Project Notification Form

Submitted Pursuant to Article 80 of the Boston Zoning Code

Copley Place Retail Expansion and Residential Addition

Submitted to:

BOSTON REDEVELOPMENT AUTHORITY
One City Hall Square
Boston, MA 02201

Submitted by:

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Parsons Brinckerhoff
Le Messurier Consultants
RG Vanderweil Engineers

June 2008

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Section 1.0

Summary

1.0 SUMMARY

1.1 Project Identification

Project Name:	Copley Place Retail Expansion and Residential Addition
Location:	The Project site is located at Copley Place in Boston's Back Bay at the south west corner of Stuart and Dartmouth Streets
Proponent:	Simon Property Group, Inc. 225 W. Washington Street Indianapolis, IN 46204 F. Carl Dieterle, Jr. Donald Rennard William Kenney Richard Tonzi
Development Program Manager:	RF Walsh Project Management, Inc. 280 Summer Street Boston, MA 02210 (617) 778-0900 Robert Walsh Jack Hobbs Donna Camiolo Kristi Dowd
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Transportation and Parking Consultants:	Howard / Stein – Hudson, Inc. 38 Chauncy Street, 9th Floor Boston, MA 02111 (617) 482-7080 Jane Howard Adrien Lane
Legal Counsel:	Rubin and Rudman LLP 50 Rowes Wharf Boston, MA 02110 (617) 330-7000 James H. Greene
Geotechnical Consultant:	Haley & Aldrich 465 Medford Street, Suite 200 Boston, MA 02129 (617) 886-7400 Marya Gorczyca
Civil Engineer	Parsons Brinckerhoff 75 Arlington Street, 9th Floor Boston, MA 02116 (617) 426-7330 Andrew Boyd
Structural Engineer:	Le Messurier Consultants 675 Massachusetts Avenue Cambridge, MA 02139 (617) 868-1200 Peter Cheever
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1.2 Introduction

1.2.1 Copley Place Retail Expansion and Residential Addition

The Copley Place Retail Expansion and Residential Addition Project (the Project) located in Boston's commercial Back Bay will add to the Copley Place Development which was initially built on air rights above the Boston Extension of the Massachusetts Turnpike (MassPike) in the early 1980s.

The MassPike was extended from Route 128 into downtown Boston in the 1960s. Except in the case of the Prudential Center, the MassPike extension was built in an open cut created by an existing railroad right-of-way that had separated neighborhoods from each other on either side of the tracks since the mid-19th century.

By bridging over the MassPike off-ramps in the block bounded by Harcourt Street, Stuart Street, Dartmouth Street, and the Southwest Corridor, the Copley Place Development played an important role in repairing the open cut of the former railroad right-of-way, and provided significant urban design and social benefits by linking the Back Bay and South End communities, as well as stimulating economic growth.

The Copley Place Development included 3.4 million square feet of retail, office, and hotel uses. Housing was also provided facing Harcourt Street and the Southwest Corridor adjoining South End and Saint Botolph Street residential areas. This housing, however, represented a very small component of the overall Copley Place program, consisting of approximately 85,000 square feet of residential use, or only 2.5% of the total project program. Development of the Project now presents an opportunity to add more housing to the Copley Place Development, further strengthening the connection between the Back Bay and the South End neighborhoods, and taking advantage of the site's proximity to several mass transit facilities.

As part of the original Copley Place Development, there was consideration of additional retail space relative to what was eventually built. The initial leasing commitments for this additional space could not, however, be achieved. With the success of Copley Place and the impetus it provided to the surrounding area improvements, there is now an opportunity to add more retail space. The site can now support additional retail and housing development that will provide numerous public benefits to the City of Boston.

The Project will occupy a site at the southwest corner of Stuart and Dartmouth Streets that was not built upon as part of the initial Copley Place construction because it was located directly above the main artery of the MassPike. The site currently functions as a large brick paved entry plaza for Neiman Marcus and Copley Place.

Development of the Project presents an opportunity to improve the public realm adjoining the Copley Place Development along Dartmouth Street and Stuart Street, as well as developing a more inviting entrance from the Southwest Corridor.

The project will significantly improve conditions along Stuart and Dartmouth Streets by enlarging sidewalks and channeling traffic in a more pedestrian friendly manner. Expansion of the retail base podium will bring activity to the street edge and provide a generous interior wintergarden for four-season use by the public.

The Project involves:

- ♦ Approximately 114,000 s.f. of new retail space, including 60,000 s.f. of new retail, restaurant and a wintergarden, and an approximately 54,000 s.f. expansion of the existing Neiman Marcus, that when added to its current 115,000 s.f. which will be renovated, enables the creation of a stronger presence in Boston for this retailer
- ♦ Approximately 660,000 s.f. of new residential space, comprising approximately 280 dwelling units, to maximize the amount of residential use at a location that is highly accessible by public transit; and
- ♦ Improvements to the public realm surrounding the Copley Place Development in the vicinity of Dartmouth Street and Stuart Street and creation of a more welcoming entrance from the Southwest Corridor.

The Project is being undertaken by Simon Property Group (Simon), the largest public U.S. real estate company. It represents Simon's continuing commitment to ensuring that Copley Place maintains its status as the most attractive retail destination in the Boston metropolitan area.

In many other cities throughout the country, retailers are shying away and pulling back from in-town locations. Simon's enhancement plans for Copley Place will position it to play as important a role in Boston's future economic development as it did when Copley Place was initially constructed in the 1980s.

1.2.2 Initial Copley Place Development

When initially constructed in the 1980s, Copley Place was a pioneering project. Its location above a MassPike interchange presented significant design and structural challenges. Success of in-town retail was far from assured, especially as Copley Place was situated at the edge of the commercial core of the Back Bay.

Copley Place, however, did succeed and helped stimulate the revitalization of the surrounding area. It accomplished significant city planning objectives in mending the hole in the urban fabric created by the MassPike interchange, linking the Back Bay and the South End neighborhoods. It created a vibrant retail environment that drew people to in-town shopping. It also included hotel and office uses, as well as some residential uses that provided activity extending beyond the retail experience.

At the same time, the constraints of air-rights development did not allow for the incorporation of important design features as part of the initial Copley Place Development, including:

- ♦ Definition of the Stuart / Dartmouth Streets corner as part of the surrounding urban fabric with an active retail facade at the back of the sidewalk. Instead, a brick plaza resulted because this corner was located directly above the main artery of the MassPike; and

- Greater amount of residential use within the overall mixed use program, which was much more heavily weighted to retail, office, and hotel uses.

1.2.3 Today's Opportunities

Today, the success of Copley Place and the overall revitalization of the surrounding area present an opportunity to complete program elements that were not initially undertaken, and to add other elements to improve Copley Place. In the early 1980s, the challenge was development of a new and unique project in an untested location. In 2008, there is a new opportunity to concentrate development in areas that are well-served by public transit.

This is an opportunity to do something that is very rarely done in the heart of U.S. cities – reinforcing the presence of a major retail anchor with benefit to the surrounding shopping district. Expansion of the Neiman Marcus at Copley Place will set the commercial attractions of Back Bay apart from all other retail destinations in the region.

There is also an opportunity to maximize residential density at Copley Place with its immediate access to rapid transit and commuter rail. Environmental benefits of in-town residence where people do not have to use automobiles as a means of transport are well documented and consistent with current planning principles. The link between South End and Back Bay residential areas will also be reinforced with more residential uses at Copley Place.

These opportunities arise today from economic conditions that provide an ability to reconsider the constraints imposed by building over the main artery of the MassPike that in the 1980s resulted in a plaza at the corner of Stuart and Dartmouth streets.

1.2.4 Proposed Design

The design of the Project is comprised of two components:

- A retail base that extends the current Copley Place retail base out into the plaza at Stuart and Dartmouth Streets; and
- A residential component built atop the retail base.

By building out into the plaza, a coherent street edge definition for the Stuart Street / Dartmouth Street intersection will be created. This active retail façade will consist of transparent glass, behind which a welcoming new interior wintergarden will draw pedestrians into a multi-story atrium connected to the existing main retail galleries.

Building out into the plaza also allows the expansion of Neiman Marcus without interfering with current operations while the expansion is underway. This is very important not only for Neiman Marcus but for the rest of Copley Place as well.

The residential component of the Project above the retail podium is designed with a slender massing, providing smaller upper level floor-plates that are well suited to residential uses. It is accessed from Dartmouth Street, enlivening the current blank wall at the pedestrian level along this stretch of Copley Place.

As shown in Figure 1-1, the Project comfortably fits into the overall city context. It will be a fitting complement to the taller Hancock Tower, much like the newer 111 Huntington Avenue is a complement to the Prudential Tower.

In addition, the Project will significantly improve conditions of the public realm at Stuart and Dartmouth Streets by enlarging sidewalks and channeling traffic in a more pedestrian friendly manner that requires negotiation of fewer traffic islands in crossing Stuart Street. Expansion of the retail base podium will bring activity to the street edge and provide a generous interior wintergarden for four season use. Redesign of the entry to Copley Place from the Southwest Corridor will be more inviting to the public, and encourage pedestrian access through the building, into the wintergarden, and to make connections to Stuart Street and beyond.

As shown in Figure 1-1 through Figure 1-4, these improvements will dramatically enhance the presence of Copley Place within its surrounding urban context.

1.2.5 Benefits of the Project

The Copley Place Retail Expansion and Residential Addition Project:

- **Strengthens the City's Economy** – Expansion of Neiman Marcus in Boston provides a significant boost in the City's competitiveness in relation to other regional retail centers, and new residential uses will spur further economic activity as new residents will shop and dine in the area.
- **Enhances the Commercial Back Bay** – Expanding and renovating this in-town retail anchor and adding new residential uses will draw customers to other stores, restaurants, services and historic sites in the area.
- **Furthers Smart Growth Principles** –Focusing density into areas supported by existing infrastructure and reinforcing community vitality.
- **Transit-Oriented Design** - Maximizing residential development in an area with new and expanded transit access promotes alternatives to automobile use and minimizes potential impacts on surrounding roadways.
- **Creates a Distinctive Architectural Design** – Building above air rights presents design challenges that have been capitalized upon in creating a striking addition to the City's urban fabric, reflecting high design standards, and successfully fitting in with tall neighboring buildings.

- **Balances a Mixed Use Environment** – Introducing residential uses as part of a predominantly commercial development increases variety and activity for a greater number of hours during the day and into the evening, enhancing overall safety and comfort for all users.

- **Improves the Surrounding Street and Pedestrian Environment** – Filing a hole in the urban fabric at the corner of Stuart and Dartmouth Streets, increased sidewalk widths, pedestrian-friendly traffic channelization, and greater façade transparency improve this block's link to its surroundings.

- **Enhances Open Space** – In consultation with neighbors as well as the City and non-profit organizations, opportunities for open space improvements in the area will be undertaken.

- **Improves Pedestrian Access To and Through Copley Place** – Creating new and improved entries, both from the Stuart and Dartmouth Streets corner and the Southwest Corridor enhances access to Copley Place and between other destinations in the surrounding area.

- **Advances Sustainable Design / Green Building Goals** – Compliance with the requirements of Article 37 of the Boston Zoning Code and a goal of achieving "Silver" ratings under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) system for Core and Shell and NC [New Construction], result in a design that is sensitive to the environment.

- **Promotes Boston's Affordable Housing Objectives** – Compliance with the City's Inclusionary Development Policy advances important affordable housing goals and objectives that the City has established.

- **Increases Employment Opportunities** – Approximately 1,700 construction jobs and approximately 250-270 permanent jobs will be created.

- **Enhances Property Tax Revenue** – Approximately $7.2 million in new annual property taxes will be generated.

- **Provides Linkage Funds to the City** – Approximately $977,000 in housing linkage and approximately $203,000 in jobs linkage will be paid.

Just as in the 1980s the initial Copley Place Development was a critical element in contributing to the revitalization of the surrounding community, so too in 2008 the Retail Expansion and Residential Addition now proposed for Copley Place will help maintain its positive momentum into the future.

COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 1-1 AERIAL VIEW LOOKING SOUTH

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COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 1-2 STUART / DARTMOUTH STREET ENTRY

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RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 1-3 SOUTHWEST CORRIDOR / DARTMOUTH STREET VIEW

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COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 1-4 STUART STREET LOOKING EAST

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1.3 Project Summary

1.3.1 Project Site & Proposed Development Summary

The Project location at the corner of Stuart and Dartmouth Streets is shown on Figures 1-5 and Figure 1-6. It is integral to the 9.5 acre Copley Place Development built in the 1980s as a result of a very successful cooperative planning process between the City, State and community. The 9.5 acre Copley Place Development consists of the 6.0 acre Copley Place Central Area that includes retail, office and parking uses and an additional 3.5 acres that include two hotels and a cooperative housing development.

The 6.0 acre Copley Place Central Area is the site of the proposed Project. The Project program involves approximately 114,000 s.f. of new retail and approximately 660,000 s.f. of new residential space. The retail space is comprised of 54,000 s.f. of Neiman Marcus expansion, and 60,000 s.f. of restaurant, mall infill shops and a wintergarden for use by the public.

The wintergarden will enliven the pedestrian experience in the vicinity of Stuart and Dartmouth Streets. Its transparent wall will enable passersby to see into the building, encouraging the public to take advantage of this sheltered oasis offering public seating. The wintergarden space will connect to the expanded and renovated Neiman Marcus store. When added to the 115,000 s.f. of existing Neiman Marcus space that will be renovated, the 54,000 s.f. of Neiman Marcus expansion space will enable the creation of a more significant presence for Neiman Marcus at Copley Place.

The residential space will feature approximately 280 condominium units comprising approximately 660,000 s.f., inclusive of residential amenity space and supporting residential uses.

No new parking spaces are proposed as part of the Project. Parking for the new retail and residential uses will be accommodated in existing Simon-owned Copley Place Central and Dartmouth/Tent City garages, which have adequate capacity to satisfy this new demand.

The proposed Project appropriately fits BRA master planning objectives as expressed by floor area ratio designation for this area of the City.

Specifically, the existing floor area ratio (FAR) for the 6.0 acre Copley Place Central Area site, including parking, is approximately 6.8. With construction of the Project, the FAR would be approximately 9.5.[1] Copley Place is located within an area designated for a FAR of 10 in the Huntington Avenue / Prudential Center District. Accordingly, maximization of residential density at this site as proposed by the Project provides a good fit with overall master planning objectives.

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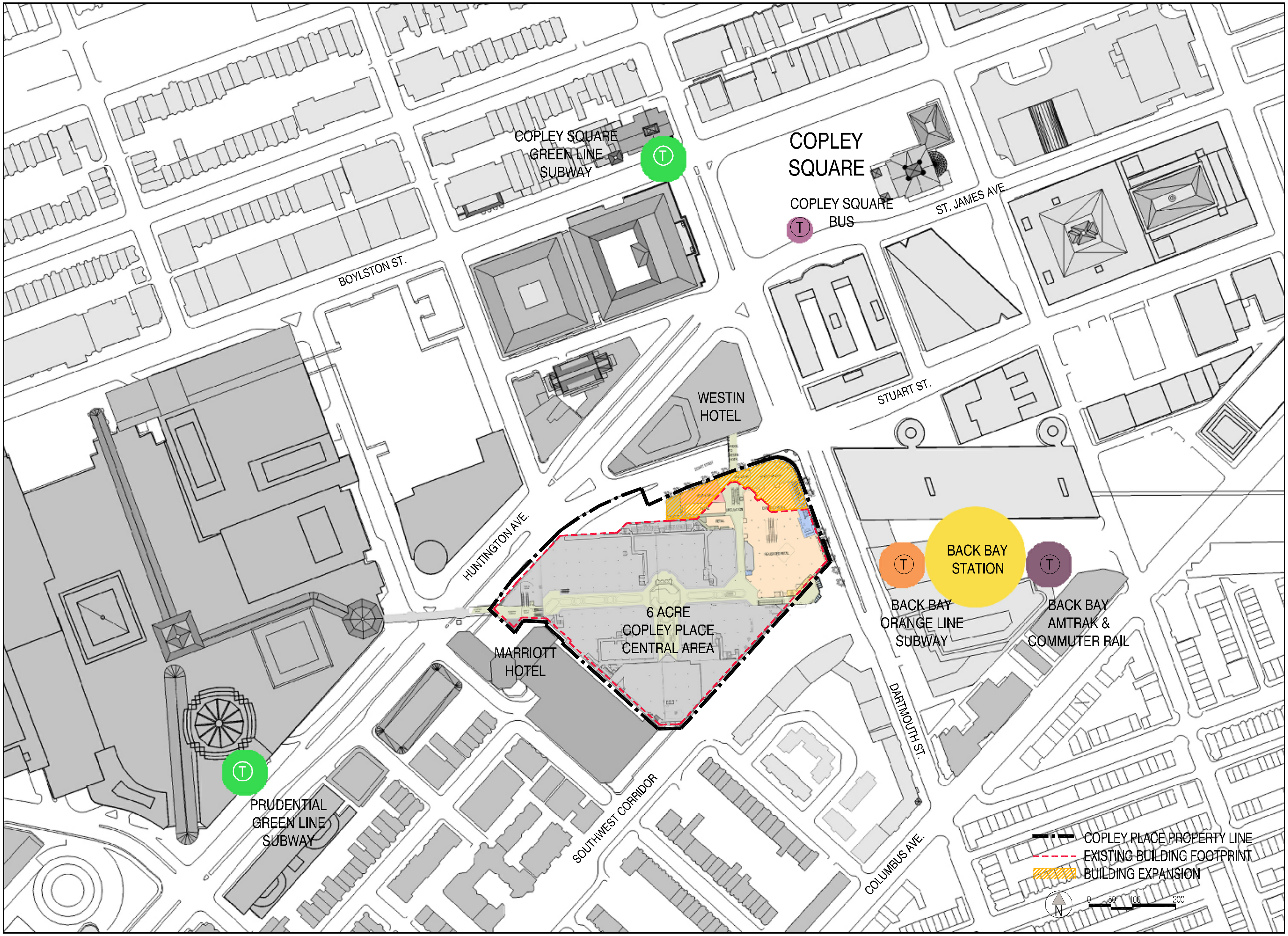
1 Excluding parking, the existing FAR is approximately 4.1, and the proposed FAR is approximately 7.05.



COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 1-5 LOCUS MAP

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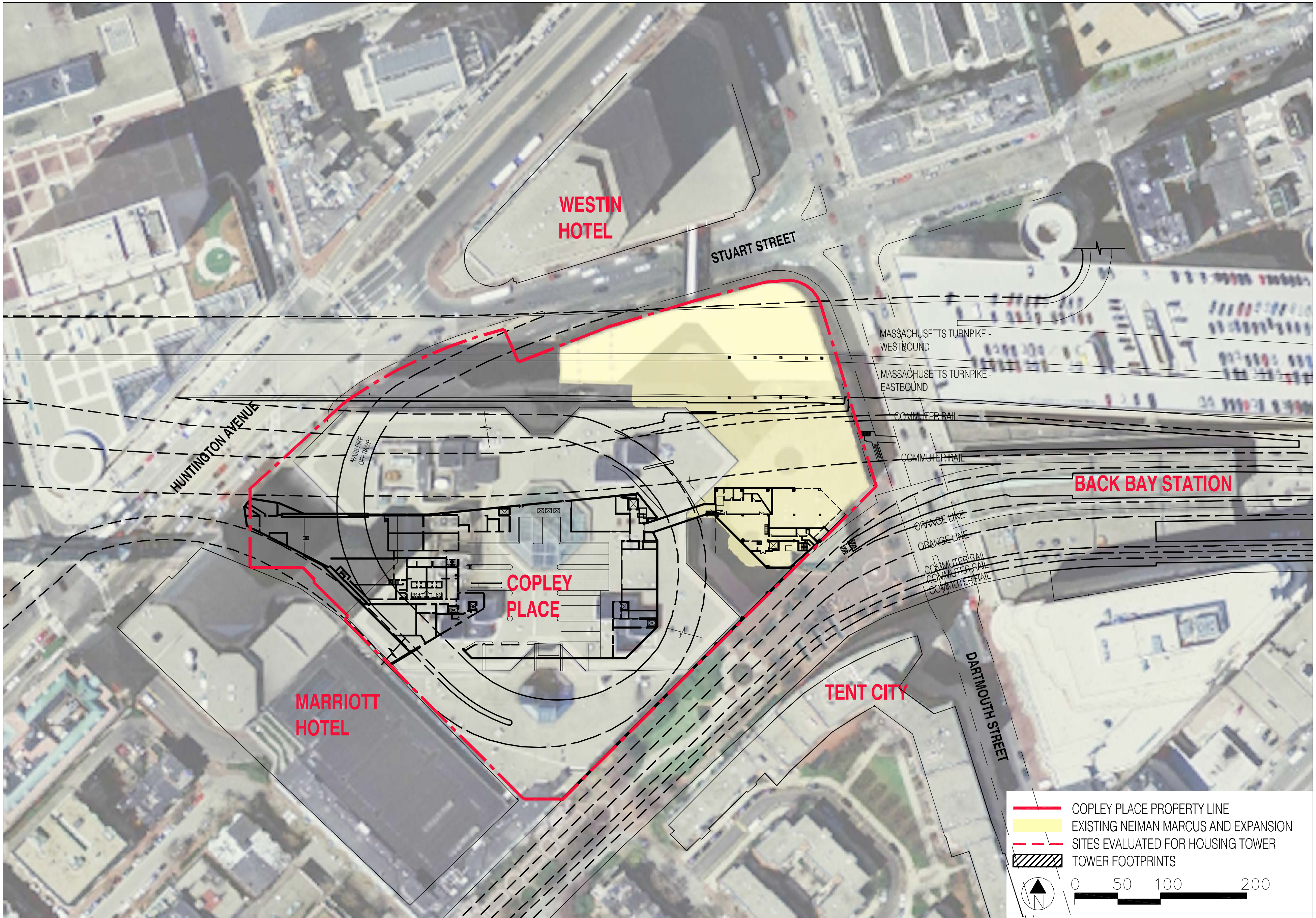

COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 1-6 UNDERGROUND CONTEXT PLAN WITH AERIAL

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1.3.2 Public Review

This Project Notification Form (PNF) is being submitted to initiate comprehensive project review under the procedures of Article 80 of the Boston Zoning Code.

Letters seeking nominations for a Citizens Advisory Committee (CAC) for the Project were sent on April 3, 2008, and on May 28, 2008 to: Massachusetts State Senator, Dianne Wilkerson; Massachusetts State Representative, Byron Rushing; Massachusetts State Representative, Marty Walz; Boston City Councilor Bill Linehan; Boston City Councilor Michael Ross; Reverend Anne B. Bonnyman, Trinity Church; Richard Fitzgerald, Boston Society of Architects; Kyle Hancock, The Ellis South End Neighborhood Association; Stacy Koeppel, South End Business Alliance; Meg Mainzer-Cohen, Back Bay Association; Bernard Margolis, Boston Public Library; Ted Pietras, South End Business Alliance; Steve Sadwick, American Planning Association - Massachusetts Chapter; Francine Shron, Friends of Copley Square; Reverend Dr. Nancy S. Taylor, Old South Church; Stephanie Wasser, Urban Land Institute; and Jackie Yessian, Neighborhood Association of the Back Bay.

In addition, ads for the CAC nominations were placed in the April 5, 2008 and April 12, 2008 editions of the Boston Courant, and the April 3, 2008 and April 10, 2008 editions of the South End News.

The due date for nominations was April 21, 2008. Following the nomination process, the CAC was appointed by the Mayor and includes 11 members, including: David Berarducci, John Connolly, Anthony Gordon, Gene Kelly, Meg Mainzer-Cohen, Morgan Pierson, Ted Pietras, Mark Schmid, Jolinda Taylor, Ro Whittington and Judith Wright.

1.3.3 Public Benefits

The Project provides a number of public benefits to the City of Boston, as previously summarized and further described below:

Economic Development

The Project will ensure that Copley Place retains its pre-eminence as a regional retail destination by providing Neiman Marcus an opportunity to expand, which will sustain the character and draw of Copley Place into the future. This will be beneficial not only to retailers in Copley Place but also to those in the commercial Back Bay.

An expanded Neiman Marcus and related retailers will complement the City's tourist economy.

New residential uses will spur further economic activity as new residents will shop and dine in the area.

The Project will contribute to the overall future economic health of the entire City by significantly reinvesting in and upgrading an asset rather than allowing it to be overtaken by newer investments made outside of Boston.

Housing

The Project will add approximately 280 residential units in an area of the City that is well served by public transit. It will help balance the current mix of uses at Copley Place that is now more heavily weighted to retail and office uses.

The proponent will comply with the Mayor's Executive Order relative to the City's Inclusionary Development Policy, as amended on May 16, 2006.

The Project will also generate approximately $977,000 in housing linkage funds.

Jobs

The Project will create approximately 1,700 construction jobs and approximately 250-270 permanent jobs.

The Project will also generate approximately $203,000 in jobs linkage funds.

Smart Growth / Sustainable Development

The Project embodies the major principles of Smart Growth development by:

- Redeveloping an underutilized corner in an urban core location as part of an attractive mixed-use development;
- Increasing density of development directly adjacent to public transit;
- Promoting walking as a means of transport;
- Reusing and rehabilitating existing infrastructure;
- Providing sustainability and green building features in building design; and
- Increasing job opportunities near transportation options.

Public Realm Improvements

The Project has been designed to improve the public realm by:

- Creating a more active and transparent pedestrian level façade by locating the entrance to the residential component along Dartmouth Street, bringing the major Copley Place entrance closer to pedestrian activity at the corner of Stuart and Dartmouth Streets, offering a welcoming wintergarden space, and enhancing the streetscape along Stuart Street with restaurant uses;

- Providing new landscaping and paving for surrounding sidewalks and expanding the sidewalk at the corner of Stuart and Dartmouth Streets by converting to pedestrian use space that is currently used for automobile travel;

- Enhancing open space resources in the project area in cooperation with neighbors, the City and non-profit groups;

- Channelizing, with the City's concurrence, automobile travel with decreased lane widths at the Stuart and Dartmouth Street intersection in conjunction with the Copley Place sidewalk expansion to enhance overall pedestrian comfort and safety; and

- Reconfiguring the entrance from the Southwest Corridor to Copley Place with more commodious escalators and a new handicapped accessible elevator that will enhance circulation from the South End and Back Bay Station to and through Copley Place.

New Property Tax Revenue

The Project will generate approximately $7.2 million in new annual property taxes for the City of Boston.

1.4 Consistency with Zoning

As an air rights development on Massachusetts Turnpike Authority (MTA) land, the initial Copley Place Development was statutorily exempt from local zoning. It was, however, developed subject to Boston Redevelopment Authority (BRA) and City of Boston review.

1.5 Legal Information

1.5.1 Legal Judgments Adverse to the Proposed Project

The Proponent is not aware of any legal judgments in effect or legal actions pending that are adverse to the Project.

1.5.2 History of Tax Arrears on Property

The Proponent does not have a history of tax arrears on any property owned within the City of Boston.

1.5.3 Evidence of Site Control/Nature of Public Easements

The Project site is under the ownership, control and management of Simon Property Group, as the successor developer to Urban Investment and Development Company, and the site continues to be subject to a long term lease with the Massachusetts Turnpike Authority.

1.6 Anticipated Permits

Table 1-1, presented on the following page, provides a list of federal, state and local agencies from which permits or other actions are expected to be required.

Table 1-1: Anticipated Permits, Reviews and Approvals

Agency Name	Permit / Review / Approval
FEDERAL	
Federal Aviation Administration	Determination of No Hazard to Air Navigation
STATE	
Executive Office of Energy and Environmental Affairs, Massachusetts Environmental Policy Act (MEPA) Office	Secretary's Certificate
Executive Office of Transportation	Construction Over Railroad Land
Massachusetts Turnpike Authority	Air Rights Lease and Development Agreement
Massachusetts Bay Transportation Authority	Amendment of Easement Agreement
Massachusetts Historical Commission	State Register Review
Department of Environmental Protection, Division of Water Pollution Control	Sewer Connection and Extension Permit
Department of Environmental Protection, Division of Air Quality Control	Air Plan Approval (if boilers >40,000 MMBTU)
LOCAL	
Boston Redevelopment Authority	Article 80 Project Review as defined in the MOU between the MTA and the BRA
Boston Air Pollution Control Commission	Approval for modification to existing APCC permit
Boston Civic Design Commission	Review and Approval
Boston Parks Commission	Approval of construction within 100 feet of a park
Boston Transportation Department	Construction Management Plan Transportation Access Plan Agreement
Boston Water and Sewer Commission	Sewer Use Discharge Permit; Site Plan Approval; Construction Dewatering Permit; Sewer Extension/ Connection Permit; Stormwater Connection; Groundwater Trust Certification
Boston Inspectional Services Department	Building and Occupancy Permits
Boston Public Improvement Commission	Street and Sidewalk Occupation Permits; Tieback/Earth Retention Permit; Specific Repair Plan/Discontinuance
Boston Public Works Department	Curb Cut Permit; Street Occupancy Permit
Boston Fire Department	Plan Review
Boston Committee on Licensing	Fuel Storage

Section 2.0

Project Description

2.0 PROJECT DESCRIPTION

2.1 Existing Site

The proposed Project is located at the southwest corner of Stuart and Dartmouth Streets on a site that is integral to the Copley Place Development built in the 1980s. It is immediately adjacent to office, commercial, and residential uses, and has outstanding, immediate access to a variety of mass transit and vehicular transportation systems.

Figure 1-5 in Chapter 1.0 depicts the project site. Figure 2-1 at the end of Section 2.2.1 shows pedestrian connections through the Project site. Appendix A contains photographs of the existing conditions on the site.

2.2 Proposed Development Program

2.2.1 Building Program

The proposed Project includes the development of new retail and residential uses totaling approximately 774,000 s.f.

The Project's retail component involves the expansion of retail space at Street Level, Mezzanine Level, Gallery Level 1 and Gallery Level 2 of Copley Place. In addition, approximately 115,000 s.f. of existing Neiman Marcus retail space will be renovated. Approximately 54,000 s.f. of new retail space will be added to the 115,000 s.f. of existing Neiman Marcus retail space to create a more significant presence for Neiman Marcus. Approximately 60,000 s.f. of additional retail, restaurant and wintergarden space for use by the public will be constructed adjacent to Neiman Marcus.

The Project's residential component, which totals approximately 660,000 s.f., involves the construction of a residential skylobby with residential amenity space and supporting residential uses.

Renderings of the proposed Project (Figures 1-1 through 1-4) are presented at the end of Section 1.2.5 of this document.

Street Level

At street level, the Project will include a new entry and enclosed wintergarden space at the corner of Stuart Street and Dartmouth Street. The new entrance will convey a more inviting presence of Copley Place in the public realm than presently exists. The curved entrance, moved closer to the street line, will provide a clearer, more user-friendly entrance to the site.

The new four season wintergarden space will replace the existing exterior brick plaza. The minimal exterior seating will be replaced by a grand public gathering space, complemented with landscaping and public seating in a setting that will act as the "living room" to Copley Place. In addition to the transformed entry to Neiman Marcus, small shops and restaurants will activate and enliven the wintergarden as it rises up to 45 feet in height to engage the mezzanine bridge connection to the Westin Hotel and the primary shopping galleries of Copley Place. The vertical glazing that encompasses the wintergarden is placed along the back edge of the expanded sidewalk at the intersection of Dartmouth and Stuart Street and will reinforce the street wall of the surrounding urban context. The transparency of the wintergarden glazing will also activate the pedestrian experience and present a welcoming entrance to Copley Place. This grand public gathering space will provide a relaxed setting with cool conditioned space in the summer and warm comfortable seating in the winter for shoppers, pedestrians, and the general public to enjoy all through the changing seasons, as shown in Figure 2-2.

Along Dartmouth Street, the entrance to the new residential building will create activity along the street and provide a more visually attractive street façade at this location. A vehicular pull-off will be located on Dartmouth Street. The street-level residential entrance and lobby will lead to elevators, which will take residents to the sky lobby located on the sixth floor.

At the southeast corner of the site, the Project will include upgraded access from street level to the retail gallery level at the Southwest Corridor entry. Façade improvements will create a more welcoming entry at this location, encouraging access to and through Copley Place. The existing single width escalators will be expanded to double width, and handicapped accessible features will improve public access to Copley Place from the Southwest Corridor.

Along Stuart Street, façade improvements and landscaping will define the street edge, with the residential building rising above.

Gallery Levels

The primary access to the first gallery level will be through the new Stuart Street entrance and then via the escalator and grand stair. At this level, additional Neiman Marcus space along with additional retail will be developed. The improved escalators from the Southwest Corridor entry will also arrive at this first gallery level, along with an elevator for handicapped access.

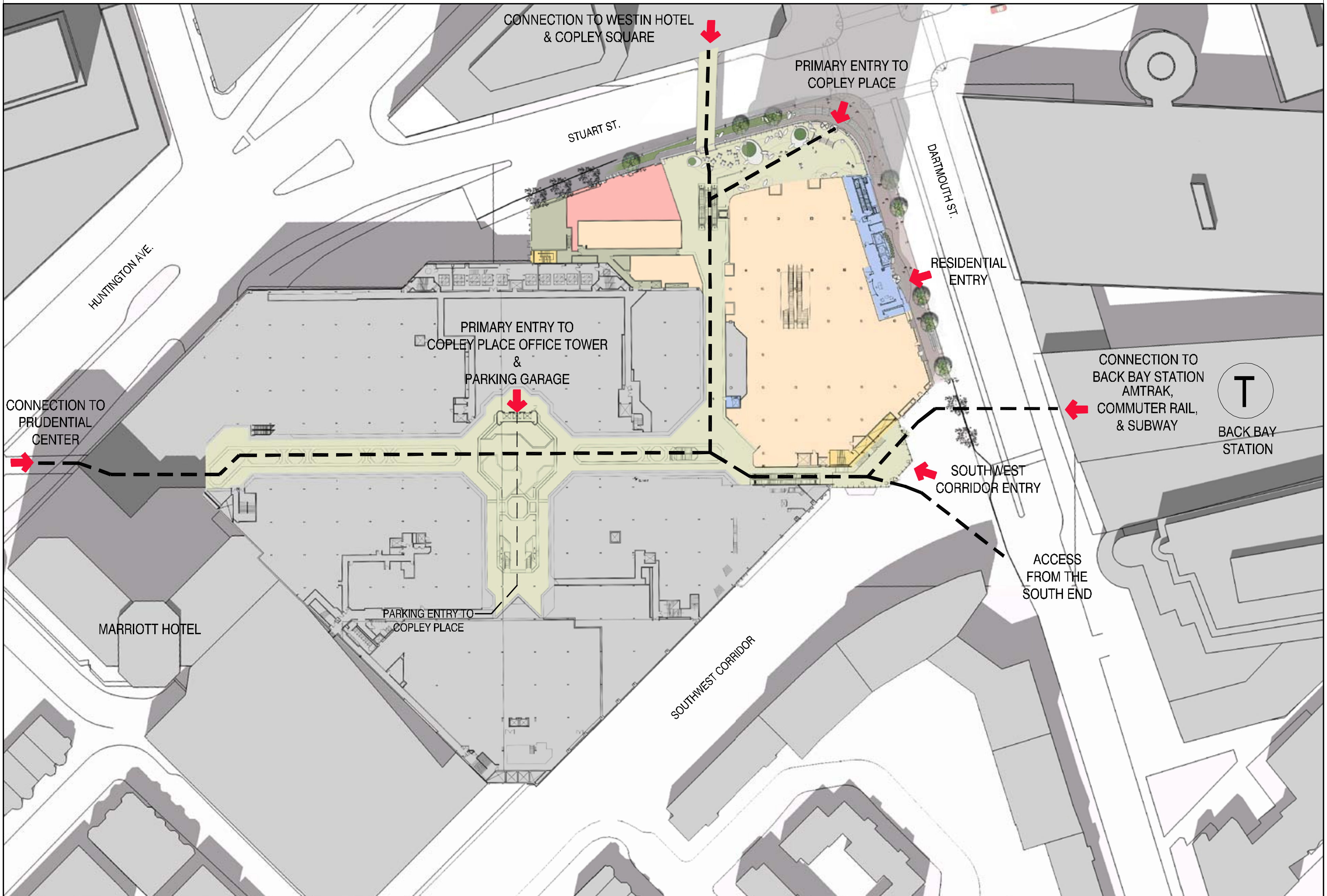
At the second gallery level, the Project will offer additional Neiman Marcus space.

Level 6 – Residential Sky Lobby

At level 6, the elevators from the residential entry at Dartmouth Street open into the residential sky lobby. This lobby level includes lobby functions and residential amenities, a seating area, and residential units. The elevator core for the residential building begins at this level, serving the upper floors of the building.

Upper Levels

The upper levels of the residential building will include residential units of varying sizes. As the building rises, there are variations in the building's floor plate at different levels; the sinuous floor plan evolving in stages and presenting a more slender elevation at higher levels of the building. Each set of levels is unique, and the curved building façade allows every unit to offer expansive views of the City.



COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 2-1 PEDESTRIAN CIRCULATION- COPLEY PLACE

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COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 2-2 INTERIOR WINTER GARDEN - PROGRESS VIEW

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2.2.2 Approximate Dimensions

Table 2-1 below presents the approximate dimensions of the Project. See Appendix B for floor plans and elevations.

Table 2-1: Approximate Project Dimensions and Table of Uses

Project Element	Approximate Dimension
A. Existing Conditions	
Project Site – Entire Central Area	6.0 acres (261,360 s.f.)
Existing Retail, Office & Parking within Central Area	1,696,950 s.f.
B. New Project Components	
New Residential Component	660,000 s.f. ▪ Approximately 280 units. ▪ Library and Fitness Spa ▪ supporting functions
New Retail Component	114,000 s.f. ▪ 54,000 s.f. Neiman Marcus expansion ▪ 60,000 s.f. Other retail/ restaurant/ wintergarden
Existing Neiman Marcus Retail to be Renovated	115,000 s.f.
C. Existing + New Project	
Floor Area Ratio – Entire Central Area with Proposed Project	9.5*
Building Height	47 stories / 569 feet**

* FAR of 9.5 includes parking; excluding parking, the FAR would be 7.05.

** excluding mechanical penthouse

2.2.3 Urban Design

The mixed-use nature of the Project is expressed by two distinct massing zones. The retail expansion and wintergarden are contained within the base or podium of the building, from which the residences rise in the building above. The design inspiration for this project draws directly from both the context of its surroundings and the expression of the program within. Street level café seating, retail showcase windows, public entries, and private entries define the podium portion of the building and activate the pedestrian realm, while the elegant form of the flowing tower above provides residential density within the heart of the urban fabric.

The new exterior skin of the podium defines the street wall with a height of approximately 70 feet and wraps the existing Neiman Marcus store and expanded retail components. By extending the podium north over the MassPike, a new enclosed wintergarden space creates the primary entry into The Shops at Copley Place, and presents a welcoming front door at the street edge. Public circulation also extends into the new entry and is embraced at the street level and grand lobby mezzanine level with new café and restaurant venues.

The organization of the façade at the podium reinforces the importance of the interior program and its relationship to the street and pedestrian zones. The street wall is articulated by a granite border and cornice line, which correspond to the scale of adjacent buildings along the Dartmouth Street corridor and frames the transparent glazing of the lobbies, circulation, and retail within. Showcase windows also punctuate the granite to further engage the pedestrian zone. Finally, the residential entry, located at the midpoint of the Dartmouth Street elevation, is defined by transparent glazing at the street level lobby and opaque glazing which identifies the vertical circulation and connects the base to the tower above.

Semi-transparent glass canopies are located over each of the entry points into the building and will run along the sidewalks on Dartmouth and Stuart Streets. The canopies define the transparent zones within the granite field and reinforce the pedestrian scale along the building's edges.

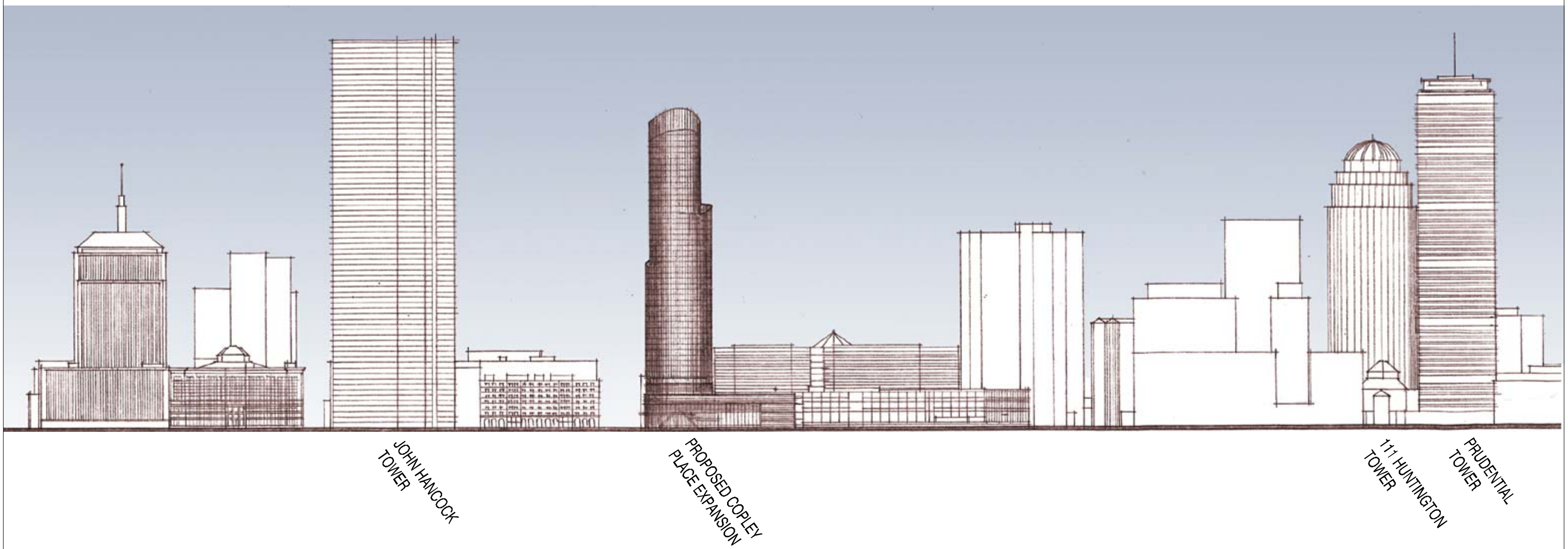
As the building transitions from the retail podium to the residential portion of the building, a two story structural transfer zone contains residential units and an enlivened opaque curtainwall skin. The curvilinear form of this transfer zone draws from the curving façade of the podium below at the intersection of Dartmouth and Stuart Streets and continues up through the building's height.

The massing of the residential building is expressed as a continuous curvilinear form sculpted to provide panoramic views from within the residential units while reducing the building's mass from the exterior. As the tower form rises it is stepped back to present the most slender profile at the top of the building above the datum of the adjacent Westin and Marriot Hotels. The narrow axis of the uppermost portion of the building is oriented to the north and south while the long access is oriented toward the downtown financial core to the east and the Prudential Center to the west.

The primary material used to articulate the slender form of the building is unitized curtainwall glazing. The highly efficient faceted glazing is complementary to the adjacent John Hancock tower and fits within the modern context of the commercial Back Bay skyline.

The profile of the building is enhanced by the flowing curves of the roof. The contour of the curves is designed to present a non-directional façade when viewed from communities to the north and to the south, such that there is no "back" of the building facing adjoining neighborhoods.

Figure 2-3 depicts an elevation of the Project, and Figure 2-4 presents an aerial view of the Project over the turnpike.



COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 2-3 NORTH ELEVATION - ST. JAMES/HUNTINGTON AVE. STREET ELEVATION

ELKUS | MANFREDI ARCHITECTS

COPLEY PLACE
RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE 2-4 AERIAL VIEW OVER TURNPIKE

ELKUS | MANFREDI ARCHITECTS

2.3 MEPA Review History

The original Copley Place project underwent review in compliance with the Massachusetts Environmental Policy Act (MEPA), M.G.L. Chapter 30, Sections 52-62H. The Executive Office of Environmental Affairs (EOEA) file number for the project was #3074. The project's MEPA review proceeded as follows:

- May 22, 1978 – Environmental Notification Form (ENF) filed with the Secretary of Environmental Affairs;
- June 21, 1978 – the Secretary issued a scope for an Environmental Impact Report (EIR);
- October 31, 1978 – a Draft EIR was submitted;
- December 14, 1978 – the Secretary issued a Certificate finding the Draft EIR adequate;
- Because of proposed revisions to original the project, the Secretary determined that a Supplemental Draft EIR/ Environmental Impact Statement (EIS) should be prepared to evaluate the new plan and program;
- February 15, 1980 – a Supplemental Draft EIR/EIS was submitted to EOEA;
- April 4, 1980 – the Secretary issued a Certificate finding the Supplemental Draft EIR/EIS adequate;
- September 22, 1980 – a Final EIR/EIS was submitted to EOEA;
- October 30, 1980 – the Secretary issued a Certificate finding the Supplemental Final EIR/EIS adequate;
- September 19, 1985 – a Notice of Project Change (NPC) was submitted to the EOEA; and
- October 18, 1985 – the Secretary issued a Certificate finding the NPC adequate.

The Proponent expects to initiate the MEPA process for the proposed Project subsequent to the filing of this PNF.

2.4 Schedule

Project construction is expected to commence during the fourth quarter of 2009 and with projected completion during the fourth quarter of 2012.

Typical construction hours will be in compliance with the City's Construction Ordinance: Monday through Friday from 7:00 a.m. to 6:00 p.m. with no work anticipated on the weekends. In the event that weekend work is necessary, the Proponent will obtain required City approvals. Night hours will be required as determined by the Massachusetts Turnpike Authority for work on the MassPike.

Section 3.0

Assessment of Development Review Components

3.0 ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS

Article 80 of the Code specifies that the BRA may require in its Scoping Determination that the applicant conduct studies to determine the direct or indirect impact to the environment reasonably attributable to a proposed project. The development review components include transportation, environmental protection, urban design, historic resources, and infrastructure systems. Where potential for direct or indirect impacts exist, design measures may be required to mitigate the impacts, to the extent economically feasible. The areas for which studies and mitigation may be required are addressed below.

3.1 Transportation

A detailed transportation study was conducted for the Project. This study is included as Appendix C to this PNF.

The study evaluated potential Project impacts on the operation of 9 surrounding area intersections during the morning, afternoon and Saturday peak hours. Under existing conditions, all nine operate at acceptable LOS D or better for all three peak hours. No-Build traffic would reduce overall LOS from D to E at only two locations: Huntington Avenue/West Newton Street/Belvidere Street in the p.m. peak hour and Huntington Avenue/Stuart Street/Exeter Street/Copley Garage in the Saturday peak hour. These LOS conditions would be maintained under Build conditions, and no overall LOS would change from No-Build to Build conditions. Only one location -- the single Copley Garage northbound approach to the Huntington Avenue/Stuart Street/Exeter Street intersection -- would decrease from LOS E to LOS F in the Saturday peak hour under Build conditions. On the whole the Project did not change overall LOS for the worse at any of the intersections studied.

No new parking spaces are proposed as part of the Project. An evaluation of the existing capacity of the Simon-owned Central and Dartmouth (Tent City) garages indicates there is adequate capacity to continue to meet the existing site needs and to serve the proposed Copley Project.

3.2 Environmental Protection

3.2.1 Wind

The qualitative wind analysis evaluated the potential of the Project to contribute to exceedance of BRA pedestrian level wind criteria on surrounding sidewalks.

This study concluded that a number of the Project's design features, such as its curved façade promote horizontal wind flows and thereby reduce downwashing vertical wind flows off the building to pedestrian levels. In addition, any downwashing flows from the residential building will be deflected by the podium.

Wind conditions along Dartmouth Street are predicted to be comfortable for walking, standing or sitting, and suitable for intended use all year round.

Wind conditions along Stuart Street may, however, require additional mitigation due to the potential channeling effect between the Project and surrounding existing buildings, which could increase pedestrian level horizontal wind flows. This potential effect will be evaluated in the DPIR.

The report on the qualitative pedestrian level wind study is included in Appendix D.

3.2.2 Shadow

A shadow impact analysis was also conducted for the Project. This analysis is included as Appendix E to the PNF.

