Epsilon
ASSOCIATES INC.

April 21, 2011

Mr. John F. Palmieri, Director
Boston Redevelopment Authority
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Boston, MA 02201
Attn: Jay Rourke, Project Manager

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Subject: West Square – Proposed Changes to Emerald Court Project

Dear Director Palmieri:

On behalf of Lincoln SB LLC (the "Proponent"), an affiliate of Lincoln Property Company, Epsilon Associates, Inc. submits this Notice of Project Change (NPC) regarding the previously-proposed Emerald Court project located in South Boston to inform you of proposed changes to the project. Pursuant to Section 80A-6 of the Boston Zoning Code (the Code), the Proponent is required to inform the Boston Redevelopment Authority (BRA) of any material changes in the project. The Proponent is seeking the BRA's determination that the proposed changes do not significantly increase the impacts of the project and that, therefore, no further review is required under Article 80B of the Code relating to Large Project Review.

PROJECT PROPONENT

The Proponent is Lincoln SB LLC, a Delaware limited liability company and affiliate of Lincoln Property Company (Residential).

ORIGINAL PROJECT

On July 21, 2006, the prior property owner, SB Housing Enhancement LLC and MCL Companies of Chicago, Illinois filed a Project Notification Form (PNF) for Emerald Court, a proposed 242-unit residential condominium project, to be constructed on the block of C Street to D Street between West First Street and West Second Street (the "Property"). A Draft Project Impact Report (DPIR) describing a 245-unit condominium project with 318 parking spaces was filed on December 14, 2006, and on February 13, 2007 the BRA Board voted to authorize the issuance of a

Preliminary Adequacy Determination for the project, subject to continuing design review by the BRA, which waived the filing and review of a Final Project Impact Report, and found that the DPIR, together with additional materials and comments received by the BRA, adequately described the potential impacts arising from the project and provided sufficient mitigation measures to minimize the impacts.

The Emerald Court project (the Original Project) was not constructed, and the Property was foreclosed on by the lender to SB Housing Enhancement and MCL Companies. The current owner of the Property is 320 D Street, LLC (the "Owner").

The Owner has entered into a purchase and sale agreement to sell the Property to the Proponent, an affiliate of the Lincoln Property Company.

REVISED PROJECT

The Proponent proposes to construct West Square (the Revised Project), a project comprising approximately 259 rental residential units and 143 parking spaces, with an address of 320 D Street. Table 1 (below) compares the Original Project to the Revised Project.

Table 1 Comparison of Original and Revised Projects – Summary Table

Project Element	Original Project	Revised Project	Change
Residential Capacity			
Units	245	259	+14
Bedrooms	347	347	0
Parking Spaces	318	143	-175
Garage square footage	111,519	69,155	-42,364
Building Gross Square Feet	428,951	337,511	-91,440
Residential GSF	*292,637*	*267,100*	*-25,537*
Retail GSF	*3,672*	*0*	*-3,672*
Building Height (feet/stories)			
W First Street	69'/6 + mezz	46'4"/4	-23'2"/2
W Second Street	49'4"/4 + mezz	46'8"/4	-2'8"/0
Usable Open Space/Unit (sf)	29,931	28,567	-1,364
Floor Area Ratio	2.8	2.8	0

Table 2 provides an expanded comparison of the Original Project and the Revised Project as well as a breakdown of the types and sizes of residential units proposed in the Revised Project. Figures A-1 through A-16 in Appendix A are perspective drawings, elevations, plans, and sections of the proposed building and the streetscape.

Urban Design

The West Square project is designed to reinforce and enhance the existing urban fabric and to accentuate the public space while addressing the length of the block on West First Street and West Second Street. A strong urban edge is provided while a generous setback allows for an urban green buffer between the residential units and the public realm. The setback encourages wider sidewalks that will enhance the pedestrian experience around the entire block and will serve as an impetus for the design of adjacent blocks, thereby creating a comfortable and vibrant pedestrian network throughout the neighborhood.

The length of the block along West First and West Second streets is mitigated by anchoring the corners with distinctive buildings linked together by a series of bays and projections reminiscent of urban townhomes typology. The use of individual residential entrances on West Second Street addresses the scale and character of the street and enhances the pedestrian experience. There are residential units facing all streets, including West First Street, in anticipation of the planning of West First Street as a walkable mixed-use residential street. The parking structure is fully wrapped by the residential building with the exception of the entrance on West First Street. The façade of the garage provides the opportunity for a different architectural language that contributes to the proportioning of the long façade while deemphasizing the use.

Multiple entrances to the building are strategically located to encourage continuous activity around the block. The main lobby and the residential amenities are located on D Street to allow for a more public, transparent façade reminiscent of retail storefronts. In addition, and if future demand warrants, flexibility will be built in to transform the ground floor residential units on D Street to retail. Secondary entrances are located close to the corner of C Street and West Second Street for people coming from the Broadway Metro Station, and near the corner of West First Street and D Street to provide a pedestrian connection on that side of the block. The

lobbies are transparent in an attempt to give a glimpse into the interior courtyards from the sidewalk. The lobbies are recessed from the face of the building, allowing a deeper and wider open space at those locations.

The massing and architecture take their cues from the building layout strategy and provide a rhythm and articulation that breaks the long side of the block while emphasizing the corners at West First Street and D Street and at West Second and C Street. The scale of the building, although modest, is further alleviated by the use of three-story projections, particularly along West Second Street, that provides a continuous datum of approximately thirty-five feet above the sidewalks. The reduction in the height of the building projections helps integrate the building to the scale of the neighborhood while keeping a strong identity as the newcomer on the block.

Elevation schematics provided in Appendix A illustrate the Revised Project from the following views: D Street, West First Street, C Street, West Second Street.

Zoning Component

The Zoning Board of Appeal (ZBA) voted to grant zoning relief to the Original Project in its Decision dated July 24, 2007 and filed with the Inspectional Services Department (ISD) on September 12, 2007 (the "ZBA Decision"). The ZBA Decision granted the Original Project the following relief required under the Zoning Code: (i) Interim Planning Overlay District (IPOD) Permit; (ii) conditional use permit for off-street parking accessory to a retail use; (iii) conditional use permit for parking facilities in a Restricted Parking Overlay District; (iv) use variance for multi-family residential use (forbidden); and (v) dimensional variances for excessive maximum Floor Area Ratio (FAR), excessive building heights, insufficient usable open space, insufficient front yard setbacks, insufficient rear yard setbacks, and insufficient traffic visibility across corner (collectively, the foregoing relief is hereinafter described as the "Zoning Relief").

The proposed changes result in a net reduction of zoning relief required to develop the Revised Project. Although the residential unit count is increasing, and the increase in residential units requires a concomitant increase in the minimum required usable open space from a total of 12,250 square feet under the DPIR to a

West Square
Lincoln Property
4/14/2011

	Studios								1 Bedroom				2 Bedroom														
Unit Types	**E01**	**E02**	**E03**	**E04**	**E04A W/ BAY**	**E05**	**E06**	**E07**	**A01**	**A01A W/ BAY**	**A01B W/ BAY**	**A02**	**B01**	**B01A W/ BAY**	**B02**	**B02A W/ BAY**	**B02B W/ BAY**	**BO2C AT COURTYARD**	**B03**	**B04**	**B05**	**B05a**		**TOTAL**	**RENTABLE SF**	**GROSS SF**	**EFF.**	**GROSS MECHANICAL, STORAGE ATCOMMON AREAS**	**GROSS UNIT MECHANICAL & WASHER/DRYER AREAS**
Unit s.f.	616	594	576	633	681	600	571	549	720	768	747	742	1033	1173	1080	1137	1170	1095	993	1233	1141	1262							
1	2	6	1	2	2	1	0	1	9	7	2	6	2	2	3	5	1	1	0	2	0	0		55	45,019	67,559	67%	4,608	1,760
2	2	7	4	2	2	2	1	0	7	7	2	8	0	0	6	7	2	1	1	3	2	2		68	57,311	66,893	86%	844	2,176
3	2	7	4	2	2	2	1	0	7	7	2	8	0	0	6	7	2	1	1	3	2	2		68	57,311	66,893	86%	844	2,176
4	2	7	4	4	0	2	1	0	16	0	0	8	0	0	15	0	0	1	1	3	2	2		68	56,246	65,755	86%	844	2,176
Total	8	27	13	10	6	7	3	1	39	21	6	30	2	2	30	19	5	4	3	11	6	6		**259**	**215,887**	**267,100**	81%	**7,140**	**8,288**
%	**3%**	**10%**	**5%**	**4%**	**2%**	**3%**	**1%**	**0%**	**15%**	**8%**	**2%**	**12%**	**1%**	**1%**	**12%**	**7%**	**2%**	**2%**	**1%**	**4%**	**2%**	**2%**		**100%**					
Total perType	75								96				88											259					
% per Type	29%								37%				34%											**100%**					
Rentable S.f.																													
Average unit size	**604**								**739**				**1,132**											**834**					

Buidling Information	Emerald Court	West Square
Total Building G.S.F.	**428,951**	**337,511**
Total Garage S.F.	111,519	69,155
Ground garage S. F.	67,529	13,831
Below Grade Garage S.F.	43,990	0
Above Grade Garage S.F. inc. roof	0	55,324
Total Loading Dock S.F.	13,742	1,256
Total Retail G.S.F.	3,672	Optional 3,745 with 4 units removed at ground floor
Total Residential G.S.F.	**292,637**	**267,100**
Total Unit G.S.F.	245,382	215,887
Total Common G.S.F.	44,826	45,501
Total Common Net S.F.		38,361
Total Amenity G.S.F.	2,429	5,712
Total Terrace G.S.F.	7,381	0
Total Unit Net S.F.*	244,974	207,599
Usable Open Space	29,931	28,567
Total Garage Parking spaces	**318**	**143**
Ground floor Parking	210	31
Below Grade Parking	108	0
Above Grade Parking	0	112
Site area	110,251	110,251
GFA (not including ground floor garage)	310,051	306,996

Legend	
S.F.	Square Feet
Unit Net S.F.	All areas of a unit that are heated or cooled
Unit G.S.F.	All areas of a unit including balconies, patios and decks
Building G.S.F.	All areas of the building including Unit net plus common and amenity area
GFA	Excludes ground floor garage, mechanical and storage at common areas and Laundry and Mechanical at unit areas
*	Does not include balconies, patios or decks in the calculation for West Square

		Emerald Court	West Square	
Building Height		Ft/stories	FT**/Stories	Grade
W First Street		69/6 + mezz	46'-4"/ 4	17.1
W Second Street		49'4"/4+ mezz	46'-8"/4	19.4

**based on bldg HT=44'5"

total of 12,950 square feet, the Revised Project proposes a reduction in total building gross floor area (see Table 1). Because the Revised Project will provide approximately 28,567 square feet of open space, the variance from the Zoning Code's usable open space requirements is no longer required. In addition, because the Revised Project does not involve retail uses (while the Original Project did), the conditional use permit for off-street parking accessory to a retail use is also no longer necessary. The Revised Project also proposes a general decrease in building heights, and the FAR remains unchanged from the Original Project at 2.8, which is the amount permitted under the Zoning Decision. All other granted Zoning Relief needed remains the same.

As noted above, the ZBA Decision was filed with ISD on September 12, 2007, and the statutory appeals period expired on October 2, 2007. Pursuant to the Zoning Code, zoning relief granted by the ZBA will lapse after two years unless adequate use has been made of the relief within that time. As such, the Zoning Relief would have lapsed on October 2, 2009. Section 173 of the "Act Relative to Economic Development Reorganization," Senate No. 2582 (the "Act") automatically extends many categories of permits or approvals, such as the Zoning Relief, that were either granted or were "in effect or existence" during the period beginning August 15, 2008 through August 15, 2010. The Act extends such approvals for two years beyond their otherwise applicable expiration date. Based on the foregoing, the Zoning Relief granted through the ZBA Decision was "in effect or existence" during the period of August 15, 2008 through August 15, 2010. Accordingly, the Act applies to the ZBA Decision, the Zoning Relief granted under such ZBA Decision is extended through October 2, 2011, and the Zoning Relief applies to the Revised Project.

Public Benefits

The Revised Project will provide numerous benefits to the surrounding neighborhood and the City of Boston. Some of these benefits are described below:

- Providing approximately 259 housing units, consistent with the Mayor's initiative to create more housing in Boston, including, in this case, housing for young professionals proximate to the Innovation District;
- Providing on-site affordable housing, complying with the Mayor's Executive Order on affordable housing;

- Replacing an unattractive industrial site with a new, appealing residential building and parking facility, providing functional and aesthetic improvements to the neighborhood;
- Providing new lighting, landscaping, and walkways, improving the pedestrian environment within the St. Vincent's neighborhood;
- Bringing doorways to the street, reinforcing security on public ways;
- Creating approximately 10 permanent and 200 construction jobs, providing economic benefits; and
- Developing the property will provide significant property tax revenues for the City of Boston: the property's fiscal year 2011 net tax (as of December 30, 2010) of $30,034.64; after full occupancy, based on the current residential tax rate in the City of Boston ($12.79 per thousand), the Revised Project may provide up to $675,000 in annual property taxes.

Comparison of Project Impacts

The reductions in building height and gross square footage proposed for the Revised Project will produce corresponding reductions in areas of potential environmental impact such as wind, shadow, and daylight. In addition, since the number of proposed bedrooms remains unchanged with the Revised Project, and no retail space is currently proposed, the estimates for wastewater generation and water consumption are slightly reduced from the Original Project; note, however, that ground floor space has been designed to be adapted to retail use if demand so dictates.

Due to the small increase in the number of residential units, minor increases in traffic are predicted using the Boston Transportation Department's approved mode shares; however, modified mode shares based on the actual proposed Project program result in fewer adjusted vehicle trips compared to the Original Project. Transportation and infrastructure considerations are discussed in greater detail below.

Transportation Impacts

Appendix B to this NPC documents transportation issues related to the changed program for the Revised Project, including trip generation, vehicular access, pedestrian access and bicycle accommodations, parking, loading and service, and travel demand management (TDM). It also addresses the Transportation Access Plan Agreement (TAPA), the Construction Management Plan (CMP) and potential Public Improvements Commission (PIC) action. The Revised Project's implications for each of these items are summarized below.

