
direction
Handrail Cross section to be round or oval and be 1-1/4 to 2" max
Circular Ramps are not Allowed

Structural Fire Resistant Ratings (780 CMR Chapter 6)

Building Element	Construction Type 1a/2b		
	1A	2B	Notes
Structural Frame	3	0	
Bearing Walls Exterior	3	0	
Bearing Walls Interior	3	0	
Non Bearing Walls Exterior	1	1	
Non Bearing Walls Interior	0	0	
Floor Construction	2	0	
Roof Construction	1.5	0	

Interior Fire Resistant Ratings

Building Element	Construction Type 1a/2b		
	Wall Type	Fire Resistant Rating	Opening Ratings
Fire Wall	Fire Wall		
Stair Shaft 4 Stories Plus 708.4	Fire Barrier	2	1.5
Stair Shaft Less Than 4 Stories 708.4	Fire Barrier		
Other Shafts 4 Stories Plus 708.4	Fire Barrier	2	1.5
Other Shafts Less Than 4 Stories 708.4	Fire Barrier	1	0.75
Dwelling Unit Separation Walls 708.3	Fire Partition	1	
Dwelling Unit Separation Floors 712.3		1	
Tenant Separations 708.4	Fire Partition	1	
Common Area Dwelling Corridors 709.3	Fire Partition	.5 hr	20 min
Separation of Incidental Accessory uses 508.2.5	Fire Barrier	1	0.75

Exterior Wall Fire Resistant Ratings (780 CMR 602)

Fire Separation Distance	Construction Type	Fire Resistant Wall Rating	
		Use F-1, M, S-1	Use A, B, E, F-2
< 5 Feet	All	2	1
>=5' to < 10'	1A	2	1
>=10' to < 30'	2B-1B	1	1
>=30'	All	0	0

Exterior Wall Max Opening Area (780 CMR 705.8)

Fire Separation Distance	Degree of Opening Protection	Allowable Area	
		Unprotected Non-sprinkled	Sprinkled or Protected
0 to less than 3'		0%	0%
3 to less than 5'		0%	15%
5 to less than 10'		10%	25%
10' to less than 30'		15%	45%

Accessibility Notes:

ALL UNITS TO BE TYPE 1 UNITS (EXCEPT 4TH FL TOWNHOUSE)
4 TYPE 2 UNITS WILL BE PROVIDED LOCATION TBD

ZONING SUMMARY

ARTICLE 53
MFR/LS SUBDISTRICT
PROPOSED MULTI FAMILY

	ANY OTHER DWELLING	MIN. LOT SIZE	MIN LOT AREA PER ADD. UNIT	TOTAL LOT SIZE	LOT WIDTH/ FRONTAGE	FAR	BLDG. HEIGHT	USABLE OPEN SPACE	SETBACK FRONT	SETBACK SIDE	SETBACK REAR	MAX USE REAR YARD
REQUIRED BY ZONING		2000 S.F. FOR 2 UNITS	1000 S.F.	64000 S.F. FOR 64 UNITS	40	1.0	35' (3 STORIES)	200/UNIT	0'± / MODAL	5'	10'	25%
PROPOSED PROJECT		2000 S.F. FOR 2 UNITS	1000 S.F.	17817 S.F. VIOLATION	300'/361' WIDTH/FRONTAGE	4.23 VIOLATION	60'-9" (5 STORIES) VIOLATION	100 /UNIT VIOLATION	0'± / MODAL	6" ± VIOLATION	9" ± VIOLATION	0 %

PARKING REQUIREMENT
RESIDENTIAL USE: 2.00 SPACE PER UNIT

REQUIRED 128 SPACES
PROPOSED 42 SPACES VIOLATION

USE SUMMARY:
EXIST AUTO REPAIR USE
PROP. MULTIFAMILY/ BUISNESS = ALLOWED

OVERLAYS
-PARKS REVIEW

BIKE RACKS 70 PROPOSED

PROPOSED MULTIFAMILY
301 BORDER STREET
EAST BOSTON, MASS

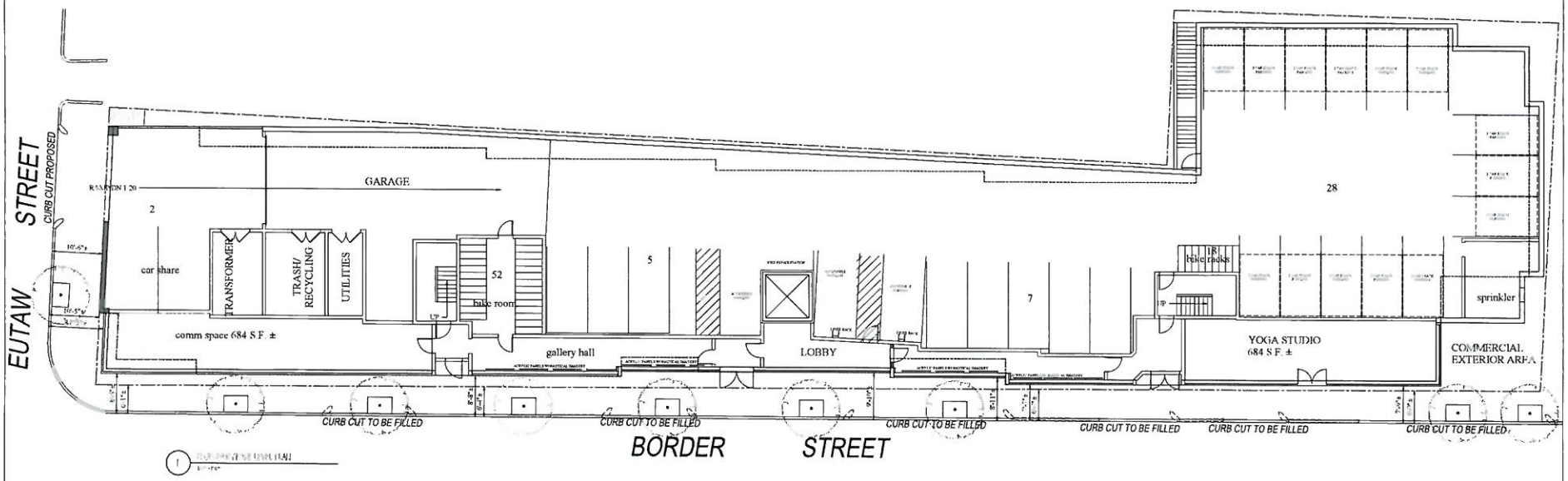
Owner: Quon & Company, Inc.
One Billings Road Quincy, MA 02171

Date: 08-05-2016

Project No. 15204
Scale: AS NOTED
Date: 08-15-2015
Drawn By: SL

Drawing Title: COVER SHEET

Sheet No.: A-0



PROPOSED MULTIFAMILY
301 BORDER STREET
EAST BOSTON, MASS

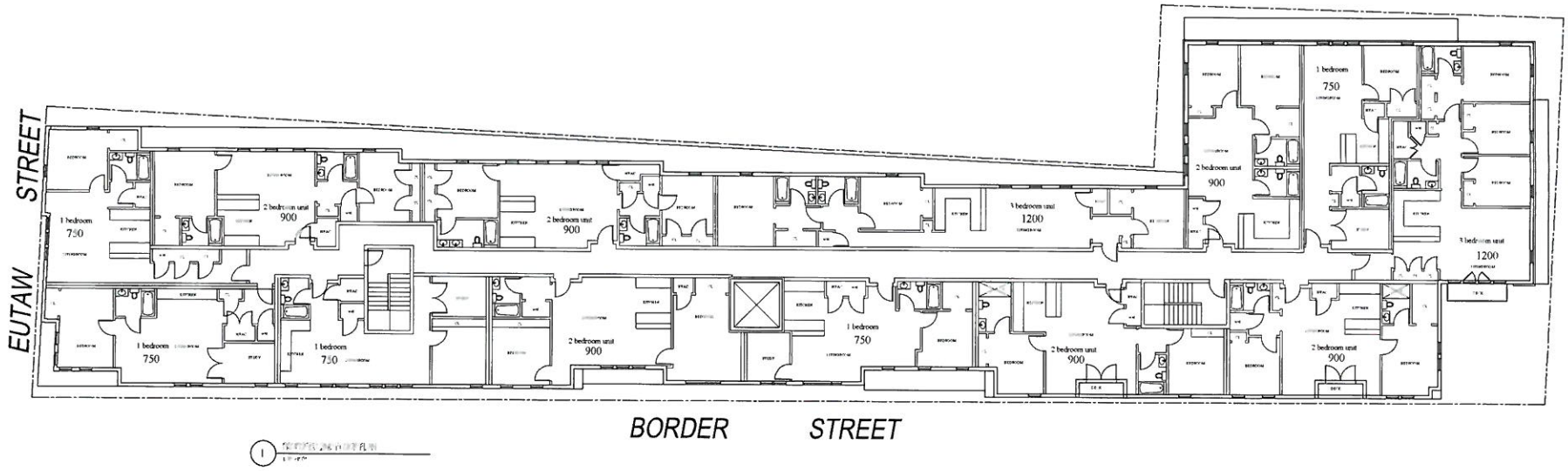
Choo & Company, Inc.
One Billings Road Quincy MA 02171

08-05-2016

15204
AS NOTED
08-15-2015
SL

PROPOSED
FLOOR PLANS

A-1.1



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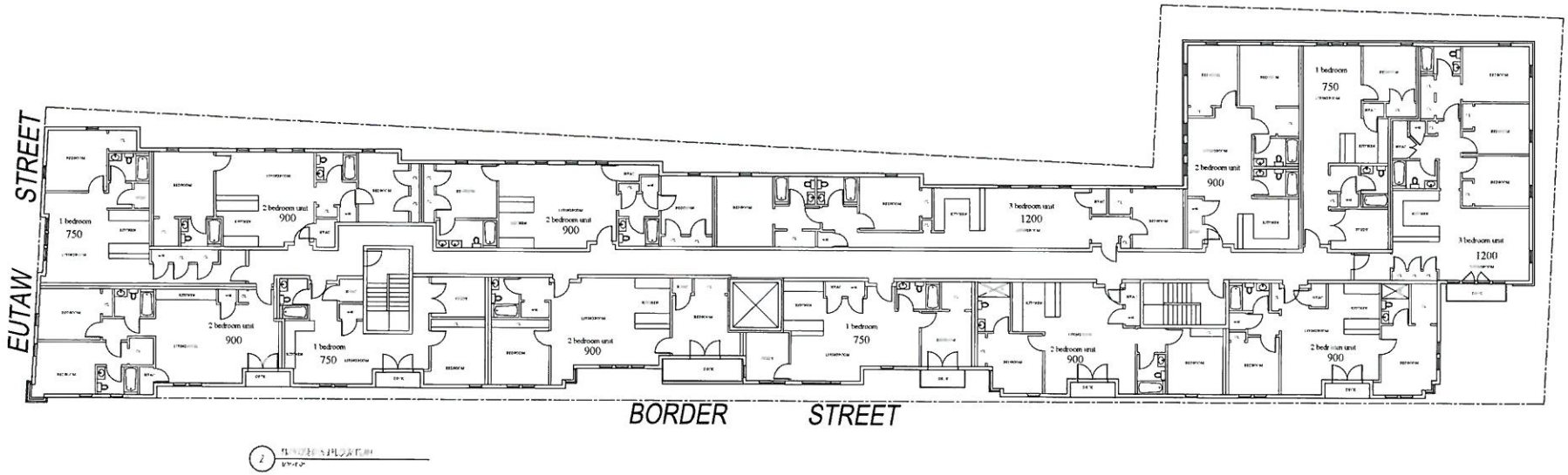