Three time periods (9:00 a.m., 12:00 noon, and 3:00 p.m.) during the Vernal Equinox (March 21), Summer Solstice (June 21), Autumnal Equinox (September 21), and the Winter Solstice (December 21) were evaluated. In addition, shadow studies were conducted for 6:00 p.m. during the Summer Solstice.

As shown in the diagrams included in Appendix E, because of the existing built-up nature of the surrounding area, the Project will not cause significant new shadow when compared to existing conditions during the time periods studied.

The impact on Copley Square will be very minor during these time periods, limited to the paved area at the corner of Dartmouth Street and Saint James Avenue on March 21 at 12:00 noon. From October to February, additional shadow resulting from the Project will reach Copley Square, but because of the slender nature and orientation of the residential building, in October this shadow will quickly sweep across Copley Square in a little under two hours starting around 12:00 noon affecting no more than 20% of the area of Copley Square at any one time. From November to February 23, new shadow from the Project will sweep across Copley Square starting around 11:00 a.m., again affecting no more than 20% of the area of Copley Square at any one time.

No new shadows will be cast on the Southwest Corridor, neither during the time periods depicted in Appendix E, nor from October to February.

3.2.3 Daylight

The purpose of a daylight analysis is to estimate the extent to which a proposed project affects the amount of daylight reaching public streets in the immediate vicinity of a project site. The extent of daylight obstruction resulting from the proposed Project and measures to mitigate adverse impacts will be studied in the DPIR.

3.2.4 Solar Glare

The Proponent does not anticipate the use of highly reflective glass or other highly reflective materials on the proposed building façades that would result in solar glare on area roadways and sidewalks or heat loading on neighboring buildings.

3.2.5 Air Quality

Potential long-term air quality impacts will be limited to emissions from Project-related mechanical equipment and pollutant emissions from vehicular traffic generated by the development of the Project. If changes in traffic operations are significant, the potential air quality impacts will be modeled for both existing and future conditions in the DPIR to demonstrate conformance with the National Ambient Air Quality Standards.

Construction period air quality impacts and mitigation are discussed below in Section 3.2.11.1.

3.2.6 Stormwater / Water Quality

Water quality should be improved with the appropriate use of catch basins and oil/sand separators under the proposed Project. Improvements to water quality will be described in the DPIR. Section 3.5.5, below, includes a discussion of compliance with the Department of Environmental Protection's Stormwater Management Policy and a description of the proposed drainage system and how it will connect to the Boston Water and Sewer Commission (BWSC) system.

3.2.7 Flood Hazard Zones / Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the site located in the City of Boston - Community Panel Number 250286 0010 C indicates the FEMA Flood Zone Designations for the Project site area. The map shows that the Project is located in a Zone C, Area of Minimal Flooding.

The Project site is developed and does not contain wetlands.

3.2.8 Geotechnical / Groundwater

The site is almost entirely situated on air rights. Therefore, very little impact to groundwater will occur.

3.2.8.1 Geotechnical

Test boring data from the original Copley Place development and other nearby projects is available and has been compiled and reviewed to develop an understanding of subsurface soil and bedrock conditions within the area of proposed construction. A generalized subsurface profile has been developed based on the information. Table 3-1 summarizes geologic conditions at increasing depths below the ground surface:

Table 3-1: Subsurface Geologic Conditions

Generalized Strata Description	Approximate Thickness of Strata
Miscellaneous Fill	15 feet
Organic Soils	20 feet
Clay	60 feet
Glacial Till	5 feet
Bedrock (Cambridge Argillite)	at depths of >100 feet below grade

Additional subsurface explorations are planned to further define conditions for final foundations design. Drilled shaft foundations extending to bedrock are planned to be installed. Drilled shafts suit the site conditions and location as they are low displacement elements which minimize the potential for soil disturbance, do not generate vibrations during installation, and do not require dewatering. No pile driving is planned.

3.2.8.2 Groundwater

Existing groundwater observation wells located near the site are monitored and reported by the Boston Groundwater Trust (BGwT). Measurements reported in two observation wells closest to the Project site, located at the intersection of Stuart Street and Dartmouth Street, indicate the groundwater level measured in June 2007 to be at about El. 3.3 Boston City Base Datum (BCB). Historically, groundwater levels reported by the BGwT at or near this intersection ranged from approximately El. 2.5 to 5.1 BCB during the period the wells were monitoring by the BGWT, July 2000 to July 2007.

3.2.8.3 Groundwater Conservation Overlay District

The Project site is located within the Groundwater Conservation Overlay District (GCOD). The requirement to capture and infiltrate the water from a 1-inch rainfall event will be incorporated into the Project design and construction, and the Project will not have an adverse effect on groundwater levels at the site or on abutting properties.

3.2.9 Solid and Hazardous Wastes

3.2.9.1 Existing Hazardous Waste Conditions

No site specific environmental studies related to presence of oil and hazardous materials have been conducted since the Project is an air rights development. The Project site is not a listed site in the MCP. Drill spoils generated during drilled shaft foundation construction will be chemically tested to characterize the material for off-site disposition and identify any requirements for special handling or transport of excavated materials from the site. Work related to soil management will be conducted in accordance with Massachusetts Department of Environmental Protection policies and the Massachusetts Contingency Plan.

3.2.9.2 Operational Solid and Hazardous Wastes

The Project will generate solid waste typical of other residential/mixed-use projects. Solid waste generated by the Project will be approximately 1010 tons per year, based on the approximate number of bedrooms proposed and a generation rate of 4 pounds (lbs) per bedroom per day and commercial, retail, and restaurant space proposed at a generation rate of 5.5 tons per 1,000 s.f. per year, as indicated in Table 3-2.

Table 3-2: Solid Waste Generation

Unit Type	Program	Number of Bedrooms	Generation Rate	Solid Waste (tons per year)
Studio / One Bedroom Units	92	92	4 lbs/bdrm/day	67
Two Bedroom Units	132	264	4 lbs/bdrm/day	193
Three Bedroom Units	56	168	4 lbs/bdrm/day	123
Comnmercial Retail / Restaurant	114,000*	--	3lbs/100 s.f./day	627
Total Solid Waste Generation				1,010

* Net new space, excluding the existing approximately 115,000 s.f. currently used by Neiman Marcus which will be renovated.

Solid waste will include wastepaper, cardboard, glass, and bottles. A portion of the waste will be recycled. The remainder of the waste will be compacted and removed by a waste hauler contracted by building management. The Project will accommodate storage and collection of recyclables as part of its sustainability strategy. The Project's recycling program will be described in the DPIR. With the exception of "household hazardous wastes" typical of residential and restaurant uses (for example, cleaning fluids and paint), the residential and restaurant uses will not generate hazardous waste. Separate containers will be provided for the disposal of materials such as turpentine and paints.

3.2.10 Noise

During operations, neither the Project's mechanical equipment nor traffic noise associated with the Project is expected to result in a perceptible change in noise levels. These impacts, and the Project's compliance with the City of Boston Noise Ordinance, will be studied in the DPIR.

Construction period noise impacts and mitigation are discussed below in Section 3.2.11.2.

3.2.11 Construction Impacts

The proximity to the Project site of city streets and abutting commercial properties will require careful scheduling of material removal and delivery, as well as evaluation of the existing use of the site. Planning with the City and neighborhood will be essential to the successful development of the Project.

A Construction Management Plan (CMP) will be submitted to the BTD for review and approval prior to issuance of a building permit. The CMP will define truck routes which will help minimize the impact of trucks on local streets. A police detail will be provided to maintain access to adjacent properties and to direct pedestrian and vehicle flow.

Construction methodologies that ensure public safety and protect nearby businesses will be employed. Techniques such as barricades, walkways, painted lines, and signage will be used as necessary. Construction management and scheduling – including plans for construction worker commuting and parking, routing plans and scheduling for trucking and deliveries, protection of existing utilities, maintenance of fire access, and control of noise and dust -- will minimize impacts on the surrounding environment.

Throughout Project construction, a secure perimeter will be maintained to protect the public from construction activities.

3.2.11.1 Construction Air Quality

Short-term air quality impacts from fugitive dust may be expected during the early phases of construction and during demolition. Plans for controlling fugitive dust during construction and demolition include mechanical street sweeping, wetting portions of the Project site during periods of high wind, and careful removal of debris by covered trucks. The construction contract will provide for a number of strictly enforced measures to be used by contractors to reduce potential emissions and minimize impacts. These measures are expected to include:

- Using wetting agents on area of exposed soil on a scheduled basis;
- Using covered trucks;

- Minimizing spoils on the construction site;
- Monitoring of actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized;
- Minimizing storage of debris on the site; and
- Periodic street and sidewalk cleaning with water to minimize dust accumulations.

3.2.11.2 Construction Noise

The Proponent is committed to mitigate noise impacts from the construction of the Project. Increased community sound levels, however, are an inherent consequence of construction activities. Construction work will comply with the requirements of the City of Boston Noise Ordinance. Reasonable effort will be made to minimize the noise impact of construction activities.

Mitigation measures are expected to include:

- Instituting a proactive program to ensure compliance with the City of Boston noise limitation policy;
- Using appropriate mufflers on equipment and ongoing maintenance of intake and exhaust mufflers;
- Installing muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- Replacing specific construction operations and techniques by less noisy ones where feasible;
- Selecting the quietest of alternative items of equipment where feasible;
- Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- Turning off idling equipment; and
- Locating noisy equipment to protect sensitive receptors by shielding or distance.

3.2.11.3 Construction Waste Management

The Proponent will reuse or recycle demolition and construction materials to the greatest extent feasible. Construction procedures will allow for the segregation, reuse, and recycling of materials. The Project is targeting diversion of 75% of construction waste as part of its sustainability strategy. Materials that cannot be reused or recycled will be transported in covered trucks by a contract hauler to a licensed facility.

3.2.12 Rodent Control

A rodent extermination certificate will be filed with the building permit application to the City. Rodent inspection monitoring and treatment will be carried out before, during, and at the completion of all construction work for the proposed Project, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of areas throughout the site. During the construction process, regular service visits will be made.

3.2.13 Wildlife Habitat

The site is within a fully developed urban area and, as such, the proposed Project will not impact wildlife habitats as shown in the National Heritage Atlas.

3.2.14 *Sustainable* Design

The Project will meet the requirements of Article 37 of the Code. The Proponent has evaluated the Project under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) system and the Project is anticipated to attain ratings of "Silver" under the LEED-Core and Shell standard and "Silver" under LEED-NC [New Construction]. See Appendix F to the PNF for LEED Checklists demonstrating compliance with these standards.

3.3 Urban Design

The Project advances three overarching urban design objectives:

- First, it reinforces and strengthens the prominence of the commercial Back Bay retail area within the region through the expansion of Neiman Marcus at Copley Place;
- Second, it solidifies the mixed-use character of the surrounding area in an environmentally sensitive manner by maximizing new residential use at a location that is well served by public transit; and
- Third, it enhances the public realm by improving the pedestrian environment around Copley Place as well as access to and through Copley Place to adjoining uses.

These three objectives are achieved with a design that is not only forward looking but also fits into its surrounding context.

Specifically, the façade of that portion of the Project that is extended to the back of the sidewalk at the Stuart Street and Dartmouth Street corner, corresponding in height to that of the present Copley Place retail podium, is treated with stone to relate to historically significant buildings facing Copley Square. A greater number of street level façade penetrations enlivening the pedestrian experience around Copley Place will be provided than presently exist.

A new entrance to the residential component of the Project will occur off Dartmouth Street. In addition, the new main Copley Place entrance at the corner of Stuart and Dartmouth streets will provide a welcoming gesture more in keeping with traditional street and building patterns than the set back and receding form of the present entry. Additionally, the new entrance will provide immediate access to a multi-level wintergarden as a transition space that then leads to the retail gallery levels.

The entrance to Copley Place from the Southwest Corridor will also be improved. New escalators that are wider than those that currently exist will be provided. This will enable two people to stand comfortably abreast of each other or let a person who is walking up or down the escalator to pass by someone who is not. A handicapped accessible elevator will also be installed, improving accessibility to and through Copley Place from all of its entrances.

Polished granite will be used to clad the entire Neiman Marcus façade starting at the Southwest Corridor, turning the corner at Stuart and Dartmouth streets and continuing down Stuart Street to the vicinity of the present Masspike off ramp. The polished granite will be articulated with vertical accents relating to the vertical nature of the tower above. Wider bands of polished stone will alternate with thinner bands of honed stone to accentuate the horizontality of the expanded base as a complement to existing buildings such as the Public Library.

A different perspective is used in the design treatment of the residential portion of the Project. Rather than attempting to disguise a tall building by cladding it in materials typically used in those of shorter historic buildings, the Project embraces its height and celebrates it with a design that is forward looking.

The overall shaping of its form and its glass cladding will clearly differentiate this Project as a special addition to Boston's urban fabric. The overall height of the Project does not replicate, but rather complements existing tall buildings in the area. It will be a fitting complement to the taller Hancock Tower, much like the newer 111 Huntington Avenue is a complement to the Prudential.

One of the most innovative aspects of the building design is how its rounded form maximizes views from the greatest number of residential units. The floor to ceiling windows contribute as well in this regard.

The Project provides a different kind of living environment than currently exists or is on the drawing boards for Boston, with potential to extend and expand the clientele that can be drawn to in-town living, contributing to the resilience of the City's mixed-use character.

At the same time, the rounded, stepped back, slender massing of the residential building has beneficial effects in terms of minimizing potential shadow and wind impacts on its surroundings. Additionally, the residential building incorporates several steps at different levels that relate to other tall buildings in the area.

The original construction of the Copley Place Development in the 1980s successfully achieved key urban design objectives at that time, including covering a hole in the urban fabric resulting from the MassPike interchange at Stuart and Dartmouth streets. The Project will build off this success by filling in portions of urban streetwall at the corner of Stuart and Dartmouth Street left unfilled in the 1980s; providing a more historically sympathetic and transparent façade treatment from the Southwest Corridor along Dartmouth Street and down Stuart Street than the currently existing concrete; and providing for retail and residential uses that advance the economic development and mixed-use character of the City of Boston.

3.4 Historic and Archaeological Resources

3.4.1 Historic Resources

There are no historic resources within the Copley Place parcel; however the parcel is in the vicinity of historic districts to the north, southwest and southeast. To the north is the Back Bay Historic District, which is listed in the State and National Registers of Historic Places. Further to the north is the Back Bay Architectural District, a local historic district which is also listed in the State Register of Historic Places. To west is the Park Square-Stuart Street Historic District, which is in the process of being listed on the State and National Register of Historic Places. To the south and southeast is the South End Historic District/South End Landmark District, which is listed in the State and National Registers of Historic Places. To the southwest is the Saint Botolph Street Area Architectural Conservation District, a local historic district listed on the State Register. These districts and individual historic resources within one-quarter mile of the project site are listed in Table 3-3 on the following page and are depicted in Figure 3-1 at the end of this section.

As the Project moves forward, the Proponent will meet with the Massachusetts Historical Commission (MHC) and the Boston Landmarks Commission to discuss the indirect impacts of the Project on such resources, primarily in the areas of visual and shadow impacts.

The Historic Resources section of the DPIR will describe historic resources located within a quarter mile radius of the site and will discuss potential project impacts on these resources.

3.4.2 Archaeological Resources

The Project site is completely developed and, therefore, will not have impacts on archaeological resources.

Table 3-3: Historic Resources in the Vicinity of the Copley Place Project Area

No.	Historic Resource	Address	Designation
1	New Old South Church	645 Boylston St	NR, NRDIS, NHL, LL
2	Boston Public Library	700 Boylston St	NR, NRDIS, NHL, LL
3	Trinity Church	206 Clarendon St	NR, NRDIS, NHL
4	YWCA	140 Clarendon St	NR
5	Prudential Center	760 Boylston St	Inventory
A	Back Bay Architectural District		LHD
B	Back Bay Historic District		NRDIS
C	Park Square-Stuart Street Historic District		NRDIS Eligible (NR listing pending)
D	St. Botolph Street Area Architectural Conservation District		NRDOE, LHD
E	South End Historic District/ South End Landmark District		NRDIS, LHD

Designation Legend

NR	Individually listed on the National Register of Historic Places
NRDIS	National Register of Historic Places historic district
NRDOE	Determined eligible for inclusion in the National Register of Historic Places
NHL	National Historic Landmark
LHD	Local Historic District
LL	Local Landmark
Inventory	Inventory of Historic and Archaeological Assets of the Commonwealth

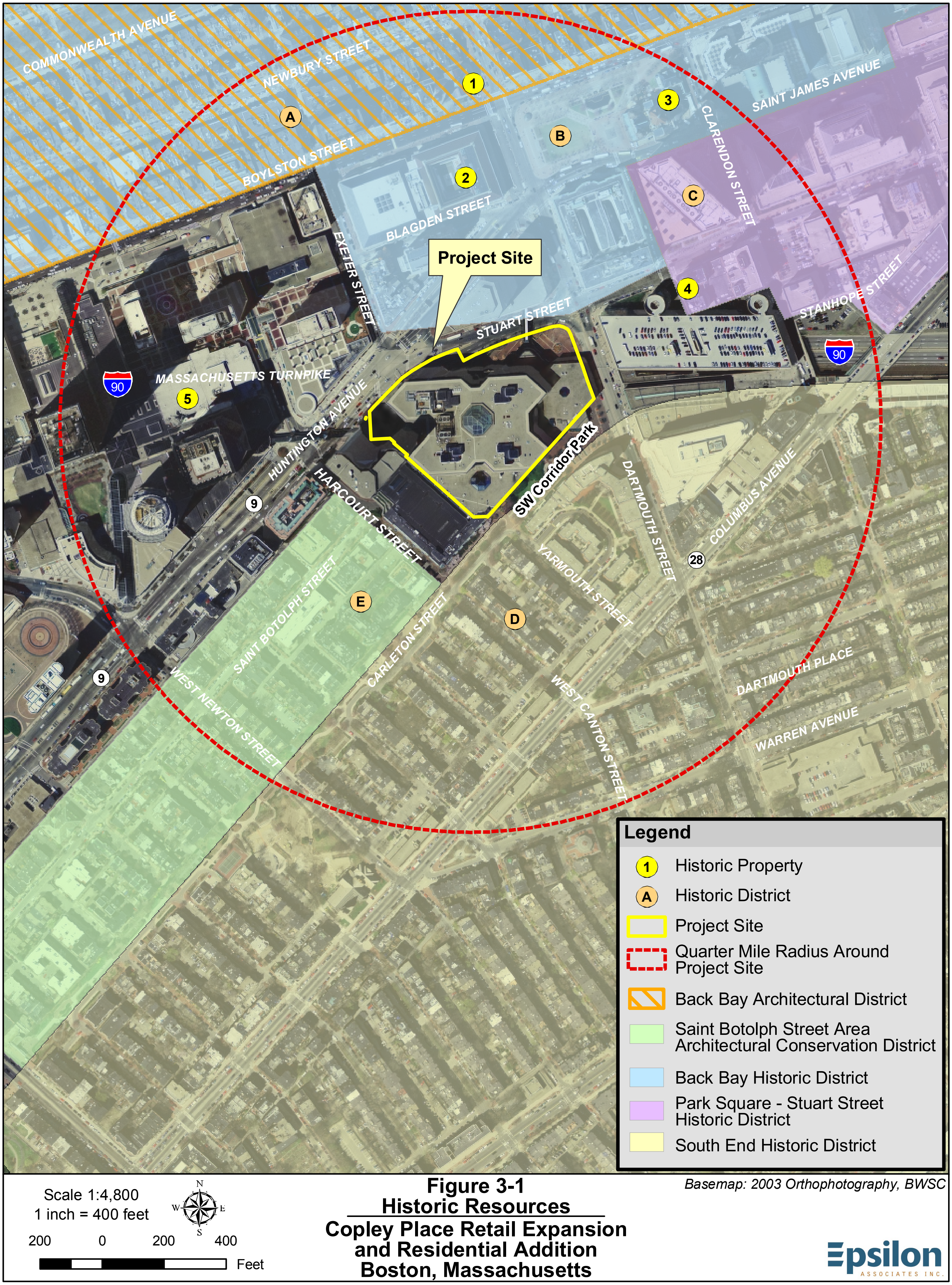


Figure 3-1
Historic Resources
Copley Place Retail Expansion and Residential Addition
Boston, Massachusetts

Epsilon Associates Inc.

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7/26/07

3.5 Infrastructure Systems

3.5.1 Introduction

This section contains the description and availability of the existing sewage, water, electric, gas and other utility infrastructure systems located adjacent to the project site, as well as the Project's estimated sewage generation and water demand. Initial contact with utility companies and agencies relative to the availability of their respective utilities has been made. During the project's design phase, the Proponent will maintain contact and coordination with these entities regarding the details of the service connections to the new building.

3.5.2 Sanitary Sewer System

3.5.2.1 Existing Conditions

The sanitary sewer system adjacent to the Project site is owned and operated by the Boston Water and Sewer Commission (BWSC). The existing system in Stuart and Dartmouth streets is separated from the storm drainage system. The primary sewer serving the Project site is a 12-inch sewer running from the Stuart Street/Dartmouth Street intersection northerly beneath Dartmouth Street where it discharges into a major sanitary sewer collector system that carries flows westerly beneath Boylston Street to the West Side Interceptor (WSI). The WSI a is major collection system that ultimately conveys flows to the Deer Island Treatment Plant, via the Boston Main Interceptor and Boston Main Drainage Tunnel, before discharge to Boston Harbor.

Sewage flow estimates generated under both the existing and proposed conditions have been calculated based on Title V guidelines contained in 310 CMR 15.203, which provides building design flow parameters by use category. Based upon present uses, current sanitary flows are projected to average 91,000 gpd, with a peak flow rate of 190 gpm.

3.5.2.2 Proposed Conditions

Projected wastewater flow rates for the proposed program are an average of 61,000 gpd, with a peak flow rate of 130 gpm. Added to the existing sanitary flow estimates, Copley Place is projected to generate 152,000 gpd, with peak flows of 320 gpm. Since the Project's estimated sewage flows exceed the 50,000 gallons per day (gpd) threshold, a DEP Sewer Connection/Extension Permit will be required. The routing of sanitary flows from the retail levels has not yet been firmly established, but will likely be conveyed to the existing discharge that currently services the retail complex. Residential sanitary flows will likely connect via a new connection to the primary sewer beneath Stuart Street. The exact location and details will be developed during the design phase of the Project in conjunction with the BWSC. The new sanitary service will be separate from the storm drain connection.

3.5.2.3 Sewer System Capacity Analysis

An evaluation of sewer system capacity for the primary sewer adjacent to and downstream of the Project site will be performed and be presented in the DPIR.

3.5.2.4 Sewer System Mitigation

To reduce impacts of the Project's sewage generation, the Project will meet applicable code requirements, including installation of low flow fixtures and BWSC approved grease traps in the restaurants.

3.5.2.5 Combined Sewer Separation

The ongoing MWRA/BWSC city-wide sewer separation efforts have been completed in the vicinity of the Project. Stuart Street and Dartmouth Street each have separate systems.

3.5.3 Water Supply System

3.5.3.1 Existing Conditions

Existing water service to the site area is supplied by the Southern High system (SH) operated and maintained by BWSC. There is an existing 12-inch SH ductile iron main beneath Stuart and Dartmouth streets. There is also a 42-inch SH ductile iron transmission main beneath both streets.

Existing water demand at Copley Place, projected at 110% of Title 5 wastewater generation rates, averages 95,000 gpd, with peak demand of 210 gpm.

3.5.3.2 Proposed Conditions

The proposed Project is projected to have an average daily domestic water demand of 71,000 gpd, with peak demand of 150 gpm. Added to existing estimated water demand, average water demand for Copley Place will be 166,000 gpd, with peak demand of 360 gpm. It is anticipated that there is adequate water supply based on the normal flows in this area. A hydrant flow test will be conducted through the BWSC to confirm the availability of water supply.

Both domestic and fire protection services will be supplied to the Project by connection to the local SH system beneath Stuart Street. Exact connection details will be coordinated with the BWSC and will be in conformance with its standards.

3.5.3.3 Water Supply Conservation and Mitigation Measures

To reduce impacts to the existing water supply, the Project will meet or exceed all applicable building code requirements, including installation of low flow shower heads and water conserving toilets.

3.5.4 Stormwater Drainage System

3.5.4.1 Existing Conditions

The storm drainage system in the immediate site area is separate from the sanitary sewer system. The existing storm drainage system servicing the site consists of a 12 to 18-inch line beneath Dartmouth Street which carries flows northerly to a 48x51-inch trunk line north of the Huntington Avenue and Dartmouth Street intersection. There is also a 18x18-inch drain line carrying flows easterly beneath Stuart Street to the drain line in Dartmouth Street described above.

The Project site is impervious, consisting of paved exterior walkways, and building roof tops. Surface runoff from the walkways and adjacent streets is conveyed by means of a catch basin and pipe system into the drainage system in Stuart and Dartmouth streets. Roof runoff is conveyed via service connections into this drainage system.

3.5.4.2 Proposed Conditions

The Project will reduce the peak rate of runoff from the Project site for the following reasons:

- As mentioned above, the existing site is entirely impervious and drains to the adjacent streets. The Project will feature a landscaped "green roof," which will significantly reduce the quantity of roof drainage that would otherwise be directed to the drainage system in Stuart and Dartmouth streets.

- Since the project site falls within the groundwater conservation overlay district, the Project will install a groundwater recharge system. In larger storm events, a portion of the roof runoff will be retained within the landscaped green roof and a portion will be discharged. The discharged portion will be directed to the new groundwater recharge system. The installation of the recharge system will result in further reduction of stormwater runoff volume while providing groundwater recharge.

- All elements of the stormwater collection and discharge system will conform to BWSC standards.

3.5.5 Stormwater Management and Water Quality

Stormwater discharge from the Project will be limited to runoff from roofs, and exterior walkways, which are separated from industrial activities and will not result in the discharge of pollutants other than stormwater runoff into the waters of the Commonwealth.

3.5.6 Energy Requirements and Service

3.5.6.1 Heating and Cooling Requirements

The heating and cooling system for the Project is subject to further evaluation and design. It is anticipated that natural gas will be used as the main source of space heating, hot water, residential appliances, and restaurants.

3.5.6.2 Natural Gas Requirements

Natural gas is provided to the site area by a system of gas lines located in adjacent public ways that is owned and operated by National Grid. This system includes an intermediate pressure gas line in Dartmouth and Stuart streets.

3.5.6.3 Electrical Requirements

Electric service in the Project site area is supplied by the NSTAR Services Company. Electric power is supplied through its distribution network located in the adjacent public ways from a substation located on Charles Street South.

The electric system in the Project area consists of a conduit and manhole system in Dartmouth and Stuart streets. On-site transformer facilities, subject to design and construction approval of NSTAR, are required and will be housed in a vault space located within the proposed structure.

3.5.6.4 Telecommunications

Telecommunications service is supplied to this area through the Verizon Telephone Company manhole and conduit system located in the adjacent public ways. This system includes 28-way and 8-way fiber optic duct banks in Stuart Street.

3.5.6.5 Other Utility Systems

Other active utility systems located in the Project site area include the City of Boston Public Works Department's street light systems and the Transportation Department's traffic signal conduit systems on public ways around the site. There appear to be no steam lines or cable television lines in adjacent streets. This will be confirmed with Trigen–Boston and Comcast.

Section 4.0

Coordination with Other Governmental Agencies

4.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

4.1 Massachusetts Environmental Policy Act

The Project requires review under the Massachusetts Environmental Policy Act (MEPA), and an Environmental Notification Form (ENF) will be filed.

4.2 Massachusetts Historical Commission

Since the Project requires state permits, it is subject to review by the Massachusetts Historical Commission in accordance with M.G.L., Chapter 9, Sec. 26-27c, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00). The ENF will be submitted to the MHC to initiate the Chapter 254 review process.

4.3 Architectural Access Board Requirements

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

4.4 Boston Civic Design Commission

This PNF will be submitted to the Boston Civic Design Commission by the BRA as part of the Article 80 process.

4.5 Massachusetts Turnpike Authority Approval for Air Rights

The Project will require Air Rights Approval from the MTA to build over the Masspike.

4.6 Massachusetts Bay Transportation Authority

Any modifications to areas owned or operated by the MBTA will require coordination with and approval by the MBTA.

4.7 Other Permits and Approvals

Section 1.5 of this PNF lists agencies from which permits and approvals for the Project will be sought.

4.8 Community Outreach

The Proponent is committed to effective community outreach and will engage the community to ensure public input on the Project.

Section 5.0

Project Certification

5.0 PROJECT'S CERTIFICATION

This form has been circulated to the Boston Redevelopment Authority as required by the Boston Zoning Code, Article 80.

Signature of Proponent's Representative

F. Carl Dieterle, Jr.

Simon Property Group, Inc.
225 W. Washington Street
Indianapolis, IN 46204

June 23, 2008
Date:

Signature of Preparer

Victoria Fletcher

Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754
(978) 897-7100

June 23, 2008
Date:

Appendix A

Site Photographs

View Southwest from the intersection of
Stuart Street and Dartmouth Street to the Project site

View West to the Project site and the Southwest
Corridor Park from Dartmouth Street

View northwest to the Project site from
the Dartmouth Street

View Northeast to the Project site and
MBTA Back Bay Station from the
Southwest Corridor Park

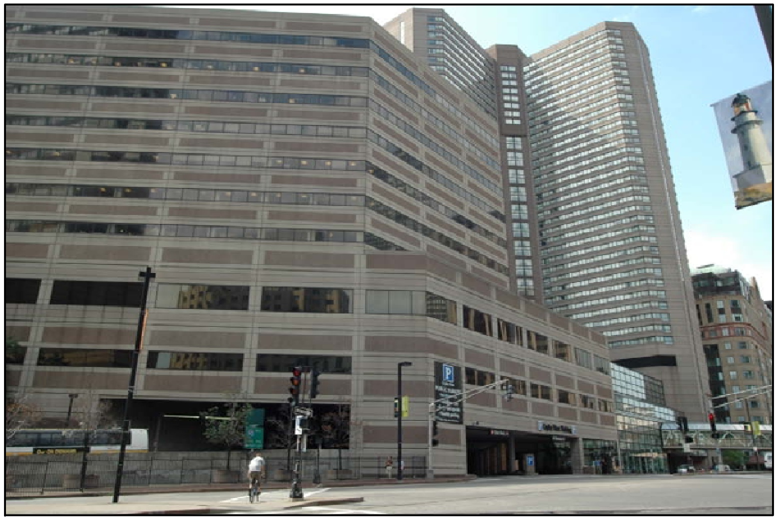
Figure 1:
Existing Conditions

Epsilon
ASSOCIATES INC.

View Southwest from the Southwest Corridor Park
looking at Copley Place Residences at the Project site

View Northwest from the Corner of Harcourt
Street and the Southwest Corridor Park

View East to the Project site from the Corner
of Avenue of the Arts and Ring Street



View Southwest to the Project site from the
Corner of Avenue of the Arts and Stuart Street

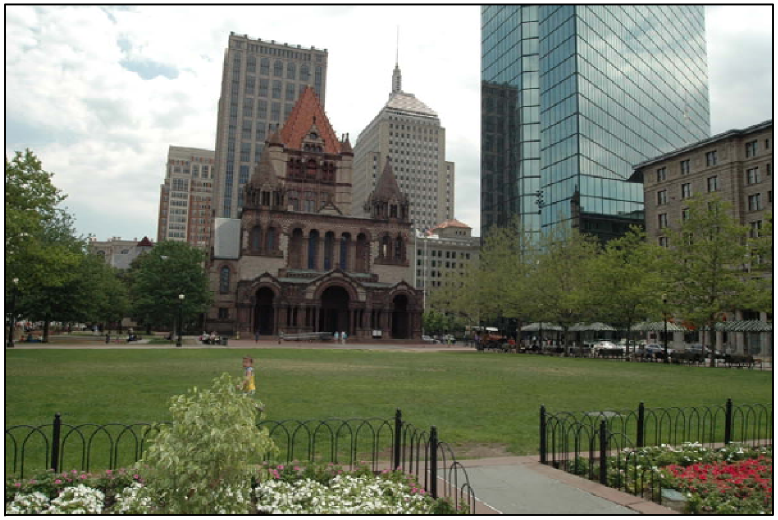
Figure 2:
Existing Conditions

Epsilon
ASSOCIATES INC.

View Southwest from Huntington Avenue of
the Project site (left) and the Prudential Center (right)

View South towards the Project site from
Copley Square

View of Tent City Housing at
130 Dartmouth Street



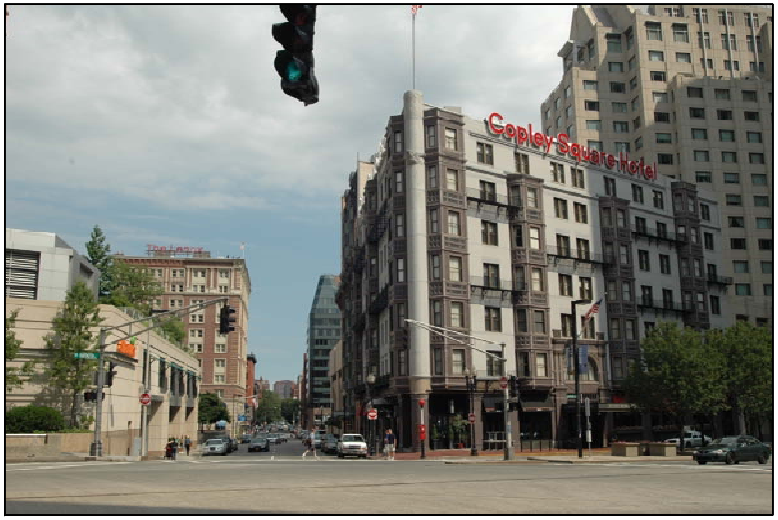
View of Copley Square and the John
Hancock Tower

Figure 3:
Area Context

Epsilon
ASSOCIATES INC.

View Northwest from Dartmouth Street of
the MBTA Back Bay Station and the Hancock Building

View Northwest towards the Prudential Center and
Prudential Center-Copley Place Connection Bridge



View North from the Project site towards Exeter Street
and the Copley Square Hotel

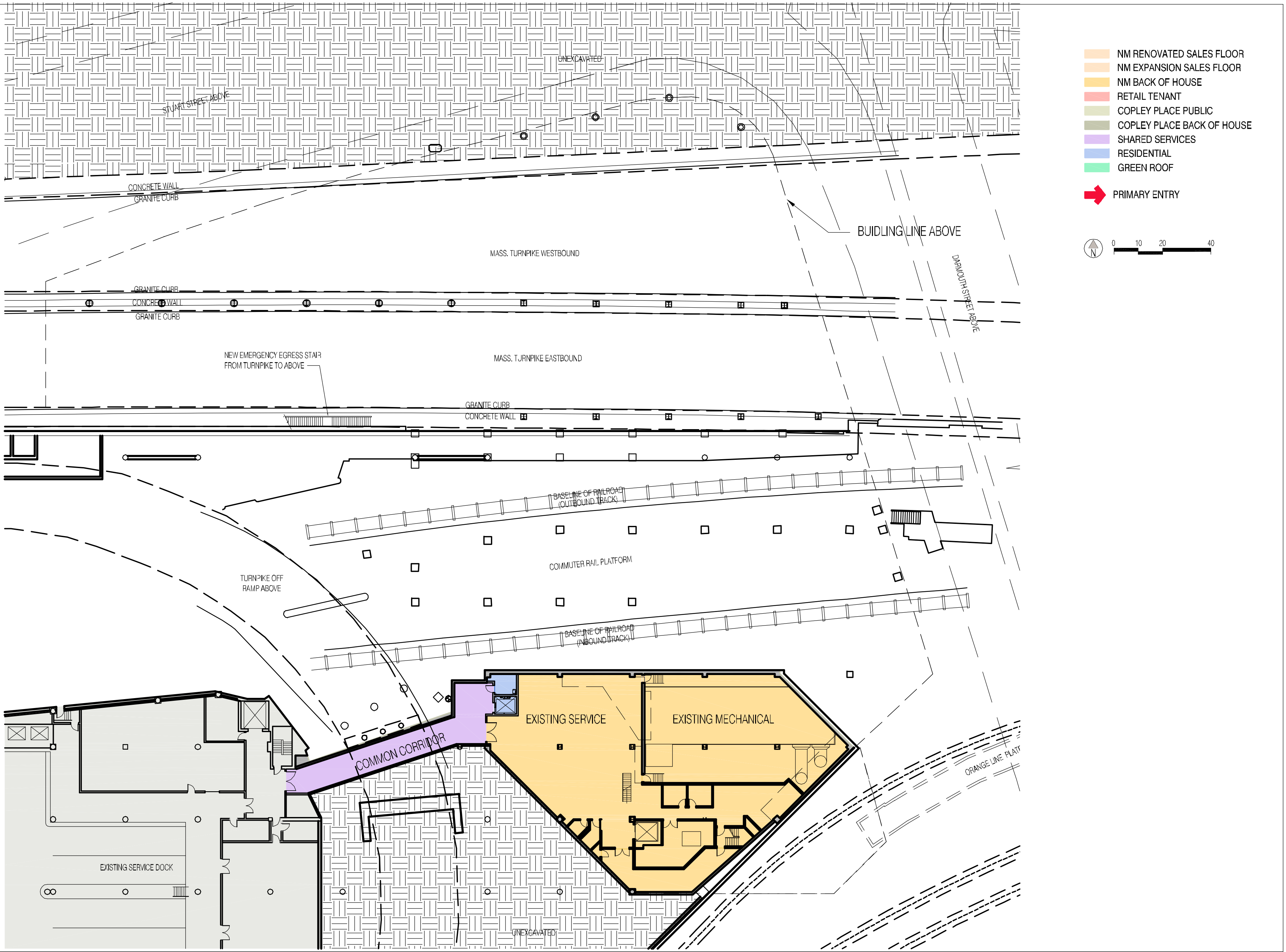
View West from the Intersection of Dartmouth Street,
Blagden Street and Avenue of the Arts

Figure 4:
Area Context

Epsilon
ASSOCIATES INC.

Appendix B

Floor Plans and Sections

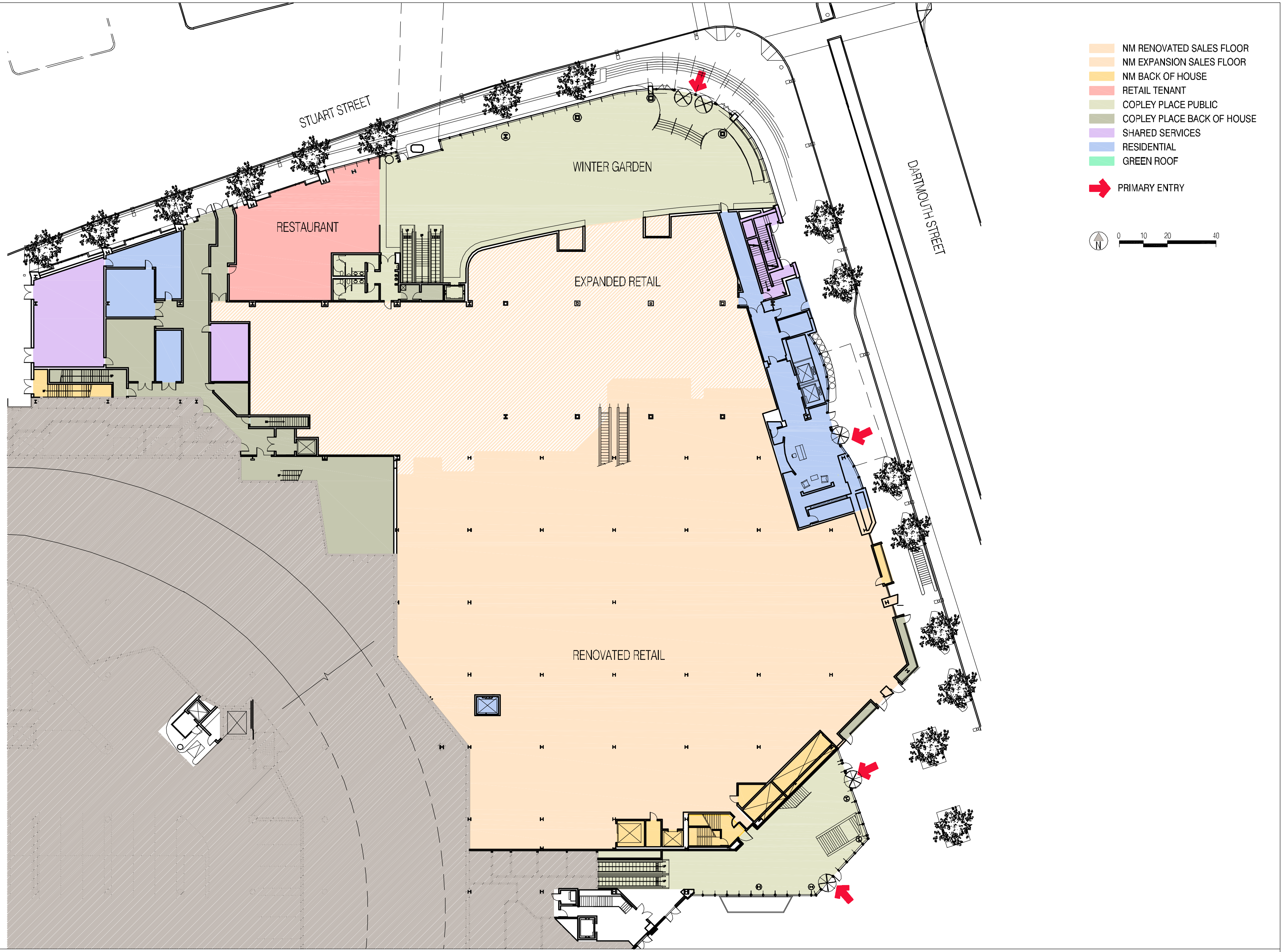


COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-1 BASEMENT LEVEL

ELKUS | MANFREDI
ARCHITECTS

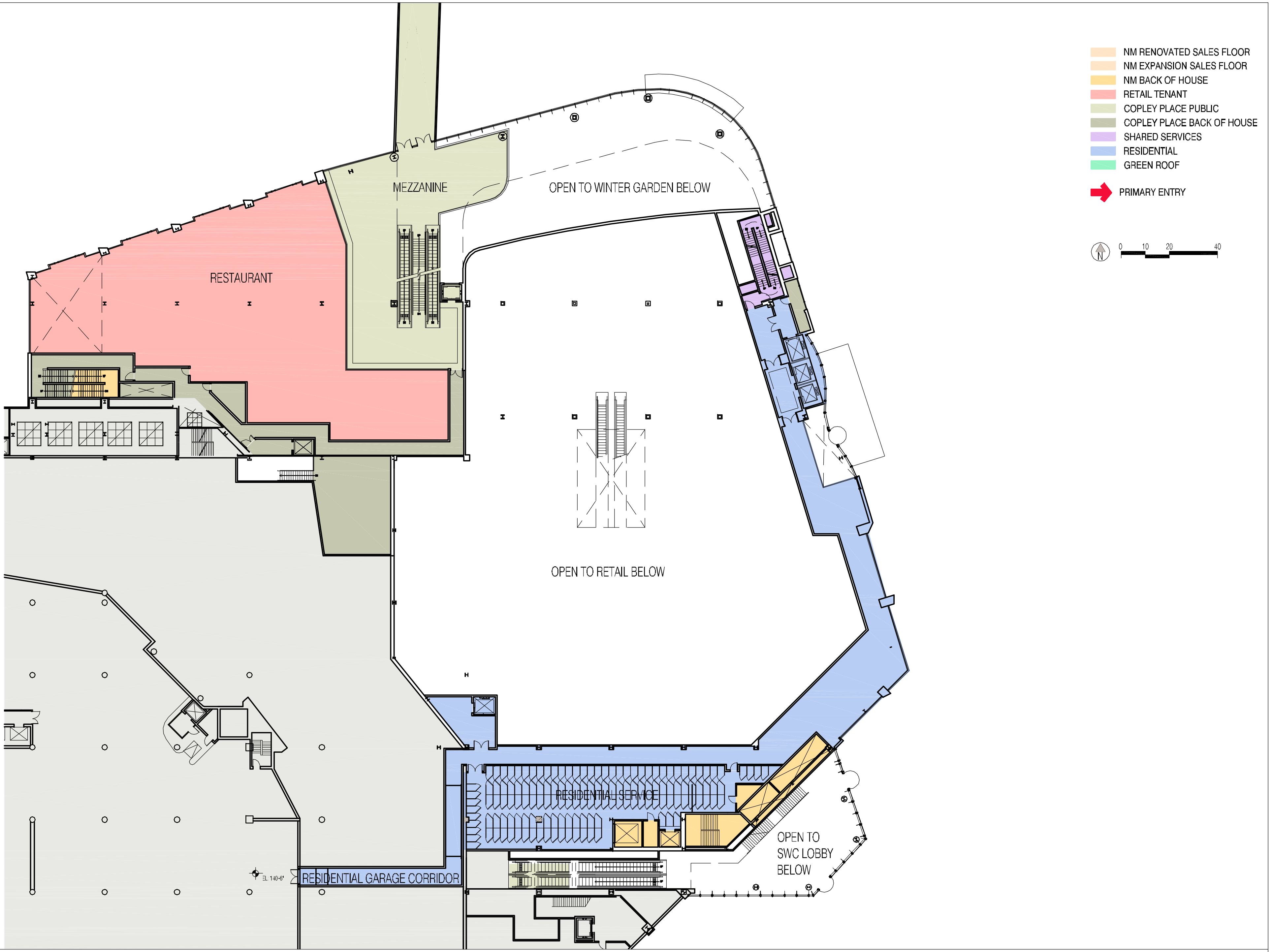


COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-2 STREET LEVEL

ELKUS | MANFREDI ARCHITECTS

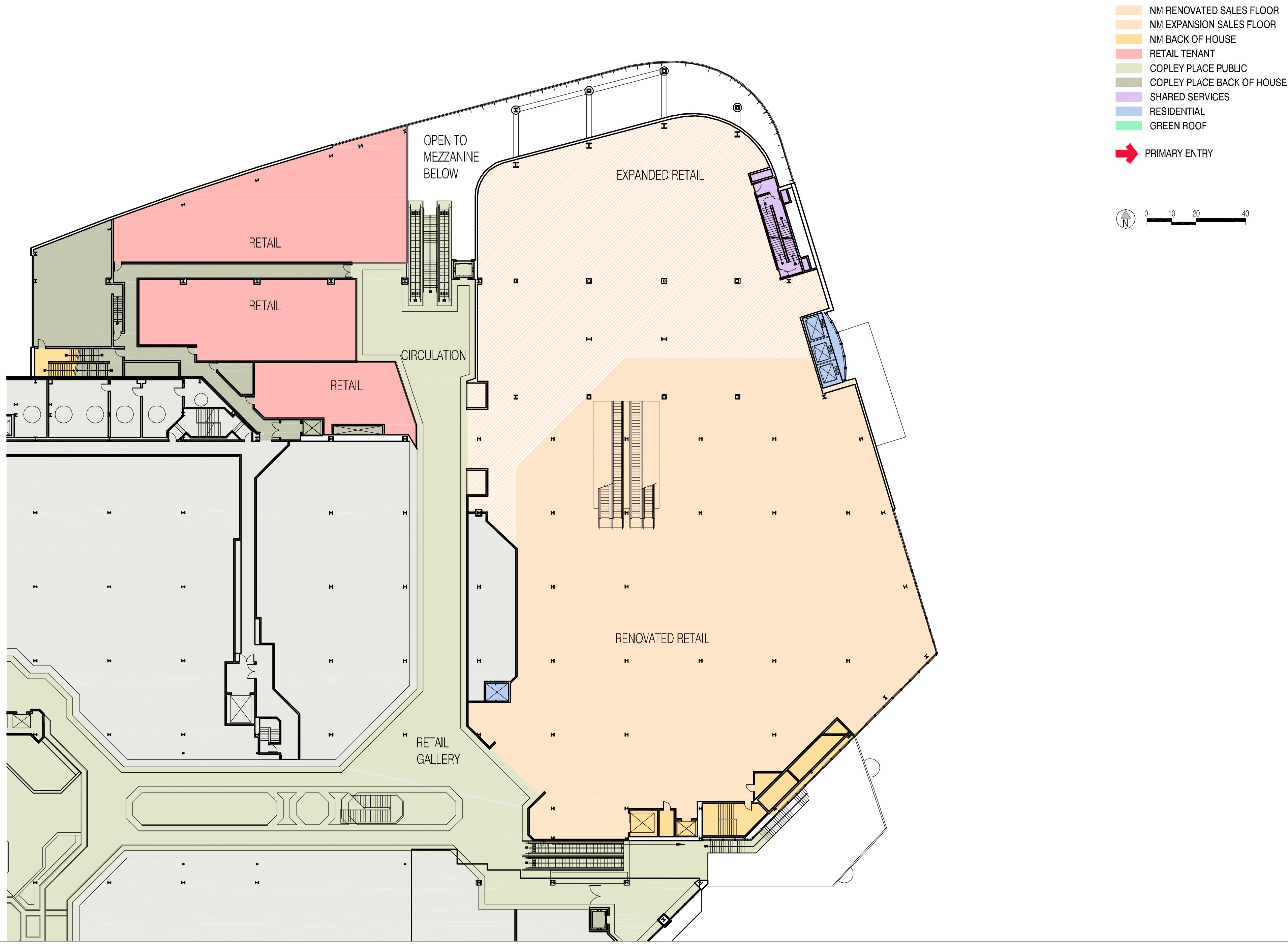


COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-3 MEZZANINE LEVEL

ELKUS | MANFREDI ARCHITECTS

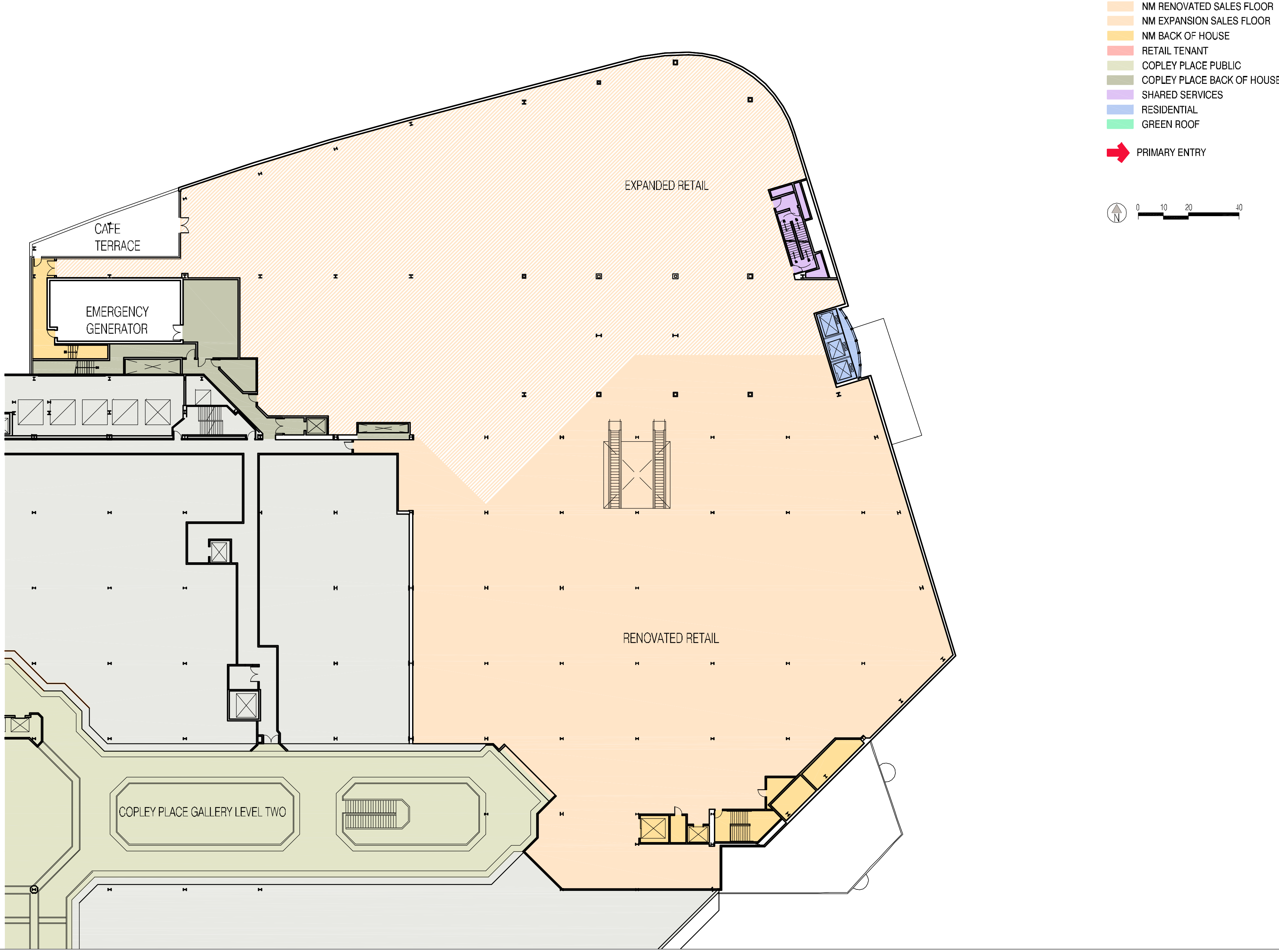


COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-4 RETAIL GALLERY LEVEL ONE

