



## **280 - 290 Warren Street, Roxbury MA Mixed-Use Multi Family Development**

---

### **Boston Civic Design Commission Briefing Package**

*Submitted Pursuant to Article 28 of the Boston Zoning Code*

#### **Submitted by:**

Cruz Development Corporation  
One John Eliot Square  
Roxbury, MA 02119

#### **In Association with:**

Micheal Washington Architects, Inc.  
Devellis Zrein, Inc.  
Clearesult

#### **Submitted to:**

Boston Civic Design Commission  
c/o Boston Redevelopment Authority  
One City Hall Square  
Boston, MA 02201

#### **Prepared by:**

Mitchell L. Fischman ("MLF") Consulting LLC  
41 Brush Hill Road  
Newton, MA 02461

October 4, 2016



## Table of Contents

---

<b>1.0</b>	<b>PROJECT SUMMARY / OVERVIEW</b>	<b>1-1</b>
1.1	Introduction .....	1-1
1.3	Proposed Project .....	1-5
1.3.1	Project Site and Surroundings .....	1-5
1.3.2	Detailed Project Description .....	1-5
<b>2.0</b>	<b>URBAN DESIGN</b>	<b>2-1</b>
2.1	Site and Surroundings .....	2-1
2.2	Materials and Finishes .....	2-2
2.3	Landscape Design .....	2-3
2.4	Sustainable Design/Energy Conservation.....	2-3
2.5	Urban Design Drawings .....	2-4
<b>3.0</b>	<b>GENERAL INFORMATION</b>	<b>3-1</b>
3.1	Project Schedule.....	3-1
3.2	Project Proponent.....	3-1
3.3	Public Benefits .....	3-1
3.4	Regulatory Controls and Permits.....	3-2
3.5	Public Review Process and Agency Coordination .....	3-2
<b>4.0</b>	<b>ADDITIONAL PROJECT INFORMATION</b>	<b>4-1</b>
4.1	Preliminary List of Permits or Other Approvals Which May be Sought .....	4-1
4.2	Project Team .....	4-2
	<b>APPENDICES</b>	<b>4-5</b>
	Appendix A – Urban Design Drawings - Figures 3.1-1 through 3.1-14.....	4-5
	Appendix B - PNF Shadow Analysis.....	4-6



---

## 1.0 PROJECT SUMMARY / OVERVIEW

---

### 1.1 Introduction

This Boston Civic Design Commission (“BCDC”) Briefing Package is being submitted on behalf of Cruz Development Corporation (“Proponent”) for the 280-290 Warren Street, a 101-105 Washington Street mixed-use multi-family residential development in the Roxbury neighborhood in accordance with the Article 28 requirements of the Boston Zoning Code (“Code”).

The Proponent’s Proposed Project involves the redevelopment of an approximately 54,670 square foot (1.25 acre) site including an existing church along with several vacant structures, in poor condition, and vacant land with a new mixed-use, mixed-income residential development to be developed in two phases, consisting of approximately 95 residential rental units, some of which are for elderly residents, in two 4-5 story buildings (the “Buildings”) plus approximately 11,334 gsf of ground floor office and retail uses, all served by approximately 102 garage parking spaces (the “Proposed Project”). As part of the proposed overall residential units, there would be on-site units to address the City of Boston’s Inclusionary Zoning Policy. In addition, the Proposed Project will further the objectives of Mayor Martin J. Walsh’s Housing Plan, Housing a Changing City: Boston 2030.

The Site is bordered by Warren, Clifford and Waverly Streets, and at the rear properties between Waverly and Clifford Streets. The existing on-site buildings are proposed to be demolished to enable the new project to be constructed.

The Site is within a highly commercialized area and is in the midst of a very active transportation node that includes major MBTA bus lines and the Dudley Square MBTA station within one mile of the Site.

By combining the 280-290 Warren Street property (to be called “290 Warren Street”), owned by the City of Boston and under control of the City’s Department of Neighborhood Development, with abutting privately owned property, Cruz will implement an approximately \$47 million development program for the two-phased residential program that meets the specific housing goals of the city and the Roxbury neighborhood.

The Phase 1 proposal is to construct a 51-unit, mixed-income residential development, as referenced to be named the **Dr. Michael E. Haynes Arms** building, in honor of the former Roxbury state representative, minister, and civil rights leader, with approximately 97,709 gross square feet of floor area for work-force housing. The Phase 1 proposal will utilize the approximately 9,684 sf of land that is under control of the City’s Department of Neighborhood Development (“DND”) at 290 Warren Street (and for which Cruz has been tentatively designated by DND as the Project Redeveloper in August 2015) plus abutting property located at 2-10 Clifford Street (for which Cruz has a purchase option). The proposed Phase 1 ground floor office space will be occupied by offices for the Cruz Companies. The Phase 1 proposal is for the design, development and construction of the Buildings, that will be consistent with the design of many of the existing buildings found on Warren Street, and includes two-levels of parking for a total of approximately 74 garage spaces on two-levels. The Phase 1 proposal also provides a substantial new

anchor of housing and commercial development at a strategic location between Roxbury's Dudley Street and Blue Hill Avenue.

The Phase 2 proposal will require acquisition of two additional properties at 270-272 and 274-276 Warren Street, located on the same block as the Phase 1 properties. Phase 2 will be a mixed-use building, consisting of 4,050 gross square feet of ground-level commercial space and 44-units of elderly housing, both totaling 68,568 gsf of floor area. An additional parking garage for approximately 28 spaces will also be provided for this phase of the development with access coordinated with the Phase 1 development.

This proposal has many important and unique characteristics. Most significantly is the creation of office space for approximately 45 Cruz employees and the economic vitality that they will bring to the neighborhood. The Cruz Companies, founded by John B. Cruz, Jr., have been doing business in Boston and its minority neighborhoods since 1948. Many of these employees are Roxbury residents and this proposal will facilitate keeping and recycling their disposable income in the neighborhood. The multiplier effect of local purchases should bolster existing businesses and foster the creation of new neighborhood-based businesses to serve the needs of the companies, the employees and the new residents.

Surrounded by several abutting and nearby structures of three to five stories in height. The context of the immediate area is supportive and well-suited for the proposed scale and scope of the Proposed Project. See **Figures 1-1** and **1-2** for Project Locus and USGS Map, respectively.

The Project Site is located in the MFR/LS subdistrict of the Roxbury Neighborhood Zoning District (Article 50), which permits multi-family dwellings of up to four stories and office uses, although it is expected that the floor area ratio and height may exceed the zoning limitations and some dimensional requirements may not be met by the proposed project under the existing zoning regulations, and certain use variances or conditional permits will be needed for both the residential and non-residential uses.

The Project Notification Form ("PNF") for the Proposed Project was filed with the Boston Redevelopment Authority on September 27, 2016 in accordance with the Article 80B-1 Large Project Review requirements of the Boston Zoning Code.



**Figure 1-1 Project Locus**  
270, 280 - 290 and ES Warren St, 2-10 Clifford St, Roxbury





Figure 1 - 2  
USGS Map



## 1.3 Proposed Project

### 1.3.1 Project Site and Surroundings

The current Site is located in the Warren Street Corridor in Roxbury, between the Dudley Square and Grove Hall business district. The Site is also along a relatively flat section of Warren Street in a mixed use commercial area adjoining a generally single-family and two-family residential neighborhood with some scattered multi-family apartment buildings. The Site has been used for various uses including the former Warren Theater (now church) at 270-272 Warren Street, a former commercial building at 280-290 Warren Street, and a former automotive garage (for the former theatre) from 1927, when it was constructed, until at least 1964, and as a granite warehouse in recent years at 2-10 Clifford Street. ES Warren Street is subject to a right-of-way restriction with adjacent abutters. MBTA bus lines No. 14, 19, 23 and 28 runs along Warren Street, serving the site and the Dudley Square public transportation bus node is within ½ mile north of the site.

Abutters include the Verizon telecommunication building to the north along Clifford Street, residences on Clifford and Warren Streets, and residential/commercial buildings along Warren Street to the south and north.

A review of the Site history by GEI Consultants during the Phase I and II ASTM Environmental Site Assessment investigation in 2015, indicated that between 1888 and 1897 the 2-10 Clifford Street property was part of the Donald Kennedy Medicine Manufacturing Facility. According to Sanborn maps, these building were vacant by 1919, with the automobile garage constructed in 1927 to serve the adjoining theater.