Trip Generation: The Revised Project is expected to result in fewer daily vehicle trips and a greater number of transit and pedestrian/bicycle trips as compared to the Original Project. This expected reduction in vehicle trips is attributed to the revised building program, which calls for modification of the standard mode shares used by the Boston Transportation Department (BTD). As explained in greater detail in Appendix B, the standard BTD mode shares for the Project area estimate daily auto trips at 53% of daily person trips. For the Revised Project, however, lower auto use coupled with higher transit, walk, and bike use are expected for several reasons, including:

- The Project is now a rental building, as opposed to condominiums;
- The Revised Project is more heavily weighted toward smaller units such as studios and one-bedroom apartments, and rental residents will be less likely to own automobiles;
- The parking ratio has been reduced from 1.3 spaces per unit (a generous parking ratio) in the Original Project to 0.6 spaces per unit (a constrained parking ratio); and
- West Square, the Revised Project, will be specifically designed, marketed, and leased as a Transit-Oriented development

For these reasons, alternative mode share factors were developed by Howard/Stein-Hudson for the Revised Project which modified the BTD-recommended 53% daily auto share to a 34% auto share. Table 3 (below, and in Appendix B as Table B.3) presents the vehicle trips for the approved Original Project and for the Revised Project, using both the BTD-recommended and the expected mode shares.

Table 3 Adjusted vehicle trip generation comparison.

Period/ Direction	Original Project (Emerald Court)	Revised Project (West Square) with BTD Area 8 Mode Shares	Revised Project with Expected Mode Shares	Change BTD Mode Shares	Change Expected West Square Mode Shares
	A	B	C	D – B minus A	E – C minus A
Daily					
In	435	490	314	55	(121)
Out	435	490	314	55	(121)
Total	870	980	628	110	(242)
a.m. peak					
In	16	14	10	(2)	(6)
Out	46	50	39	4	(7)
Total	62	64	49	2	(13)
p.m. peak					
In	43	50	39	7	(4)
Out	27	30	21	3	(6)
Total	70	80	60	10	(10)

As shown in Column D of Table 3, using the BTD mode shares shows the Revised Project resulting in up to 110 additional daily vehicle trips as compared to the Original Project; peak hour trips would be very similar. Using the expected mode shares as modified to reflect actual Revised Project elements, however, shows a reduction in net daily vehicle trips by 242; peak hour trips would again remain about the same.

Vehicular Access and Circulation: As shown on the Site Plan provided as Figure B-1 in Appendix B, vehicular access to and from the Project remains on West First Street, which is unchanged from the Original Project.

Pedestrian Access and Bicycle Accommodations: Pedestrian entrances to the Project's residential lobbies will be provided along West First Street, D Street, West Second Street, and C Street. Secure bicycle storage will be made available to residents and visitors. Per BTD Guidelines, the Project will provide secure bicycle storage for a minimum of 86 bicycles (1 for every 3 units), and bike racks will be placed at pedestrian entrances to accommodate visitors or messengers. The Proponent will work with BTD to identify the best solution for bicycle accommodations as part of the TAPA process.

Parking: The Revised Project will provide up to 143 parking spaces for the 259 proposed residential apartment units, which corresponds to a ratio of approximately 0.6 spaces per unit. This proposed parking supply is slightly lower than BTD-recommended maximum guidelines for residential parking in the Project area (i.e., 0.75 to 1.25 spaces per unit) because of the types of units and the site's proximity to public transportation. The proposed parking ratio is slightly higher than the average parking ratio per occupied unit demonstrated at other similar residential apartment developments and is generally consistent with the demand at the nearby 50 West Broadway residential development. As described in Appendix B, the Proponent would also like to work with BTD and the community to reexamine on-street parking on the blocks abutting the site as a way of providing additional parking for South Boston neighborhood residents.

Loading and Service Access: The site plan for the Revised Project provides two off-street loading areas with 12 to 15 feet of clearance that will be accessed from West First Street on either side of the garage driveway. Trash will be handled through four trash chutes and compactors located at various points in the building. On trash day, the trash from each location will be brought to the loading dock for off-street pickup. Since the Revised Project is residential, there are no longer any retail loading requirements and these locations should be sufficient to accommodate all needs. Building management will encourage all loading and service activities to occur during off-peak times of traffic. Permanent "No Idling" signs will post five-minute idling law restrictions at loading areas.

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 program elements, described in greater detail in Appendix B, will be codified in the TAPA and include those listed below:

- Transit information including schedules, maps, and fare information will be available on-site;
- A Tenant and Resident Orientation Packet will provide new tenants with information about the many TDM programs available in the area;
- The developer will charge market rates for parking spaces;

- The Project's website will include public transit information for residents and visitors;
- 86 bicycle storage spaces and on-street bike racks will encourage bicycle transit;
- The Proponent will design the garage to allow for electric vehicle charging stations if, or when, demand warrants them;
- The Proponent will consult with Zipcar or a similar car-sharing service to determine the feasibility of establishing a shared car space within the on-site garage.

Transportation Access Plan Agreement: The Proponent will enter into a TAPA with the City through its agent, the BTD. The TAPA will codify the specific measures, mitigations, and agreements between the Proponent and the BTD. A site plan will be submitted along with the TAPA.

Construction Management Plan: A CMP will be filed with BTD in accordance with the City's transportation maintenance plan requirements. To minimize construction-related transportation impacts, the following measures will be incorporated into the CMP:

- On-site construction worker parking will be limited and carpooling will be encouraged;
- A subsidy for MBTA passes will be considered for full-time employees; and
- Secure spaces will be provided on-site for workers' supplies and tools.

In addition, the Project's location, with its convenient access to the South Boston Haul Road, will minimize construction traffic impacts.

Public Improvement Commission: Certain streetscape improvements may require PIC review and approval. The Proponent will work with the City and conform to City regulations and guidelines as well as other infrastructure improvements ongoing in the area.

Infrastructure

Proposed connections to Boston Water and Sewer Commission's (BWSC's) water, sewer, and storm drain systems will be designed in conformance with BWSC's design standards, Sewer Use and Water Distribution System Regulations, and Requirements for Site Plans. The Proponent will submit a General Service Application and receive Site Plan approval prior to construction. The Revised Project's water consumption and wastewater generation are summarized below and are discussed in greater detail in Appendix C.

Wastewater Generation: As proposed for the Original Project, sanitary sewage discharge from the Revised Project will be connected to the combined sewer mains in West First Street or D Street, or to the sanitary sewer main in West Second Street via new lateral service connections. New service connections will conform to the BWSC standards and requirements. The sanitary sewer will collect all wastewater flows from the Project's residential units as well as the enclosed parking garage located below the first floor of the building. The flow from the garage will pass through oil traps prior to being discharged into the BWSC's sewer system. Since the Revised Project contains the same number of proposed bedrooms as the Original Project but does not propose any retail space, the estimated wastewater generation for the Revised Project is slightly lower than for the Original Project (see Appendix C). As demonstrated by the sanitary sewer system capacity analysis in Appendix C, no capacity problems are expected as a result of the Project.

Water: Domestic water service will be provided from a connection or connections from any of the adjacent mains in the streets. Exact connection details will be coordinated with the BWSC, and will be in conformance with BWSC standards. As the estimated daily water consumption is a factor of the estimated wastewater generation, the estimated water consumption for the Revised Project is slightly lower than for the Original Project (see Appendix C).

Sustainable Design

The Revised Project is consistent with design objectives of sustainability and efficiency. West Square will be more sustainable than Emerald Court would have been. It will have to meet the requirements of the Stretch Code, so it will have to be at least 20 percent more energy efficient than a building built to meet the current Building Code, and still more efficient than Emerald Court would have been, as it

would have been subject to the Code in effect in 2007. Appendix D provides an expanded discussion of sustainable design and the Proponent's commitment to develop a project certifiable under the Leadership in Energy and Environmental Design program.

Conclusion

Based on the foregoing, Lincoln SB LLC respectfully requests that you determine pursuant to Section 80A-6 that the changes outlined in this NPC do not significantly increase environmental impacts in comparison to the Original Project, and that no further review under Article 80B of the Zoning Code relating to Large Project Review is required.

Sincerely,
EPSILON ASSOCIATES, INC.

