



57 JFK STREET PROJECT

SPECIAL PERMIT APPLICATION: VOLUME 1

57 JFK STREET, CAMBRIDGE, MA

BUSINESS B ZONING DISTRICT AND
THE HARVARD SQUARE OVERLAY DISTRICT

MARCH 29, 2022

CLIENT:

CRIMSON GALERIA LIMITED PARTNERSHIP
166 HARVARD STREET, BROOKLINE, MA 02446

PREPARED BY:

NELSON WORLDWIDE
198 TREMONT STREET, SUITE 439, BOSTON, MA 02116

STRUCTURAL CONSULTANT:

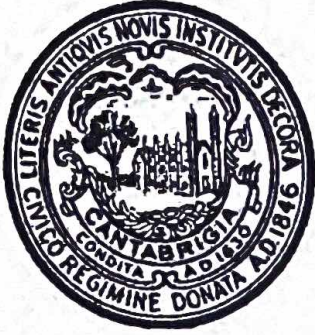
SILMAN
111 DEVONSHIRE STREET, BOSTON, MA 02109

MEP CONSULTANT

ZADE ENGINEERING LLC
1 BILLINGS RD, SUITE 306, QUINCY, MA 02171

VOLUME 1 - Table of Contents

Cover Page	1
Table of Content	2
I. APPLICATION SUMMARY	
a. Special Permit Application	3
b. Dimensional Form	4
c. Ownership Certificate	5
d. Fee Schedule	6
e. Project Narrative	7-18
Narrative Content	7
Background	8
Private Open Space.....	9
Roof Mechanicals.....	9
Support for the requested Special Permits.....	9
Support permit to increase maximum building height	9-10
Support permit exemption from parking and loading requirements	10-13
Support permit exemption the addition from front and side yard requirements	13-16
Compliance with the general special permit criteria.....	16-18
Compliance with urban design guidelines of Section 19.30	17-19
Green area or permeable open space considerations.....	20
f. Green Building Requirements	21-22
g. Community Outreach Narrative	23
h. Trash Narrative and Loading Narrative	24



CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

SPECIAL PERMIT APPLICATION • COVER SHEET

In accordance with the requirements of the City of Cambridge Zoning Ordinance, the undersigned hereby petitions the Planning Board for one or more Special Permits for the premises indicated below.

Location of Premises: 57 John F. Kennedy Street, Cambridge MA 02138

Zoning District: BB zoning district

Applicant Name: Crimson Galeria Limited Partnership

Applicant Address: 166 Harvard Street, Brookline MA 02446

Contact Information: 6172321776 rachna@masonmurphy.com 6172321700
Telephone # Email Address Fax #

List all requested special permit(s) (with reference to zoning section numbers) below. *Note that the Applicant is responsible for seeking all necessary special permits for the project. A special permit cannot be granted if it is not specifically requested in the Application.*

1. Special Permit under Section 20.54.2(2) to increase the maximum building height from 60 to 65 feet.
2. Special Permit under Section 20.54.4(2) to exempt the addition from parking and loading requirements.
3. Special Permit under Section 20.54.5(2) to exempt the addition from front and side yard requirements.

List all submitted materials (include document titles and volume numbers where applicable) below.

Volume I: Project Narrative including overview, compliance with zoning and compliance with criteria specific to Special Permits being sought.
Volume II: Project Plans and Illustrations
Volume III: Appendix & LEED Checklist and Narrative

Signature of Applicant: _____

Rachna D. Balakrishna

For the Planning Board, this application has been received by the Community Development Department (CDD) on the date specified below:

DIMENSIONAL FORM

Project Address: 57 JFK Street, Cambridge

Application Date: 03/28/2022

	Existing	Allowed or Required (max/min)	Proposed	Permitted
Lot Area (sq ft)	14,642	5,000 min	14,642	
Lot Width (ft)	111.96	50	111.96	
Total Gross Floor Area (sq ft)	36,570	n/a	66,904	
Residential Base	0	n/a	30,527	
Non-Residential Base	36,570	n/a	36,570	
Inclusionary Housing Bonus	0	n/a	8,843	
Total Floor Area Ratio	2.50	4.00 residential	4.61	
Residential Base	0	n/a	2.08	
Non-Residential Base	2.50	n/a	2.50	
Inclusionary Housing Bonus	0	n/a	0.60	
Total Dwelling Units	0	n/a	40	
Base Units	0	n/a	35	
Inclusionary Bonus Units	0	n/a	5	
Base Lot Area / Unit (sq ft)	0	300	325	
Total Lot Area / Unit (sq ft)	0	300	325	
Building Height(s) (ft)	29.5	60	65	
Front Yard Setback (ft)	front 5.9 @ Winthrop	39.6 front per C-3	5.9 front	
Side Yard Setback (ft)	front 0 @ JFK Street	34.2 front per C-3	0 front	
Side Yard Setback (ft)	side 7.8 @ 96 Winthrop	26.5 side per C-3	5 side	
Rear Yard Setback (ft)	side 0 @ Parking Garage	31.2 side per C-3	0 side	
Open Space (% of Lot Area)	0	4.69	4.88	
Private Open Space	0	668 sf	714 sf	
Permeable Open Space	0	n/a	n/a	
Other Open Space (Specify)	n/a	n/a	n/a	
Off-Street Parking Spaces	0	40	0	
Long-Term Bicycle Parking	0	41	44	
Short-Term Bicycle Parking	0	4	4	
Loading Bays	0	0 per 20.54.4.2*	0	

Use space below and/or attached pages for additional notes:

*** 0 per C-3 district Loading Use Type for Multi Family**

OWNERSHIP CERTIFICATE

Project Address: 57 JFK Street Cambridge 02138 **Application Date:** 03/28/2022

This form is to be completed by the property owner, signed, and submitted with the Special Permit Application:

I hereby authorize the following Applicant: Crimson Galeria LP
at the following address: 166 Harvard Street, Brookline MA 02440
to apply for a special permit for: A residential addition
on premises located at: 57 JFK Street, Cambridge MA 02138
for which the record title stands in the name of: Crimson Galeria Limited Partnership
whose address is: 1315 Beacon Street, Brookline MA 02440

by a deed duly recorded in the:

Registry of Deeds of County: Middlesex Book: 28824 Page: 484

OR Registry District of the Land Court,
Certificate No.:

Book: Page:

Rachna D. Balakrishna (Limited Partner)
Signature of Land Owner (If authorized Trustee, Officer or Agent, so identify)

To be completed by Notary Public:

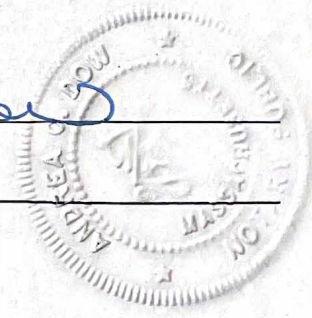
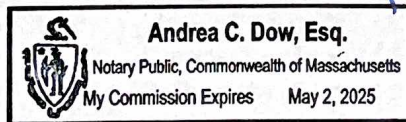
Commonwealth of Massachusetts, County of Norfolk

The above named Rachna Balakrishna personally appeared before me,

on the month, day and year Feb 7, 2022 and made oath that the above statement is true.

Notary: Andrea C. Dow

My Commission expires: May 2, 2025



FEE SCHEDULE

Project Address: 57 JFK Street, Cambridge 02138 **Application Date:** 03/28/2022

The Applicant must provide the full fee (by check or money order) with the Special Permit Application. Depending on the nature of the proposed project and the types of Special Permit being sought, the required fee is the larger of the following amounts:

- If the proposed project includes the creation of new or substantially rehabilitated floor area, or a change of use subject to Section 19.20, the fee is ten cents (\$0.10) per square foot of total proposed Gross Floor Area.
- If a Flood Plain Special Permit is being sought as part of the Application, the fee is one thousand dollars (\$1,000.00), unless the amount determined above is greater.
- In any case, the minimum fee is one hundred fifty dollars (\$150.00).

Fee Calculation

New or Substantially Rehabilitated Gross Floor Area (SF): 30,527 × \$0.10 = \$ 3,052.70

Flood Plain Special Permit Enter \$1,000.00 if applicable: \$ 0.00

Other Special Permit Enter \$150.00 if no other fee is applicable: \$ 150.00

TOTAL SPECIAL PERMIT FEE **Enter Larger of the Above Amounts: \$ 3,052.70**

PROJECT NARRATIVE

Crimson Galeria Limited Partnership proposes the vertical expansion of its building at 57 JFK Street to add 40 residential units. The proposed addition will add energy and life to Harvard Square and to the adjacent Winthrop Park. The project also will refresh the existing facades, resulting in an improved, integrated aesthetic for the entire expanded building. The proposed cladding materials are consistent with the warm tones of neighboring buildings. The scale and proportion of the addition are modern, reflecting the Crimson Galeria’s relatively recent construction, while fitting in with the overall context of the neighborhood.

Located at the corner of JFK and Winthrop Streets, the Crimson Galeria has approximately 36,570 square feet of commercial gross floor area. Currently, it houses primarily restaurant tenants in the basement, first floor, and second floor. The proposed expansion will add a small ground floor residents’ lobby and elevator core, a ~11,373 square foot third floor, a ~9,910 square foot fourth floor, and a ~8,551 square foot fifth floor, totally approximately 30,334 square feet of new gross floor area. The new third floor will extend almost to the existing facade lines facing JFK and Winthrop Streets. The fourth and fifth floor facades facing those streets will be stepped back from those of the levels immediately below.

This project requires three special permits from the Cambridge Planning Board. The first, under Section 20.54.2(2), to increase the maximum building height from 60 feet to approximately 65 feet. The second, under Section 20.54.4(2), to exempt the proposed addition from parking and loading requirements. The third, under Section 20.54.5(2) to exempt the addition from front and side yard requirements. Finally, as discussed below, a fourth special permit waiver from green area or permeable open space requirements may be required, depending on how the Planning Board interprets the language of Section 19.30.

NARRATIVE CONTENTS

Background.....	2
Private Open Space.....	3
Rooftop mechanicals.....	3
Support for the requested Special Permits.....	3
<i>Special permit to increase maximum building height.....</i>	<i>4</i>
<i>Special permit exemption from parking and loading requirements</i>	<i>4</i>
<i>Special permit exempting the addition from front and side yard requirements.</i>	<i>8</i>
Compliance with the general special permit criteria	10
Compliance with urban design guidelines of Section 19.30.....	12
Green area or permeable open space considerations.....	14

BACKGROUND

The existing building is located at the southwest corner of the intersection of JFK and Winthrop Streets. The project site is in the Harvard Square Overlay District (HSOD); the base zoning is Business B. Except for Winthrop Park, where the base zoning is Open Space, all the site's neighbors also are in the Business B district and the HSOD. Per Section 20.54.6, the maximum floor area ratio for a Business B lot in the HSOD is 4.0.

The current uses of the site are Retail Business and Consumer Service Establishments, which are allowed by right in the Business B districts. These uses extend to the finished basement level. The current tenants include BonChon (Korean restaurant), Core Power Yoga, Maharaja Restaurant, Shake Shack, Menya Jiro (ramen restaurant), and Veggie Grill.

In 2015, the Planning Board, and prior to that the Historic Commission, approved a proposed vertical expansion which would have added three floors of Class A office space atop the existing building. That special permit exempted the proposed addition from parking and loading requirements under a former provision of the HSOD zoning that allowed the applicant to make a cash contribution to the Harvard Square Improvement Fund in an amount equal to fifty percent (50%) of the cost of construction of the minimum number of parking spaces required based on the gross floor area of the proposed office use. Work never began under that special permit.

In January 2016, the Cambridge City Council amended the zoning ordinance's definition of gross floor area to authorize the Planning Board to exempt from gross floor area calculations any basement or cellar space that it finds supports the character of the neighborhood or district in which the applicable lot is located. In 2019, the Planning Board, again after Historic Commission review, amended the 2015 special permit to exempt the building's basement from gross floor area calculations, and to exempt the proposed office addition from parking and loading requirements under a former provision of the HSOD zoning that allowed such an exemption if the expanded building did not exceed 80% of the maximum permitted gross floor area for the lot.

The worldwide Covid-19 pandemic arrived before construction of the office addition could begin, after which the demand for office space in Harvard Square and elsewhere plummeted. Work never began under the 2019 special permit amendment. The applicant now proposes a different vertical expansion of the building, to create forty residential units.

In March 2020, the City Council made several changes to the HSOD zoning regulations, including eliminating the former requirements of payment or limitation of gross floor area as preconditions to obtaining a special permit excluding a new structure or addition from parking and loading requirements.

PRIVATE OPEN SPACE

Section 5.22 requires that every residential project (other than in the MXD District) must provide private open space. Because the underlying zoning district is Business B, the Residential C-3 district requirements apply. § 5.28.2(c). Section 5.22.2 provides that for a mixed-use building such as this project will create the required minimum private open space for residential use is calculated in relation to the portion of the lot which the residential floor area is to the total floor area in the building. This means that the private open space requirement is 4.53%.¹ of the lot area, or 668 square feet. This private open space area will be provided by the third-floor combination of the courtyard and Unit 301, at the lowest level used for residential purposes, as is allowed by Section 5.22.1.

ROOFTOP MECHANICALS

The rooftop HVAC/mechanical systems serving the existing restaurant and retail tenants will be replaced with lower-profile units on a podium between the top of the current building and the bottom of the residential addition. They will be located opposite the Winthrop Street side of the building, facing the adjacent parking garage. As such they are not expected to bother any adjacent properties.

HVAC/mechanical systems for the residential addition will be placed on the roof of the addition, set back from all building facades, and screened. Given the surrounding topography and heights of adjacent and nearby buildings, these systems should not be visible or audible from nearby properties.

All HVAC/mechanical systems, whether for the existing building or the residential addition, will be designed to comply fully with the City's Noise Ordinance.

SUPPORT FOR THE REQUESTED SPECIAL PERMITS

¹ Calculated as 10% requirement multiplied by 30,334 sf of residential floor area divided by total building gross floor area of 66,904 sf.

Special permit to increase maximum building height

The first requested special permit is to increase the maximum allowed building height from 60 feet to 65 feet. Section 20.54.2(2) authorizes the Planning Board to increase the maximum building height for a building in Harvard Square up to 80 feet subject to the following conditions:

If a Special Permit is issued portions of the building may extend to eighty (80) feet in height provided that those portions in excess of sixty (60) feet are set back from the street line at least ten (10) feet, and that those portions are also set back from one or more forty-five (45) degree sky exposure planes, unless otherwise permitted by the Planning Board. A forty-five (45) degree sky exposure plane shall be an imaginary inclined plane beginning fifty-five (55) feet above any streetline in the districts and rising over one or more lots at a forty-five (45) degree angle.

Only the upper portion of the new fifth floor will be more than 60 feet above the mean grade of the ground adjoining the building. The fifth floor will be setback more than ten feet from JFK and Winthrop Streets. It also will be set back from forty-five degree sky exposure planes starting fifty-five feet above the JFK and Winthrop Street sidelines. Rooftop mechanicals will be setback further from those streets.

Special permit exemption from parking and loading requirements

The second requested special permit is to exempt the proposed vertical expansion from parking and loading requirements. Section 20.54.4(2).a authorizes the Planning Board to grant such a special permit, provided that the following conditions are met:

- a. *The subject lot is sufficiently small in size as to contribute to a development pattern of diverse, small scale, new structures and the retention of existing structures (for lots exceeding 10,000 square feet a specific finding shall be made that this objective has been met).*

The project site has a lot area of 14,506 square feet, of which approximately 12,812 square feet is covered by the existing building, which will be retained. The proposed addition comprises three residential floors, with the upper two floors each stepped back from the level below. The design maintains the scale and character of the existing structure, while carefully adding development atop the roof, thereby contributing to the diversity of development patterns in Harvard Square.

- b. *The Planning Board shall specifically find that an exemption from parking and loading requirements will result in a building design that is more appropriate to its location and the fabric of its neighborhood and that it is in conformance with the objectives and criteria contained in Harvard Square Development Guidelines.*

Using the alley between the building and 96 Winthrop Street for parking would create additional vehicle trips on Winthrop Street, contrary to recent efforts to emphasize pedestrian use of the street. At best, a few parking spaces might be provided, at the expense of the proposed residential lobby and elevator core, and the existing access for trash removal and recycling.

The only way to add significant parking within the building would be to convert the basement and/or first floor commercial space, with vehicle access from JFK or Winthrop Street. This would compromise the pedestrian street-level experience along one or both the building's street facades, and sacrificing space currently used by restaurants and small-scale retail serving the Harvard Square neighborhood. A vehicle entrance off of JFK Street would inject turning movements into an already congested arterial street. A vehicle entrance off of Winthrop Street would increase vehicular traffic on a street the city is working to make more pedestrian friendly.