The Church of God of Prophecy Inc at the corner of Warren and Waverly Streets, was formerly the Warren Theater which was constructed in 1926 to house vaudeville and silent movies. It is not clear whether the theater was in operation after 1983. See **Figure 1-3** for existing site conditions, and **Figures 1-5 to 1-8** for site and surrounding area context photographs.

### 1.3.2 Detailed Project Description

The Phase 1 proposal is to construct, at a minimum, a 51-unit, mixed-income residential development to be named the **Dr. Michael E. Haynes Arms** building, with approximately 97,706 gross square feet of floor area for work-force housing. (See **Table 1-1 Summary of Proposed Project Dimensions**.) The Phase 1 proposal will utilize the approximately 9,684 sf of land that is under control of the City's Department of Neighborhood Development ("DND") (and for which Cruz has been tentatively designated by DND as the Project Redeveloper) plus abutting property located at 2-10 Clifford Street (for which Cruz has an option to purchase). The Phase 1 ground floor office space will be occupied by offices for the Cruz Companies. The Phase 1 proposal is for the design, development and construction of the Buildings, that will be consistent with the design of many of the existing buildings found on Warren Street, and includes two-levels of parking for a total of approximately 74 garage spaces on two levels. The Phase 1 proposal also

provides a substantial new anchor of housing and commercial development at a strategic location between Roxbury's Dudley Street and Blue Hill Avenue.

The Phase 2 proposal will require the acquisition of two additional properties located on the same block as the Phase 1 properties. Another mixed-use building, consisting of ground-level commercial uses and 44-units of elderly housing will be constructed on that site. An additional parking garage for approximately 28 spaces will also be provided for this phase of the development with access coordinated with the Phase 1 development.

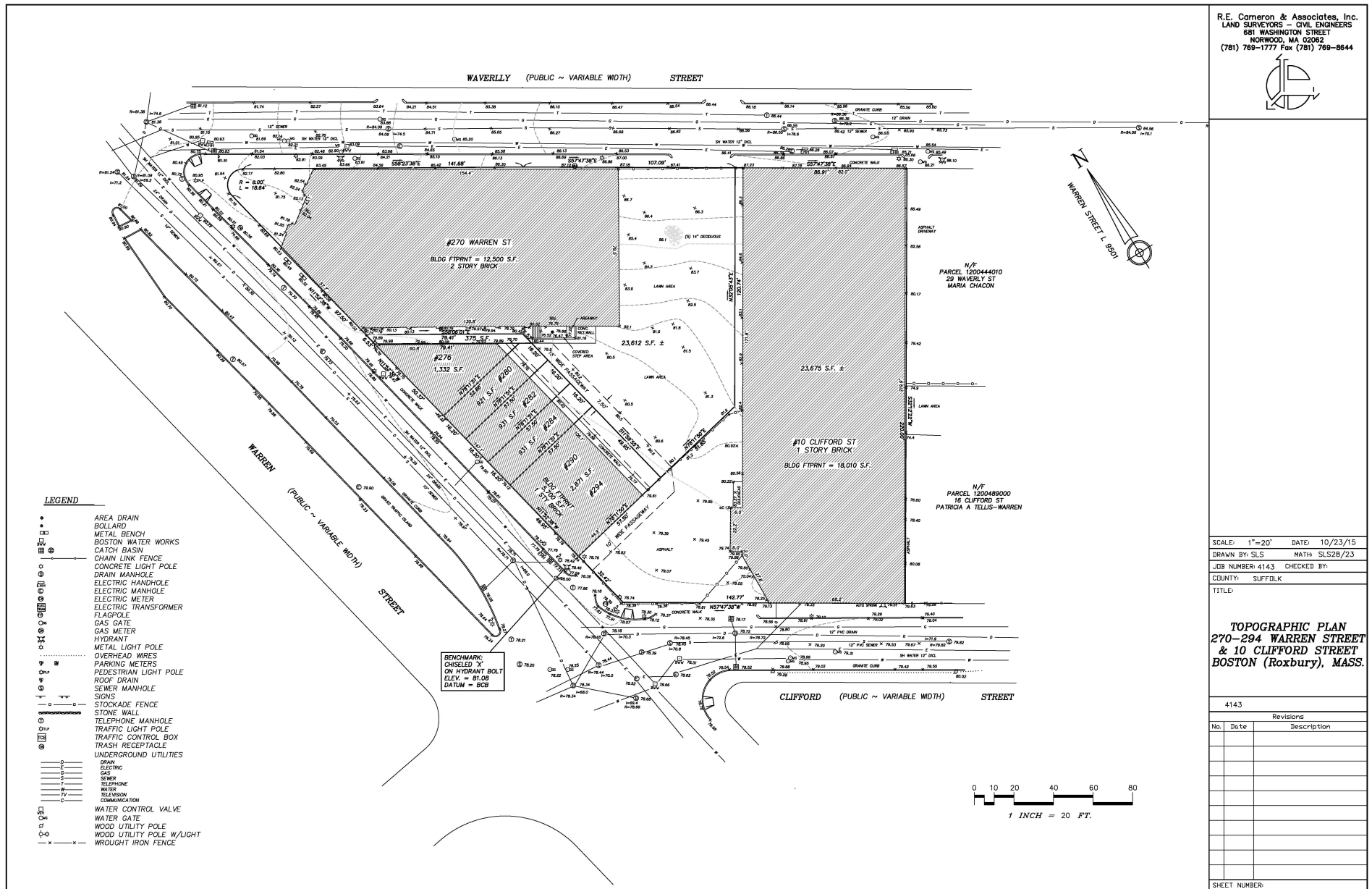
The Proposed Project is ideally situated within close proximity to the MBTA bus lines which connect to other lines at nearby Dudley MBTA Station. The proposed Site is also within close walking distance to neighborhood services on the other side of Warren Street, offering many neighborhood shops and restaurants to service the new residents of the development.

The proposed multi-family residences will have a mixture of unit types and sizes, which will accommodate Roxbury's diverse and growing population, including 44one-bedroom,, 49two-bedroom, and 2 three bedroom units.. The Proponent understands that parking is always a concern to neighborhood residents, and is proposing garage and surface parking that will house 102 parking spaces (at least 1-space for each proposed unit), and bike racks for 95 bikes as required by the Boston Transportation Department guidelines. See **Figure 1-4** for Phasing Plan.

The Site circulation plan is designed to create a safe and pleasant entry to the Proposed Project with the residential entrance from Warren and Clifford Streets. Service vehicle and a loading area access will also be provided from Clifford Street (in Phase 1) and Waverly Street (after Phase 2).

Table 1-1 280-290 Warren Street - Summary of Proposed Project Dimensions

	Phase 1	Phase 2	Total
<b>Lot Area</b>	29,329 SF	25,341 SF	54,670 SF
<b>Multi-Family Residential</b>	58,052 GSF	36,120 GSF	92,172 GSF
<b>Commercial</b>	7,284 GSF	4,050 GSF	11,334 GSF
<b>Common Area</b>	8,746 GSF	16,559 GSF	
<b>Community Area</b>		6,314 GSF	
<b>Parking Garage (On-Grade)</b>	12,687 GSF	5,525 GSF	
<b>Parking Garage (Below-Grade)</b>	<u>12,940 GSF</u>	<u>0 GSF</u>	
	97,709 GSF	68,568 GSF	
<b>Gross Floor Area (Per Boston Zoning Code)</b>	97,706 GSF	68,568 GSF	166,274 GSF
<b>Number of Residential Units</b>	51 - units	44 - units	95 - Units
<b>Floor Area Ratio</b>	3.33	2.70	3.04
<b>Height of Tallest Portion of Building (Per Zoning Code)</b>	48 feet	58 feet	--
<b>Number of Stories</b>	4 - Stories	5 - Stories	--
<b>Parking Spaces:</b>			
<b>Surface – On-Grade</b>	35	28	
<b>Below-Grade Garage</b>	<u>39</u>	<u>0</u>	
<b>Total</b>	74 Spaces	28 Spaces	102 Spaces



**Figure 1-3 Existing Conditions Plan**  
**280 - 290 Warren St, 2-10 Clifford St, Roxbury**



**FIGURE 1-4 : PHASING PLAN**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



Adjacent to 270-272 Warren St. DND Owned Buildings along Warren St.