2

PROPOSED MULTIFAMILY
301 BORDER STREET
EAST BOSTON, MASS

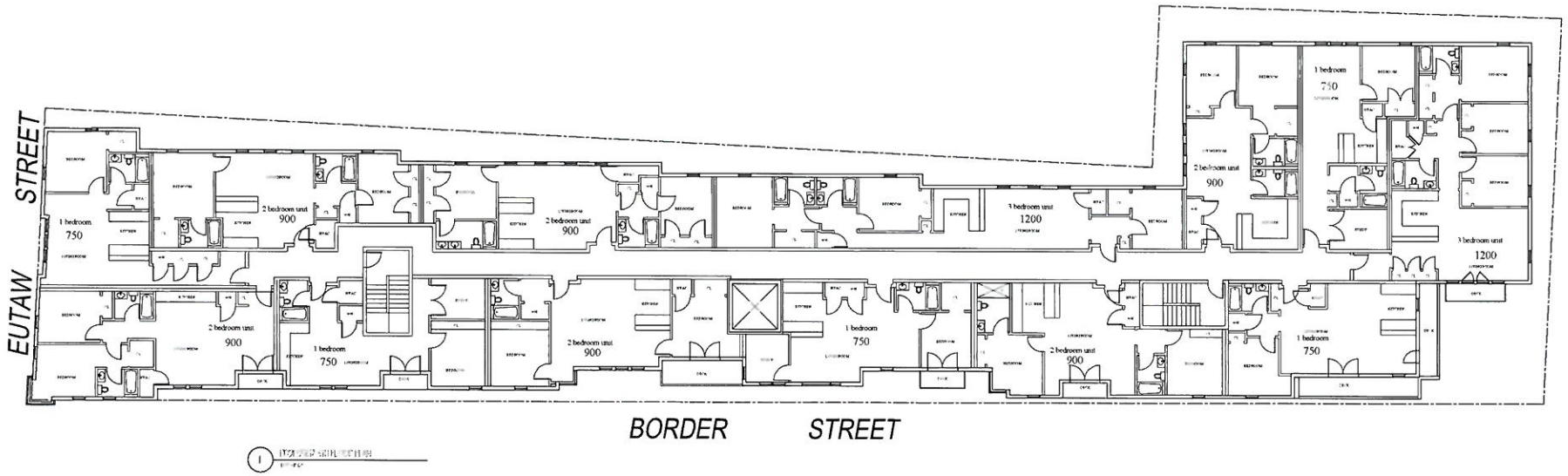
Cloo & Company, Inc.
One Billings Road Quincy, MA 02171

08-05-2016

15204
AS NOTED
08-15-2015
SL

PROPOSED
FLOOR PLANS

A-1.2



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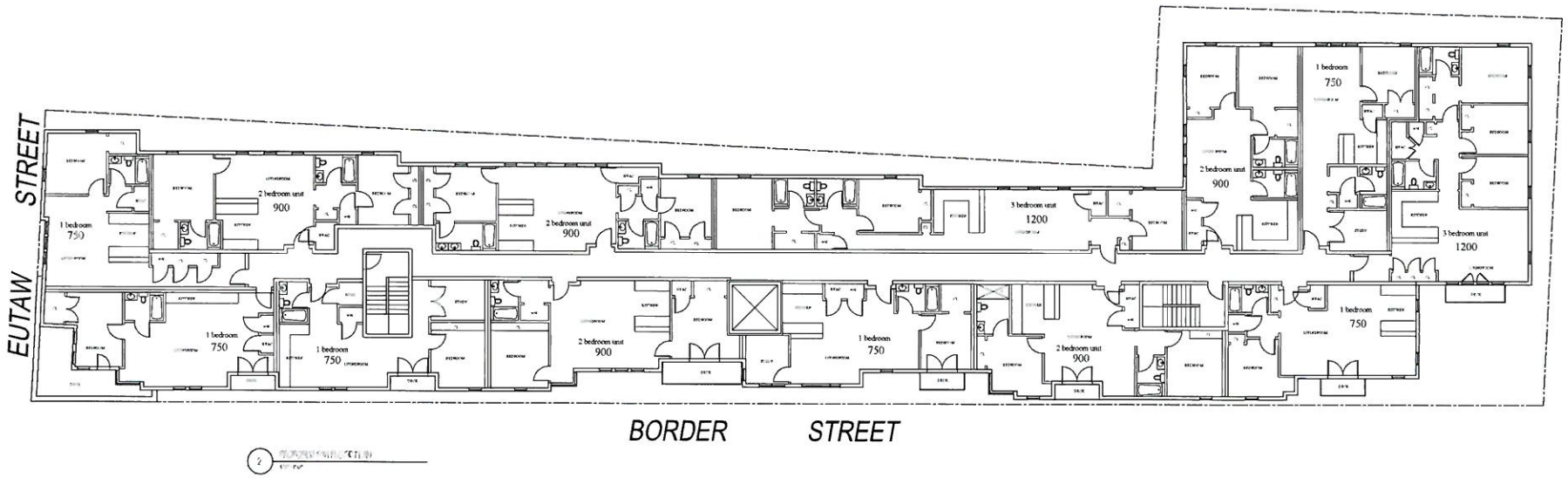


2

PROPOSED MULTIFAMILY
301 BORDER STREET
EAST BOSTON, MASS

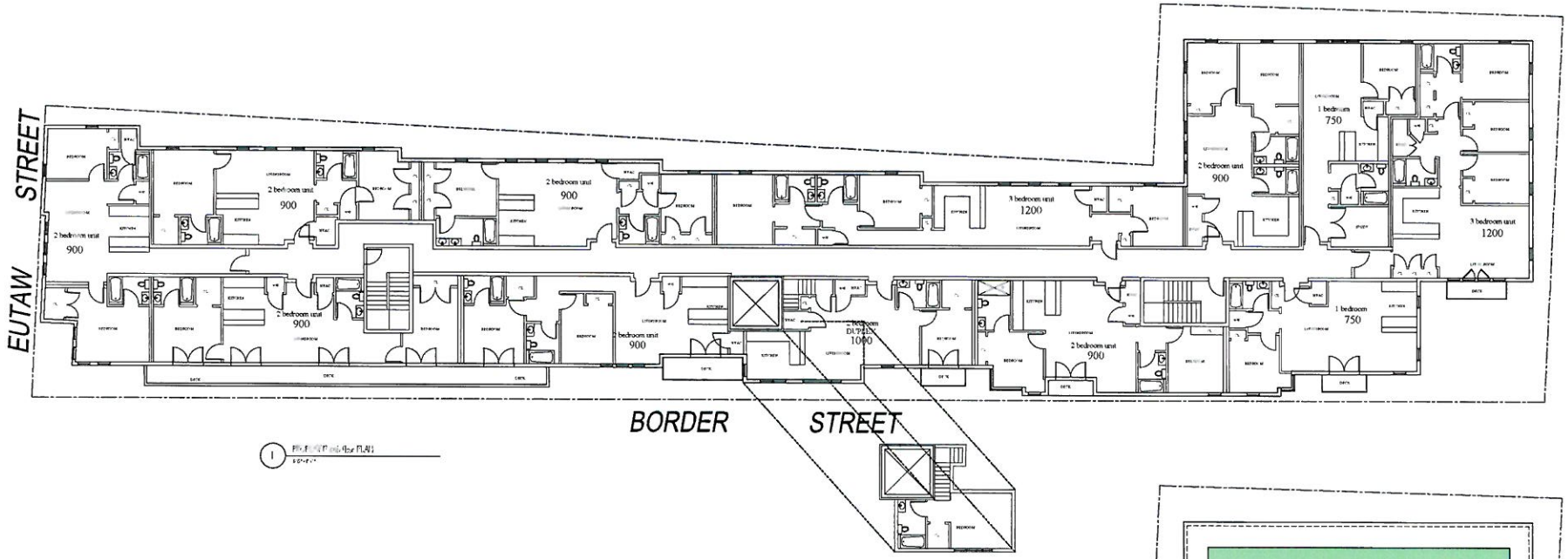
Choo & Company, Inc.
One Billings Road Quincy, MA 02171

08-05-2016

15204
AS NOTED
08-15-2015
SL

PROPOSED
FLOOR PLANS

A-1.3



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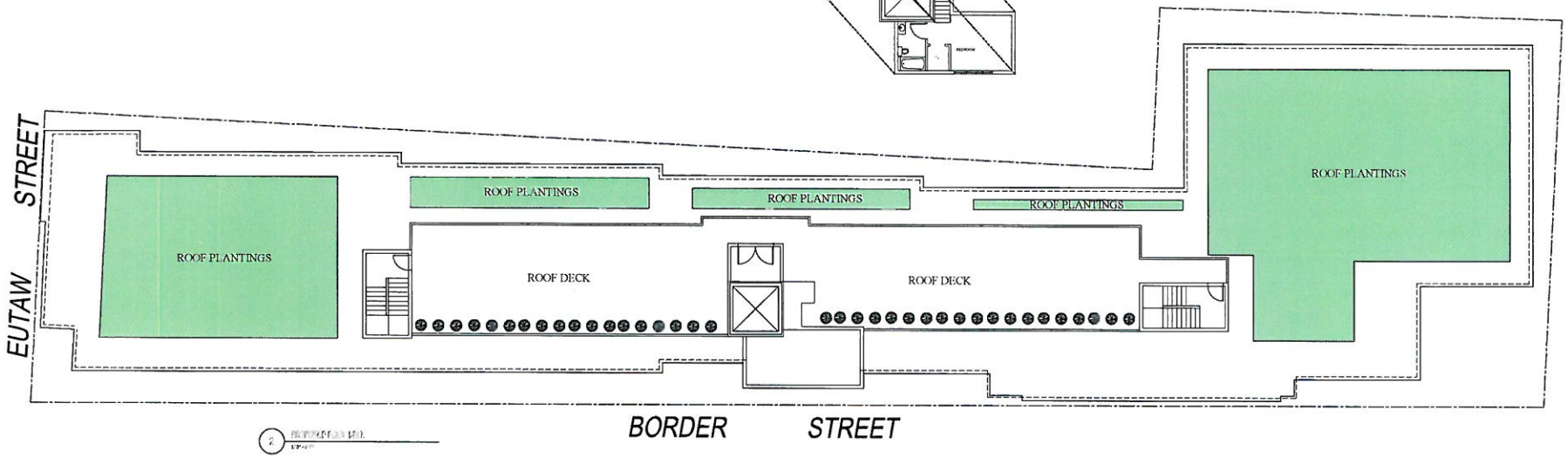