Laura E. Rome
Principal

Appendix A

Figures

West Square **Boston, Massachusetts**

SK&I
Architectural Design Group

Figure A-1
D street and W First street view

West Square Boston, Massachusetts

SK&I
Architectural Design Group

Figure A-2
W First street view

SK&I
Architectural Design Group

Figure A-3
D street and W Second street view

SK&I Architectural Design Group

Figure A-4
W Second street view

SK&I
Architectural Design Group

Figure A-5
C street and W Second street view

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Architectural Design Group

Figure A-6
D street elevation

West Square **Boston, Massachusetts**

SK&I
Architectural Design Group

Figure A-7
West First elevation partial

West Square **Boston, Massachusetts**

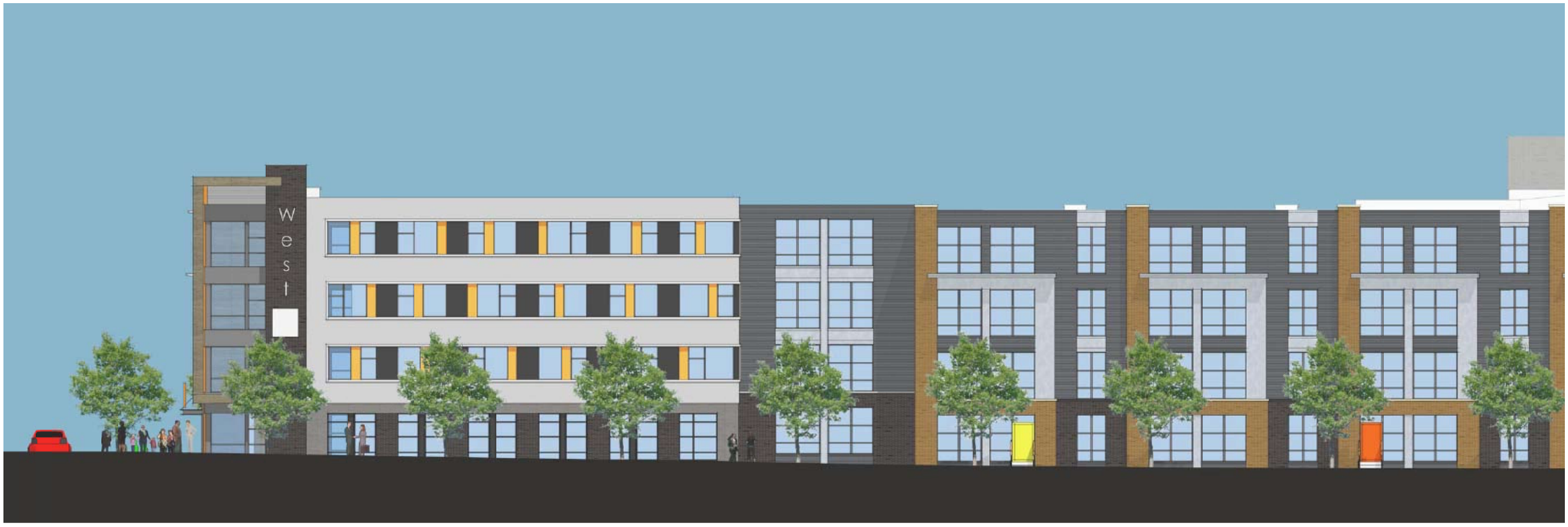
SK&I
Architectural Design Group

Figure A-8
West First elevation partial

West Square **Boston, Massachusetts**

SK&I
Architectural Design Group

Figure A-9
C street elevation



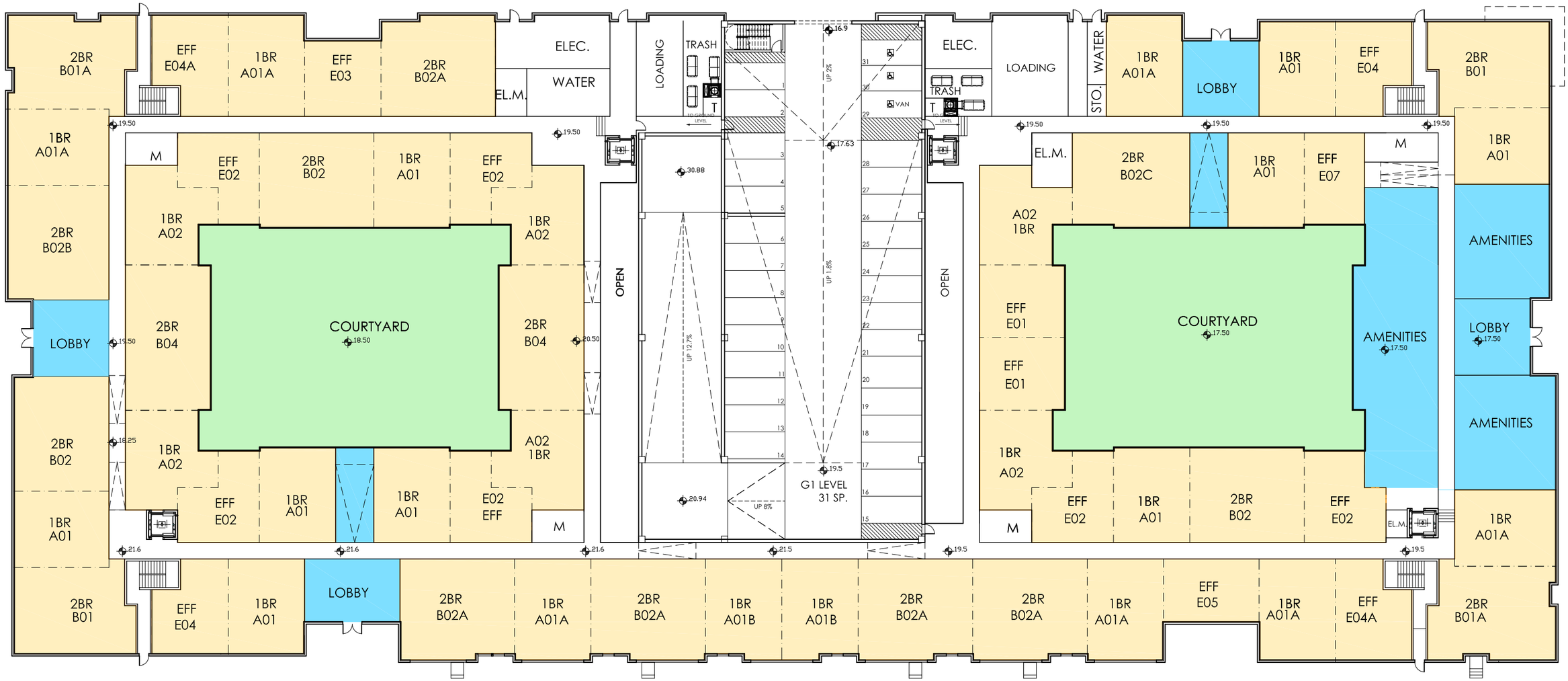
SK&I Architectural Design Group

Figure A-10
West Second elevation partial

West Square **Boston, Massachusetts**

SK&I Architectural Design Group

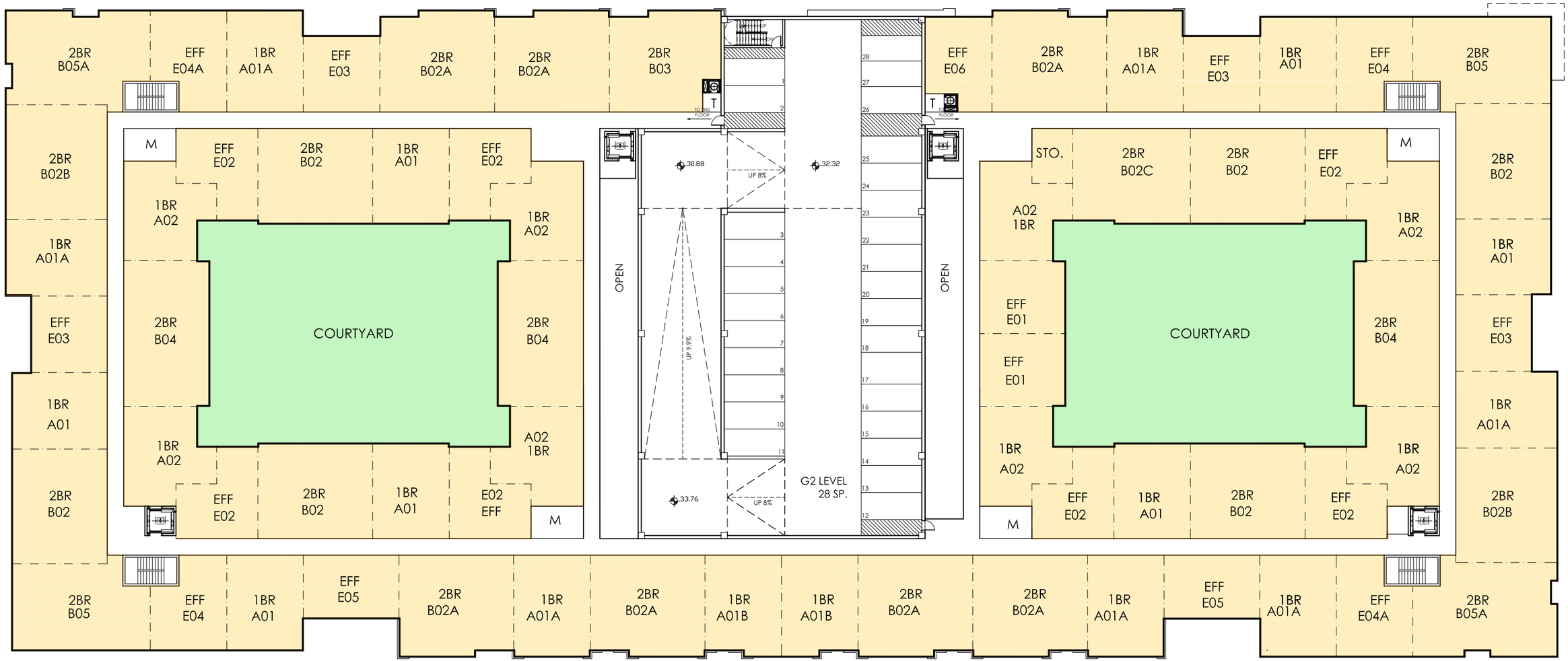
Figure A-11
West Second elevation partial



West Square **Boston, Massachusetts**

SK&I Architectural Design Group

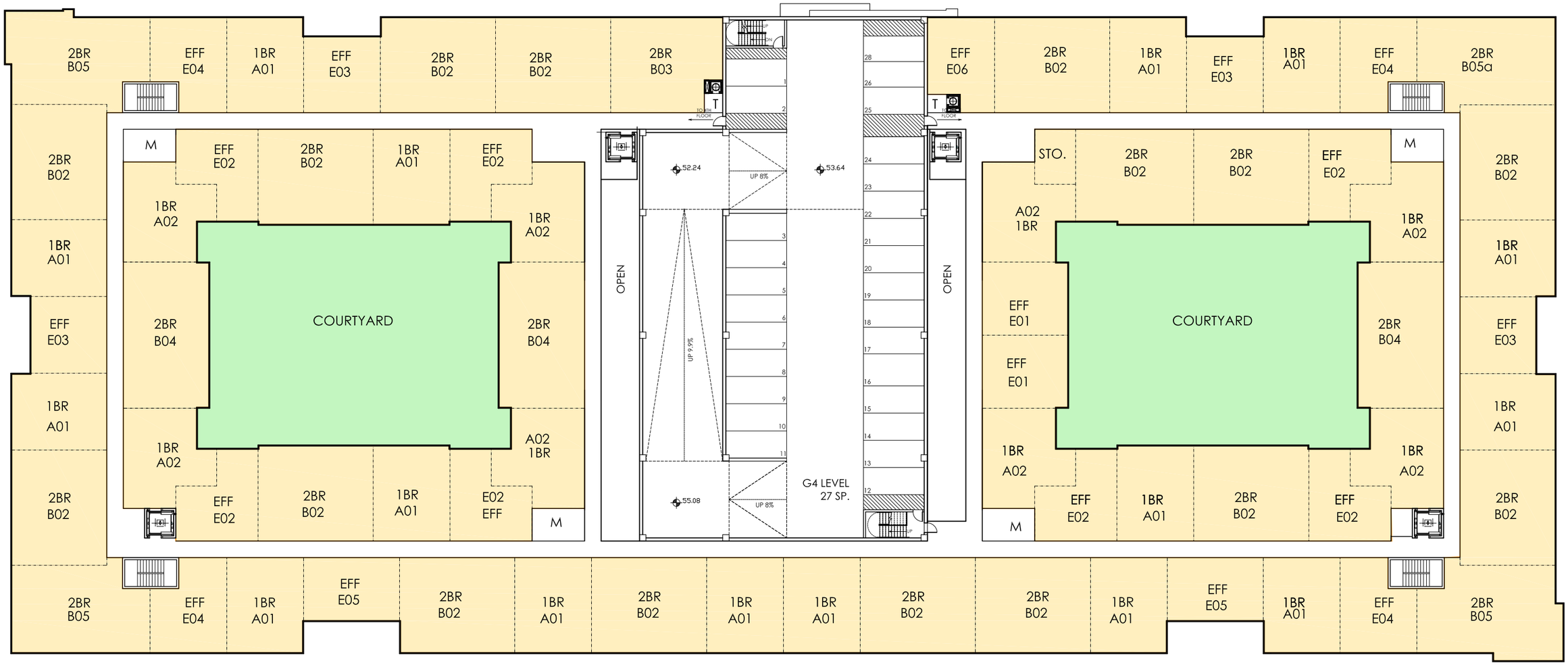
Figure A-12
First Floor Plan



West Square **Boston, Massachusetts**

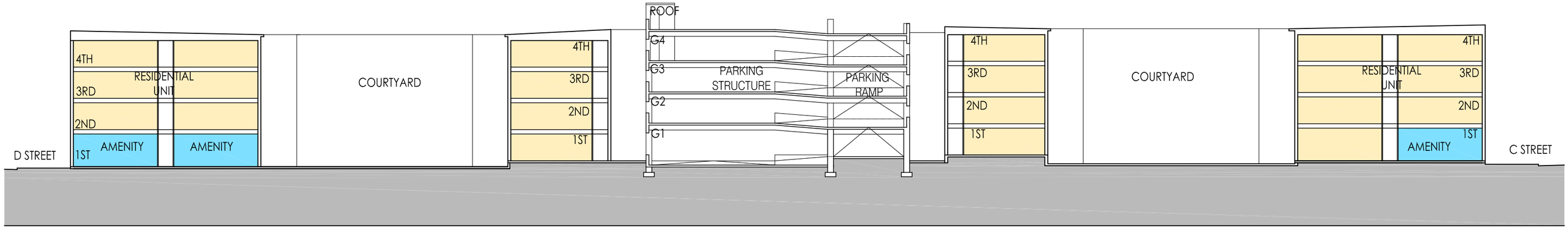
SK&I Architectural Design Group

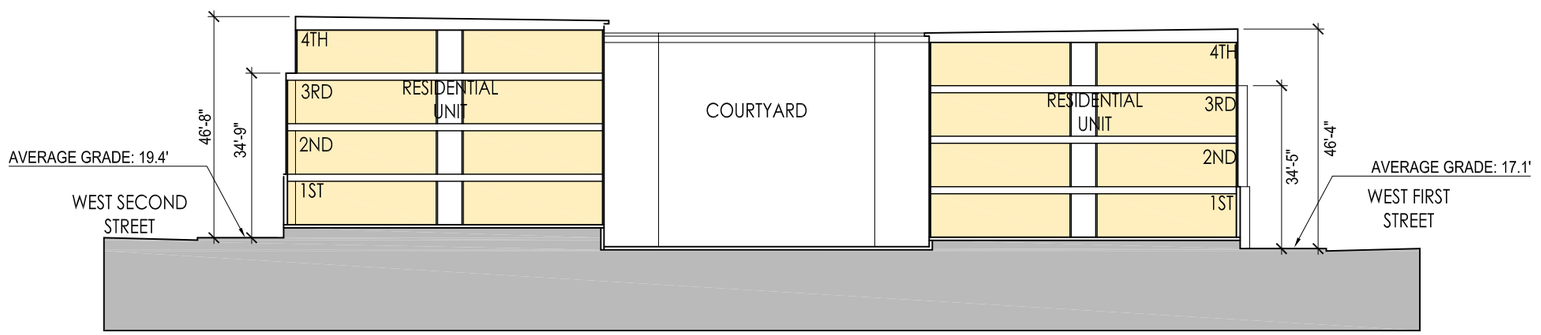
Figure A-13
Typical Floor Plan
2nd & 3rd Floors

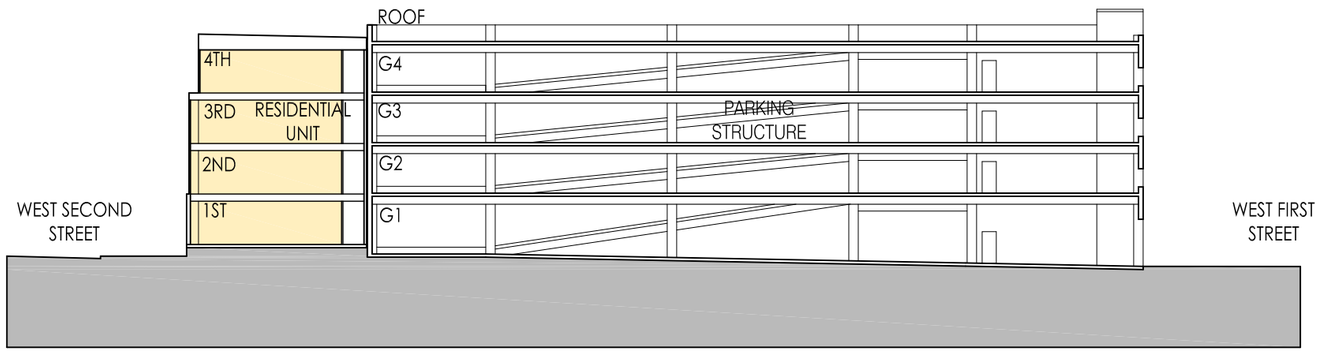


SK&I
Architectural Design Group

Figure A-14
Fourth Floor Plan


ROOF
G4
G3
G2
G1
PARKING STRUCTURE
PARKING RAMP
4TH
3RD
2ND
1ST
RESIDENTIAL UNIT
AMENITY
AMENITY
COURTYARD
COURTYARD
D STREET
C STREET


4TH
3RD
2ND
1ST
RESIDENTIAL UNIT
COURTYARD
RESIDENTIAL UNIT
46'-8"
34'-9"
34'-5"
46'-4"
AVERAGE GRADE: 19.4'
AVERAGE GRADE: 17.1'
WEST SECOND STREET
WEST FIRST STREET


ROOF
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4TH
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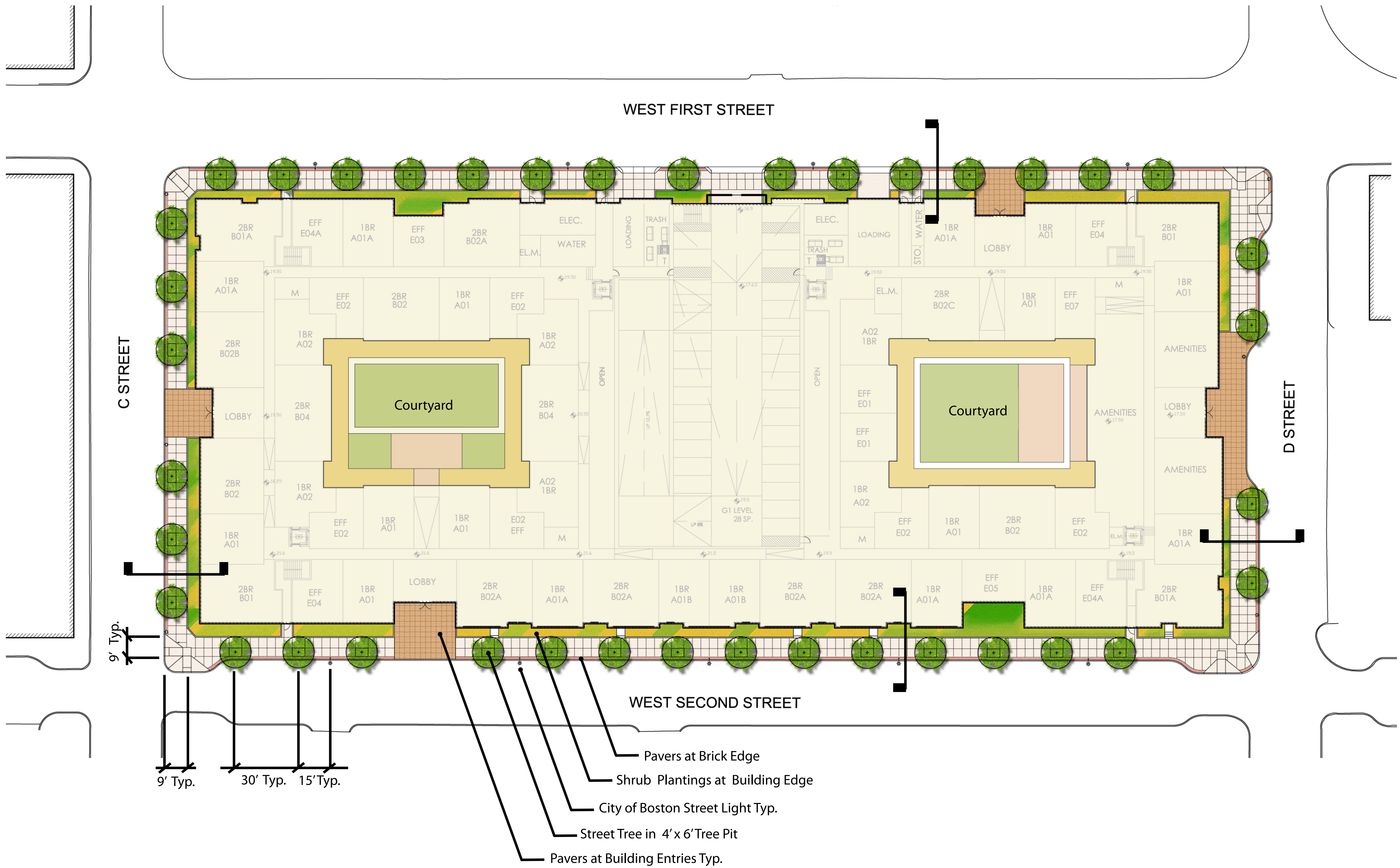
2ND
1ST
RESIDENTIAL UNIT
PARKING STRUCTURE
WEST SECOND STREET
WEST FIRST STREET