270-272 Warren St.at Warren and Waverly Streets

**Figure 1-5 Site and Surrounding Area Photographs**





Corner of Clifford and Warren Streets



Waverley Street Site Building

**Figure 1-6 Site and Surrounding Area Photographs**



View of Corner of Warren and Clifford Streets from across Warren



View of Corner of Warren and Clifford Sts and adjacent Warren St Bldgs

**Figure 1-7 Site and Surrounding Area Photographs**





Vacant site building along Waverly Street



Adjacent residential building to vacant site bldg. along Waverly

**Figure 1-8 Site and Surrounding Area Photographs**

## 2.0 URBAN DESIGN

---

### 2.1 Site and Surroundings

The proposed design intent of this residential and commercial project is to restore the urban fabric and residential street life of traditional Roxbury and to enhance and encourage further redevelopment of Warren Street between Dudley Square and Blue Hill Avenue.

The location of our site, at approximately halfway between the Dudley Square and Blue Hill Avenue, is ideally suited and placed for these goals.

The proposed architectural style is reflective of the architecture along Warren Street and in the adjacent Roxbury residential neighborhoods. The use of brick, traditional bays, mansard roofs and familiar windows, translated into a more modern form, is in keeping with other new residential developments of this era in this area.

It is expected that the 280-290 Warren Street project will restore a residential presence and vitality to this long abandoned site and productively refinish and establish this neighborhood edge.

To reinforce this sense of extension of the residential fabric, we believe that the commercial, restaurant and office space used at the first floor is traditional on Warren Street and appropriate in restoring a sense of street vitality.

On Warren Street, the goal is to create a strong residential presence while restoring the neighborhood tradition of first floor commercial, restaurant and office uses. By siting the main residential entrances on Waverly and Clifford Street corners, the team hopes to improve the safety and user perception of this portion of the street, and separate residential zones from commercial zones.

The entire Warren Street perimeter is redeveloped. The combination of placing neighborhood “eyes” onto the street and the introduction of a new entrance will add both to the safety and positive perception of the Warren Street neighborhood.

The team’s plan for the entry on Waverly Street enhances this entry by creating a welcoming atmosphere for pedestrians during their coming and going on our property by introducing a small sitting area that can also be used by the coffee shop or restaurant. This is proposed to contribute to the liveliness of the Waverly Street entry and corner location and increase security

The intent is not just to fill this abandoned site, but to reactivate Warren Street along this edge with a compatible building of similar size, shape, scale, materials, uses and architectural character as the existing street. Our primary goal being to enhance and improve the character of the street and neighborhood, and increase the quality of the urban experience and increase the value of existing and future adjacent properties.

The siting of the building attempts to accomplish a number of design goals. These goals are different at each face of the building, and yet they all contribute to the overall goal of completion of the street and neighborhood edge, and assuring the final product is compatible with the site and neighborhood at each point of contact.

The other issue driving the Waverly Street front door is the introduction of an entry to the parking garage and behind the Waverly Street main pedestrian entry. This will create addition activity further down Waverly Street from Warren Street.

The Warren street elevation reflects the typical Warren street treatment of providing residential housing above local services and businesses at street level. In Phase 2, space is provided on Warren Street for a coffee shop and a restaurant at the corner of Waverly Street behind storefront windows.

In Phase I, the main entry is on Clifford Street, close to the Warren Street corner, and the entire Warren Street façade includes store front windows at street level. This is the location of 7,284 square feet of office space to be occupied by the developer/proponent, Cruz Companies.

If the space is broken up, smaller points of entry will be added. Behind the Clifford Street pedestrian entry, the upper level parking entry is provided which will be the main access to the upper and lower level of parking until Phase II is completed.

Both Waverly Street and Clifford Street pedestrian and vehicular entries will encourage traditional commercial activity at street level and housing activity above, with proper zoning for each to allow for the desired use activation at the street level, and with proper zoning of the residential activity on the first level and above.

## **2.2 Materials and Finishes**

The building will be constructed utilizing three primary exterior wall materials. The dominant exterior materials will be brick with precast concrete accents. Metal panels will form the bays. The material used on the mansard roofs, which is a major design element in each elevation, will be standing seam metal roofing.

The first floor store fronts will be aluminum system with one-inch insulating glazing. This treatment is provided to create transparency at street level and an inviting yet secure environment. Inside the courtyard, the walking areas will be surfaced with different shapes and sizes of masonry pavers that will encourage alternative usage and accent the landscaping features and planting.

The materials that are being used for the development are complimentary and compatible with adjacent structures in the immediate neighborhood and on Warren Street.

### **2.3 Landscape Design**

The concept behind the landscape at the 280-290 Warren Street project is to provide a courtyard space and private garden for the residents of the buildings.

As you enter the space you travel down a walkway flanked by small ornamental trees and plants. Tucked next to the walkway are benches where residents may sit, eat lunch, or read.

As you continue down the path, a center tree punctuates the space. A small seat wall circles the tree for sitting and passive activity. The area behind the tree is a larger space which can be utilized for larger community gatherings, a place for tables and chairs or a place for congregation. The lawn around the space softens the edges and gives it a yard like feel.

The streets adjacent to the site are lined with trees and planting. The street trees and pits sit within the first 4' of the sidewalk. The trees help to create a pedestrian zone and provide several functions. They bring scale to the building, they reduce the heat island effect produced from the street, and they also provide a buffer between cars and pedestrians. Signage and other site features maybe added in between the trees to help strengthen the separation between the traffic and the pedestrian.

The small space outside the restaurant is an ideal place for outdoor seating, a small knee wall wraps the space on two sides helping to mitigate the grade and create an on grade patio outside of the restaurant. The wall also helps to create a planter with small ornamental trees that add life to the plaza but also give separation between pedestrians and diners.

The landscape treatment will provide comfortable, pleasant, and valuable open spaces and an edge to the project that will encourage interaction and separation between the inhabitants of the project and the passersby in the adjacent community.

### **2.4 Sustainable Design/Energy Conservation**

The Phase 1 and 2 apartments will provide high efficiency, durable and comfortable units. The project is utilizing the LEED Homes Midrise path. Each unit will have individual heating, cooling and hot water, providing residents with individual control and encouraging careful use and consumption. All of the practices and materials that are used in the residential sections of the building will be employed in the commercial areas as well, ensuring the entire building maintains a high degree of sustainability. The location on one of Boston's central neighborhood thoroughfares will continue to boost the local neighborhood. The project team will work with a third party, green rater, Clearesult, to provide guidance and verification during development and construction.



## 2.5 Urban Design Drawings

The 280-290 Warren Street urban design drawings and perspectives are contained in **Appendix A** and include:

- Figure 3.1-1: Schematic Design - Cover Sheet
- Figure 3.1-2: Schematic Design - Vicinity Plan
- Figure 3.1-3: Schematic Design - Neighborhood Context - Aerial
- Figure 3.1-3A: Schematic Design - Neighborhood Context - Existing
- Figure 3.1-3B: Schematic Design - Neighborhood Context - First Floor Plan
- Figure 3.1-3C: Schematic Design - Neighborhood Context - Second, Third, Fourth Floor Plan
- Figure 3.1-3D: Schematic Design - Neighborhood Context - Fifth Floor Plan - Phase II Only
- Figure 3.1-4: Schematic Design - Garage Lower Level
- Figure 3.1-5: Schematic Design - Garage Upper Level / First Floor Plan / Landscape Plan
- Figure 3.1-5A: Schematic Design - Garage Upper Level / First Floor Building Entry Diagram
- Figure 3.1-6: Schematic Design - Second, Third and Fourth Floor Plan
- Figure 3.1-7: Schematic Design - Fifth Floor Plan - Phase II Only
- Figure 3.1-8: Schematic Design - Warren and Clifford Street Elevation
- Figure 3.1-9: Schematic Design - Waverly Street Elevation
- Figure 3.1-10: Schematic Design - Clifford and Warren Street Elevation
- Figure 3.1-11: Schematic Design - Typical Section
- Figure 3.1-12: Schematic Design - Perspective From Opposite Side of Warren Street
- Figure 3.1-13: Schematic Design - Perspective From Warren and Waverly Street
- Figure 3.1-14: Schematic Design - Perspective From Courtyard Entry

### 3.0 GENERAL INFORMATION

#### 3.1 Project Schedule

Project Schedule	280-290 Warren Street Project
Construction Commencement	1 <sup>st</sup> Quarter 2018
Construction Completion	4 <sup>th</sup> Quarter 2020
Status of Project Design	Schematic

#### 3.2 Project Proponent

Cruz Companies has been proudly entwined with the Roxbury community for decades. Founded by John “Bertie” Cruz in 1948, Cruz Development Corporation (CDC) has completed more than \$500,000,000 in multiple landmark projects over the past 40-years, including ground up construction, building rehabilitation, multi-family rehabilitation and office building construction. CDC has partnered with many local community groups and historical societies in and around the City of Boston as part of the process of gaining project approvals. John Cruz III, CDC President, has been involved in real estate development/investment since 1973. CDC currently owns and manages over 900 apartment units for his own portfolio. His most recent project is the moderate rehabilitation of a 349 unit, multi-family residential development, consisting of 23 scattered site properties, located in the Roxbury, Dorchester and Mattapan neighborhoods of Boston.