ELKUS | MANFREDI ARCHITECTS



COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-5 RETAIL GALLERY LEVEL TWO

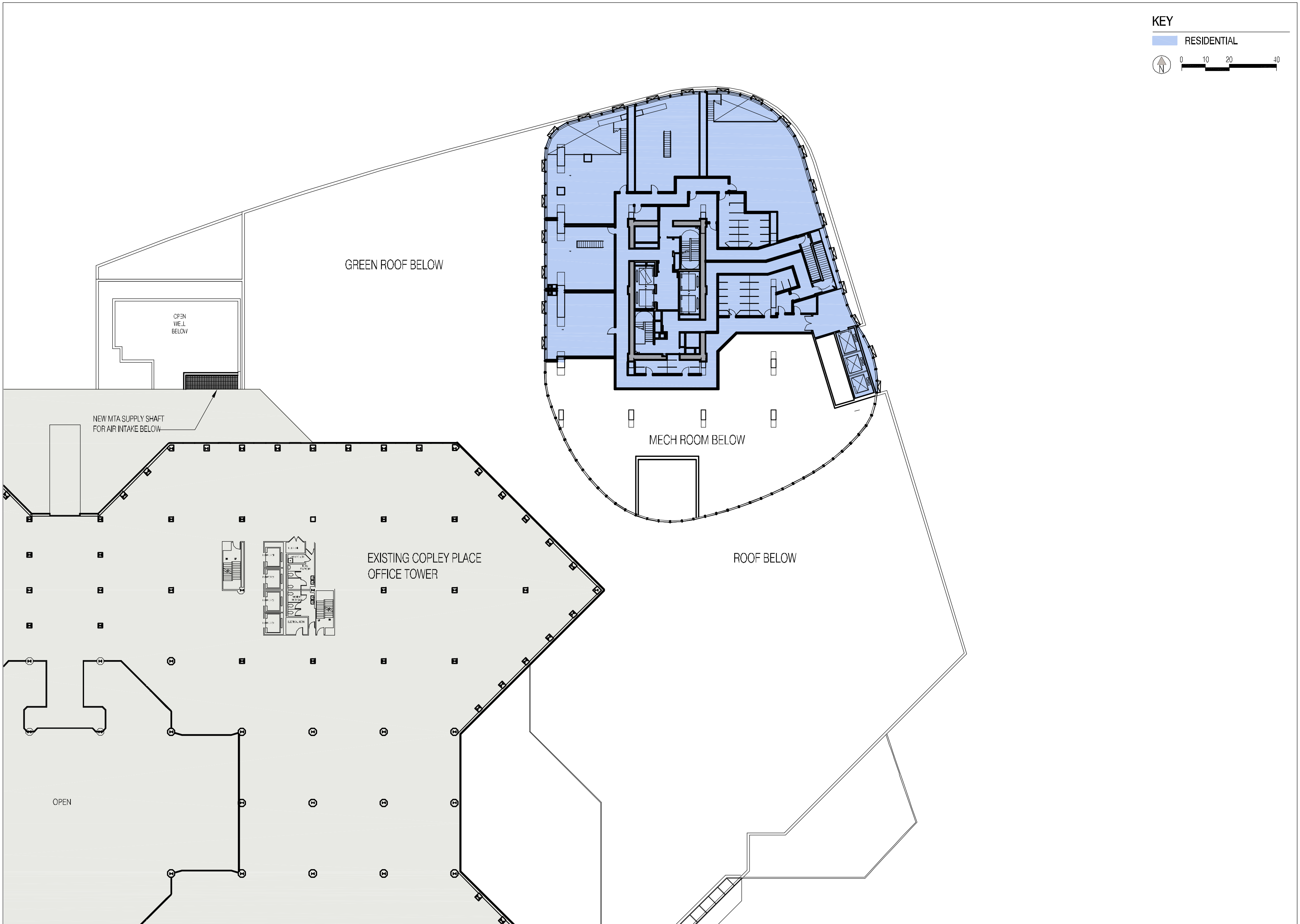
ELKUS | MANFREDI ARCHITECTS

COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-6 RESIDENTIAL LEVEL FOUR

ELKUS | MANFREDI ARCHITECTS

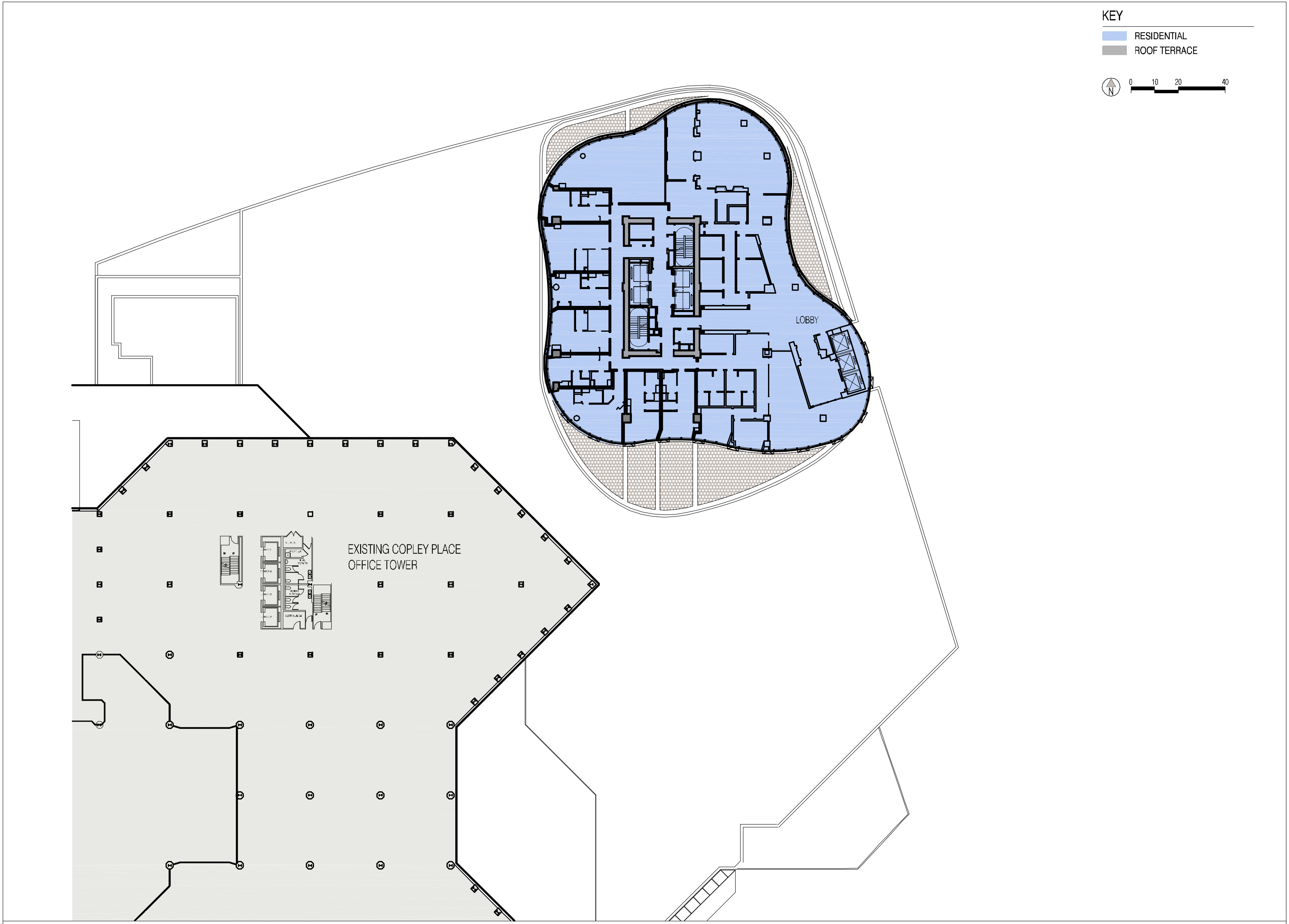


COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-7 RESIDENTIAL TRANSFER LEVEL FIVE

ELKUS | MANFREDI ARCHITECTS



COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

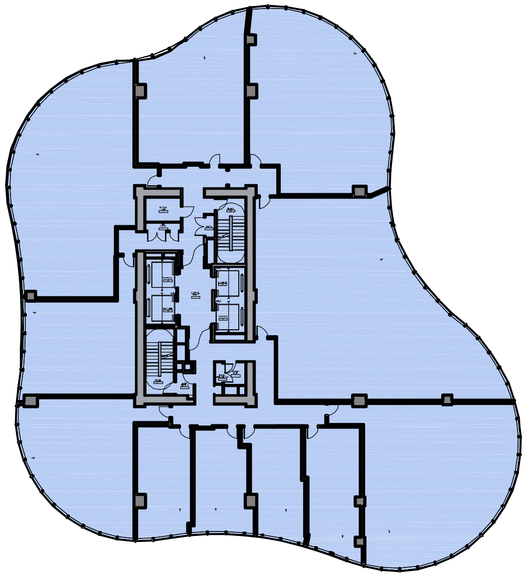
FIGURE A-8 RESIDENTIAL SKYLOBBY LEVEL SIX

ELKUS | MANFREDI ARCHITECTS

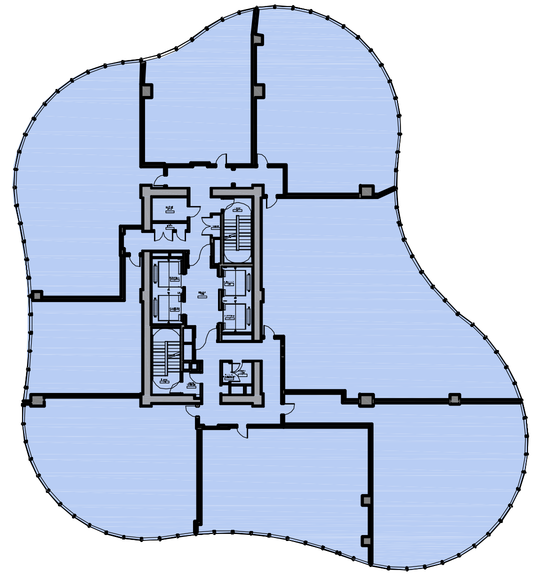
KEY

RESIDENTIAL

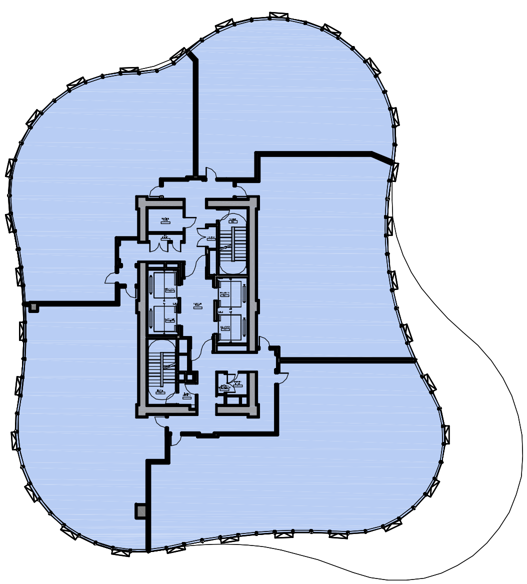
0 10 20 40



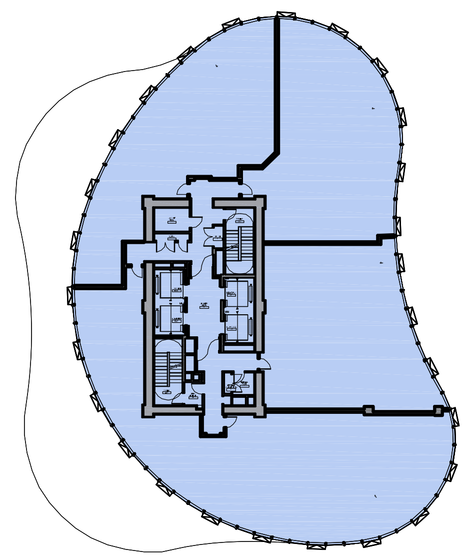
RESIDENTIAL FLOOR PLANS 7-15



RESIDENTIAL FLOOR PLANS 18-23



RESIDENTIAL FLOOR PLANS 27-34



RESIDENTIAL FLOOR PLANS 39-47

COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-9 RESIDENTIAL LEVELS SEVEN - FORTY SEVEN

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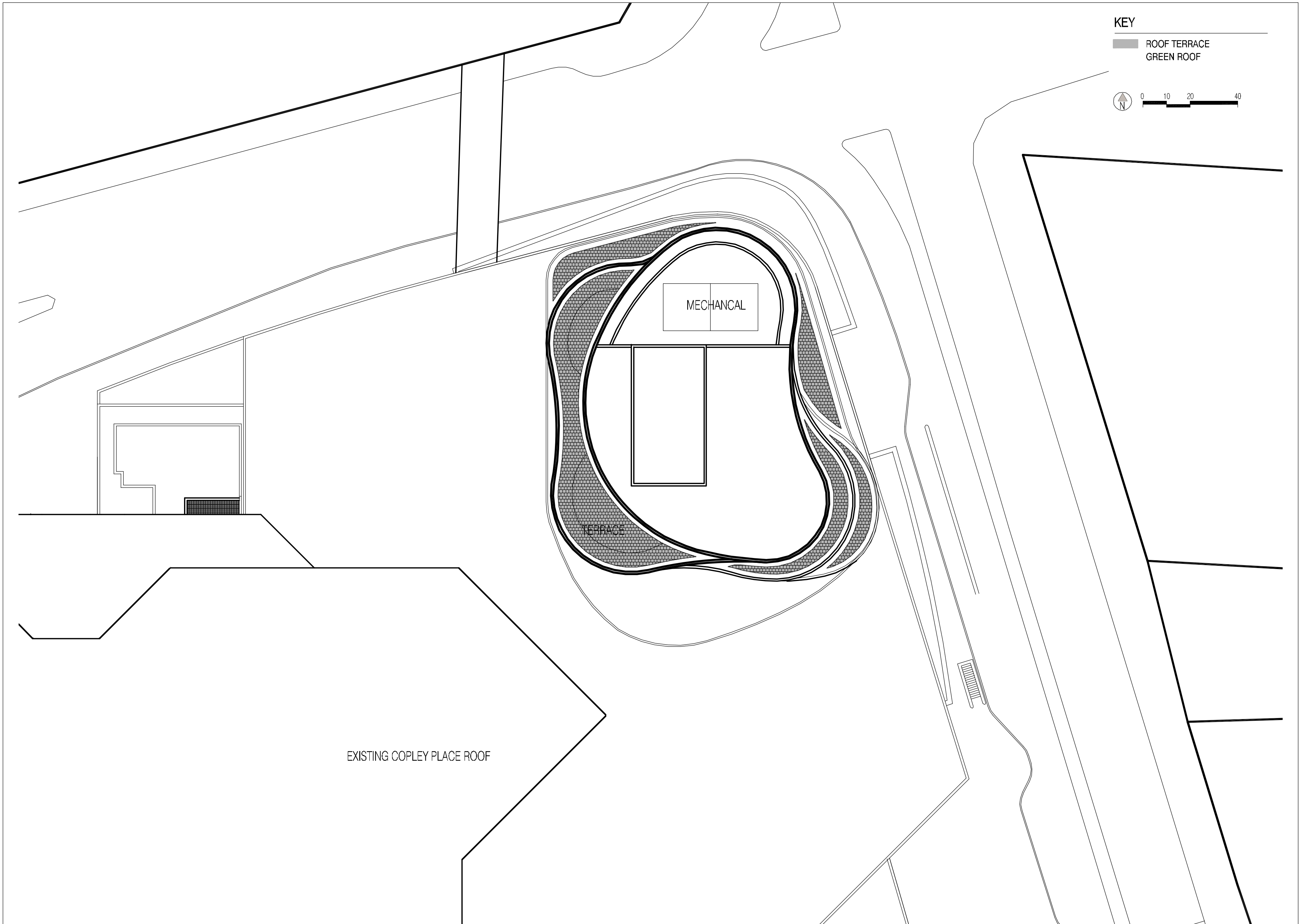
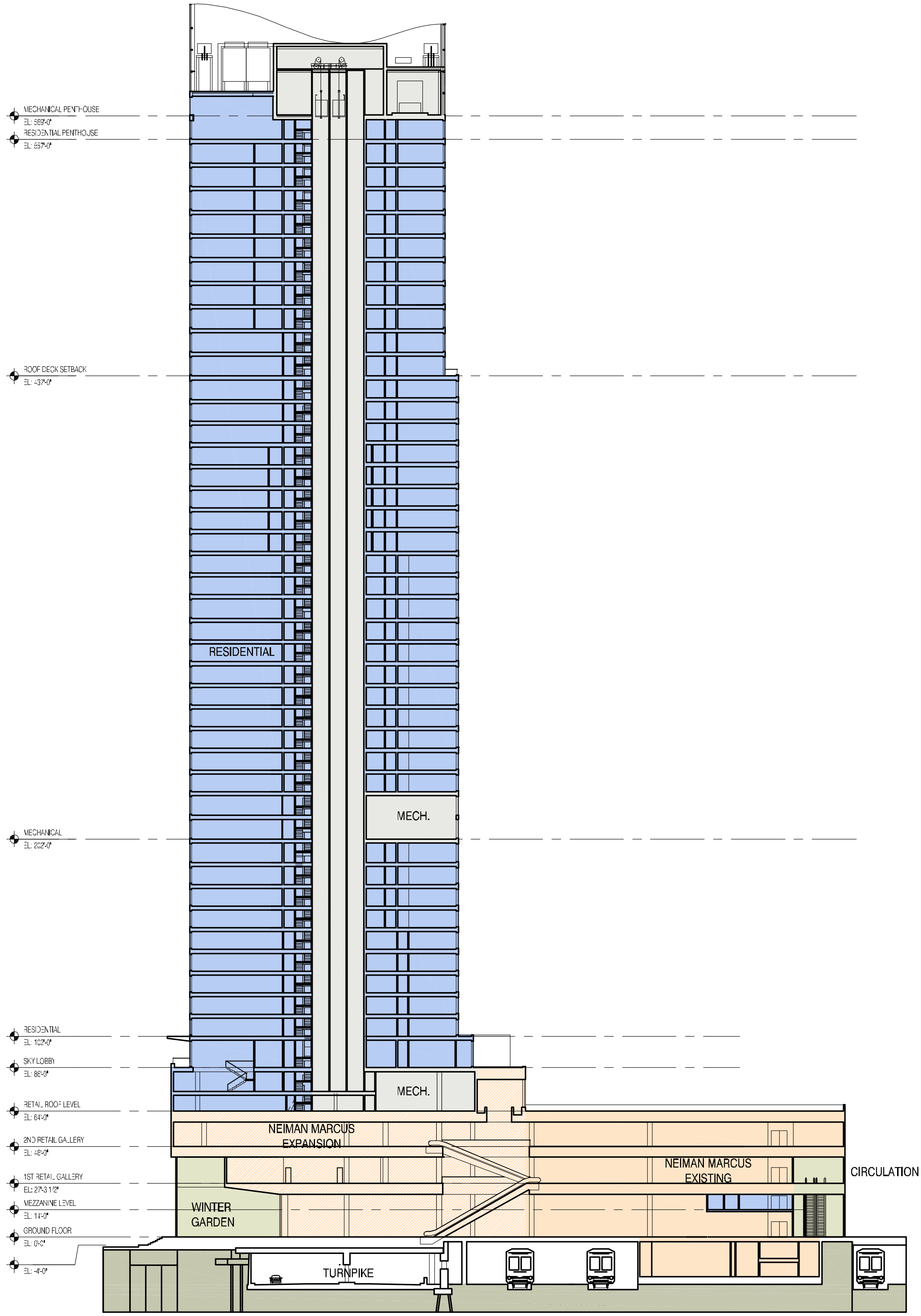


COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-10 ROOF PLAN

ELKUS | MANFREDI
ARCHITECTS



COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-11 NORTH/SOUTH SECTION

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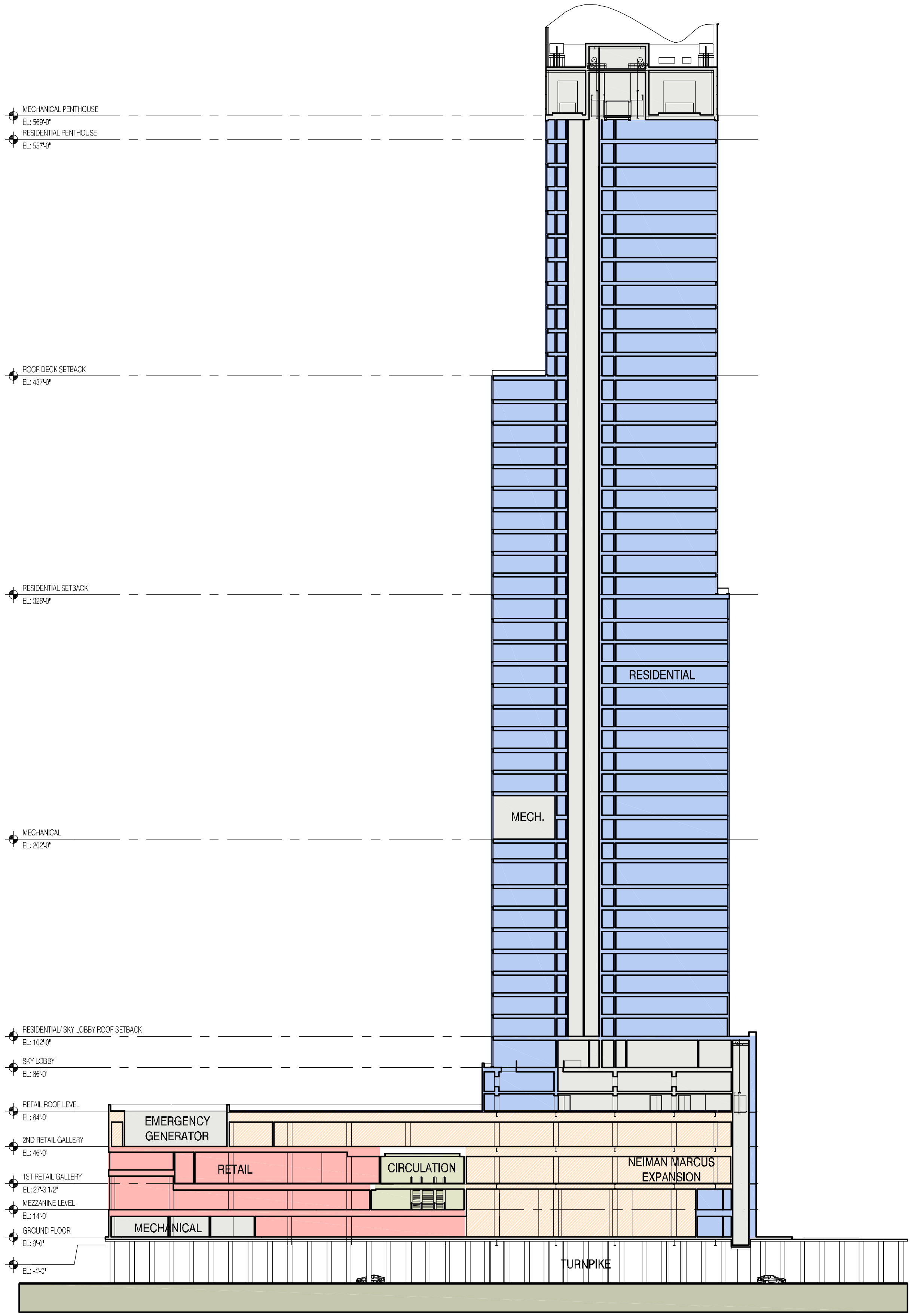

COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

FIGURE A-12 EAST/WEST SECTION

ELKUS | MANFREDI
ARCHITECTS

Appendix C

Transportation Study

Table of Contents

C TRANSPORTATION

C.1 Introduction

The Copley Place Retail Expansion and Residential Addition is located in the Back Bay neighborhood of Boston (see Figure C-1). The Project site is bounded by Stuart Street to the north, Dartmouth Street to the east, and the existing Copley Place building to the south and the west. Neiman Marcus, a part of Copley Place, currently occupies part of the site.

The Project includes 280 new residential units; renovation of approximately 115,000 s.f. at Neiman Marcus, along with a 54,000-s.f. expansion of that store. There is an additional 60,000 s.f. of other retail/restaurant/wintergarden included in the proposed Project. A total of 297 parking spaces will be reassigned to provide parking for the residential units.

C.1.1 Purpose of the Report

In anticipation of Boston Redevelopment Authority (BRA) and Massachusetts Environmental Policy Act (MEPA) requirements, the study team conducted a transportation analysis for the proposed Project that includes the following sections:

- Definition and presentation of existing traffic, public transit, pedestrian, bicycle, and parking conditions in the study area;

- Evaluation of the long-term impacts of the Project on traffic, public transit, pedestrian, bicycle, parking, and loading/service operations;

- Identification of appropriate measures to mitigate Project impacts, including, but not limited to, roadway geometric/traffic signal and/or surveillance improvements, pedestrian amenities, transportation demand management, participation in transportation management associations (TMAs), and long-term Project impact monitoring; and

- Evaluation of the Project's short-term traffic impacts related to construction activity.

Figure C-1
Locus Map

C.1.2 Study Area

The study area for the Project is bounded by Boylston Street to the north, Columbus Avenue to the south, Clarendon Street to the east, and Exeter Street to the west. As shown in Figure C-2, it includes the following nine intersections:

- Huntington Avenue/West Newton Street/Belvidere Street;
- Huntington Avenue/Stuart Street/Copley Garage/Exeter Street;
- Stuart Street/Dartmouth Street;
- Stuart Street/Clarendon Street;
- Huntington Avenue/St. James Avenue/Dartmouth Street;
- St. James Avenue/Clarendon Street;
- Columbus Avenue/Dartmouth Street;
- Boylston Street/Exeter Street; and
- Boylston Street/Dartmouth Street.

C.1.3 Methodology

The study team conducted this transportation analysis in accordance with BTD *Transportation Access Plan Guidelines* (2001) and the *EOEA/EOTC Guidelines for EIR/EIS Traffic Impact Assessment* (1989). The analysis is summarized in three sections:

- The first comprises an inventory of existing transportation conditions, including roadway capacities, transit, pedestrian circulation, parking, loading, and site conditions. Turning movement counts were performed in May and July of 2007.
- The second evaluates future transportation conditions and assesses potential traffic impacts associated with the development and other neighboring projects. Long-term impacts are evaluated for the year 2013, based on a six-year horizon from the existing year. Expected roadway, transit, pedestrian, parking, and loading capacities and deficiencies are identified. This section includes the following scenarios:
    - The No-Build Scenario (2013) includes general background growth and additional vehicular traffic associated with specific proposed or planned developments and roadway changes in the vicinity of the site;
    - The Build Scenario (2013) includes specific travel demand forecasts for the PNF proposed Project;

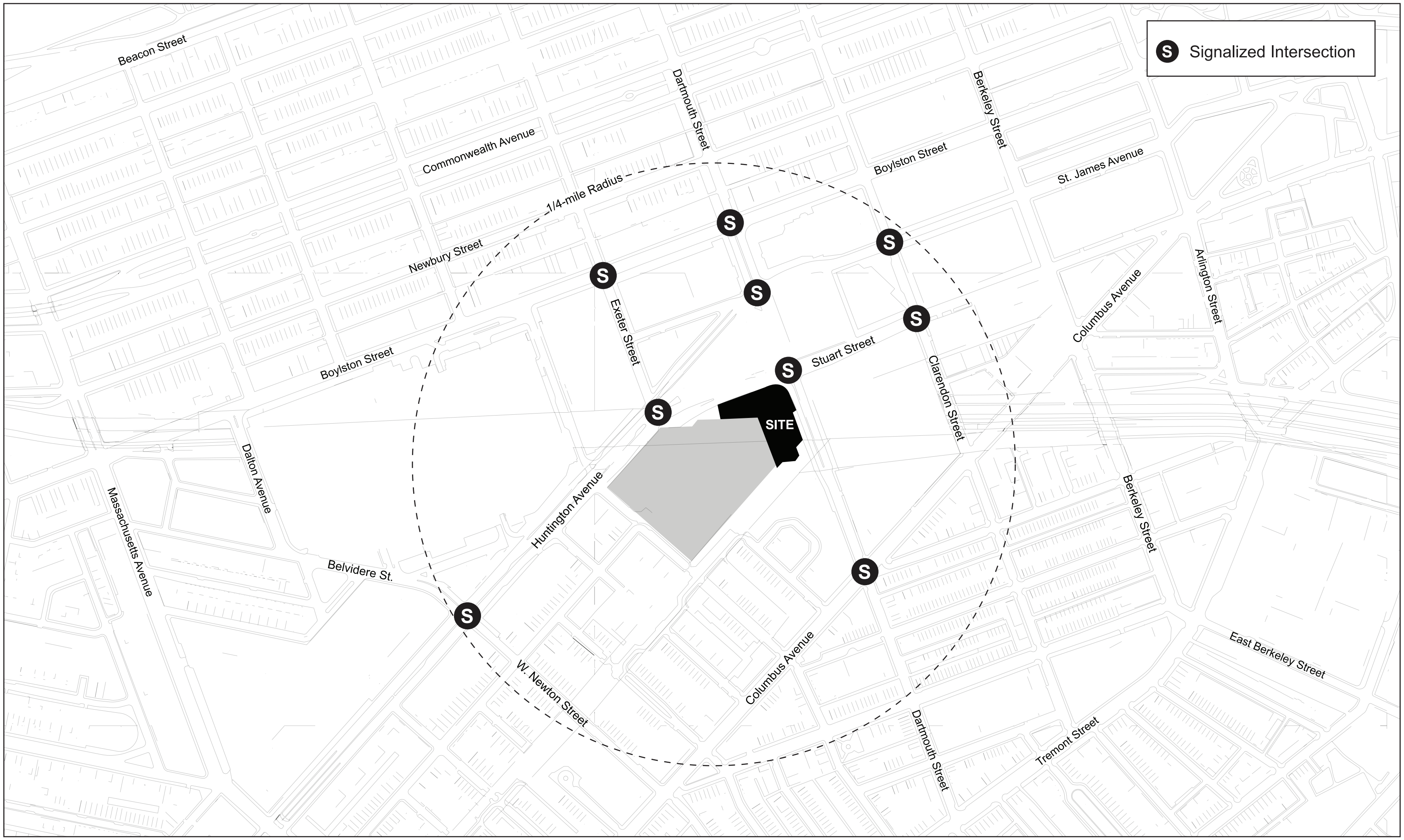

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Figure C-2
Study Area Intersections

- The third section identifies appropriate measures to mitigate Project-related deficiencies identified in the previous phase.

In addition, this report evaluates short-term traffic impacts associated with construction activities.

C.2 Existing Transportation Conditions

This section describes existing study area roadway geometry, intersection traffic control, peak-hour vehicular and pedestrian volumes, transit availability, parking supply, and loading conditions.

C.2.1 Existing Roadway Conditions

The study area includes the following roadways, which are categorized according to the Massachusetts Executive Office of Transportation Office of Transportation Planning (EOT-OTP) functional classifications:

Huntington Avenue is a northeast–southwest urban principal arterial from Stuart Street to the Town of Brookline, where it becomes Boylston Street. Huntington Avenue consists of four travel lanes, two lanes in each direction. In the immediate vicinity of the Project, Huntington Avenue is one-way southwest-bound, with metered parking on the north side of the street and a taxi stand for the Westin Hotel on the south side. At Exeter Street, Huntington Avenue changes to two-way, providing two lanes in each direction.

Stuart Street is an east–west urban principal arterial that runs from Huntington Avenue to Washington Street, where it becomes Kneeland Street. In the study area, Stuart Street is one-way eastbound with two to three travel lanes. Metered parking is provided on both the north and the south sides of the street. No on-street parking is allowed within the vicinity of the Hancock Tower (Trinity Place to Clarendon Street).

St. James Avenue is an urban principal arterial that runs from Arlington Street to Dartmouth Street. Between Arlington Street and Berkeley Street, St. James Avenue is two-way, with one eastbound lane and two westbound lanes. Between Berkeley Street and Dartmouth Street, it runs one-way westbound, providing three travel lanes. No parking is provided along St. James Avenue between Berkeley and Dartmouth streets, but metered parking is available on the north and south sides of St. James Avenue between Berkeley and Arlington streets.

Columbus Avenue is an urban principal arterial that runs east–west, beginning at Arlington Street and continuing through Lower Roxbury to Franklin Park. In the vicinity of the site, Columbus Avenue consists of two westbound lanes and one eastbound lane; flow is separated by a flush, two-foot median. Parking meters are provided on each side of the roadway.

Boylston Street is an urban minor arterial that runs from Brookline Avenue in the Fens to Washington Street, where it becomes Essex Street, terminating at Atlantic Avenue. Within the study area, Boylston Street is one-way eastbound, with three travel lanes and adjacent parking lanes to the north and south of the travel lanes.

Clarendon Street is an urban minor arterial that runs one-way southbound from the Back Bay to the South End. The roadway consists of two travel lanes and is approximately 35 feet wide in the study area. Metered parking is provided on the east side of the street except within the vicinity of the Hancock Tower (St. James Avenue to Stuart Street). No parking is allowed at the meters on weekdays from 7:00 to 9:30 a.m. or from 4:00 to 6:00 p.m. Residential parking is provided on both sides of the street south of Columbus Avenue.

Dartmouth Street is a north–south urban minor arterial from Tremont Street to the Back Bay; it runs one-way northbound from Stuart Street to Beacon Street. Within the study area, Dartmouth Street widens from two travel lanes (one in each direction) south of Stuart Street to five travel lanes between Stuart Street and St. James Avenue, narrowing to three travel lanes north of St. James Avenue. A few metered parking spaces are provided on the east side of the street between Stuart Street and St. James Avenue. Parking is also allowed along the west side of Dartmouth Street south of Stuart Street, adjacent to the site.

C.2.2 Existing Intersection Conditions

The following descriptions of the study area intersections—all of which are signalized—include geometry, pedestrian facilities, and intersection traffic control.

Huntington Avenue/West Newton Street/Belvidere Street is a four-way, signalized intersection with four approaches: Belvidere Street southbound, West Newton Street northbound, and Huntington Avenue eastbound and westbound. The off-ramp for eastbound Massachusetts Turnpike contributes significant westbound vehicle volumes on Huntington Avenue between Exeter Street and West Newton Street. The Belvidere Street southbound approach comprises three travel lanes: a left-turn lane, a through lane, and one right-turn lane. No on-street parking is allowed on Belvidere Street adjacent to the intersection. The northbound West Newton Street approach is one shared left-turn/through/ right-turn lane. Eastbound Huntington Avenue consists of an exclusive left-turn lane, a through lane, and a shared through/right-turn lane. Metered parking is provided along eastbound Huntington Avenue. Westbound Huntington Avenue consists of an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane with a no-parking lane.

Huntington Avenue/Stuart Street/Copley Garage/Exeter Street is a six-leg, signalized intersection with five approaches. The northeast-bound approach consists of two through lanes and one shared through/right-turn lane. The northbound approach is the exit for the Marriott Hotel valet area and the entrance and exit to the Copley Place Garage, the site driveway. The northbound approach comprises one exclusive left-turn lane and one exclusive right-turn lane. The southwest-bound approach, Huntington Avenue, consists of a channelized U-turn lane, an exclusive left-turn lane, and three through lanes. Parallel to the Huntington Avenue southwest-bound approach is a one-lane frontage road that provides access to buildings along the north side of the I-90 entry ramp that begins at the intersection of Saint James Avenue and Dartmouth Street. The southbound approach, Exeter Street, consists of a shared left-turn/through lane and a shared through/right-turn lane. Metered and valet parking are provided along the east side of Exeter Street and the north side of the frontage road.

Stuart Street/Dartmouth Street is a four-way, signalized intersection with approaches from Stuart Street eastbound and Dartmouth Street northbound. The eastbound Stuart Street approach consists of an exclusive left-turn lane, three through lanes, and an exclusive right-turn lane. The Dartmouth Street northbound approach consists of two travel lanes: one through lane and one shared through/right-turn lane. No parking is allowed on either approach. On the south side of the intersection, a concrete median separates the north-bound and southbound traffic on Dartmouth Street as Dartmouth Street becomes two-way.

Stuart Street/Clarendon Street is a four-way, two-phase, signalized intersection. The Stuart Street eastbound approach consists of three travel lanes: two through lanes and a right-turn lane. The Clarendon Street southbound approach comprises two travel lanes: one through lane and one shared left-turn/through lane. No parking is allowed on either side of the street on either approach. An exclusive pedestrian phase is activated by pushbutton.

Huntington Avenue/St. James Avenue/Dartmouth Street is a five-leg, two-phase, signalized intersection with approaches from Dartmouth Street northbound and St. James Avenue westbound. The Dartmouth Street northbound approach is two left-turn lanes and three through lanes. The St. James Avenue approach is two through lanes and one right-turn lane. Blagden Street, Huntington Avenue, and an I-90 westbound on-ramp are on the west side of the intersection. Pedestrian phases are concurrent with the signal phases.

St. James Avenue/Clarendon Street is a four-way, signalized intersection with two approaches: St. James Avenue westbound and Clarendon Street southbound. The signal operates in two phases, with an exclusive pedestrian phase actuated by pushbutton. The St. James Avenue westbound approach comprises three travel lanes: two through lanes and one left-turn lane. No on-street parking is allowed. Clarendon Street southbound consists of three travel lanes: two through lanes and one shared through/right-turn lane, with time-restricted metered parking lanes on the east and west sides of the approach.

Columbus Avenue/Dartmouth Street is a four-way, signalized intersection. The north-bound approach of Dartmouth Street has one shared left/through/right lane. The Dart-mouth Street southbound approach has a shared left-turn/through lane and an exclusive right-turn lane. Columbus Avenue runs northeast–southwest at the intersection. The northeast-bound approach has two travel lanes: one left-turn/through lane and one through/right lane. The southwest-bound approach consists of one left/through lane and one right-turn-only lane. A 7.5-foot-wide brick median separates east- and westbound traffic. Parking is provided on both sides of all approaches, except the southbound approach of Dartmouth Street. A bus stop is located on the southwest corner of the intersection. Crosswalks and handicapped ramps are provided on all approaches.

Boylston Street/Exeter Street is a four-leg, signalized intersection with two approaches. The eastbound approach, Boylston Street, consists of two through lanes and a shared through/right-turn lane. Commercial parking is designated along the north side of Boylston Street adjacent to the intersection; no parking is allowed along the south side just west of the intersection with Exeter Street. Southbound Exeter Street consists of a shared left-turn/through lane and a through lane. Parking is metered along both sides of the southbound Exeter Street approach. Crosswalks and handicapped ramps are provided on all approaches.

Boylston Street/Dartmouth Street is a four-leg, signalized intersection with two approaches. The eastbound approach, Boylston Street, consists of a shared left-turn/through lane and two through lanes. Metered and commercial parking are allowed along the north side of Boylston Street west and east of the intersection, respectively. An MBTA bus stop is located along the south side just west of the intersection with Dartmouth Street. Northbound Dartmouth Street consists of a through lane, a shared through/right-turn lane, and an exclusive right-turn lane. Crosswalks and handicapped ramps are provided on all approaches.

C.2.3 Existing Traffic Conditions

For a separate study of Back Bay traffic signalization, the study team collected turning movement counts at study area intersections in May 2007 from 7:00 a.m. to 6:00 p.m. Based on the turning movement counts, the weekday peak hours were identified as 8:00–9:00 a.m. and 5:00–6:00 p.m. Based on Saturday peak-hour turning movement counts conducted on July 21, 2007, from 11:00 a.m. to 2:00 p.m., the Saturday peak hour was identified as 12:30–1:30 p.m.

Figures C-3, C-4, and C-5 show the existing peak-hour turning volumes for the study area intersections. These existing traffic volumes reflect the existing traffic generated by Copley Place. Complete traffic count data are provided in the Transportation Appendix.

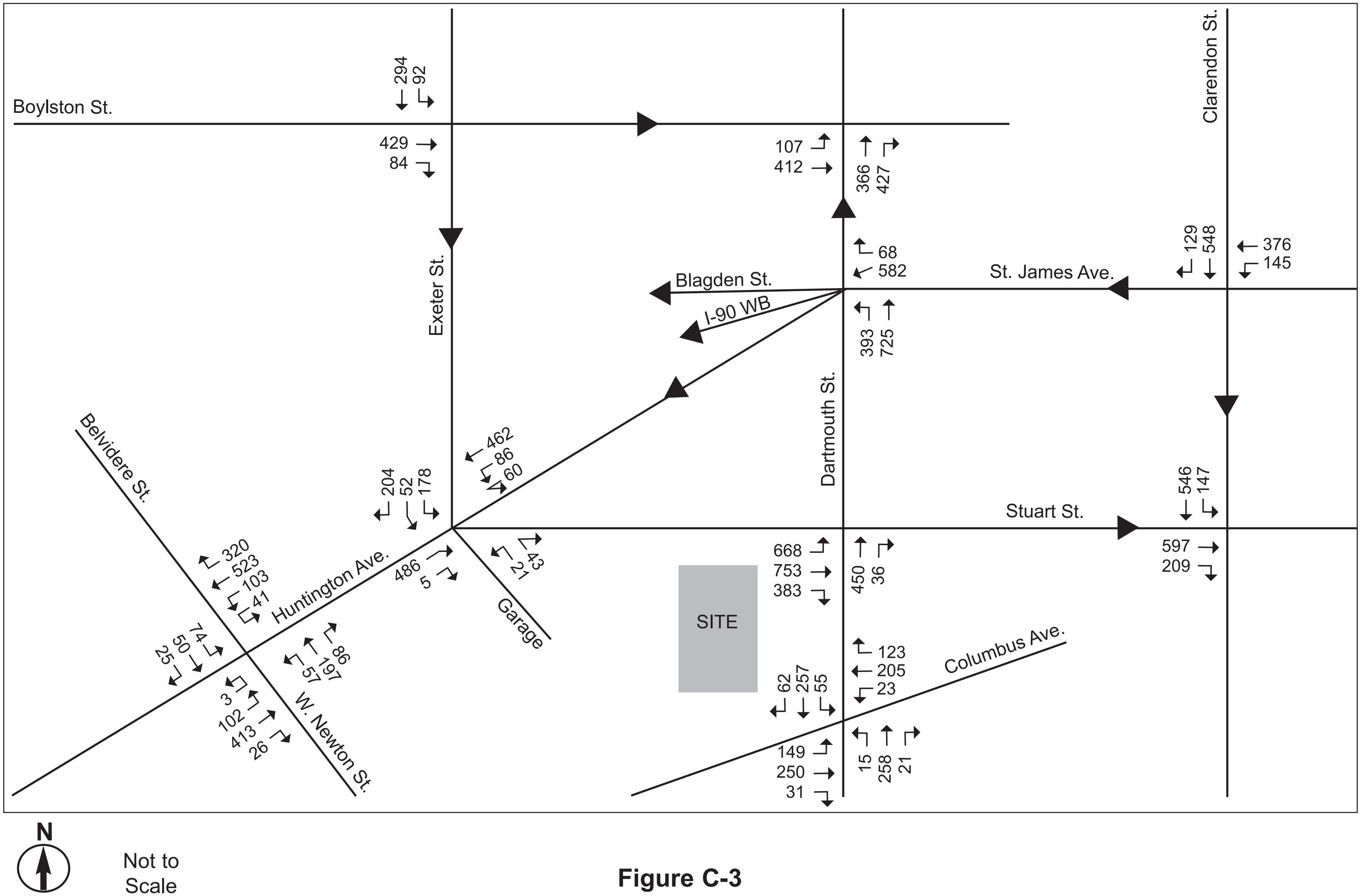

Figure C-3
Existing Conditions (2007) Turning Movement Volumes, a.m. Peak Hour (8:00–9:00 a.m.)