West Square Boston, Massachusetts

Copley Wolff Design Group
Landscape Architects & Planners

Figure A-16
Landscape Plan

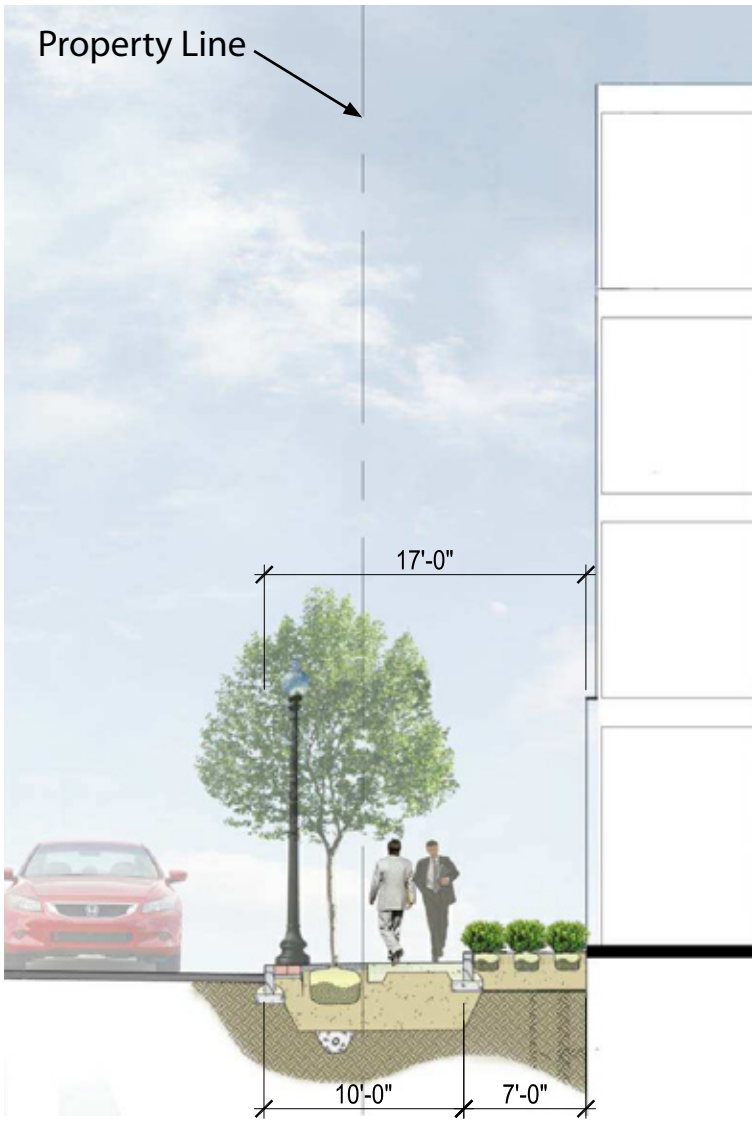


Figure A-17
C Street Typical Streetscape Section

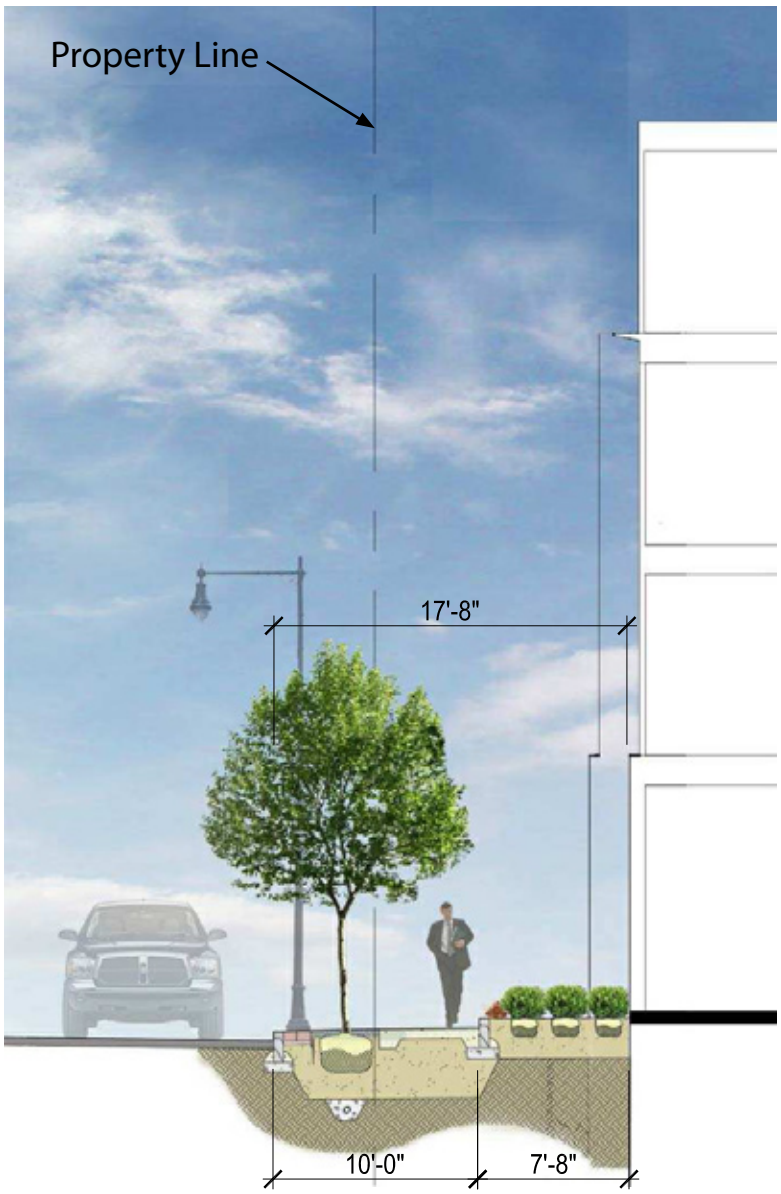


Figure A-18
West Second Street Typical Streetscape Section

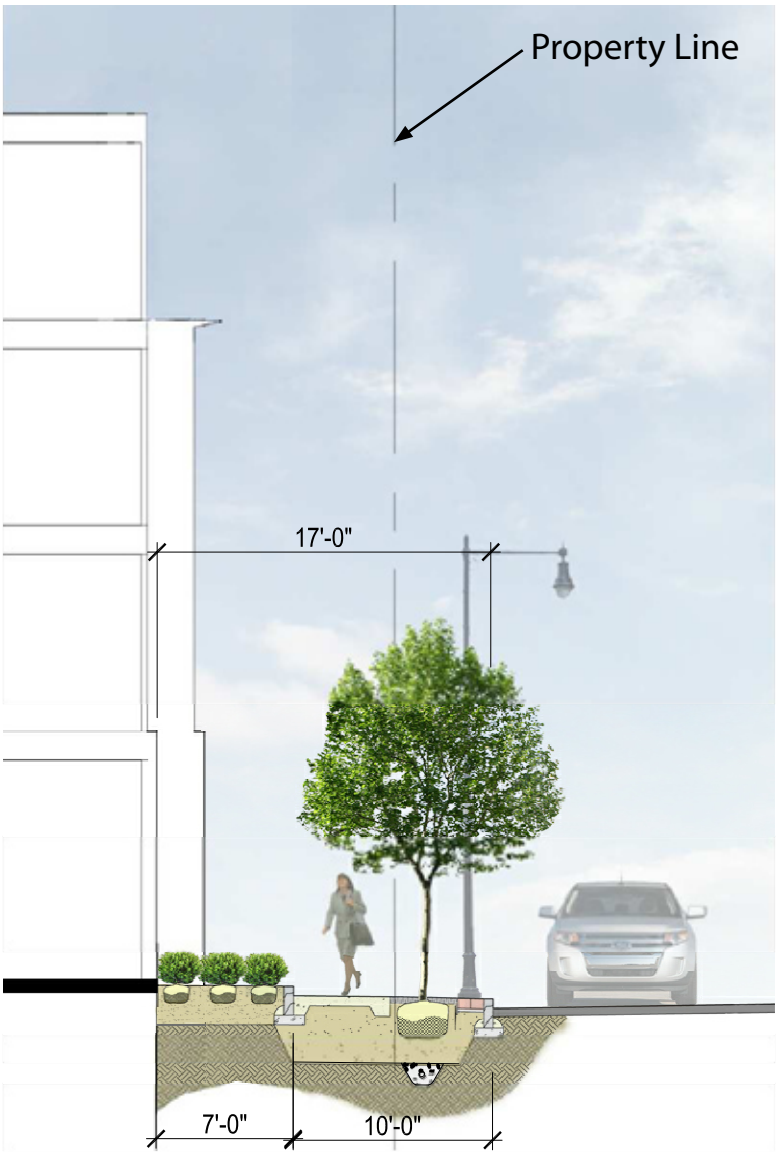


Figure A-19
West First Street Typical Streetscape Section

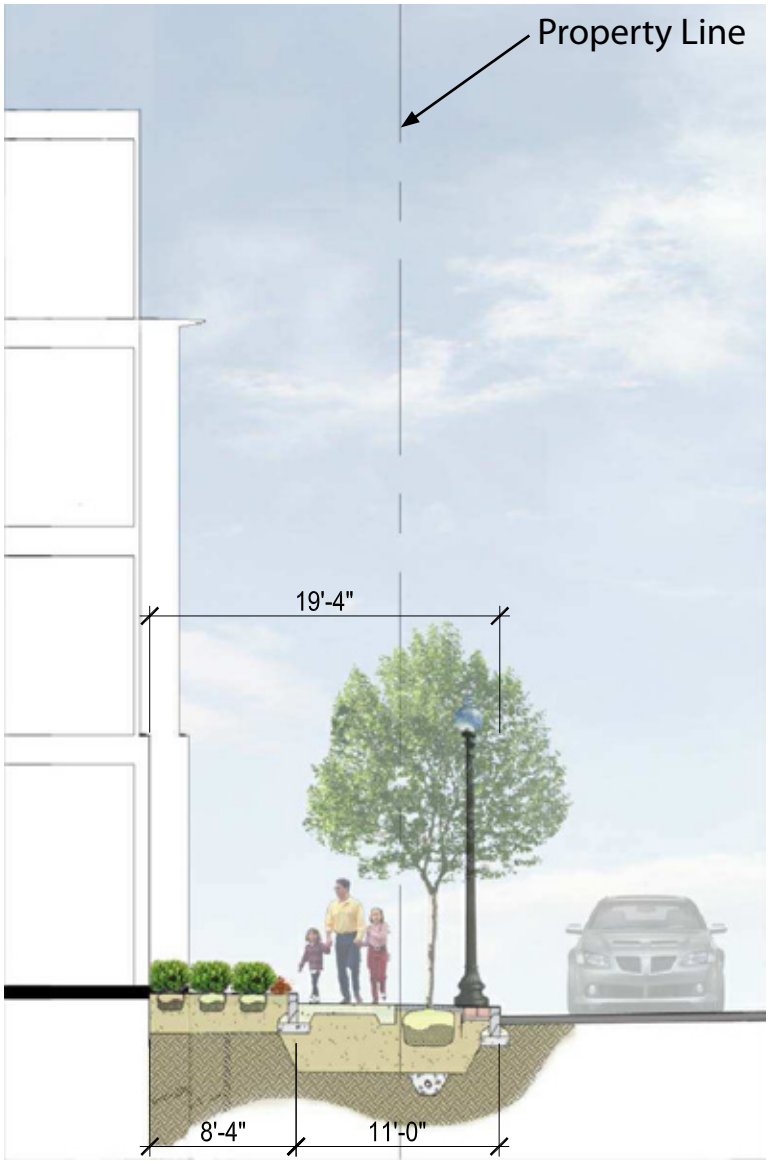


Figure A-20
D Street Typical Streetscape Section

Appendix B

Transportation

APPENDIX B TRANSPORTATION

B.1 Introduction

This Notice of Project Change documents the transportation impacts that would result from the change in program of the West Square project. The December 2006 *Draft Project Impact Report* (DPIR) for the approved Emerald Court project contained a comprehensive transportation analysis by Howard/Stein-Hudson Associates, Inc (HSH). The proposed project at that time included 245 dwelling units (analyzed as condominiums), 3,672 square feet of retail space, and up to 318 parking spaces. The current project includes 259 smaller apartments, no retail space, and 143 parking spaces.

In the DPIR, existing conditions were documented in terms of traffic and pedestrian volumes, transit service and ridership, and on-street and off-street parking availability. HSH used Institute of Transportation Engineers (ITE) rates, along with local survey data and other sources, to develop trip generation, trip distribution, vehicle occupancy, and mode use estimates for the proposed development program. The DPIR also included a comprehensive intersection Level of Service (LOS) analysis at 14 intersections, which showed that the proposed Project would not worsen levels of service at any study area intersections or approaches below Level of Service D, which is acceptable in an urban setting such as South Boston. Thus, no geometric or signal timing mitigation was required. This section of the NPC documents transportation issues related to the changed program, including trip generation, vehicular access, pedestrian access, parking, loading and service, and travel demand management. It also addresses the Transportation Access Plan Agreement (TAPA), the Construction Management Plan (CMP) and potential Public Improvements Commission (PIC) action.