The project is in conformance with the objectives and criteria of the Harvard Square Development Guidelines,² including:

1. *Preserve historically or architecturally significant buildings and structures as well as those that contribute to the distinctive visual character and historic significance of the District.*

The existing building, which does not have any historical significance nor significant architectural character, will remain largely unchanged. The addition will complement the existing building's architectural character. The project will not alter the historic granite wall to the rear of the building. The residential lobby will be set back from Winthrop Street, preserving the view from the street of the adjacent, historically significant building at 96 Winthrop Street (formerly the House of Blues). The elevator core, at the rear of the residential lobby, will have negligible impact on 96 Winthrop Street. The Cambridge Historical Commission issued a Certificate of Appropriateness for the project on September 2, 2021.

2. *Sustain the vitality of the commercial environment by preserving architecturally significant or original building fabric where it currently exists. When this is not possible, support creative, contemporary design for storefront alterations and additions.*

The existing building's façade is not architecturally significant. The project will refresh, while generally preserving, the building's fabric and the addition will be consistent with the existing architecture and fabric. The new residential lobby and elevator core and refreshed commercial entrances will feature contemporary design elements.

² Quoted provisions of the Harvard Square Development Guidelines are from the February 22, 2002 draft guidelines, the most recent version available from the Community Development Department's Design Guidelines and Area Plans Referenced in the Zoning Ordinance webpage.

3. *Support creative, contemporary design for new construction that complements and contributes to its immediate neighbors and the character of the District. Recognize and respect creativity of design and mitigate the functional impacts of development on adjacent areas.*

The character of the surrounding context is highly varied, with a variety of historic, older, and modern buildings, as well as streets, squares, and alleys. The existing building has a modern appearance, and the new addition proposes a complimentary, contemporary design aesthetic. The addition's design is intended to complement the architecture of the existing building while receding into the background of historic Winthrop Park. The refreshing of the current facade will include redesigned entries to the commercial space that will improve visibility and break up the building's horizontal facades at the street level.

4. *Build on and sustain the diversity of existing building form, scale and material. Preserve and encourage flowers, green yards and courtyards and small, free-standing and wood-frame buildings where that character prevails. Encourage streetwall buildings where that character has been set. Encourage ground-ground level, small-scale storefronts to preserve the vitality and character of the streets.*

The proposed addition will build on the existing building's form, scale, and materials. The existing building is set to the sidewalk edge along JFK Street, which is generally consistent with streetwall building design in the vicinity. The proposed addition will reinforce the continuity of the JFK Street wall plane by aligning the third-floor facade with that of the adjacent parking garage. The addition will then step back at the fourth and fifth floor levels, to respect existing views of neighboring buildings and to minimize new shadows on Winthrop Park. The storefront facades along both streets will be preserved.

The current sidewalk width will be maintained on Winthrop Street to preserve the pedestrian experience. The alley between the building and 96 Winthrop Street will continue to provide a visual break between the two properties.

5. *Expand the high quality public environment now established in the heart of the District with a compatible palette of materials and street furniture.*

The proposed exterior materials will provide a contemporary aesthetic, while subtly contrasting with the historic (brick) context of Harvard Square. The existing facade will be reclad in gray high-density fiber cement, which has a stone-like visual quality. This will improve the condition and appearance of the existing structure. The entrances to the existing building, in the middles of the JFK and Winthrop Street facades, will be renovated with more contemporary designs.

A residential lobby and elevator will be added in the alley off Winthrop Street, which is currently used only for trash and recycling. The alley will be improved with the

installation of a gate acting as a visual scree, patterned concrete surface, and red brick pavers along the new Residential Entry.

6. *Expand the network of pedestrian walkways and paths wherever they can conveniently provide alternate routes through the District. Increase public access to alleys and interior spaces where appropriate, and upgrade paving and landscaping of such pathways and spaces. Enhance accessibility and safety for pedestrians throughout the District.*

The grade change between the alley and the adjacent property to the south is nearly 10 feet, making an accessible pedestrian connection impossible. Nor does the site provide a desirable or convenient location for a midblock connection. Planters will be installed along the property line at the Winthrop Street end of the alley to enhance the pedestrian experience, and as a deterrent to vehicles using the end of the alley for parking or loading.

7. *Encourage new residential projects in the District, especially in mixed-use buildings, and support existing residential uses.*

The project will transform the existing commercial (primarily restaurant) building into a mixed-use building with forty residential units.

8. *Encourage projects that will maintain a wide diversity of uses serving the needs of surrounding neighborhoods, students, and visitors from around the world.*

The project will preserve and enhance the existing building which has for several decades provided space for a variety of restaurant and retail uses. The occupants of the forty new residential units will provide additional customers for these and other Harvard Square businesses.

9. *Encourage creative solutions to the District's parking and transportation issues, including the problem of on-street deliveries. Discourage loading docks, which do not generally contribute to the historic character of the street.*

The addition will share the existing building's trash and recycling facilities in the building's basement; the project will not include any loading docks.

- c. *No National Register or contributing building is demolished or so altered as to terminate or preclude its designation as a National Register or contributing building; and*

The existing building is not a National Register or contributing building.

- d. *No National Register or contributing building has been demolished or altered so as to terminate or preclude its designation within the five (5) years preceding the application.*

No National Register or contributing building has existed on the lot within the five years preceding the application.

Special permit exempting the addition from front and side yard requirements.

The third requested special permit is an exemption from front and side yard requirements.³ The existing building has minimal front yards facing JFK and Winthrop Streets, virtually no side yard facing the adjacent parking garage. The alley separating the building from 96 Winthrop Street is approximately 15' 8" wide, except at the rear where an underground vault protrudes more than 3 feet above grade across the width of the alley. Because front and side yard requirements are calculated by formulae using the height and length of the facade facing a particular yard, the vertical expansion will increase the required yard depths, yet the existing building will remain in place.

Section 20.54.5 of the HSOD zoning provides for the waiver of yard requirements:

Maintenance of the Harvard Square Overlay District's positive diversity of building form and scale and its variety of open spaces, yards and courtyards is encouraged throughout the District. It is therefore desirable to permit design flexibility to allow any physical change in the District to reflect the character of the area within which it is located. To this end any building in the Harvard Square Overlay District shall be exempt from the yard requirements as specified in Section 5.30, (except where such yard abuts a lot, but not a public way, outside the Overlay District) if the following conditions are met:

1. *The building existed as of December 15, 1985 or a building permit had been issued by that date, or*
2. *For any new building in any Business, Office or Residence C-3 base-zoning district, for which a building permit is issued after December 15, 1985, the Planning Board issues a Special Permit exempting the building from yard requirements provided:*
 - a. *The design of the new structure shall be in conformance with the objectives and criteria contained in Harvard Square Development Guidelines.*
 - b. *No National Register or contributing building is demolished or so altered as to terminate or preclude its designation as a National Register or contributing building; and*

³ Because the building and site have frontage on two streets, front yard requirements apply along JFK and Winthrop Streets and side yard requirements apply along the other two lot lines. The building and property do not have a rear yard or rear lot line. CZO, § 5.24.3.

c. No National Register or contributing building previously existed on the site in the preceding five (5) years and which has been so altered as to terminate or preclude its designation or demolished prior to the application.

The existing building was constructed in 1975. Thus, the proposed vertical expansion may already be exempt from front and side yard requirements under the first provision quoted above.

To the extent the Planning Board does not find the expansion so exempt, the applicant requests a special permit under the second provision quoted above. As detailed above, the proposed addition is in conformance with the objectives and criteria of the Harvard Square Development Guidelines, the existing building is not a National Register or contributing building, and no National Register or contributing building existed on the site in the preceding five years.

The Harvard Square Development Guidelines also include provisions specific to the renovation of/addition to existing buildings:

Creative design solutions to development and renovation efforts are encouraged to ensure that the unique resources and character of Harvard Square are protected.

1. *New Construction/Additions to Existing Buildings*

Harvard Square is a kaleidoscopic urban environment that has always changed with time. That continuous evolution of architectural design and site development has been positive and necessary to keep the Square fresh, vibrant, and economically viable. Contemporary design expression is encouraged, as is new construction that accommodates older structures on or adjacent to the site. Construction that only incorporates portions of older structures may be acceptable if those portions are substantial and significant; however, use of isolated and token historic elements is discouraged. Demolition involving only the retention of facades to allow replacement of historic structures with new construction behind is discouraged unless the supporting historic fabric is found not to be salvageable.

In the Square's historic context, new building design should be guided by the particular considerations of its place, such as the appropriateness of the structure's height, scale, mass, proportions, orientation, and lot coverage; the vertical and horizontal emphasis, rhythm of openings, transparency, texture, and materials of the publicly-visible facades; sunlight and shadow effects; relationship to public open space; and landscaping.

Any design should be further guided by consideration of the relationship of a proposed building to the site and to other buildings and structures in the vicinity. In that regard, Harvard Square has been divided into the six smaller areas, or subdistricts described above, which are distinctive in their built character.

Designers should refer to the discussion of the existing conditions and preservation and development goals for the particular subdistrict in which they are working.

The addition will use contemporary cladding and finishes, which also will be used to refresh the existing building's facades. The new residential lobby and the refreshed commercial entrances will have a more contemporary design. The new upper floors include setbacks and articulation with high levels of transparency. The new floors will step back from JFK and Winthrop Streets to respect existing views and minimize shadow impacts on Winthrop Park.

The project site is in Subdistrict D: Winthrop Square/JFK Street. As the Development Guidelines note:

This subdistrict includes an eclectic mix of architecture that spans 200 years of Cambridge history. ... The buildings located around Winthrop Square and on the northern section of JFK Street represent a mixture of frame and masonry construction. Most of the older buildings, including residences and light-industrial buildings have been converted to commercial uses.

The proposed addition is consistent with that history, although in this instance it will be adding residences not converting existing residences to commercial uses. The project will continue to protect the portion of 18th century wall that runs behind the property, described in the subdistrict guidelines as "a critically-important artifact of early development in Harvard Square."

2. *Alterations to Existing Buildings*

Where exterior architectural features of a building are proposed to be altered, a property owner or developer is encouraged to retain and repair, rather than replace, original or significant exterior building elements.

The existing building's exterior architectural features consist primarily of concrete elements with large punched "ribbon" commercial windows. This architecture will be retained and refreshed to match the vertical addition, with the existing commercial entrances upgraded to a more contemporary design.

COMPLIANCE WITH THE GENERAL SPECIAL PERMIT CRITERIA

The requested special permits satisfy the general special permit criteria of CZO Section 10.43, which provides that:

Criteria. Special permits will normally be granted where specific provisions of this Ordinance are met, except when particulars of the location or use, not generally true of the district or of the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:

- (a) *it appears that requirements of this Ordinance cannot or will not be met, or ...*

With the requested special permits, the requirements of the Ordinance will be met.

- (b) *traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character, or ...*

The City maintains Winthrop Street as a shared street for pedestrian, bicycle, and motor vehicle traffic, which is closed to motorized vehicles between 11:00 a.m. and 2:00 a.m. daily. Although the sidewalk area along the building's Winthrop Street facade is a fire lane, unauthorized parking and loading activity occurs in that area. The applicant has agreed to install large planters or other physical elements on its property along the Winthrop Street line to prevent this unauthorized activity. Because it does not include the creation of any additional parking spaces, the proposed residential addition will not generate new vehicle trips to/from the project site.

The proposed special permit will not change the existing patterns of activity along Winthrop Street or elsewhere in the vicinity.

- (c) *the continued operation of or the development of adjacent uses as permitted in the Zoning Ordinance would be adversely affected by the nature of the proposed use, or ...*

The continued use of the existing basement, first floor, and second floor for retail, restaurant, and other small-scale commercial uses is not expected to adversely impact the operation of adjacent uses that exist or allowed under current zoning. Nor is the proposed residential addition expected to have adverse impacts. Rather, the new residents are expected to frequent retail, restaurant, and other uses in the vicinity, contributing to the vitality of this area of Harvard Square.

- (d) *nuisance or hazard would be created to the detriment of the health, safety and/or welfare of the occupant of the proposed use or the citizens of the City, or ...*

The proposed residential addition is not expected to cause any nuisance or hazard. The mechanical equipment for the addition will be set back from the edges of the fifth floor; there are no adjacent occupied buildings at that level. The rooftop HVAC/mechanical systems serving the existing restaurant and retail tenants will be replaced with lower-profile units on a podium between the top of the current building and the bottom of the residential addition. They will be located opposite the Winthrop Street side of the building, facing the adjacent parking garage. As such they are not expected to bother any adjacent properties. All mechanical equipment will comply fully with the City's Noise Ordinance.

- (e) *for other reasons, the proposed use would impair the integrity of the district or adjoining district, or otherwise derogate from the intent and purpose of this Ordinance, and ...*

Granting the requested special permits would not impair the integrity of the Harvard Square Overlay District, the underlying Business B district, or any adjoining district. The proposed

residential use of the addition is consistent with the intent of the zoning requirements for the Harvard Square Overlay District, the underlying Business B district, and other applicable citywide requirements.

- (f) *the new use or building construction is inconsistent with the Urban Design Objectives set forth in Section 19.30.*

As discussed below, the proposed residential addition is consistent with the Urban Design Objectives as set forth in Section 19.30:

COMPLIANCE WITH URBAN DESIGN GUIDELINES OF SECTION 19.30

As stated in Section 19.21.21, the purpose of urban design review by the Planning Board is to:

review the specific design details of buildings and their site layout to ensure that the design of the building and its location on the lot minimize any potential negative impact on abutting properties and on the environment along public streets and sidewalks. Particular attention will be paid to the design of the ground floor; the layout of service facilities including driveways, and parking and loading facilities; the location and screening of mechanical service equipment and waste disposal facilities; landscape amenities; and similar building and site layout details.

The only ground floor element of the proposed vertical expansion of the existing building will be a small residential lobby. The new residential space will not require a driveway or loading facility, and the applicant is requesting a waiver of the parking requirement. Rooftop mechanical equipment will be screened and designed to comply with the City's Noise Ordinance. Waste, including recyclable materials, will be stored inside the building until pickup. As the existing building occupies almost the entire site, and the perimeter areas outside the building footprint already are used for sidewalks and a service alley, opportunities to add landscape amenities are few (and further limited by the need to provide short-term bicycle parking).

The project's compliance with the specific requirements of Section 19.30 is discussed below.

(19.31) New projects should be responsive to the existing or anticipated pattern of development.

The project fits within the context of nearby building heights and existing street walls. The addition's JFK Street facade will align with the existing building's street wall at the third floor level, and connect visually to the taller parking garage immediately to the south. The addition's Winthrop Street facade will step back further at the fourth and fifth floor levels, preserving views from and limiting new shadows on Winthrop Park. The massing of the addition also is sensitive to the transition in height from the adjacent, smaller Hyde-Taylor House at 96 Winthrop Street.

(19.32) Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.

The project is principally an addition atop an existing two-story building. Repurposing the alley from trash and recycling storage to include a new residential lobby will improve the building's interface with Winthrop Street, as will the installation of physical barriers to prevent vehicles from parking or loading on the property adjacent to Winthrop Street. Long-term bicycle parking for residents will be provided inside the building. Short-term bicycle parking will be provided along Winthrop Street.

(19.33) The building and site design should mitigate adverse environmental impacts of a development upon its neighbors.

All rooftop mechanical equipment will be selected, located, and screened so as to not adversely impact the abutting properties or members of the public using Winthrop Street or Winthrop Park, and will comply fully with the City's Noise Ordinance.

Shadow impacts on Winthrop Park have been minimized. Shadow increases at the spring and fall equinoxes will be marginal and are not expected to have a significant adverse impact on the use or enjoyment of the park.

(19.34) Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.

The project will not cause a burden on City infrastructure.

(19.35) New construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically.

The project complies with the general development guidelines for the Harvard Square Overlay District. It will reinforce and enhance the diverse development patterns of this area of Cambridge. It does not involve the demolition or alteration of any historical or architecturally significant structures.

(19.36) Expansion of the inventory of housing in the city is encouraged.

The project will add forty residential units.

(19.37) Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.

The project is the vertical expansion of an existing, two-story building, and will neither create nor remove open space. The project will preserve the open area between building and Winthrop Street, and will add physical barriers to prevent vehicles from using that space. This space contributes to the shared street nature of Winthrop Street and serves as a publicly accessible area for outdoor seating.