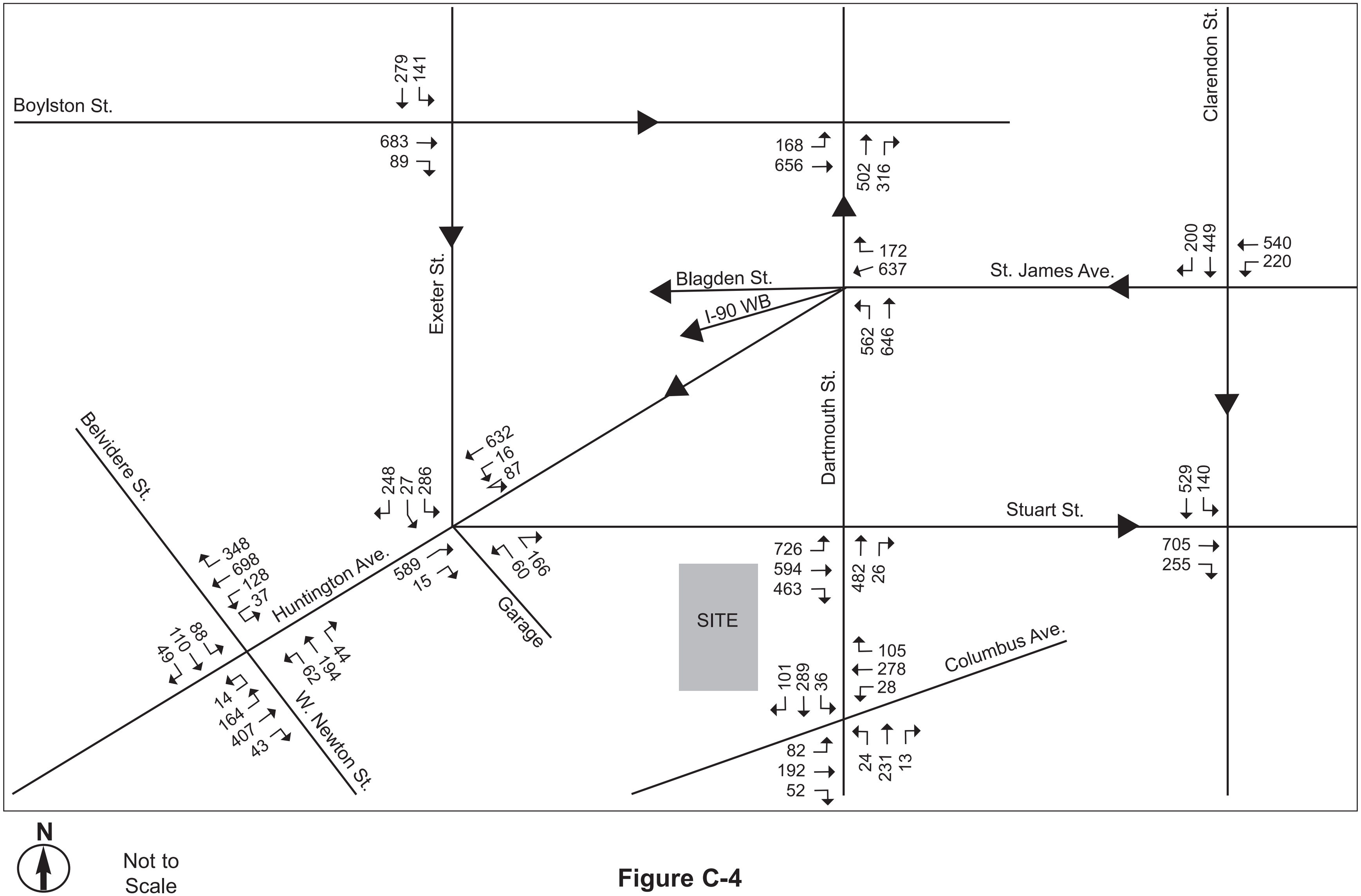

Figure C-4
Existing Conditions (2007) Turning Movement Volumes,
p.m. Peak Hour (5:00–6:00 p.m.)

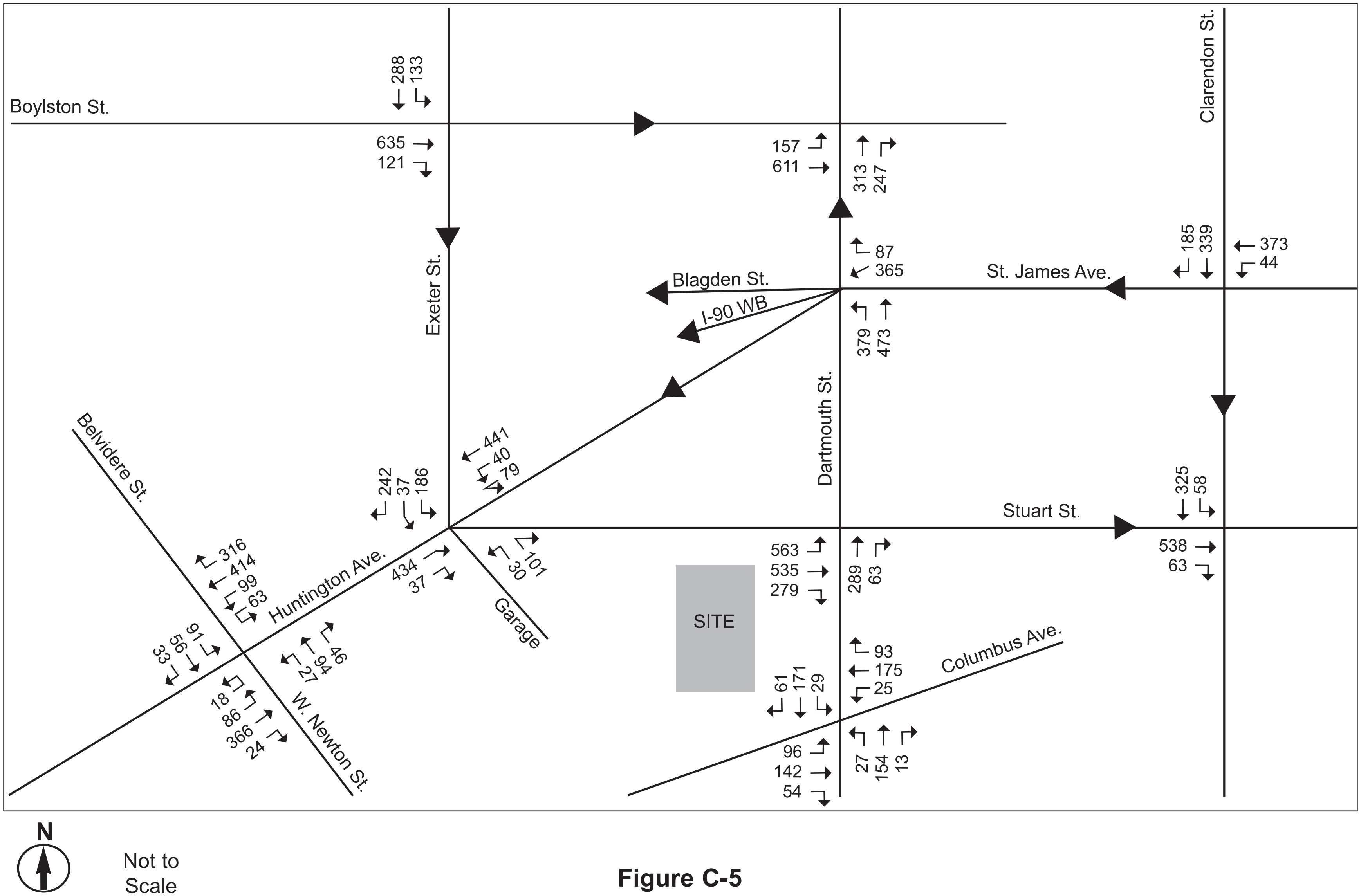

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Figure C-5
Existing Conditions (2007) Turning Movement Volumes, Saturday Peak Hour (12:30–1:30 p.m.)

C.2.4 Existing Traffic Operations

Traffic operations are determined through an analysis of intersection Level of Service (LOS). The study team analyzed LOS and delay at the intersections using Trafficware's Synchro 6.0 software, which is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 *Highway Capacity Manual* (HCM). LOS and delay (in seconds) are determined based on intersection geometry and available traffic data for each intersection. Synchro also evaluates the effects closely spaced intersections may have on one another.

BTD provided the signal timings and phasing used in this analysis. Derived from the HCM, Table C-1 provides LOS criteria for signalized and unsignalized intersections. LOS A defines the most favorable condition, with minimum traffic delay. LOS F represents the worst condition (unacceptable), with significant traffic delay. LOS D is generally considered acceptable in an urban environment.

Table C-1: Intersection Level of Service Criteria

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

The LOS analysis evaluated existing intersection operations and was calibrated based on field observations of actual queues and delays. Tables C-2, C-3, and C-4 show existing intersection LOS results for the Project study area during the a.m., p.m., and Saturday peak hours, respectively. Complete Synchro reports are provided in the Transportation Appendix**.**

Table C-2: Existing Conditions (2007) Level of Service Summary, a.m. Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**37.6**	—	—
Huntington EB left	E	61.4	0.71	123
Huntington EB thru/right	D	35.6	0.58	204
Huntington WB left	E	68.3	0.78	m#175
Huntington WB thru	C	30.2	0.61	#261
Huntington WB right	B	15.2	0.73	145
West Newton NB left/thru/right	E	63.4	0.95	#412
Belvidere SB left	B	16.5	0.29	50
Belvidere SB thru	B	14.2	0.10	35
Belvidere SB right	A	4.6	0.06	10
Huntington Avenue/Stuart Street/Garage/Exeter Street	**C**	**33.6**	—	—
Huntington EB thru/right	C	28.3	0.82	44
Huntington WB left	B	15.8	0.27	96
Huntington WB thru	C	28.3	0.41	105
Garage NB left	C	31.6	0.19	29
Garage NB right	A	8.5	0.14	23
Exeter SB left	D	45.3	0.71	158
Exeter SB thru/right	E	59.4	0.87	217
Stuart Street/Dartmouth Street	**B**	**10.8**	—	—
Stuart EB left	A	1.4	0.26	m32
Stuart EB thru	B	13.7	0.34	151
Stuart EB right	C	20.4	0.60	272
Dartmouth NB thru	B	11.0	0.38	117
Dartmouth NB right	A	6.7	0.17	15
Stuart Street/Clarendon Street	**C**	**29.1**	—	—
Stuart EB thru	D	42.4	0.46	252
Stuart EB right	C	30.8	0.50	181
Clarendon SB left/thru	B	17.1	0.66	264
Huntington Avenue/St. James Avenue/Dartmouth Street	**B**	**18.9**	—	—
St. James WB thru	C	30.8	0.64	247
St. James WB right	C	23.8	0.20	77
Dartmouth NB left	A	6.5	0.26	52
Dartmouth NB thru	B	16.1	0.50	151
St. James Avenue/Clarendon Street	**B**	**17.0**	—	—
St. James WB left/thru	B	19.2	0.41	154
Clarendon SB thru/right	B	15.3	0.43	177
Columbus Avenue/Dartmouth Street	**C**	**23.4**	—	—
Columbus EB left/thru/right	B	18.7	0.44	275
Columbus WB left/thru	B	17.4	0.32	161
Columbus WB right	A	7.0	0.16	42
Dartmouth NB left/thru/right	D	52.7	0.82	180
Dartmouth SB left/thru	B	17.2	0.65	186
Dartmouth SB right	B	12.1	0.19	58

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Boylston Street/Exeter Street	**B**	**16.2**	**—**	**—**
Boylston EB thru/right	B	19.2	0.30	111
Exeter SB left/thru	B	12.6	0.34	103
Boylston Street/Dartmouth Street	**B**	**14.6**	**—**	**—**
Boylston EB left/thru	C	20.7	0.51	147
Dartmouth NB thru/right	A	9.7	0.56	252
Dartmouth NB right	B	11.7	0.51	221

\# 95th percentile volume exceeds capacity. Queue may be longer.
Queue shown is the maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Table C-3: Existing Conditions (2007) Level of Service Summary, p.m. Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**41.7**	—	—
Huntington EB left	E	64.0	0.83	192
Huntington EB thru/right	C	33.4	0.58	208
Huntington WB left	E	70.0	0.83	180
Huntington WB thru	C	26.3	0.81	#356
Huntington WB right	D	40.5	0.93	#200
West Newton NB left/thru/right	E	77.5	0.97	#394
Belvidere SB left	C	21.8	0.35	71
Belvidere SB thru	B	19.6	0.20	84
Belvidere SB right	A	5.5	0.13	19
Huntington Avenue/Stuart Street/Garage/Exeter Street	**C**	**29.3**	—	—
Huntington EB thru/right	C	24.0	0.81	47
Huntington WB left	D	37.2	0.24	94
Huntington WB thru	C	26.5	0.49	107
Garage NB left	D	42.0	0.53	67
Garage NB right	A	6.0	0.40	27
Exeter SB left	D	43.5	0.79	279
Exeter SB thru/right	D	40.8	0.75	188
Stuart Street/Dartmouth Street	**B**	**12.3**	—	—
Stuart EB left	A	1.1	0.27	25
Stuart EB thru	B	15.0	0.28	114
Stuart EB right	C	24.8	0.66	362
Dartmouth NB thru	B	12.7	0.41	121
Dartmouth NB right	A	6.6	0.15	5
Stuart Street/Clarendon Street	**B**	**16.8**	—	—
Stuart EB thru	B	15.5	0.55	135
Stuart EB right	B	12.8	0.54	92
Clarendon SB left/thru	B	19.7	0.60	267
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**21.7**	—	—
St. James WB thru	C	27.0	0.56	254
St. James WB right	C	30.6	0.54	165
Dartmouth NB left	A	9.5	0.40	108
Dartmouth NB thru	C	24.6	0.54	194
St. James Avenue/Clarendon Street	**B**	**18.0**	—	—
St. James WB left/thru	B	18.0	0.53	214
Clarendon SB thru/right	B	17.9	0.49	182
Columbus Avenue/Dartmouth Street	**C**	**23.3**	—	—
Columbus EB left/thru/right	B	17.0	0.31	128
Columbus WB left/thru	B	18.4	0.38	249
Columbus WB right	A	6.7	0.11	50
Dartmouth NB left/thru/right	D	52.8	0.81	269
Dartmouth SB left/thru	B	17.0	0.61	168
Dartmouth SB right	B	12.3	0.21	m53

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Boylston Street/Exeter Street	**B**	**17.8**	—	—
Boylston EB thru/right	C	20.4	0.44	175
Exeter SB left/thru	B	13.0	0.48	105
Boylston Street/Dartmouth Street	**B**	**18.6**	—	—
Boylston EB left/thru	B	17.1	0.67	130
Dartmouth NB thru/right	B	19.7	0.65	300
Dartmouth NB right	C	21.8	0.58	213

95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Table C-4: Existing Conditions (2007) Level of Service Summary, Saturday Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**35.6**	—	—
Huntington EB left	E	63.7	0.74	135
Huntington EB thru/right	C	22.0	0.35	143
Huntington WB left	E	66.6	0.82	177
Huntington WB thru	C	20.7	0.34	148
Huntington WB right	C	24.2	0.84	#221
West Newton NB left/thru/right	E	78.0	0.91	#236
Belvidere SB left	C	32.6	0.47	87
Belvidere SB thru	C	24.4	0.13	58
Belvidere SB right	A	7.7	0.14	11
Huntington Avenue/Stuart Street/Garage/Exeter Street	**D**	**51.6**	—	—
Huntington EB thru/right	E	77.4	1.03	#210
Huntington WB left	C	25.9	0.26	93
Huntington WB thru	B	18.1	0.27	59
Garage NB left	E	57.0	0.56	38
Garage NB right	A	8.2	0.30	40
Exeter SB left	D	39.3	0.64	148
Exeter SB thru/right	F	90.8	1.03	#224
Stuart Street/Dartmouth Street	**B**	**12.9**	—	—
Stuart EB left	A	3.2	0.22	m48
Stuart EB thru	B	17.3	0.26	m99
Stuart EB right	C	21.9	0.47	m179
Dartmouth NB thru	B	15.0	0.26	76
Dartmouth NB right	A	5.9	0.29	11
Stuart Street/Clarendon Street	**B**	**14.5**	—	—
Stuart EB thru	B	19.1	0.47	202
Stuart EB right	A	10.0	0.14	50
Clarendon SB left/thru	A	9.3	0.37	42
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**21.4**	—	—
St. James WB thru	C	29.9	0.45	138
St. James WB right	C	27.3	0.24	84
Dartmouth NB left	B	10.8	0.40	56
Dartmouth NB thru	C	23.8	0.58	93
St. James Avenue/Clarendon Street	**B**	**12.0**	—	—
St. James WB left/thru	B	16.8	0.34	114
Clarendon SB thru/right	A	8.3	0.40	89
Columbus Avenue/Dartmouth Street	**C**	**20.8**	—	—
Columbus EB left/thru/right	A	9.9	0.26	82
Columbus WB left/thru	B	10.3	0.25	107
Columbus WB right	A	5.8	0.14	37
Dartmouth NB left/thru/right	D	45.7	0.77	170
Dartmouth SB left/thru	C	30.9	0.64	130
Dartmouth SB right	B	19.6	0.21	45

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Boylston Street/Exeter Street	**B**	**13.3**	**—**	**—**
Boylston EB thru/right	B	11.2	0.36	105
Exeter SB left/thru	B	17.1	0.50	113
Boylston Street/Dartmouth Street	**C**	**20.2**	**—**	**—**
Boylston EB left/thru	C	27.7	0.84	104
Dartmouth NB thru/right	A	9.2	0.44	36
Dartmouth NB right	B	10.7	0.41	30

\# 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

During the weekday morning, afternoon, and Saturday peak hours, all intersections and approaches in the study area operate at acceptable overall levels of service (LOS D or better) with the exception of the following:

Huntington Avenue/West Newton Street/Belvidere Street operates at LOS D in all the morning, afternoon, and Saturday peak hours. In the morning and afternoon peak hours, the Huntington Avenue eastbound and westbound left turns and West Newton Street northbound operate at LOS E. During the Saturday peak hour, Huntington Avenue eastbound and westbound and the West Newton northbound approach all operate at LOS E. All other approaches at the intersection operate at LOS D or better.

Huntington Avenue/Stuart Street/Exeter Street operates at LOS C in both the morning and the afternoon peak hours; in the morning peak hour, however, the Exeter Street southbound approach operates at LOS E. All approaches at the intersection operate at LOS D or better in the p.m. peak hour. In the Saturday mid-day peak hour, the Huntington Avenue eastbound through/right-turn and garage northbound left operate at LOS E. The Exeter Street southbound through/right-turn movement operates at LOS F.

C.2.5 Existing Parking

Existing On-street Parking

Figure C-6 presents an inventory of existing curb use and parking restrictions within a five-minute walk, or a quarter of a mile, of the Project. A significant portion of on-street curbside space south of Copley Place and from Columbus Avenue to the south is restricted to resident permit parking. North of the site, metered parking is available along Exeter Street and Boylston Street. About one-third of the curbside space in the study area is designated as "no parking."

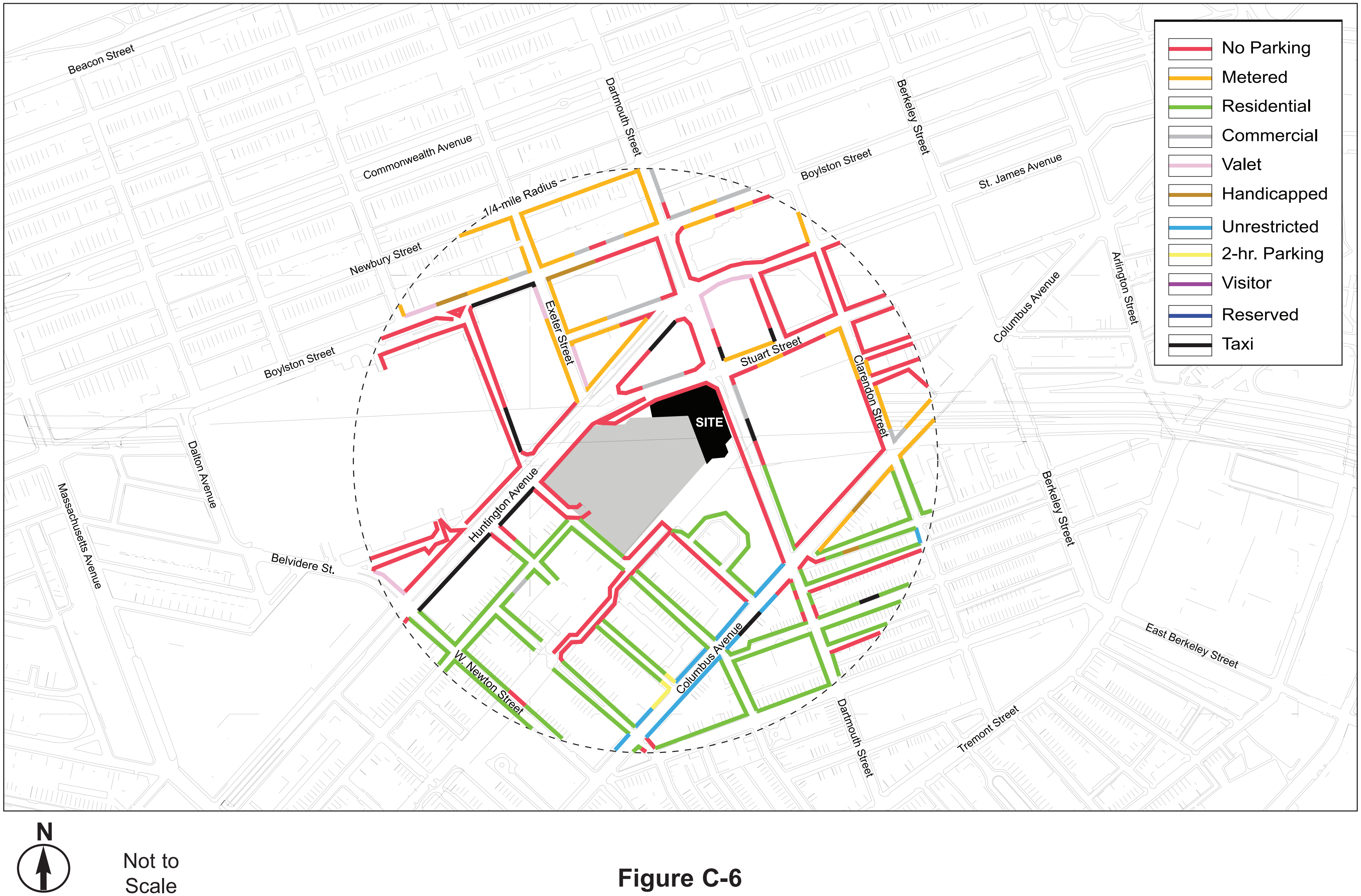


Figure C-6
Existing On-street Parking

Existing Off-street Parking

In total, Simon Properties controls 1,558 parking spaces in the Copley Place (Central) and Tent City (Dartmouth) garages. In the Central Garage, 860 commercial spaces are permitted by the Air Pollution Control Commission. In another portion of the Central Garage not controlled by Simon are 45 residential spaces and 252 exempt spaces for the Marriott Hotel. In the Dartmouth (Tent City) Garage, 276 commercial spaces, 293 employee exempt spaces, and 129 residential exempt spaces are permitted, for a total of 698 spaces. Zipcar has 9 spaces in Copley Garage and 10 in Dartmouth Garage. Public parking spaces in surface lots and garages within a quarter-mile of the study area are shown in Figure C-7 and Table C-5.

Table C-5: Public Off-street Parking in the Study Area

Map No.	Facility	Capacity (spaces)
Surface Lots		
A	Newbury/Dartmouth	71
B	Columbus/Berkeley	52
	Subtotal	**123**
Parking Garages		
1	100 Clarendon	576
2	Copley Place	860
3	Dartmouth (Tent City Garage)	276
4	131 Dartmouth Street	100*
5	Prudential Center	2,067
6	4 Newbury Street	130
7	10 St. James	170
8	Back Bay Garage	625
9	Westin Copley Place	265
10	The Colonnade	275
	Subtotal	**5,344**
Total Off-street Parking		**5,467**

*Only 100 public spaces out of 730 total capacity

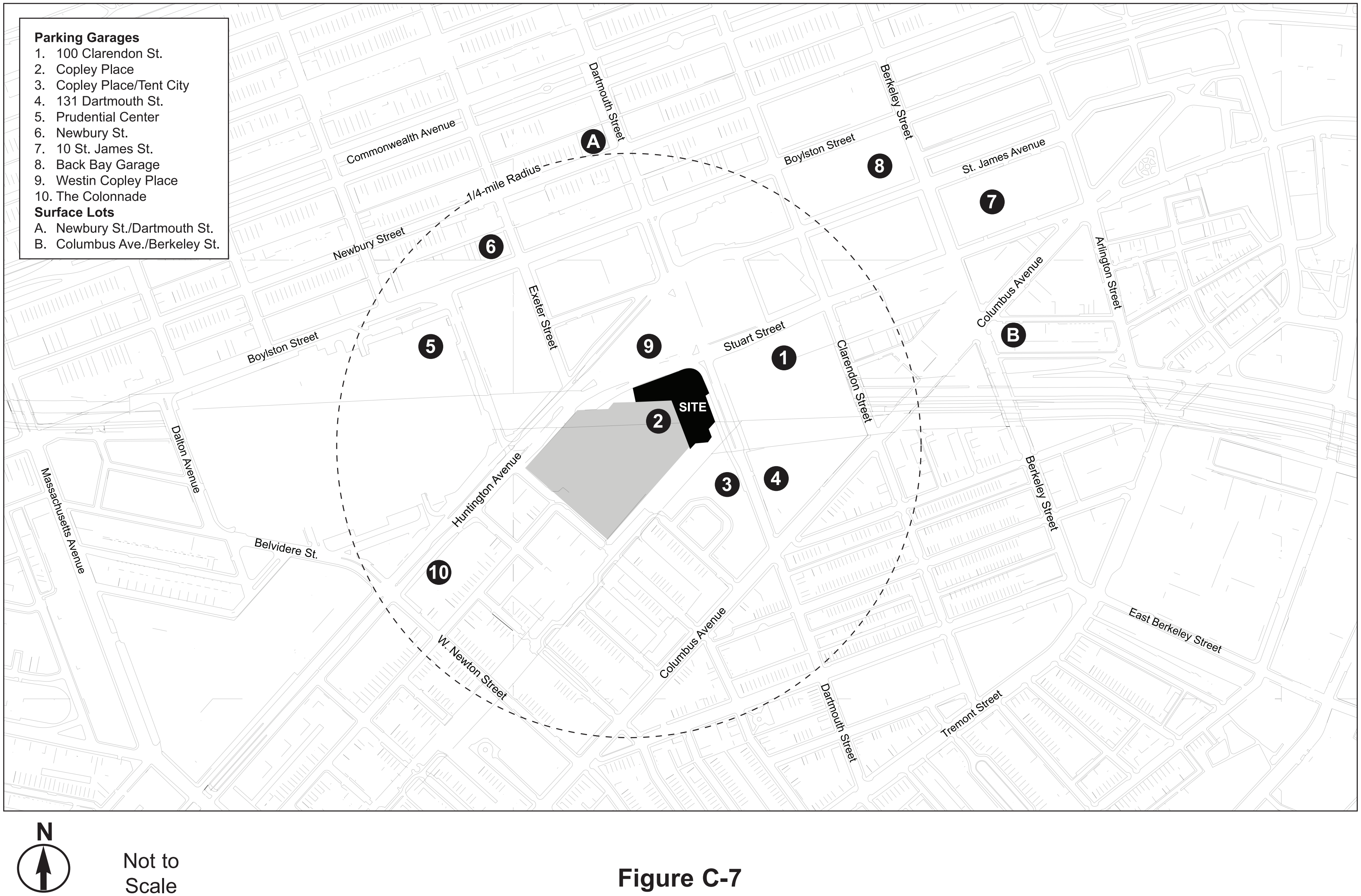


Figure C-7
Existing Off-street Parking

Approximately 5,467 public off-street spaces are provided in garages and lots within a quarter-mile radius of the Project site.

The Copley Place Central and Dartmouth Garages meet weekday, weekend, and evening demand consistently throughout the year, with the exception of the peak holiday shopping season. The 100 Clarendon (Hancock) garage and the 131 Dartmouth garage also have spaces available on weekdays, evenings and weekends. Generally all the area garages have substantial excess capacity on evenings and weekends. Several of these locations rent overnight spaces to area residents as well.

C.2.6 Existing Public Transportation in the Study Area

MBTA Rapid Transit Service in the Study Area

The Project site is convenient to the MBTA public transportation system, as illustrated in Figure C-8. It is within a five-minute walk (or a quarter of a mile) of the Green Line Copley Station and directly across Dartmouth Street from the Orange Line Back Bay/South End Station. Transit riders can transfer from the Orange Line to the Red or Green Line at Downtown Crossing/Park Street and to the Blue Line at State Street. The Green Line provides service on its four branches between Lechmere Station to the north and Boston College, Cleveland Circle, Riverside, and Heath stations to the west. Weekday subway service is provided between approximately 5:00 a.m. and 1:00 a.m. Actual train service times vary by line.

The Green Line has a peak-hour, one-way capacity of about 9,000 passengers and the Orange Line a peak-hour, one-way capacity of about 9,500 passengers, based on the MBTA service policy calculation of capacity. This measure is based on occupancy of all seats and comfortable conditions for standees. Maximum capacity or “crush loading” is much higher. Crush loading conditions may occur during the 15-minute “peak of the peak” or if there is a disabled train, a special event such as a Red Sox game, or a major service disruption.

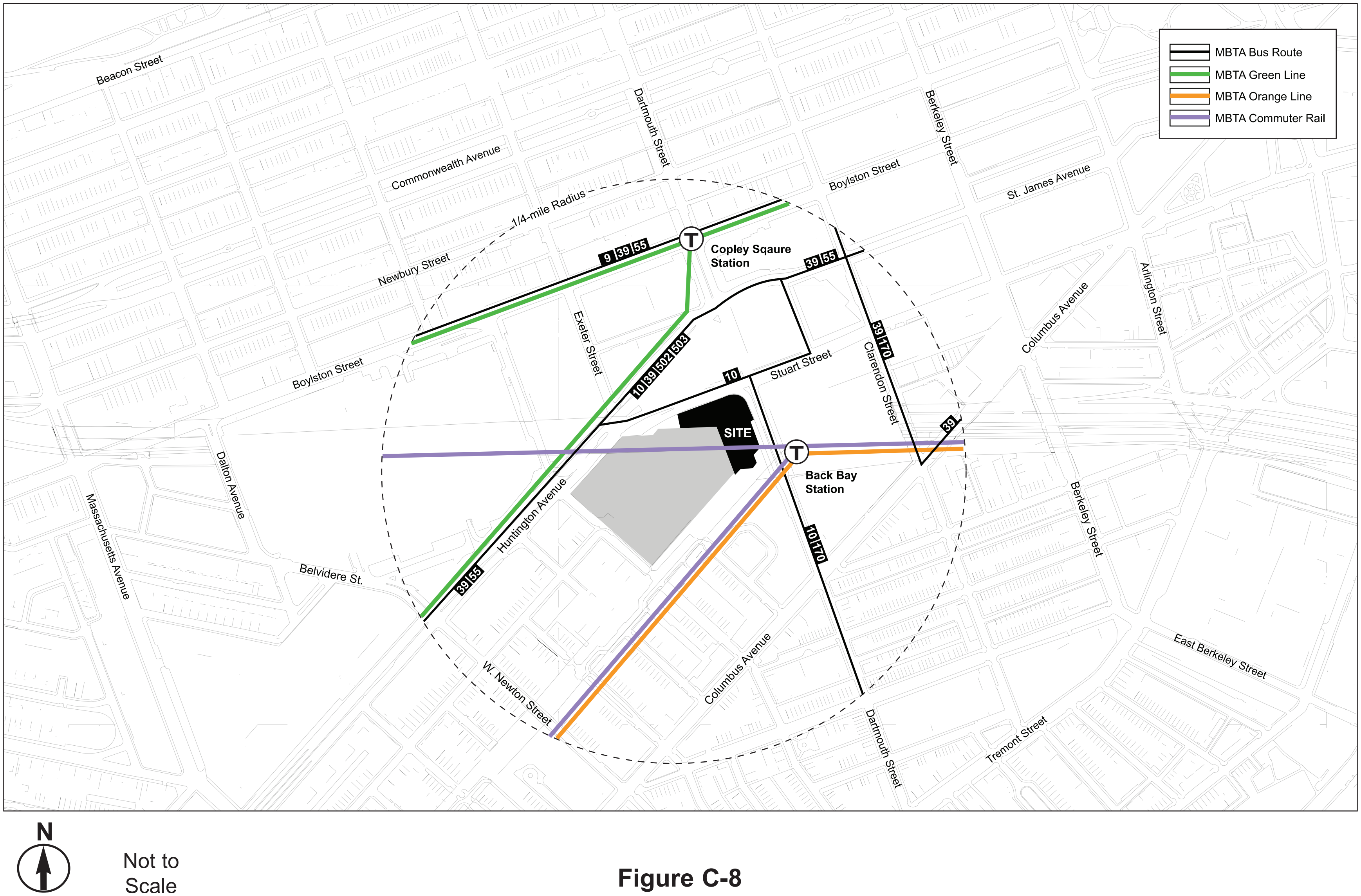


Figure C-8
Public Transportation in the Study Area

Typically, however, these conditions are not found over the course of an entire rush hour. Inbound and outbound peak load points, or locations where the trains are at their highest occupancy, occur during the weekday morning and afternoon rush hours between Arlington and Copley stations on Green Line outbound service and between New England Medical Center and Back Bay stations on the Orange Line. Additional capacity is available during peak hours at the peak load points on both the Green and Orange lines (forecasts based on 1997 *Passenger Counts* by CTPS for the MBTA).

According to MBTA 2006 Ridership and Service Statistics, the Green Line Copley Station has a weekday average of 13,777 daily boardings and the Back Bay Orange Line Station a weekday average of 15,792 daily subway boardings.

MBTA Commuter Rail Service

From Back Bay Station, commuter rail trains serve the Worcester, Needham Heights, Providence, and Stoughton lines. Additional commuter rail service from South Station provides access to Plymouth, Kingston, Middleborough/Lakeville, and Forge Park/I-495. Commuters may board scheduled trains from Back Bay Station to South Station at no charge—effectively, a free shuttle service.

Green or Orange Line service to North Station provides passenger access to commuter rail service to Rockport, Newburyport, Haverhill, Lowell, and Fitchburg.

MBTA Bus Service

In addition to MBTA Orange Line and Green Line subway service, various MBTA buses operate within a five- to 10-minute walk from the site (a quarter to one-half mile). MBTA bus routes #10 and #170 run adjacent to the site along Dartmouth Street. Less than a five-minute walk from the site are bus routes #9, #10, #39, #55, #502, and #503. Bus route #43 is less than a 10-minute walk from the site. Bus frequencies and route summaries are shown in Table C-6.

Table C-6: MBTA Bus Service in the Study Area

Bus Route	Route Description	Rush Hour Frequency (minutes)
#9	City Point–Copley Square	7
#10	City Point–Downtown	16
#39	Forest Hills–Back Bay	5
#43	Ruggles Station–Park and Tremont streets	10
#55	Queensberry–Copley Square or Park Street	30
#170	Burlington–Waltham–Dudley	Limited
#502	Watertown Square–Copley Square Express	10
#503	Brighton Center–Copley Square Express	15

C.2.7 Existing Pedestrian Conditions

Sidewalks are provided on all streets within the study area. Indoor grade-separated pedestrian overpasses connecting Copley Place with Prudential Center and the Hynes Convention Center and connecting Copley Place to the Westin Hotel are also heavily used. The overpasses run diagonally across Huntington Avenue and Stuart Street.

The following describes sidewalk locations and pedestrian conditions along study area roadways. All sidewalks in the study area are in good condition; handicapped ramps, pedestrian pushbuttons, and marked crosswalks are provided at all signalized intersections. As is common in many urban settings, the effective width of sidewalks in the study area is narrowed due to light posts, mailboxes, newspaper boxes, street trees, parking meters, and other obstacles located in the sidewalk path.

Huntington Avenue has high pedestrian volumes, providing pedestrian access from Copley Square to the Prudential Center and Symphony Hall area in the Back Bay. Sidewalks on the north and south sides range from 5 to 25 feet wide.

Stuart Street has high pedestrian volumes, providing pedestrian access from Back Bay Station and Copley Place to the Prudential Center and Park Square. Sidewalks on the north and south sides range from 9 to 30 feet wide. Pedestrians are prohibited where the I-90 off-ramp merges with Stuart Street. To prevent pedestrians from crossing the ramp, a fence is located just north of the intersection of Huntington Avenue and the Copley Place Garage. The fence extends to the edge of the off-ramp, then begins on the Copley Place side of Stuart Street and extends to the plaza located at the intersection of Stuart Street and Dartmouth Street. Signage along the fence indicates that pedestrians are prohibited.

St. James Avenue has a high volume of pedestrian traffic due to its location near shops, hotels, and offices. Sidewalks on the north side range from 12 to 20 feet, while sidewalks on the south side range in width from eight to 26 feet.

Columbus Avenue has high pedestrian volumes, providing access to various shops and businesses in the South End. On the northeast corner of Clarendon Street and Columbus Avenue, a MBTA turnstile provides an exit from Back Bay Station.

Boylston Street has a high volume of pedestrians due to many employees and shoppers traveling to surrounding offices and shops, including Copley Square, the Boston Public Library, and the Prudential Center, area garages, and MBTA stations. Sidewalks on the south side of the street range from eight to 23 feet wide, while those on the north side range from 13 to 17 feet wide. At Copley Square, the sidewalk width is 36 feet.

Clarendon Street has a high volume of pedestrian traffic due to its location near businesses, residences, parking facilities, schools, and the MBTA Back Bay Station. Sidewalks on the west side of the street range from approximately 11 to 20 feet wide, while those on the east side are consistently about 11 feet wide.

Dartmouth Street has a high volume of pedestrian traffic due to its location near businesses, residences, parking facilities, and the MBTA Back Bay Station. Dartmouth Street is a primary pedestrian route between Copley Square and Back Bay Station. Sidewalks on Dartmouth Street range from approximately 10 to 33 feet wide.

C.2.8 Existing Pedestrian Operations

Pedestrian LOS is determined through analysis of crosswalk geometry and activity. The methodology for conducting the LOS analysis is based on the HCM. Pedestrian LOS is based on the waiting time or delay pedestrians experience as they wait to enter the crosswalk and on how much crowding exists on the crosswalk. LOS is produced for delay per cycle (in seconds) and space per pedestrian (in square feet) at the crosswalks, as discussed below. Input includes pedestrian volumes, walking speed, crossing time, waiting time, crosswalk geometry, and conflicting right-turning vehicles.

Table C-7, an excerpt from the HCM, provides LOS criteria for delay experienced by pedestrians at intersections. Figure C-9 illustrates pedestrian LOS in terms of space available per pedestrian.

Table C-7: Intersection LOS Criteria for Pedestrian Crosswalks

LOS	Signalized (s/p)	Unsignalized (s/p)	Likelihood of Non-compliance
A	< 10	< 5	Low
B	≥10–20	≥5–10	
C	≥20–30	≥10–20	Moderate
D	≥30–40	≥20–30	
E	≥40–60	≥30–45	High
F	> 60	> 45	Very high

Note: These levels of service reflect low to moderate conflicting vehicle volumes.

Concurrent pedestrian phases are provided at all intersections. Exclusive pedestrian phases are activated by pedestrian pushbuttons at the Stuart Street/Clarendon Street and St. James Avenue/Clarendon Street intersections. Field observations indicate that pedestrians are accommodated by the existing signal timings.

LEVEL OF SERVICE A

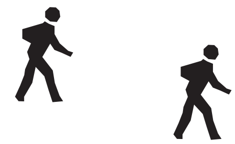
Pedestrian Space: > 60 sq. ft./ped.
Flow Rate: ≤ 5 ped./min./ft.

At walkway LOS A, pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.

LEVEL OF SERVICE B

Pedestrian Space: > 40-60 sq. ft./ped.
Flow Rate: > 5-7 ped./min./ft.

At LOS B, sufficient area is provided to allow pedestrians to freely select walking speeds, bypass other pedestrians, and avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians and respond to their presence in the selection of the walking path.



LEVEL OF SERVICE C

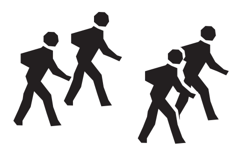
Pedestrian Space: > 24-40 sq. ft./ped.
Flow Rate: > 7-10 ped./min./ft.

At LOS C, sufficient space is available to select normal walking speeds and bypass other pedestrians in primarily unidirectional streams. Where reverse-direction or crossing movements exist, minor conflicts will occur, and speeds and volume will be somewhat lower.

LEVEL OF SERVICE D

Pedestrian Space: > 15-24 sq. ft./ped.
Flow Rate: > 10-15 ped./min./ft.

At LOS D, freedom to select individual walking speed and bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflict is high, and its avoidance requires frequent changes in speed and position. The LOS provides reasonably fluid flow; however, considerable friction and interaction between pedestrians is likely to occur.



LEVEL OF SERVICE E

Pedestrian Space: >8-15 sq. ft./ped.
Flow Rate: > 15-23 ped./min./ft.

At LOS E, virtually all pedestrians would have their normal walking speed restricted, requiring frequent adjustment of gait. At the lower range of this LOS, forward movement is possible only by "shuffling." Insufficient space is provided for passing of slower pedestrians. Cross- or reverse-flow movements are possible only with extreme difficulty. Design volumes approach the limit of walkway capacity, with resulting stoppages and interruptions to flow.

LEVEL OF SERVICE F

Pedestrian Space: < 8 sq. ft./ped.
Flow Rate: variable ped./min./ft.

At LOS F, all walking speeds are severely restricted, and forward progress is made only by "shuffling." Contact with other pedestrians is frequent and unavoidable. Cross- and reverse-flow movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrian streams.

Source: *Highway Capacity Manual 2000*

Figure C-9
Illustration of Walkway Level of Service

Space LOS is calculated only for signalized intersections with crosswalks. Space LOS determines the amount of space a pedestrian is allotted in the crosswalk. If insignificant hourly pedestrian volumes result in an average of zero pedestrians per cycle, the amount of space yielded per pedestrian is characterized as “unlimited” or “maximized.” LOS A defines the most favorable condition, with maximum crosswalk space per pedestrian. LOS F represents the worst condition, with minimum crosswalk space where pedestrians are more likely to walk outside the crosswalk lines. LOS D is generally considered acceptable for urban environments (see Table C-8).

Table C-8: LOS Criteria (Space) for Average Flow for Walkways and Sidewalks

LOS	Space (ft^2/p)	Flow Rate (p/min/ft)	Speed (ft/s)	V/C Ratio
A	>60	≤5	>4.25	≤0.21
B	>40–60	>5–7	>4.17–4.25	>0.21–0.31
C	>24–40	>7–10	>4.00–4.17	>0.31–0.44
D	>15–24	>10–15	>3.75–4.00	>0.44–0.65
E	>8–15	>15–23	>2.50–3.75	>0.65–1.0
F	≤8	Variable	≤2.50	Variable

At study area intersections, pedestrian counts were conducted on weekdays in May 2007 and on Saturday, July 21, 2007. BTD provided signal timings and phasing information used in this analysis. Existing morning, afternoon, and Saturday peak-hour pedestrian volumes appear in Figure C-10, C-11, and C-12. The LOS analysis evaluates existing pedestrian delay and space per pedestrian at the study area intersections. Table C-9 summarizes existing morning, evening, and Saturday mid-day peak-hour pedestrian LOS. Analysis worksheets are provided in the Transportation Appendix.

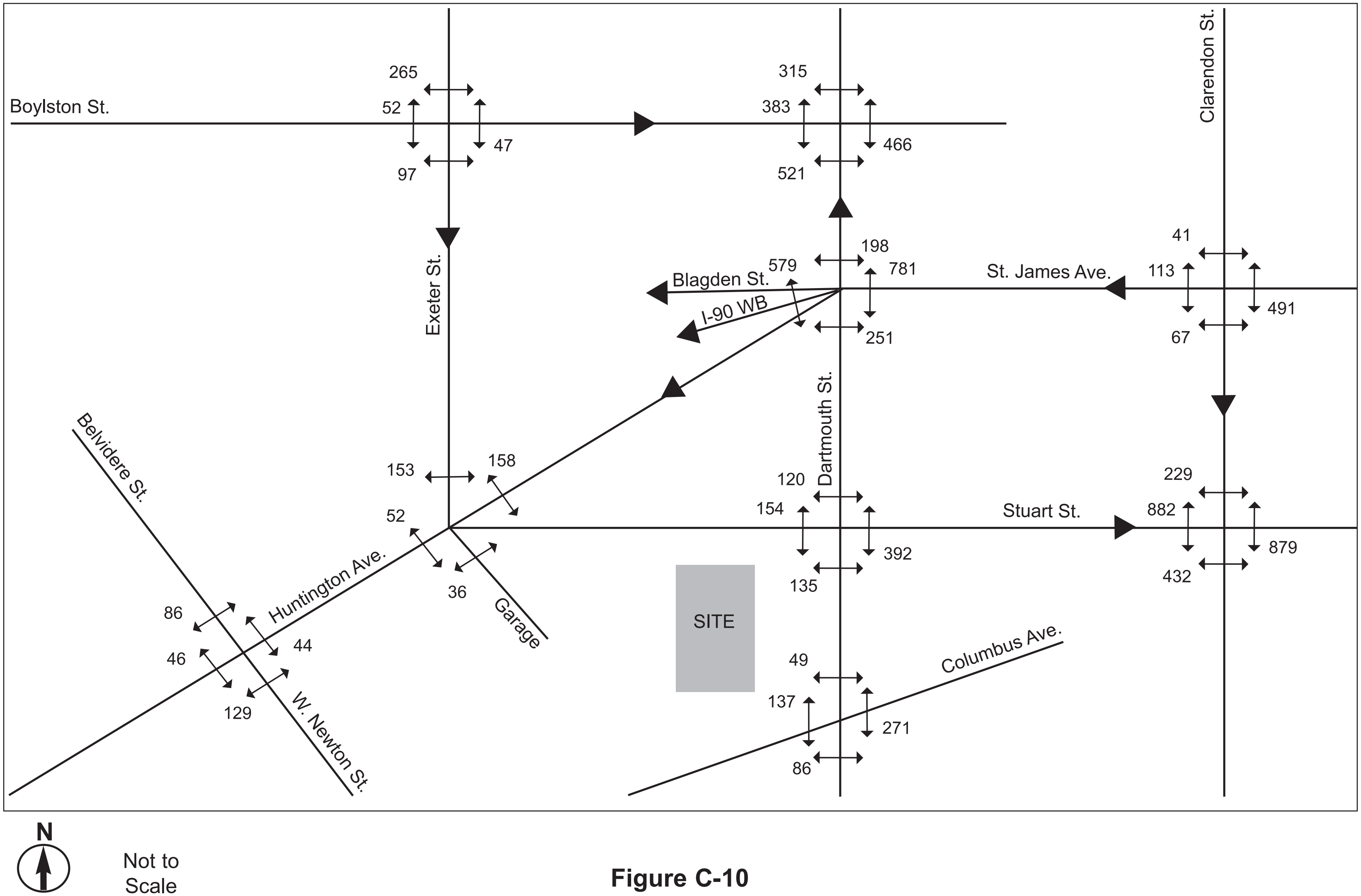


Figure C-10
Existing Conditions (2007) Pedestrian Volumes, a.m. Peak Hour (8:00–9:00 a.m.)