B.2 Trip Generation

The building programs for Emerald Court and West Square are shown in Table B-1 for existing conditions, the BRA Approved Emerald Court project, and the current West Square project.

Table B-1 Building Program Comparison

Program Description	BRA Approved Emerald Court (Condominiums)	Proposed West Square (Apartments)	Change: West Square compared to Emerald Court
	(A)	(B)	(C = B minus A)
Total Residential sf	292,637	266,320	(26,317)
Total Dwelling Units	245	259	14
Studios	-	75	72
1 Bedroom	129	96	(30)
2 Bedroom	112	88	(24)
3 Bedroom	4	-	(4)
Retail	3,672	-	(3,672)
Parking Spaces	318	143	(176)

As shown above, the number of dwelling units is increased by 14 in the West Square plan – from 245 to 259. However, the unit mix changes by eliminating the largest (3-bedroom) units, reducing the 2-bedroom units from 112 to 88, reducing the 1-bedroom units by 30, and adding 72 studio apartments. Renters attracted to the smaller units are far less likely to own cars, thus enabling the reduced number of parking spaces.

Trip generation estimates for Emerald Court were based on rates derived from ITE's *Trip Generation* (7th edition, 2003) fitted curve equations and average trip rates. The ITE land use codes (LUC) used for estimating trip generation were *LUC 230—Residential Condominium, LUC 710—Office, LUC 820—Shopping Center/Retail and* LUC *931—Quality Restaurant.* Trip generation rates for West Square were based on ITE LUC 220 – *Apartments*. The ITE rates produce vehicle trip estimates, which are then converted to person trips based on vehicle occupancy rates (VOR) Using appropriate mode split information for this area, the total person trips are then allocated to vehicle, transit, and walk trips.

The standard BTD mode shares for Area 8 estimate daily auto trips at 53% of daily person trips. For West Square, however, lower auto use, and higher transit, walk and bike use are expected for several reasons, including:

- The project is now a rental building.
- The project is more heavily weighted toward smaller units such as studios and 1-bedroom apartments; residents renting at West Square will be less likely to own automobiles.
- The parking ratio has been reduced from 1.3 spaces per unit (generous parking ratio) as proposed by Emerald Court, to 0.6 spaces per unit (constrained parking ratio); and

- West Square is going to be specifically designed, marketed and leased as a Transit-Oriented development

For this reason, alternative mode share factors were developed for West Square to compare against the 53% auto share for Area 8. The BTD-recommended mode shares for Area 8 and the expected or target mode shares for West Square are shown in Table B-2, below.

Table B-2 Residential Mode Share Comparison

Period/ Direction	Area 8 Mode Shares			Expected Mode Shares		
	Transit	Walk/Bike	Auto	Transit	Walk/Bike	Auto
Daily						
In	23%	24%	53%	33%	33%	34%
Out	23%	24%	53%	33%	33%	34%
a.m. peak						
In	29%	22%	49%	33%	33%	34%
Out	26%	30%	44%	33%	33%	34%
p.m. peak						
In	26%	30%	44%	33%	33%	34%
Out	29%	22%	49%	33%	33%	34%

A detailed presentation of the trip generation numbers is shown in the Appendix.

Table B-3 below presents the vehicle trips for the approved Emerald Court project, and for West Square, using both the Area 8 and the "expected" mode shares.

Table B-3 Adjusted Vehicle Trip Generation Comparison

Period/ Direction	Emerald Court	West Square (with BTD Area 8 Mode Shares)	West Square (with Expected Mode Shares)	Change Area 8 Mode Shares compared to Emerald Court	Change Expected West Square Mode Shares compared to Emerald Court
	A	B	C	D = B minus A	E = C minus A
Daily					
In	435	490	314	55	(121)
Out	435	490	314	55	(121)
Total	870	980	628	110	(242)
a.m. peak					
In	16	14	10	(2)	(6)
Out	46	50	39	4	(7)
Total	62	64	49	2	(13)
p.m. peak					
In	43	50	39	7	(4)
Out	27	30	21	3	(6)
Total	70	80	60	10	(10)

As shown in Column D of Table B-3, the West Square project would result in up to 110 additional daily vehicle trips as compared to the approved Emerald Court project using BTD mode shares. Peak hour trips would be very similar. With the expected West Square mode shares, however, net daily vehicle trips would be reduced by 242, and peak hour trips would again remain about the same.

Table B-4 compares expected transit trips for Emerald Court and West Square, under either mode share assumption.

Table B-4 Transit Trip Generation Comparison

Period/ Direction	Emerald Court	West Square (with BTD Area 8 Mode Shares)	West Square (with Expected Mode Shares)	Change Area 8 Mode Shares compared to Emerald Court	Change Expected West Square Mode Shares compared to Emerald Court
	A	B	C	D = B minus A	E = C minus A
Daily					
In	206	234	335	28	129
Out	206	234	335	28	129
Total	412	468	670	56	258
a.m. peak					
In	12	9	10	(3)	(2)
Out	29	33	41	4	12
Total	41	42	51	1	10
p.m. peak					
In	29	32	41	3	12
Out	16	20	22	4	6
Total	45	52	63	7	18

As shown, West Square would add between 56 and 258 daily transit trips beyond those forecast for Emerald Court. Again, peak hour transit trips would be quite similar to those generated by Emerald Court.

Table B-5 shows the pedestrian and bicycle trip generation for Emerald Court and West Square, both with Area 8 and Expected mode shares.

Table B-5 Pedestrian and Bike Trip Generation Comparison

Period/ Direction	Emerald Court	West Square (with BTD Area 8 Mode Shares)	West Square (with Expected Mode Shares)	Change Area 8 Mode Shares compared to Emerald Court	Change Expected West Square Mode Shares compared to Emerald Court
	A	B	C	D = B minus A	E = C minus A
Daily					
In	224	244	335	20	111
Out	224	244	335	20	111
Total	448	488	670	40	222
a.m. peak					
In	9	7	11	(2)	2
Out	35	38	43	3	8
Total	44	45	54	1	10
p.m. peak					
In	34	37	42	3	8
Out	14	15	23	1	9
Total	48	52	65	4	17

The results for pedestrian and bicycle trips are similar to those for vehicular and transit trips. From 40 to 222 added daily trips are expected, with only minor changes in peak hour trips from those in the approved Emerald Court project.

B.3 Vehicular Access and Circulation

As shown in the Site Plan, Figure B-1, Vehicular access to and from West Square remains on West First Street, the same as proposed for Emerald Court.

B.4 Pedestrian Access

Pedestrian entrances to residential lobbies will be provided along West First Street, D Street, West Second Street and C Street.

B.5 Bicycle Accommodations

Secure bicycle storage will be made available to residents and visitors. Per BTD Guidelines, this Project will provide secure bicycle storage for a minimum of 86 bicycles (1 for every 3 units) plus bike racks at the pedestrian entrances to accommodate visitors or messengers. The Proponent will work with BTD to identify the best solution for bicycle accommodations as part of the TAPA process.

West Square Boston, Massachusetts

Howard/Stein-Hudson Associates, Inc.
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Figure B-1
Site Plan

B.6 Parking

West Square is located in the South Boston neighborhood of Boston. BTD has set parking space guidelines throughout the city to establish the amount of parking supply provided with new developments. Parking supply ratios are subject to Article 80 Large Project Review.

The proposed NPC Project will provide up to 143 parking spaces for the 259 residential apartment units, which corresponds to a ratio of approximately 0.6 spaces per unit. The proposed parking supply is slightly lower than BTD recommended maximum guidelines for residential parking for the area (0.75 to 1.25 spaces per unit), because of the types of units and the proximity of the site to public transportation.

The study team evaluated local trends in parking demand for existing occupied market rate rental housing developments in Boston neighborhoods. As Table B-6 shows, parking demand ratios range from 0.4 to 0.6 parking spaces per occupied unit, with an average parking demand ratio of approximately 0.5 spaces per occupied unit.

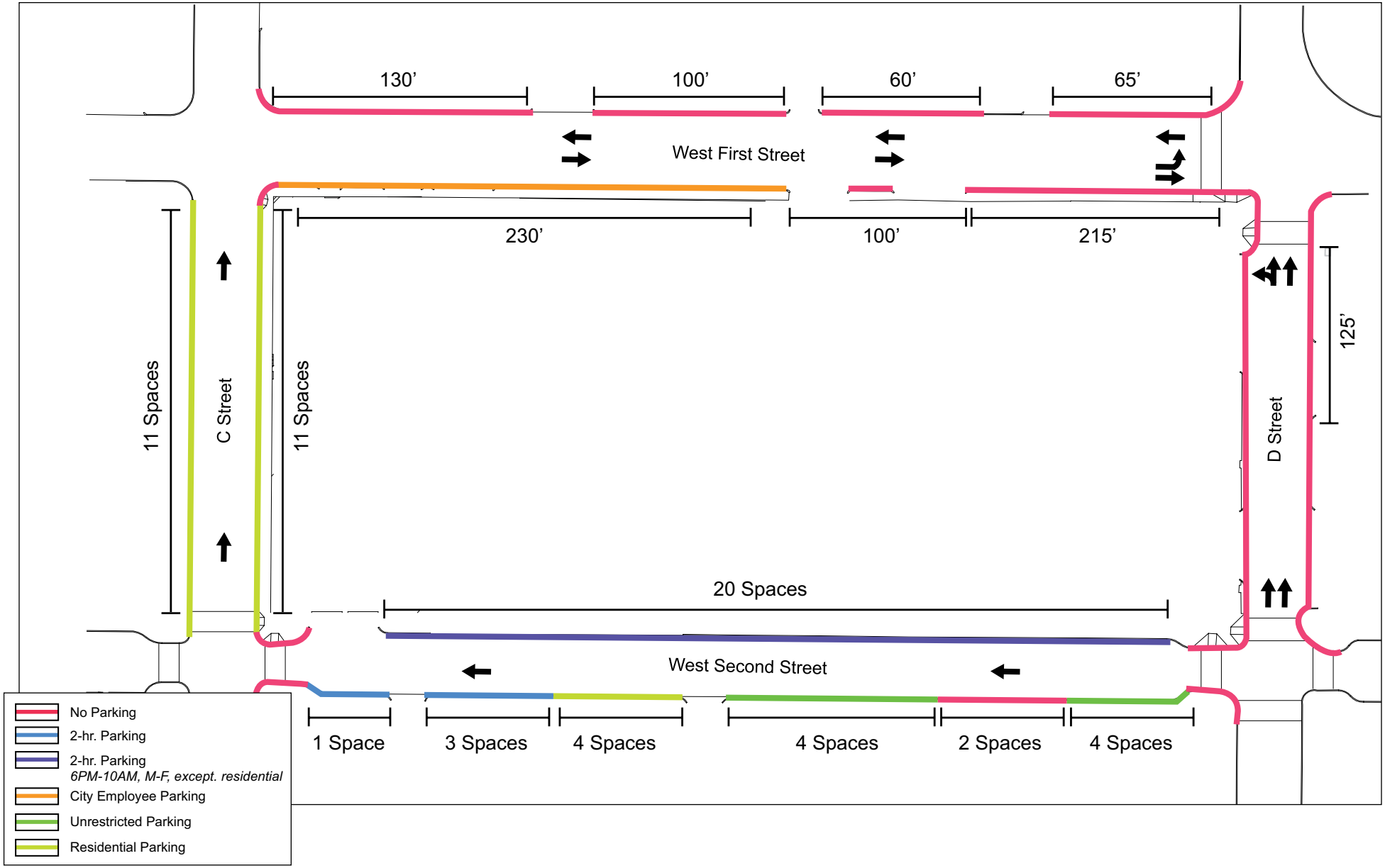
Table B-6 Residential (Apartment) Parking Demand Ratios

Development	Location	Occupied Units	Occupied Parking Spaces	Parking Ratio (occupied)
50 West Broadway	South Boston	111	65	0.59
101 Canal Street	Bullfinch Triangle	210	113	0.59
135 Clarendon Street	Back Bay	140	64	0.46
180 Brookline Avenue	Fenway	364	203	0.57
225 Northern Avenue	South Boston Seaport	450	164	0.38
West End Asteria	West End	170	67	0.41
Total/Average		**1,445**	**676**	**0.47**

Based on survey data collected by HSH, 2010.

The proposed NPC Project is providing a slightly higher parking ratio than the average parking ratio per occupied unit demonstrated at other similar residential apartment developments and is consistent with the demand at the nearby 50 West Broadway residential development.

The Proponent would also like to work with BTD and the community to reexamine the on-street parking on the blocks abutting the site as a way of providing additional parking for South Boston neighborhood residents. As shown in **Figure B-2**, no parking is allowed on D Street or most of West First Street, between C Street and D Street, although a 230' stretch of the south side of West First Street between C Street and an existing curb cut (about 11-12 spaces) has been signed "Reserved for City Employees." Parking is unrestricted on the west



West Square Boston, Massachusetts

Howard/Stein-Hudson Associates, Inc.
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Figure B-2
Existing Curbside Use

side of C Street between West First Street and West Second Street, but 11 Resident parking spaces are found on the east side. On the north side of West Second Street between C Street and D Street, about 20 2-hour parking spaces are provided. The curb on the south side provides a mix of spaces between curb cuts, including 4 2-hour spaces, 8 unrestricted spaces, and about 2 "No Parking" spaces. Up to 15 resident permit spaces could potentially be added along West First Street where there is no parking allowed today and up to 11 spaces could be added on the west side of C Street. This proposal, or modifications to it, if acceptable, can be incorporated into the TAPA for the site.

B.7 Loading and Service Access

The West Square site plan provides two off-street loading areas with 12-15' clearance, accessed from West First Street on either side of the garage driveway. Trash will be handled through four trash chutes and compactors located at various points in the building. On trash day, the trash from each location will be brought to the loading dock for off-street pickup. Again, as the land use is still residential, and there are no longer any retail loading requirements, these locations should be sufficient to accommodate all needs.

Building management will encourage all loading and service activities to occur during off-peak times of traffic. Permanent "No Idling" signs will post 5-minute idling law restrictions at loading areas.

B.8 Transportation Demand Management

The West Square proponent is committed to implementing Transportation Demand Management (TDM) measures to reduce dependence on autos. TDM will be facilitated by the nature of the project and its proximity to offices, transit, and shopping. 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. Because the project is predominantly residential, its trip generation is already lower than that of an office or a large retail use project.