CDC, therefore, has experience in managing and developing real estate, and in managing local businesses, which will guide this Proposed Project to completion. Cruz Companies would occupy the commercial space on the ground floor of the Phase 1 development, bringing 45 Cruz employees, many of whom are Roxbury residents in the neighborhood. This new space would unite all four Cruz subsidiaries- Cruz Development, Cruz Construction, Cruz Management and Cruz Relocation- under the same roof.

#### 3.3 Public Benefits

The Proposed Project will provide substantial benefits to the City of Boston and the Roxbury community, including:

- Creating much needed workforce housing in the Roxbury Neighborhood;
- Creating affordable rental units within the Proposed Project;

- Creating desirable elderly housing in the Roxbury neighborhood.
- Redeveloping blighted and underutilized parcels;
- Encouraging alternative modes of transportation through the use of bicycling and walking, close proximity to the MBTA Dudley Station bus terminal, and access to zip car spaces inside the development's parking garage;
- Creating 95 bike racks within the building to encourage bicycling as a mode of transportation, leading to less vehicular traffic;
- Adding revenue in the form of new property taxes to the City of Boston;
- Creating full time jobs (commercial/ retail); and
- Creating temporary construction and labor jobs.

### **3.4 Regulatory Controls and Permits**

The Proposed Project is located within the Multi-Family Residential / Local Services Subdistrict (MFR/LS) of the Roxbury Neighborhood District (Article 50), which allows the new multi-family and elderly residential uses, but restricts and limits certain dimensional, density, lot, floor area, off-street parking/loading and other requirements for the Proposed Project. Thus, the Proponent will seek the relief required for the Proposed Project by Variance and/or Conditional Use(s) with the City of Boston Board of Appeal.

### **3.5 Public Review Process and Agency Coordination**

Prior to submitting this PNF, the Project Proponent conducted extensive preliminary community outreach to seek initial input and support for the Proposed Project; voluntarily canvassed the neighborhood for its own sponsored an initial abutters meeting and hosted site visits with community leadership. The Project Proponent also met extensively during the tentative developer selection process for the Department of Neighborhood Development parcels in 2015. The Proponent integrated the articulated input and community values into its overall development program, and it looks forward to continuing to process and shape the Proposed Project with this most important constituency.

As part of the required community outreach process, the Boston Redevelopment Authority in collaboration with Roxbury's elected officials has selected an Impact Advisory Group (IAG), which the development team will 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.

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.

## 4.0 ADDITIONAL PROJECT INFORMATION

### 4.1 Preliminary List of Permits or Other Approvals Which May be Sought

Agency Name	Permit or Action*
<b>State Agencies</b>	
MA Department of Environmental Protection, Division of Water Pollution Control	Sewer Connection Self Certification
<b>Local Agencies</b>	
Boston Redevelopment Authority	Article 80 Review and Execution of Related Agreements; Section 80B-6 Certificate of Compliance
Boston Department of Neighborhood Development (DND)	Final Redeveloper Designation; NHT, IDP and City of Boston HOME Funds
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Plan
Boston Department of Public Works Public Improvements Commission	Possible Sidewalk Repair Plan; Curb-Cut Permit; Street/Sidewalk Occupancy Permit; Permit for Street Opening; Other
Boston Landmarks Commission	Art. 85 - Demolition Delay Review
Boston Board of Appeal	Possible Variances and Dimensional Relief from the Existing Zoning Code Requirements
Boston Public Safety Commission Committee on Licenses	Permit for Storage of Fuel in (Emergency Storage) Tanks; Garage License
Boston Fire Department	Approval of Fire Safety Equipment
Boston Water and Sewer Commission	Approval for Sewer and Water and Connections; Construction Site Dewatering; and Storm Drainage
Boston Department of Inspectional Services	Building Permits; Certificates of Occupancy; Other Construction-Related Permits

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



## 4.2 Project Team

Project Name	280-290 Warren Street, Roxbury
Property Owner/Developer	<p><b>Cruz Development Corporation</b> One John Eliot Square Roxbury, MA 02119</p> <p>John B. Cruz III, President Daniel Cruz, Jr., Vice President</p> <p>Edgar J. Carrere, Senior Project Manager <a href="mailto:ecarrere@cruzcompanies.com">ecarrere@cruzcompanies.com</a> Tel: 617-445-6901</p>
Article 80 Permitting Consultant	<p><b>Mitchell L. Fischman Consulting ("MLF Consulting") LLC</b> 41 Brush Hill Road Newton, MA 02461</p> <p>Mitch Fischman <a href="mailto:mitchfischman@gmail.com">mitchfischman@gmail.com</a> Tel: 781-760-1726</p>
Legal Counsel	<p><b>Tourse &amp; Associates PC</b> 3 Cannon Street Newton, MA 02461 Tel: 617-969-8035</p> <p>Dennis Tourse <a href="mailto:dtourse@tourseassoc.com">dtourse@tourseassoc.com</a></p> <p><b>McKenzie &amp; Associates, PC</b> 183 State Street, Suite 6 Boston, MA 02109 Tel: 617-723-0400</p> <p>Joseph Feaster, Esq. <a href="mailto:jfeaster@mckenzielawpc.com">jfeaster@mckenzielawpc.com</a></p>
Architect	<p><b>Micheal Washington Architects</b> 891 Centre Street, Suite 401 Jamaica Plain, MA 02130 Tel: 617-390-5515</p> <p>Mike Washington <a href="mailto:mwashington@mwaboston.com">mwashington@mwaboston.com</a></p> <p>Elvin Phillips <a href="mailto:ephillips@mwaboston.com">ephillips@mwaboston.com</a></p>

<p>Transportation Planner / Engineer</p>	<p><b>Howard Stein Hudson</b>          11 Beacon Street, Suite 1010          Boston, MA 02108          Tel: 617-482-7080</p> <p>Brian J. Beisel, PTP  <a href="mailto:bbeisel@hasassoc.com">bbeisel@hasassoc.com</a></p> <p>Michael Littman  <a href="mailto:mlittman@hshassoc.com">mlittman@hshassoc.com</a></p>
<p>Civil Engineer</p>	<p><b>Howard Stein Hudson</b>          11 Beacon Street, Suite 1010          Boston, MA 02108          Tel: 617-482-7080</p> <p>Rick Latini, P.E.  <a href="mailto:rlatini@hshassoc.com">rlatini@hshassoc.com</a></p>
<p>Landscape Architect</p>	<p><b>DeVellis Zrein Inc.</b>          P.O. Box 307          Foxborough, MA 02035          Tel: 508-473-4114</p> <p>Catherine Martin  <a href="mailto:cmartin@develliszrein.com">cmartin@develliszrein.com</a></p>
<p>Noise and Air Consultant</p>	<p><b>Tech Environmental, Inc.</b>          Hobbs Brook Office Park          303 Wyman Street, Suite 295          Waltham, MA 02451          Tel: 781-890-2220</p> <p>Marc C. Wallace  <a href="mailto:mwallace@techenv.com">mwallace@techenv.com</a>          Tel: 781-890-2220 x30</p>
<p>Sustainability Consultant</p>	<p><b>Clearesult</b>          50 Washington Street, Suite 3000          Westborough, MA 01581</p> <p>Mike Schofield  <a href="mailto:mike.schofield@clearesult.com">mike.schofield@clearesult.com</a>          Tel: 508-365-3205 x 1304</p>