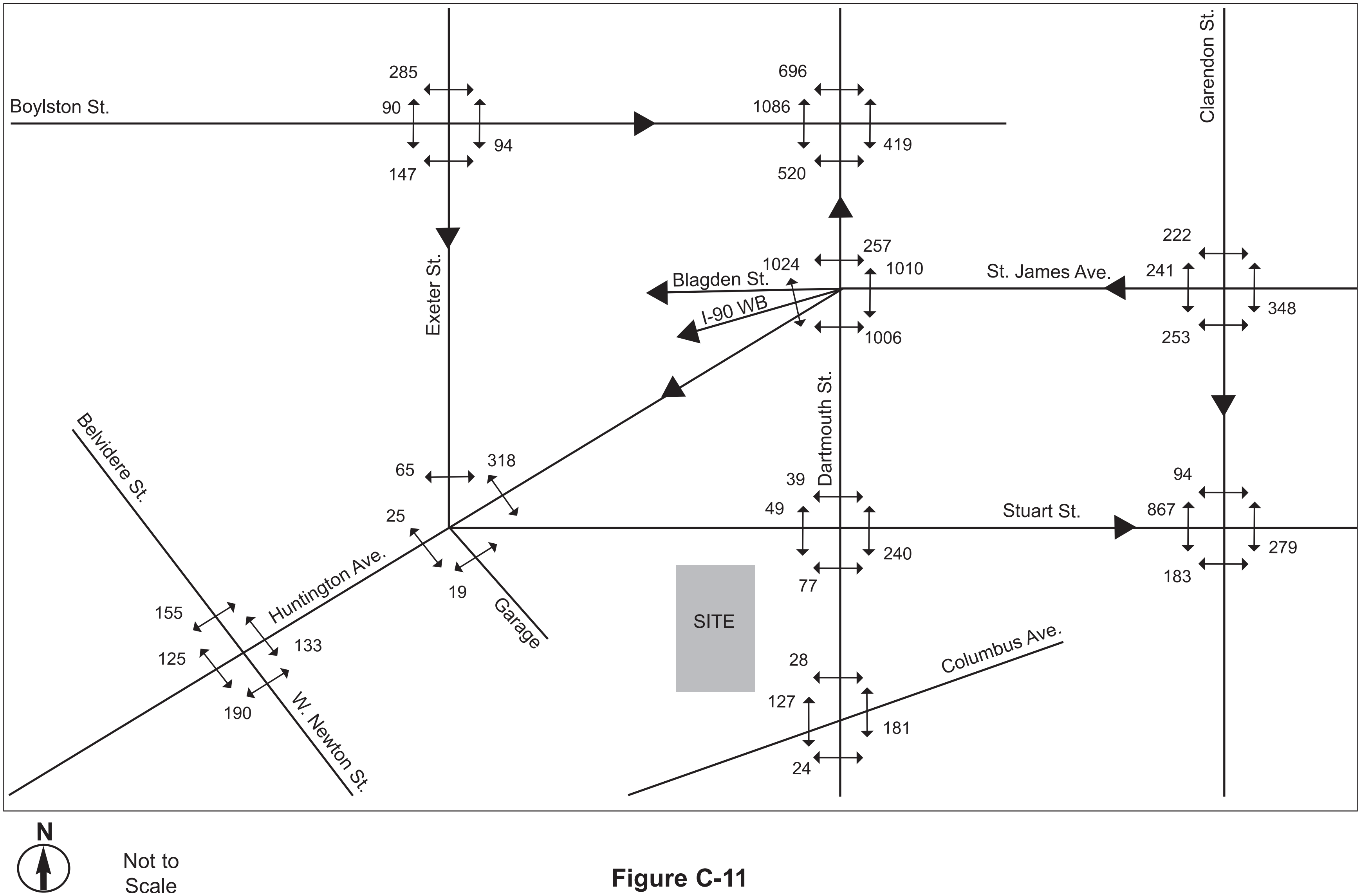


Figure C-11
Existing Conditions (2007) Pedestrian Volumes, p.m. Peak Hour (5:00–6:00 p.m.)

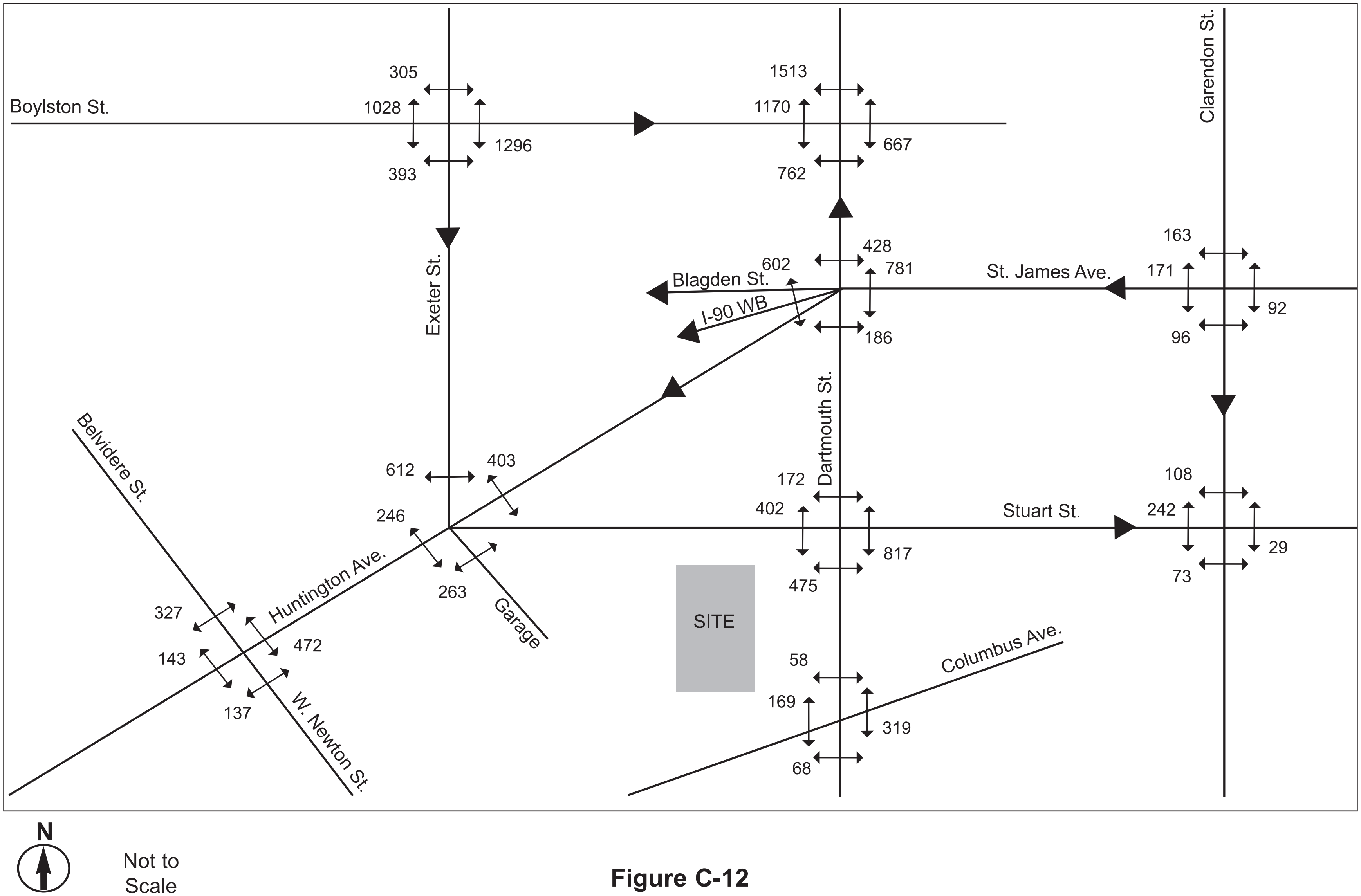


Figure C-12
Existing Conditions (2007) Pedestrian Volumes, Saturday Peak Hour (12:30–1:30 p.m.)

Table C-9: Existing Conditions (2007) Pedestrian LOS, Peak Hours

Intersection	Delay LOS			Space LOS		
	a.m.	p.m.	Sat.	a.m.	p.m.	Sat.
Signalized Intersections						
Huntington Avenue/West Newton Street/ Belvidere Street						
Huntington East Crosswalk	B	B	C	A	A	D
Huntington West Crosswalk	B	B	C	A	A	A
Belvidere North Crosswalk	B	B	B	A	A	A
West Newton South Crosswalk	B	B	B	A	A	A
Huntington Avenue/Stuart Street/Exeter Street						
Huntington East Crosswalk	A	A	B	A	A	B
Huntington West Crosswalk	A	A	B	A	A	A
Exeter North Crosswalk	C	C	B	A	A	C
Exeter South Crosswalk	C	C	B	A	A	A
Stuart Street/Dartmouth Street						
Stuart East Crosswalk	A	A	B	A	A	C
Stuart West Crosswalk	A	A	B	A	A	A
Dartmouth North Crosswalk	B	B	B	A	A	A
Dartmouth South Crosswalk	B	B	B	A	A	A
Stuart Street/Clarendon Street						
Stuart East Crosswalk	B	B	B	B	A	A
Stuart West Crosswalk	B	B	B	B	B	A
Clarendon North Crosswalk	B	B	A	A	A	A
Clarendon South Crosswalk	B	B	A	A	A	A
Huntington Avenue/St. James Avenue/Dartmouth Street						
St. James East Crosswalk	B	B	A	B	B	B
St. James West Crosswalk	B	B	C	A	B	C
Dartmouth North Crosswalk	C	C	A	A	A	A
Dartmouth South Crosswalk	C	C	B	A	D	A
St. James Avenue/Clarendon Street						
St. James East Crosswalk	B	B	B	A	A	A
St. James West Crosswalk	B	B	B	A	A	A
Clarendon North Crosswalk	B	B	A	A	A	A
Clarendon South Crosswalk	B	B	A	A	A	A
Columbus Avenue/Dartmouth Street						
Columbus East Crosswalk	B	B	B	A	A	A
Columbus West Crosswalk	B	B	B	A	A	A
Dartmouth North Crosswalk	B	B	A	A	A	A
Dartmouth South Crosswalk	B	B	A	A	A	A
Boylston Street/Exeter Street						
Boylston East Crosswalk	B	B	A	A	A	B
Boylston West Crosswalk	B	B	A	A	A	A
Exeter North Crosswalk	B	B	B	A	A	A
Exeter South Crosswalk	B	B	B	A	A	A
Boylston Street/Dartmouth Street						
Boylston East Crosswalk	B	D	C	A	C	C
Boylston West Crosswalk	B	D	C	A	E	D
Dartmouth North Crosswalk	B	D	C	A	D	E
Dartmouth South Crosswalk	B	D	C	B	D	D

As indicated in the figures and table, significant pedestrian activity occurs at the crosswalks in the study area. Under Existing Conditions, most crosswalks fall under the acceptable level of service (LOS D or better) during at least one peak hour. The cause of low levels of service is typically the narrow sidewalks and high volumes of pedestrians, especially large groups of pedestrians alighting from or boarding public transit. Due to the location of the Project site and its proximity to Back Bay Station, low peak-hour LOS caused by narrow sidewalks and high volumes is expected.

In the study area, critical volumes occur on the crosswalks adjacent to the Copley Station entrances (i.e., Dartmouth Street and Boylston Street). All remaining study area crosswalks operate at LOS D or better for delay and space during peak hours. No deficiencies in pedestrian operations were observed in the field at study area intersections. Each crosswalk location has ample space for pedestrians to wait at corners and to walk comfortably along the sidewalks.

C.2.9 Bicycles

The Paul Dudley White Memorial Bikepath along the Charles River is approximately one-half mile from the site. Boylston Street, St. James Avenue, Dartmouth Street, Huntington Avenue, and Columbus Avenue are on-street bicycle routes, according to *Boston's Bike-map,* published by Rubel Bike Maps of Cambridge, Massachusetts.

One bicycle rack is currently provided on the site in the Stuart Street Plaza area, and racks for more than 30 bicycles are provided across the street at Back Bay Station. Bicycle racks are also provided in the 100 Clarendon Garage. Additionally, bicycles were observed locked to the posts of parking meters and traffic signs in the area.

C.2.10 Loading and Service

The existing Copley Place loading dock is accessed from Harcourt Street. The access point is shared with the adjacent Marriott Hotel, which has approximately four loading bays near the entrance. Currently, Copley Place has 14 loading bays.

The loading dock has security at the entry point and is open 24 hours a day, seven days a week. All loading activity for Copley Place takes place at the loading dock, including office, retail, and restaurant. A loading dock manager is present during the busiest week-day time, from 6:00 a.m. to 2:30 p.m. An average of 127 deliveries occurred per day during the week of July 16, 2007. Saturday and Sunday of that week had 66 and 8 deliveries, respectively. More daily deliveries occur during the holiday season. Duration and vehicle size varies from typical box truck to tractor-trailers. Approximately 20% of the deliveries are by large tractor-trailers.

C.3 Evaluation of Long-term Impacts

This section describes and evaluates the 2013 No-Build and Build Conditions.

C.3.1 No-Build Conditions

Background Traffic Growth

No-Build traffic conditions are independent of the proposed Project and include existing traffic and new traffic resulting from both general background growth and identified development projects in the area.

Two procedures are used to determine background traffic growth. The first is to apply a general growth rate to account for changes in demographics, auto usage, and ownership. This analysis assumed a general background growth rate of 1% per year, as established by BTD for projects in this area.

The second procedure for determining background traffic growth is to estimate traffic generated by planned new major developments and anticipated roadway changes. Additional traffic generated by the projects listed below and depicted in Figure C-13 was included in this background analysis.

Boylston Street Mixed-use Project, also known as the Mandarin Oriental or Prudential Center Redevelopment, includes up to 105 residential units, 59,000 s.f. of retail use, and as many as 168 hotel rooms. Transportation impacts were provided in the *Prudential Center Redevelopment Notice of Project Change/Project Notification Form* submitted to BTD in January 2002. The project is currently under construction in Spring 2008 and to be completed in the Summer of 2008.

Columbus Center involves rehabilitation and development of the Massachusetts Turnpike Air Rights parcels known as Parcel 16 (101 Clarendon Street), Parcel 17 (100 Berkeley Street), and Parcel 18 (171 Arlington Street). The development consists of 207 hotel rooms, 520 residential units, approximately 30,590 s.f. of health club, and 36,831 s.f. of commercial space. A total of 907 parking spaces will be provided on-site. Trip generation and distribution were obtained from the *Columbus Center Draft Environmental Impact Report/Draft Project Impact Report*, prepared by Howard/Stein-Hudson Associates (November 2002).

The Columbus Center Project is on hold in Spring 2008, but the project generated trip are still added onto the No-Build network for analysis purposes. No Columbus Center mitigation was proposed at Copley Place study area intersections beyond pedestrian improvements and the installation of a PTZ camera at the Columbus Avenue and Clarendon Street intersection.

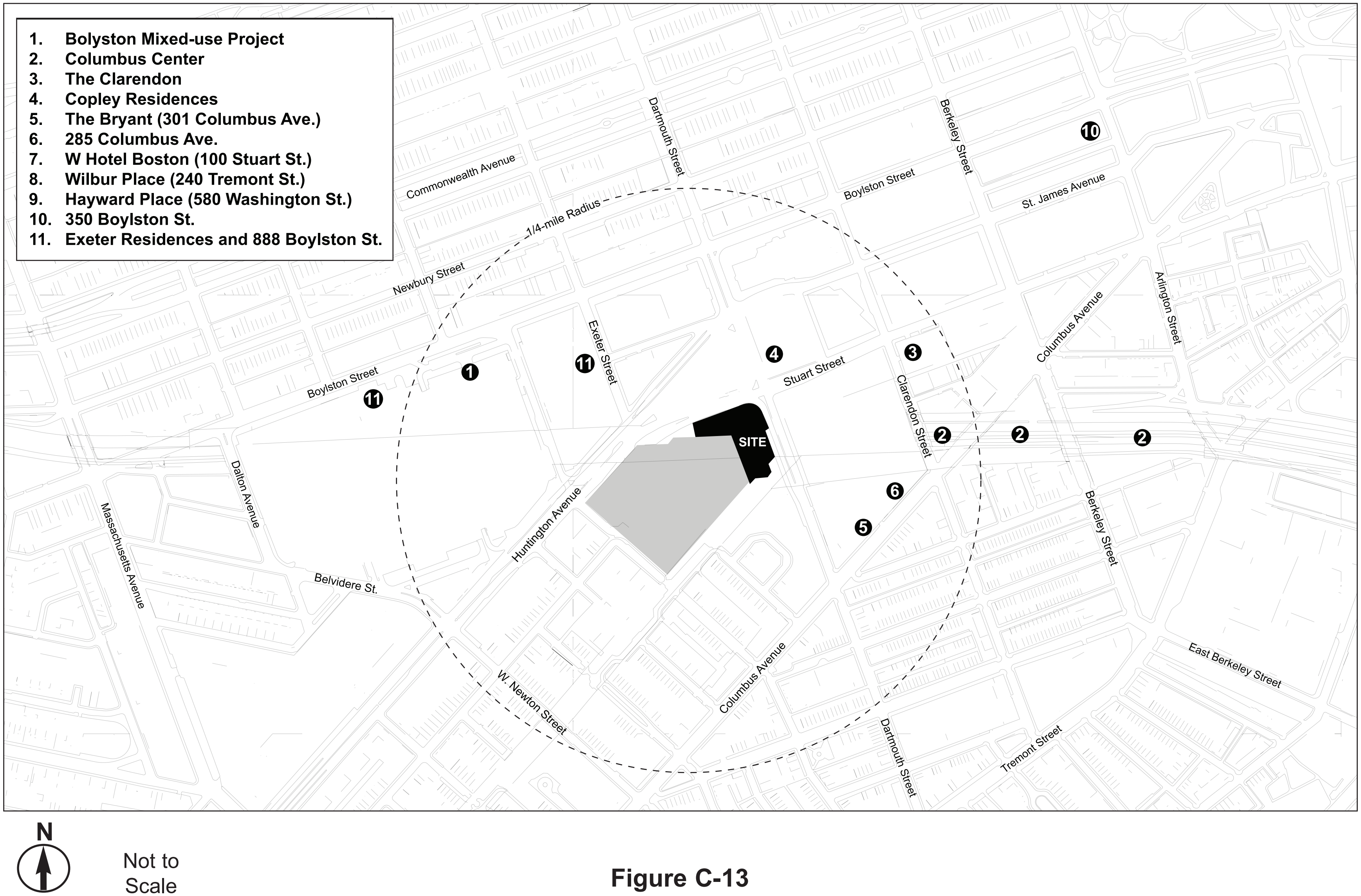


Figure C-13
Area Projects

The Clarendon site, under construction in Spring of 2008, consists of the Back Bay Annex Station Post Office, a surface public parking lot, and the 131 Clarendon Street building (housing the Hard Rock Café and office space). Uses at the 131 Clarendon Street building will not change as part of the project. The Post Office will be replaced on the site and be incorporated into the Project. The project includes 400 residential units (150 condominiums and 250 apartments) and a restaurant (20,000 s.f.). The former 93 surface parking spaces will be replaced by 393 parking spaces will be provided on-site in an underground garage, including 300 spaces for residents and 93 commercial spaces. The project information and location were obtained from *The Clarendon Draft Environmental Impact Report/ Draft Project Impact Report,* prepared by Howard/Stein-Hudson Associates (April 2005).

Copley Residences (441 Stuart Street) involves redevelopment of a retail/office building in the Back Bay. The project site consists of one existing, 11-story, brick and concrete building with one-and-a-half levels of underground parking. The first floor is used as retail space; the upper floors house a health club, health clinic, medical offices, and office space. The project is a 1930s-era office building that will be converted (above the third floor) into residential condominiums. The lowest three floors will remain occupied by retail establishments and office tenants while the upper floors are renovated. The below-grade parking will be maintained as part of the project. The project information and location were obtained from the *Copley Residences Draft Environmental Impact Report/ Draft Project Impact Report,* prepared by Howard/Stein-Hudson Associates (September 2004).

301 Columbus Avenue is currently under construction in Spring 2008 and consists of a nine-story, mixed-use building with 50 residential units and some ground floor commercial space. The building will contain 83 parking spaces. Trip generation and distribution were obtained from the *Additional Materials Package: 303 Columbus Avenue* (December 2003).

285 Columbus Avenue, under construction in Spring 2008, will convert an existing 96,200-s.f. office building into 63 residential condominium units and 9,037 s.f. of retail/restaurant use. No parking will be provided on-site; parking for the residential units will be leased at a nearby parking garage at 131 Dartmouth Street. The project information and location were obtained from the *285 Columbus Avenue Project Notification Form,* prepared by Howard/Stein-Hudson Associates (March 2006).

W Boston Hotel & Residences (formerly the Loews Boston Hotel), also under construction in Spring 2008, will be a 26-story hotel with approximately 235 hotel keys, approximately 123 residential condominium units, an approximately 6,300 s.f. restaurant/lounge, and an approximately 5,700 s.f. health spa. Two levels of below-grade parking with a total of 142 parking spaces will be provided. These will include 62 residential spaces, at a rate of about 0.5 space per unit, and 80 spaces for the hotel, restaurant/lounge, and health spa uses. All parking will be handled by valet attendants. Building program information for this project was obtained from the *W Boston Hotel & Residences Notice of Project Change,* prepared by Epsilon Associates (October 2006). Trip generation and distribution were obtained from the transportation section of the *Loews Boston Hotel Draft Project Impact Report,* prepared by Howard/Stein-Hudson Associates (March 2001); the DPIR project consisted of more intense uses and therefore provides a more conservative estimate.

Wilbur Place project consists of a 14-story building with approximately 72 residential condominium units and approximately 6,300 s.f. of restaurant space. Wilbur Place will be located at the intersection of Stuart Street and Tremont Street. No parking will be provided on-site. Trip generation and distribution were obtained from the *Wilbur Place Project Notification Form*, prepared by Howard/Stein-Hudson Associates in November 2006.

Hayward Place includes development of a mixed-use building on Washington Street. The proposed building will contain 300 residential units, 30,000 s.f. of ground floor retail space, and 271 parking spaces. This project will replace the existing 165-space surface parking lot. Trip generation and distribution were obtained from the *Hayward Place Draft Project Impact Report,* prepared by Howard/Stein-Hudson Associates in March 2005.

350 Boylston Street is a mixed-use development consisting of approximately 220,000 s.f. located on Boylston Street at Arlington Street. The proposed building will contain 15,000 s.f. of ground floor retail and restaurant space, a 6,000-s.f. fitness canter and spa, eight floors of office use, and 150 parking spaces. This project will demolish four existing buildings on-site. Trip generation and distribution were obtained from the *350 Boylston Street Project Notification Form,* submitted by The Druker Company in December 2007.

Exeter Residences and 888 Boylston includes the development of two mixed-use buildings proposed as part of the Prudential Center Redevelopment project. The Exeter Residences, located on Exeter Street opposite Blagden Street, consists of a 30-story residential addition with approximately 200 units, 2,100 s.f. of ground floor retail space, and 140 parking spaces. 888 Boylston is proposed as a 19-story tower with approximately 149,000 s.f. of office space, 1,700 s.f. of retail space, 800 s.f. of common area, and 240 new parking spaces. Trip generation and distribution were obtained from the *Prudential Center Redevelopment: Exeter Residences and 888 Boylston (Phases 6 and 4A) Notice of Project Change/Project Notification Form* 2007, prepared by VHB.

Silver Line Phase III, operating from South Station and Washington Street, will connect the Silver Line to the Red, Orange, and Green lines. Phase III of the Silver Line Bus Rapid Transit (BRT) system includes a tunnel connection between the existing South Station and New England Medical Center Station in downtown Boston. This tunnel provides the operational link connecting Silver Line Phase I, defined as the Washington Street Replacement Service between Dudley Square in Roxbury and downtown, and Silver Line Phase II, consisting of the tunnel extending from South Station to the World Trade Center in the waterfront area combined with service to and from Logan International Airport.

The Phase III project comprises a BRT tunnel following alignments along Essex Street and Tremont Street. The Essex Street alignment follows Essex Street between South Station and Boylston Station. Beginning at the new Silver Line Station at South Station (constructed as part of the Silver Line Phase II effort), two additional Silver Line stations will be constructed as part of the Essex Street alignment at the existing Chinatown (Orange Line/Heavy Rail) and Boylston (Green Line/Light Rail) stations.

The Columbus Avenue portal alternative consists of a 0.3-mile route under Columbus Avenue with a portal and station on Columbus Avenue west of Berkeley Street. The Columbus Avenue portal alternative would eliminate on-street parking on the north side of Columbus Avenue between Arlington and Berkeley streets. Columbus Avenue would become one-way eastbound from Berkeley Street to Arlington Street.

No-Build Traffic Operations

The 2013 No-Build analysis uses the methodology described for Existing Conditions in Section C.2.4. No-Build peak-hour traffic volumes are shown in Figures C-14, C-15, and C-16. Signal timings analyzed in the No-Build Conditions were the same timings as those used in the Existing Conditions analysis. The resulting intersection operations for No-Build Conditions are shown in Tables C-10, C-11, and C-12. Complete Synchro reports are provided in the Transportation Appendix.

Under No-Build Conditions, signalized intersections in the study area operate at the same level of service as under Existing Conditions, with the following exceptions:

Huntington Avenue/West Newton Street/Belvidere Street intersection worsens from an overall LOS D to LOS E in the afternoon peak hour, with four of the intersection approaches worsening in LOS. During the Saturday peak hour, the West Newton north-bound approach worsens from LOS E to LOS F. All other approaches at the intersection operate continue to operate at the same LOS.

Huntington Avenue/Stuart Street/Garage/Exeter Street continues to operate at LOS C in the afternoon peak hour and worsens from an overall LOS C to LOS D in the a.m. peak hour. In the Saturday peak hour, the intersection level of service worsens from LOS D to LOS E, and the Huntington Avenue eastbound approach through/right-turn worsens from LOS E to LOS F.

Stuart Street/Clarendon Street intersection operation worsens from LOS B to LOS C in the afternoon peak hour and continues to operate at LOS C in the morning peak hour. The Stuart Street eastbound right turn worsens from LOS C to LOS D in the morning peak hour and LOS B to LOS C in the p.m. peak hour. The Clarendon Street southbound movement worsens from LOS B to LOS C in both the morning and the afternoon peak hours.

Huntington Avenue/St. James Avenue/Dartmouth Street worsens from LOS B to LOS C in the morning peak hour. In the p.m. peak hour, the Dartmouth northbound left-turn worsens from LOS A to LOS B under No-Build Conditions.

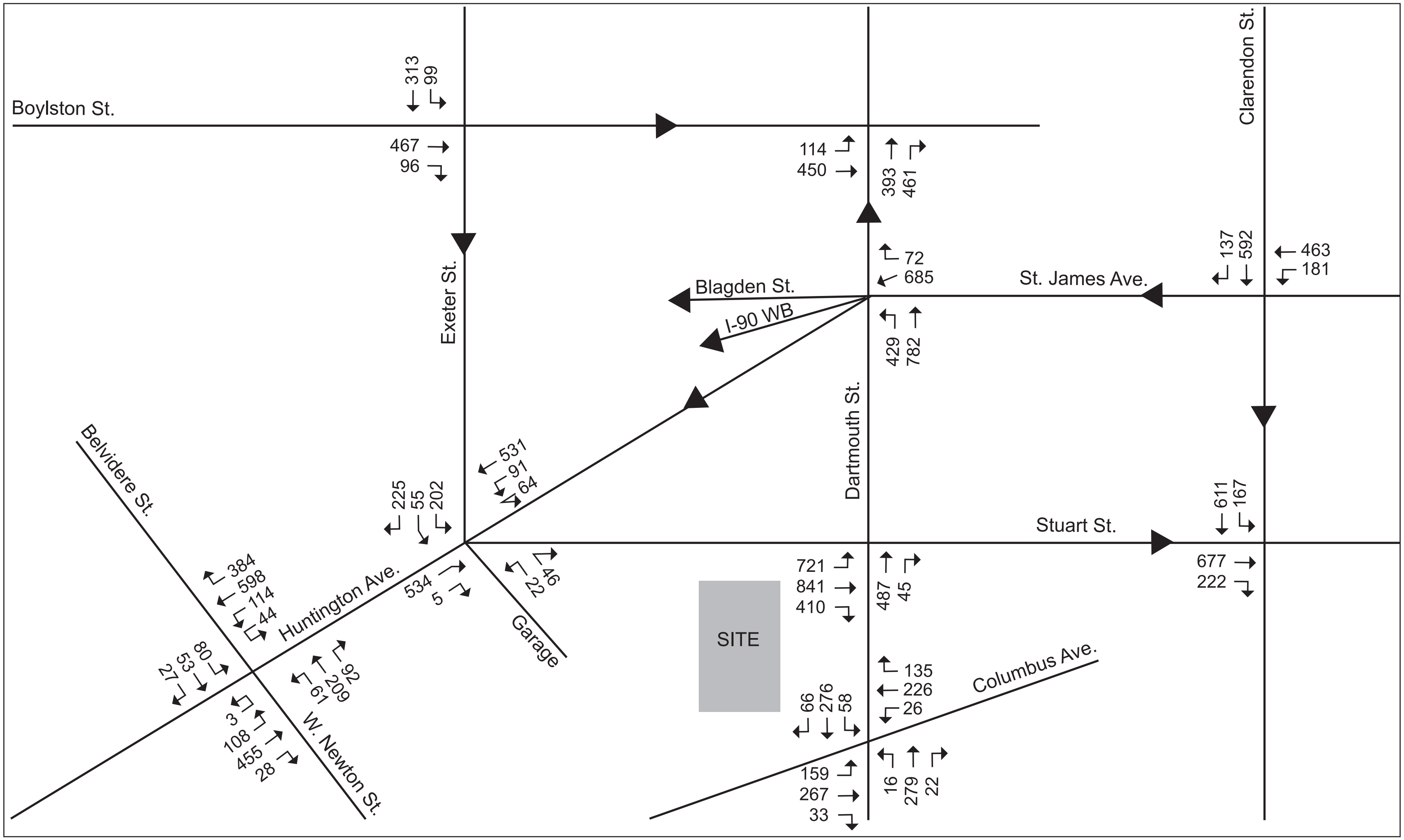


Figure C-14
No-Build Conditions (2013) Turning Movement Volumes, a.m. Peak Hour

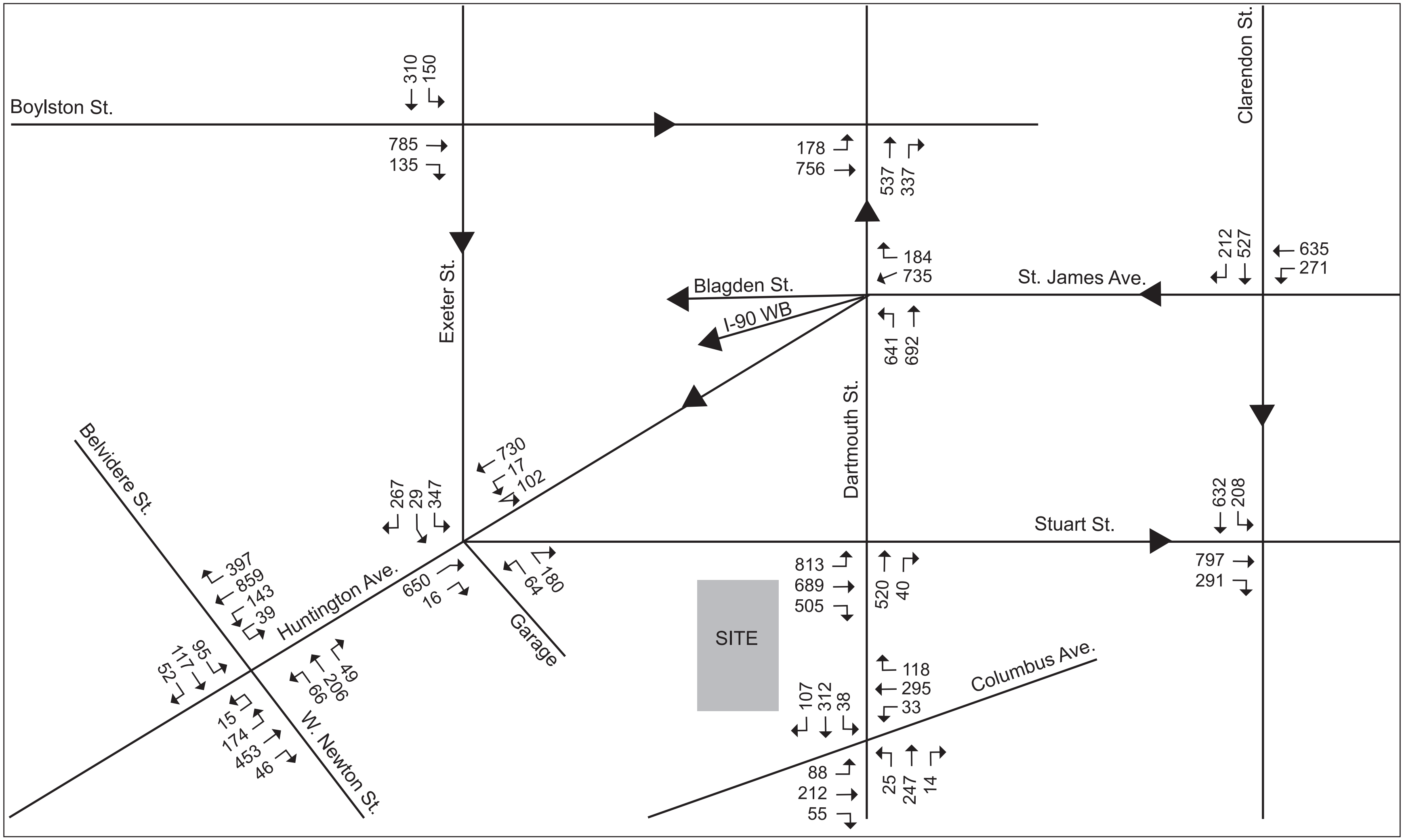


Figure C-15
No-Build Conditions (2013) Turning Movement Volumes, p.m. Peak Hour

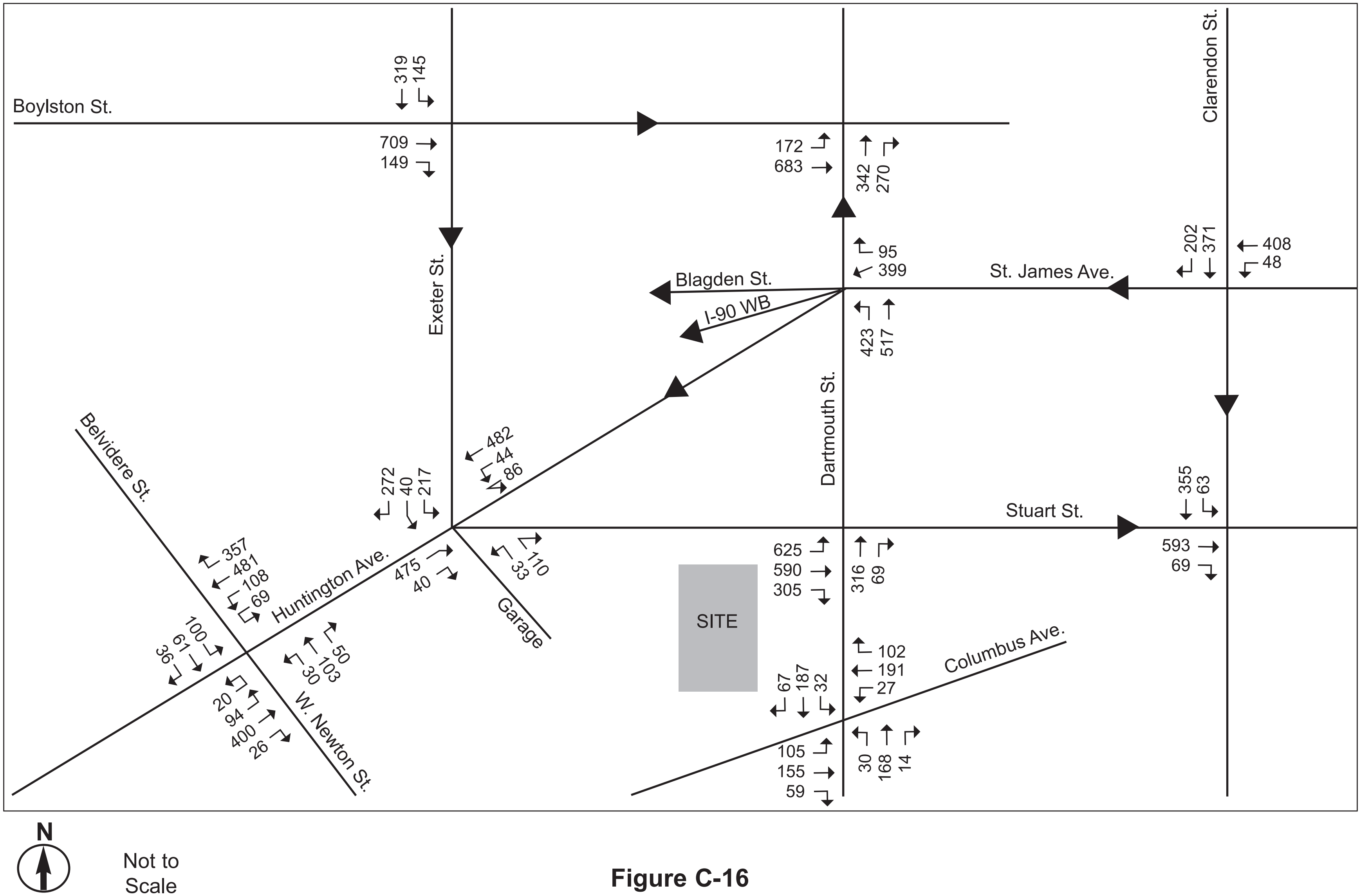


Figure C-16
No-Build Conditions (2013) Turning Movement Volumes, Saturday Peak Hour

Table C-10: No-Build Conditions (2013) Level of Service Summary, a.m. Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**39.2**	—	—
Huntington EB left	E	63.0	0.74	129
Huntington EB thru/right	D	38.1	0.65	#245
Huntington WB left	E	71.4	0.82	m#203
Huntington WB thru	C	34.3	0.71	#321
Huntington WB right	B	19.0	0.81	167
West Newton NB left/thru/right	E	61.8	0.94	#422
Belvidere SB left	B	17.2	0.32	53
Belvidere SB thru	B	14.3	0.10	37
Belvidere SB right	A	4.5	0.06	10
Huntington Avenue/Stuart Street/Garage/Exeter Street	**D**	**35.8**	—	—
Huntington EB thru/right	C	32.9	0.86	60
Huntington WB left	B	19.0	0.30	m110
Huntington WB thru	C	27.1	0.45	118
Garage NB left	C	31.7	0.20	30
Garage NB right	A	8.1	0.14	23
Exeter SB left	D	47.8	0.76	178
Exeter SB thru/right	E	63.0	0.90	241
Stuart Street/Dartmouth Street	**B**	**11.1**	—	—
Stuart EB left	A	1.5	0.28	m34
Stuart EB thru	B	14.0	0.38	m163
Stuart EB right	C	21.3	0.64	300
Dartmouth NB thru	B	11.2	0.41	131
Dartmouth NB right	A	7.6	0.21	27
Stuart Street/Clarendon Street	**C**	**31.9**	—	—
Stuart EB thru	D	43.8	0.52	286
Stuart EB right	D	36.0	0.56	171
Clarendon SB left/thru	C	20.4	0.75	312
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**20.9**	—	—
St. James WB thru	C	34.3	0.76	303
St. James WB right	C	23.6	0.21	81
Dartmouth NB left	A	6.8	0.28	59
Dartmouth NB thru	B	17.0	0.54	171
St. James Avenue/Clarendon Street	**B**	**18.4**	—	—
St. James WB left/thru	C	21.1	0.51	200
Clarendon SB thru/right	B	15.9	0.46	195
Columbus Avenue/Dartmouth Street	**C**	**23.3**	—	—
Columbus EB left/thru/right	C	21.3	0.50	205
Columbus WB left/thru	B	19.5	0.37	216
Columbus WB right	A	8.2	0.18	68
Dartmouth NB left/thru/right	D	46.9	0.79	287
Dartmouth SB left/thru	B	16.8	0.67	152
Dartmouth SB right	B	11.4	0.19	40

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Boylston Street/Exeter Street	**B**	**16.7**	**—**	**—**
Boylston EB thru/right	B	19.6	0.33	123
Exeter SB left/thru	B	13.0	0.36	111
Boylston Street/Dartmouth Street	**B**	**15.3**	**—**	**—**
Boylston EB left/thru	C	21.3	0.55	161
Dartmouth NB thru/right	B	10.5	0.60	278
Dartmouth NB right	B	12.8	0.55	246

\# 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Table C-11: No-Build Conditions (2013) Level of Service Summary, p.m. Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**E**	**62.7**	—	—
Huntington EB left	E	65.7	0.84	204
Huntington EB thru/right	D	36.8	0.67	234
Huntington WB left	E	71.7	0.86	196
Huntington WB thru	E	65.4	1.04	#488
Huntington WB right	F	90.7	1.11	#358
West Newton NB left/thru/right	F	91.7	1.03	#435
Belvidere SB left	C	22.3	0.38	75
Belvidere SB thru	B	19.6	0.21	88
Belvidere SB right	A	6.0	0.14	20
Huntington Avenue/Stuart Street/Garage/Exeter Street	**C**	**29.9**	—	—
Huntington EB thru/right	C	24.3	0.82	58
Huntington WB left	D	40.6	0.32	106
Huntington WB thru	C	26.0	0.53	122
Garage NB left	D	43.7	0.56	72
Garage NB right	A	5.7	0.40	27
Exeter SB left	D	49.3	0.88	#373
Exeter SB thru/right	D	36.7	0.74	210
Stuart Street/Dartmouth Street	**B**	**12.8**	—	—
Stuart EB left	A	1.2	0.30	m29
Stuart EB thru	B	14.8	0.33	131
Stuart EB right	C	26.3	0.72	m405
Dartmouth NB thru	B	14.1	0.44	136
Dartmouth NB right	A	7.0	0.22	7
Stuart Street/Clarendon Street	**C**	**21.3**	—	—
Stuart EB thru	B	18.2	0.62	177
Stuart EB right	C	21.8	0.66	142
Clarendon SB left/thru	C	24.0	0.76	352
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**23.4**	—	—
St. James WB thru	C	28.6	0.65	304
St. James WB right	C	31.3	0.58	180
Dartmouth NB left	B	11.0	0.46	146
Dartmouth NB thru	C	26.9	0.58	207
St. James Avenue/Clarendon Street	**C**	**20.0**	—	—
St. James WB left/thru	C	20.2	0.63	273
Clarendon SB thru/right	B	19.9	0.55	220
Columbus Avenue/Dartmouth Street	**C**	**25.3**	—	—
Columbus EB left/thru/right	B	19.9	0.38	146
Columbus WB left/thru	C	21.5	0.44	281
Columbus WB right	A	7.3	0.13	59
Dartmouth NB left/thru/right	D	52.8	0.83	279
Dartmouth SB left/thru	B	19.6	0.60	m260
Dartmouth SB right	B	15.2	0.21	m53

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Boylston Street/Exeter Street	**B**	**19.6**	**—**	**—**
Boylston EB thru/right	C	21.9	0.54	219
Exeter SB left/thru	B	15.0	0.39	126
Boylston Street/Dartmouth Street	**B**	**19.9**	**—**	**—**
Boylston EB left/thru	B	18.2	0.75	145
Dartmouth NB thru/right	C	21.5	0.69	323
Dartmouth NB right	C	23.0	0.62	227

\# 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Table C-12: No-Build Conditions (2013) Level of Service Summary, Saturday Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**38.9**	**—**	**—**
Huntington EB left	E	66.6	0.77	146
Huntington EB thru/right	C	23.3	0.40	156
Huntington WB left	E	70.0	0.85	#210
Huntington WB thru	C	22.2	0.41	175
Huntington WB right	C	32.6	0.91	#141
West Newton NB left/thru/right	F	86.8	0.96	#266
Belvidere SB left	C	34.4	0.52	95
Belvidere SB thru	C	24.5	0.13	61
Belvidere SB right	A	7.6	0.15	11
Huntington Avenue/Stuart Street/Garage/Exeter Street	**E**	**68.5**	**—**	**—**
Huntington EB thru/right	F	108.4	1.13	#236
Huntington WB left	C	25.7	0.29	99
Huntington WB thru	B	18.3	0.30	65
Garage NB left	E	61.9	0.61	41
Garage NB right	A	8.1	0.32	42
Exeter SB left	D	46.1	0.74	#207
Exeter SB thru/right	F	129.9	1.16	#265
Stuart Street/Dartmouth Street	**B**	**13.1**	**—**	**—**
Stuart EB left	A	3.3	0.25	m53
Stuart EB thru	B	17.4	0.28	m108
Stuart EB right	C	22.7	0.52	m192
Dartmouth NB thru	B	15.2	0.29	83
Dartmouth NB right	A	6.0	0.32	11
Stuart Street/Clarendon Street	**B**	**15.0**	**—**	**—**
Stuart EB thru	B	19.9	0.52	223
Stuart EB right	A	9.8	0.16	52
Clarendon SB left/thru	A	9.4	0.40	45
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**22.0**	**—**	**—**
St. James WB thru	C	30.4	0.49	150
St. James WB right	C	27.4	0.26	89
Dartmouth NB left	B	11.2	0.45	63
Dartmouth NB thru	C	24.9	0.63	101
St. James Avenue/Clarendon Street	**B**	**12.5**	**—**	**—**
St. James WB left/thru	B	17.2	0.37	126
Clarendon SB thru/right	A	8.8	0.44	102
Columbus Avenue/Dartmouth Street	**C**	**21.2**	**—**	**—**
Columbus EB left/thru/right	B	11.3	0.30	95
Columbus WB left/thru	B	11.5	0.28	124
Columbus WB right	A	6.6	0.16	43
Dartmouth NB left/thru/right	D	44.9	0.79	181
Dartmouth SB left/thru	C	30.1	0.66	135
Dartmouth SB right	B	18.5	0.22	46

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Boylston Street/Exeter Street	**B**	**14.1**	—	—
Boylston EB thru/right	B	11.7	0.41	122
Exeter SB left/thru	B	18.5	0.55	130
Boylston Street/Dartmouth Street	**C**	**25.5**	—	—
Boylston EB left/thru	D	36.2	0.93	#143
Dartmouth NB thru/right	A	9.2	0.48	38
Dartmouth NB right	B	11.9	0.45	35

\# 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

St. James Avenue/Clarendon Street worsens from LOS B to LOS C in the afternoon peak hour. The St. James Avenue westbound approach worsens from LOS B to LOS C in the a.m. and p.m. peak hours under No-Build Conditions.

Columbus Avenue/Dartmouth Street continues to operate at LOS C during all peak hours. In the a.m. and Saturday peak hours, the Columbus Avenue eastbound approach worsens from LOS B to LOS C and LOS A to LOS B, respectively. In the p.m. peak hour, the Columbus Avenue westbound left-turn/through approach worsens from LOS B to LOS C.

Boylston Street/Dartmouth Street the Dartmouth Street northbound through/right-turn worsens from LOS A to LOS B and LOS B to LOS C in the a.m. and p.m. peak hours, respectively. The Boylston Street eastbound left-turn/through worsens from LOS C to LOS D during the Saturday peak hour.

No-Build Public Transportation

The MBTA has planned improvements to increase service capacity. Once it is completed, the Silver Line, currently in operation between Dudley and Boylston stations and South Station and South Boston/Logan Airport, will provide direct service between Dudley Station, South Boston, and Logan Airport by way of Downtown as described in the Section C.3.1 . The Silver Line is expected to accommodate some existing Green, Orange, and Red Line commuters and provide additional service to those who currently do not use the public transit system.

The Urban Ring is an anticipated MBTA project to expand service outside downtown Boston. This service, the timeframe of which is uncertain, will include East Boston and Logan Airport; Charlestown; Longwood Medical and Academic Area; the Mission Hill, Dudley Square/Uphams Corner neighborhoods of Roxbury; the UMass campus at

Columbia Point; and the Seaport/Convention Center area in South Boston. According to the MBTA, this planned transit project is expected to "substantially reduce Green Line congestion and commuter through-traffic." The Urban Ring will offer many commuters an alternate route to destinations surrounding the City without having to make connections downtown.