The stepped massing of the proposed addition will create an uncluttered backdrop to the adjacent Winthrop Park, without visually intruding on this important passive recreation and historic open space.

GREEN AREA OR PERMEABLE OPEN SPACE CONSIDERATIONS

In their pre-filing review of this application, CDD staff asked for an explanation of how the project would comply with Section 19.59.⁴ It would not be possible for 15% of the project site to be Green Area or Permeable Open Space. Green Area Open Space, as defined in Article 2, must be “land at grade, and shall consist of friable, permeable materials (including but not limited to loam, gravel, sand, crushed stone, and including naturally occurring soil, bedrock, and incidental pipes and other underground utilities) having a minimum depth of three (3) feet.” The existing building footprint covers most of the project site. That footprint will be enlarged somewhat by the residential lobby. The remainder of the project site is covered by portions of the public sidewalks along JFK Street and Winthrop Street and the alley between the existing building and the Hyde-Taylor House building.

Replacing portions of the sidewalks with strips of landscaping destined to be walked over daily would serve no practical use and would inhibit access to the building by the mobility impaired or bicyclists. The remainder of the alley will be needed for access between the building’s trash and recycling storage areas and Winthrop Street.

Replacing portions of the sidewalks (or alley surface) with permeable pavers might qualify those areas as Permeable Open Space. Doing so would create an uneven surface for pedestrians and bicyclists while providing negligible public benefit. It also would have the potential of increasing stormwater infiltration immediately adjacent to the foundation of a building that was not designed or constructed with that in mind.

Because the project already will be subject to special permit review, the building and site plan requirements of Section 19.50—including Section 19.59—do not appear to apply. See Section 19.30 (“Nor shall a project subject to special permit review be required to conform to the Required Building and Site Plan Requirements set forth in Section 19.50.”). If the Planning Board determines that Section 19.59 nonetheless applies, the applicant requests a waiver from Section 19.59, as provided for by Section 19.51.2.

⁴ Section 19.59 provides that:

At least 15% of the lot shall consist of any combination of Green Area or Permeable Open Space as defined in Article 2.000. This requirement may be met on a lot held in the same ownership, provided the Open Space is located within 300 feet of the development lot and does not serve to meet the requirement of this Section 19.59 for any other development.

Green Building Requirements

57 JFK Street Green Building Report – Certification for Special Permit Stage

Status: The Community Development Department (CDD) received the Green Building Report (GBR) for the Special Permit stage for 57 JFK Street. Pursuant to Section 22.25.1 of the Zoning Ordinance, CDD staff have reviewed the project’s GBR and provide the following Determination, Summary of Compliance and Comments.

CDD Determination: The documentation provided by the Applicant is adequate and demonstrates compliance with the Green Building Requirements applicable to the Special Permit stage. A revised submission, with additional documentation will be required at the Building Permit and Certificate of Occupancy stages.

Project Summary: This project is subject to the City’s Green Building requirements, which mandate that projects containing less than 50,000 square feet of GFA meet the LEED Silver requirements. Based on the documents submitted, the project is expected to achieve LEED Gold certification with 74.5 points. The project is seeking LEED certification with USGBC.

Summary of Compliance:

Green Building Professional Affidavit Certification

Stefan David Vogelmann, LEED AP of Nelson Architecture & Interiors, has been identified as the Green Building Professional for the project. The affidavit states that this professional has reviewed all relevant documents for this project and confirm to the best of their knowledge that those documents indicate that the project has been planned and designed to achieve the LEED requirements of Section 22.24 under Article 22.20 of the Cambridge Zoning Ordinance.

LEED Rating System Checklist, LEED and Net Zero Narrative

- Rating System: LEED v4 BD+C: Multifamily Midrise.
- Energy cost saving = 26.6% over the LEED baseline standard (ASHRAE 90.1-2010).
- Energy use savings = 26.6% reduction in energy use relative to ASHRAE 90.1-2010 baseline.
- Site EUI (Stretch Code standards) = 18.4 kBtu/SF-yr.
- Source EUI (Stretch Code standards) = 51.6 kBtu/SF-yr.
- GHG emissions reduction = 26.6% reduction.
- LEED categories and their credit points:
 - Integrative Process – 1 point
 - Location and Transportation – 15 points
 - Sustainable Sites – 3 points
 - Water Efficiency – 8 points
 - Energy and Atmosphere – 27 points
 - Materials and Resources – 3.5 points
 - Indoor Environmental Quality – 10 points
 - Innovation – 4 points
 - Regional Priority – 3 points
 - **Total credit points = 74.5 point**

Advisory Comments:

While the project meets the Green Building Requirements, CDD staff do provide comments and recommendations for consideration to the Planning Board on how projects might further improve their energy performance or reduce their embodied carbons. The Planning Board looks carefully at the sustainability aspects and qualities of all building types/use, and their operational and embodied carbons. For that reason, staff believe the following recommendations are relevant to this project and should be considered:

1. Staff recommend the use of centralized heat pump technology for heating, cooling and DHW.
2. For low emitting materials, staff recommend reaching the 90% threshold in at least three product categories.
3. Since the project is primarily residential, staff recommends the use of WELL standards or Fitwel guidelines, in addition to LEED.
4. Staff recommend conducting a whole-building life-cycle analysis for the Project to demonstrate commitment to reducing environmental impacts including those of global warming, depletion of the ozone layer, and other concerns.
5. Future updates from the applicant should include the following:
 - a. a sustainable design specification section for the emission levels of composite wood products, paints, sealants, and finishes, as well as for carpet, carpet pads, and adhesives.
 - b. an updated roof plan showing mechanical equipment and identifying areas that could potentially be dedicated to green roof or solar array systems.
 - c. For building permit phase, the applicant submission should be a single pdf file with updates, as well as the project name and page number listed on all pages.
6. Staff recommend pursuing enhanced indoor air quality strategies, especially using higher filtration levels above 8 MERV preferably 10-13 MERV to do better in capturing 1-3 microns particle size.

Community Outreach Narrative

We began our efforts at Neighborhood and Community Outreach for our proposed residential addition at 57 JFK Street by sending written notice on June 22, 2021 and again on June 28, 2021 to all of the abutters on the list provided by CDD and also reached out to other business owners, residents and community members, including representatives at University Lutheran Church (Kathleen Reed) and First Parish Church (Adam Dyer). In addition to providing written notice to the abutters, we have done the following on community outreach: 1) Presented our plans at the July 2, 2021 meeting of the Harvard Square Neighborhood Association (HSNA) on Zoom; 2) Presented our plans at an open, in-person community meeting on July 12th at 57 JFK Street; 3) Presented our plans at the September 10, 2021 in-person Harvard Square Business Association (HSBA) meeting. Cambridge Historical Commission reviewed our plans at their 8/5/2021 and 9/2/2021 meetings and signed off on the plans during the September 2nd meeting.

Trash Narrative

The Crimson Galeria building at 57 JFK Street in Cambridge is currently a 2-story commercial building with restaurant and retail/service tenants. Trash and Recycling is picked up daily for 57 JFK Street by Casella Waste Systems. This daily pickup will continue with the proposed residential addition on top of the existing building.

For the 3 residential floors there will be a designated trash room on each floor where residents can deposit their trash and recycling at any time. Building management will move the trash and recycling from the trash rooms on the third, fourth and fifth floors to larger trash and recycling bins in the basement everyday so that they can be included in the daily pickup by Casella. There will also be a cardboard baler in the basement. As noted above, trash and recycling pickup will continue to occur on Winthrop Street every morning.

Loading Narrative

Loading, deliveries and moving for the residential addition will only occur between 7:00am and 11:00am on Winthrop Street; the City allows vehicles to enter the street before 11:00am. Moving vehicles will be scheduled to come only between 7:00-11:00am and will be managed by a building maintenance person.

57 JFK STREET PROJECT

SPECIAL PERMIT APPLICATION: VOLUME 2

57 JFK STREET, CAMBRIDGE, MA

BUSINESS B ZONING DISTRICT AND
THE HARVARD SQUARE OVERLAY DISTRICT

MARCH 29, 2022

PROJECT DATA:

CLIENT:

CRIMSON GALERIA LIMITED PARTNERSHIP
166 HARVARD STREET, BROOKLINE, MA 02446

PREPARED BY:

NELSON WORLDWIDE
198 TREMONT STREET, SUITE 439, BOSTON, MA 02116

STRUCTURAL CONSULTANT:

SILMAN
111 DEVONSHIRE STREET, BOSTON, MA 02109

MEP CONSULTANT

ZADE ENGINEERING LLC
1 BILLINGS RD, SUITE 306, QUINCY, MA 02171

LIST OF FIGURES:

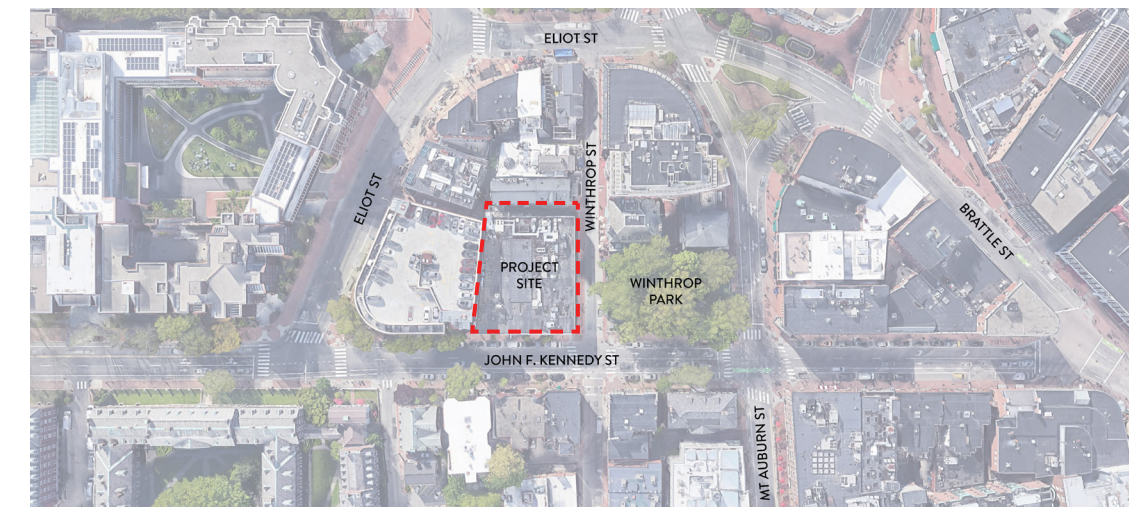
- FIGURE 1 - EXISTING CONDITIONS SURVEY
- FIGURE 2 - EXISTING CONDITIONS
- FIGURE 3 - ZONING COMPLIANCE
- FIGURE 4 - URBAN ANALYSIS DIAGRAMS
- FIGURE 5 - SITE PLAN
- FIGURE 6 - SITE PLAN
- FIGURE 7 - FLOOR PLANS - BASEMENT PLAN
- FIGURE 8 - FLOOR PLANS - GROUND FLOOR PLAN
- FIGURE 9 - FLOOR PLANS - SECOND FLOOR PLAN
- FIGURE 10 - FLOOR PLANS - THIRD FLOOR PLAN
- FIGURE 11 - FLOOR PLANS - FOURTH FLOOR PLAN
- FIGURE 12 - FLOOR PLANS - FIFTH FLOOR PLAN
- FIGURE 13 - FLOOR PLANS - ROOF PLAN
- FIGURE 14 - LONG TERM BICYCLE PARKING DIAGRAM (UP TO UNIT)
- FIGURE 15 - LONG TERM BICYCLE PARKING DIAGRAM (DOWN TO BASEM.)
- FIGURE 16 - BUILDING STEP BACK DIAGRAM
- FIGURE 17 - UNIT AREA SCHEDULE & TYPICAL STUDIOS
- FIGURE 18 - BUILDING ELEVATIONS - JFK STREET
- FIGURE 19 - BUILDING ELEVATIONS - WINTHROP STREET
- FIGURE 20 - BUILDING ELEVATIONS - ALLEY ELEVATION
- FIGURE 21 - BUILDING ELEVATIONS - SOUTH ELEVATION
- FIGURE 22 - BUILDING SECTION THROUGH WINTHROP PARK
- FIGURE 23 - BUILDING SECTION THROUGH JFK STREET
- FIGURE 24 - EXTERIOR PERSPECTIVES
- FIGURE 25 - EXTERIOR PERSPECTIVES
- FIGURE 26 - EXTERIOR PERSPECTIVES
- FIGURE 27 - EXTERIOR PERSPECTIVES
- FIGURE 28 - MATERIAL SELECTION

PROPOSED DESIGN



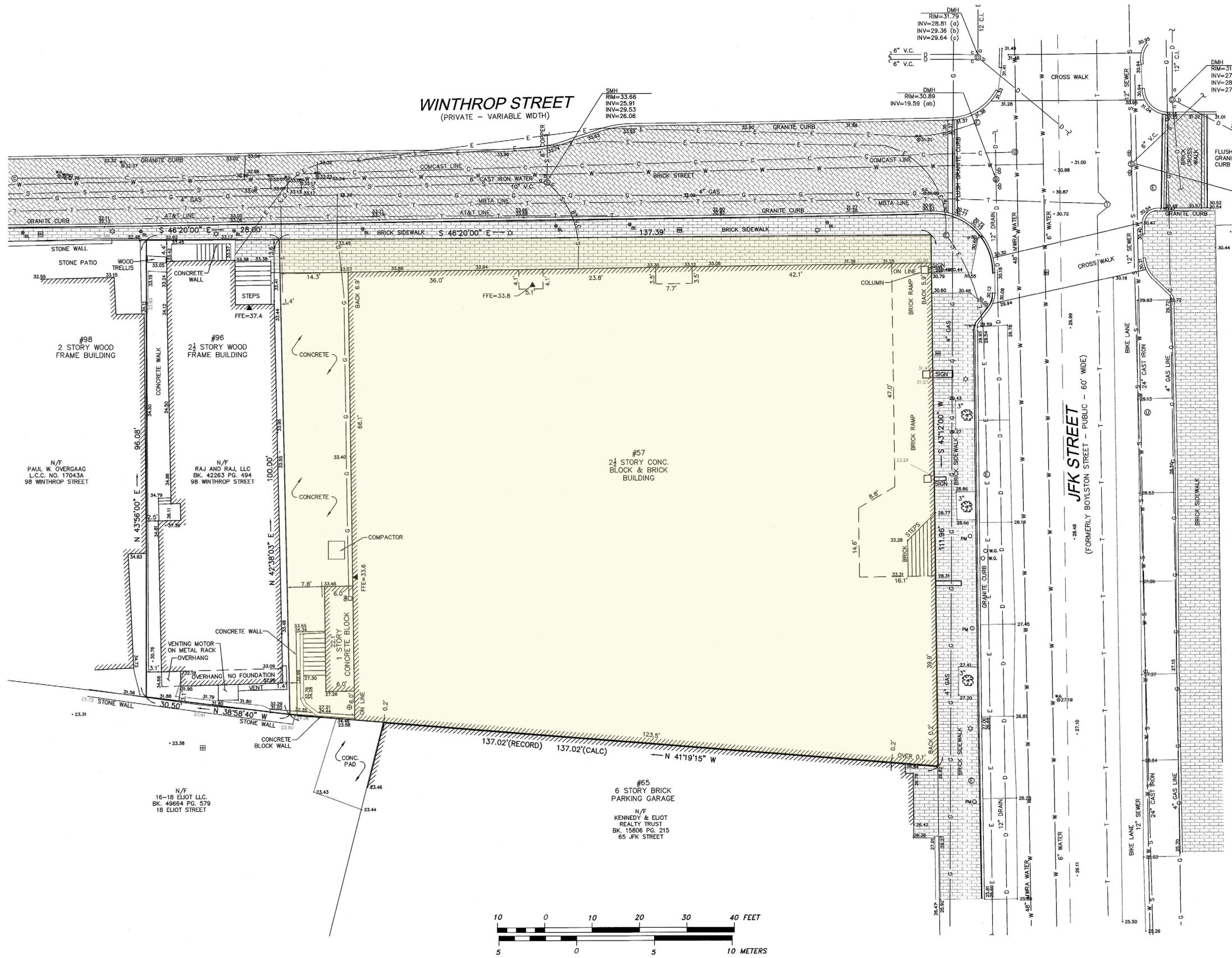
MARCH 29, 2022

LOCUS MAP



VOLUME 2 - Table of Contents

Cover Page.....	1
Table of Content.....	2
Existing Conditions Survey	3
Existing Conditions.....	4
Zoning Compliance	5
Urban Analysis Diagrams.....	6
Site Plan.....	7-8
Floor Plans.....	9-15
Floor Plans – Basement Plan.....	9
Floor Plans – Ground Floor Plan	10
Floor Plans – Second Floor Plan.....	11
Floor Plans – Third Floor Plan	12
Floor Plans – Fourth Floor Plan.....	13
Floor Plans – Fifth Floor Plan	14
Floor Plans – Floor Plan.....	15
Long Term Bicycle Parking (Up to Unit)	16
Long Term Bicycle Parking (Down to Basement).....	17
Building Step Back Diagram	18
Unit Area Schedule & Typical Studios.....	19
Building Elevations	20-24
Building Elevations – JFK Street	20
Building Elevations – Winthrop Street.....	21
Building Elevations – Alley Elevation	22
Building Elevations – South Elevation.....	23
Building Sections	24-25
Building Section through JFK Street.....	24
Building Section through Winthrop Park.....	25
Exterior Perspectives	26-29
Material Selection	30