Construction	<p><b>John B. Cruz Construction Company</b> One John Eliot Square Roxbury, MA 02119</p> <p>Oscar Carlos, Senior Project Manager/Estimator <a href="mailto:ocarlos@cruzcompanies.com">ocarlos@cruzcompanies.com</a> Tel: 617-445-6901</p>
Environmental/21E Engineer	<p><b>GEI Consulting Engineers and Scientists</b> 40 Unicorn Park Drive Woburn, MA 01801</p> <p>Catherine G. Johnson, Project Manager <a href="mailto:cjohnson@GEIconsultants.com">cjohnson@GEIconsultants.com</a> Tel: 781-721-4000</p>
Geotechnical Engineer	<p><b>UTS of Massachusetts, Inc.</b> 5 Richardson Lane Stoneham, MA 02180</p> <p>Kevin M. Martin, P.E. <a href="mailto:kevinmartinpe@aol.com">kevinmartinpe@aol.com</a> Tel: 781-438-775</p>

---

## APPENDICES

---

### **Appendix A – Urban Design Drawings - Figures 3.1-1 through 3.1-14**

The listing of the urban design drawings, perspectives, and renderings described below are contained in this appendix:

- Figure 3.1-1: Schematic Design - Cover Sheet
- Figure 3.1-2: Schematic Design - Vicinity Plan
- Figure 3.1-3: Schematic Design - Neighborhood Context - Aerial
- Figure 3.1-3A: Schematic Design - Neighborhood Context - Existing
- Figure 3.1-3B: Schematic Design - Neighborhood Context - First Floor Plan
- Figure 3.1-3C: Schematic Design - Neighborhood Context - Second, Third, Fourth Floor Plan
- Figure 3.1-3D: Schematic Design - Neighborhood Context - Fifth Floor Plan - Phase II Only
- Figure 3.1-4: Schematic Design - Garage Lower Level
- Figure 3.1-5: Schematic Design - Garage Upper Level / First Floor Plan / Landscape Plan
- Figure 3.1-5A: Schematic Design - Garage Upper Level / First Floor Building Entry Diagram
- Figure 3.1-6: Schematic Design - Second, Third and Fourth Floor Plan
- Figure 3.1-7: Schematic Design - Fifth Floor Plan - Phase II Only
- Figure 3.1-8: Schematic Design - Warren and Clifford Street Elevation
- Figure 3.1-9: Schematic Design - Waverly Street Elevation
- Figure 3.1-10: Schematic Design - Clifford and Warren Street Elevation
- Figure 3.1-11: Schematic Design - Typical Section
- Figure 3.1-12: Schematic Design - Perspective From Opposite Side of Warren Street
- Figure 3.1-13: Schematic Design - Perspective From Warren and Waverly Street
- Figure 3.1-14: Schematic Design - Perspective From Courtyard Entry



**FIGURE 3.1-1: COVER**

# 280 – 290 WARREN STREET PROJECT

**Submitted to:**

Boston Redevelopment Authority  
 One City Hall Square  
 Boston, MA 02201

**Submitted and Prepared by:**

Cruz Development Corporation  
 One John Eliot Square  
 Roxbury, MA 02119

**In Association with:**

Micheal Washington Architects Inc  
 Mitchell L. Fischman Consulting LLC  
 Howard Stein Hudson  
 Tech Environmental  
 Clearesult  
 Tourse and Associates PC

PHASE I: UNIT COUNT

UNITS/ FLOOR	1BR 800 SF	2BR 999 SF	3BR 1285 SF	TOTAL
1ST FLOOR				0
2ND FLOOR	1	14	2	17 (18684 SQ. FT)
3RD FLOOR	2	15		17 (18684 SQ. FT)
4TH FLOOR	1	16		17 (18684 SQ. FT)
TOTAL UNITS	4	45	2	51 (56052 SQ. FT)
BASEMENT LEVEL PARKING SPACES				39
1ST FLOOR LEVEL PARKING SPACES				35

BUILDING SQUARE FOOTAGE PROVIDED PHASE I

	1ST FLOOR	2ND FLOOR	3RD FLOOR	4TH FLOOR	TOTAL
RESIDENTIAL	0 SF	18684 SF	18684 SF	18684 SF	56052 SQ. FT
COMMERCIAL (CRUZ)	1284 SF				1284 SQ. FT
COMMUNITY AREA	0 SF	0 SF	0 SF	0 SF	0 SQ. FT
COMMON AREA	1525 SF	2407 SF	2407 SF	2407 SF	8746 SQ. FT
ONSITE PARKING (12)	12697 SF				12697 SF
TOTAL SQUARE FEET	20,614 SF	21,091SF	21,091SF	21,091SF	84,779 SF

PHASE II: UNIT COUNT

UNITS/ FLOOR	1BR 860 SF	2BR 999 SF	TOTAL
1ST FLOOR			
2ND FLOOR	10	1	11 (9030 SQ. FT)
3RD FLOOR	10	1	11 (9030 SQ. FT)
4TH FLOOR	10	1	11 (9030 SQ. FT)
5TH FLOOR	10	1	11 (9030 SQ. FT)
TOTAL UNITS	40	4	44 (36120 SQ. FT)
PARKING SPACES			28

BUILDING SQUARE FOOTAGE PROVIDED PHASE I BASEMENT

	BASEMENT
STORAGE	1219 SQ.FT.
RECREATIONAL ROOM	1280 SQ.FT.
CONFERENCE ROOM/ OFFICE/KITCHEN(CRUZ)	2400 SQ.FT.
MECHANICAL	1340 SF.FT.
COMMON SPACE	1294 SF.FT.
PARKING	12940 SF.FT.
TOTAL SQUARE FEET	20473 SF.FT.

BUILDING SQUARE FOOTAGE PROVIDED PHASE II

	1ST FLOOR	2ND FLOOR	3RD FLOOR	4TH FLOOR	5TH FLOOR	TOTAL
RESIDENTIAL	0 SF	9030 SF	9030 SF	9030 SF	9030 SF	36,120 SF
COMMERCIAL	4050 SF	0	0	0	0	4050 SF
COMMUNITY AREA	134 SF	1545 SF	1545 SF	1545 SF	1545 SF	6314 SF
COMMON AREA	4751 SF	2952 SF	2952 SF	2952 SF	2952 SF	16559 SF
ONSITE PARKING (28)	5525 SF					5525 SF
TOTAL SQUARE FEET	13,521 SF	13,521 SF	13,521 SF	13,521 SF	13,521 SF	68,568 SF



**MICHEAL WASHINGTON ARCHITECTS INC.**

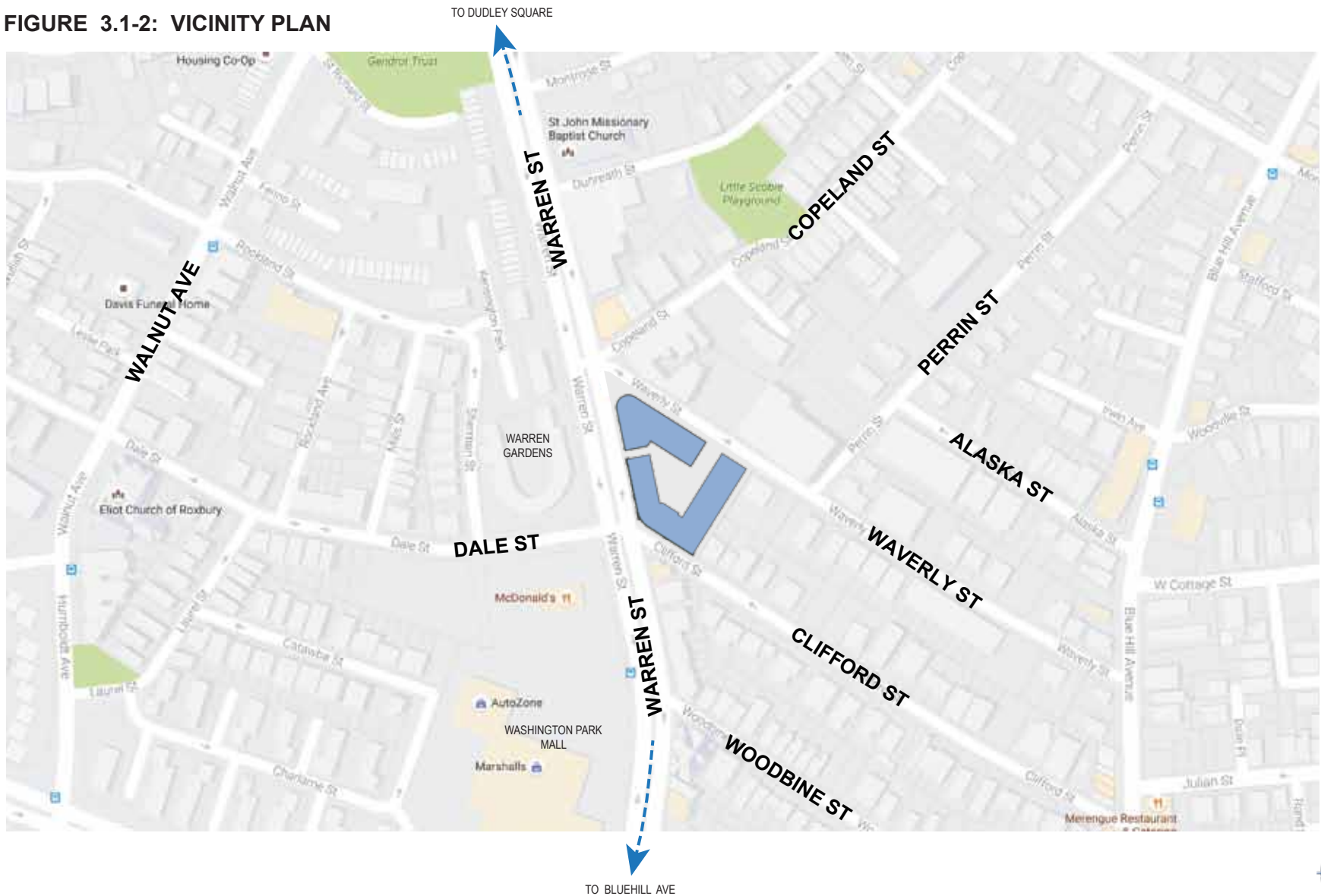
891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