2

PROPOSED MULTIFAMILY
301 BORDER STREET
EAST BOSTON, MASS

Cube Company, Inc.
Row Billings Road Quincy, MA 02171

08-05-2016

15204
AS NOTED
08-15-2015
SL

PROPOSED
FLOOR PLANS

A-1.4

PROPOSED MULTIFAMILY
301 BORDER STREET
EAST BOSTON, MASS

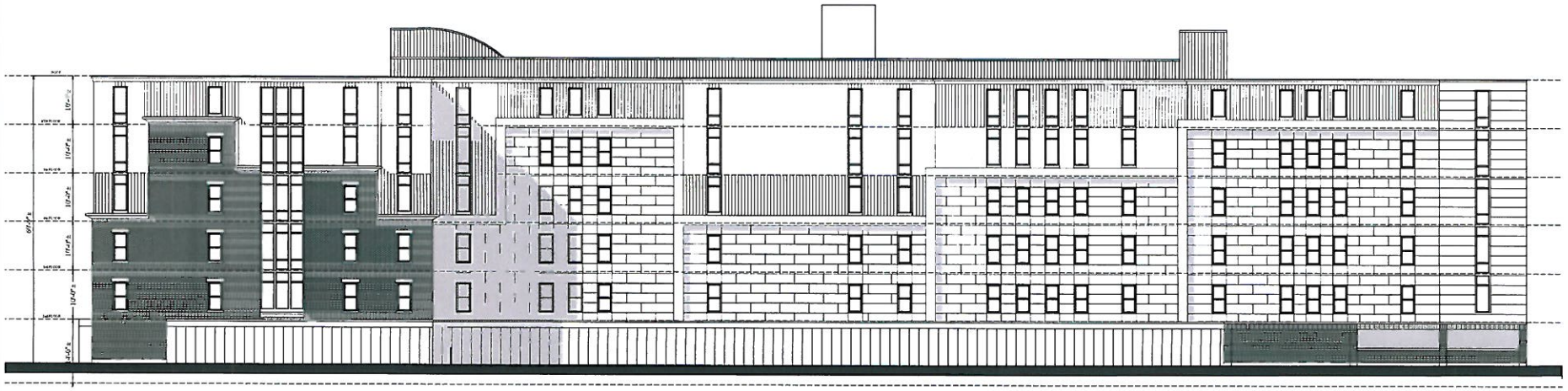
Cloon & Company, Inc.
One Billings Road Quincy, MA 02171

08-05-2016

15204
AS NOTED
08-15-2015
SL

PROPOSED
ELEVATIONS

A-2.1.



PROPOSED MULTIFAMILY
301 BORDER STREET
EAST BOSTON, MASS

Choo & Company, Inc.
One Billings Road Quincy MA 02171

08-05-2016

15204
AS NOTED
08-15-2015
SL

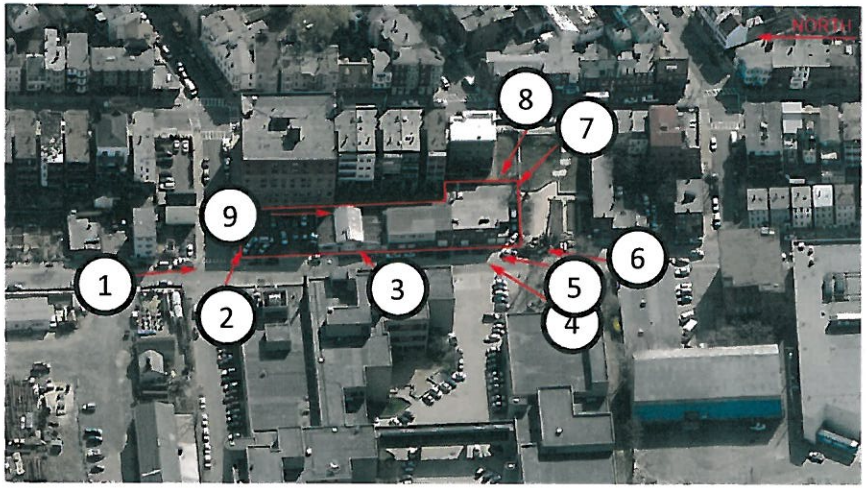
PROPOSED
ELEVATIONS

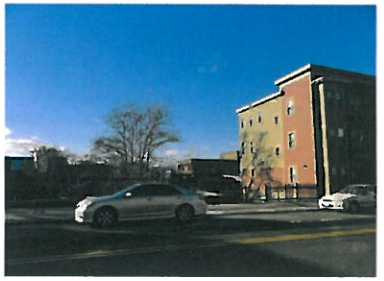
A-2.2

SITE EXISTING CONDITIONS

9: EXISTING BACK ALLEY

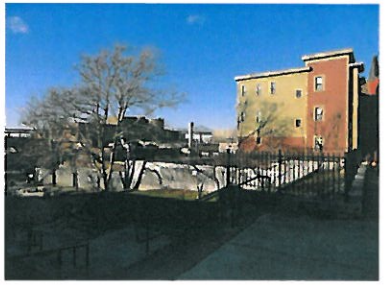
1: LOOKING SOUTH DOWN BORDER





8:VIEW FROM ACROSS MERIDIAN

2: LOOKING EAST DOWN EUTAW



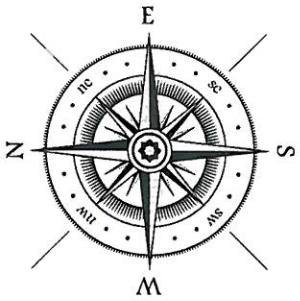
7:VIEW FROM TOP OF OUR GARDEN

3: EXISTING NORTH GARAGE

4:VIEW FROM UMANA SKATE PARK EAST

5:EXISTING SOUTHERN GARAGES

6:VIEW NORTH DOWN BORDER



EXISTING SITE

BIRDSEYE FRONT


VIEW TO THE SOUTH EAST


VIEW TO THE NORTHEAST

ART GALLERY

CORNER RESIDENT GYM

CORNER RESIDENT GYM

YOGA STUDIO

—— S ——	SANITARY SEWER
—— D ——	DRAIN LINE
—— RD ——	ROOF DRAIN LINE
—— W ——	WATER LINE
—— E ——	ELECTRIC LINE
—— G ——	GAS LINE
—— T ——	TELEPHONE/CABLE LINE
—OHW—	OVERHEAD WIRE
—O	GUY POLE
*U.U.P.	UTILITY POLE
	SANITARY MANHOLE
	DRAIN MANHOLE
	UNKNOWN MANHOLE
	ELECTRIC MANHOLE
	TELEPHONE MANHOLE
	CATCH BASIN
	DECIDUOUS TREE
	FIRE HYDRANT
WG	WATER GATE
GG	GAS GATE
	LIGHT POLE
SEWER MH	HANDHOLE
+ 36.34	SPOT GRADE
BL	BOLLARD
FFE=37.52	FIRST FLOOR ELEVATION
BWV	BACK WATER VALVE
C.O.	CLEAN OUT
R= OR RIM=	RIM ELEVATION
I= OR INV=	INVERT ELEVATION
TOS	TOP OF STONE ELEVATION
BOS	BOTTOM OF STONE ELEVATION

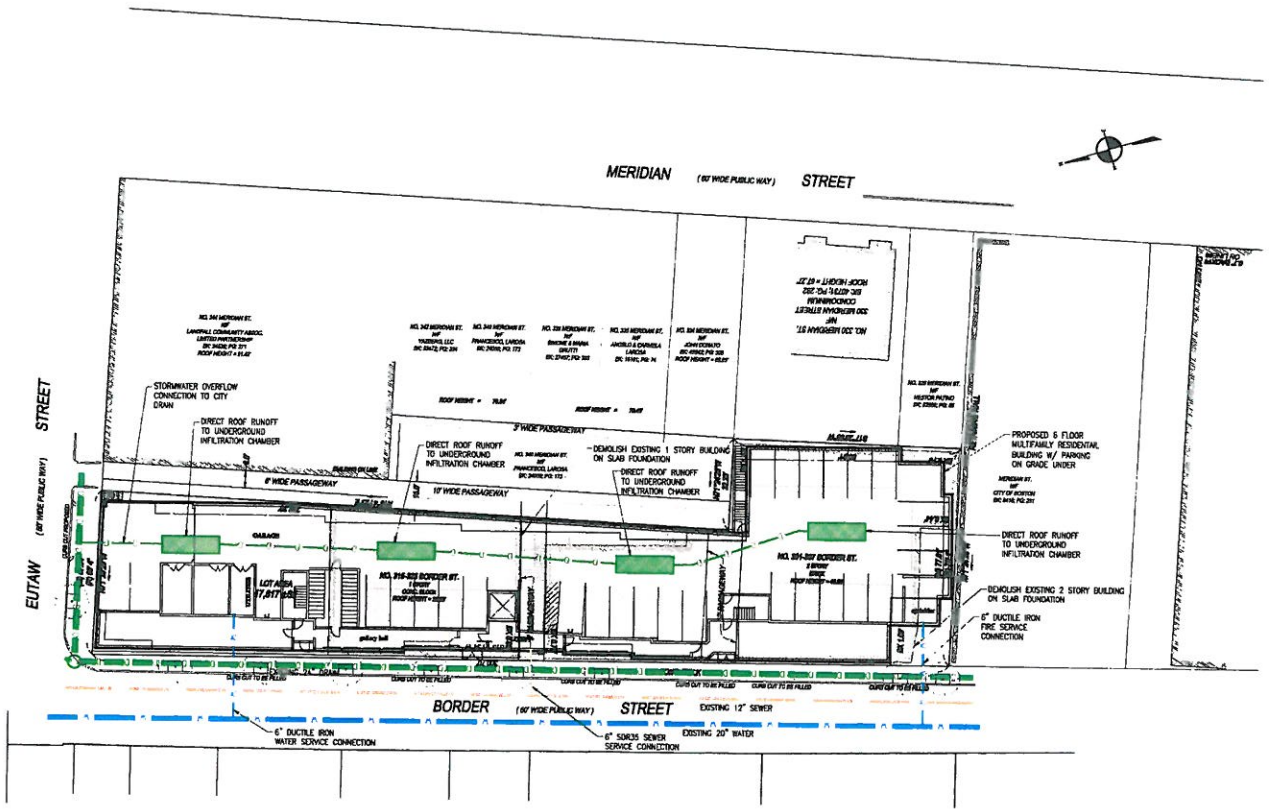
SEWER FLOW CALCULATIONS:

RESIDENTIAL USE:
110 GPD/BEDROOM x 116 BEDROOMS =12,760 GPD

EXISTING USE:
315-323 AUTO REPAIR =450 GPD
301-301 AUTO REPAIR/OFFICE 450+453=903 GPD

TOTAL ADDED SEWER FLOW = 11,407 GPD

(ALL FLOWS PER TITLE 5 SPECIFICATIONS)



0 20 50 100

PIPE MATERIALS:

ROOF DRAINS: 6" SCHEDULE 80 PVC, SLOPE= 2% MIN.

STORMWATER OVERFLOW: 6" SDR 35 PVC

SANITARY SEWER: 6" SDR 35, SLOPE= 2% MIN.