LEGEND

⊠	HAND HOLE
☆	LIGHT POLE
⊙	GUY POLE
⊕	HYDRANT
⊖	WATER SHUT OFF
⊗	WATER GATE
⊘	DRAIN MANHOLE (DMH)
⊙	SEWER MANHOLE (SMH)
⊙	ELECTRIC MANHOLE
⊙	CABLE MANHOLE
⊙	UNKNOWN MANHOLE
⊙	TELEPHONE MANHOLE
⊙	GAS GATE
⊙	GAS METER
⊙	DECIDUOUS TREE
⊙	BOLLARD
⊙	SIGN
— S —	SEWER LINE
— G —	GAS LINE
— W —	WATER LINE
— T —	TELEPHONE LINE
— E —	ELECTRIC LINE
— C —	CABLE TV LINE
— D —	DRAIN LINE
—	TERMINUS UNKNOWN
—	BITUMINOUS
—	CONCRETE
—	RCP
—	REINFORCED CONCRETE LINE
—	CAST IRON LINE
—	VITRIFIED CLAY LINE
—	INVERT
WL	WATER LEVEL
(BC)	BOTTOM CENTER
NPV	NO LINES VISIBLE
FFE	FINISHED FLOOR ELEVATION
+ 22.67	SPOT GRADE

LOCUS TITLE INFORMATION

57 JFK STREET
 OWNER: CRIMSON GALERIA LIMITED PARTNERSHIP C/O RAJ DHANDA
 DEED REFERENCE: BK. 28804 PG. 484
 PLAN REFERENCE: PL. 1121 OF 1972
 ASSESSORS: PARCEL ID MAP 162, LOT 54

96 WINTHROP STREET
 OWNER: RAJ & RAJ LLC, C/O HOLLAND & KNIGHT LLP
 DEED REFERENCE: BK. 42263 PG. 494
 PLAN REFERENCE: PL. 1121 OF 1972
 ASSESSORS: PARCEL ID MAP 162, LOT 19

NOTES

LOCATION OF UTILITIES SHOWN HEREON ARE THE RESULT OF SURFACE EVIDENCE AS LOCATED BY FIELD SURVEY, PLANS OF RECORD, INFORMATION FURNISHED BY THE RESPECTIVE UTILITY COMPANIES, AND OTHER AVAILABLE SOURCES IN POSSESSION OF DESIGN CONSULTANTS INC. AS OF THIS DATE. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME WITHIN THE PREMISES SURVEYED, CALL DISSAFE BEFORE EXCAVATION.

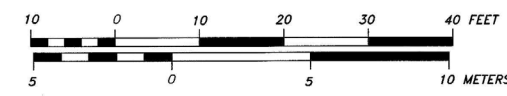
ELEVATIONS DEPICTED HEREON ARE ON CITY OF CAMBRIDGE SEWER DATUM.

ABUTTERS INFORMATION WAS TAKEN FROM CITY OF CAMBRIDGE, MA ASSESSOR'S RECORDS ON SEPTEMBER 11, 2013

THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS FOR DESIGN PURPOSES, AND IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BETWEEN SEPTEMBER 4 & 6, 2013, BY DESIGN CONSULTANTS, INC.



P.L.S. Everett J. Chandler
 EVERETT J. CHANDLER, P.L.S. MASS. REGISTRATION NO. 41783
 DATE 11/14/13



MARCH 29, 2022



EXISTING CONDITIONS SURVEY

FIGURE 1
57 JFK STREET PROJECT
 CRIMSON GALERIA LIMITED PARTNERSHIP



WINTHROP STREET



JFK STREET COOKIES STREET FRONT (IN CONSTRUCTION)



VIEW ON WINTHROP STREET



CORNER OF JFK STREET & WINTHROP

MARCH 29, 2022



VIEW FROM WINTHROP PARK

FIGURE 2

EXISTING AREAS:

BASEMENT PLAN = 12,680 SF
 1ST FLOOR PLAN = 11,915 SF
 2ND FLOOR PLAN = 11,975 SF
TOTAL EXISTING AREA = 36,570 SF

PROPOSED AREAS:

BASEMENT PLAN
 EXISTING GSF = 12,680 SF
 PROPOSED GSF = 0 SF

1ST FLOOR PLAN
 EXISTING GSF = 11,915 SF
 PROPOSED GSF = 500 SF

2ND FLOOR PLAN
 EXISTING GSF = 11,975 SF
 PROPOSED GSF = 0 SF

3RD FLOOR PLAN
 EXISTING GSF = 0 SF
 PROPOSED GSF = 11,373 SF

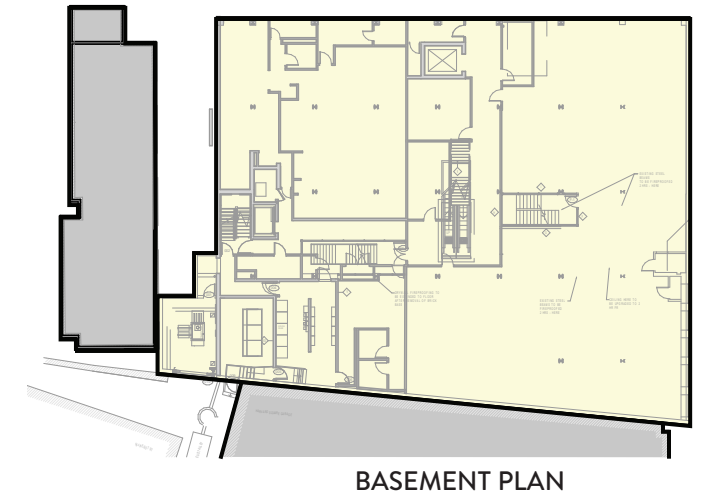
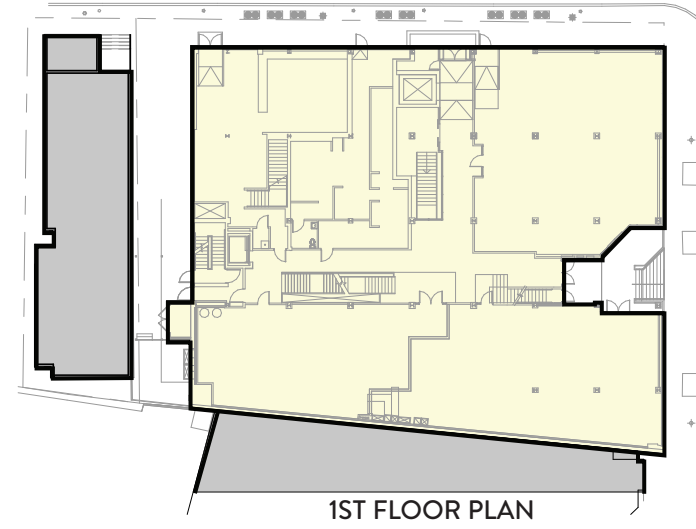
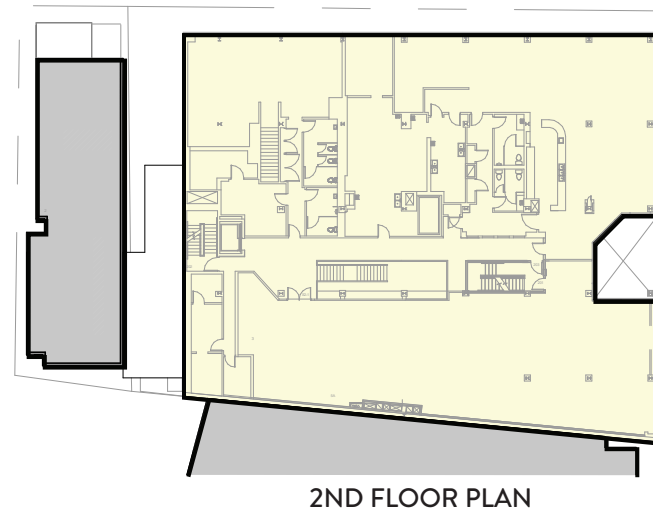
4TH FLOOR PLAN
 EXISTING GSF = 0 SF
 PROPOSED GSF = 9,910 SF

5TH FLOOR PLAN
 EXISTING GSF = 0 SF
 PROPOSED GSF = 8,551 SF

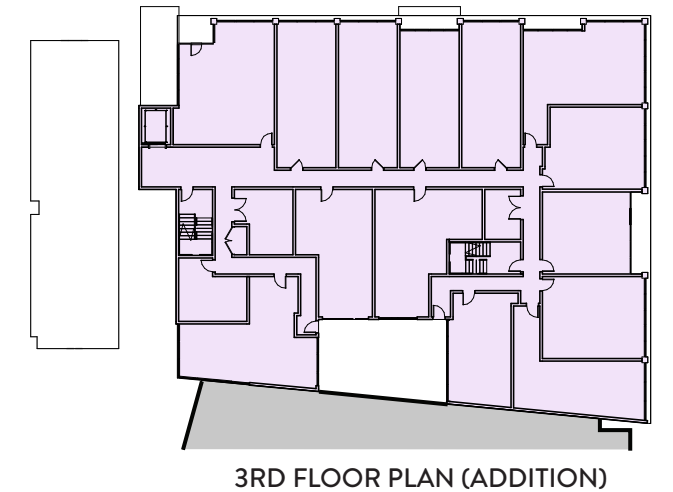
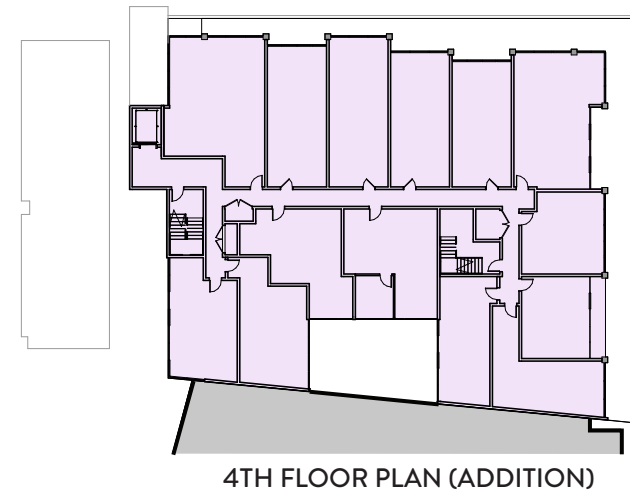
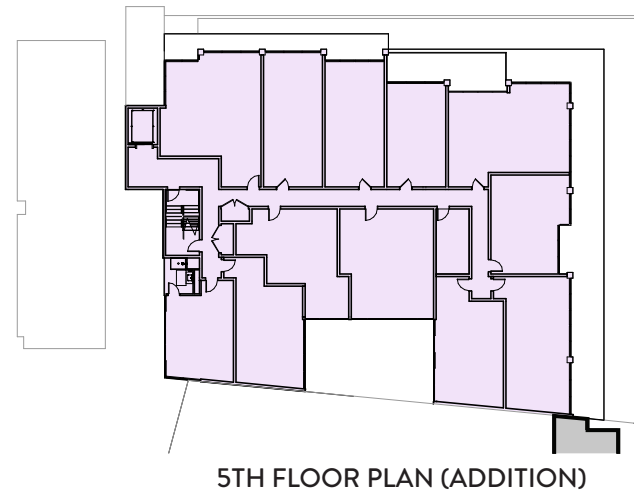
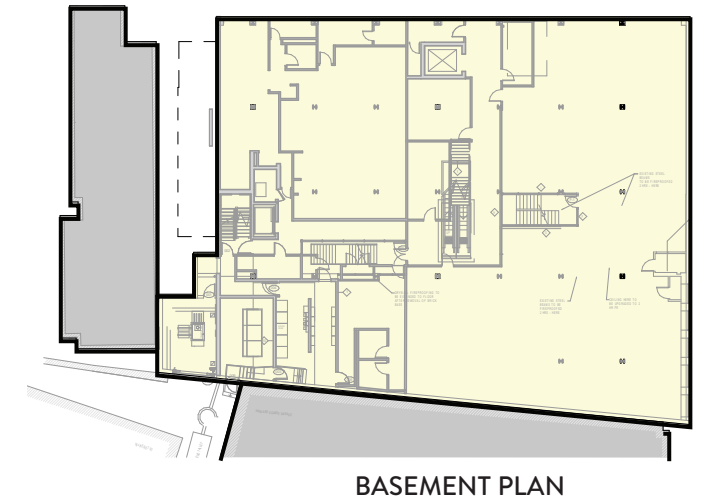
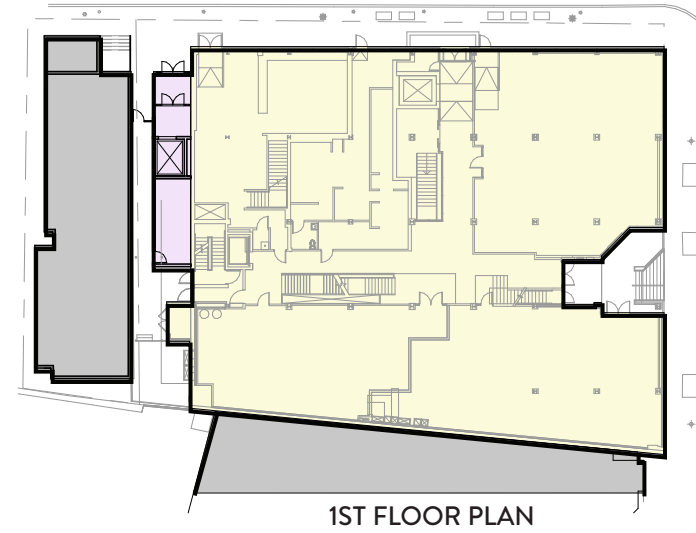
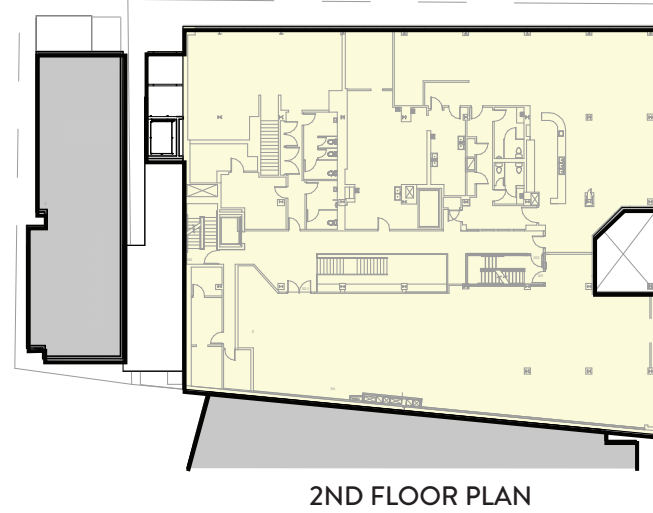
TOTAL EXISTING AREA = 36,570 SF
 TOTAL PROPOSED AREA = 30,334 SF