**FIGURE 3.1-2: VICINITY PLAN**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



**FIGURE 3.1-3: NEIGHBORHOOD CONTEXT AERIAL**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



**FIGURE 3.1-3A: NEIGHBORHOOD CONTEXT - EXISTING**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

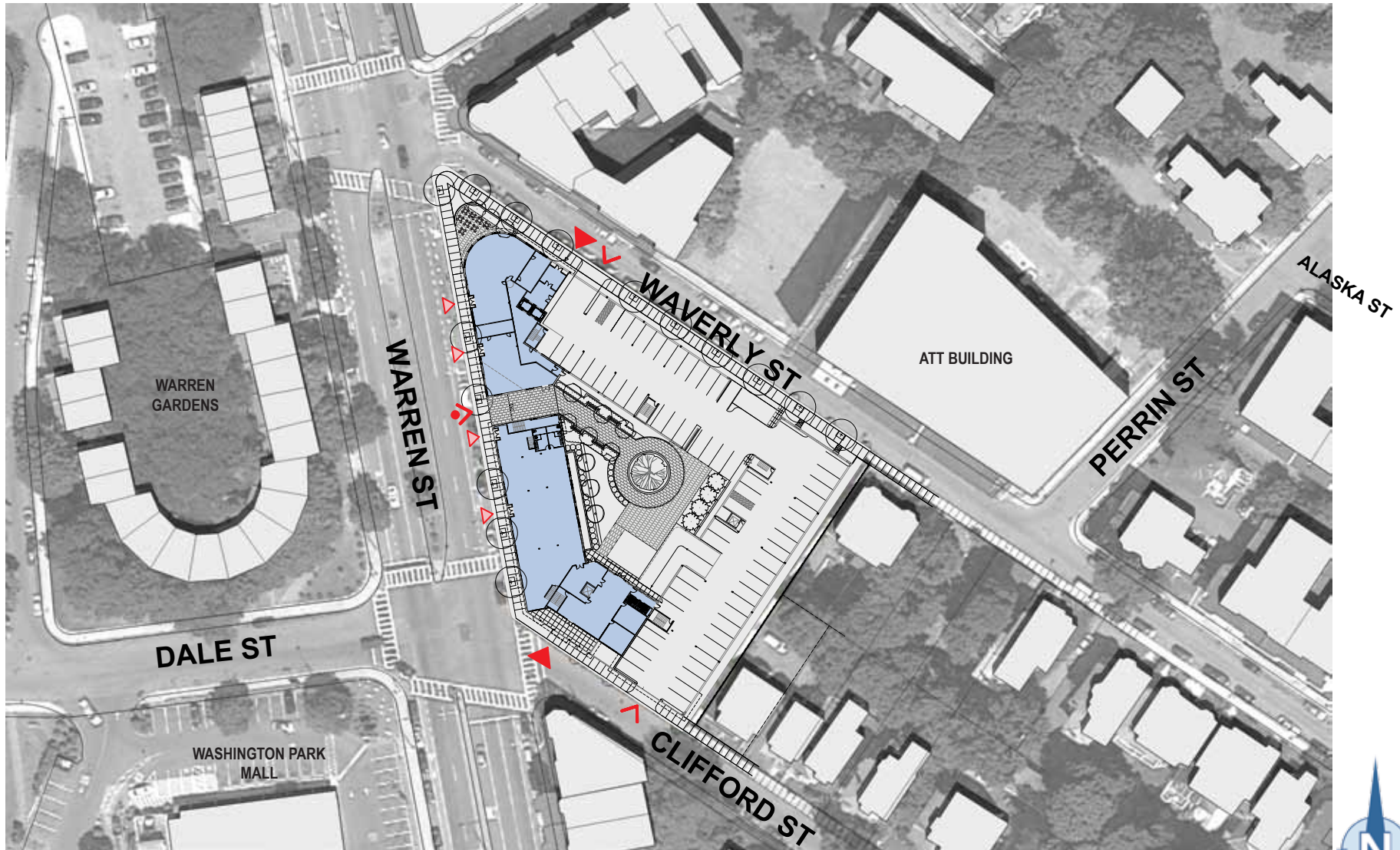
891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 3.1-3B: NEIGHBORHOOD CONTEXT - 1ST FLOOR



**LEGEND KEY:** ▲ MAIN ENTRY    ▲ SECONDARY ENTRY    ▲ PARKING ENTRY    ▲ COURTYARD ENTRY

**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



**FIGURE 3.1-3C: NEIGHBORHOOD CONTEXT - 2ND, 3RD, 4TH FLOOR**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

**FIGURE 3.1-3D: NEIGHBORHOOD CONTEXT - 5TH FLOOR (PHASE 2 ONLY)**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



**FIGURE 3.1-4: GARAGE LOWER LEVEL**



SCALE: 0 5' 10' 15' 20'

**MICHEAL WASHINGTON  
ARCHITECTS INC.**

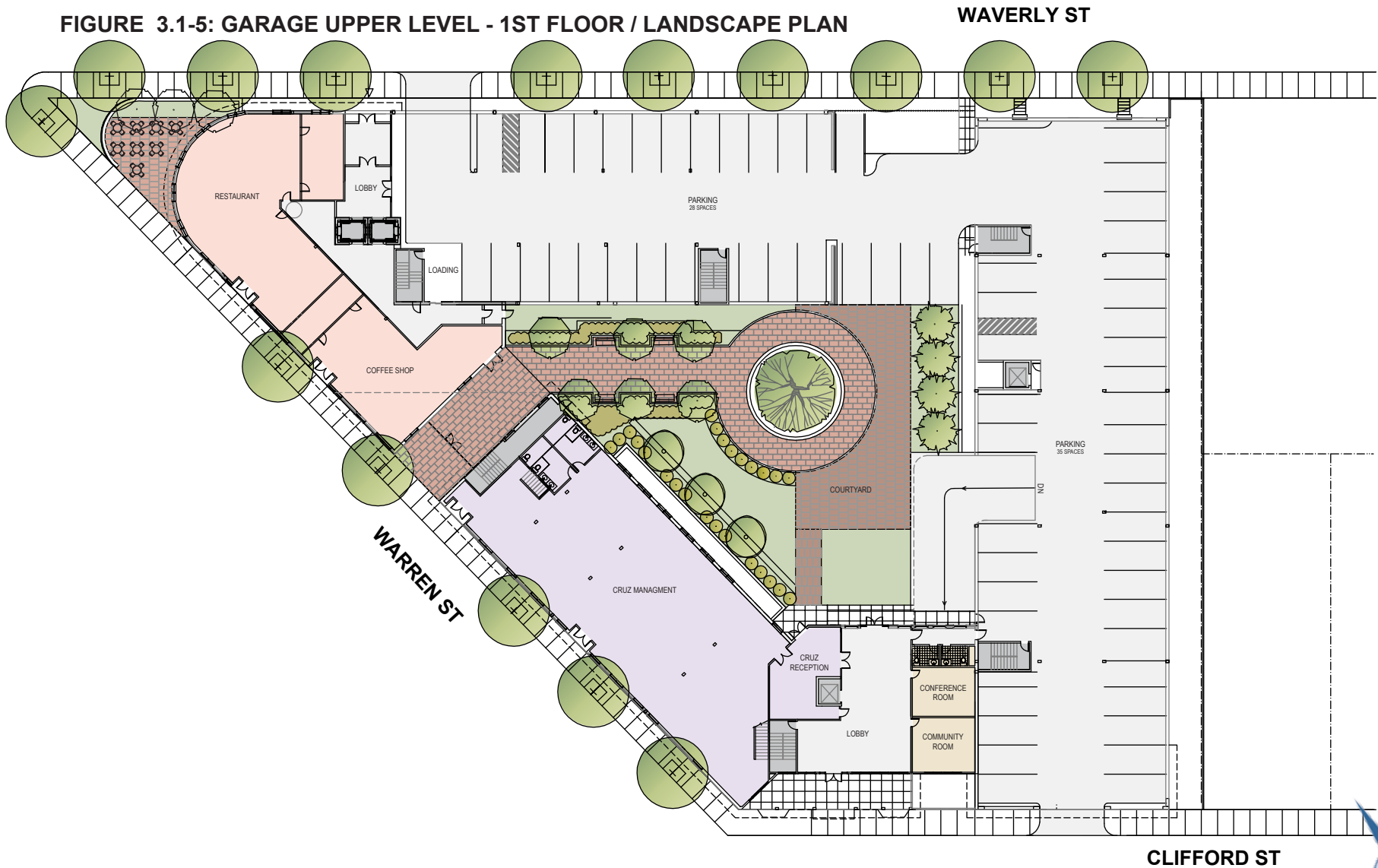
891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 3.1-5: GARAGE UPPER LEVEL - 1ST FLOOR / LANDSCAPE PLAN