DOMESTIC WATER: 6" CLASS 56 DICL PIPE

FIRE PROTECTION SERVICE: 6" CLASS 56 DICL PIPE

ALL WATER LINES SHALL HAVE A MINIMUM 5 FEET

NORTH

PROJECT TEAM

PROPOSED MULTIFAMILY 301 BORDER STREET EAST BOSTON MASS

PROJECT INFO

REV	DESCRIPTION	DATE
3	BWSC COMMENTS 3/22/16	3/24/2016
2	BWSC COMMENTS 2/29/16	3/02/2016
1	BWSC COMMENTS 1/8/16	2/11/2016

CONCEPTUAL SITE PLAN

SHEET NAME:

C1.0

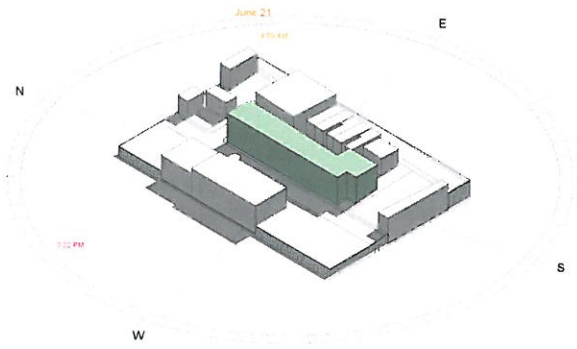
SHEET NO:

DR.BY: SSW

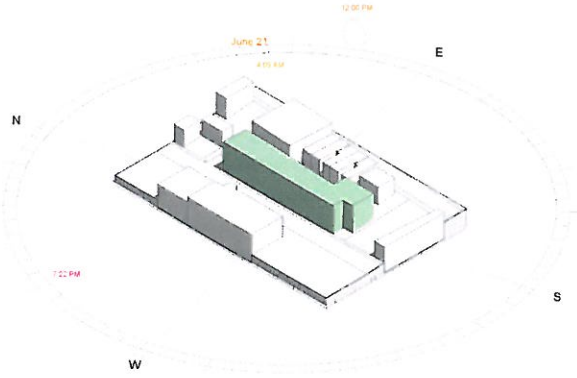
CHK BY: SBS

PROJ NO: 2016-076

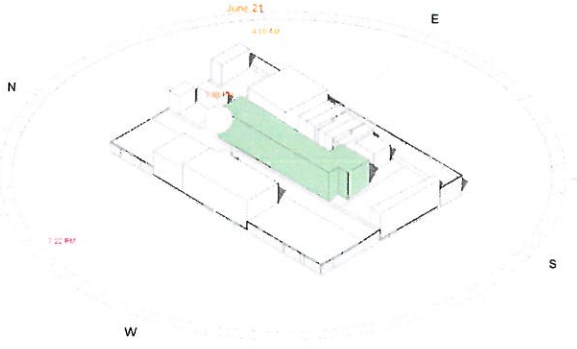
DATE: August 5, 2016



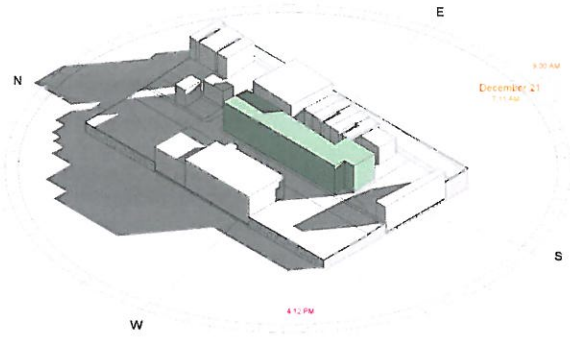
① 01- Summer 9.00am



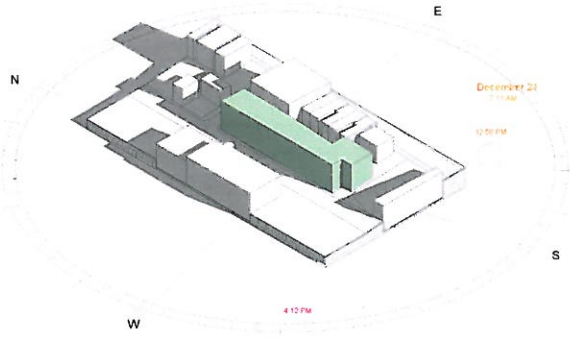
② 02- Summer 12.00pm



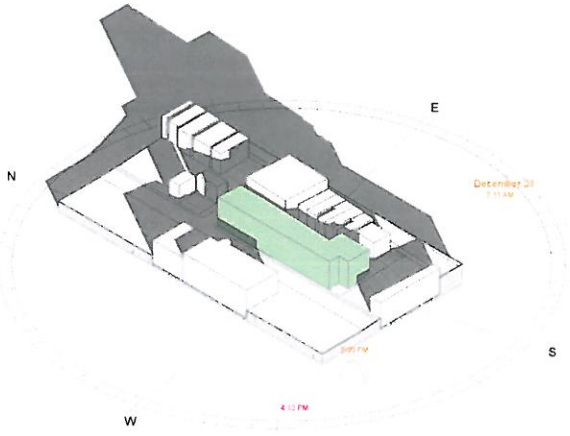
③ 03- Summer 3.00pm



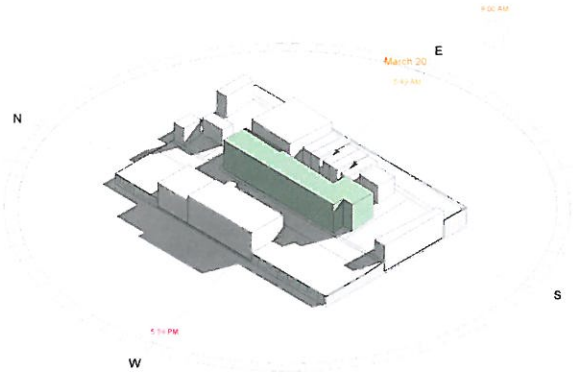
1 04- Winter 9.00am



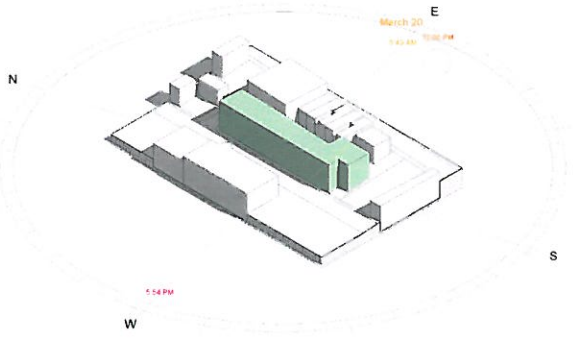
2 05- Winter 12.00pm



3 06- Winter 3.00pm



① 07- Spring 9.00am



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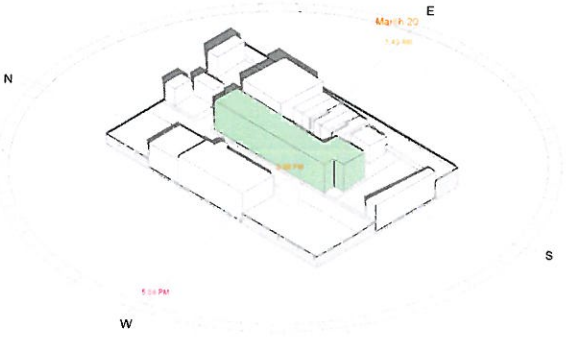
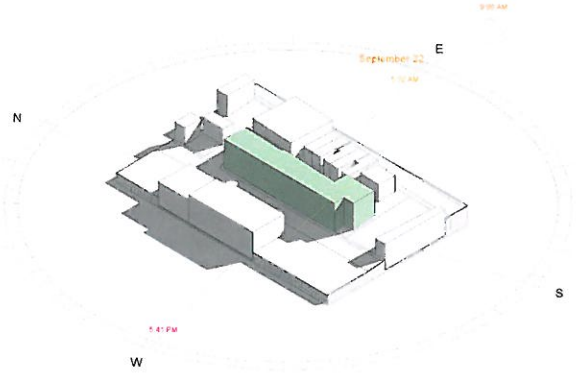
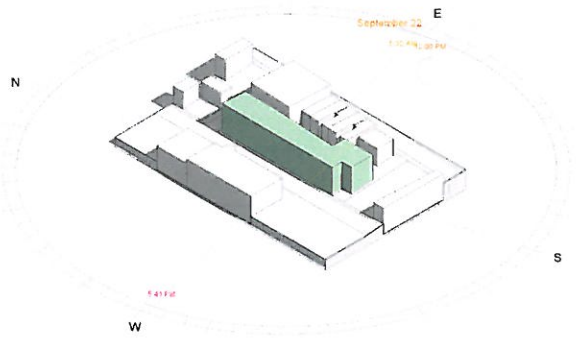


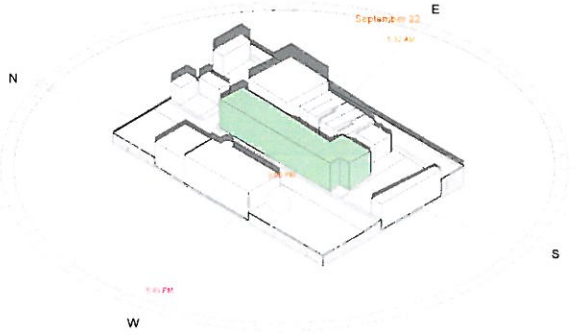
③ 09- Spring 3.00pm



1 10- Fall 9.00am



2 11- Fall 12.00pm



3 12- Fall 3.00pm

LEED v4 for Building Design and Construction: Multifamily Midrise

Project Checklist

Project Name:
Date:

Y	?	N			
2			Credit	Integrative Process	2

15	0	0	**Location and Transportation**		15
Y			Prereq	Floodplain Avoidance	Required
			PERFORMANCE PATH		
		0	Credit	LEED for Neighborhood Development Location	15
			PRESCRIPTIVE PATH		
8			Credit	Site Selection	8
3			Credit	Compact Development	3
2			Credit	Community Resources	2
2			Credit	Access to Transit	2

6	0	0	**Sustainable Sites**		7
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	No Invasive Plants	Required
2			Credit	Heat Island Reduction	2
3			Credit	Rainwater Management	3
1			Credit	Non-Toxic Pest Control	2

6	2	0	**Water Efficiency**		12
Y			Prereq	Water Metering	Required
			PERFORMANCE PATH		
		0	Credit	Total Water Use	12
			PRESCRIPTIVE PATH		
4	2		Credit	Indoor Water Use	6
2			Credit	Outdoor Water Use	4

15	2	0	**Energy and Atmosphere**		37
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Energy Metering	Required
Y			Prereq	Education of the Homeowner, Tenant or Building Manager	Required
15			Credit	Annual Energy Use	30
	2		Credit	Efficieng Hot Water Distribution	5
		0	Credit	Advanced Utility Tracking	2

1	1	0	**Materials and Resources**		9
Y			Prereq	Certified Tropical Wood	Required
Y			Prereq	Durability Management	Required
1			Credit	Durability Management Verification	1
		0	Credit	Environmentally Preferable Products	5
	1		Credit	Construction Waste Management	3

0	8	0	**Indoor Environmental Quality**		18
Y			Prereq	Ventilation	Required
Y			Prereq	Combustion Venting	Required
Y			Prereq	Garage Pollutant Protection	Required
Y			Prereq	Radon-Resistant Construction	Required
Y			Prereq	Air FIltering	Required
Y			Prereq	Environmental Tobacco Smoke	Required
Y			Prereq	Compartmentalization	Required
	1		Credit	Enhanced Ventilation	3
	0.5		Credit	Contaminant Control	2
	1		Credit	Balancing of Heating and Cooling Distribution Systems	3
		0	Credit	Enhanced Compartmentalization	3
	2		Credit	Enhanced Combustion Venting	2
	1		Credit	Enhanced Garage Pollutant Protection	1
	1		Credit	Low Emitting Products	3
	1		Credit	No Environmental Tobacco Smoke	1

2	0	0	**Innovation**		6
Y			Prereq	Preliminary Rating	Required
1			Credit	Innovation	5
1			Credit	LEED AP Homes	1

4	0	0	**Regional Priority**		4
1			Credit	Regional Priority: Specific Credit	1
1			Credit	Regional Priority: Specific Credit	1
1			Credit	Regional Priority: Specific Credit	1
1			Credit	Regional Priority: Specific Credit	1

51	13	0	**TOTALS**	Possible Points:	110

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

DESIGN CONSULTANTS, INC.