The proponent is prepared to 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. On-site management will also work with residents as they move in to raise awareness of public transportation alternatives.

Additional TDM measures may include, but are not limited to, the following:

- ***Tenant and Resident Orientation Packet.*** Provision to new tenants of information about the many transportation demand management programs available.

- ***Parking Management.*** The developer will charge market rates for parking spaces.

- ***Web Site.*** Inclusion of public transportation information for residents and visitors on the project's web site.

- ***Resident Bicycles.*** Provision of 86 bicycle storage spaces in the project's garage per BTD guidelines (1 for every 3 residential units) along with on-street bike racks each accommodating two bicycles at major building entrances.

- ***Electric Vehicle Charging Stations*** – The Proponent will design the garage to allow it to be easily adaptable for electric vehicle charging stations if, or when, demand is warranted.

- ***Zipcar.*** Coordination with Zipcar or a similar car sharing service to determine the feasibility of establishing a shared car space within the garage on the site.

TDM program elements will be codified in the TAPA.

B.9 Evaluation of Short-term/Construction Impacts

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

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

- On-site construction worker parking will be limited; worker carpooling will be encouraged;

- 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; and

- The site has convenient access to the Haul Road, which is expected to minimize construction traffic on local streets.

Appendix C

Infrastructure

APPENDIX C Infrastructure Systems

TABLE OF CONTENTS

This section provides information detailing infrastructure requirements for the Revised Project. Information provided addresses potential Project impacts to the capacity and adequacy of the existing sanitary sewer, water, stormwater, energy, and telecommunications systems.

Proposed connections to Boston Water and Sewer Commission's (BWSC's) water, sewer, and storm drain systems will be designed in conformance with BWSC's design standards, Sewer Use and Water Distribution System Regulations, and Requirements for Site Plans. The Proponent will submit a General Service Application and receive Site Plan approval prior to construction. The Site Plan will include existing and proposed water mains, sanitary sewers, storm drains, telephone, gas, electric, steam, and cable television. The existing water, sewer and drain services of the buildings to be demolished will be cut and capped at the water main, sewer line, and drain line prior to the installation of new services. The Site Plan will include the locations and sizes of the proposed service connections to the BWSC mains.

C.1 Wastewater

C.1.1 Existing Sanitary Sewer System

The Project site is bounded by West First Street to the northeast, C Street to the northwest, West Second Street to the southwest, and D Street to the southeast. C Street does not contain a sewer system. West First Street, West Second Street, and D Street contain combined sewer mains and separated sanitary sewer mains, which are owned and maintained by the BWSC. West Second Street contains a 12″ sanitary sewer main flowing southeast toward D Street, where it connects to a 48″ x 51″ combined sewer main. The D Street 48″ x 51″ egg-shape combined sewer main flows northeasterly and connects to the 36″ x 48″ egg-shaped combined sewer line in West First Street. The existing site sewer service(s) connects to the BWSC systems surrounding the site, where it ultimately connects to the Deer Island Wastewater Treatment facility for treatment prior to discharge into Boston Harbor. The existing sewer system is shown in Figure C-1, Existing Conditions Utilities Plan.

C.1.2 Proposed Conditions

Estimates for wastewater generation by the Original and Revised Projects are shown in Table C-1. These estimates were calculated by use category based on regulations at 314 CMR 7.00, Sewer System Extension and Connection Permit Program guidelines.

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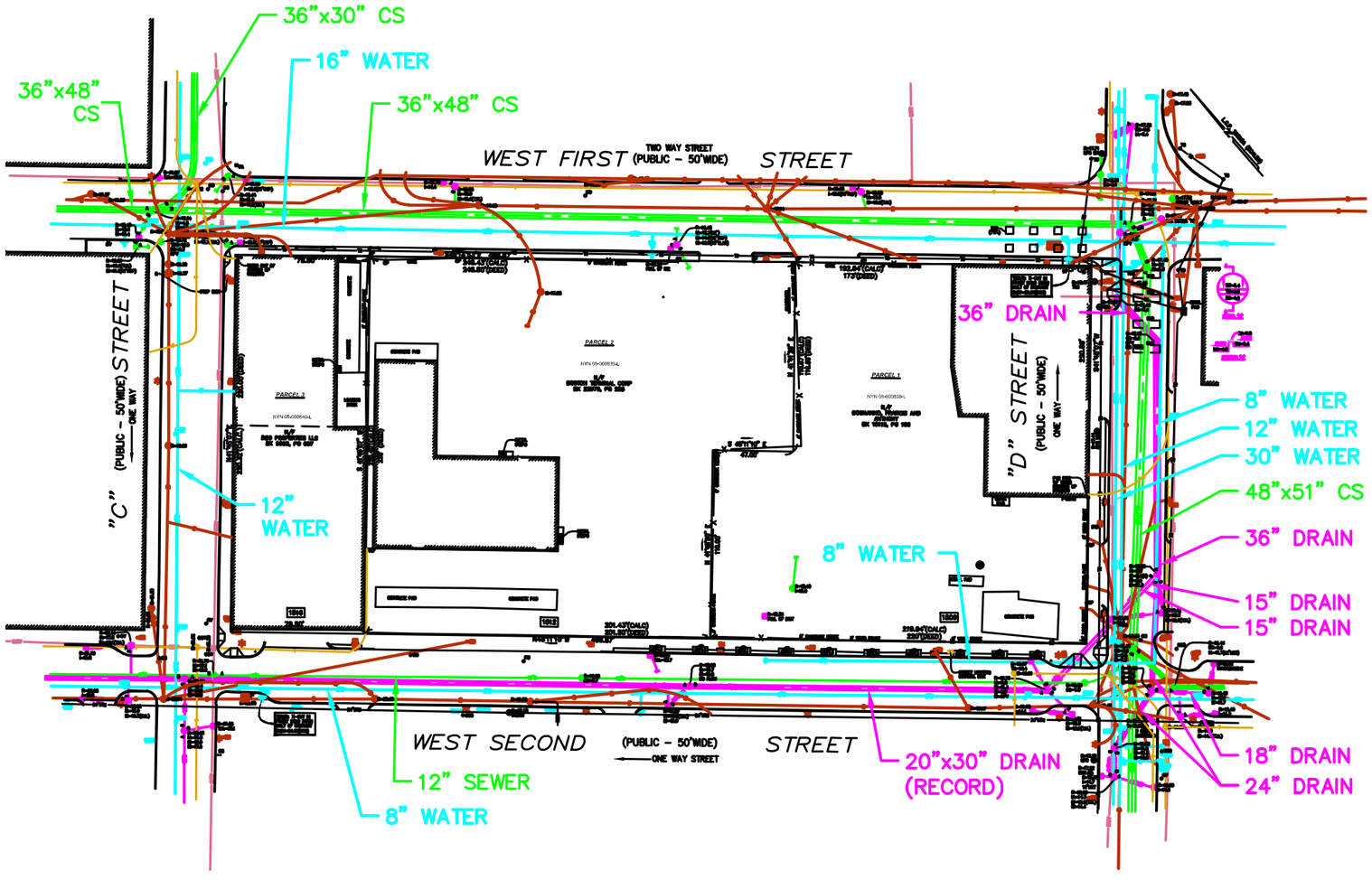
LEGEND

	CATCH BASIN
C	CABLE TELEVISION MANHOLE
D	DRAIN MANHOLE
E	ELECTRIC MANHOLE
M	MISCELLANEOUS MANHOLE
S	SEWER MANHOLE
T	TELEPHONE MANHOLE
W	WATER MANHOLE
GSO	GAS SHUT-OFF
WSO	WATER SHUT-OFF
GG	GAS GATE
WG	WATER GATE
	FIRE HYDRANT
	UTILITY POLE
	LIGHT POLE
FA	FIRE ALARM CALL BOX
CLF	CHAIN LINK FENCE
CS	COMBINED SEWER
VGC	VERTICAL GRANITE CURB
WCR	WHEELCHAIR RAMP
ULD	UNDERGROUND LOOP DETECTOR
TS	TRAFFIC SIGNAL
TMA	TRAFFIC MASTARM
R=	RIM ELEVATION EQUALS
I=	INVERT ELEVATION EQUALS
T.H.=	TOP OF HOOD ELEVATION EQUALS
NPV	NO PIPES VISIBLE
TOW=	TOP OF WATER
TW=	TOP OF WALL
CMBS	CONNECTION MADE BY SOUND
(R)	RECORD
CATV	UNDERGROUND CABLE TELEVISION LINE
CS	UNDERGROUND COMBINED SEWER LINE
D	UNDERGROUND DRAIN LINE
E	UNDERGROUND ELECTRIC LINE
G	UNDERGROUND GAS LINE
S	UNDERGROUND SEWER LINE
T	UNDERGROUND TELEPHONE LINE
W	UNDERGROUND WATER LINE
TS	UNDERGROUND TRAFFIC SIGNAL LINE
STL	UNDERGROUND STREET LIGHTING LINE
STM	UNDERGROUND STEAM LINE



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- Civil Engineering
- Land Surveying
- Transportation Engineering
- Planning
- GIS Services

EXISTING CONDITIONS UTILITIES PLAN
WEST SQUARE
320 D STREET, BOSTON, MA

PREPARED FOR:
LINCOLN PROPERTY COMPANY
WESTON, MA

PROJECT #	8556
FILE:	8556-ExCond
SCALE:	Not To Scale
DATE:	02/16/2011
PROJECT MGR:	GRB
SURVEYOR:	NITSCH
DRAFTED BY:	DMK
CHECKED BY:	GRB

SHEET:

Fig. C-1

1 OF 1 REV.

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Table C-1 Wastewater Generation for the Original and Revised Projects

	Use Category		
	Housing (110 gpd/bedroom)	Retail (50 gpd/1,000 sf)	Total (change)
Original Project			
Size	347 bedrooms	3,672 sf	
Average Flow (gpd)	38,170	184	*38,354 gpd*
Peak Flow (cfs)*	0.30	0.001	*0.30 cfs*
Revised Project			
Size	347 bedrooms	0	
Average Flow	38,170	0	*38,170 gpd (-184)*
Peak Flow	0.30	0	*0.30*

* Peak flows were derived by applying a peaking factor of 5 to the average flows

C.1.3 Sewer System Connections

As proposed for the Original Project, sanitary sewage discharge from the Revised Project will be connected to the combined sewer mains in West First Street or D Street, or the sanitary sewer main in West Second Street via new lateral service connections. New service connections will conform to the BWSC standards and requirements. The sanitary sewer will collect all wastewater flows from the Project's residential units as well as the enclosed parking garage (except for the garage roof); minor flow volumes will be expected from the enclosed garage due to rain, snow, and maintenance. The flow from the garage will pass through oil traps prior to being discharged into the BWSC's sewer system.

Completion of a Department of Environmental Protection (DEP) "Compliance Certification for Sewer Extensions less than 1,000 feet or Sanitary & Industrial Connections 15,000-50,000 gpd" (BRP WP 72, 73) is anticipated for the sanitary service connection because the new sewage flows fall between 15,000 and 50,000 gallons per day.

C.1.4 Sewer System Capacity Analysis

An analysis of the capacity of the existing sewer and combined sewers in the adjacent streets was performed; results are presented in Tables C-2, C-3, and C-4. These values were calculated by using Manning's Equation with a coefficient of roughness of 0.013. Sewer pipe sizes, pipe slopes, and segment lengths were obtained from an existing conditions drawing and from BWSC Wastewater Systems Map Number 21L.

Table C-2 Sewer Hydraulic Capacity Analysis – West Second Street

Manhole (BWSC Number)	Distance (Feet)	Invert Elevation (up)	Invert Elevation (Down)	Slope (%)	Diameter (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
103 to 105	505	12.1	7.8	0.85%	12	0.013	3.28	2.13
105 to 33	33	7.8	7.2	1.82%	12	0.013	4.80	3.10

Table C-3 Sewer Hydraulic Capacity Analysis – D Street

Manhole (BWSC Number)	Distance (Feet)	Invert Elevation (up)	Invert Elevation (Down)	Slope (%)	Diameter (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
33 to 162	220	6.2	5.1	0.50%	48″x51″	0.013	113.25	73.20
162 to 61	24	5.3	5.1	0.83%	36″	0.013	60.89	39.36

Table C-4 Sewer Hydraulic Capacity Analysis – West First Street

Manhole (BWSC Number)	Distance (Feet)	Invert Elevation (up)	Invert Elevation (Down)	Slope (%)	Diameter (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
61 to 64	568	4.7	4.0	0.12%	36″x48″	0.013	33.23 cfs	21.48

The results indicate the minimum hydraulic capacity of the sanitary sewer system collecting effluent adjacent to the Project site is located along the first segment of the 12-inch sanitary sewer line in West Second Street. This pipe has a capacity of 2.13 MGD, or 3.29 cfs. Based on the Project's average daily flow estimate with a peak factor of 5 (0.30 cfs), and assuming that the entire increase in sanitary discharge is directed toward this section of sewer line, no capacity problems are expected with this segment of the system.

C.1.5 Sewer System Mitigation

The Project will meet applicable code requirements including the following.

- MWRA-approved oil/grit separators will be installed to receive all parking garage drainage prior to discharge to the sanitary sewer system.

- BWSC-approved grease traps will be installed in any restaurant, cafeteria, or food service facility prior to discharge into the sanitary sewer system.

- New sanitary sewer service(s) to the building will be designed and constructed to the BWSC construction standards to minimize infiltration and inflow into the sanitary sewer collection system.

C.2 Water Supply

C.2.1 Existing Water System

Water for domestic use and fire protection is supplied to the Project area by a system of low-pressure distribution water mains owned and operated by the BWSC. There is a 16″ low-pressure water main on West First Street and a 12″ low-pressure water main in C Street. In West Second Street, there is an 8″ low-pressure water main that runs the length of the block between C Street and D Street, and an 8" low-pressure water main that runs northwesterly for a length of about 200 feet from D Street. In D Street there are 30″, 12″, and 8" low-pressure mains that run the length of the block from West Second Street to West First Street. The existing water system is illustrated on Figure C-1, Existing Conditions Utilities Plan.

C.2.2 Anticipated Water Consumption and Capacity Review

The water demand calculations for the Original and Revised Projects are based on the estimated sewage generation from Table C-1 plus 10% to account for system losses. The results are summarized in Table C-5.