SCALE: 0 5' 10' 15' 20'

MICHEAL WASHINGTON  
ARCHITECTS INC.

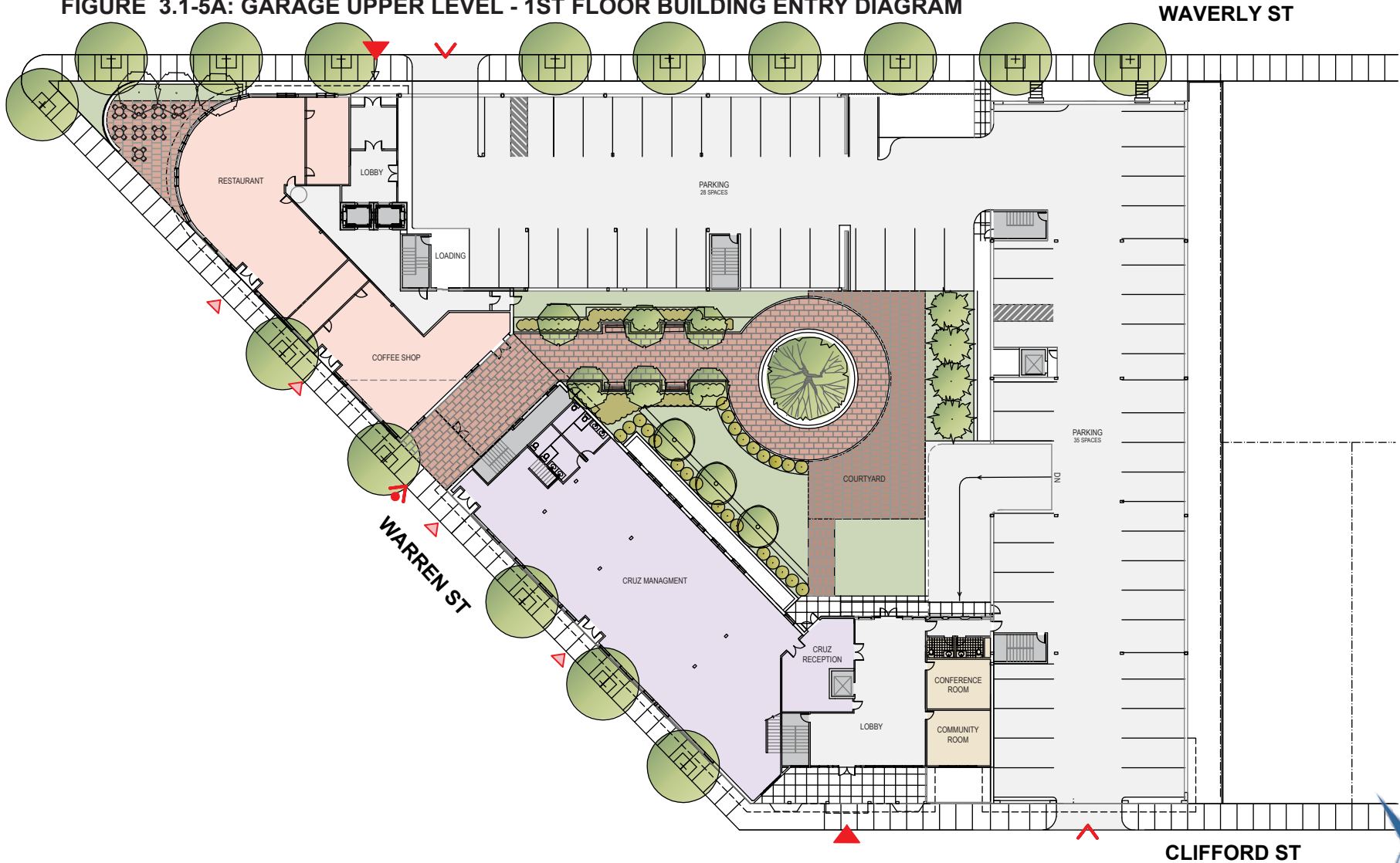
891 CENTRE STREET, JAMAICA PLAIN, MA 02130

280 - 290 WARREN STREET

CRUZ DEVELOPMENT  
CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

**FIGURE 3.1-5A: GARAGE UPPER LEVEL - 1ST FLOOR BUILDING ENTRY DIAGRAM**



**LEGEND KEY:**

- ▲ MAIN ENTRY
- △ SECONDARY ENTRY
- ▽ PARKING ENTRY
- ▲ COURTYARD ENTRY

**SCALE:** 0 5' 10' 15' 20'



**MICHEAL WASHINGTON ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 3.1-6: 2ND, 3RD, AND 4TH FLOOR LEVEL



SCALE: 0 5' 10' 15' 20'



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



**FIGURE 3.1-7: 5TH FLOOR LEVEL**



SCALE: 0 5' 10' 15' 20'



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

**FIGURE 3.1-8: WARREN ST & CLIFFORD ST ELEVATION**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY , MA 02119

**FIGURE 3.1-9: WAVERLY ST ELEVATION**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY , MA 02119

**FIGURE 3.1-10: CLIFFORD ST & WARREN ST ELEVATION**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

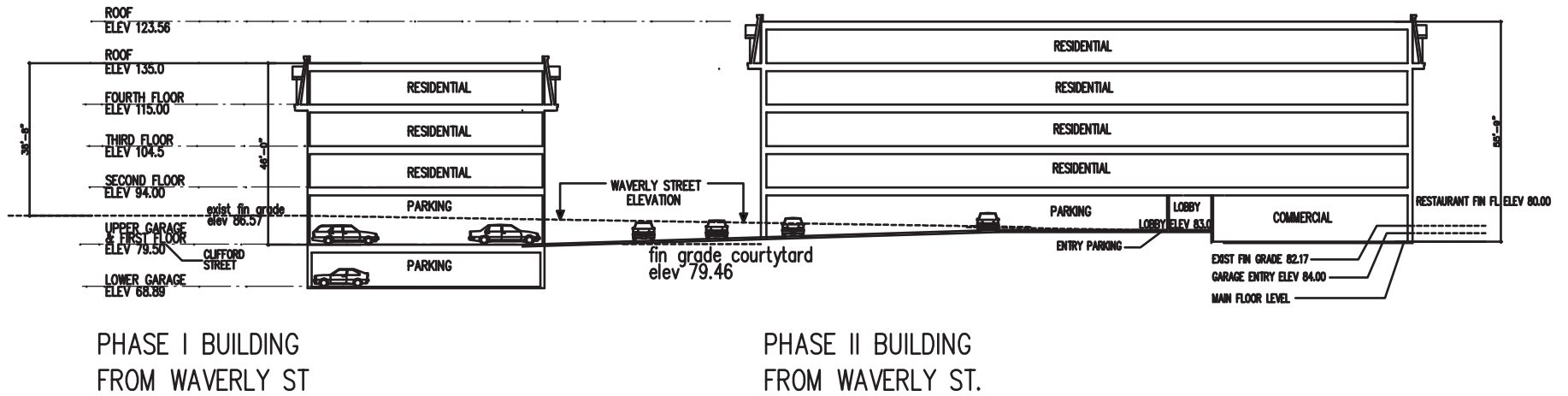
**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY , MA 02119