Civil Engineering
Transportation
Water/Wastewater
Geotechnical
Land Surveying
Planning

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Somerville, MA 02145
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978 358.7173

Quincy MA
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August 19, 2016

DCI Project No. 2016-076

Mr. Josh Fetterman
CRM Property Management Corp.
320 Washington St, Suite 3FF
Brookline, MA 02445

RE: Geotechnical Letter Report
310-321 Border Street, East Boston, MA

Dear Mr. Fetterman:

Design Consultants Inc. (DCI) is pleased to provide this Geotechnical Letter Report summarizing our Geotechnical Investigation for the above-referenced project. The purpose of this Geotechnical Investigation was to assess surficial and subsurface conditions at the Project Site in order to provide geotechnical recommendations for the proposed addition's foundation and earthwork.

Project Understanding

The CRM Property Management Corporation (CRM) is proposing to redevelop the Site located at 310-321 Border Street (Site) in East Boston, Massachusetts. The Site is located on the east side of Border Street. The Site is currently occupied by an automotive repair facility. To the north is Eutaw Street, the east several apartment buildings and to the south municipal property. The Site is relatively level. The Site Location Plan is provided as Figure 1.

The lot is 17,817 square feet and is occupied by a fenced in parking lot on the northern third a single story concrete block buildings. The proposed project is a 64-unit, six-story residential building with parking on the ground level.

Geotechnical Investigation Program

The subsurface exploration program was performed on August 5, 2016 by Soil Exploration Corporation of Leominster, Massachusetts. Five test borings, designated B-1, B-2, B-3, B-4 and B-5 were observed and logged by a geotechnical engineer from DCI. The test boring locations are shown on Figure 2. The test borings were advanced to depths between 20-feet and 32-feet by a truck mounted drill rig using hollow stem augers and a Geoprobe track drill rig. Details of the drilling and sampling methods, soils encountered and testing are given to the test boring logs contained in Appendix A.

Standard Penetration Tests (SPTs) were performed in accordance with ASTM D-1586. The SPT consists of driving a 1⅜-inch inside diameter split spoon sampler with a 140 pound hammer falling 30-inches. The sum of the blows required to drive the sampler 6-inches to 18-inches of penetration is referred to as the Standard Penetration Resistance, or N-value, which is a measure of the in-situ soil

density or consistency. Soil samples from the test borings were visually classified in the field in accordance with the Unified Soil Classification System (USCS).

All soil samples recovered were stored in sealed glass jars contained in labeled card boxes. Samples remaining after testing will be stored for a period of sixty days, at which time they will be disposed of unless we are notified otherwise.

Subsurface Conditions

The subsurface conditions encountered at the test boring locations are described in detail on the Test Boring Logs that are contained in Appendix A, and are summarized below. In general, the conditions encountered are based on widely spaced explorations and variation in conditions should be anticipated. In general, the test borings encountered a surficial layer of fill, overlying very soft to soft organic silts in B-1, B-2 and B-3, underlain by a medium dense to dense glacial till.

Fill. A layer of Fill was observed in all five test borings and extended to depths of 5-feet to 13-feet below the ground surface. This layer generally consisted of olive to grey, fine to coarse sand with varying amounts of silt and gravel. The recorded N-values within the fill ranged from 4 blows per foot (BPF) to 25 BPF, indicating loose to medium dense relative density.

Organic Silt. A layer of Organic Silt was encountered under the Fill in two of the test borings (B-1 and B-2) to depths of 16 and 21 feet respectively. The Organic Silt contained varying amounts of organic fibers, sand gravel and shells. The recorded N-values within the Organic Silt ranged from Weight of Hammer for 24 inches to 5 BPF, indicating a soft to medium stiff consistency.

Glacial Till. A Silt with varying amounts of sand and gravel was encountered in the test borings below the organic silt and fill to the bottom of the borings which were terminated at depths up of 32-feet below ground surface. The recorded N-values within the Glacial Till ranged from 22 blows per BPF to 54 BPF, indicating medium dense to very dense relative density.

Groundwater. Groundwater was observed at the completion of drilling following removal of the augers at a depth of 5-feet below the ground surface in B-2 and 10-feet below ground surface in B-3. Groundwater observation wells were not installed and were beyond the scope of work of this investigation. Water levels measured in the borings upon completion of a test boring do not necessarily represent the true, stabilized groundwater table. Groundwater levels should be expected to fluctuate subject to seasonal variations in precipitation, temperature, and other environmental effects. Also, local variations may be increased by leakage into or out of existing utilities. Groundwater levels at the time of construction could differ from water levels observed during this investigation.

Foundation Design Recommendations

These foundation design recommendations have been developed based on the existing subsurface conditions and the anticipated building configurations. If further information is developed by the Architect and/or Structural Engineer such that final design column loading and building configuration change, the design criteria presented herein should be reviewed by DCI for continued applicability.

Foundation Design

To construct the foundation on spread and strip footing, the existing fill and organic soils, as they are not suitable for foundation, will be required to be excavated across the building footprint and the zone of influence of proposed. The zone-of-influence is defined as the footing area plus 1 foot beyond the edge of the footing and then downward and outward at a 1V (vertical) to 1H (horizontal) slope. The Foundation Zone of Influence is shown on Figure 3. This would require excavations 13 to 21-feet below the ground surface, the removal of and replacement of over 10,000 cubic yards of soil, and sheeting/shoring along the property line. Construction dewatering would likely be required.

Pressure Injected Footings. Based on the depth of the unsuitable soils and the cost to remove and replace them, DCI recommends that the proposed building be designed to be supported pressure injected footings. Use of pressure injected footings (PIFs) bearing on the natural Glacial Till soils will provide suitable foundation support. The location of the PIFs should correspond with the building columns. PIFs should be designed for an allowable load of 50 tons.

Ground Improvement. Alternatively, strip and spread footing foundation bearing on the improved ground is feasible for foundation support. The footings may bear on the ground improved by Rammed Aggregate Piers (RAPs) or Grouted Aggregate Piers (GAPs). GAPs and RAPs could be constructed on an established pattern through the fill and organic silt, and into the Glacial Till. Ground improvement will necessitate the use of Load Transfer Layers (LTL) to support the strip and spread footings. The LTL would consist of compacted structural fill and or crushed stone. The LTL is reinforced with geogrids which transfer the lads to the RAPs and GAPs. The use of ground improvement will require a design report under Section 1801.3 Foundation Types Not Covered by the Code of the 8th Edition of the Massachusetts Building Code.

The bottom of all exterior footings shall be at least four feet below grade for frost protection, and 18-inches below the finish floor grade for the interior columns.

As a general guideline, foundation design and construction must conform to the applicable provisions of the current edition of the Massachusetts State Building Code. These criteria are based on a proposed building without a basement. Specific foundation design criteria follow.

- The strip and spread footings bearing on the LTL should be designed using an allowable bearing capacity in allowable bearing capacity in pounds per square foot (psf) equal to the least lateral width of the footing (feet) multiplied by 2,000 psf. The design allowable bearing capacity should not exceed 4,000 psf.

- Based on the net allowable bearing capacity placed on a properly prepared subgrade, the total footing settlement is expected to be less than one inch with differential settlements between adjacent columns being less than ½-inch. It is expected that the majority of the settlement will occur during construction.

- Natural soils located beneath the anticipated foundation level at the site are not considered susceptible to liquefaction based on the current State Building Code. For the purpose of earthquake design, in accordance with the Code, the site should be considered Site Class "E" with Earthquake Design Factors S_S=0.29 and S_1=0.068.

- Footings should bear beneath any proposed utilities.

Structural Fill. Compacted structural fill should consist of a well-graded, sandy gravel or gravelly-sand, free of organic material, loam, trash, snow, ice, frozen soil, or other deleterious material, and should be graded within the following limits:

SIEVE SIZE	PERCENT FINER BY WEIGHT
3 inches	100
½ inch	50-85
No. 4	30-75
No. 50	8-28
No. 200	0-10

The compacted structural fill material placed within the building limits should be placed in 9-inch-thick maximum loose lifts and compacted by self-propelled vibratory rollers, or other approved compaction equipment. In confined areas, lift thickness should be reduced to a maximum of six (6) inches and compacted by hand-operated vibratory compactors or tampers. The materials should be compacted to a minimum of 95 percent of the maximum dry density, as determined by ASTM D-1557.

Fill placed outside the building limits (common fill) in open areas should be compacted to a dry density of at least 92 percent of the maximum dry density, as determined by ASTM D-1557.

Crushed Stone. Crushed stone fill should consist of either of the following materials:

1. Durable crushed rock, consisting of the angular fragments obtained by breaking and crushing solid or shattered natural rock, and free of thin, flat, elongated, or other objectionable pieces.

2. Durable, crushed gravel stone obtained by mechanical crushing of gravel or boulders or field stone, with a minimum diameter before crushing of eight (8) inches.

3. The crushed stone should be free from loam or deleterious material. Crushed stone should be within the following gradation limits:

SIEVE SIZE	PERCENT FINER BY WEIGHT
1-inch	100
¾-inch	90-100
½-inch	10-50
3/8-inch	0-20
No. 4	0-10

4. Crushed stone should be placed in-the-dry, in layers not exceeding twelve (12) inches, loose measure, and should be compacted by a minimum of four (4) passes with suitable compaction equipment, as noted for granular fill.

Common Fill. Compacted common fill should consist of mineral soil substantially free from organic materials, loam, clay, wood, trash, and other objectionable materials which may be compressible or which cannot be properly compacted. Common fill should not contain stones larger than two-thirds of the loose measure lift thickness. It should not contain broken concrete, masonry rubble, or other similar materials, and should have physical properties such that it can be readily spread and compacted during filling. Snow, ice, and frozen soil should not be permitted.

Common fill will typically be required for landscaped and paved areas (outside of the structure footprint) below subbase level. Common fill should be placed in-the-dry, in layers not exceeding twelve (12) inches, loose measure, and be compacted by suitable compaction equipment to at least 92 percent of the maximum dry density, as determined by ASTM D-1557.