In addition to alleviating congestion on the Green Line through the new Silver Line and Urban Ring services, the MBTA has committed to providing additional three-car trains on the Green Line B, C, and D branches during peak hours to increase capacity.

The MBTA also plans to procure 18 new cars to enable increased service on the Orange Line. The Columbus Center project will provide improvements to the Orange Line platform exit at Clarendon Street, which will increase use of this exit from Back Bay Station.

Planned Green and Orange Line Capacity Improvements

The MBTA plans capacity improvements by 2008 for both the Green and Orange lines, as documented in *Boston's Public Transportation and Regional Connections Plan* (BTD, March 2003, p. 28). Planned signal improvements will allow for increasing service frequency on the Orange Line from 12 to 15 trains per hour in the peak periods as documented in *Boston's Public Transportation and Regional Connections Plan (BTD, March 2003)*. The MBTA is also studying alternatives to improve Green Line capacity; options include three-car trains and signal upgrades. The MBTA has already started some three-car train service on the D Line as a result of the study. The MBTA has committed to a progression of three-car trains on all branches during peak hours. As part of the Green Line accessibility improvements, older cars will be replaced with new cars with lower floors. The lower-floor cars have approximately 10% less passenger capacity (90 passengers per car). Assuming the use of all low-floor cars and three-car trains, the Green Line capacity between Lechmere and Government Center (D and E branches) will be 4,860 passengers; Green Line capacity between Government Center and Copley will be 10,800 passengers.

No-Build Pedestrian Operations

Applying a background growth rate of 1% per year to existing pedestrian volumes, the study team calculated the No-Build pedestrian level of service. Results are shown in Figures C-17, C-18, and C-19, and Table C-13. Although there was worsening of pedestrian level of service at most intersections from Existing to No-Build Conditions, crosswalks at signalized intersections continued to operate at acceptable levels.

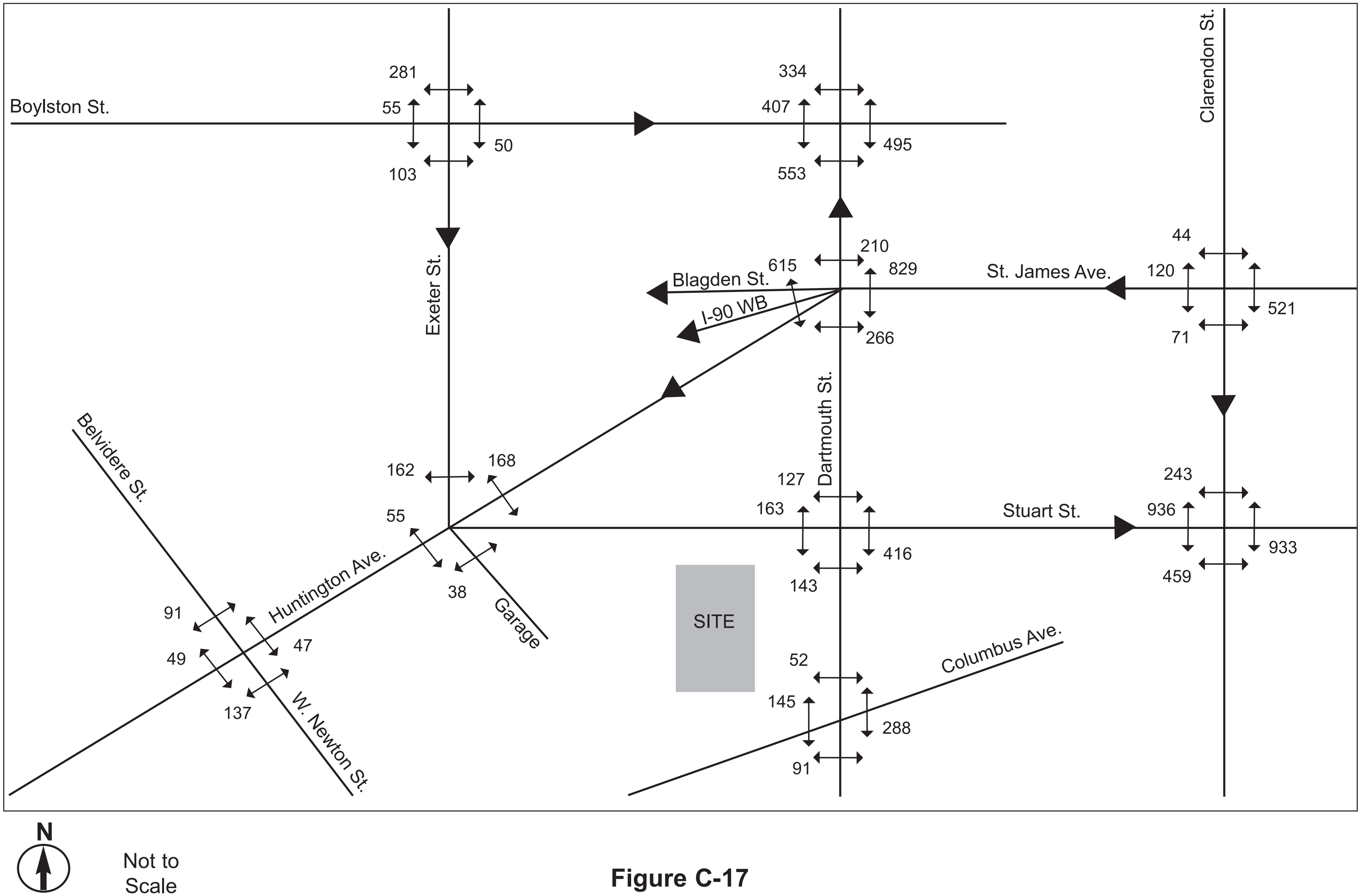


Figure C-17
No-Build Conditions (2013) Pedestrian Volumes, a.m. Peak Hour

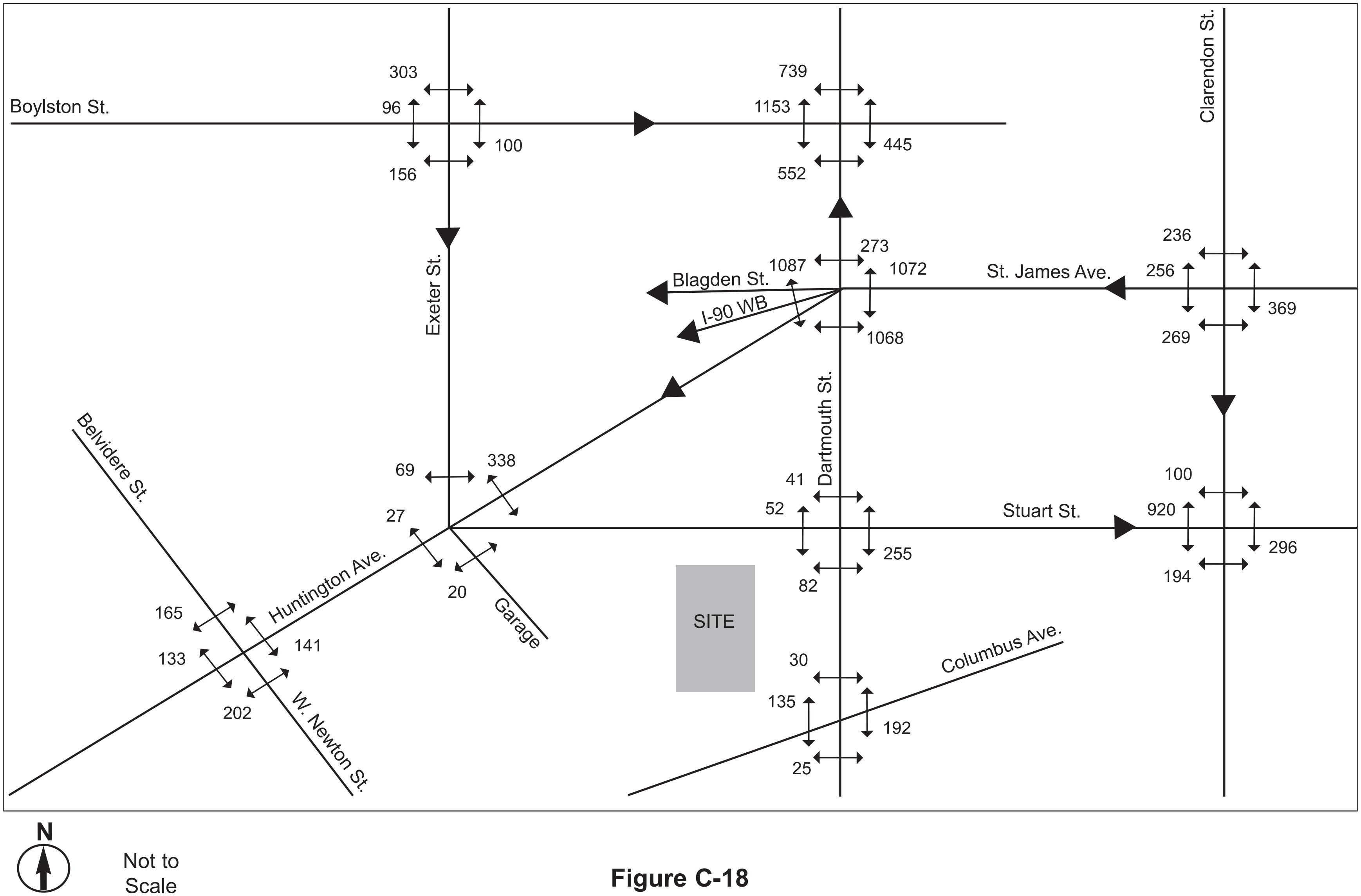


Figure C-18
No-Build Conditions (2013) Pedestrian Volumes, p.m. Peak Hour

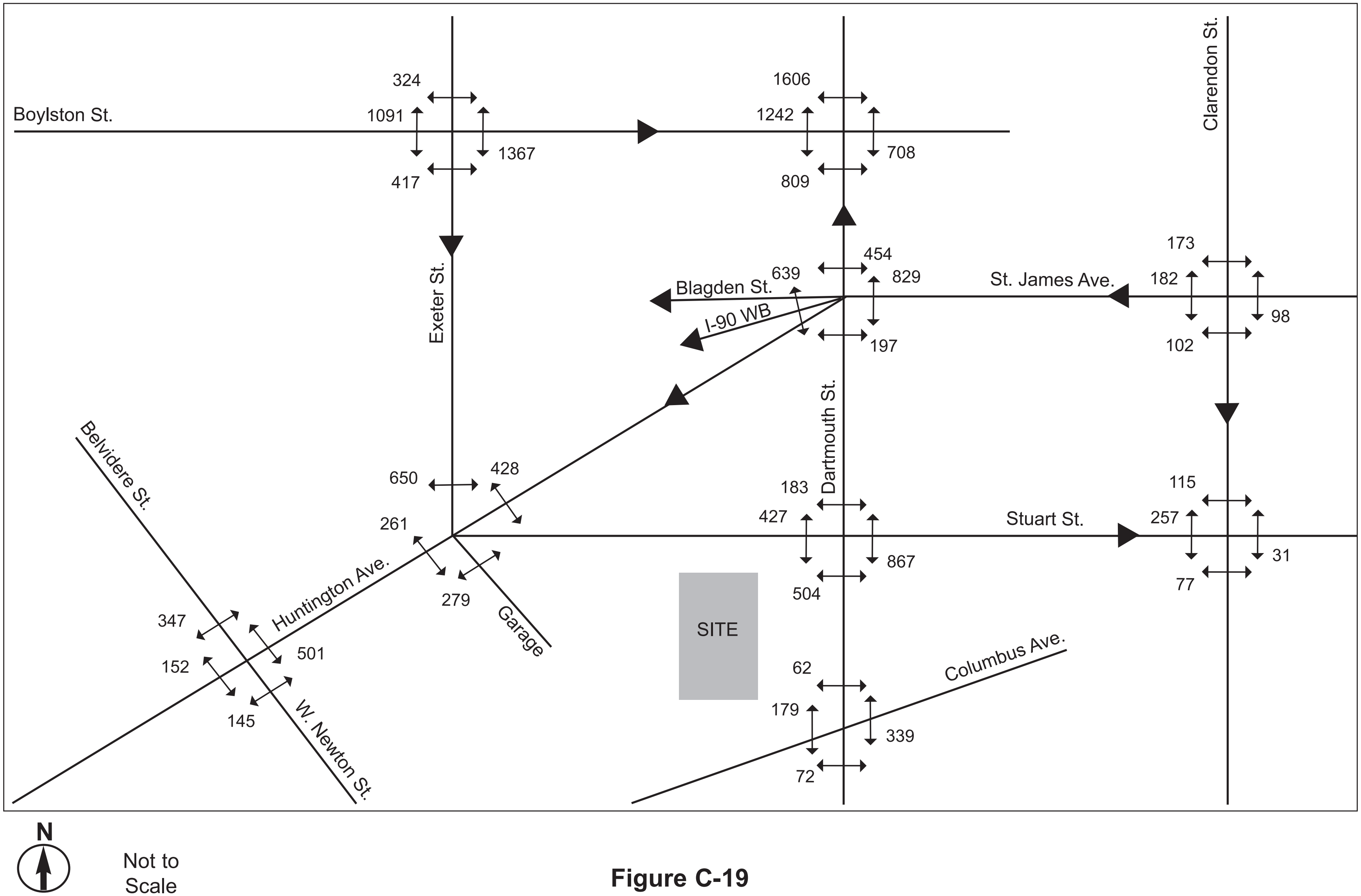


Figure C-19
No-Build Conditions (2013) Pedestrian Volumes, Saturday Peak Hour

Table C-13: No-Build Conditions (2013) Pedestrian Level of Service, Peak Hours

Intersection	Delay LOS			Space LOS		
	a.m.	p.m.	Sat.	a.m.	p.m.	Sat.
Signalized Intersections						
Huntington Avenue/W. Newton Street/Belvidere Street						
Huntington East Crosswalk	A	B	B	A	A	A
Huntington West Crosswalk	A	B	B	A	A	A
Belvidere North Crosswalk	B	C	D	A	A	E
West Newton South Crosswalk	B	C	D	A	A	A
Huntington Avenue/Stuart Street/Garage/Exeter Street						
Huntington East Crosswalk	A	A	B	A	A	C
Huntington West Crosswalk	A	A	B	A	A	B
Exeter North Crosswalk	C	C	B	A	A	C
Exeter South Crosswalk	C	C	B	A	A	A
Stuart Street/Dartmouth Street						
Stuart East Crosswalk	B	B	B	A	A	B
Stuart West Crosswalk	B	A	B	A	A	A
Dartmouth North Crosswalk	B	E	B	A	A	A
Dartmouth South Crosswalk	B	D	B	A	A	A
Stuart Street/Clarendon Street						
Stuart East Crosswalk	B	B	B	B	A	A
Stuart West Crosswalk	B	B	B	C	C	A
Clarendon North Crosswalk	B	B	B	A	A	A
Clarendon South Crosswalk	B	B	B	A	A	A
Huntington Avenue/St. James Avenue/Dartmouth Street						
St. James East Crosswalk	B	B	B	B	C	B
St. James West Crosswalk	B	B	C	A	C	D
Dartmouth North Crosswalk	C	B	A	A	A	A
Dartmouth South Crosswalk	C	B	B	A	C	A
St. James Avenue/Clarendon Street						
St. James East Crosswalk	B	B	B	A	A	A
St. James West Crosswalk	B	B	B	A	A	A
Clarendon North Crosswalk	B	B	A	A	A	A
Clarendon South Crosswalk	B	B	A	A	A	A
Columbus Avenue/Dartmouth Street						
Columbus East Crosswalk	C	C	B	A	A	A
Columbus West Crosswalk	C	C	B	A	A	A
Dartmouth North Crosswalk	B	C	B	A	A	A
Dartmouth South Crosswalk	C	C	B	A	A	A
Boylston Street/Exeter Street						
Boylston East Crosswalk	B	B	A	A	A	C
Boylston West Crosswalk	B	B	A	A	A	B
Exeter North Crosswalk	B	B	B	A	A	A
Exeter South Crosswalk	B	B	B	A	A	A
Boylston Street/Dartmouth Street						
Boylston East Crosswalk	A	A	A	A	A	A
Boylston West Crosswalk	A	A	A	A	B	C
Dartmouth North Crosswalk	B	A	A	A	A	C
Dartmouth South Crosswalk	B	A	A	A	A	A

Cell shading indicates that LOS worsens from Existing Conditions.

C.3.2 Build Scenarios

The study team conducted an impact analysis for the Build Scenario. The Project creates 280 condominiums units, 54,000 s.f. expansion of Neiman Marcus, and approximately 60,000 s.f. of other retail/restaurant/wintergarden. The site plan for the Project is illustrated in Figure C-20.

Vehicular Access

Vehicles accessing the Copley Place Expansion and Residential Addition site will use the Copley Place Garage with access at the intersection of Huntington Avenue and Exeter Street. Service and loading activities associated with the Copley Place Expansion will take place at the existing loading dock accessed from Harcourt Street.

Pedestrian Access

The proposed Copley Place Expansion will expand the existing shopping center in the plaza currently located on the northeast corner of the site. The entrance to Copley Place along the southwest corridor will remain in the same location but access will be improved with an elevator. Additional retail access will be provided at the corner of Stuart Street and Dartmouth Street. The entrance to the residential component of the project will be along Dartmouth Street. Careful landscaping along the Stuart Street building frontage will reinforce the prohibition of pedestrian travel across the Massachusetts Turnpike eastbound Copley Square off-ramp.

Trip Generation

The study team has developed trip generation for the Project using the rates derived from the Institute of Transportation Engineers' (ITE) *Trip Generation* (7th edition, 2003) fitted curve equations and average trip rates. The residential use consists only of condominium units.

The following ITE land use codes (LUC) were used to develop the net-new Project-related trips:

LUC 230 – Residential Condominium/Townhouse. Residential condominiums/townhouses are defined as ownership units that have at least one other owned unit within the same building structure. Both condominiums and townhouses are included in this use.

LUC 820 – Shopping Center. A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area of terms of size, location, and type of store. Since the Project involves expansion of the existing shopping mall located at Copley Place, LUC 820 is the most comparable category for trip generation.

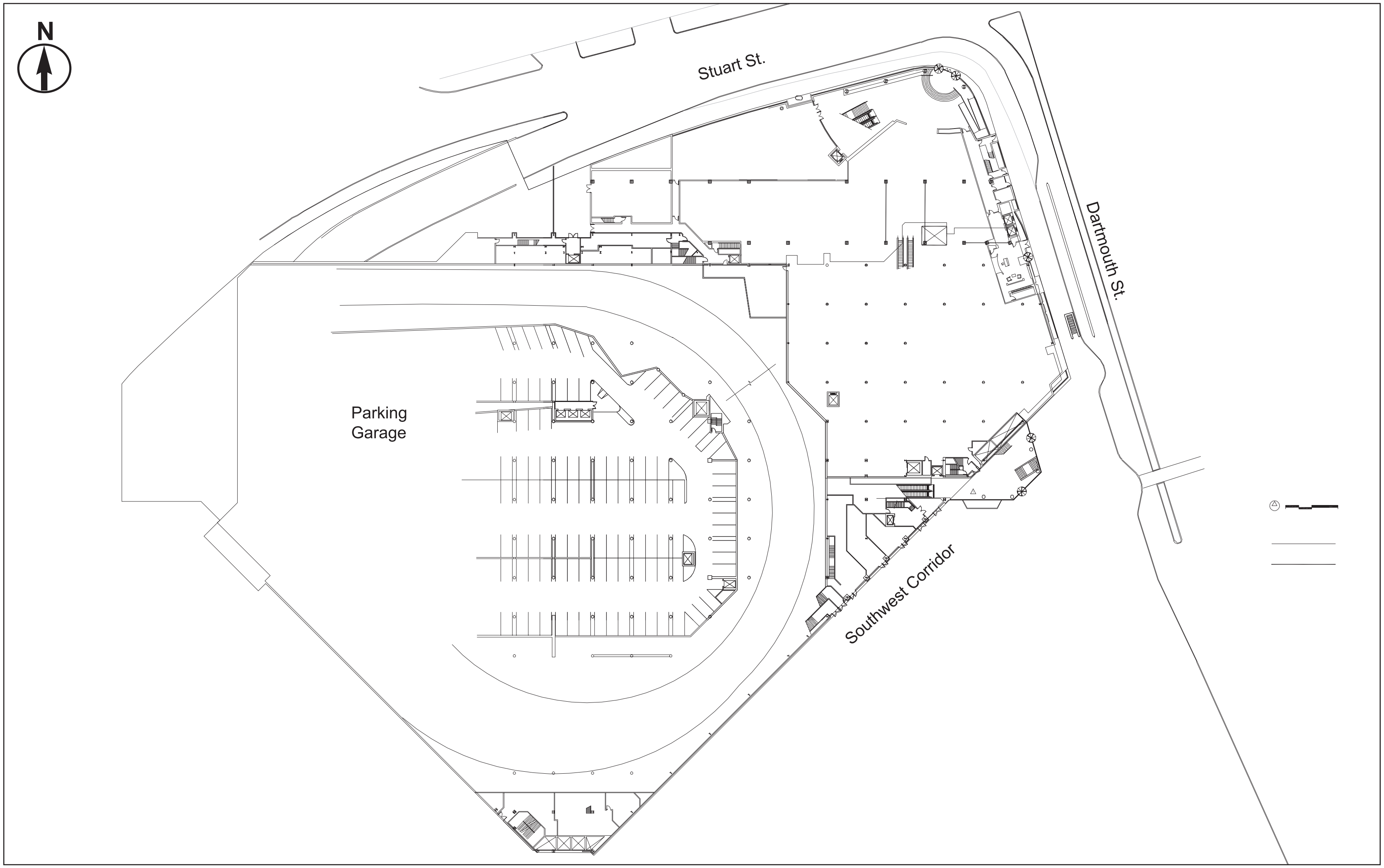


Figure C-20
Site Plan

Pass-by and Internal Trips

A portion of trips to the Project will be pass-by and internal trips. Pass-by trips are trips that are already in the transportation network and not specifically destined to the proposed uses. ITE defines pass-by trips as trips "made as intermediate stops on the way from an origin to a primary destination without a route diversion." This accounts for trips generated by people already in the area, as in common shopping districts or dense urban areas. Internal trips are trips that occur between uses within the mixed-use redevelopment, such as a resident who walks to a retail shop within the complex.

ITE provides data for both pass-by and internal trips. These rates are applied to the "unadjusted" vehicle trips. For the daily a.m. and p.m. peak hours, and the Saturday mid-day peak-hour trip generation estimates, a pass-by rate of 25% was applied to the retail, office, and residential uses. These rates were based on ITE data and the nature of the area around the Project site.

For internal trips, ITE has developed a methodology based on the proposed land uses of a mixed-use development to estimate trips within the site. These methodologies were used to determine the number of internal trips for the Project's proposed mixed-use development. Due to the increase in retail space and the addition of the residential uses, the number of shared trips associated with the existing office space increased, resulting in a net negative number of net office trips. To yield a more conservative analysis, the office trips were not reduced.

After determining the pass-by and internal trips, the "unadjusted" vehicle trips were converted to person trips by applying the vehicle occupancy rates (VOR) as derived from the 2000 U.S. Census Journey to Work Data and the Nationwide Personal Transportation Survey.

A detailed presentation of the pass-by, internal trips, and person trips is shown in the Transportation Appendix.

Mode Split

Mode split was determined using data provided by BTD for Area 4; vehicle occupancy rates (VOR) shown in Table C-14 were derived from 2001 National Household Travel Survey (restaurant VOR).

Table C-14: Daily Mode Split

Land Use	Walk Share	Transit Share	Auto Share	Local Vehicle Occupancy Rate
Residential	57%	19%	24%	1.2
Retail	55%	16%	29%	1.8

As shown, the automobile share is quite low for both the residential and retail land uses, because of the proximity of the site to public transportation and its location in the middle of the Back Bay commercial area. Net new vehicle trip generation for the proposed development appears in Table C-15. Detailed trip generation for the proposed Project is included in the Transportation Appendix.

Table C-15: Vehicle Trip Generation

Units/ksf		Residential 280 units	Retail 90.3 ksf	Total
Daily	In	144	337	481
	Out	140	350	490
	Total	284	687	971
Morning Peak	In	5	10	15
	Out	25	7	32
	Total	30	17	47
Afternoon Peak	In	16	18	34
	Out	5	17	22
	Total	21	35	56
Saturday Peak	In	12	32	44
	Out	12	26	38
	Total	24	58	82

* Net negative office trips were not added to the total number of Project trips.

As shown, the Project will add 971 net new vehicle trips per day to local streets. In the morning peak hour, the Project will add 15 entering vehicle trips and 32 exiting vehicle trips to local streets. In the afternoon peak hour, the Project will add 34 entering trips and 22 exiting vehicle trips. During the Saturday peak hour, the Project will add 44 entering trips and 38 exiting trips to study area streets. Because of the mixed-use nature of the proposed development, peak-hour trips are more balanced between entering and exiting trips than they would be with a purely retail or purely residential project. In general, the residential use peak-hour trips reflect "reverse commuting" against the flow of commute trips into downtown. Also, the mixed-use nature of the Project generates internal trips between Project uses that never leave the site. Internal trips are accounted for in the trip generation calculation and would include trips such as a resident trip that goes to the retail or restaurant component.

Trip Distribution

Vehicular trip distribution data were developed based on BTD guidelines, using origin-destination characteristics for Area 4. The distribution appears in Table C-17 and Figure C-21. Figures C-22, C-23 and C-24 show Project trips added to study area intersections during the morning, afternoon, and Saturday peak hours, respectively.

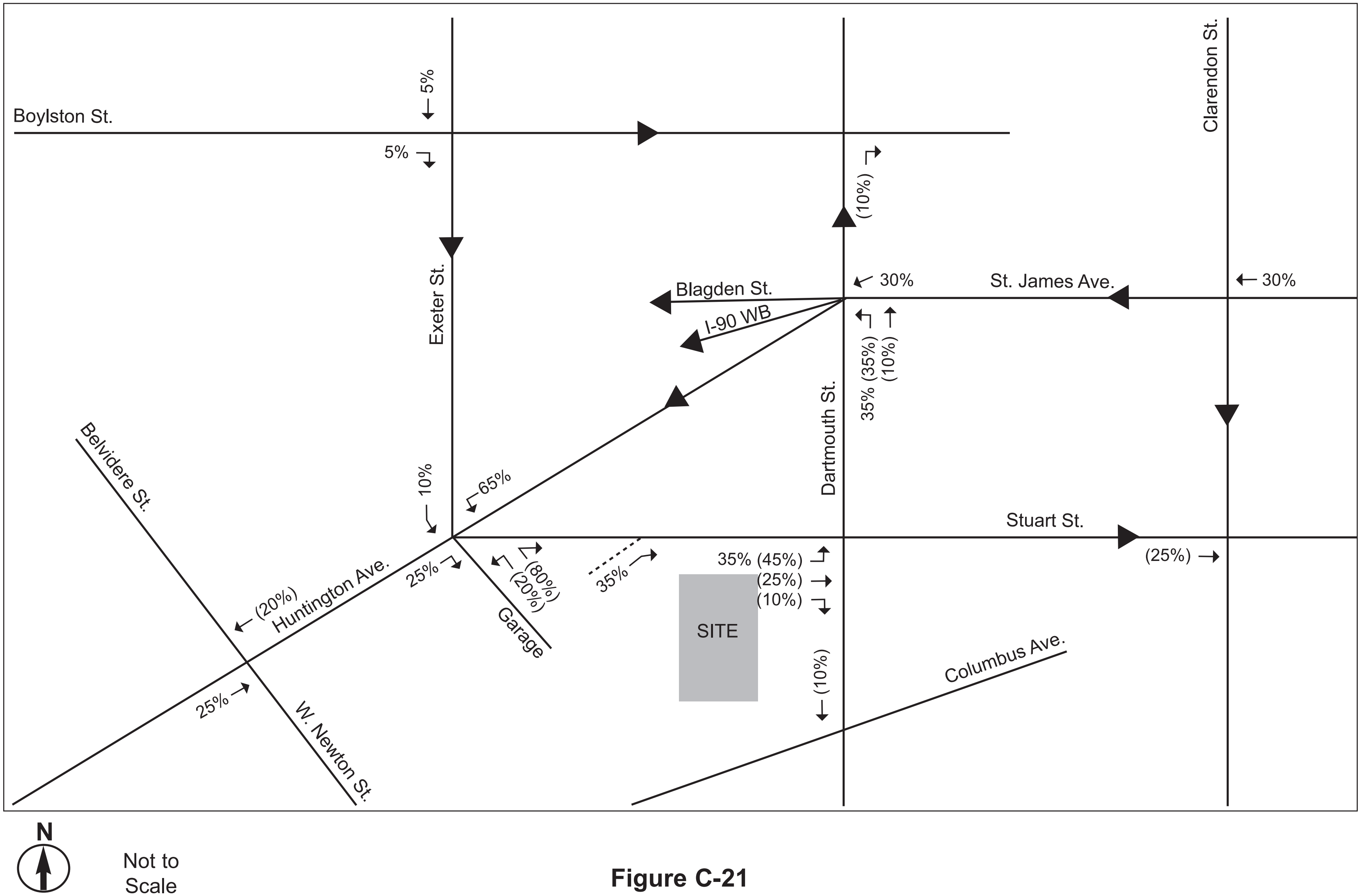


Figure C-21
Vehicular Trip Distribution

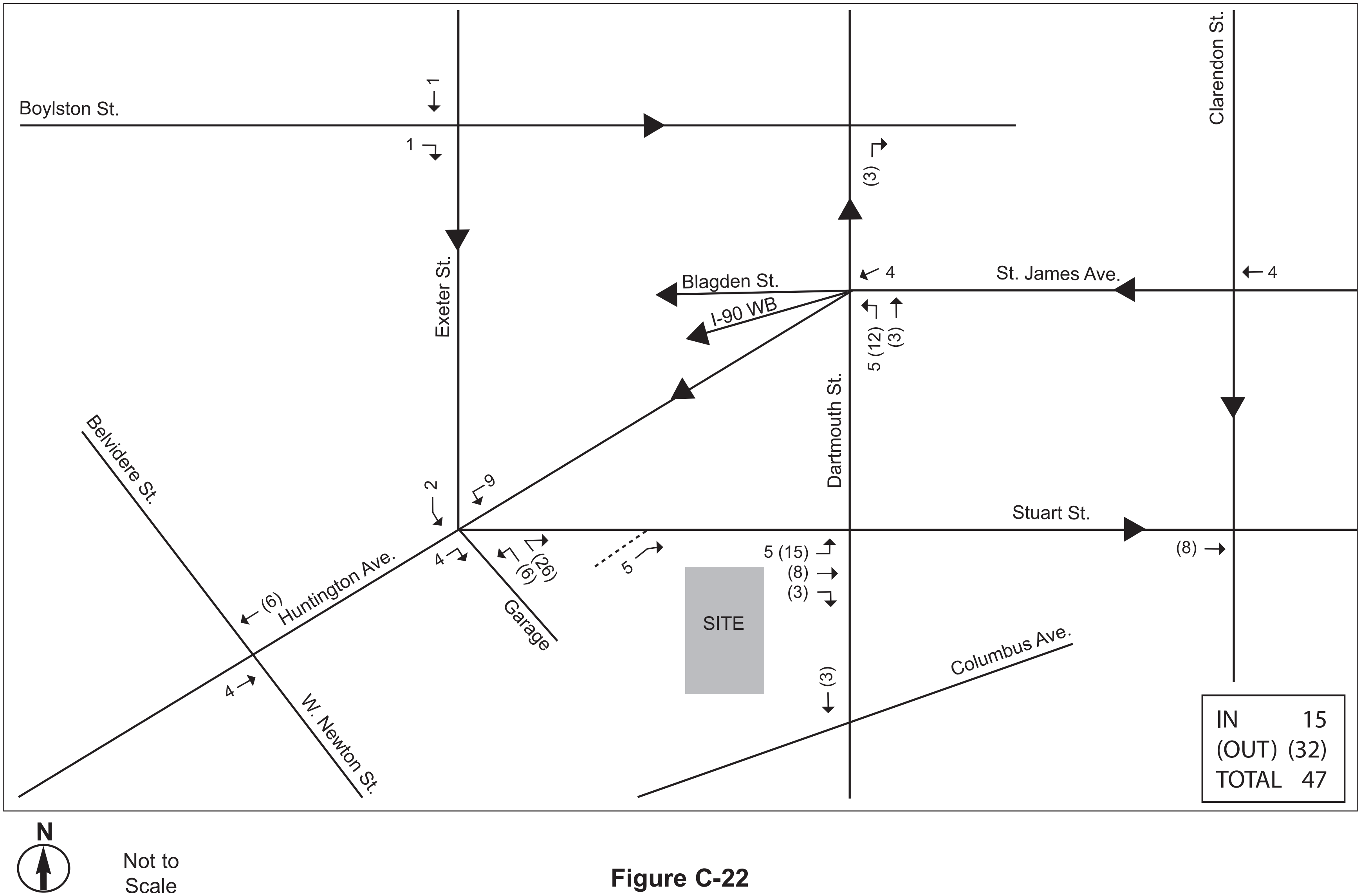


Figure C-22
Project-generated Trips,
a.m. Peak Hour

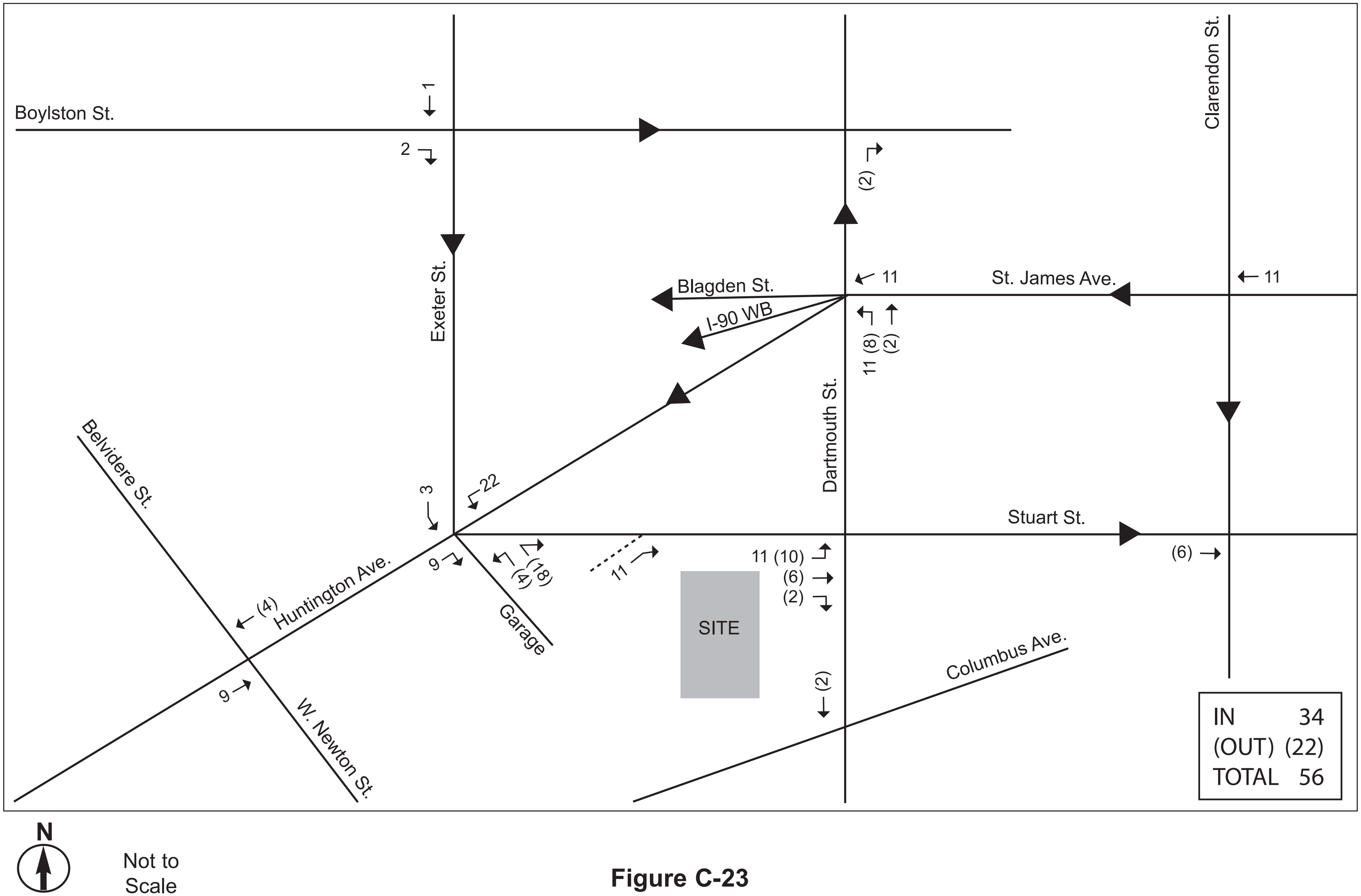
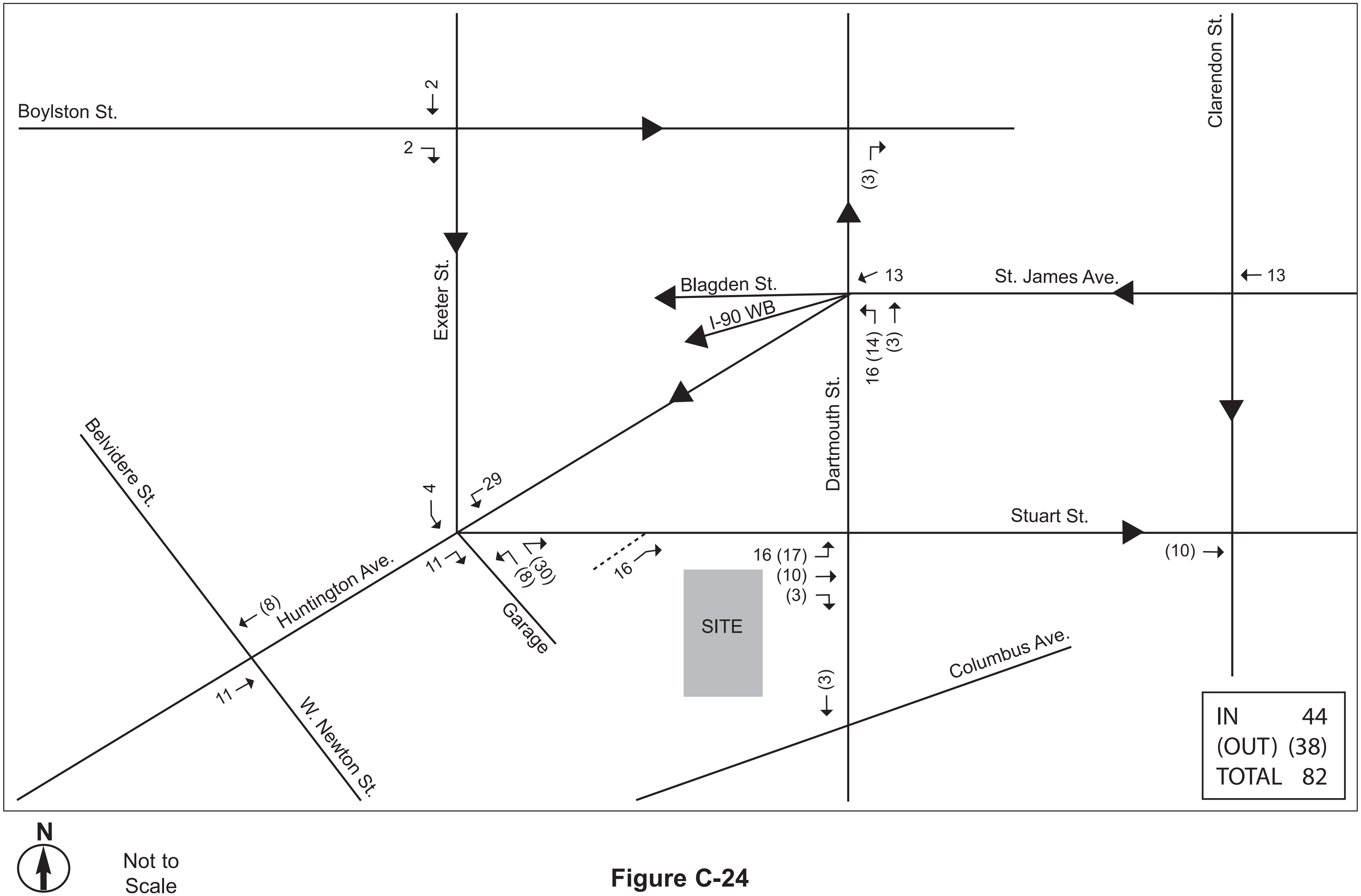


Figure C-23
Project-generated Trips,
p.m. Peak Hour



Not to Scale

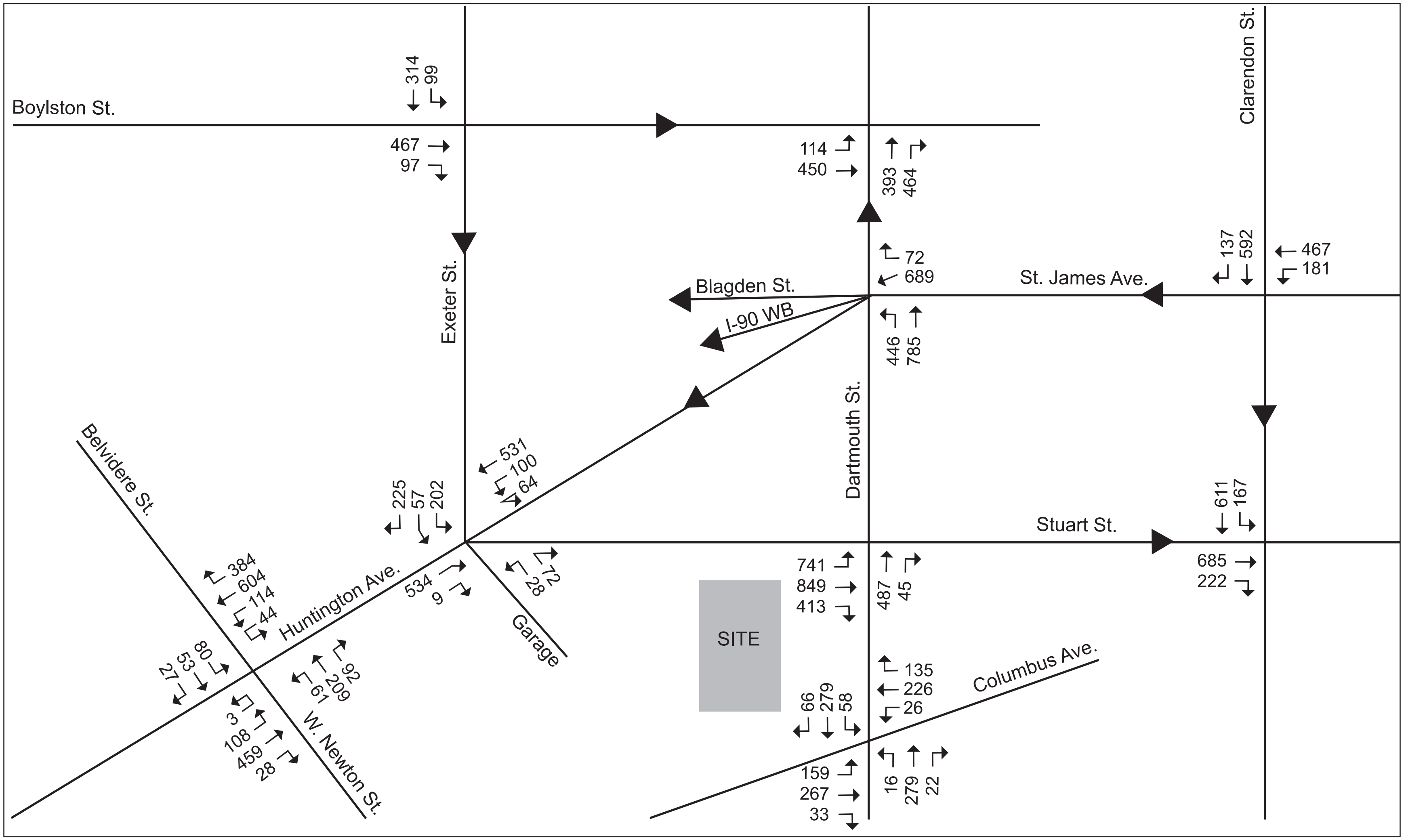
Figure C-24
Project-generated Trips, Saturday Peak Hour

Table C-16: Vehicular Trip Distribution

Vehicle Access to/from the Site	Distribution	
	To Site	From Site
Boylston Street	10%	10%
Huntington Avenue	25%	20%
I-90 (Masspike)	35%	35%
Dartmouth Street	—%	10%
Stuart Street/St. James Street	30%	25%
Total	**100%**	**100%**

Build Traffic Operations

Build traffic volumes are shown in Figures C-25, C-26, and C-27. The resulting traffic operations in the 2013 Build year are presented in Tables C-17, C-18, and C-19. Capacity analysis reports are provided in the Transportation Appendix.