Table C-5 Estimated Daily Water Consumption

	Original Project		Revised Project	
	Average (gpd)	Peak (gpm)	Average (gpd)	Peak (gpm)
110% of Average Sewer Flow	44,367	154	41,987	154

C.2.3 Water System Connections

Domestic water service will be provided from a connection or connections from any of the adjacent mains in the streets. Exact connection details will be coordinated with the BWSC, and will be in conformance with BWSC standards.

Flow tests on the existing water mains in the area were conducted on August 2, 2004. The results are shown in Table C-6:

Table C-6 Flow Test Results – 12-inch Low Service Water Main in West Second Street

Flow Test	Result
Static	61 psi
Residual	54 psi
Total Flow	2,500 gpm
Flow @ 20 psi	6,494 gpm

psi = pounds per square inch
gpm = gallons per minute

The static pressure observed is normal and acceptable for this part of Boston. The proposed peak domestic flow rate for the Revised Project (using a peak factor of five) is 154 gpm. Based upon the hydrant test data obtained in the vicinity of the Project site, there appears to be sufficient capacity available in the existing water distribution system. BWSC will provide a Fixed Radio Meter System that will meter the water entering the proposed building. The owner or owner's representative will contact the BWSC's Meter Installation Department to coordinate installation.

C.2.4 Fire Protection Systems

Fire protection water service will be provided from a connection or connections from any of the adjacent mains in the streets. Exact connection details will be coordinated with the BWSC, and will be in conformance with BWSC standards.

The Proponent will maintain all hydrants around the immediate site area to ensure fire protection during construction. Within the block of the new building there is one existing hydrant at the intersection of West First and D Streets, a hydrant mid-block along West First Street, and a hydrant mid-block on the other side of the street on West Second Street. All existing hydrants will remain operational and will have access for fire department use before, during, and after construction. If an existing hydrant is taken off line, a new hydrant will be placed in operation to ensure continuous proper fire protection for the site and adjacent buildings.

The new building will have siamese hose connections located no further than 100 feet from a hydrant; if needed, new hydrants will be installed. All new siamese connections will be accessible from the outside of the building.

For the use of hydrant water during construction, the contractor and/or owner will obtain a Hydrant Permit from the BWSC. This water will be metered in accordance with City standards and the contractor or owner's representative will contact the BWSC's Operation Division for information.

C.2.5 Water Supply Conservation and Mitigation Measures

As noted in Section C.1.5, project plumbing fixtures will comply will applicable requirements.

C.3 Storm Drainage System

C.3.1 Existing Stormwater System

West First Street, West Second Street, and D Street contain catch basins which connect to combined sewer and separated storm drainage mains that are owned and maintained by the BWSC. There are no drainage systems in C Street. There is a 36" x 48" combined sewer in West First Street, as described in Section C.1.1. West Second Street contains a 20″x30″ drain line with a southeasterly direction of flow that changes to two parallel 15″ drain lines with an easterly direction of flow to D Street. The double 15″ drain lines connect to a 36″ drain line in D Street, which has a northwesterly direction of flow. The 36″ drain line continues northeasterly in D Street. Since the South Boston area does not have a completely separated storm drainage and sanitary sewer system, it is assumed that the drain mains around the Project site ultimately connect to combined sewer mains. The combined sewer mains continue within the BWSC sewer system where flows are ultimately treated by the Deer Island Wastewater Treatment facility before discharge to the Boston Harbor. There is no existing closed drainage system on site. It appears that a majority of the stormwater runoff from the Project site enters the BWSC catch basins in the surrounding roadways by overland flow. The existing sewer and drainage system is illustrated in Figure C-1, Existing Conditions Utilities Plan.

C.3.2 Future Conditions

Stormwater runoff collected from the roof of the Revised Project will be discharged to either the existing drains along West Second or D Streets; no storm drains exist in C Street or West First Street. Storm drain connections will not be made to any combined sanitary and storm sewers or sanitary sewers. Stormwater runoff generated from the proposed landscaped areas will be collected into area drains that will be connected to the proposed on-site stormwater collection system. The proposed closed drainage system will connect to the existing BWSC closed drainage system. The parking garage drainage will be conveyed through an approved oil/grit separator and connect to the building's sanitary sewer system.

The Project site is currently used as a surface parking lot and contains several buildings; there is no green space on the existing lot. The proposed Project will include an increase in the green space associated with the proposed landscaped plazas, and will result in a decrease in impervious area. With this decrease in impervious area, the post-construction stormwater runoff rates, including the peak discharge rate, will be lower than pre-construction rates and no stormwater retention system will be needed to mitigate rainwater. The additional green space will also increase the water quality of the runoff that leaves the site (see Table C-7). A stormwater recharge system will recharge clean rainwater back into

the ground, and the quality of runoff discharged from the site will be much improved as a result of this Project.

Table C-7: Pre- and Post-Construction Rates of Stormwater Runoff*

	2-Year Storm Event	10-Year Storm Event	25-Year Storm Event	100-Year Storm Event
Pre-Construction Peak Runoff Rates (cfs)	8.15	11.79	14.12	16.97
Post-Construction Peak Runoff Rates (cfs)	7.69	11.42	13.80	16.69

*Calculation parameters: Site area = 110,267 sf, Weighted CN pre = 0.90, Weighted CN post = 0.95

C.3.3 Stormwater Management and Water Quality

Stormwater discharge from the Project site will be limited to runoff from roofs, driveways, and sidewalks. Parking garage roof drains will discharge through oil/grit separators to minimize the level of potential pollutants such as oil, grease, gasoline, and suspended solids entering the BWSC sewage collection and MWRA treatment systems. The separators will be routinely monitored and maintained by the Owner. All catch basins installed will include a permanent casting stating "Don't Dump: Drains to Boston Harbor."

The Project involves the disturbance of greater than one acre of land, requiring a Notice of Intent for coverage under the Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) General Permit for Construction. As part of obtaining coverage under the NPDES General Permit, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared and implemented by the Contractor to prevent, or at least control, the pollution of stormwater from the construction site. The SWPPP will describe the construction site and identify likely sources of pollution for stormwater discharges. The SWPPP will also identify and describe appropriate measures to reduce pollutants in stormwater discharges while providing other information necessary for compliance with the NPDES stormwater permit. The SWPPP will be located at the construction site and will be maintained and modified as required by the Contractor for the duration of the construction. A copy of the draft SWPPP will be submitted to the BWSC prior to the commencement of construction.

The design objective for the stormwater management system proposed for the site will be to meet the Massachusetts Stormwater Management Standards. These standards will be specifically addressed in the Project design in the following manner:

Standard #1: No new untreated stormwater will discharge into, or cause erosion to wetlands or waters.

Compliance: The proposed design will comply with this standard, and there will be no untreated stormwater discharges. Discharges will be treated prior to connection to BWSC system.

Standard #2: Post-development peak discharge rates do not exceed pre-development rates on the Site either at the point of discharge or down gradient of the property boundary for the 2- and 10-year 24-hour design storms. The project's stormwater design will not increase flooding impacts off-site for the 100-year design storm.

Compliance: The proposed design will comply with this standard. The peak discharge from the Project site will be less than the existing peak rate of runoff from the 2-, 10-, 25-, and 100-year storm events due to an increase in pervious area over the proposed site.

Standard #3: Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post development site should approximate the annual recharge from the pre-development or existing site conditions, based on soil types.

Compliance: The proposed design will comply with this standard. The Project site is currently used as a surface parking lot area and hosts several buildings. There is little to no existing green space, and therefore very little groundwater recharge from infiltration of precipitation. The proposed Project will increase the pervious area on the site as well as promote recharge, where feasible, to increase infiltration of runoff into groundwater. The annual groundwater recharge for the post-development site will be greater than the annual recharge from the existing site conditions.

Standard #4: For new development, the proposed stormwater management systems must achieve an 80% removal rate for the site's average annual load of Total Suspended Solids (TSS).

Compliance: The proposed design will comply with this standard. The Project will incorporate stormwater best management practices (BMPs) to satisfy the DEP Stormwater Management Standards and Policy. The Project's stormwater management system will remove 80 percent of the post-construction site's average annual TSS load from the storm flows before discharging to the BWSC system. Water quality inlets, as needed, will be sized to meet this requirement.

Standard #5: If the site contains an area with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-8), Best Management Practices ("BMPs") must be used to prevent the recharge of untreated stormwater.

Compliance: The proposed design will comply with this standard. The Project is not associated with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-8). This Project complies with this standard.

Standard #6: If the site contains areas of Sensitive Resources (as prescribed by the Policy), such as rare/endangered wildlife habitats, ACEC's, etc., a larger volume of runoff from the "first flush" must be treated (1 inch of runoff from impervious area vs. the standard ½ inch).

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

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

Compliance: The proposed design will comply with this standard. The Project complies with the Stormwater Management Standards, as applicable, to the maximum extent practicable.

Standard #8: Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.

Compliance: The Project will comply with this standard. Erosion and sediment controls will be incorporated as part of the design and will be employed during construction. The Project will disturb more than one acre of land, and a NPDES permit will be required.

Standard #9: A long-term Best Management Practice ("BMP") operation and maintenance plan is required to ensure proper maintenance and functioning of the stormwater management system.

Compliance: The Project will comply with this standard. An Operation and Maintenance Plan including long-term BMP operation requirements, will be prepared to ensure proper maintenance and functioning of the system. In addition, permanent plaques bearing the warning "Don't Dump-Drains to Boston Harbor" will be installed at all new catch basins or those around which work is done.

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

Compliance: The Project will comply with this standard. There will be no illicit connections associated with this Project.

C.4 Fire Prevention and Control

C.4.1 Emergency Vehicle Site Access

The Project has been designed to ensure that emergency vehicle access to the Project site and adjacent properties is maintained post construction.

C.4.2 Availability and Accessibility of Hydrant Locations

As previously described, the Project will maintain all hydrants around the immediate site area to ensure fire protection during construction. Within the block of the new building, there is one existing hydrant at the intersection of West First and D Streets, a hydrant mid-block along West First Street, and a hydrant mid-block on the other side of the street on West Second Street. All existing hydrants will remain in operation and will have access for fire department use. If an existing hydrant is taken off line, a new hydrant will be placed in operation to ensure proper fire protection for the site and adjacent buildings. The final locations of any additional hydrants will be reviewed and approved by Boston Fire Department (BFD).

C.4.3 Siamese Connections

As previously described, the new building will have siamese hose connections located no further than 100 feet from a hydrant; if needed, new hydrants will be installed. New siamese connections will be accessible from the outside of the building. The location of proposed siamese connections and fire pumps will be presented to BFD for review and approval.

C.4.4 Transformer Vault

It is expected that a transformer vault will be required on the first floor or in the basement of the building adjacent to the parking deck. Exhaust/ventilation as well as access will be from West First Street. Construction of the vault will be in accordance with NStar requirements, and the location will be finalized with the electric utility company.

C.4.5 Boston Fire Department Permit Requirements

The proposed Project requires permits and approvals from the BFD for fuel storage, fire safety equipment, the alarm system, sprinkler, standpipe, smoke control, and hydrants. The Proponent will consult with the BFD and secure all necessary permits as required by the City and State Fire Prevention Codes.

C.4.6 Air-supported Structures

The proposed Project is not an air-supported structure and will not contain any air-supported components.

C.4.7 Wireless Communication

The Proponent will work with BFD to determine whether the Project site is a suitable location for communications equipment, and will explore options for rooftop access.

C.5 Energy Requirements and Service

C.5.1 Electrical Requirements

The local electrical network provider will provide the electric energy for the building fed from the existing electrical services adjacent to the property. The total connected load for the building will be calculated to include mechanical systems as well as residential energy usage. As the engineering and design of the Project progresses, the design team will meet with the electric power provider to review the Project.

C.5.2 Natural Gas Requirements

Natural gas will be used for portions of the Project's energy and will be supplied by the existing services adjacent to the Project. Boiler emissions standards will be met. Noise generated by mechanical equipment will meet local noise criteria requirements. As the engineering and design of the Project progresses, the design team will meet with the gas provider to review the Project.

C.5.3 Telecommunications

The local service provider will provide the telecommunications for the building from the existing services adjacent to the Project.

C.5.4 Emergency Power

It is anticipated that no emergency power will be provided.

C.5.5 Protection of Utilities

To protect utilities, the proposed electrical and telecommunications conduits will be concrete encased with yellow warning tape installed above the services.

Appendix D

Sustainable Design

APPENDIX D SUSTAINABLE DESIGN

D.1 Sustainable Design

The Project will comply with the requirements for sustainable design under Article 37 of the Boston Zoning Code for "LEED Certifiable" status. The Project team will use the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Rating System as a model for incorporating sustainable design features into the Project. A LEED NC 2009 checklist is provided at the end of this section to identify the green design goals for this Project. For each credit identified as a "yes" on the checklist, the narrative below provides a brief description of the implementation measures to the extent that they are defined at this stage of design.

The LEED for New Construction (LEED-NC) 2009 version was launched in April and was updated to include a total of 110 possible points.

SUSTAINABLE SITES

Sustainable Sites, Prerequisite 1, Construction Activity Pollution Prevention:
The Project will include a full erosion and sedimentation control program. This program will include a Stormwater Pollution Prevention Plan that describes how to protect the existing stormwater collection system during construction.

Sustainable Sites, Credit 1.0, Site Selection:
This Project meets all of the criteria for site selection. The Project site is not prime farmland, was previously developed, does not have endangered species habitat, is not within 100 feet of a wetland, and was not a public park.

Sustainable Sites, Credit 2.0, Development Density & Community Connectivity:
The Project is located in South Boston which is an urban area with a mix of residential and commercial uses. For LEED certification, the Project will pursue the compliance path for Option 2, Community Connectivity. Within a one-half mile radius of the building's main entrance, there are several residential developments. Within the same radius, there are also many basic services with pedestrian access, including banks, convenience grocery stores, cleaners, parks, pharmacies, a post office, and restaurants.

Sustainable Sites, Credit 4.1, Alternative Transportation - Public Transportation Access:
The Project is located within one-half mile walking distance of public transportation. There is one subway station within the radius that provides access to the Red Line. There are also at least four bus stops within the radius. The proximity of the Project to several forms of public transportation fulfills the LEED credit requirements and helps to prevent pollution from automobile usage.

Sustainable Sites, Credit 4.2, Alternative Transportation : Bicycle Storage and Changing Rooms.

The Project will provide bicycle storage for the residents within the building.

Sustainable Sites, Credit 4.3, Alternative Transportation – Low emitting and Fuel Efficient Vehicles:

The Project will provide preferred parking for 5% of the total parking provided.

Sustainable Sites, Credit 4.4, Alternative Transportation - Parking Capacity:

The Project includes approximately 143 parking spaces provided in a structured garage on four above-ground levels. This parking serves 259 residential units and will not exceed the local zoning requirements for parking.