Earthwork and Construction Considerations

The primary purpose of this section of the letter report is to comment on items related to foundation construction, earthwork, excavation, dewatering, and related geotechnical engineering aspects of the proposed construction. It is written primarily for the engineer/architect responsible for preparing contract drawings and specifications. Since it defines potential problems related to foundation construction and earthwork, it will also aid personnel who monitor construction activity.

Contractors for this project must evaluate potential construction problems on the basis of their own knowledge and experience with similar projects at other localities, taking into consideration their own proposed methods, procedures, equipment, and personnel.

In addition to the construction guidelines and recommendations made herein, lateral earth support and excavation activities for the structure should conform to the requirements of OHSA and all other municipal and state regulatory agencies.

Construction Dewatering and Groundwater Control. All excavation work should be conducted in-the-dry. Based on the results of subsurface explorations performed at the site, foundation excavations will not extend below the groundwater table. However, during wet periods, the acceptable sub-grade soils may be saturated.

Control of surface water and surficial soil seepage into the excavation will also be necessary in order to retain the integrity of the natural-bearing soils. The Contractor should control the flow of surface water and seepage water into excavations at all times. Surface water control during construction may be performed using collection trenches and sumps, if accumulation does occur. Accumulated water should be removed in such a manner as not to disturb the underlying soil. Dewatering discharge should be disposed in accordance with applicable regulations.

Preparation and Protection of Bearing Surfaces. Construction of the foundation system is not likely to require excavation and filling operations below existing groundwater levels. Removal of excavated materials from the site, specifically man-placed fill, should be done in accordance with current applicable local, state, and federal regulations.

The following guidelines are recommended to protect the subgrade soils:

1. The LTL, RAPs, GAPs, and/or PIFs construction should be observed in the field by the Geotechnical Engineer for approval.
2. Prevent the traffic of equipment and personnel across the exposed soil bearing surface.

Earthwork Operations During Freezing Weather. Precautions should be taken if work takes place during any time of the year in which temperatures may fall to or below freezing. No fill materials should be allowed to freeze prior to compaction. Fill should not be placed on snow, ice, or frozen soil. More specifically, placement of compacted structural fill should not be conducted when air temperatures

are low enough to cause freezing of the moisture in the fill during or before placement (approximately 32°F, or below). Fill should not be placed on frozen soil, whether compacted or not.

Off-Site Borrow Material. Materials required in the construction to be supplied from off-site sources should be completely free of chemical contamination due to the presence of oil or hazardous materials. Certification that borrow materials do not contain oil or hazardous materials are recommended for each material and material source used in this project.

Construction Monitoring. It is recommended that DCI be retained to provide the recommended monitoring services. This will enable DCI to observe compliance with the geotechnical design concepts and recommendations, and to facilitate design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction. Since variations in these conditions are possible, a Geotechnical Engineer should be present during construction to:

1. Observe the removal of any existing unsuitable materials from within the building limits.

2. Observe LTL, RAPs, GAPs, and/or PIFs construction.

3. Observe preparation of the foundation and slab bearing surfaces prior to forming and concreting.

4. Confirm the type and suitability of the natural soil deposits encountered in the foundation excavation.

5. Observe and test placement and compaction of structural fill, common fill, and crushed stone.

6. Review Contractor submittals for filling to conduct laboratory testing on samples of compacted granular fill and crushed stone materials.

Full-time monitoring for the placement and compaction of fill for support of structures, is required by the Massachusetts Building Code. As a guide, a Recommended Program for Special Inspections for Soils is included in Appendix B.

We recommend that DCI be retained to provide the recommended construction monitoring services. This will permit DCI to observe compliance with the project design criteria, and to facilitate design changes in the event that subsurface conditions are different than those encountered in the explorations.

Specification and Plan Review. It is recommended that DCI be given an opportunity to review the final plans and specifications for the building, including earthwork, and related items, in order to confirm that the recommendations made in this report were interpreted and implemented as intended.

We trust that the contents of this letter report satisfies your current needs. Should you have any questions, or if we can be of further assistance please do not hesitate to contact me at (781) 733-1214 or mclark@dci-ma.com.

Sincerely,
Design Consultants Inc.

Michael F. Clark, P.E., CPESC, LEED-AP
Associate

Figure 1 – Site Location Plan
Figure 2 – Boring Location Plan
Figure 3 – Foundation Zone of Influence
Limitations
Appendix A – Test Boring Logs
Appendix B - Recommended Program for Structural Tests and Inspections for Soils and Foundations

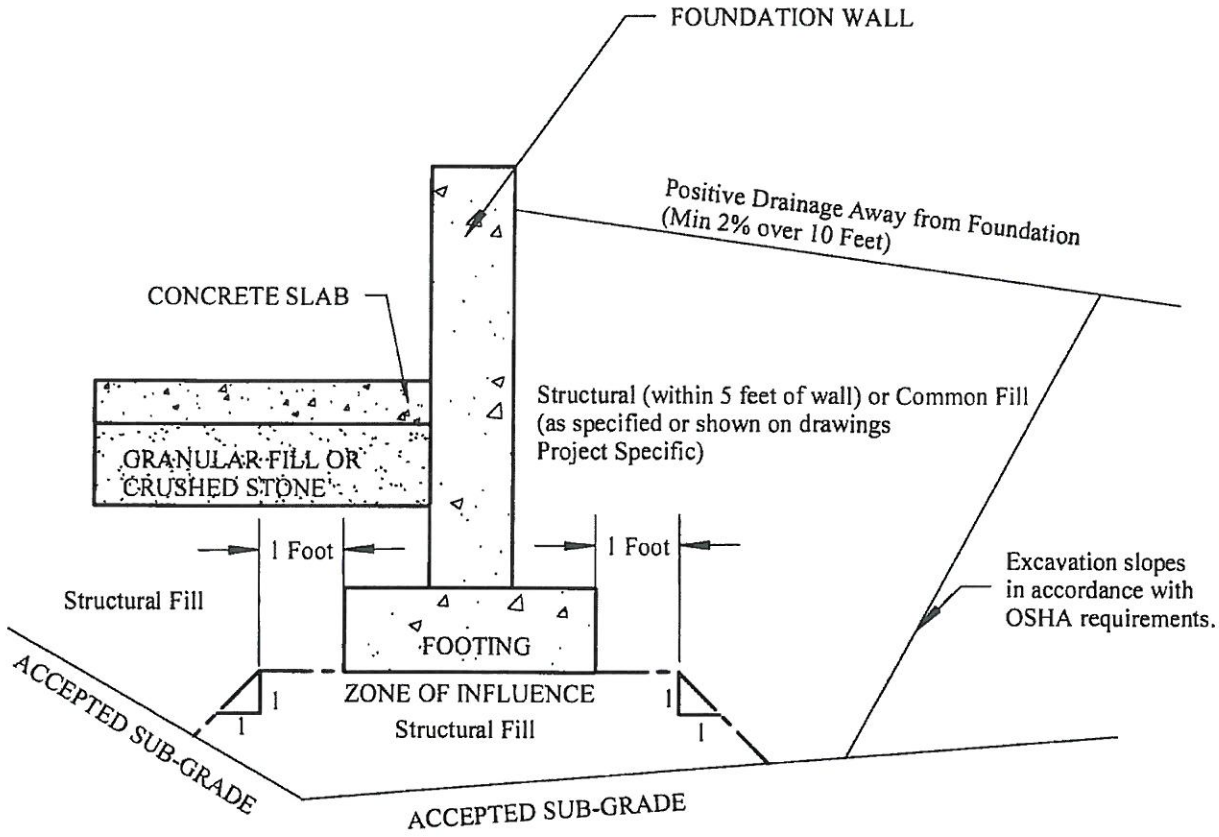
Scale 1"=2,000 Feet

Ref: Boston North USGS Quad 2015

FIGURE 1 - SITE LOCATION PLAN

Geotechnical Investigation
310 Border St, East Boston, MA

DESIGN CONSULTANTS INC.



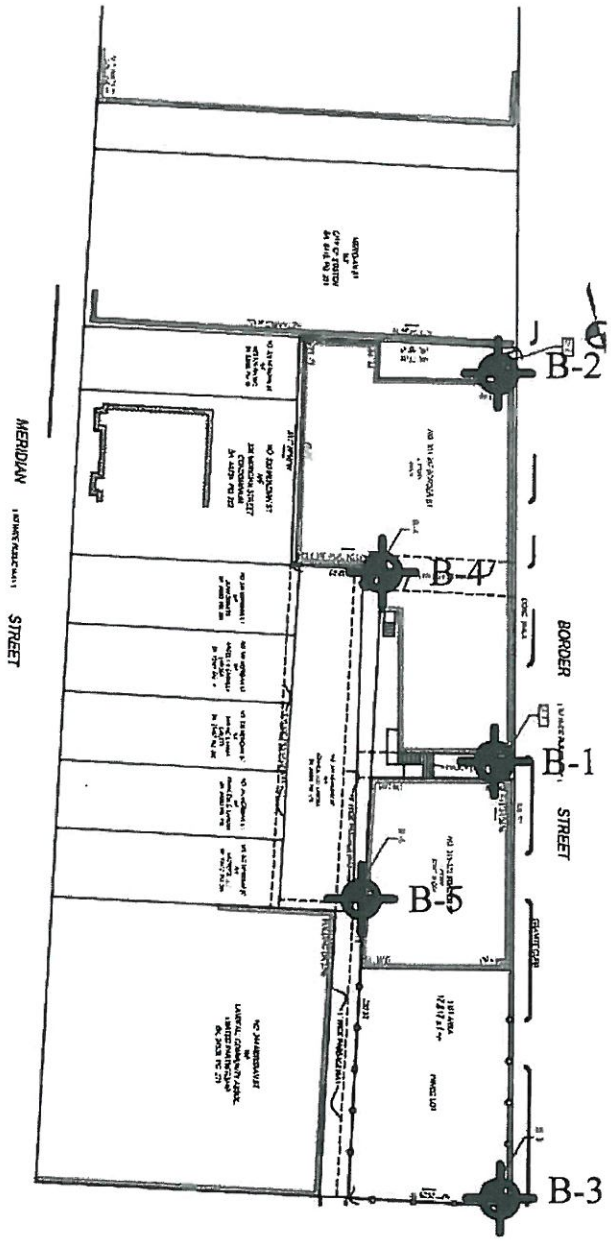
Notes

1. Structural Fill within the building footprint, and within the footing zone of influence should be compacted to 95% of its maximum dry density as determined by ASTM D-1557.
2. The accepted sub-grade should be verified by the Geotechnical Engineer (Design Consultants).
3. Common or Structural Fill outside of the building footprint and the footing zone of influence should be compacted to 92% of its maximum dry density as determined by ASTM D-1557.
4. All fill should be placed in the dry on the accepted subgrade.
5. Refer to the Geotechnical Report for additional requirements.

FIGURE 3 - FOUNDATION ZONE OF INFLUENCE

Geotechnical Investigation
310 Border Street, East Boston, MA

DESIGN CONSULTANTS INC.



Boring Location

Notes

1. Boring Locations determined by tape and pace methods.

FIGURE 2 - EXPLORATION LOCATION PLAN

Geotechnical Investigation
310 Border Street, Eaast Boston, MA

DESIGN CONSULTANTS INC.