TOTAL AREA = 66,904 SF
SITE AREA = 14,506 SF
TOTAL FAR = 4.61 FAR

EXISTING FLOOR PLANS

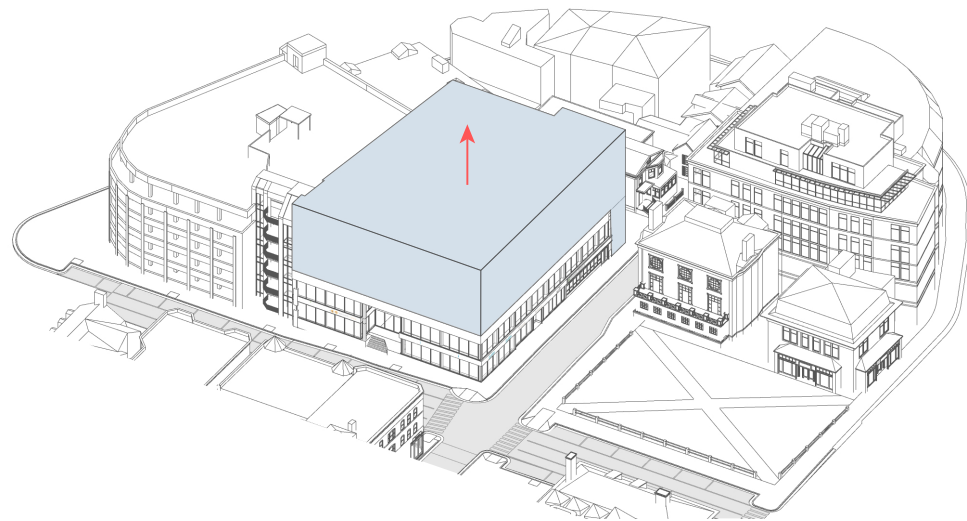


EXISTING & PROPOSED FLOOR PLANS

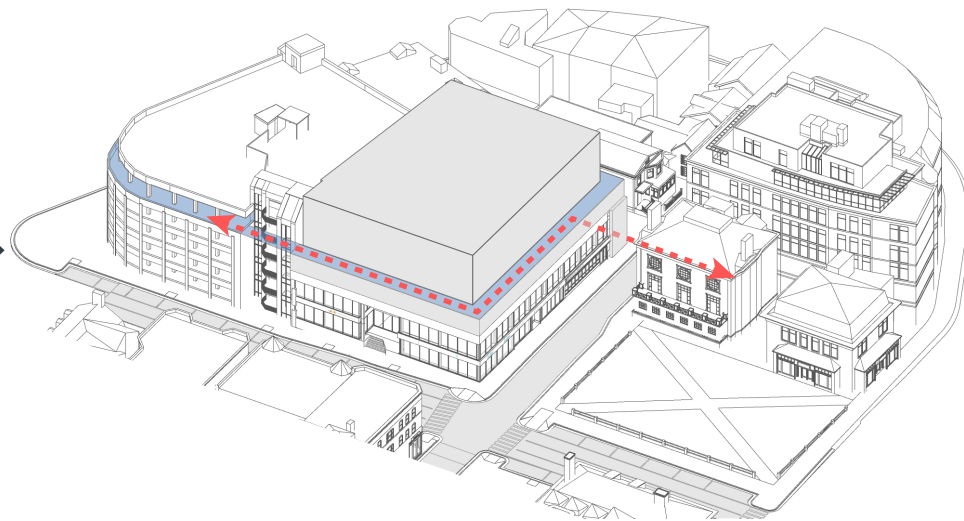


MARCH 29, 2022

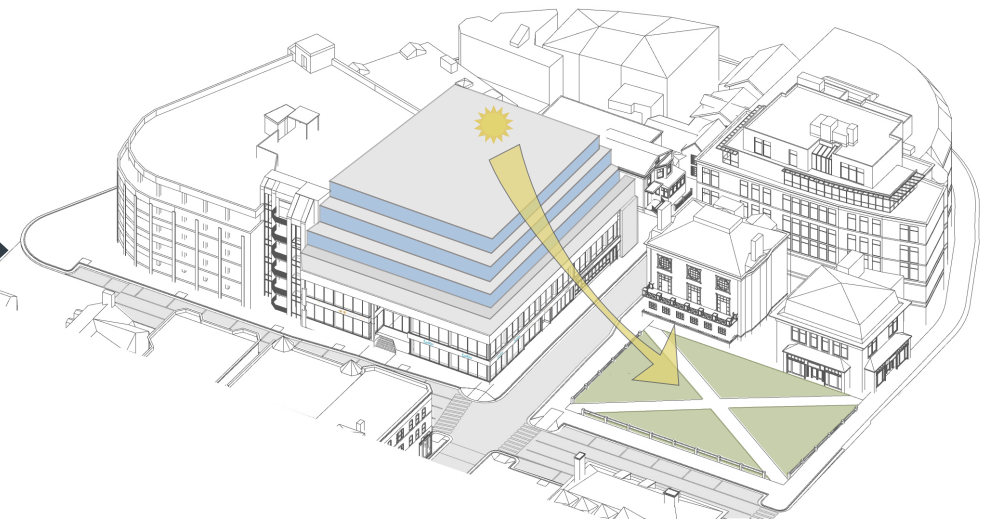
FIGURE 3



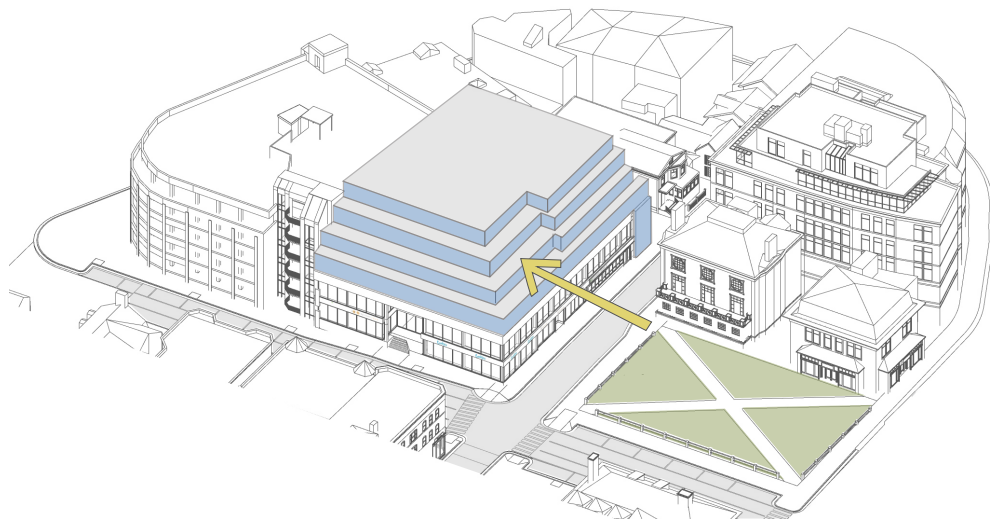
FULL - BUILD



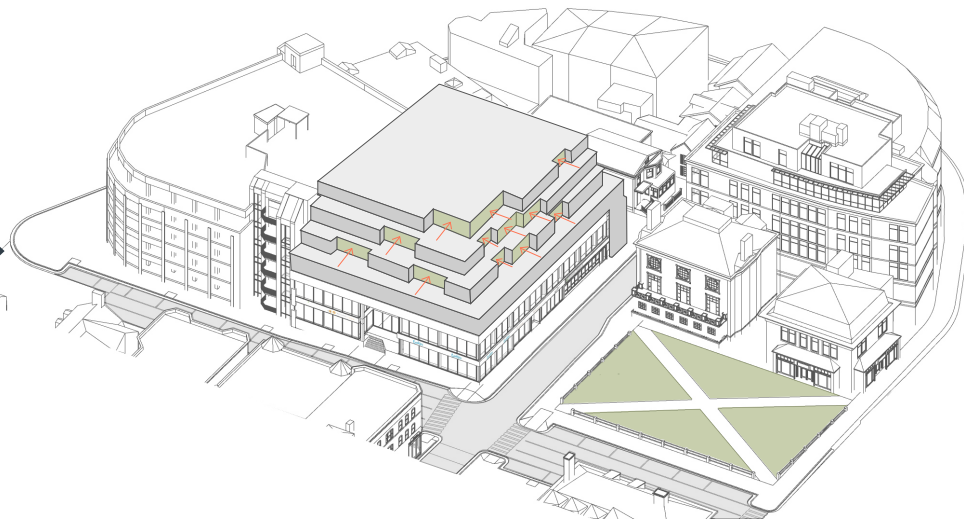
MAINTAINING 3-STORY DATUM



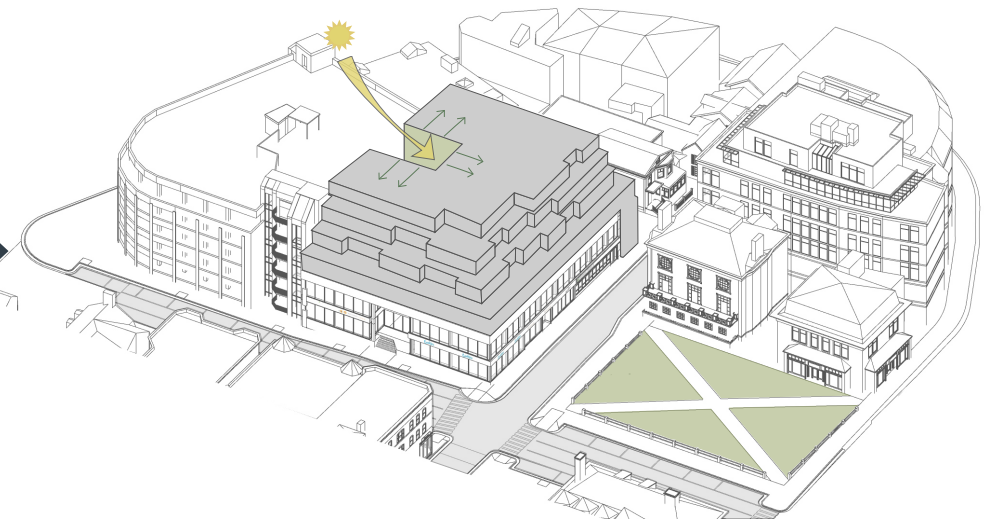
CREATE SETBACKS TO REDUCE SHADOW IMPACTS



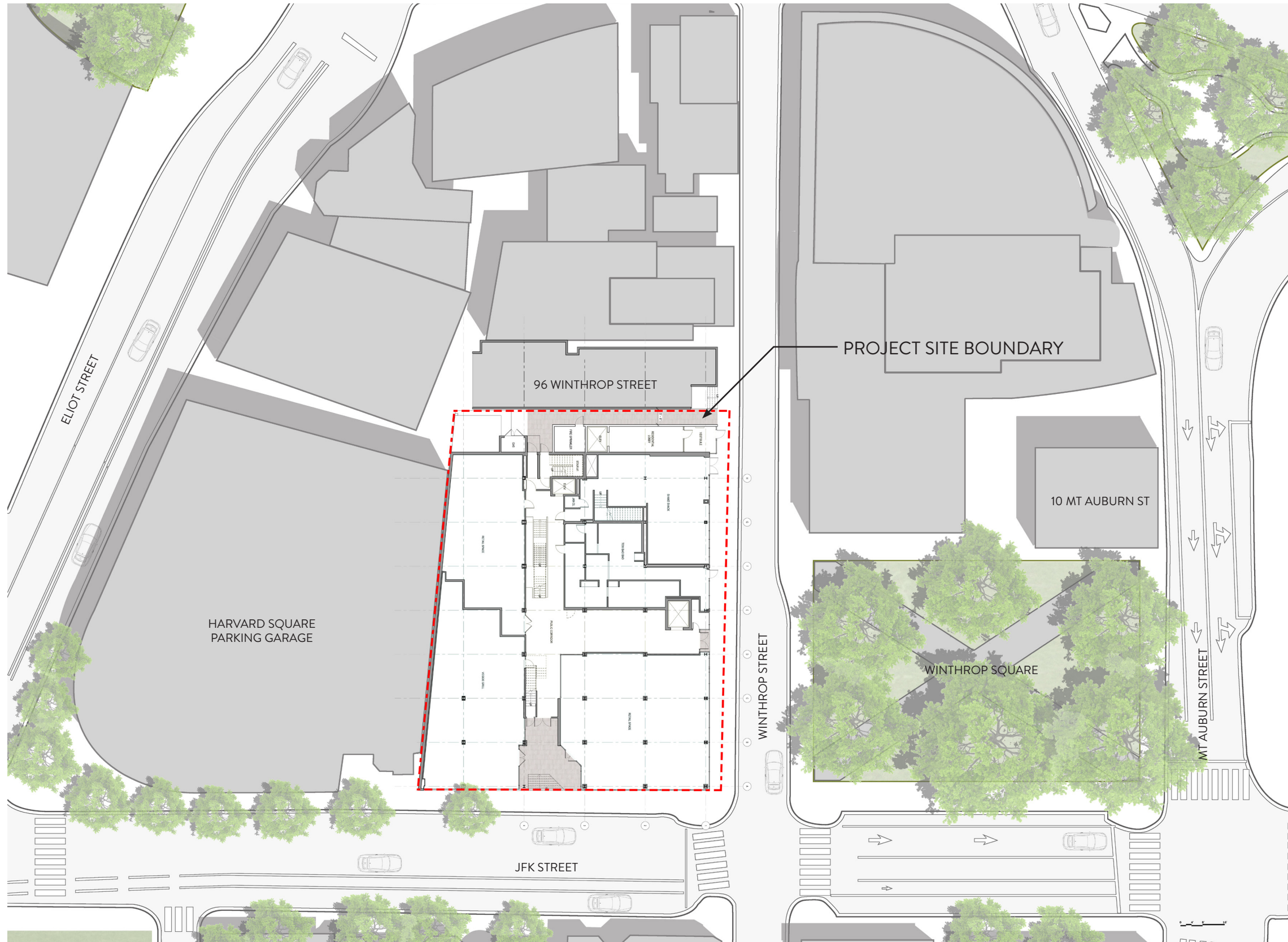
OPEN SPACE SETBACK



ROOFSCAPE SETBACKS



COURTYARD DAYLIGHT



MARCH 29, 2022



SITE PLAN

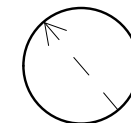
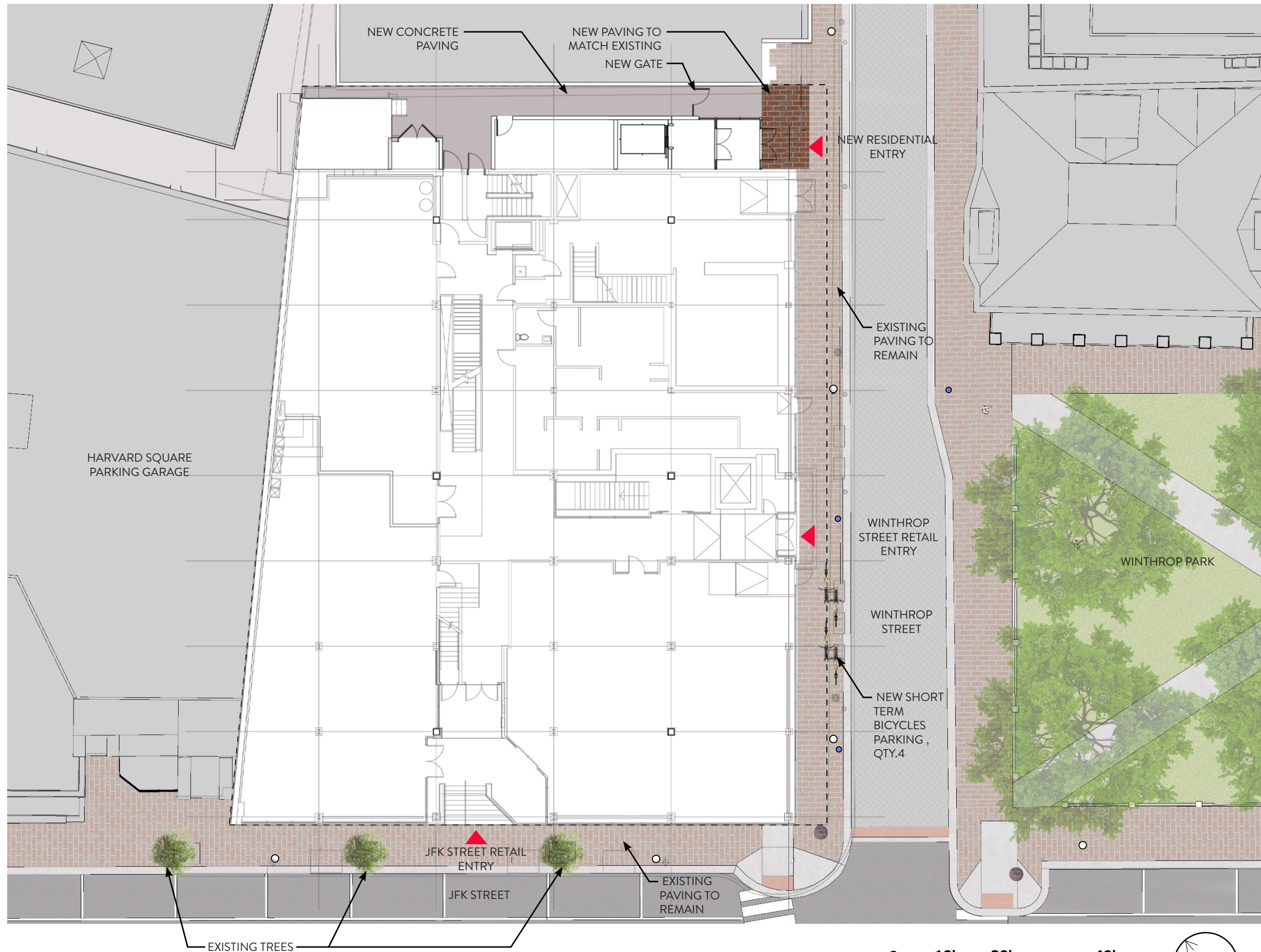