**FIGURE 3.1-11: TYPICAL SECTION**



**MICHEAL WASHINGTON ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

**FIGURE 3.1-12: PERSPECTIVE FROM OPPOSITE SIDE OF WARREN ST**



PERSPECTIVE FROM WARREN STREET AND DALE STREET

**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY , MA 02119

**FIGURE 3.1-13: PERSPECTIVE FROM WARREN ST & WAVERLY ST**



PERSPECTIVE FROM WARREN STREET AND WAVERLY STREET

**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



**FIGURE 3.1-14: PERSPECTIVE FROM COURTYARD ENTRY**



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY , MA 02119



---

## **Appendix B - PNF Shadow Analysis**

*(The following section is abstracted from the 280-290 Warren Street PNF submitted to the BRA)*

### **Introduction**

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

### **Vernal Equinox (March 21)**

**Figures 4.1-1** through **4.1-3** depict shadows on March 21.

At 9:00 AM, shadows are cast in a northwesterly direction onto portions of Warren Street. There are no shadows on the façade of the residential structures adjacent to the site (**Figure 4.1-1**).

At 12:00 Noon, shadows are cast in the northerly direction onto portions of Waverly Street (**Figure 4.1-2**).

At 3:00 PM, shadow from the project is cast northeasterly across Waverly Street onto adjacent residential structures on the north side of the street up to the 2<sup>nd</sup> floor. (Figure 4.1-3)

### **Summer Solstice (June 21)**

**Figures 4.1-4** through **4.1-7** depict shadow impacts on June 21.

At 9:00 AM, shadows are cast in a northwesterly direction onto portions of Warren Street and Clifford Street (**Figure 4.1-4**).

At 12:00 Noon, shadows are cast in the northwesterly direction onto a portion Waverly Street (**Figure 4.1-5**).

At 3:00 PM, shadows from the project are cast northeasterly across onto Waverly Street and slightly north onto the residential structures adjacent to the site (**Figure 4.1-6**).

At 6:00 PM, overall neighborhood shadows are long. New shadows from the project are cast easterly across Waverly Street and southeasterly onto the residential structures on the north side of Clifford Street (**Figure 4.1-7**).

**Autumnal Equinox (September 21)**

Figures 4.1-8 through 4.1-11 depict shadow impacts on September 21.

At 9:00 AM, shadows are cast in a northwesterly direction onto portions of Warren Street. There are no shadows on the façade of the residential adjacent to the site (**Figure 4.1-8**).

At 12:00 Noon, shadows are cast in the northerly direction onto portions of Waverly Street (**Figure 4.1-9**).

At 3:00 PM, shadow from the project is cast northeasterly across Waverly Street onto adjacent residential structures on the north side of the street up to the 2nd floor (**Figure 4.1-10**).

At 6:00 PM, new shadows from the project are cast easterly across Waverly Street and on the houses adjacent to the site and the structures on the east side of Waverly Street (**Figure 4.1-11**).

**Winter Solstice (December 21)**

Figures 4.1-11 through 4.1-14 depict shadow impacts on December 21. Winter sun casts the longest shadows of the year.

At 9:00 AM, shadows are cast in a northwesterly direction and cover a portion of Warren Street and Waverly Street (**Figure 4.1-12**).

At 12:00 Noon, shadows are cast in the northerly direction across portions of Waverly Street onto the occupied residential building and a small portion of the ATT building across the street (**Figure 4.1-13**).

At 3:00 PM, shadows from the project are cast northeasterly across Waverly Street onto larger portions of occupied residential building and the ATT building across the Waverly Street. (**Figure 4.1-14**).

**Summary**

New shadow is generally limited to the streets surrounding the Site. Although late afternoon and evening shadows will extend in a northeasterly direction toward the residential building adjacent to the site and the commercial building on the easterly side of Waverly Street, there is almost no impact on the East Boston Greenway to the south of the Proposed Project. Overall, the Project's shadow impacts will be consistent with current patterns and will not adversely impact the Project Site and surrounding areas.

FIGURE 4-1 MARCH 21 - 9AM

AZIMUTH 125.7 - ALTITUDE 33



Spring Equinox:

MARCH 21 @ 9:00am



MICHEAL WASHINGTON  
ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

CRUZ DEVELOPMENT  
CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 4-2 MARCH 21 - 12PM

AZIMUTH -176.9 - ALTITUDE 48



Spring Equinox:

MARCH 21 @ 12:00pm



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



FIGURE 4-3 MARCH 21 - 3PM

AZIMUTH -121.8 - ALTITUDE 30.5



Spring Equinox:

MARCH 21 @ 3:00pm



MICHEAL WASHINGTON  
ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

CRUZ DEVELOPMENT  
CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 4-4 JUNE 21 - 9AM

AZIMUTH 93.5 - ALTITUDE 39.9

Summer Solstice:



JUNE 21 @ 9:00am



MICHEAL WASHINGTON ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

280 - 290 WARREN STREET

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



FIGURE 4-5 JUNE 21 - 12PM

AZIMUTH 149.4 - ALTITUDE 68.8



Summer Solstice:

JUNE 21 @ 12:00pm



MICHEAL WASHINGTON  
ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

CRUZ DEVELOPMENT  
CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 4-6 JUNE 21 - 3PM

AZIMUTH -113.7 - ALTITUDE 56.5



Summer Solstice:

JUNE 21 @ 3:00pm



MICHEAL WASHINGTON  
ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

CRUZ DEVELOPMENT  
CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



FIGURE 4-7 JUNE 21 - 6PM

AZIMUTH -79.3 - ALTITUDE 23.9



Summer Solstice:

JUNE 21 @ 6:00pm



MICHEAL WASHINGTON ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

280 - 290 WARREN STREET

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 4-8 SEPTEMBER 21 - 9AM

AZIMUTH 115.3 - ALTITUDE 25.9



Autumnal Equinox:

SEPTEMBER 21 @ 9:00am

MICHEAL WASHINGTON  
ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

CRUZ DEVELOPMENT  
CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



FIGURE 4-9 SEPTEMBER 21 - 12PM

AZIMUTH 166.0 - ALTITUDE 47.4

Autumnal Equinox:



SEPTEMBER 21 @ 12:00pm



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 4-10 SEPTEMBER 21 - 3PM

AZIMUTH -132.9 - ALTITUDE 37.4

Autumnal Equinox:



SEPTEMBER 21 @ 3:00pm



MICHEAL WASHINGTON  
ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

CRUZ DEVELOPMENT  
CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



FIGURE 4-11 SEPTEMBER 21 - 6PM

AZIMUTH -96.0 - ALTITUDE 7.3

Autumnal Equinox:



SEPTEMBER 21 @ 6:00pm



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

FIGURE 4-12 DECEMBER 21 - 9AM

AZIMUTH 141.9 - ALTITUDE 14.2



Winter Solstice:

DECEMBER 21 @ 9:00am



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



FIGURE 4-13 DECEMBER 21 - 12PM

AZIMUTH -175.6 - ALTITUDE 24.1



Winter Solstice:

DECEMBER 21 @ 12:00pm



MICHEAL WASHINGTON  
ARCHITECTS INC.

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

CRUZ DEVELOPMENT  
CORPORATION

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119



FIGURE 4-14 DECEMBER 21 - 3PM

AZIMUTH -135.1 - ALTITUDE 10



Winter Solstice:

DECEMBER 21 @ 3:00pm



**MICHEAL WASHINGTON  
ARCHITECTS INC.**

891 CENTRE STREET, JAMAICA PLAIN, MA 02130

**280 - 290 WARREN STREET**

**CRUZ DEVELOPMENT  
CORPORATION**

ONE JOHN ELIOT SQUARE, ROXBURY, MA 02119