BORING LOG

Project:	2016-076
Location:	301-321 Border Street
Client:	CRM Realty
Driller:	Soil Explorations Corporation
Drilling Methods:	H.S.A.
Weather:	Sunny 70's
Performed By:	PJS Date: 8/5/16
Checked By:	MFC Date: 8/11/16

DESIGN CONSULTANTS, INC.

Boring No:	B-1
Location:	See Plan
Approx. Ground Elevation:	NA
Approx. Groundwater Elevation:	5' BGS
Date/Time of Groundwater Elevation:	
Datum:	Ground Surface
Project No.	2016-076

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	3 2 2 2	24"/9"	S-1 Top 4" Concrete sidewalk Bottom 5" Black, SAND, Little Gravel, Little Silt, Loose, Dry		FILL	
2							
3							
4							
5					5'		
6	S-2	1/24"	24"/14"	S-2 Dark Grey, Organic SILT, Trace Sand, Soft.			(1)
7							
8							
9							
10		1		S-3 Dark Gray, Organic SILT, Some Sand, Little Gravel, Medium Stiff.		ORGANIC SILT	
11	S-3	4	24"/13"	Layer Fine Gravel at 7"			
12		1 1					
13							
14							
15		3		S-4 Top 9", Grey, SILT, and SAND, Trace Gravel, Wet, Medium Dense.			
16	S-4	14 20	24"/17"	Next 5", SAND, Trace silt, trace gravel, Brown, wet, Dense,			
17		12					
18				Bottom 3", SILT, some sand, trace gravel,		Till	
19							

NOTES:

(1) Groundwater observed at 5'

(2) Casing Refusal at 19.5'

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

BORING LOG

Project:	2016-076
Location:	301-321 Border Street
Client:	CRM Realty
Driller:	Soil Explorations Corporation
Drilling Methods:	H.S.A.
Weather:	Sunny 70's
Performed By:	PJS Date: 8/5/16
Checked By:	MFC Date: 8/11/16

DESIGN CONSULTANTS, INC.

Boring No: B-1

Location: See Plan
Approx. Ground Elevation:
Approx. Groundwater Elevation:
Date/Time of Groundwater Elevation:
Datum:
Project No. 2016-076

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Strotum Chonge Depth (feet)	Stratum	Note No.
21	S-5	16 24 30 33	24"/23"	S-5 Similar to Bottom 3" of S-4		Till	(2)
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	2016-076
Location:	301-321 Border Street
Client:	CRM Realty
Driller:	Soil Explorations Corporation
Drilling Methods:	H.S.A.
Weather:	Sunny 70's
Performed By:	MFC / AFS Date: 8/5/16
Checked By:	MFC Date: 8/11/16

DESIGN CONSULTANTS, INC.

Boring No: B-2

Location: See Plan

Approx. Ground Elevation:

Approx. Groundwater Elevation:

Date/Time of Groundwater Elevation:

Datum:

Project No. 2016-076

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	11 10 15 11	24"/17"	S-1 Top 6" Asphault, Black, F-C Sand, Trace, T Brick, Medium Dense		Fill	
2							
3							
4							
5							
6	S-2	11 10 12 7	24"/15"	S-2 Olive Grey, Silt, Little Sand, Medium dense, moist			
7							
8							
9							
10							
11	S-3	2 2 2 2	24"/9.5"	S-3 Similar to S-2, Loose			
12					13'		
13							
14							
15							
16	S-4	Weight of Hammer	24"/6"	S-4 Black, O. Silt, Trace Fine, Very Soft		O. SILT	
17							
18							
19							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

>30 Fine Soil N Value - Hard

BORING LOG

Project:	2016-076
Location:	301-321 Border Street
Client:	CRM Realty
Driller:	Soil Explorations Corporation
Drilling Methods:	H.S.A.
Weather:	Sunny 70's
Performed By:	MFC/ AFS Date: 8/5/16
Checked By:	MFC Date: 8/11/16

DESIGN CONSULTANTS, INC.

Boring No: B-2

Location: See Plan

Approx. Ground Elevation:

Approx. Groundwater Elevation:

Date/Time of Groundwater Elevation:

Datum:

Project No. 2016-076

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-5	4 4 8 17	24"/1"	S-5 Olive, Silt, Little gravel, Trace Fine Coarse Sand, low plasticity, moist		Till?	
22							
23							
24							
25	S-6	9 11 15 20	24"/22"	S-6 Similar to S-5, Medium Dense			
26							
27							
28							
29							
30	S-7	4 17 22 36	24"/22"	S-7 Similar to S-6, Dense			
31							
32							
33							
34							
35							
36							
37							
38							
39							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	2016-076		Boring No: B-3
Location:	301-321 Border Street		Location: See Plan
Client:	CRM Realty		Approx. Ground Elevation:
Driller:	Soil Explorations Corporation		Approx. Groundwater Elevation:
Drilling Methods:	H.S.A.		Date/Time of Groundwater Elevation:
Weather:	Sunny 70's		Datum:
Performed By:	AFS / PJS Date: 8/5/16	DESIGN CONSULTANTS, INC.	Project No. 2016-076
Checked By:	MFC Date: 8/11/16		

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Strotum Change Depth (feet)	Stratum	Note No.
1	S-1	3 4 4 2	24"/10"	S-1 Top 2" Brown, Fill, SAND, trace gravel, Moist, Loose, Bottom 8", Olive orange, splotches, SILT, some sand, trace gravel, soft, moist.			
2							
3							
4							
5	S-2	2 2 2 2	24"/6"	S-2 Light Brown, Fill, Sand, Corse, Chunky, Loose, Soft			
6							
7							
8							
9							
10	S-3	4 3 4 12	24"/13"	S-3 Rust Orange - Light Brown, SILT with sand, Loose, Medium Stiff		Till	
11							
12							
13							
14							
15	S-4	7 11 17 23	24"/24"	S-4 Similar to S-3, Light Brown, SILT with Sand and Gravel, Medium Dense			
16							
17							
18							
19							

NOTES:

(1) Water at 9'-10'

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	2016-076
Location:	301-321 Border Street
Client:	CRM Realty
Driller:	Soil Explorations Corporation
Drilling Methods:	H.S.A.
Weather:	Sunny 70's
Performed By:	AFS / PJS Date: 8/5/16
Checked By:	MFC Date: 8/11/16

DESIGN CONSULTANTS, INC.

Boring No: B-3

Location: See Plan

Approx. Ground Elevation:

Approx. Groundwater Elevation:

Date/Time of Groundwater Elevation:

Datum:

Project No. 2016-076

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-5	6 11 11 13	24"/22"	S-5 Light Grey, Clay, Coarse, Gravel mixed in, Medium Dense			
22							
23							
24							
25							
26	S-6	10 10 18 22	24"/23"	S-6 Grey, Silt, Coarse, Similar to S-5, Medium Dense			
27							
28							
29							
30							
31	S-7	11 15 28 63	24"/24"	S-7 Similar to S-6 Grey, Silt, Coarse, Trace amount of Sand, Medium Dense			
32							
33							
34							
35							
36							
37							
38							
39							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	2016-076
Location:	301-321 Border Street
Client:	CRM Realty
Driller:	Soil Explorations Corporation
Drilling Methods:	Direct Push
Weather:	Sunny 70's
Performed By:	PJS Date: 8/5/16
Checked By:	MFC Date: 8/11/16

DESIGN CONSULTANTS, INC.

Boring No: B-4

Location: See Plan

Approx. Ground Elevation:

Approx. Groundwater Elevation:

Date/Time of Groundwater Elevation: 7:45 A.M.

Datum:

Project No. 2016-076

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	2 3 5 6	24"/10"	S-1 Topsoil, Black, SAND, Little Silt, Trace gravel, Loose, Dry, Bottom 6", Black, Fill, SAND, Little silt, trace gravel		Fill	
2							
3							
4							
5	S-2	2 2 1 2	24"/16"	S-2 Black, SAND, Little Silt, Trace Gravel, Loose, Dry		Fill	
6							
7							
8							
9							
10	S-3	2 3 3 3	24"/11"	S-3 Top 8", Dark Grey to Brown, CLAY, Some Sand, Medium Stiff, Moist to Wet Bottom 2", Tan, SILT and Sand, Trace Gravel		Clay	
11						Till	
12							
13							
14							
15	S-4	11 14 15 25	24"/24"	S-4 Similar to bottom, 2" of S-3, Medium Dense to Dense, Moist			
16							
17							
18	S-5	8 12 20 28	24"/24"	S-5 Similar to S-4, Medium Dense			(1)
19							

NOTES:

(1) Casing Refusal at 18'

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

>30 Fine Soil N Value - Hard

BORING LOG

Project:	2016-076
Location:	301-321 Border Street
Client:	CRM Realty
Driller:	Soil Explorations Corporation
Drilling Methods:	Geo Probe
Weather:	Sunny 70's
Performed By:	PJS Date: 8/5/16
Checked By:	MFC Date: 8/11/16

DESIGN CONSULTANTS, INC.

Boring No: B-5

Location: See Plan

Approx. Ground Elevation:

Approx. Groundwater Elevation:

Date/Time of Groundwater Elevation:

Datum:

Project No. 2016-076

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	6 6 4 3	24"/12"	S-1 Black, SAND and silt, trace gravel, Loose to Medium Dense, Dry		Fill	
2							
3							
4							
5	S-2	4 6 14 7	24"/12"	S-2 Olive, SAND and Silt, Little Gravel Medium Dense, Moist to wet, penetrated 4" cobble		Fill	
6							
7							
8							
9							
10	S-3	7 13 11 13	24"/18"	S-3 Olive w/reddish and grey mottles, SILT, Some Sand, trace gravel, Medium Dense, Moist with some wet spots,		Till	
11							
12							
13							
14							
15	S-4	10 13 17 23	24"/24"	S-4 Similar to S-3, Dense		Till	
16							
17							
18	S-5	20 24 26 28	24"/18"	S-5 Similar to S-4, Very Dense		Till	(1)
19							

NOTES:

(1) Casing Refusal at 18'

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

>30 Fine Soil N Value - Hard

LIMITATIONS

Subsurface Explorations

1. The analyses, recommendations, and designs contained in this letter report are based upon the subsurface explorations. The nature and extent of variations between these subsurface explorations may not become evident until construction. If variations are encountered during construction, it may require a re-evaluation of the recommendations contained in this letter report.

2. The generalized subsurface conditions presented in this letter report is intended to convey trends in subsurface conditions. The boundaries between soil and/or rock strata are approximate and idealized, and have been developed from widely spaced subsurface explorations and samples. Actual soil transitions are likely more gradual. For specific detailed information, refer to the individual test boring and/or test pit logs.

3. Water level readings have been made in the subsurface explorations under the conditions provided on the test boring, test pit and/or monitoring well logs. This data has been reviewed and interpretations have been made in this letter report. However, it is noted that fluctuations in the level of ground water occurs due to variation in rainfall, temperature, and other factors differing from the time the measurements were made.

Review

4. It recommended that Design Consultants Inc. be given the opportunity to review final design drawings and specifications to evaluate the appropriate implementation of the recommendations provided in the letter report.