FIGURE 5

57 JFK STREET PROJECT
 CRIMSON GALERIA LIMITED PARTNERSHIP



MARCH 29, 2022



SITE PLAN

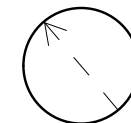
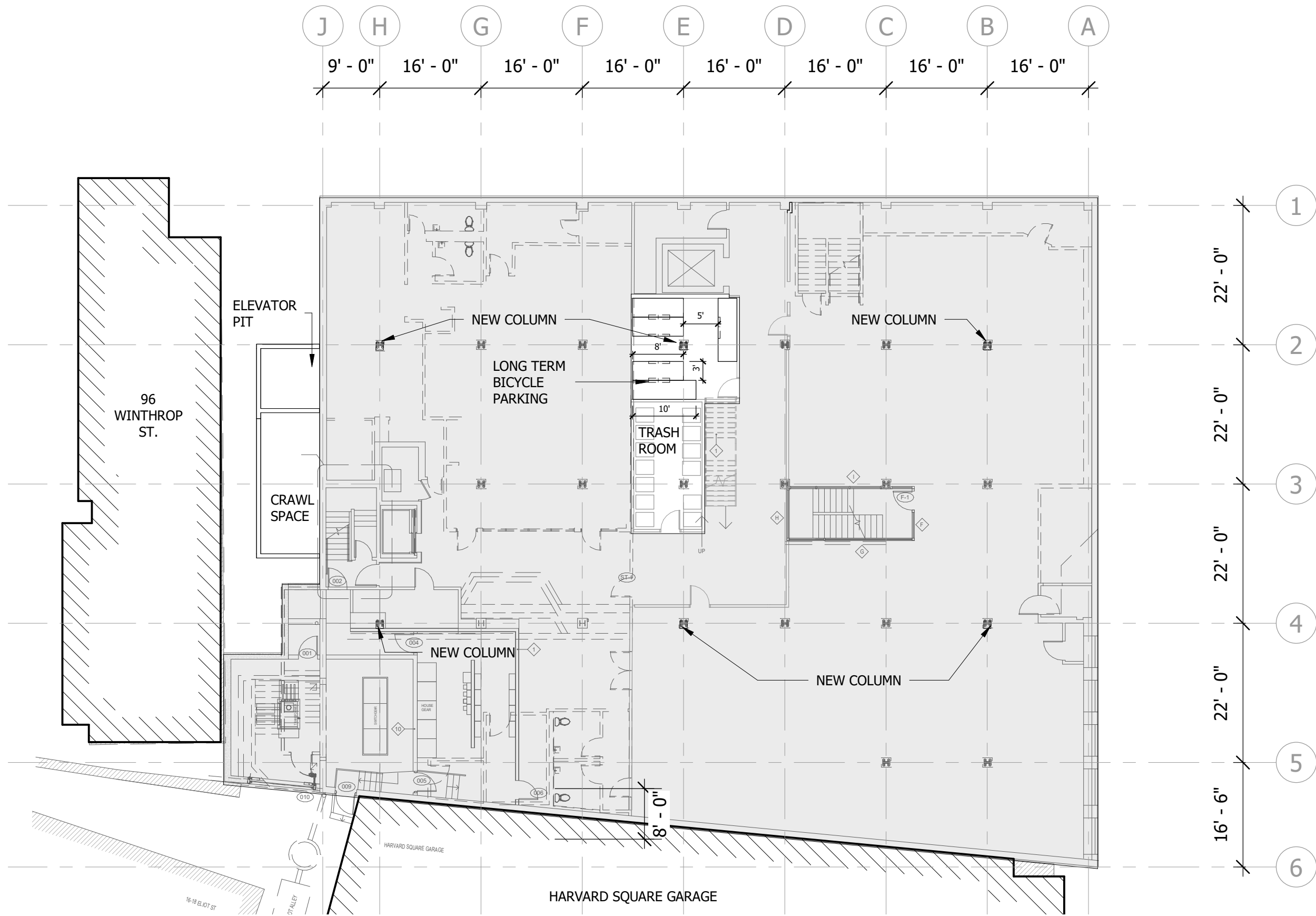


FIGURE 6

57 JFK STREET PROJECT
CRIMSON GALERIA LIMITED PARTNERSHIP



MARCH 29, 2022



FLOOR PLANS - BASEMENT PLAN

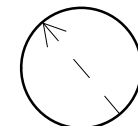
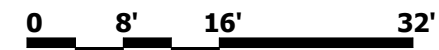
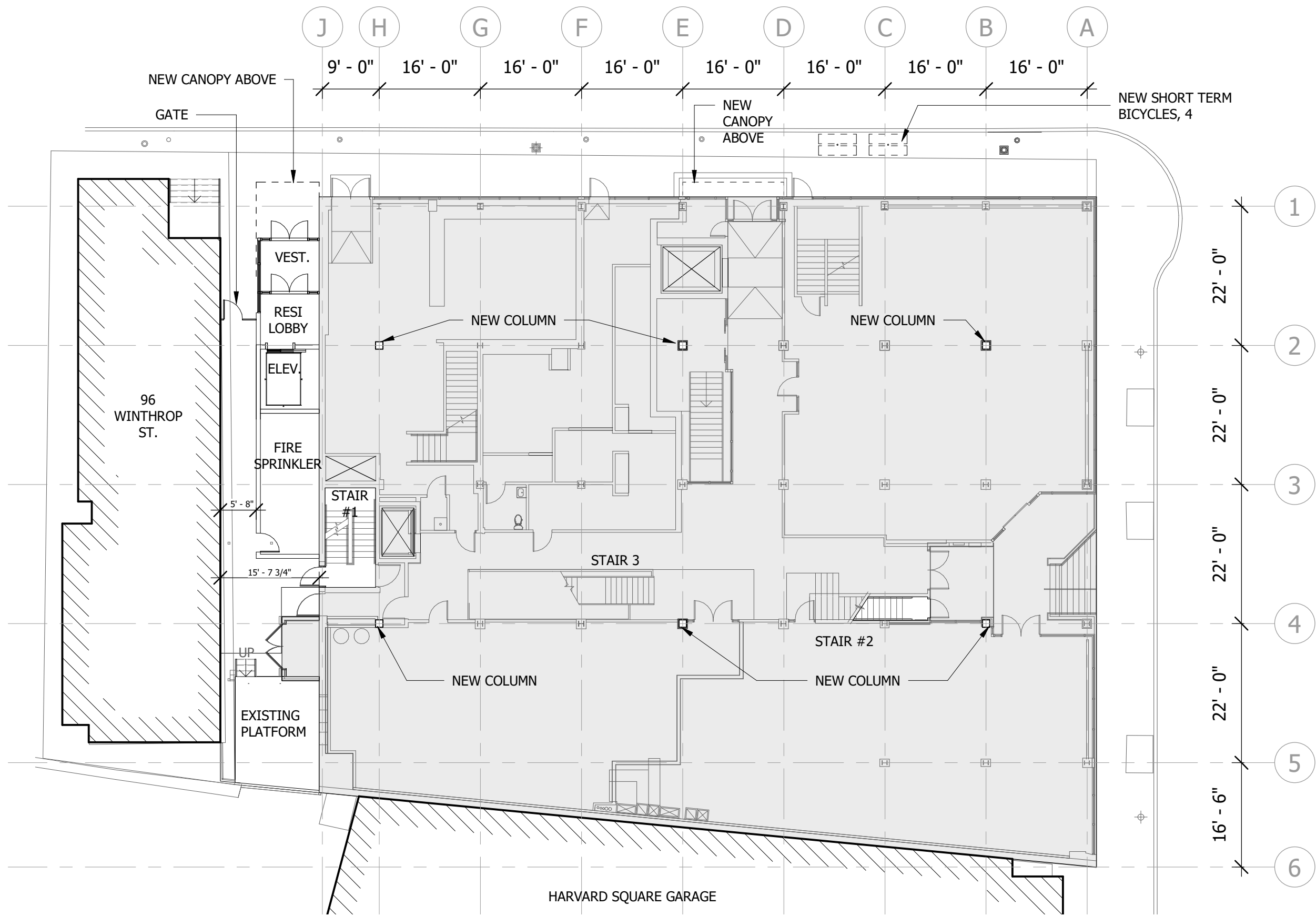


FIGURE 7

57 JFK STREET PROJECT
 CRIMSON GALERIA LIMITED PARTNERSHIP



MARCH 29, 2022



FLOOR PLANS - GROUND FLOOR PLAN

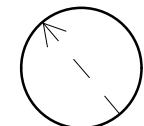
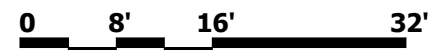
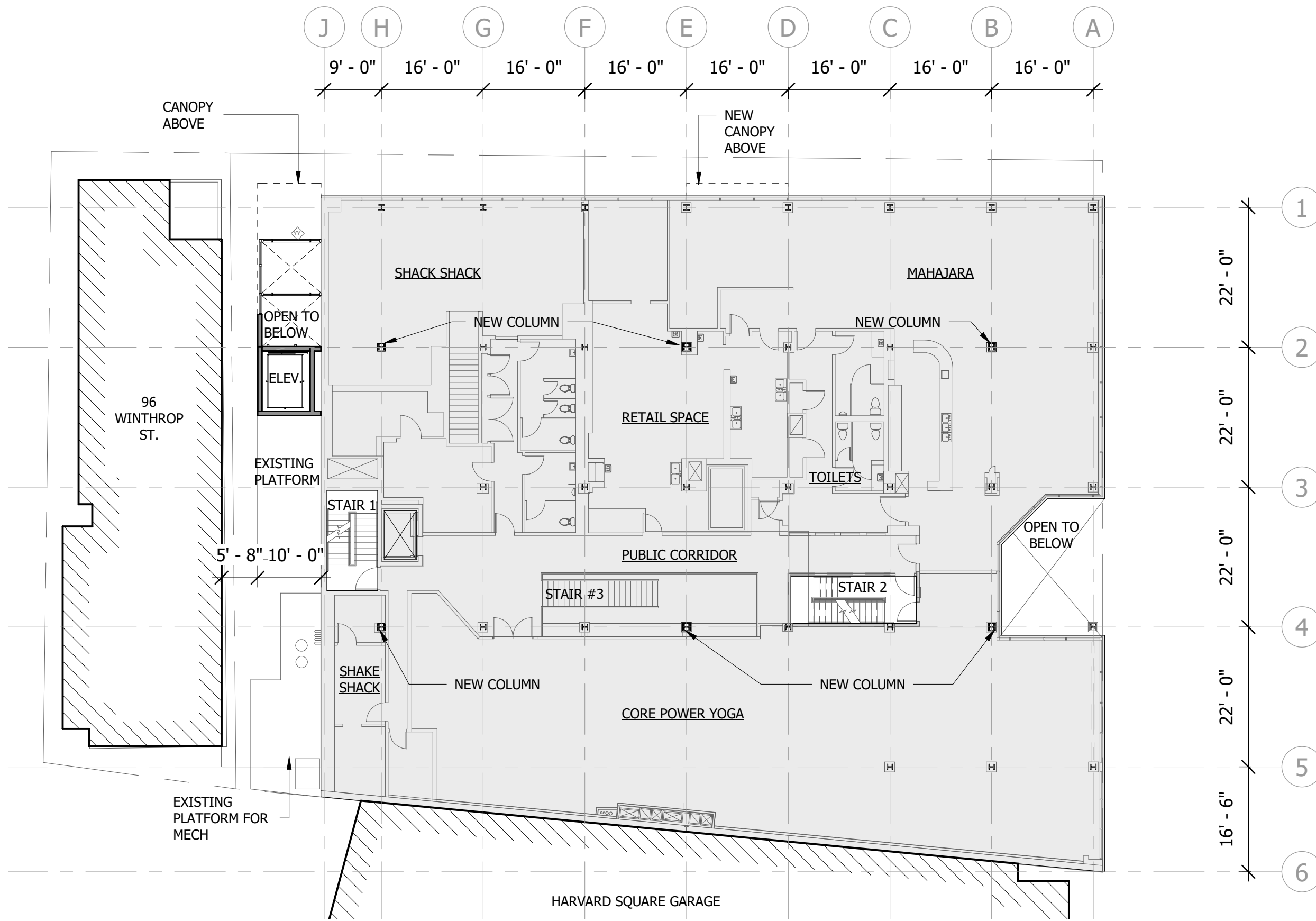
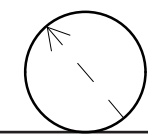
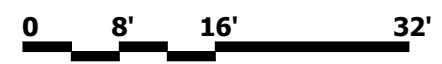