Not to Scale

Figure C-25
Build Conditions (2013) Turning Movement Volumes, a.m. Peak Hour

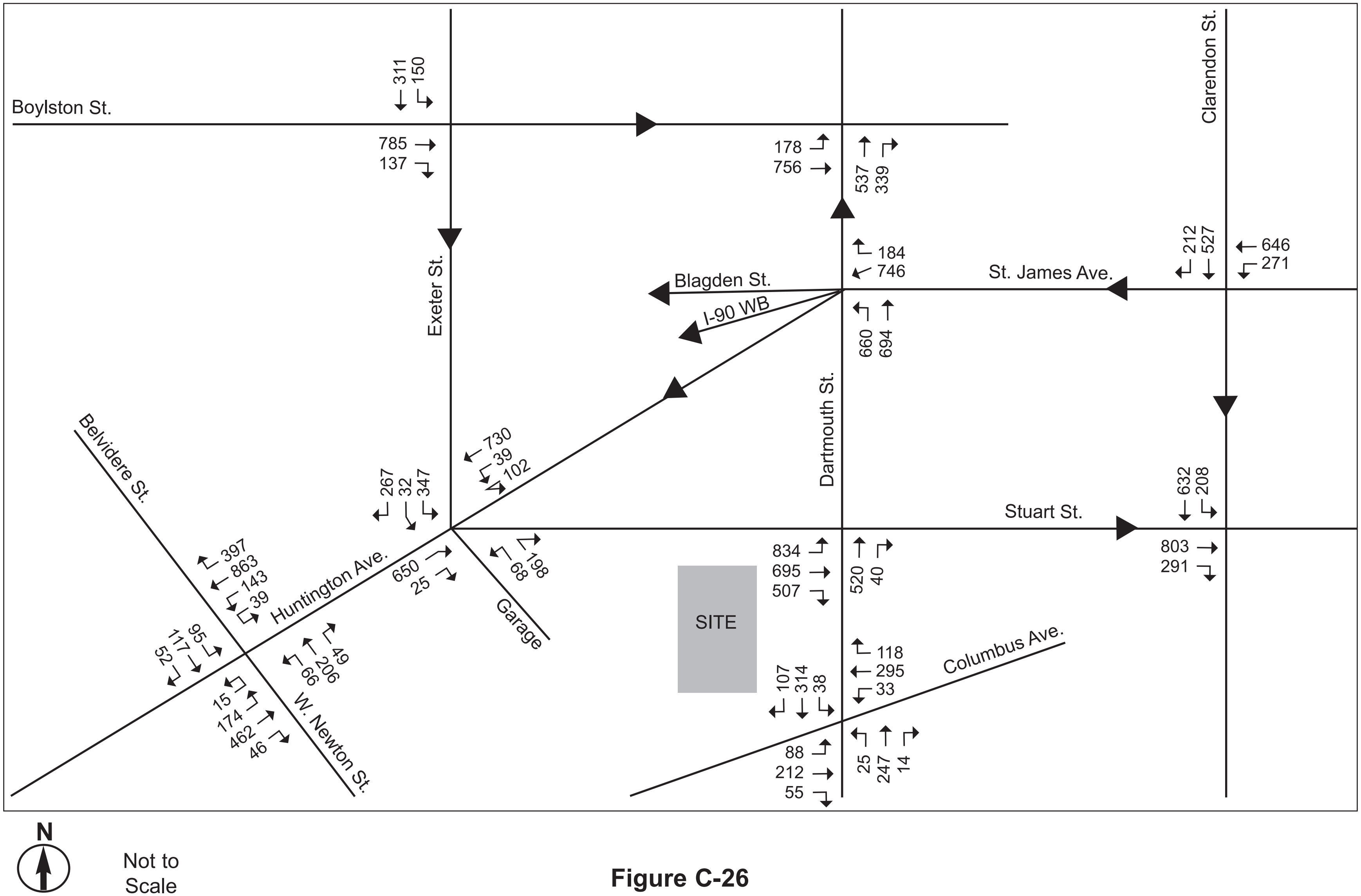


Figure C-26
Build Conditions (2013) Turning Movement Volumes,
p.m. Peak Hour

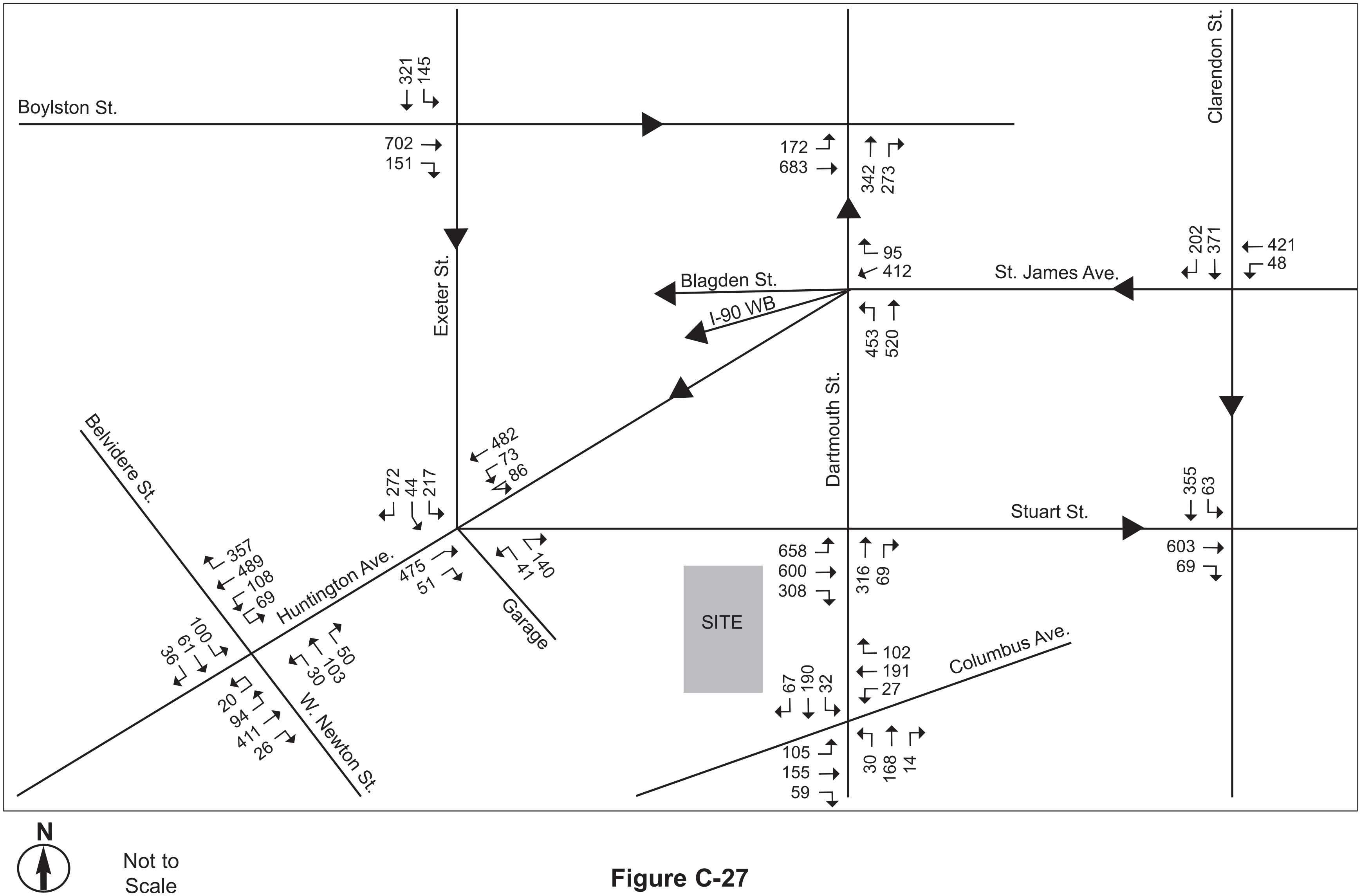


Figure C-27
Build Conditions (2013) Turning Movement Volumes, Saturday Peak Hour

Table C-17: Build Conditions (2013) Level of Service Summary, a.m. Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**39.3**	—	—
Huntington EB left	E	63.0	0.74	129
Huntington EB thru/right	D	38.3	0.66	#247
Huntington WB left	E	71.1	0.82	m#203
Huntington WB thru	C	34.6	0.71	#326
Huntington WB right	B	19.1	0.81	167
West Newton NB left/thru/right	E	61.8	0.94	#422
Belvidere SB left	B	17.2	0.32	53
Belvidere SB thru	B	14.3	0.10	37
Belvidere SB right	A	4.5	0.06	10
Huntington Avenue/Stuart Street/Garage/Exeter Street	**C**	**34.9**	—	—
Huntington EB thru/right	C	32.4	0.85	61
Huntington WB left	B	19.7	0.32	m119
Huntington WB thru	C	27.0	0.44	117
Garage NB left	C	33.3	0.26	36
Garage NB right	A	7.1	0.21	28
Exeter SB left	D	46.8	0.75	179
Exeter SB thru/right	E	61.7	0.90	244
Stuart Street/Dartmouth Street	**B**	**11.1**	—	—
Stuart EB left	A	1.5	0.28	m35
Stuart EB thru	B	14.0	0.38	m163
Stuart EB right	C	21.4	0.64	303
Dartmouth NB thru	B	11.2	0.41	131
Dartmouth NB right	A	7.6	0.21	27
Stuart Street/Clarendon Street	**C**	**32.0**	—	—
Stuart EB thru	D	44.0	0.53	289
Stuart EB right	D	35.9	0.56	171
Clarendon SB left/thru	C	20.4	0.75	312
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**21.0**	—	—
St. James WB thru	C	34.5	0.76	305
St. James WB right	C	23.6	0.21	81
Dartmouth NB left	A	7.0	0.29	63
Dartmouth NB thru	B	17.2	0.54	173
St. James Avenue/Clarendon Street	**B**	**18.4**	—	—
St. James WB left/thru	C	21.2	0.51	202
Clarendon SB thru/right	B	15.9	0.46	195
Columbus Avenue/Dartmouth Street	**C**	**23.3**	—	—
Columbus EB left/thru/right	C	21.3	0.50	205
Columbus WB left/thru	B	19.5	0.37	216
Columbus WB right	A	8.2	0.18	68
Dartmouth NB left/thru/right	D	46.9	0.79	287
Dartmouth SB left/thru	B	17.0	0.67	154
Dartmouth SB right	B	11.5	0.19	40

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Boylston Street/Exeter Street	**B**	**16.7**	**—**	**—**
Boylston EB thru/right	B	19.6	0.33	123
Exeter SB left/thru	B	13.0	0.37	112
Boylston Street/Dartmouth Street	**B**	**15.4**	**—**	**—**
Boylston EB left/thru	C	21.3	0.55	161
Dartmouth NB thru/right	B	10.6	0.60	281
Dartmouth NB right	B	12.8	0.55	247

\# 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Table C-18: Build Conditions (2013) Level of Service Summary, p.m. Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**E**	**63.3**	**—**	**—**
Huntington EB left	E	65.7	0.84	204
Huntington EB thru/right	D	37.1	0.68	238
Huntington WB left	E	71.7	0.86	196
Huntington WB thru	E	66.7	1.05	#490
Huntington WB right	F	91.6	1.11	#361
West Newton NB left/thru/right	F	91.7	1.03	#435
Belvidere SB left	C	22.3	0.38	75
Belvidere SB thru	B	19.6	0.21	88
Belvidere SB right	A	6.0	0.14	20
Huntington Avenue/Stuart Street/Garage/Exeter Street	**C**	**29.6**	**—**	**—**
Huntington EB thru/right	C	24.3	0.83	58
Huntington WB left	D	42.3	0.40	126
Huntington WB thru	C	25.9	0.52	122
Garage NB left	D	45.4	0.59	76
Garage NB right	A	5.6	0.42	26
Exeter SB left	D	46.8	0.86	#376
Exeter SB thru/right	D	36.1	0.73	215
Stuart Street/Dartmouth Street	**B**	**12.9**	**—**	**—**
Stuart EB left	A	1.3	0.31	m33
Stuart EB thru	B	15.0	0.33	132
Stuart EB right	C	26.6	0.73	m416
Dartmouth NB thru	B	14.1	0.44	136
Dartmouth NB right	A	7.0	0.22	7
Stuart Street/Clarendon Street	**C**	**21.4**	**—**	**—**
Stuart EB thru	B	18.5	0.63	181
Stuart EB right	C	21.9	0.66	142
Clarendon SB left/thru	C	24.0	0.76	353
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**23.5**	**—**	**—**
St. James WB thru	C	28.9	0.66	311
St. James WB right	C	31.3	0.58	180
Dartmouth NB left	B	11.2	0.47	151
Dartmouth NB thru	C	27.0	0.58	207
St. James Avenue/Clarendon Street	**C**	**20.2**	**—**	**—**
St. James WB left/thru	C	20.4	0.64	278
Clarendon SB thru/right	B	19.9	0.55	220
Columbus Avenue/Dartmouth Street	**C**	**25.3**	**—**	**—**
Columbus EB left/thru/right	B	19.9	0.38	146
Columbus WB left/thru	C	21.5	0.44	281
Columbus WB right	A	7.3	0.13	59
Dartmouth NB left/thru/right	D	52.8	0.83	279
Dartmouth SB left/thru	B	19.7	0.60	m260
Dartmouth SB right	B	15.3	0.21	m53

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
		Signalized Intersections		
Boylston Street/Exeter Street	**B**	**19.7**	**—**	**—**
Boylston EB thru/right	C	22.0	0.55	220
Exeter SB left/thru	B	15.0	0.39	127
Boylston Street/Dartmouth Street	**B**	**19.9**	**—**	**—**
Boylston EB left/thru	B	18.2	0.75	142
Dartmouth NB thru/right	C	21.5	0.70	324
Dartmouth NB right	C	23.1	0.62	229

95th percentile volume exceeds capacity. Queue may be longer.
Queue shown is the maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Table C-19: Build Conditions (2013) Level of Service Summary, Saturday Peak Hour

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**38.9**	—	—
Huntington EB left	E	66.6	0.77	146
Huntington EB thru/right	C	23.4	0.41	161
Huntington WB left	E	70.0	0.85	#210
Huntington WB thru	C	22.3	0.42	178
Huntington WB right	C	32.6	0.91	#141
West Newton NB left/thru/right	F	86.8	0.96	#266
Belvidere SB left	C	34.4	0.52	95
Belvidere SB thru	C	24.5	0.13	61
Belvidere SB right	A	7.6	0.15	11
Huntington Avenue/Stuart Street/Garage/Exeter Street	**E**	**71.4**	—	—
Huntington EB thru/right	F	117.9	1.15	#244
Huntington WB left	C	26.3	0.35	120
Huntington WB thru	B	18.5	0.30	66
Garage NB left	F	83.0	0.76	#57
Garage NB right	A	8.0	0.39	47
Exeter SB left	D	46.2	0.74	#208
Exeter SB thru/right	F	135.0	1.17	#271
Stuart Street/Dartmouth Street	**B**	**13.0**	—	—
Stuart EB left	A	3.3	0.26	m55
Stuart EB thru	B	17.3	0.29	m109
Stuart EB right	C	22.6	0.52	m193
Dartmouth NB thru	B	15.2	0.29	83
Dartmouth NB right	A	6.0	0.32	11
Stuart Street/Clarendon Street	**B**	**15.0**	—	—
Stuart EB thru	B	19.9	0.53	226
Stuart EB right	A	9.7	0.16	52
Clarendon SB left/thru	A	9.3	0.40	45
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**22.2**	—	—
St. James WB thru	C	30.9	0.51	155
St. James WB right	C	27.6	0.26	89
Dartmouth NB left	B	11.6	0.48	68
Dartmouth NB thru	C	25.1	0.63	102
St. James Avenue/Clarendon Street	**B**	**12.7**	—	—
St. James WB left/thru	B	17.4	0.38	130
Clarendon SB thru/right	A	9.0	0.44	103
Columbus Avenue/Dartmouth Street	**C**	**21.3**	—	—
Columbus EB left/thru/right	B	11.3	0.30	95
Columbus WB left/thru	B	11.5	0.28	124
Columbus WB right	A	6.6	0.16	43
Dartmouth NB left/thru/right	D	45.0	0.79	181
Dartmouth SB left/thru	C	30.5	0.67	137
Dartmouth SB right	B	18.5	0.22	46

Intersection	LOS	Delay	V/C	95th Percentile Queue (feet)
Signalized Intersections				
Boylston Street/Exeter Street	**B**	**14.1**	—	—
Boylston EB thru/right	B	11.7	0.41	121
Exeter SB left/thru	B	18.6	0.55	130
Boylston Street/Dartmouth Street	**C**	**25.6**	—	—
Boylston EB left/thru	D	36.2	0.93	#146
Dartmouth NB thru/right	A	9.3	0.48	38
Dartmouth NB right	B	12.0	0.45	36

\# 95th percentile volume exceeds capacity. Queue may be longer.
Queue shown is the maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Under Build Conditions, signalized intersections in the study area operate at the same Level of Service as under No-Build Conditions, with the following exception:

Huntington Avenue/Stuart Street/Garage/Exeter Street continues to operate at LOS C overall in the morning and afternoon peak hours, and continues to operate at LOS E overall in the Saturday peak hour. During the Saturday peak hour, the garage northbound left turn worsens from LOS E to LOS F. The remaining approaches at the intersection continue to operate at the same LOS.

All other intersection approaches will operate at the same LOS under Build Conditions as they do under No-Build Conditions.

Parking

No new parking will be provided as part of the Project. Shoppers will continue to be accommodated by the commercial spaces currently provided in the two Simon garages. Up to 297 residential parking spaces will be provided in the existing garages for the 280 condominiums at an overall ratio of up to 1.06 spaces per unit, in line with BTD guidelines. Spaces will be reallocated between the two garages controlled by Simon to meet the residential needs. The two garages have adequate capacity to meet both existing and new parking demand.

Public Transportation

Based on trip generation calculations, Project-added transit trips are shown in Table C-20. Detailed trip generation is provided in the Transportation Appendix.

Table C-20: Net Project-generated Transit Trips

Units		Trips
Daily	In	455
	Out	464
	Total	919
a.m. Peak	In	21
	Out	24
	Total	45
p.m. Peak	In	28
	Out	31
	Total	59
Sat. Peak	In	40
	Out	36
	Total	76

As shown, the Project will add 45 transit trips during the morning peak hour (24 boarding and 21 alighting), 59 trips during the afternoon peak hour (31 boarding and 28 alighting), and 76 trips during the Saturday peak hour (36 boarding and 40 alighting). These trips will be dispersed to the various inbound and outbound transit lines in the study area. The most convenient service is the Back Bay/South End Orange Line and commuter rail station or the Copley Square Green Line Station. Even given a conservative estimate that all afternoon peak-hour transit trips would be added to the outbound Green Line at Copley Square Station, the total Project-related transit trips during the peak hour are less than 0.9% of the peak-hour northbound capacity of about 9,000. According to *MBTA 2001 Bluebook* data, the reserve capacity is sufficient to accommodate the additional trips generated by the Project.

Pedestrian Operations

Table C-21 shows added walk trips for the Project. In addition to these trips, transit riders will also walk between the Project site and nearby transit stations. Detailed trip generation is provided in the Transportation Appendix.

Table C-21: Net Project-generated Pedestrian Trips

Units		Trips
Daily	In	1,510
	Out	1,543
	Total	**3,053**
a.m. Peak	In	59
	Out	109
	Total	**168**
p.m. Peak	In	126
	Out	90
	Total	**215**
Saturday Peak	In	132
	Out	109
	Total	**241**

As shown in Table C-21, the Project is expected to generate 3,053 daily walk trips and an additional 919 daily transit trips that require a walk trip to or from the site. Combining walk and transit trips, the Project will add 3,972 daily pedestrian trips. There will be 163 pedestrian trips in and out of the site during the morning peak hour, 216 trips in and out during the afternoon peak hour, and 241 Saturday peak hour walk trips, plus 45, 59, and 76 transit trips, respectively. This averages to fewer than six additional pedestrian trips per minute during the morning, afternoon, and Saturday peak hours.

Pedestrian volumes are shown in Figures C-28, C-29, and C-30. Pedestrian LOS results are shown in Table C-22. Overall results in Pedestrian LOS do not change significantly from No-Build Conditions.

The Belvidere Street north crosswalk at the Huntington Avenue intersection worsened from space LOS E to space LOS F on Saturday due to the high volume of pedestrians generated by the Prudential Center uses.

Figure C-31 shows landscaping and pedestrian improvements proposed for Copley Place and the Stuart Street/Dartmouth Street and Stuart Street/Exeter Street/Garage Driveway intersections. As shown landscaping, sidewalks, bump-outs, new crosswalks and new handicapped ramps will improve pedestrian safety. In particular, landscaping and a new crosswalk will be used to reinforce the pedestrian prohibition adjacent to the Massachusetts Turnpike Dartmouth Street off-ramp.

Table C-22: Build Conditions (2013) Pedestrian LOS, Peak Hours

Intersection	Delay LOS			Space LOS		
	a.m.	p.m.	Sat.	a.m.	p.m.	Sat.
Signalized Intersections						
Huntington Avenue/W. Newton Street/Belvidere Street						
Huntington East Crosswalk	A	B	B	A	A	D
Huntington West Crosswalk	A	B	B	A	A	A
Belvidere North Crosswalk	B	C	C	A	A	F
West Newton South Crosswalk	B	C	C	A	A	A
Huntington Avenue/Stuart Street/Exeter Street						
Huntington East Crosswalk	A	A	B	A	A	C
Huntington West Crosswalk	A	A	B	A	A	B
Exeter North Crosswalk	C	C	B	A	A	C
Exeter South Crosswalk	C	C	B	A	A	A
Stuart Street/Dartmouth Street						
Stuart East Crosswalk	B	B	B	A	A	B
Stuart West Crosswalk	B	A	B	A	A	A
Dartmouth North Crosswalk	B	E	B	A	A	A
Dartmouth South Crosswalk	B	B	B	A	A	B
Stuart Street/Clarendon Street						
Stuart East Crosswalk	B	B	B	B	A	A
Stuart West Crosswalk	B	B	B	C	C	A
Clarendon North Crosswalk	B	B	B	A	A	A
Clarendon South Crosswalk	B	B	B	A	A	A
Huntington Avenue/St. James Avenue/Dartmouth Street						
St. James East Crosswalk	B	B	B	B	C	B
St. James West Crosswalk	B	B	C	A	C	D
Dartmouth North Crosswalk	C	B	A	A	A	A
Dartmouth South Crosswalk	C	B	B	A	C	A
St. James Avenue/Clarendon Street						
St. James East Crosswalk	B	B	B	A	A	A
St. James West Crosswalk	B	B	B	A	A	A
Clarendon North Crosswalk	B	B	A	A	A	A
Clarendon South Crosswalk	B	B	A	A	A	A
Columbus Avenue/Dartmouth Street						
Columbus East Crosswalk	C	C	B	A	A	A
Columbus West Crosswalk	C	C	B	A	A	A
Dartmouth North Crosswalk	B	C	B	A	A	A
Dartmouth South Crosswalk	C	C	B	A	A	A
Boylston Street/Exeter Street						
Boylston East Crosswalk	B	B	A	A	A	C
Boylston West Crosswalk	B	B	A	A	A	B
Exeter North Crosswalk	B	B	B	A	A	A
Exeter South Crosswalk	B	B	B	A	A	A
Boylston Street/Dartmouth Street						
Boylston East Crosswalk	A	A	A	A	A	A
Boylston West Crosswalk	A	A	A	A	B	C
Dartmouth North Crosswalk	B	A	A	A	A	C
Dartmouth South Crosswalk	B	A	A	A	A	A

Cell shading indicates that LOS worsens from No-Build Conditions.

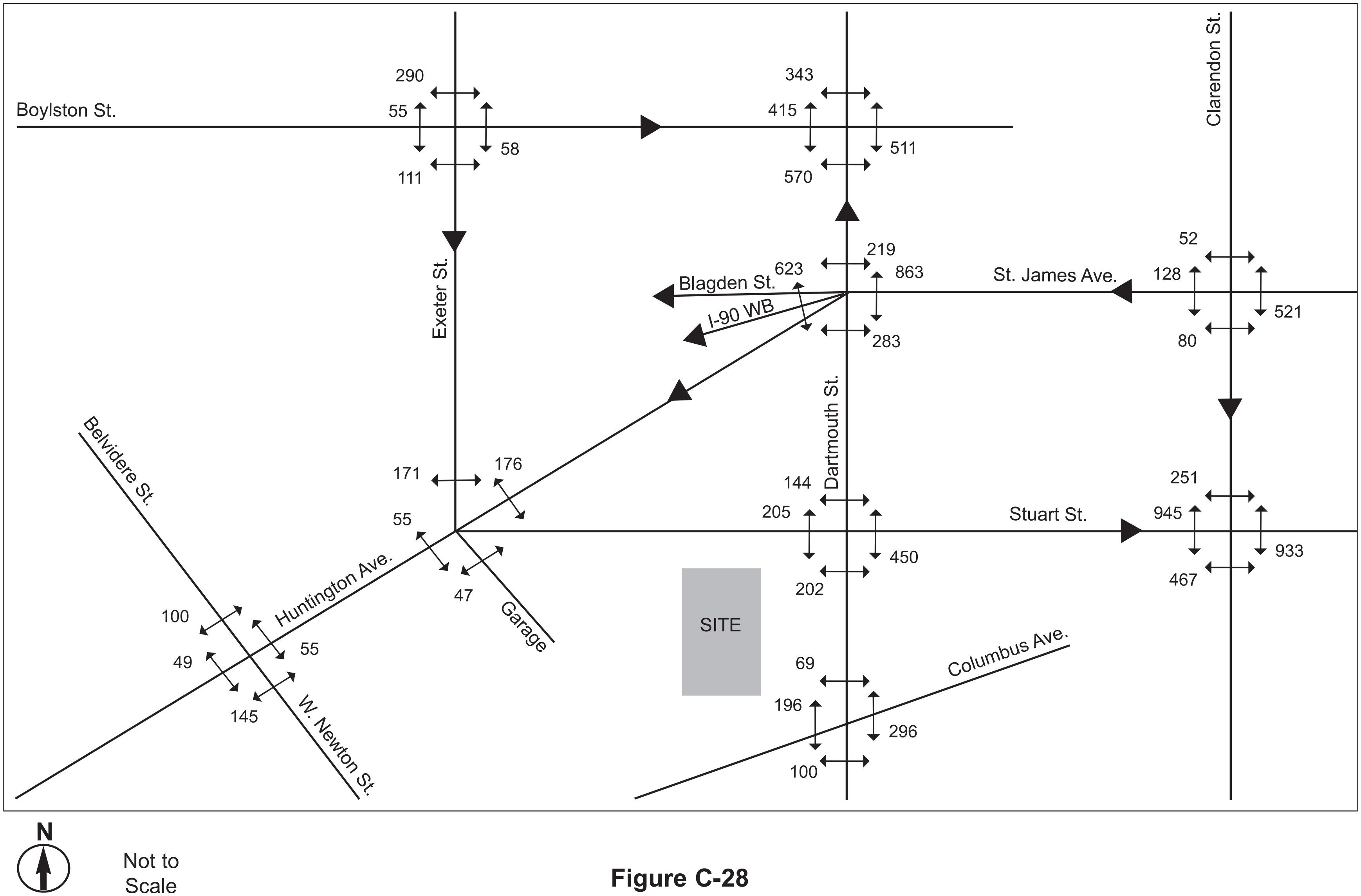


Figure C-28
Build Conditions (2013) Pedestrian Volumes, a.m. Peak Hour

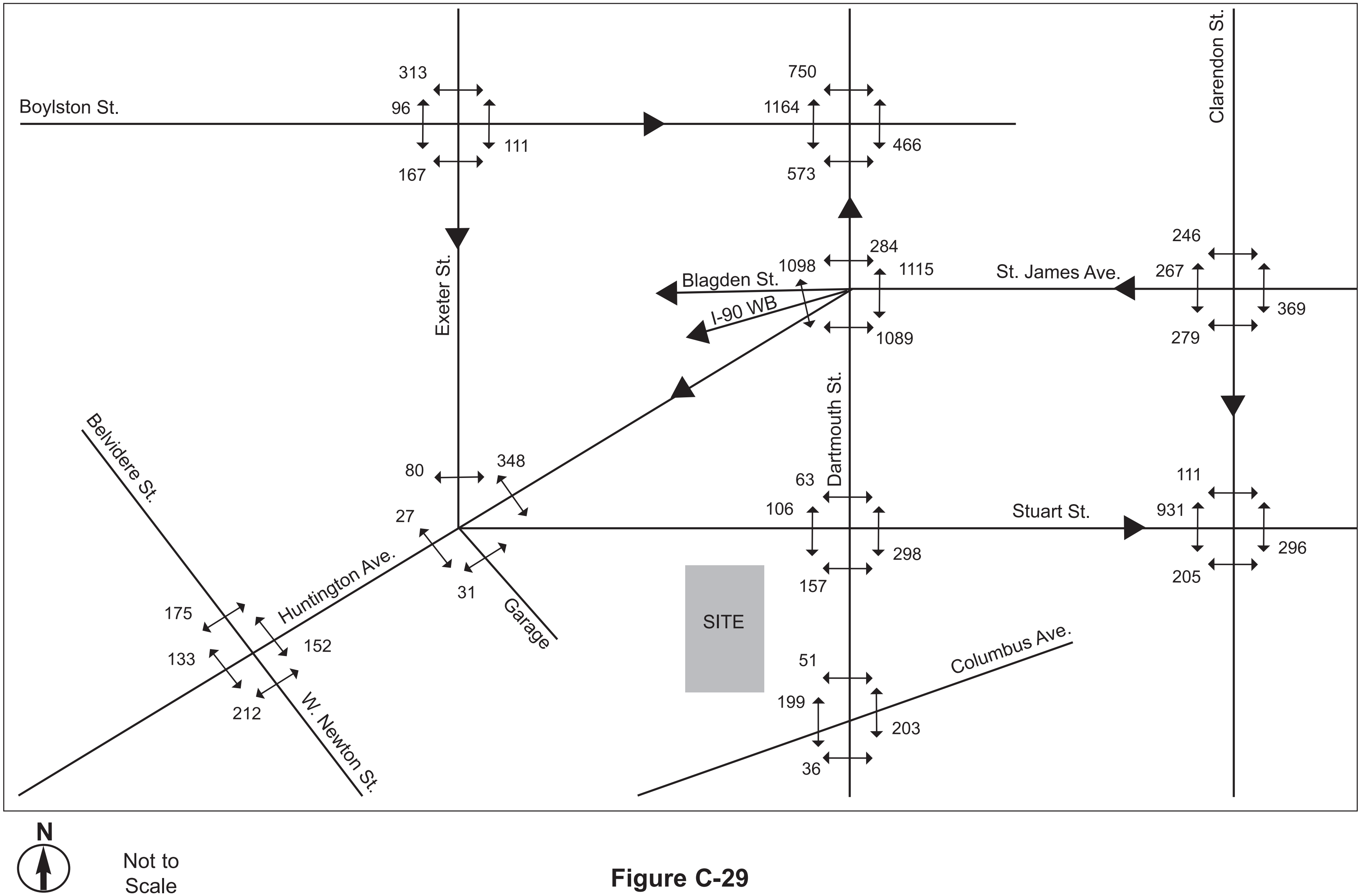


Figure C-29
Build Conditions (2013) Pedestrian Volumes, p.m. Peak Hour

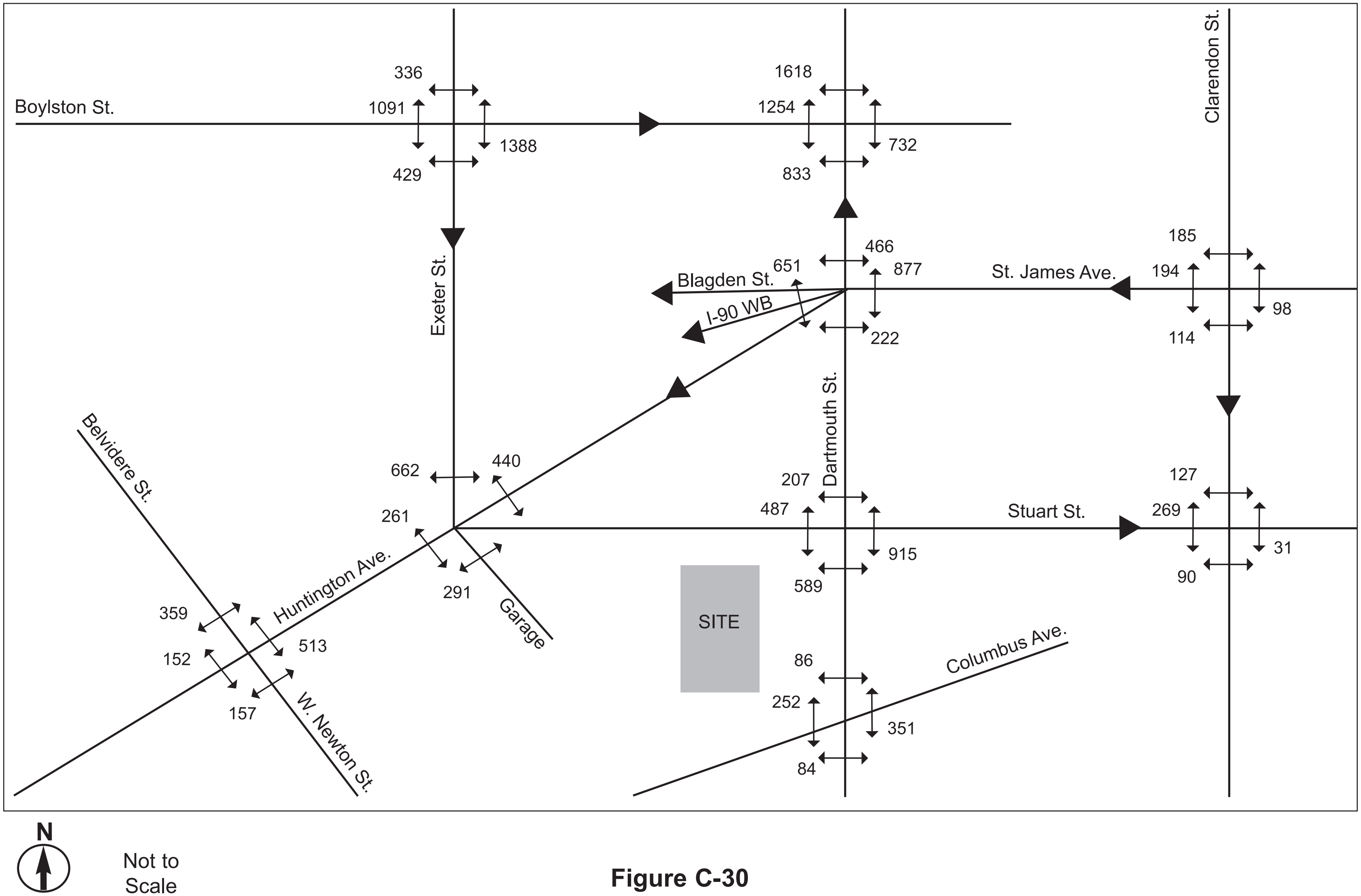


Figure C-30
Build Conditions (2013) Pedestrian Volumes, Saturday Peak Hour

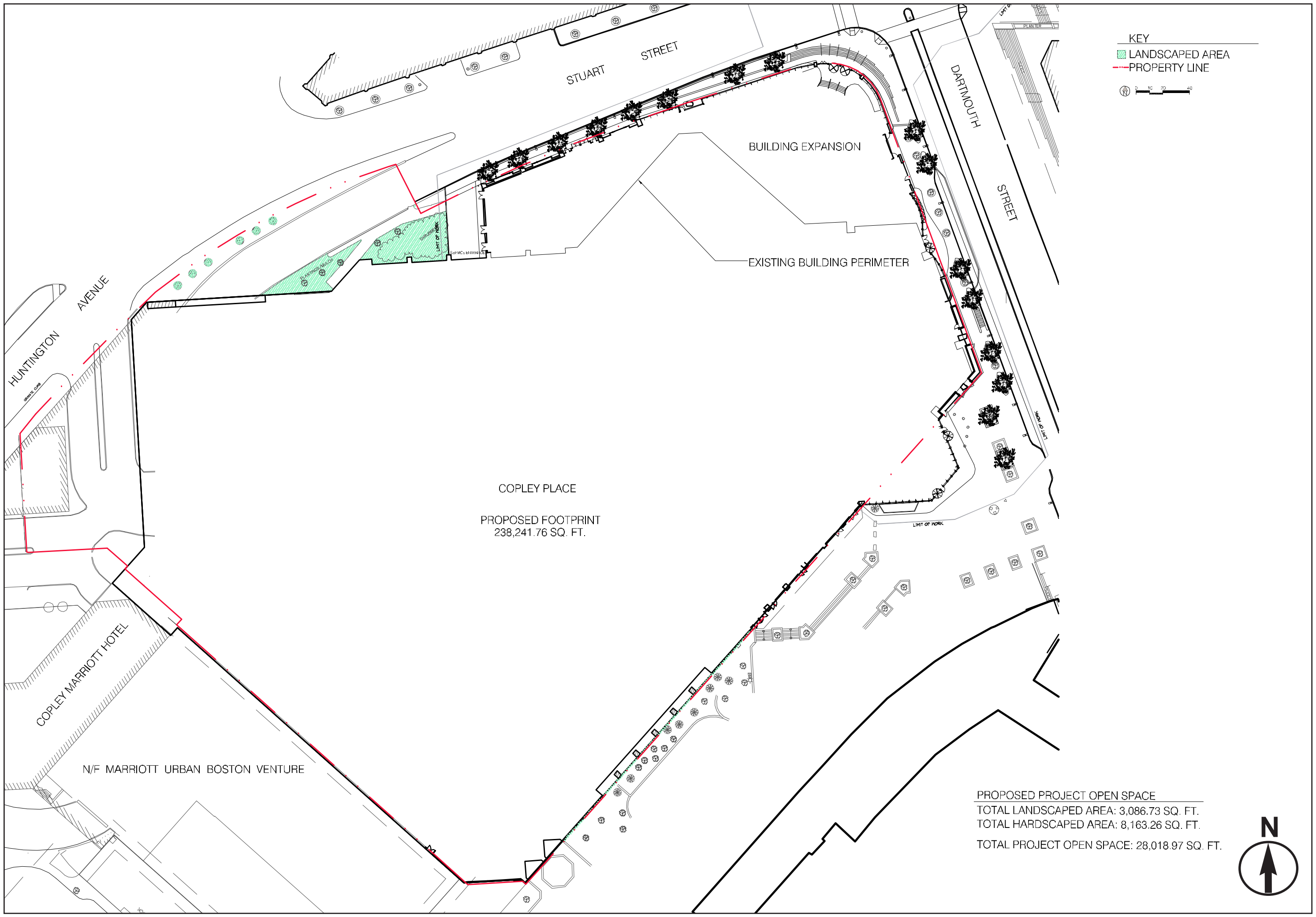


Figure C-31
Proposed Open Space

Bicycle Accommodations

Secure bicycle storage will be made available to residents and visitors. Consistent with BTD guidelines, one bicycle space per three residential units will be provided on-site, for a total of 94 bicycle spaces. The location of the spaces will be shown on the Site Plan submitted to BTD along with the Transportation Access Plan Agreement. A shared bicycle room, with racks, will be provided in the basement of the building.

Public bicycle racks will be provided at building entrances for visitors, guests, and employees.

All bicycle racks, signs, and parking areas will conform to BTD standards and be sited in safe, secure locations.

Loading and Service Accommodations

Loading for the expanded retail space and new residential units will take place from the existing loading docks, accessed from Harcourt Street. Whenever possible, loading and service activities will take place during off-peak hours. Permanent "No Idling" signs will be posted in the loading areas.

A loading dock manager will be part of the on-site staff to manage service and loading operations on the site. Move-in/move-out and other loading/service activities will be scheduled through the management office.

Transportation Mitigation Measures

The Project will result in minimal impact to vehicular traffic conditions, as summarized in Tables C-23, C-24, and C-25. However, the Proponent will work with BTD to improve signal timing and phasing in the area to improve the overall efficiency of intersections in the area. The improvements in overall LOS operations that may result from updated signal timing and phasing are included in Tables C-23, C-24, and C-25.

Table C-23: Comparison of Existing, No-Build, and Build Conditions, a.m. Peak Hour

Intersection	Existing	No-Build	Build
Signalized Intersections			
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**D**	**D**
Huntington EB left	E	E	E
Huntington EB thru/right	D	D	D
Huntington WB left	E	E	E
Huntington WB thru	C	C	C
Huntington WB right	B	B	B
West Newton NB left/thru/right	E	E	E
Belvidere SB left	B	B	B
Belvidere SB thru	B	B	B
Belvidere SB right	A	A	A
Huntington Avenue/Stuart Street/Garage/Exeter Street	**C**	**D**	**C**
Huntington EB thru/right	C	C	C
Huntington WB left	B	B	B
Huntington WB thru	C	C	C
Garage NB left	C	C	C
Garage NB right	A	A	A
Exeter SB left	D	D	D
Exeter SB thru/right	E	E	E
Stuart Street/Dartmouth Street	**B**	**B**	**B**
Stuart EB left	A	A	A
Stuart EB thru	B	B	B
Stuart EB right	C	C	C
Dartmouth NB thru	B	B	B
Dartmouth NB right	A	A	A
Stuart Street/Clarendon Street	**C**	**C**	**C**
Stuart EB thru	D	D	D
Stuart EB right	C	D	D
Clarendon SB left/thru	B	C	C
Huntington Avenue/St. James Avenue/Dartmouth Street	**B**	**C**	**C**
St. James WB thru	C	C	C
St. James WB right	C	C	C
Dartmouth NB left	A	A	A
Dartmouth NB thru	B	B	B
St. James Avenue/Clarendon Street	**B**	**B**	**B**
St. James WB left/thru	B	C	C
Clarendon SB thru/right	B	B	B
Columbus Avenue/Dartmouth Street	**C**	**C**	**C**
Columbus EB left/thru/right	B	C	C
Columbus WB left/thru	B	B	B
Columbus WB right	A	A	A
Dartmouth NB left/thru/right	D	D	D
Dartmouth SB left/thru	B	B	B
Dartmouth SB right	B	B	B

Intersection	Existing	No-Build	Build
Boylston Street/Exeter Street	**B**	**B**	**B**
Boylston EB thru/right	B	B	B
Exeter SB left/thru	B	B	B
Boylston Street/Dartmouth Street	**B**	**B**	**B**
Boylston EB left/thru	C	C	C
Dartmouth NB thru/right	A	B	B
Dartmouth NB right	B	B	B

Shading indicates a worsening of LOS from the previous condition.

Table C-24: Comparison of Existing, No-Build, and Build Conditions, p.m. Peak Hour

Intersection	Existing	No-Build	Build
Signalized Intersections			
Huntington Avenue/West Newton Street/ Belvidere Street	**D**	**E**	**E**
Huntington EB left	E	E	E
Huntington EB thru/right	C	D	D
Huntington WB left	E	E	E
Huntington WB thru	C	D	D
Huntington WB right	D	E	E
West Newton NB left/thru/right	E	F	F
Belvidere SB left	C	C	C
Belvidere SB thru	B	B	B
Belvidere SB right	A	A	A
Huntington Avenue/Stuart Street/Garage/Exeter Street	**C**	**C**	**C**
Huntington EB thru/right	C	C	C
Huntington WB left	D	D	D
Huntington WB thru	C	C	C
Garage NB left	D	D	D
Garage NB right	A	A	A
Exeter SB left	D	D	D
Exeter SB thru/right	D	D	D
Stuart Street/Dartmouth Street	**B**	**B**	**B**
Stuart EB left	A	A	A
Stuart EB thru	B	B	B
Stuart EB right	C	C	C
Dartmouth NB thru	B	B	B
Dartmouth NB right	A	A	A
Stuart Street/Clarendon Street	**B**	**C**	**C**
Stuart EB thru	B	B	B
Stuart EB right	B	C	C
Clarendon SB left/thru	B	C	C
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**C**	**C**
St. James WB thru	C	C	C
St. James WB right	C	C	C
Dartmouth NB left	A	B	B
Dartmouth NB thru	C	C	C
St. James Avenue/Clarendon Street	**B**	**C**	**C**
St. James WB left/thru	B	C	C
Clarendon SB thru/right	B	B	B
Columbus Avenue/Dartmouth Street	**C**	**C**	**C**
Columbus EB left/thru/right	B	B	B
Columbus WB left/thru	B	B	C
Columbus WB right	A	A	A
Dartmouth NB left/thru/right	D	D	D
Dartmouth SB left/thru	B	B	B
Dartmouth SB right	B	B	B

Intersection	Existing	No-Build	Build
Boylston Street/Exeter Street	**B**	**B**	**B**
Boylston EB thru/right	C	C	C
Exeter SB left/thru	B	B	B
Boylston Street/Dartmouth Street	**B**	**B**	**B**
Boylston EB left/thru	B	B	B
Dartmouth NB thru/right	B	C	C
Dartmouth NB right	C	C	C

Shading indicates a worsening of LOS from the previous condition.

Table C-25: LOS Comparison of Existing, No-Build, and Build Conditions, Saturday Peak Hour

Intersection	Existing	No-Build	Build
Signalized Intersections			
Huntington Avenue/West Newton Street/Belvidere Street	**D**	**D**	**D**
Huntington EB left	E	E	E
Huntington EB thru/right	C	C	C
Huntington WB left	E	E	E
Huntington WB thru	C	C	C
Huntington WB right	C	C	C
West Newton NB left/thru/right	E	F	F
Belvidere SB left	C	C	C
Belvidere SB thru	C	C	C
Belvidere SB right	A	A	A
Huntington Avenue/Stuart Street/Garage/Exeter Street	**D**	**E**	**E**
Huntington EB thru/right	E	F	F
Huntington WB left	C	C	C
Huntington WB thru	B	B	B
Garage NB left	E	E	F
Garage NB right	A	A	A
Exeter SB left	D	D	D
Exeter SB thru/right	F	F	F
Stuart Street/Dartmouth Street	**B**	**B**	**B**
Stuart EB left	A	A	A
Stuart EB thru	B	B	B
Stuart EB right	C	C	C
Dartmouth NB thru	B	B	B
Dartmouth NB right	A	A	A
Stuart Street/Clarendon Street	**B**	**B**	**B**
Stuart EB thru	B	B	B
Stuart EB right	A	A	A
Clarendon SB left/thru	A	A	A
Huntington Avenue/St. James Avenue/Dartmouth Street	**C**	**C**	**C**
St. James WB thru	C	C	C
St. James WB right	C	C	C
Dartmouth NB left	B	B	B
Dartmouth NB thru	C	C	C
St. James Avenue/Clarendon Street	**B**	**B**	**B**
St. James WB left/thru	B	B	B
Clarendon SB thru/right	A	A	A
Columbus Avenue/Dartmouth Street	**C**	**C**	**C**
Columbus EB left/thru/right	A	B	B
Columbus WB left/thru	B	B	B
Columbus WB right	A	A	A
Dartmouth NB left/thru/right	D	D	D
Dartmouth SB left/thru	C	C	C
Dartmouth SB right	B	B	B

Intersection	Existing	No-Build	Build
Boylston Street/Exeter Street	**B**	**B**	**B**
Boylston EB thru/right	B	B	B
Exeter SB left/thru	B	B	B
Boylston Street/Dartmouth Street	**C**	**C**	**C**
Boylston EB left/thru	C	C	C
Dartmouth NB thru/right	A	A	A
Dartmouth NB right	B	B	B

Shading indicates a worsening of LOS from the previous condition.

C.3.3 Transportation Demand Management

The Proponent is committed to implementing a TDM program that supports the City's efforts to reduce dependency on the automobile by encouraging travelers to use alternatives to driving alone, especially during peak periods. TDM will be facilitated by the nature and location of the Project's proximity to offices, transit, and shopping. The mixed-use nature of the Project already helps minimize impacts.

The Proponent will take advantage of the site's pedestrian and transit access to market to future residents. On-site management will provide transit information (schedules, maps, fare information) in the building lobbies for residents and guests. To raise awareness of public transportation alternatives, on-site management will also work with residents as they move into the facility.

Project residents will be informed about opportunities in the area for shared-car use, such as Zipcar, as an alternative to car ownership. As stated above, 19 Zipcar spaces are already provided in the Copley and Dartmouth garages. The Proponent will work with Zipcar to provide additional spaces as they become necessary.

Additional Zipcar locations near the site include:

- 100 Clarendon Street (9 cars);
- 131 Dartmouth Street (8 cars);
- Park Square/Motor Mart Garage (6 cars); and
- Prudential Center (11 cars).
- ***Tenant and Resident Orientation Packets.*** Orientation packets will provide new tenants with information about the transportation demand management programs available.

- ***Transit Passes.*** The Proponent will encourage commercial tenants to subsidize transit passes for their employees.

- ***TMA Participation.*** The Proponent will participate in the Artery Business Committee Transportation Management Association (TMA).

- ***Web Site.*** The Proponent will design and implement a Project Web site. The Web site will include public transportation information for residents and visitors.

- ***Parking Pricing.*** The Proponent will charge high public parking rates in the garages as a disincentive to use of single-occupancy vehicles.

- ***Resident Bicycles.*** The Proponent will provide free, shared bicycles for resident use; they will be stored in the bicycle room.

C.4 Evaluation of Short-term/Construction Impacts

Construction impacts are discussed in detail in Section 3.2.11.

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

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

- Limited construction worker parking will be permitted on-site; worker carpooling will be encouraged;

- A subsidy for MBTA passes will be considered for full-time employees;

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

C.5 Transportation Appendix

The Transportation Appendix is available for review at the BRA offices or by calling Epsilon Associates, Inc., at (978) 897-7100.

Appendix D

Pedestrian Level Wind Study

CONSULTING ENGINEERS
& SCIENTISTS

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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8
Tel: (519) 823-1311 E-mail: info@rwdi.com
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Date:	August 27, 2007	RWDI Reference #:08-1010	Pages (Including Cover):10

To: Peggy Briggs - Epsilon Associates, Inc. Email: pbriggs@epsilonassociates.com

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Rob Halter - Elkus Manfredi Architects rhalter@elkus-manfredi.com

From: Anthony Akomah Email: Anthony.Akomah@rwdi.com
Ryan Latchman Ryan.Latchman@rwdi.com
Hanqing Wu Hanqing.Wu@rwdi.com

RE: **Pedestrian Wind Assessment**
Copley Place Expansion, Boston, MA

Dear Ms. Briggs,

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by Elkus Manfredi Architects at the request of Epsilon Associates, Inc. to conduct a pedestrian wind design review for the proposed Copley Place Expansion in Boston, Massachusetts. This letter provides comments as they relate to our pedestrian wind assessment of the project.

This assessment employed:

- a desktop analytical modeling of the proposed development;
- a review of the design drawings received on July 25 and 26, 2007;
- a review of the local long-term meteorological data with surrounding information;
- our engineering judgement and knowledge of wind flows around buildings; and,
- our extensive experience of wind tunnel modeling of various building projects in the Boston area.