5. In the event that any changes in the nature, design and/or location of the proposed construction are planned, the conclusions and recommendations contained in this letter report shall not be considered valid unless changes are reviewed and conclusions of the letter report are modified and verified in writing by Design Consultants Inc.

Construction

6. It is recommended that Design Consultants Inc. be retained to provide geotechnical engineering services during the earthwork phases of work. This is to observe compliance with the design concepts, specifications and recommendations, and to allow design changes the event subsurface conditions differ from those anticipated prior to the start of construction.

Use of Letter Report

7. This letter report has been prepared for the exclusive use of the CRM Property Management Corp. and its sub-consultants for the design and construction of the 310-321 Border Street, East Boston, Massachusetts in accordance with general accepted geotechnical engineering practice. No other warranty, expressed or implied is made.

8. This letter report has been prepared for this project by Design Consultants Inc. This letter report was completed for design purposes. Contractors wishing a copy of this report may secure it with the understanding that its scope is limited to evaluation and design considerations only.

DESIGN CONSULTANTS INC.

RECOMMENDED PROGRAM FOR SPECIAL INSPECTIONS
FOR
SOILS AND FOUNDATIONS

Program for Special Inspections

1. Special Inspections of soils and foundation work are for the purpose of providing assurance to the *Owner, Building Official* and *Registered Design Professional in Responsible Charge* (*Registered Design Professional*), that the construction complies with the soils and foundation components associated with the work performed by the Geotechnical Engineer (GE) of Record (*Approved Agency*). These tests and inspections are form quality assurance and does not relieve the Contractor or its Sub-Contractors of their responsibility for quality control of the work and any design that are responsible for.

2. The GE will direct the implementation of this program and select any *Special Inspectors* required to undertake the program.

3. Fees and costs related to the implementation of this program will be borne by the *Owner*.

Approved Agency and Special Inspector Requirements

1. Comply with the following:

    a. Approved Agency shall have a minimum of five years' experience in performing the type and scope of work required for this project.

    b. Special Inspector's shall be qualified on the basis of certification, education, registration and/or satisfactorily documented work experience appropriate to the assigned task.

Criteria for Special Inspections

1. The approved geotechnical report, and the construction documents prepared by the registered design professionals shall be used to determine compliance.

Required Verification and Inspection of Soils (Table 1704.7)

1. Verify materials below shallow foundations are adequate to achieve design bearing capacity.

2. Verify excavations are extended to proper depth and have reached proper material.

3. Perform classification and testing of compacted fill materials.

4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.

5. Prior to placement of compacted fill, observe subgrade and verify that the site has been prepared properly.

6. During fill placement, the special inspector shall determine that proper materials and procedures are used in accordance with the provisions of the approved geotechnical report.

DCI
DESIGN CONSULTANTS, INC.

Accessibility Checklist

(to be added to the BRA Development Review Guidelines)

In 2009, a nine-member Advisory Board was appointed to the Commission for Persons with Disabilities in an effort to reduce architectural, procedural, attitudinal, and communication barriers affecting persons with disabilities in the City of Boston. These efforts were instituted to work toward creating universal access in the built environment.

In line with these priorities, the Accessibility Checklist aims to support the inclusion of people with disabilities. In order to complete the Checklist, you must provide specific detail, including descriptions, diagrams and data, of the universal access elements that will ensure all individuals have an equal experience that includes full participation in the built environment throughout the proposed buildings and open space.

In conformance with this directive, all development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following checklist and provide any necessary responses regarding the following:

- improvements for pedestrian and vehicular circulation and access;
- encourage new buildings and public spaces to be designed to enhance and preserve Boston's system of parks, squares, walkways, and active shopping streets;
- ensure that persons with disabilities have full access to buildings open to the public;
- afford such persons the educational, employment, and recreational opportunities available to all citizens; and
- preserve and increase the supply of living space accessible to persons with disabilities.

We would like to thank you in advance for your time and effort in advancing best practices and progressive approaches to expand accessibility throughout Boston's built environment.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
    a. http://www.ada.gov/2010ADAstandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
    a. http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
3. Boston Complete Street Guidelines
    a. http://bostoncompletestreets.org/
4. City of Boston Mayors Commission for Persons with Disabilities Advisory Board
    a. http://www.cityofboston.gov/Disability
5. City of Boston – Public Works Sidewalk Reconstruction Policy
    a. http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
6. Massachusetts Office On Disability Accessible Parking Requirements
    a. www.mass.gov/anf/docs/mod/hp-parking-regulations-mod.doc
7. MBTA Fixed Route Accessible Transit Stations
    a. http://www.mbta.com/about_the_mbta/accessibility/

Article 80 | ACCESSIBILTY CHECKLIST

Project Information

Project Name:	301-303 Border Street
Project Address Primary:	301-303 Border Street East Boston
Project Address Additional:	N/A
Project Contact (name / Title / Company / email / phone):	Josh Fetterman/Director of Development/City Realty Group, LLC/Josh.Fetterman@cityrealtyboston.com/617-751-5095

Team Description

Owner / Developer:	City Realty Group, LLC
Architect:	Choo & Co Inc.
Engineer (building systems):	Design Consultant, INC.
Sustainability / LEED:	Choo & Co Inc.
Permitting:	Drago & Toscano
Construction Management:	New Boston Builders

Project Permitting and Phase

At what phase is the project – at time of this questionnaire?

PNF / Expanded PNF Submitted - √	Draft / Final Project Impact Report Submitted	BRA Board Approved
BRA Design Approved	Under Construction	Construction just completed:

Building Classification and Description

What are the principal Building Uses - select all appropriate uses?

	Residential - Multi-unit, Four +		
Commercial			
			Storage, Utility and Other

First Floor Uses (List): *Garage/ Commercial/ Residential accessory*

What is the Construction Type – select most appropriate type?

		Steel Frame X	Concrete X

Describe the building?

Site Area:	*17817 SF*	Building Area:	*75000 SF*
Building Height:	*61' Ft.*	Number of Stories:	*6 Flrs.*
First Floor Elevation:	*At Sidewalk*	Are there below grade spaces:	*No*

Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and proximate institutions such as, but not limited to hospitals, elderly and disabled housing, and general neighborhood information. The proponent should identify how the area surrounding the development is accessible for people with mobility impairments and should analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the development neighborhood and identifying characteristics.	Dense urban with adjacent waterfront including mixed residential uses, commercial, institutional, industrial, and various other uses.
List the surrounding ADA compliant MBTA transit lines and the proximity to the development site: Commuter rail, subway, bus, etc.	Maverick Station is .6 Miles from the site. Airport Station is .55 Miles from the site. Numerous bus stops.
List the surrounding institutions: hospitals, public housing and	Umana Middle School East Boston Social Center East Boston CDC

elderly and disabled housing developments, educational facilities, etc.	East Boston Neighborhood Health Center Paris Street Community Center
Is the proposed development on a priority accessible route to a key public use facility? List the surrounding: government buildings, libraries, community centers and recreational facilities and other related facilities.	Yes. Umana School

Surrounding Site Conditions – Existing:

This section identifies the current condition of the sidewalks and pedestrian ramps around the development site.

Are there sidewalks and pedestrian ramps existing at the development site?	Yes
If yes above, list the existing sidewalk and pedestrian ramp materials and physical condition at the development site.	Concrete sidewalks with warning devices at crosswalks. Side street and sidewalk has an existing slope of slightly greater than 1/12.
Are the sidewalks and pedestrian ramps existing-to-remain? **If yes,** have the sidewalks and pedestrian ramps been verified as compliant? **If yes,** please provide surveyors report.	Sidewalks will be rebuilt and expanded along Border Street to create an approx 8' wide sidewalk.
Is the development site within a historic district? **If yes,** please identify.	No.

Surrounding Site Conditions – Proposed

This section identifies the proposed condition of the walkways and pedestrian ramps in and around the development site. The width of the sidewalk contributes to the degree of comfort and enjoyment of 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. Typically, a five foot wide Pedestrian Zone supports two people walking side by side or two wheelchairs passing each other. An eight foot wide Pedestrian Zone allows two pairs of

people to comfortable pass each other, and a ten foot or wider Pedestrian Zone can support high volumes of pedestrians.

Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? See: www.bostoncompletestreets.org	Yes.
If yes above, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, Boulevard.	Neighborhood Connector.
What is the total width of the proposed sidewalk? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone.	8' Pedestrian 5', 3' Furnishing
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?	Concrete all zones with tree plantings. Approx. 2' along Border Street will be on private property.
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the City of Boston Public Improvement Commission?	Yes
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way?	No.
If yes above, what are the proposed dimensions of the sidewalk café or furnishings and what will the right-of-way clearance be?	

Proposed 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 Handicap Parking Regulations.

What is the total number of parking spaces provided at the development site parking lot or garage?	42
What is the total number of accessible spaces provided at the development site?	3
Will any on street accessible parking spaces be required? **If yes,** has the proponent contacted the Commission for Persons with Disabilities and City of Boston Transportation Department regarding this need?	Yes. They have not been.
Where is accessible visitor parking located?	Street.
Has a drop-off area been identified? **If yes,** will it be accessible?	No
Include a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations. Please include route distances.	All spaces will be located directly adjacent to the building main entrance. All will be within 50' of the elevator.

Circulation and Accessible Routes:

The primary objective in designing smooth and continuous paths of travel is to accommodate persons of all abilities that allow for universal access to entryways, common spaces and the visit-ability* of neighbors.

**Visit-ability – Neighbors ability to access and visit with neighbors without architectural barrier limitations*

Provide a diagram of the accessible route connections through the site.	All common spaces and areas are accessible by means of a central elevator.
Describe accessibility at each entryway: Flush Condition, Stairs, Ramp Elevator.	All flush.
Are the accessible entrance and the standard entrance integrated?	Yes.
If no above, what is the reason?	
Will there be a roof deck or outdoor courtyard space? **If yes,** include diagram of the accessible route.	Yes, with elevator access.
Has an accessible routes way-finding and signage package been developed? **If yes,** please describe.	Not presently.

Accessible Units: (If applicable)

In order to facilitate access to housing opportunities this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing choice.

What is the total number of proposed units for the development?	64
How many units are for sale; how many are for rent? What is the market value vs. affordable breakdown?	64 Units are for sale 56 Units will be Market Rate 8 Units will be Affordable Units
How many accessible units are being proposed?	4 Type 2 units and 60 Type 1 Units. Type 2 units location and final design to be determined.

Article 80 | ACCESSIBILTY CHECKLIST

Please provide plan and diagram of the accessible units.	All units are currently designed as Type 1. See preliminary floor plans. Type 2 units location and final design to be determined.
How many accessible units will also be affordable? If none, please describe reason.	TBD
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs at entry or step to balcony. **If yes,** please provide reason.	No
Has the proponent reviewed or presented the proposed plan to the City of Boston Mayor's Commission for Persons with Disabilities Advisory Board?	No.
Did the Advisory Board vote to support this project? **If no,** what recommendations did the Advisory Board give to make this project more accessible?	TBD

Thank you for completing the Accessibility Checklist!

For questions or comments about this checklist or accessibility practices, please contact:

kathryn.quigley@boston.gov | Mayors Commission for Persons with Disabilities