FIGURE 8

57 JFK STREET PROJECT
CRIMSON GALERIA LIMITED PARTNERSHIP



EXISTING / NOT IN SCOPE



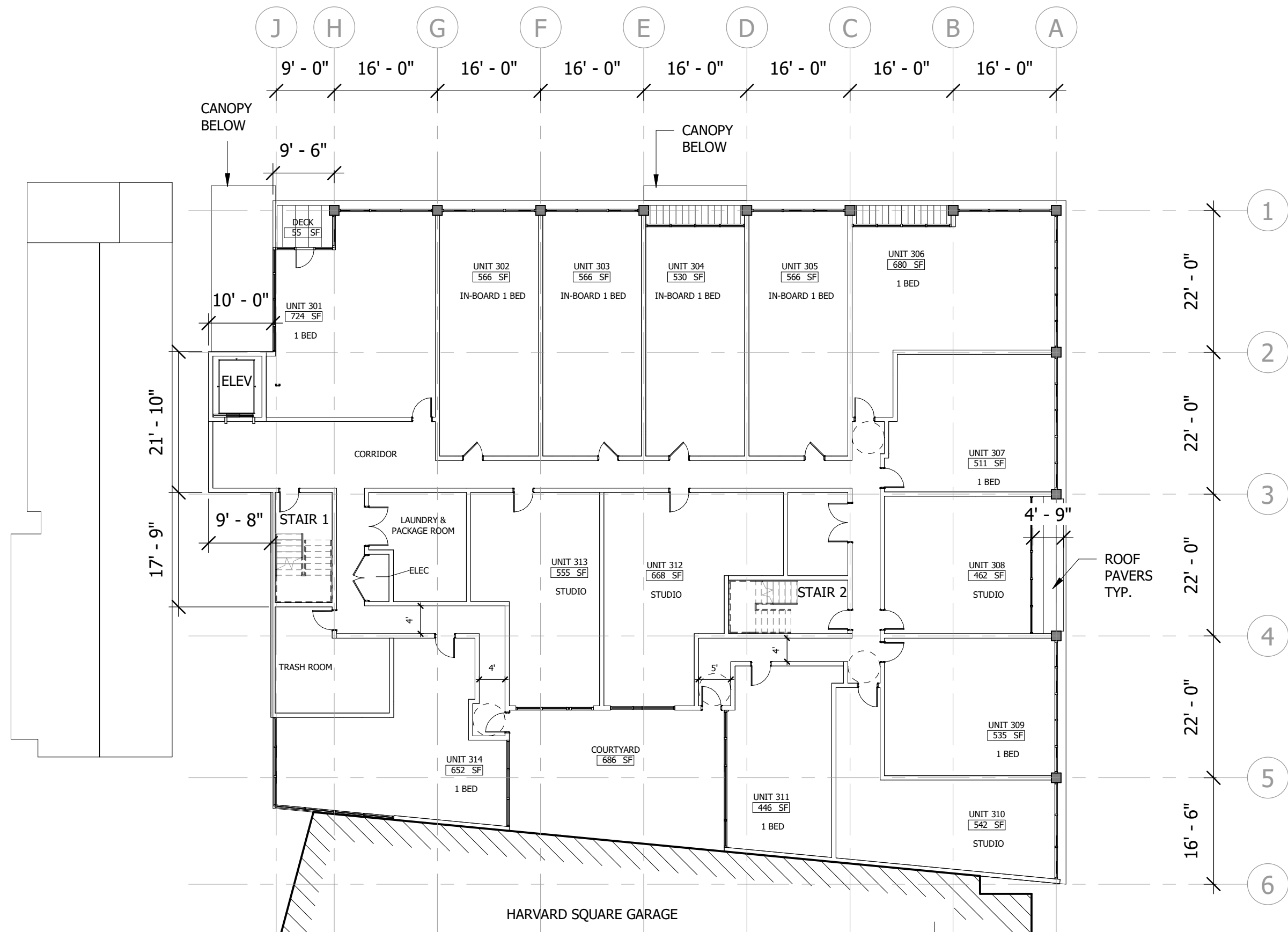
MARCH 29, 2022

FIGURE 9

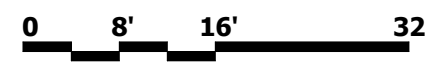


FLOOR PLANS - SECOND FLOOR PLAN

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EXISTING / NOT IN SCOPE



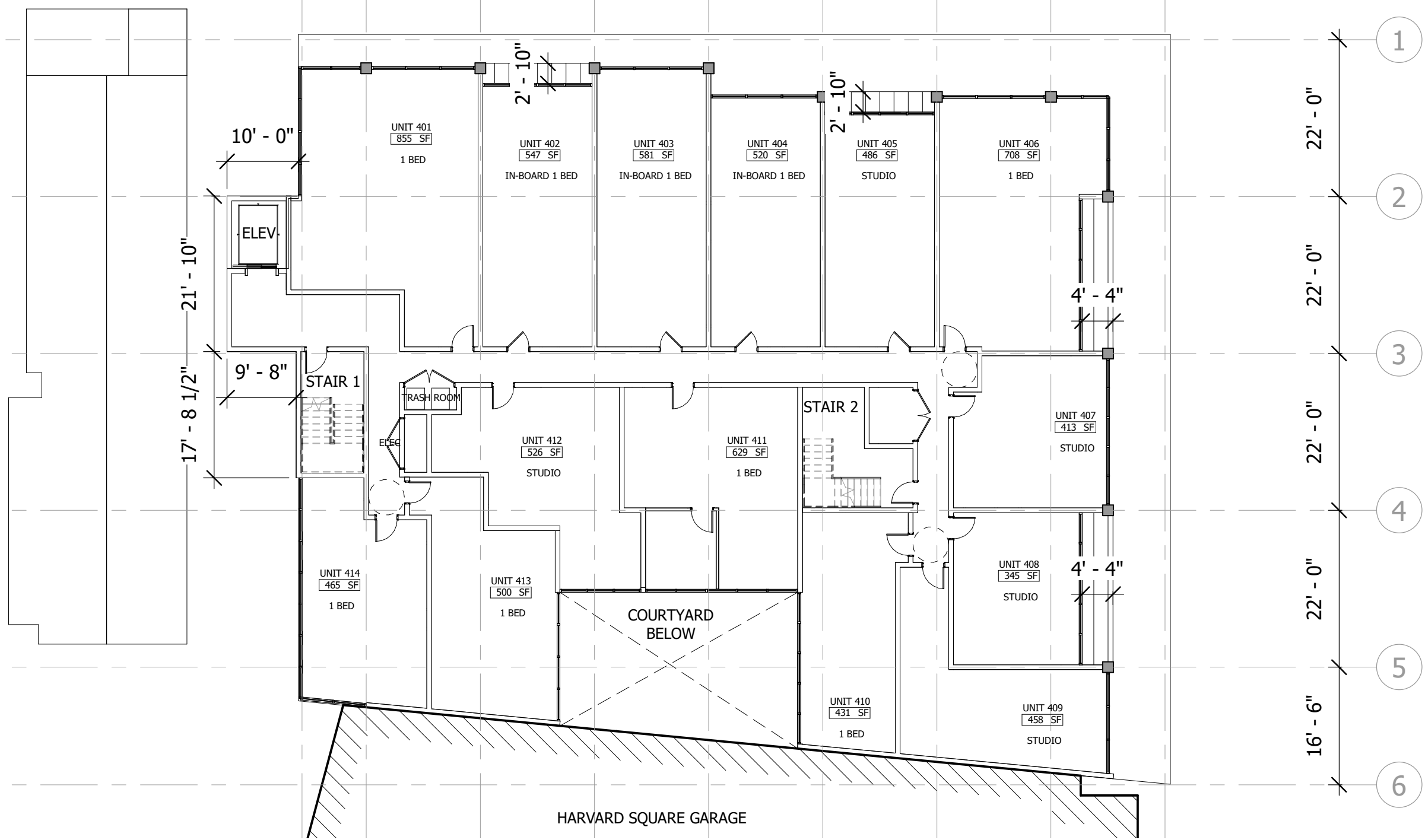
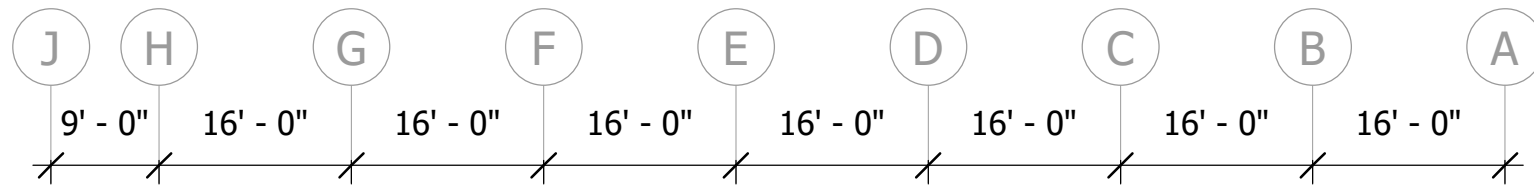
MARCH 29, 2022

FIGURE 10



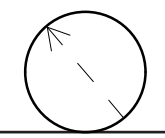
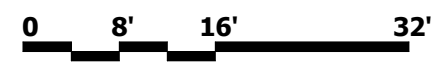
FLOOR PLANS - THIRD FLOOR PLAN

57 JFK STREET PROJECT
CRIMSON GALERIA LIMITED PARTNERSHIP



HARVARD SQUARE GARAGE

EXISTING / NOT IN SCOPE



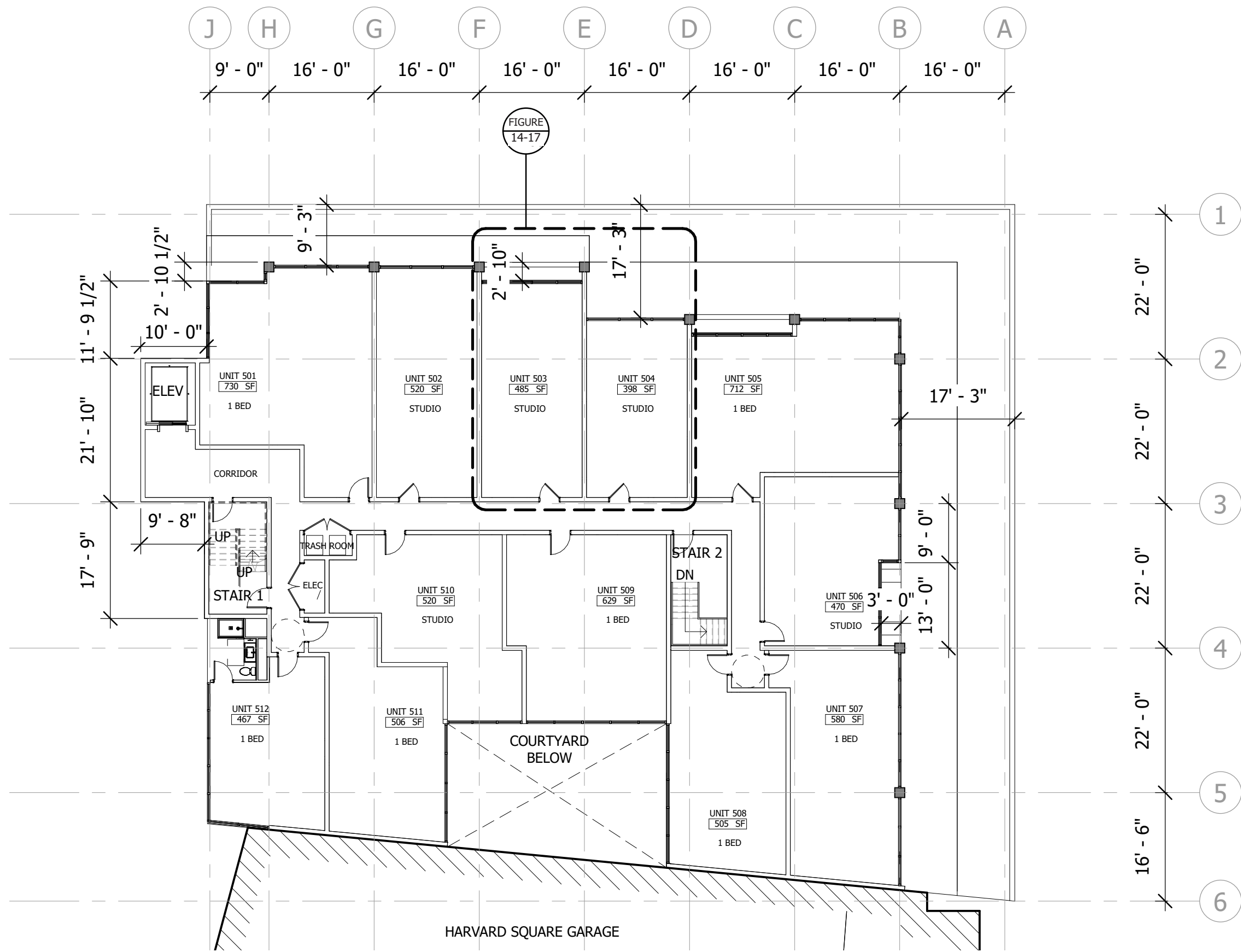
MARCH 29, 2022

FIGURE 11

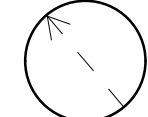
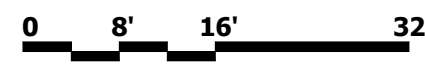


FLOOR PLANS - FOURTH FLOOR PLAN

57 JFK STREET PROJECT
CRIMSON GALERIA LIMITED PARTNERSHIP



EXISTING / NOT IN SCOPE



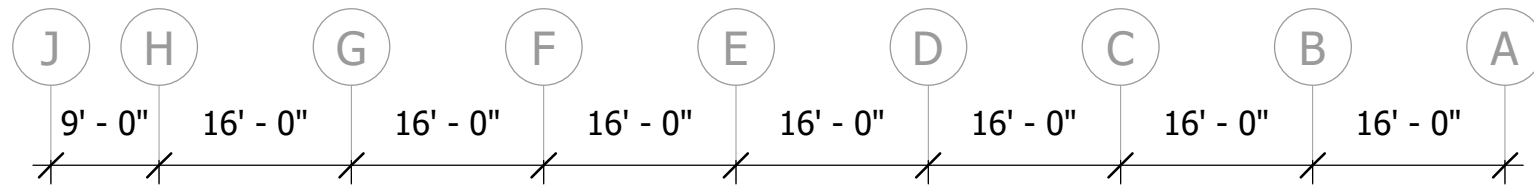
MARCH 29, 2022

FIGURE 12



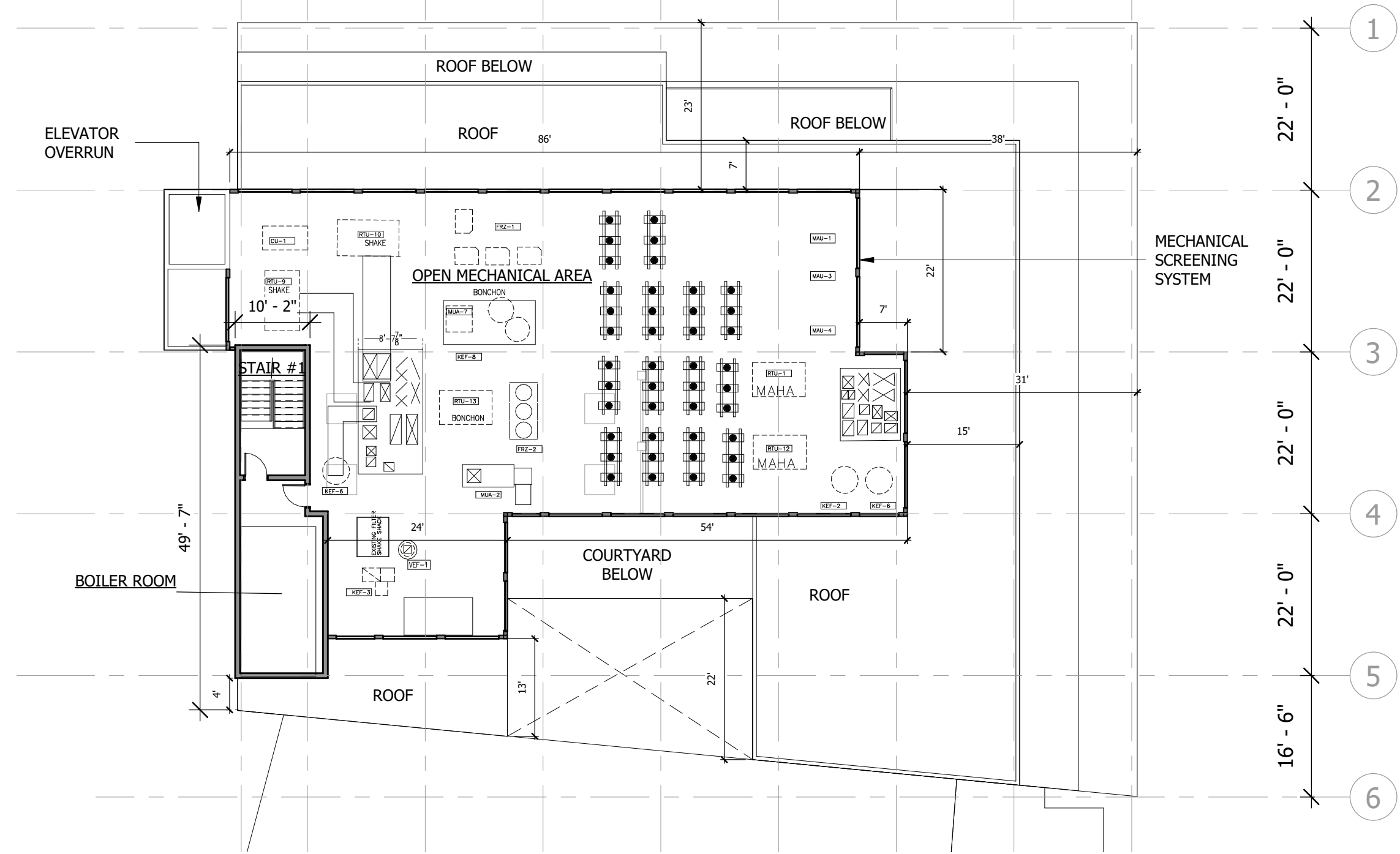
FLOOR PLANS - FIFTH FLOOR PLAN

57 JFK STREET PROJECT
CRIMSON GALERIA LIMITED PARTNERSHIP

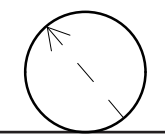
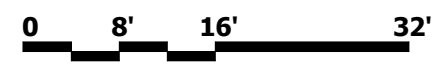


MECHANICAL UNITS

ROOF TOP UNITS ESTIMATED TO BE 70" TALL.
 CONDENSERS TO BE STACKED, ESTIMATED HEIGHT 84"
 GREASE FANS/ EXHAUST FANS ESTIMATED TO BE 42" TALL.