This preliminary wind study considered effects that the proposed development will have on local pedestrian wind conditions, particularly around entrances and sidewalks. In the absence of wind tunnel testing, this desktop approach provides initial and massing level estimation of pedestrian wind conditions. However, we note that to confirm and quantify the results of this analysis, physical model tests in a boundary layer wind tunnel facility will be required.

SITE INFORMATION

The study site is located at the southwest corner of the intersection of Stuart Street and Dartmouth Street (see aerial photo in Figure 1). It is presently an open plaza, north of the existing mixed use Neiman Marcus Building. It is surrounded by mid-rise buildings to the north, northeast, east and south. One block northeast is the John Hancock Tower. Several tall and mid-rise buildings presently exist to the west and northwest of the development site. These tall buildings are expected to shelter the study site for winds from the northwest through northeast directions.

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Further to the northeast is the downtown Boston area. Beyond the immediate surroundings, the terrain in the remaining directions can be classified as suburban consisting of mainly low-rise developments and isolated high-rise or mid-rise buildings.

The proposed development which will be built in phases consists of expansions to the existing four storey Neiman Marcus retail building underlying a new 38 storey residential tower (Phase I). Above Level 5, the residential tower has a curved foot print with dimensions of approximately 114 ft by 140 ft. Phase II involves renovation of the Neiman Marcus Building along Darmouth Street. Pedestrian areas around the expansion are entrances (see solid triangles in Figure 2) and sidewalks. These areas are identified on a site plan in Figure 2.

METEOROLOGICAL DATA

Long-term weather data recorded at the Boston-Logan International Airport were obtained and analysed to determine the local wind climate. For the purpose of this assessment as indicated in Figures 3a through 3c, the directionality of wind frequency is divided into the four seasons of the year and annually based on data collected over the period of 1973 through 2006.

Figures 3a through 3c presents the windroses, summarizing the seasonal and annual wind climates in the Boston area, based on the data from the Boston-Logan International Airport. The left-hand wind roses, in Figures 3a and 3b are based on all observed wind reading for the given season and the right-hand wind roses are based on strong winds for approximately one percent of the time. The upper wind roses in Figure 3a, for example summarize that spring (March, April and May) wind data. In general, the prevailing winds at this time of the year are from the west-northwest, northwest, west , southwest and east. In the case of strong winds, however, the most dominant wind are from the northeast, west and west-northwest directions.

When all winds are considered on an annual basis, the top wind rose in Figure 3c indicates that the dominant winds are those from the southwest through northwest directions. For strong winds as shown on the lower wind rose in Figure 3c, winds from the west-northwest, west, northeast and east-northeast are prevalent.

WIND COMFORT CRITERIA

The BRA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BRA wind design guidance criterion states that an effective gust velocity (hourly mean wind speed +1.5 times the root-mean-square wind speed) of 31 mph should not be exceeded more than one percent of the time. The second set of criteria used by the BRA to determine the acceptability of specific locations is based on the work of Melbourne[1]. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing, or walking. The criteria are expressed in terms of benchmarks for the 1-hour mean wind speed exceeded 1% of the time (i.e., the 99-percentile mean wind speed). They are as follows:

---

[1]Melbourne, W.H., 1978, "Criteria for Environmental Wind Conditions", Journal of Industrial Aerodynamics, 3 (1978) 241 - 249.

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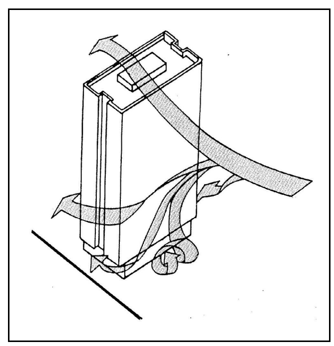
Table 1: BRA Mean Wind Criteria*

Dangerous Location	> 27 mph
Uncomfortable for Walking	>19 and ≤27 mph
Comfortable for Walking	>15 and ≤19 mph
Comfortable for Standing	>12 and ≤15 mph
Comfortable for Sitting	<12 mph
* Applicable to the hourly mean wind speed exceeded one percent of the time.	

The wind climate found in a typical downtown location in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares and meets the BRA effective gust velocity criterion of 31 mph. However, without any mitigation measures, this wind climate is likely to be frequently uncomfortable for more passive activities such as sitting.

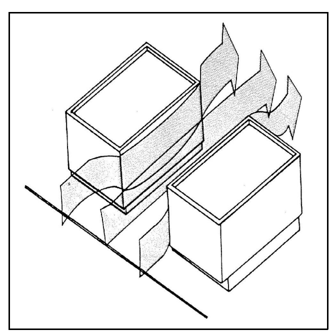
WIND COMFORT ASSESSMENT

The proposed expansion has incorporated a number of positive design features, such as curved geometry of the tower. The curved facade of the tower will promote horizontal wind flows and reduce downwashing flows (see inserted image) off the tower. In addition, any downwashing flows are retained at the roof level of the Neiman Marcus retail building. However, should the roof level of the Neiman Marcus expansion be considered for passive pedestrian activities such as sitting in the future, wind mitigation would be required. Several recessed upper level floors (Levels 98 ft, 322 ft, 433 ft, 565 ft above street level) on the tower and the provision of canopies over the terraces and entrance areas are good wind control features which should be retained in the design.



Downwashing

Sidewalks (Areas A_1, and A_2 in Figure 2) along Stuart Street are protected from the prevailing northwesterly and northeasterly wind directions by the existing surrounding buildings. These areas are also protected from southwesterly flows by the massing of the Neiman Marcus Building, but exposed to westerly flows channeling (see inserted image) along the street between the tall buildings. In general, wind conditions at these areas are predicted to be similar to the existing conditions at the study site. With the new expansion in place, wind conditions at these areas are predicted to be comfortable for walking or better in the fall and summer months, however, uncomfortable wind speeds are expected to occur on windy days during the spring and winter months.



Channelling

If lower wind speeds are desired along these sidewalks, wind control features should be investigated.

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Sidewalks and entrances along Dartmouth Street (Areas $A_{6,}$, A_7, and A_8) are sheltered from westerly and northwesterly winds by the massing of the existing Neiman Marcus Building and new expansion. These areas are also sheltered from northeasterly winds by the existing buildings east of the new development. Wind conditions at these locations are predicted to be comfortable for walking or better, and suitable for intended use all year round.

Increased wind speeds were predicted at the entrances near Area A_4 and surrounding sidewalk near A_3 and A_5. The windiness at these areas is likely due to strong westerly and northeasterly winds channeling between the proposed tower and the existing buildings. Wind tunnel testing should be conducted to quantify the wind conditions at these areas and, if necessary, develop appropriate mitigation strategies. Note that the canopy shown in the design drawings wrapping around the new development, over Area A_3, A_4 and A_5, is a positive wind control feature for reducing downwashing flows, however, it has little impact on horizontal wind flows.

SUMMARY

In summary, with the proposed development in place, wind conditions comfortable for walking to uncomfortable are expected at the sidewalks along Stuart Street. Wind conditions along Dartmouth Street are expected to be suitable for walking or better. Increased wind speeds may be experienced at the main entrance near Area A_4 and at surrounding sidewalk near Areas A_3 and A_5.

Positive wind control features such as the curved facade of the proposed tower, recessed upper floor levels, canopies and the podium areas underlying the tower incorporated in the design should be retained. Note that should pedestrian activities be considered for these podium areas, wind mitigation would be required.

The above wind comfort conditions are based on desktop analysis and review of the potential wind conditions on the proposed development. Wind tunnel testing of a physical scaled model should be conducted to quantify these wind conditions, and if necessary, develop mitigative measures.

We hope the above meets your requirement, should you have any questions, please contact us.

Best regards,

ROWAN WILLIAMS DAVIES & IRWIN Inc.

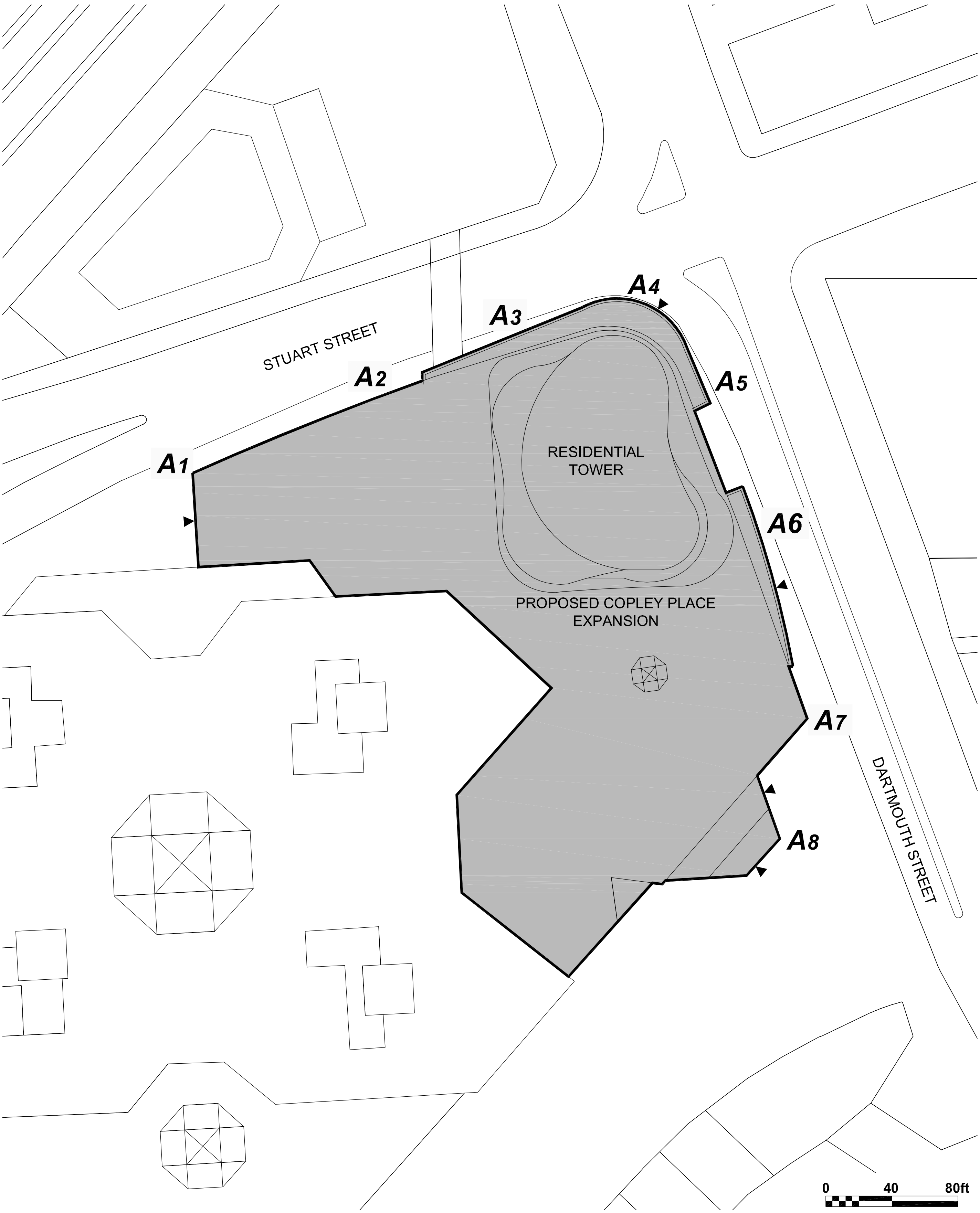
Anthony Akomah, M.E.Sc.
Technical Coordinator

Ryan Latchman, B.Eng.
Project Manager

Hanqing Wu, Ph.D., P.Eng.
Project Director

FIGURES

Aerial View of Study Site	Figure: 1	RWDI
Copley Place Expansion - Boston, Massachusetts — Project #08-1010	Date: August 21, 2007	



Site Plan

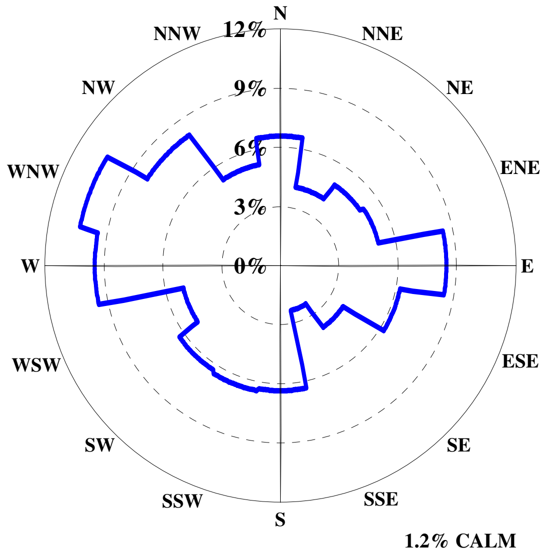
True North

Drawn by: AA	Figure: 2
Approx. Scale:	1"=80'
Date Revised:	Aug. 20, 2007

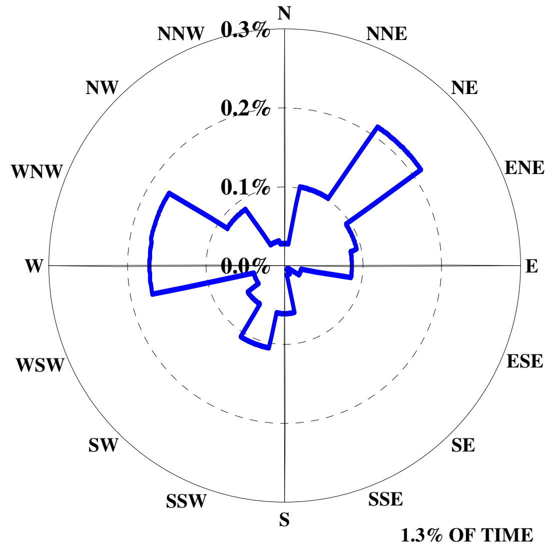
RWDI

Copley Place Expansion - Boston, Massachusetts

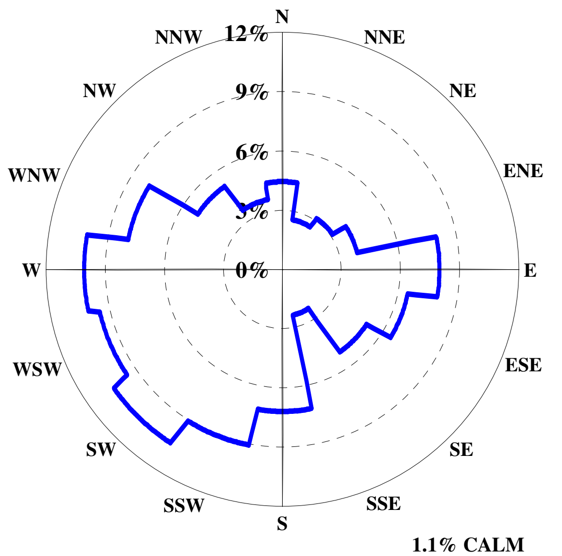
Project #08-1010



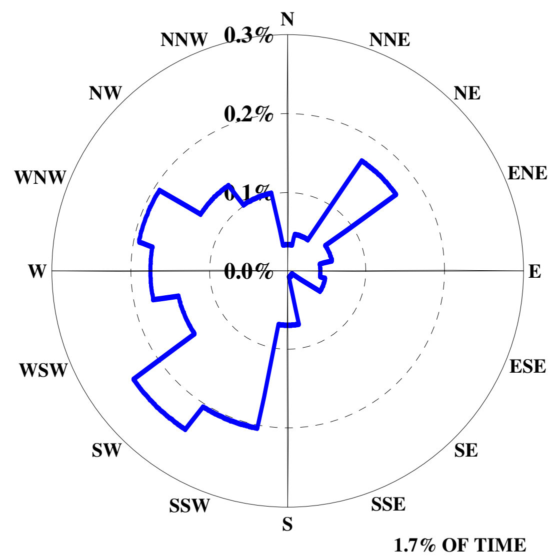
ALL SPRING WINDS



SPRING WINDS EXCEEDING 30 mph

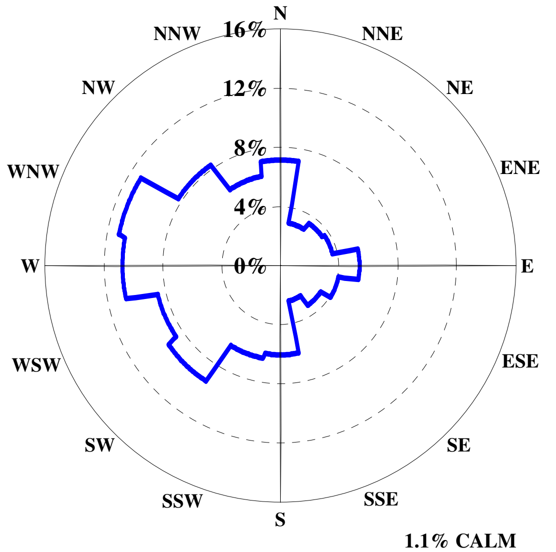


ALL SUMMER WINDS

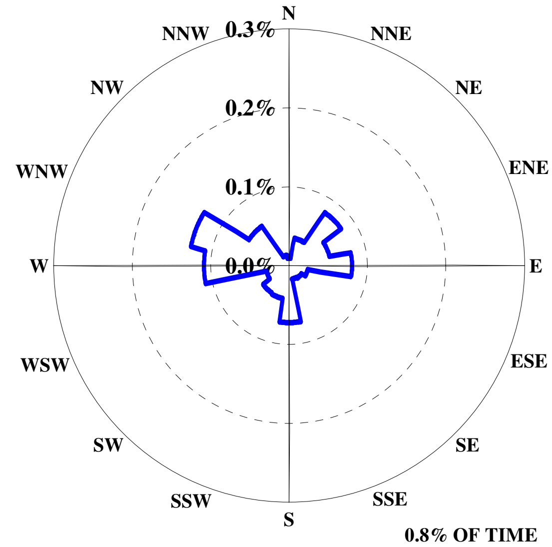


SUMMER WINDS EXCEEDING 25 mph

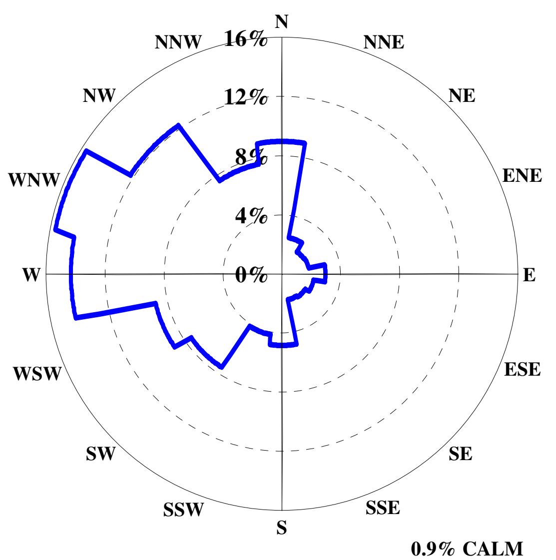
Directional Distribution (%) of Winds (Blowing From) **Station: Boston-Logan International Airport, MA (1973 - 2006)** Copley Place Expansion - Boston, Massachusetts Project #: 08-1010	Figure: **3a** Date: August 22, 2007	RWDI



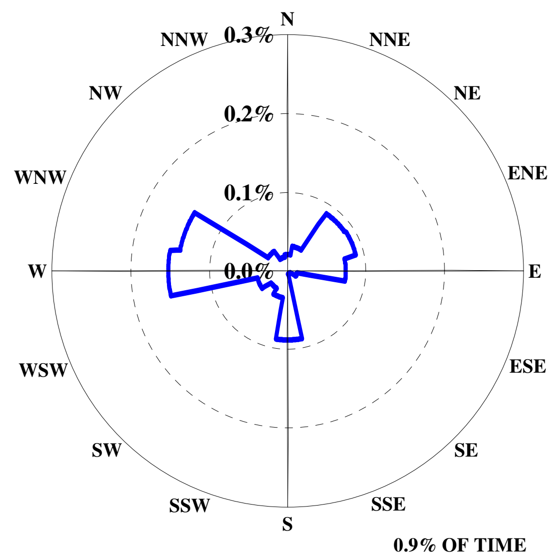
ALL FALL WINDS



FALL WINDS EXCEEDING 30 mph

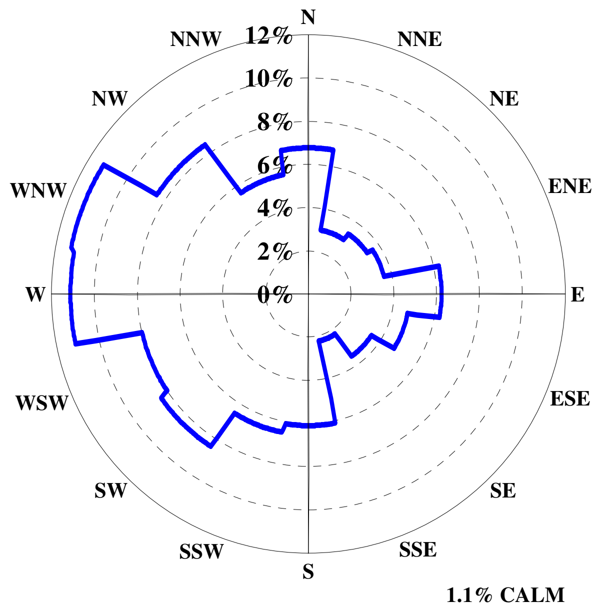


ALL WINTER WINDS

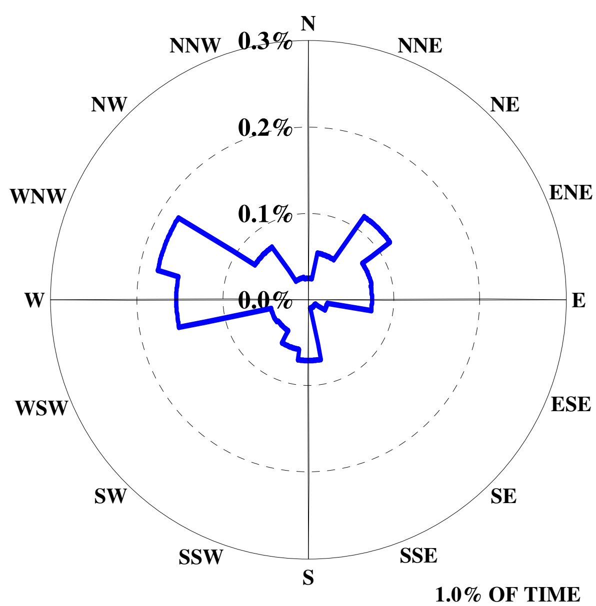


WINTER WINDS EXCEEDING 35 mph

Directional Distribution (%) of Winds (Blowing From) **Station: Boston-Logan International Airport, MA (1973 - 2006)** Copley Place Expansion - Boston, Massachusetts Project #: 08-1010	Figure: **3b** Date: August 22, 2007	RWDI



ALL ANNUAL WINDS



ANNUAL WINDS EXCEEDING 30 mph

Directional Distribution (%) of Winds (Blowing From) **Station: Boston_logan International Airport, MA (1973 - 2006)** Copley Place Expansion - Boston, Massachusetts Project #: 08-1010	Figure: **3c** Date: August 22, 2007	RWDI

Appendix E

Shadow Analysis

COPLEY PLACE

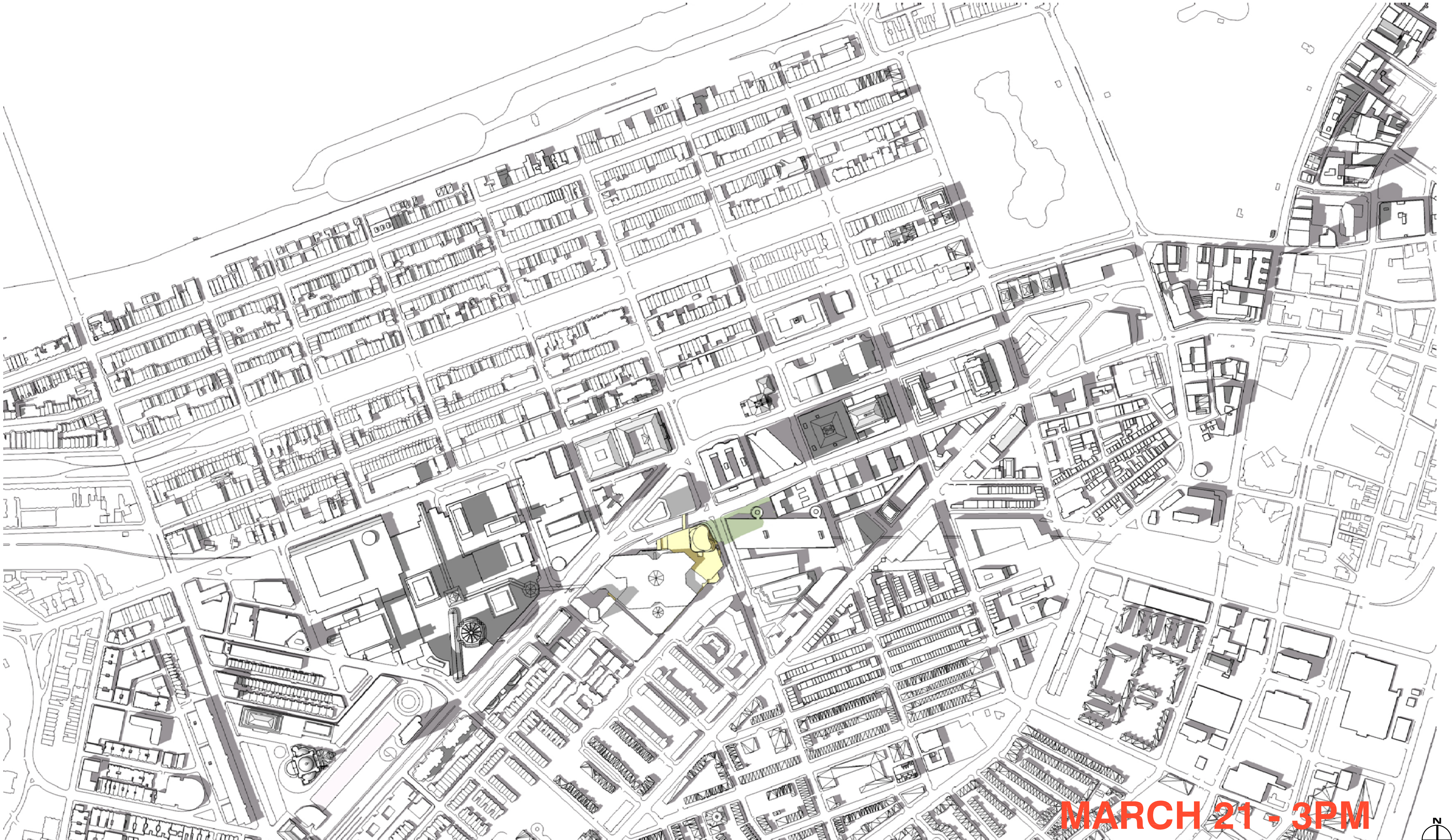
RETAIL EXPANSION AND RESIDENTIAL ADDITION

ELKUS | MANFREDI
ARCHITECTS

COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

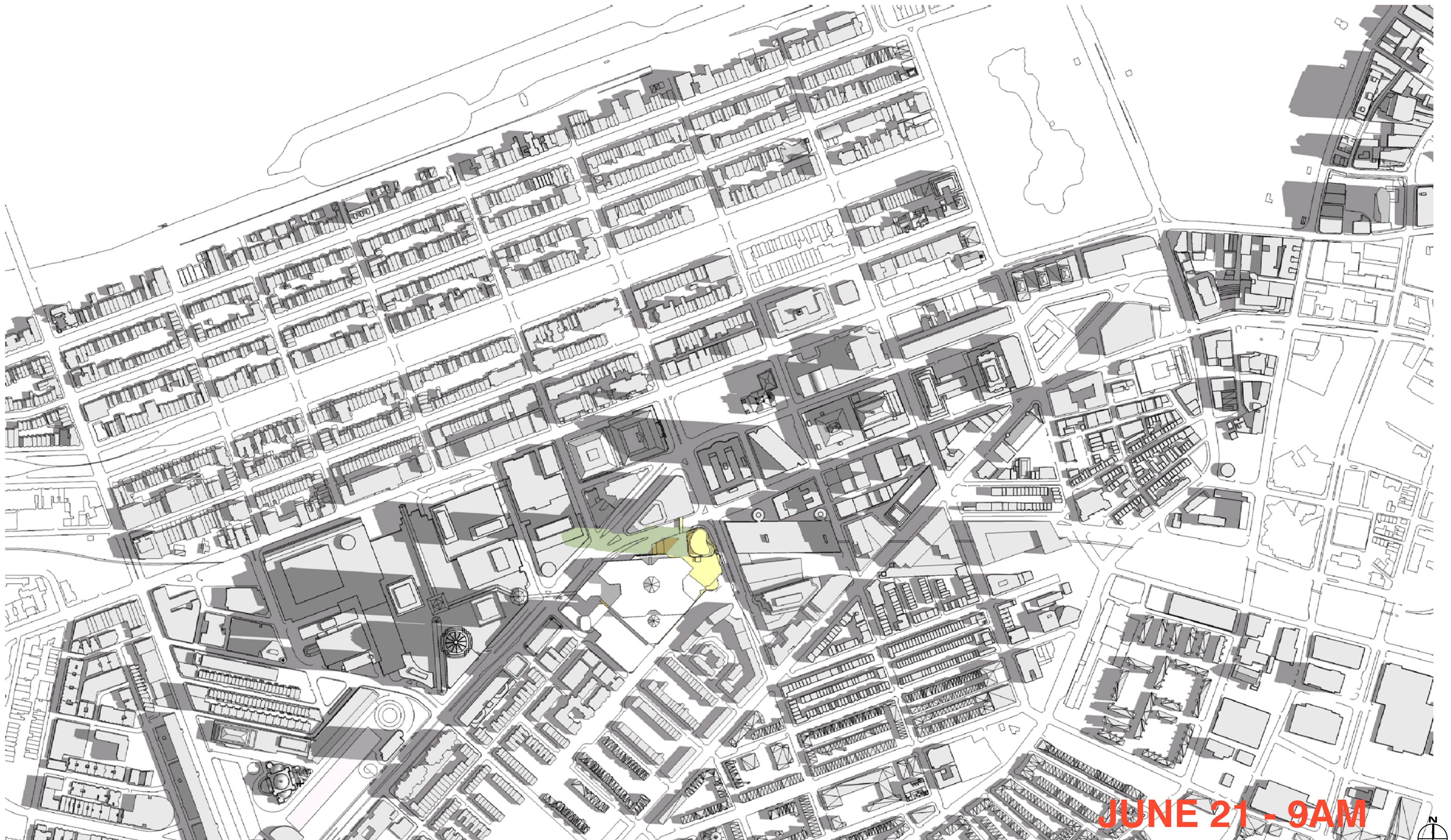
ELKUS | MANFREDI
ARCHITECTS



COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

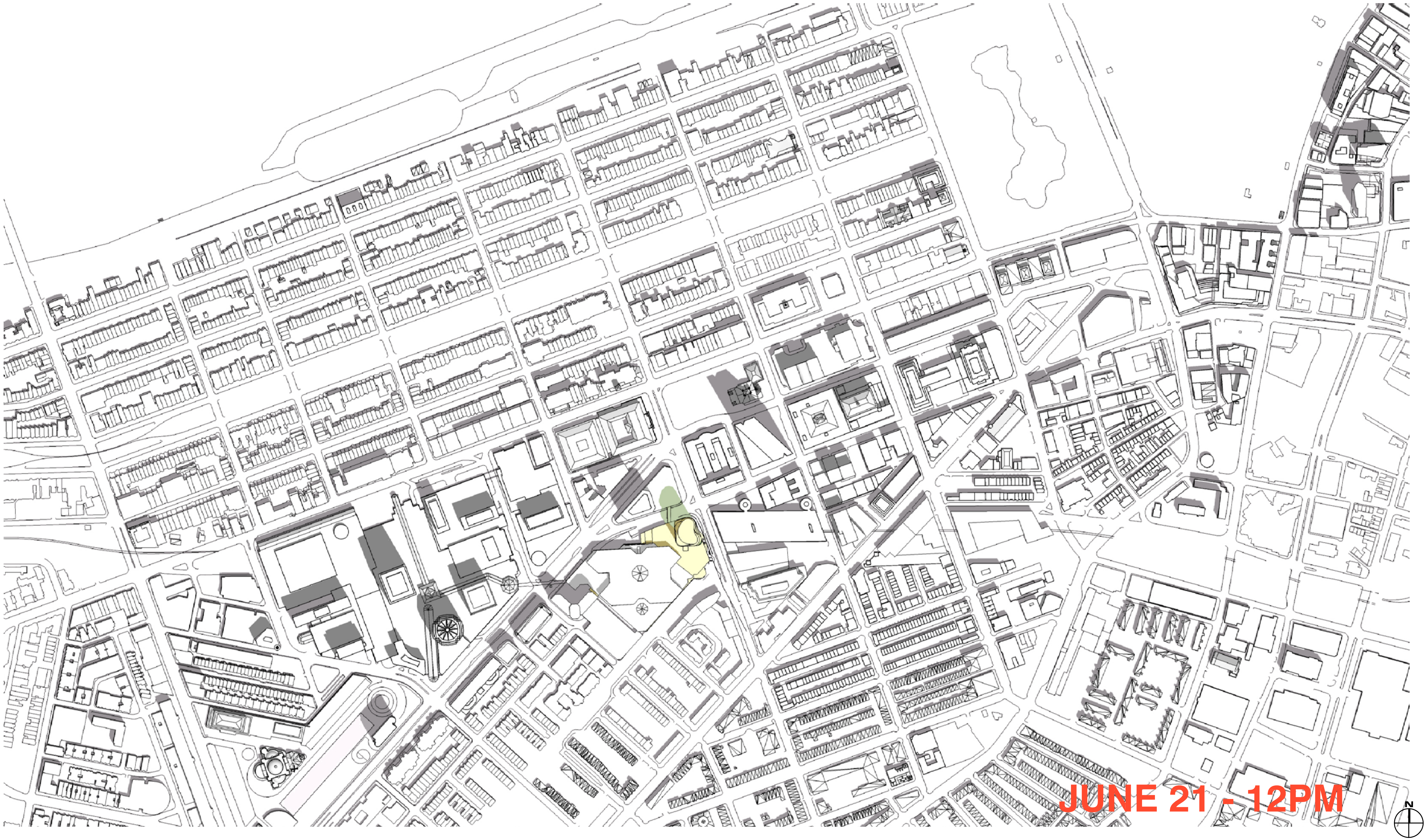
ELKUS | MANFREDI ARCHITECTS



COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

ELKUS | MANFREDI ARCHITECTS



COPLEY PLACE

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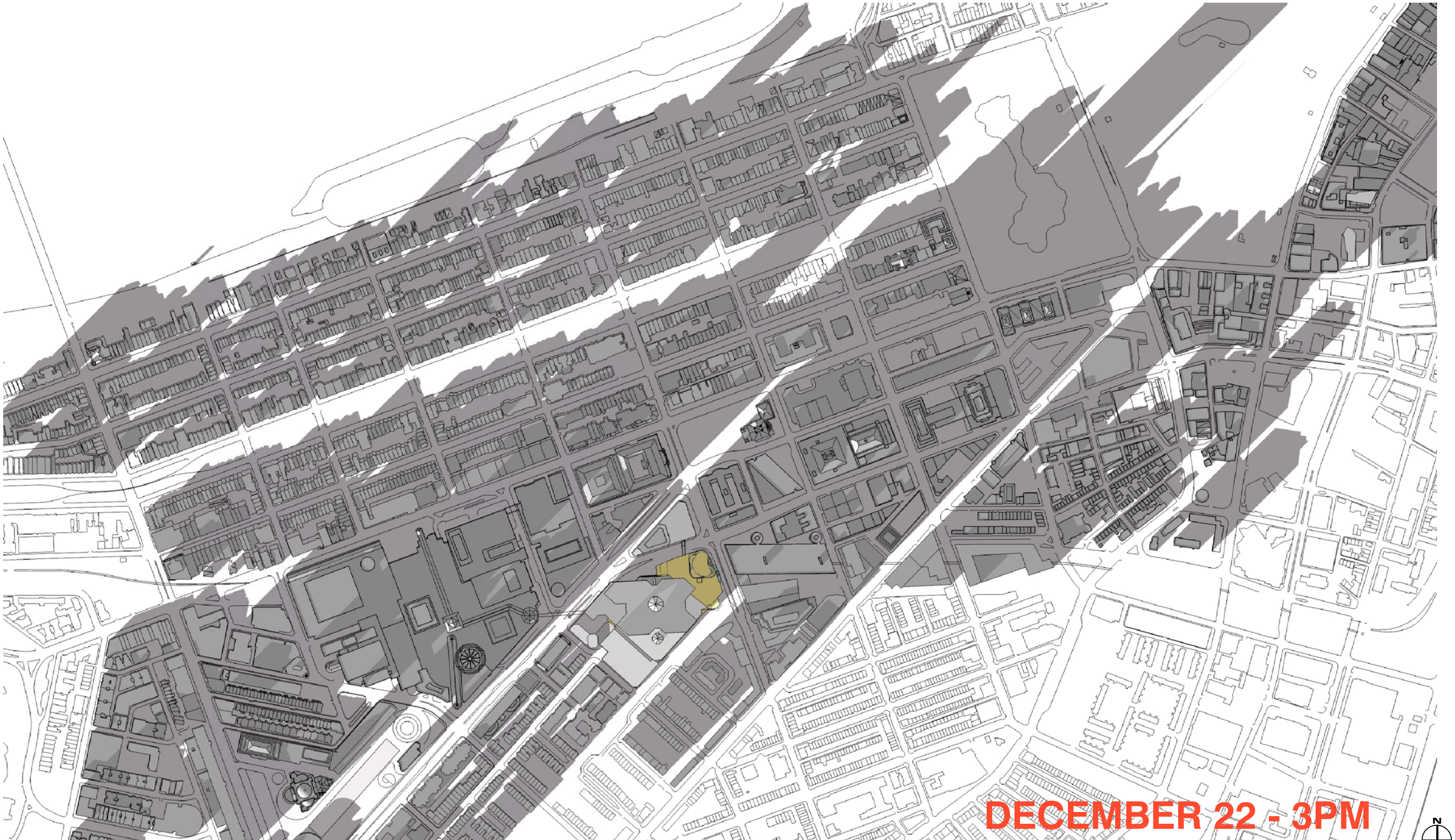

COPLEY PLACE

RETAIL EXPANSION AND RESIDENTIAL ADDITION

ELKUS | MANFREDI
ARCHITECTS

Appendix F

LEED Checklists

LEED for Core and Shell v2.0
Registered Project Checklist

Copley Place Retail Expansion
Boston - Massachusetts

Updated: May 2008

Yes	?	No			
8	3	4	**Sustainable Sites**		**15** Points
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required
1			Credit 1	**Site Selection**	1
1			Credit 2	**Development Density & Community Connectivity**	1
		1	Credit 3	**Brownfield Redevelopment**	1
1			Credit 4.1	**Alternative Transportation:** Public Transportation Access	1
	1		Credit 4.2	**Alternative Transportation:** Bicycle Storage & Changing Rooms	1
	1		Credit 4.3	**Alternative Transportation:** Low-Emitting and Fuel-Efficient Vehicles	1
1			Credit 4.4	**Alternative Transportation:** Parking Capacity	1
		1	Credit 5.1	**Site Development:** Protect of Restore Habitat	1
		1	Credit 5.2	**Site Development:** Maximize Open Space	1
1			Credit 6.1	**Stormwater Design:** Quantity Control	1
1			Credit 6.2	**Stormwater Design:** Quality Control	1
	1		Credit 7.1	**Heat Island Effect,** Non-Roof	1
1			Credit 7.2	**Heat Island Effect,** Roof	1
		1	Credit 8	**Light Pollution Reduction**	1
1			Credit 9	**Tenant Design & Construction Guidelines**	1

Yes	?	No			
2	2	1	**Water Efficiency**		**5** Points
1			Credit 1.1	**Water Efficient Landscaping:** Reduce by 50%	1
	1		Credit 1.2	**Water Efficient Landscaping:** No Potable Use or No Irrigation	1
		1	Credit 2	**Innovative Wastewater Technologies**	1
1			Credit 3.1	**Water Use Reduction:** 20% Reduction	1
	1		Credit 3.2	**Water Use Reduction:** 30% Reduction	1

Yes	?	No			
4	3	7	**Energy & Atmosphere**		**14** Points
Y			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required

***Note for EAc1:** All LEED for Core and Shell projects registered after June 26th, 2007 are required to achieve at least two (2) points under EAc1.

Yes	?	No				
2	1	5	Credit 1		**Optimize Energy Performance**	1 to 8
					10.5% New Buildings or 3.5% Existing Building Renovations	1
				2	14% New Buildings or 7% Existing Building Renovations	2
					17.5% New Buildings or 10.5% Existing Building Renovations	3
					21% New Buildings or 14% Existing Building Renovations	4
					24.5% New Buildings or 17.5% Existing Building Renovations	5
					28% New Buildings or 21% Existing Building Renovations	6
					31.5% New Buildings or 24.5% Existing Building Renovations	7
					35% New Buildings or 28% Existing Building Renovations	8
		1	Credit 2		**On-Site Renewable Energy**	1
1			Credit 3		**Enhanced Commissioning**	1
1			Credit 4		**Enhanced Refrigerant Management**	1
	1		Credit 5.1		**Measurement & Verification** - Base Building	1
		1	Credit 5.2		**Measurement & Verification** - Tenant Sub-metering	1
	1		Credit 6		**Green Power**	1

continued…

Yes	?	No			
5	3	3	**Materials & Resources**		**11** Points
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
1			Credit 1.1	**Building Reuse:** Maintain 25% of Existing Walls, Floors & Roof	1
		1	Credit 1.2	**Building Reuse:** Maintain 50% of Existing Walls, Floors & Roof	1
		1	Credit 1.3	**Building Reuse:** Maintain 75% of Interior Non-Structural Elements	1
1			Credit 2.1	**Construction Waste Management:** Divert 50% from Disposal	1
1			Credit 2.2	**Construction Waste Management:** Divert 75% from Disposal	1
		1	Credit 3	**Materials Reuse:** 1%	1
1			Credit 4.1	**Recycled Content:** 10% (post-consumer + ½ pre-consumer)	1
	1		Credit 4.2	**Recycled Content:** 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1	**Regional Materials:** 10% Extracted, Processed & Manufactured Regionally	1
	1		Credit 5.2	**Regional Materials:** 20% Extracted, Processed & Manufactured Regionally	1
	1		Credit 6	**Certified Wood**	1

Yes	?	No			
7	2	3	**Indoor Environmental Quality**		**11** Points
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
1			Credit 1	**Outdoor Air Delivery Monitoring**	1
	1		Credit 2	**Increased Ventilation**	1
1			Credit 3	**Construction IAQ Management Plan:** During Construction	1
1			Credit 4.1	**Low-Emitting Materials:** Adhesives & Sealants	1
1			Credit 4.2	**Low-Emitting Materials:** Paints & Coatings	1
1			Credit 4.3	**Low-Emitting Materials:** Carpet Systems	1
	1		Credit 4.4	**Low-Emitting Materials:** Composite Wood & Agrifiber Products	1
1			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
		1	Credit 6	**Controllability of Systems:** Thermal Comfort	1
1			Credit 7	**Thermal Comfort:** Design	1
		1	Credit 8.1	**Daylight & Views:** Daylight 75% of Spaces	1
		1	Credit 8.2	**Daylight & Views:** Views for 90% of Spaces	1

Yes	?	No			
5			**Innovation & Design Process**		**5** Points
1			Credit 1.1	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.2	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.3	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.4	**Innovation in Design**: Provide Specific Title	1
1			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No		
31	13	18	**Totals (pre-certification estimates)**	**61**

Certified: 23 to 27 points, **Silver:** 28 to 33 points, **Gold:** 34 to 44 points, **Platinum:** 45 to 61 points

LEED for New Construction v2.2
Registered Project Checklist

Updated: May 2008
Copley Place Residences
Boston - Massachusetts

Yes	?	No			
9	1	4		**Sustainable Sites**	**14** Points
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required
1			Credit 1	**Site Selection**	1
1			Credit 2	**Development Density & Community Connectivity**	1
		1	Credit 3	**Brownfield Redevelopment**	1
1			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
1			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
		1	Credit 4.3	**Alternative Transportation**, Low-Emitting & Fuel-Efficient Vehicles	1
1			Credit 4.4	**Alternative Transportation**, Parking Capacity	1
1			Credit 5.1	**Site Development,** Protect or Restore Habitat	1
		1	Credit 5.2	**Site Development,** Maximize Open Space	1
1			Credit 6.1	**Stormwater Design,** Quantity Control	1
1			Credit 6.2	**Stormwater Design,** Quality Control	1
	1		Credit 7.1	**Heat Island Effect,** Non-Roof	1
1			Credit 7.2	**Heat Island Effect,** Roof	1
		1	Credit 8	**Light Pollution Reduction**	1

Yes	?	No			
3	1	1		**Water Efficiency**	**5** Points
1			Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1
1			Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1
		1	Credit 2	**Innovative Wastewater Technologies**	1
1			Credit 3.1	**Water Use Reduction**, 20% Reduction	1
	1		Credit 3.2	**Water Use Reduction**, 30% Reduction	1

4	1	12		**Energy & Atmosphere**	**17** Points
Y			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required

***Note for EAc1**: All LEED for New Construction projects registered after June 26th, 2007 are required to achieve at least two (2) points under EAc1.

2		8	Credit 1	**Optimize Energy Performance**	1 to 10
				10.5% New Buildings or 3.5% Existing Building Renovations	1
			2	14% New Buildings or 7% Existing Building Renovations	2
				17.5% New Buildings or 10.5% Existing Building Renovations	3
				21% New Buildings or 14% Existing Building Renovations	4
				24.5% New Buildings or 17.5% Existing Building Renovations	5
				28% New Buildings or 21% Existing Building Renovations	6
				31.5% New Buildings or 24.5% Existing Building Renovations	7
				35% New Buildings or 28% Existing Building Renovations	8
				38.5% New Buildings or 31.5% Existing Building Renovations	9
				42% New Buildings or 35% Existing Building Renovations	10
		3	Credit 2	**On-Site Renewable Energy**	1 to 3
				2.5% Renewable Energy	1
				7.5% Renewable Energy	2
				12.5% Renewable Energy	3
1			Credit 3	**Enhanced Commissioning**	1
1			Credit 4	**Enhanced Refrigerant Management**	1
		1	Credit 5	**Measurement & Verification**	1
	1		Credit 6	**Green Power**	1

continued…

Yes	?	No			
3	4	6	**Materials & Resources**		**13** Points
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
		1	Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
		1	Credit 1.2	**Building Reuse**, Maintain 95% of Existing Walls, Floors & Roof	1
		1	Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1
1			Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1
1			Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1
		1	Credit 3.1	**Materials Reuse**, 5%	1
		1	Credit 3.2	**Materials Reuse**,10%	1
1			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
	1		Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
	1		Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regional	1
	1		Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regional	1
		1	Credit 6	**Rapidly Renewable Materials**	1
	1		Credit 7	**Certified Wood**	1
Yes	?	No			
12	1	2	**Indoor Environmental Quality**		**15** Points
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
1			Credit 1	**Outdoor Air Delivery Monitoring**	1
		1	Credit 2	**Increased Ventilation**	1
1			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
1			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
1			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
1			Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1
	1		Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
1			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
1			Credit 6.1	**Controllability of Systems**, Lighting	1
1			Credit 6.2	**Controllability of Systems**, Thermal Comfort	1
1			Credit 7.1	**Thermal Comfort**, Design	1
		1	Credit 7.2	**Thermal Comfort**, Verification	1
1			Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
1			Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1
Yes	?	No			
5			**Innovation & Design Process**		**5** Points
1			Credit 1.1	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.2	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.3	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.4	**Innovation in Design**: Provide Specific Title	1
1			Credit 2	**LEED® Accredited Professional**	1
Yes	?	No			
36	8	25	**Project Totals** **(pre-certification estimates)**		**69** Points

Certified: 26-32 points, **Silver:** 33-38 points, **Gold:** 39-51 points, **Platinum:** 52-69 points