Sustainable Sites, Credit 5.2, Site Development- Maximize Open Space:

Open space is maximized through the use of courtyards and the building setback.

Sustainable Sites, Credit 7.1, Heat Island Effect – Non Roof:

At least 50 % of the parking is under cover.

Sustainable Sites, Credit 7.2, Heat Island Effect - Roof:

Roofing material will be selected to comply with the LEED credit guidelines.

WATER EFFICIENCY

Water Efficiency, Prerequisite 1, Water Use Reduction 20 Percent:

The Project will specify plumbing fixtures that meet the minimum of a 20-percent reduction in water use compared to the baseline for the building.

ENERGY & ATMOSPHERE

Energy & Atmosphere, Prerequisite 1, Fundamental Commissioning of the Building Energy Systems:

Building systems will be commissioned in accordance with the USGBC LEED requirements. The commissioning services provided will include the Owner's Project Requirements (OPR) and Basis of Design (BOD) documents, development of a commissioning plan, incorporation of a commissioning specification section into the construction documents, and verification through startup observation and functional testing that the installed systems are operating in accordance with the OPR, BOD, and construction documents. The previously named services apply to the following commissioned systems: HVAC, lighting controls, and domestic hot water systems.

Energy & Atmosphere, Prerequisite 2, Minimum Energy Performance:

The Project will be designed to comply with the ASHRAE 90.1-2007 Energy Standard per the newest version of LEED 2009.

Energy & Atmosphere, Prerequisite 3, Fundamental Refrigerant Management:

The Project will specify equipment and systems with no chlorofluorocarbon (CFC) based refrigerants.

Energy & Atmosphere, Credit 1, Optimize Energy Performance:

The Project will be designed with the goal of exceeding the ASHRAE 90.1-2007 Energy Standard by 20 percent. This will be demonstrated with a whole building energy model.

Energy & Atmosphere, Credit 4, Enhanced Refrigerant Management:

Refrigerants for the HVAC equipment will be selected based on their capacity to minimize the impacts of ozone depletion and global warming.

MATERIALS & RESOURCES

Materials & Resources, Prerequisite 1, Storage and Collection of Recyclables:

Recycling areas that serve the entire building will be provided for paper, corrugated cardboard, glass, plastics, and metals.

Materials & Resources, Credit 2, Construction Waste Management:

The Project will implement a Construction Waste Management Plan to ensure that a minimal amount of waste debris is disposed of in a landfill. The Project goal is to recycle and/or salvage at least 50 percent of construction waste.

Materials & Resources, Credit 4.2, Regional Materials:

The Project will specify materials and products that have been extracted, harvested or recovered, as well as manufactured within 500 miles of the Project site. The goal will be to achieve 10 percent, based on cost, of the total materials value.

INDOOR ENVIRONMENTAL QUALITY

Indoor Environmental Quality, Prerequisite 1, Minimum IAQ Performance:

The Project will be designed to comply with the ASHRAE 62.1-2007 Ventilation Standard per the newest version of LEED 2009.

Indoor Environmental Quality, Credit 4.1, Low-Emitting Materials – Adhesives & Sealants:

The Project will specify adhesives and sealants that comply with the South Coast Air Quality Management District (SCAQMD) Rule #1168 and Green Seal Standard. The VOC limits stated in these standards will not be exceeded for any of the adhesives and sealants used on the interior of the building envelope.

Indoor Environmental Quality, Credit 4.2, Low-Emitting Materials – Paints & Coatings:

The Project will specify that all paints and coatings applied inside the building envelope will comply with the Green Seal Standard GS-11 for paints and primers; Green Seal Standard GS-03 for anti-corrosive paints; and the SCAQMD Rule #1113 for wood finishes, stains, and sealers.

Indoor Environmental Quality, Credit 4.3, Low-Emitting Materials – Flooring Systems:
The Project will specify that all flooring systems must comply with the appropriate standard for carpet, carpet cushion, carpet adhesive, hard surface flooring, floor sealers, stains and finishes, and tile setting adhesives and grout.

Indoor Environmental Quality, Prerequisite 2, Environmental Tobacco Smoke Control:
As a residential project, to comply with this Prerequisite, the Project will implement one of the following options:

1. It will be written into the apartment rental leases that smoking is prohibited in all areas of the building, including adjacent outdoor spaces.

OR

2. The project will implement the following measures per the USGBC:

   - Prohibit smoking in all common areas of the building.
   - Locate any exterior designated smoking areas, including balconies where smoking is permitted, at least 25 feet from entries, outdoor air intakes and operable windows opening to common areas.
   - Prohibit on-property smoking within 25 feet of entries, outdoor air intakes and operable windows. Provide signage to allow smoking in designated areas, prohibit smoking in designated areas, or prohibit smoking on the entire property.
   - Weather-strip all exterior doors and operable windows in the residential units to minimize leakage from outdoors.
   - Minimize uncontrolled pathways for environmental tobacco smoke transfer (ETS) between individual residential units by sealing penetrations in walls, ceilings and floors in the residential units and by sealing vertical chases adjacent to the units.
   - Weather-strip all doors in the residential units leading to common hallways to minimize air leakage into the hallway.
   - Demonstrate acceptable sealing of residential units by a blower door test conducted in accordance with ANSI/ ASTM-E779-03, Standard Test Method for Determining Air Leakage Rate By Fan Pressurization.
   - Use the progressive sampling methodology defined in Chapter 4 (Compliance Through Quality Construction) of the Residential Manual for Compliance with California's 2001 Energy Efficiency Standards (http://www.energy.ca.gov/title24/residential_manual). Residential units must demonstrate less than 1.25 square inches leakage area per 100 square feet of enclosure area (i.e., sum of all wall, ceiling and floor areas).

Indoor Environmental Quality, Credit 6.1, Controllability of Systems - Lighting:

The Project will provide individual lighting controls for 90 percent of the building occupants as well as lighting controls for all shared multi-occupant spaces.

Indoor Environmental Quality, Credit 6.2, Controllability of Systems – Thermal Comfort:

The Project will provide individual thermal comfort controls for at least 50 percent of the building occupants as well as thermal comfort controls for all shared multi-occupant spaces.

Indoor Environmental Quality, Credit 8.2, Daylight & Views - Views for 90 Percent of Spaces:

The Project will be designed so that building occupants in 90 percent of the regularly occupied areas will have a direct line of sight to the outdoors.

INNOVATION AND DESIGN PROCESS

Innovation In Design, Credits 1.1-1.5

The Proponent intends to achieve one Innovation credit. As credits under other LEED rating systems can be pursued as Innovation credits, the Project will pursue the LEED-CI Credit for installing a minimum of 70 percent of the equipment and appliances as EnergyStar Certified.

Innovation In Design, Credit 2.0, LEED Accredited Professional:

The Project team will include at least one LEED AP.

REGIONAL PRIORITY CREDITS

Regional Priority, Credits 1.1-1.4

The following are the Regional Priority Credits for Boston:

Sustainable Sites Credit 7.1: Heat Island Effect – Non-roof

Sustainable Sites Credit 7.2: Heat Island Effect – Roof

LEED 2009 for New Construction and Major Renovations

Project Checklist — West Square South Boston

Y	?	N	Phase				Key Party
21	0	5		**Sustainable Sites**	Possible Points:	**26**	
Y	?	N	D/C				
Y			C	Prereq 1	Construction Activity Pollution Prevention		Civil
1			D	Credit 1	Site Selection	1	Civil
5			D	Credit 2	Development Density and Community Connectivity	5	Arch
		1	D	Credit 3	Brownfield Redevelopment	1	Civil
6			D	Credit 4.1	Alternative Transportation—Public Transportation Access	6	Arch
1			D	Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1	Arch
3			D	Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3	Arch
2			D	Credit 4.4	Alternative Transportation—Parking Capacity	2	Civil
		1	C	Credit 5.1	Site Development—Protect or Restore Habitat	1	Civil
1			D	Credit 5.2	Site Development—Maximize Open Space	1	Civil
		1	D	Credit 6.1	Stormwater Design—Quantity Control	1	Civil
		1	D	Credit 6.2	Stormwater Design—Quality Control	1	Civil
1			C	Credit 7.1	Heat Island Effect—Non-roof	1	Civil, Landscape
1			D	Credit 7.2	Heat Island Effect—Roof	1	Arch
		1	D	Credit 8	Light Pollution Reduction	1	MEP

Y	?	N					
0	2	4		**Water Efficiency**	Possible Points:	**10**	
Y	?	N					
Y			D	Prereq 1	Water Use Reduction—20% Reduction		MEP
	2		D	Credit 1	Water Efficient Landscaping	2 to 4	Landscape
					Reduce by 50%	2	
					No Potable Water Use or Irrigation	4	
		2	D	Credit 2	Innovative Wastewater Technologies	2	MEP
		2	D	Credit 3	Water Use Reduction	2 to 4	MEP
					Reduce by 30%	2	
					Reduce by 35%	3	
					Reduce by 40%	4	

7	0	8			**Energy and Atmosphere**	Possible Points: **35**	
Y	?	N					
Y			C	Prereq 1	Fundamental Commissioning of Building Energy Systems		CxA
Y			D	Prereq 2	Minimum Energy Performance		MEP
Y			D	Prereq 3	Fundamental Refrigerant Management		MEP
5			D	Credit 1	Optimize Energy Performance	1 to 19	MEP
					Improve by 12% for New Buildings or 8% for Existing Building Renovations	1	
					Improve by 14% for New Buildings or 10% for Existing Building Renovations	2	
					Improve by 16% for New Buildings or 12% for Existing Building Renovations	3	
					Improve by 18% for New Buildings or 14% for Existing Building Renovations	4	
					Improve by 20% for New Buildings or 16% for Existing Building Renovations	5	
					Improve by 22% for New Buildings or 18% for Existing Building Renovations	6	
					Improve by 24% for New Buildings or 20% for Existing Building Renovations	7	
					Improve by 26% for New Buildings or 22% for Existing Building Renovations	8	
					Improve by 28% for New Buildings or 24% for Existing Building Renovations	9	
					Improve by 30% for New Buildings or 26% for Existing Building Renovations	10	
					Improve by 32% for New Buildings or 28% for Existing Building Renovations	11	
					Improve by 34% for New Buildings or 30% for Existing Building Renovations	12	
					Improve by 36% for New Buildings or 32% for Existing Building Renovations	13	
					Improve by 38% for New Buildings or 34% for Existing Building Renovations	14	
					Improve by 40% for New Buildings or 36% for Existing Building Renovations	15	
					Improve by 42% for New Buildings or 38% for Existing Building Renovations	16	
					Improve by 44% for New Buildings or 40% for Existing Building Renovations	17	
					Improve by 46% for New Buildings or 42% for Existing Building Renovations	18	
					Improve by 48%+ for New Buildings or 44%+ for Existing Building Renovations	19	
		1	D	Credit 2	On-Site Renewable Energy	1 to 7	MEP
					1% Renewable Energy	1	
					3% Renewable Energy	2	
					5% Renewable Energy	3	
					7% Renewable Energy	4	
					9% Renewable Energy	5	
					11% Renewable Energy	6	
					13% Renewable Energy	7	
		2	C	Credit 3	Enhanced Commissioning	2	CxA
2			D	Credit 4	Enhanced Refrigerant Management	2	MEP
		3	C	Credit 5	Measurement and Verification	3	Owner
		2	C	Credit 6	Green Power	2	Owner

Y	?	N						
2	1	8			**Materials and Resources**	Possible Points:	**14**	
Y			D	Prereq 1	Storage and Collection of Recyclables			Arch
		3	C	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof		1 to 3	Arch/ Contractor
					Reuse 55%		1	
					Reuse 75%		2	
					Reuse 95%		3	
		1	C	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements		1	Arch/ Contractor
1			C	Credit 2	Construction Waste Management		1 to 2	Arch/ Contractor
					50% Recycled or Salvaged		1	
					75% Recycled or Salvaged		2	
		2	C	Credit 3	Materials Reuse		1 to 2	Arch/ Contractor
					Reuse 5%		1	
					Reuse 10%		2	
	1		C	Credit 4	Recycled Content		1 to 2	Arch/ Struc./Contractor
					10% of Content		1	
					20% of Content		2	
1			C	Credit 5	Regional Materials		1 to 2	Arch/ Contractor
					10% of Materials		1	
					20% of Materials		2	
		1	C	Credit 6	Rapidly Renewable Materials		1	Arch/ Contractor
		1	C	Credit 7	Certified Wood		1	Arch/ Contractor

Y	?	N					
6	2	7			**Indoor Environmental Quality**	Possible Points: **15**	
Y			D	Prereq 1	Minimum Indoor Air Quality Performance		MEP
Y			D	Prereq 2	Environmental Tobacco Smoke (ETS) Control		Owner, Arch/MEP
		1	D	Credit 1	Outdoor Air Delivery Monitoring	1	MEP
		1	D	Credit 2	Increased Ventilation	1	MEP
	1		C	Credit 3.1	Construction IAQ Management Plan—During Construction	1	MEP/ Contractor
		1	C	Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1	MEP/ Contractor
1			C	Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1	Arch/ Contractor
1			C	Credit 4.2	Low-Emitting Materials—Paints and Coatings	1	Arch/ Contractor
1			C	Credit 4.3	Low-Emitting Materials—Flooring Systems	1	Arch/ Contractor
	1		C	Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1	Arch/ Contractor
		1	D	Credit 5	Indoor Chemical and Pollutant Source Control	1	Arch/ MEP
1			D	Credit 6.1	Controllability of Systems—Lighting	1	MEP
1			D	Credit 6.2	Controllability of Systems—Thermal Comfort	1	MEP
		1	D	Credit 7.1	Thermal Comfort—Design	1	MEP
		1	D	Credit 7.2	Thermal Comfort—Verification	1	Bldg Mngmt
		1	D	Credit 8.1	Daylight and Views—Daylight	1	Arch
1			D	Credit 8.2	Daylight and Views—Views	1	Arch

Y	?	N					
2	0	0			**Innovation and Design Process**	Possible Points: **6**	
1			D/C	Credit 1.1	70% Engery Star Appliances	1	MEP
1			D/C	Credit 2	LEED Accredited Professional	1	Consultant

Y	?	N					
2	0	0			**Regional Priority Credits**	Possible Points: **4**	
1			D/C	Credit 1.1	Regional Priority: SSc7.1	1	Civil
1			D/C	Credit 1.2	Regional Priority: SSc7.2	1	Civil

40	5	32			**Total**	Possible Points: **110**	

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