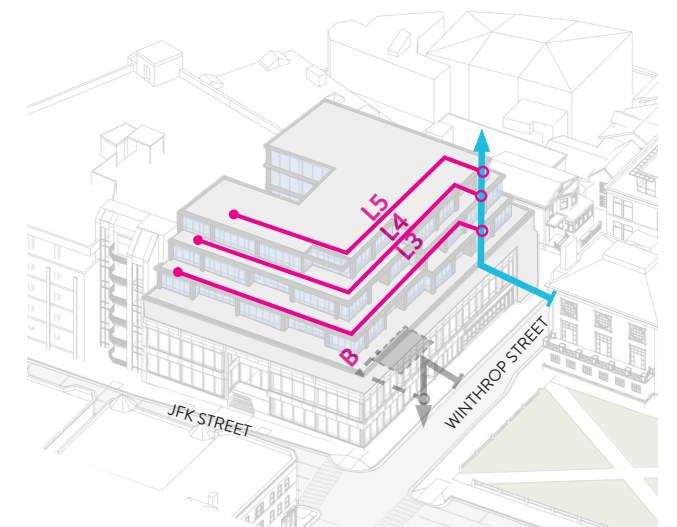
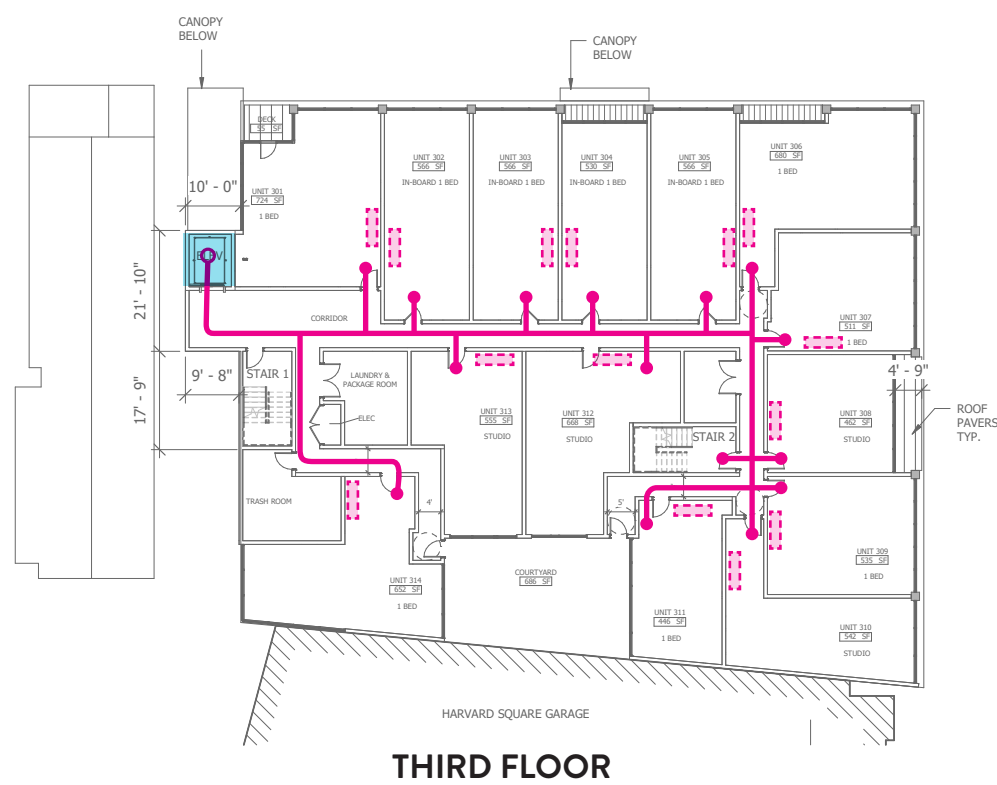
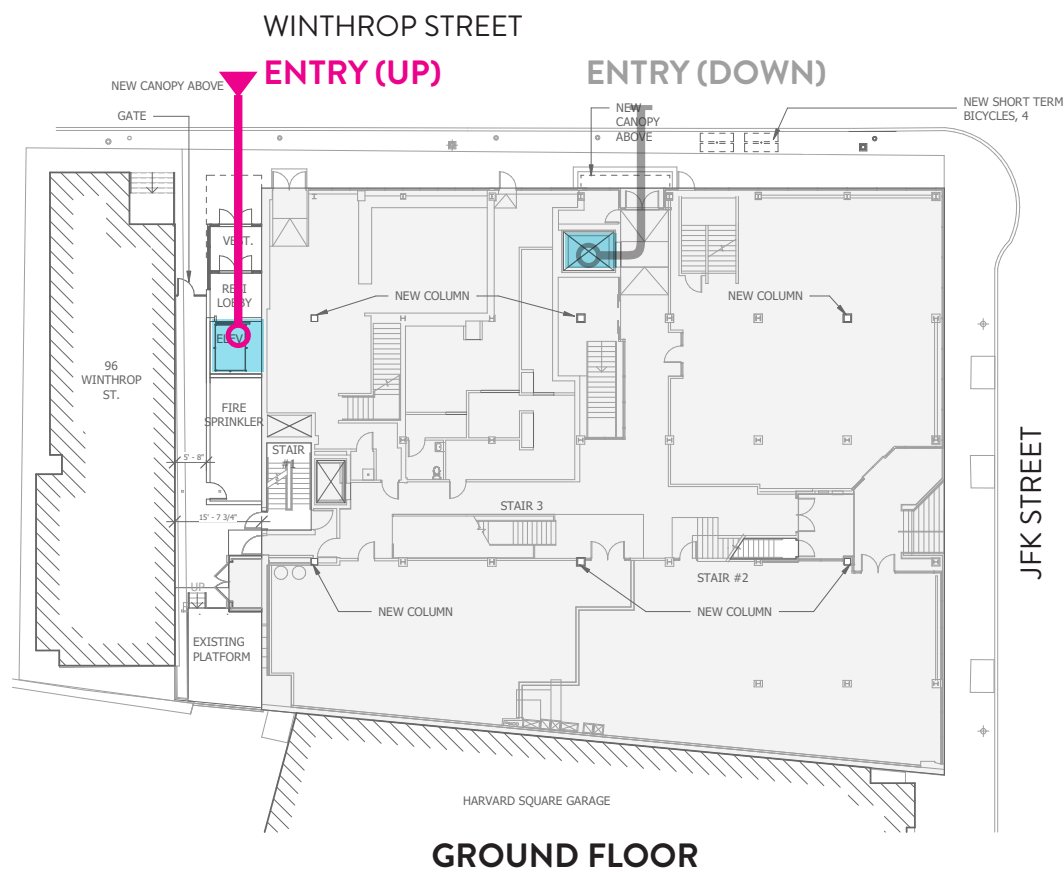


EXISTING / NOT IN SCOPE

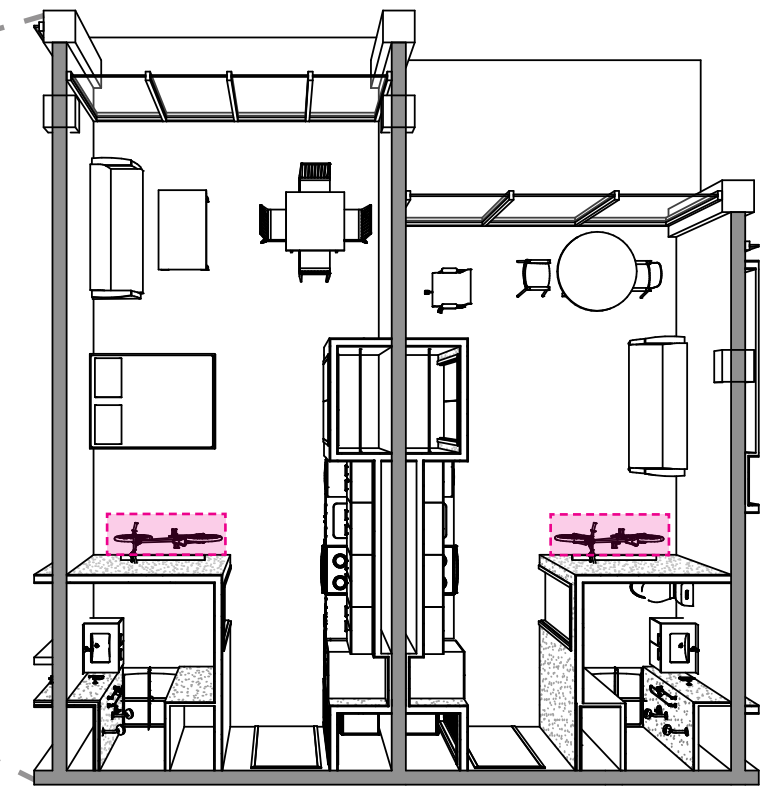
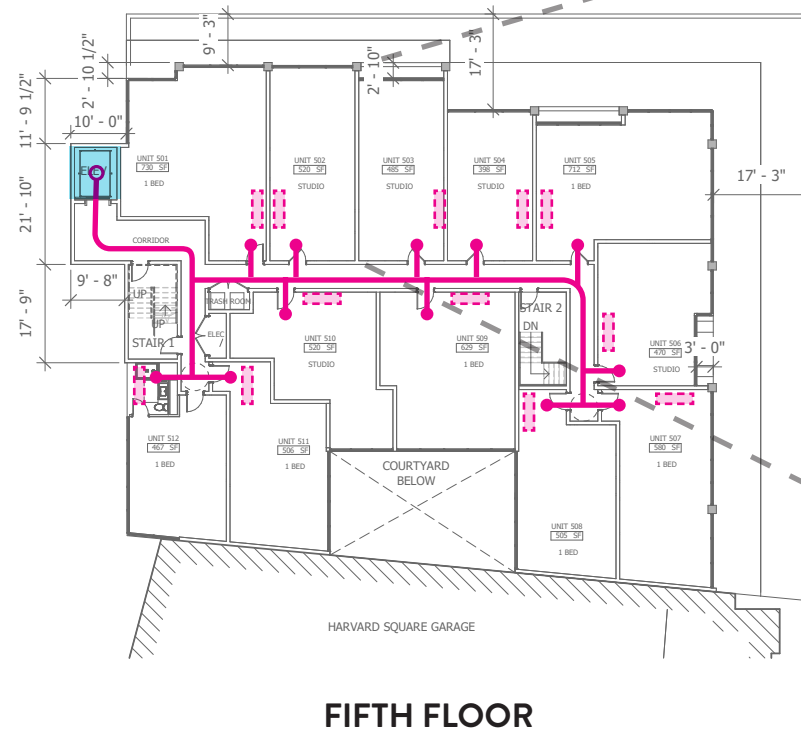
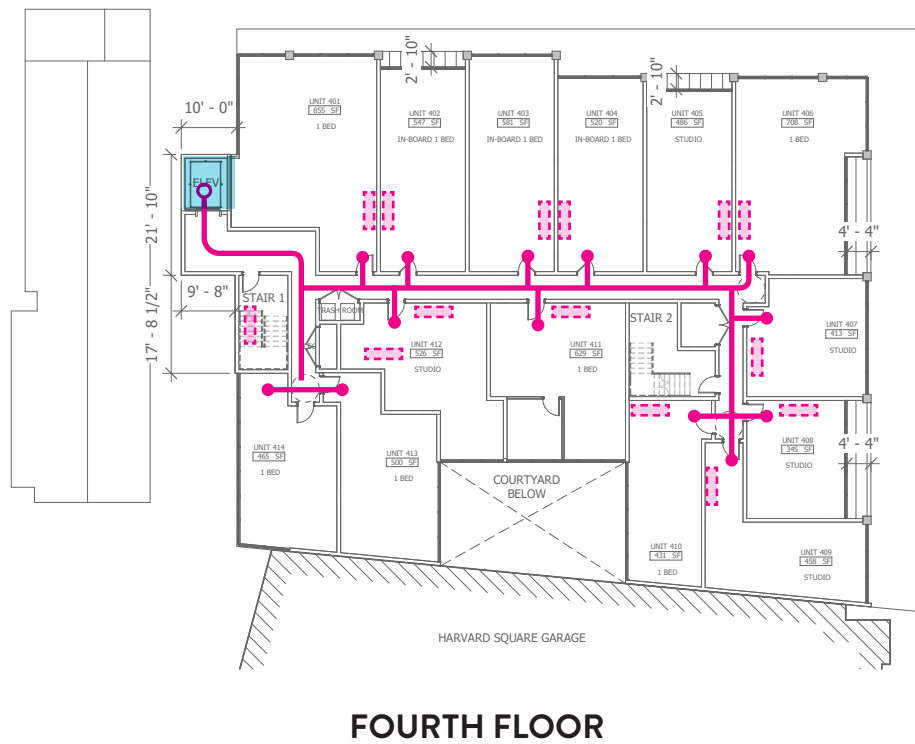


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FIGURE 13



LONG TERM BIKE PARKING		
LEVEL	APARTMENT UNIT	BIKE PARKING COUNT
3-5	40	40



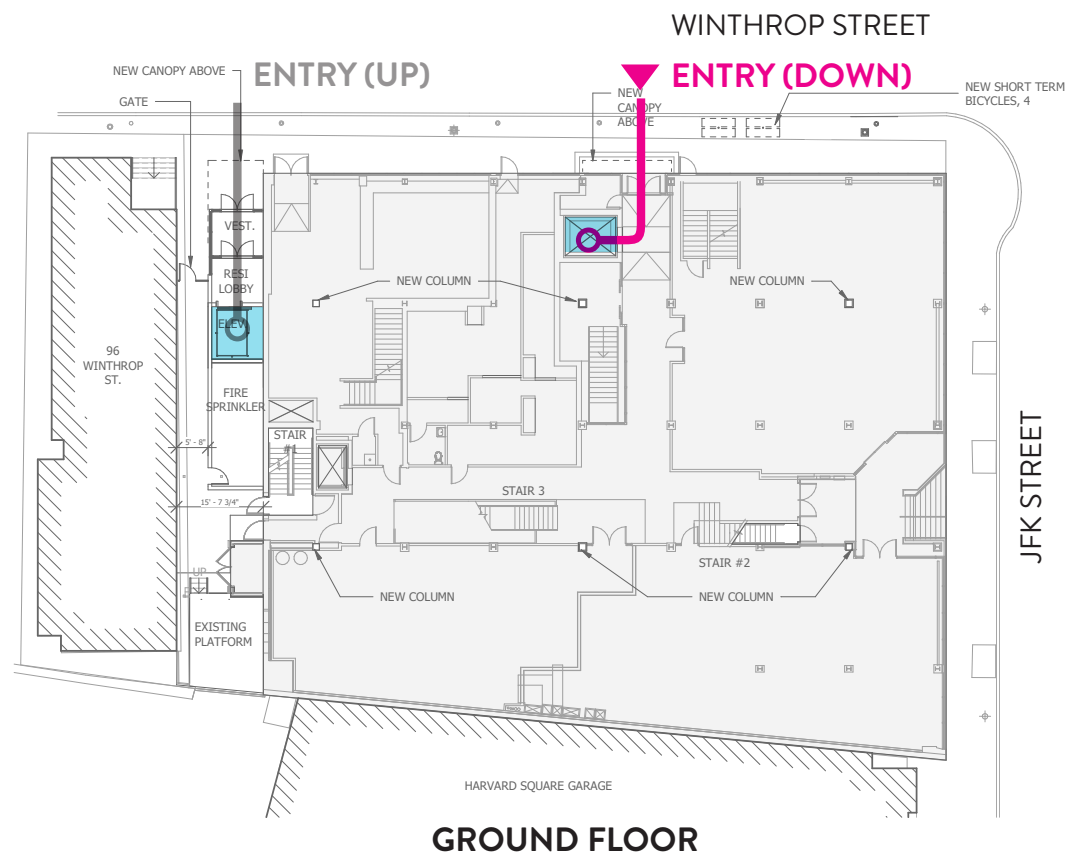
MARCH 29, 2022



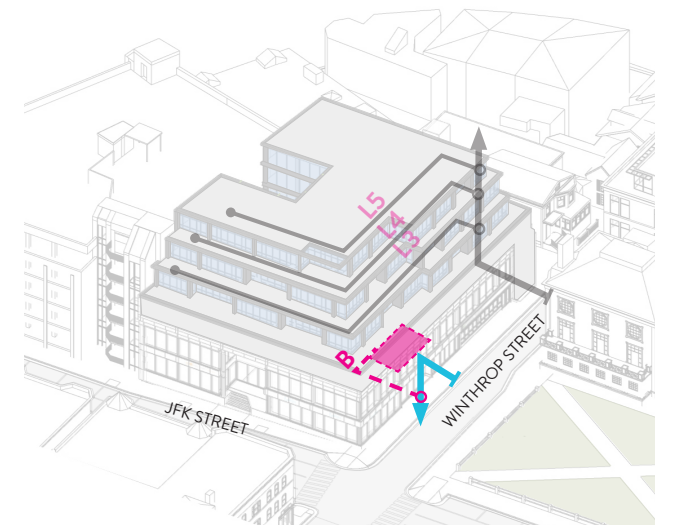
**LONG TERM BICYCLE PARKING DIAGRAM
(UP TO UNIT)**

FIGURE 14

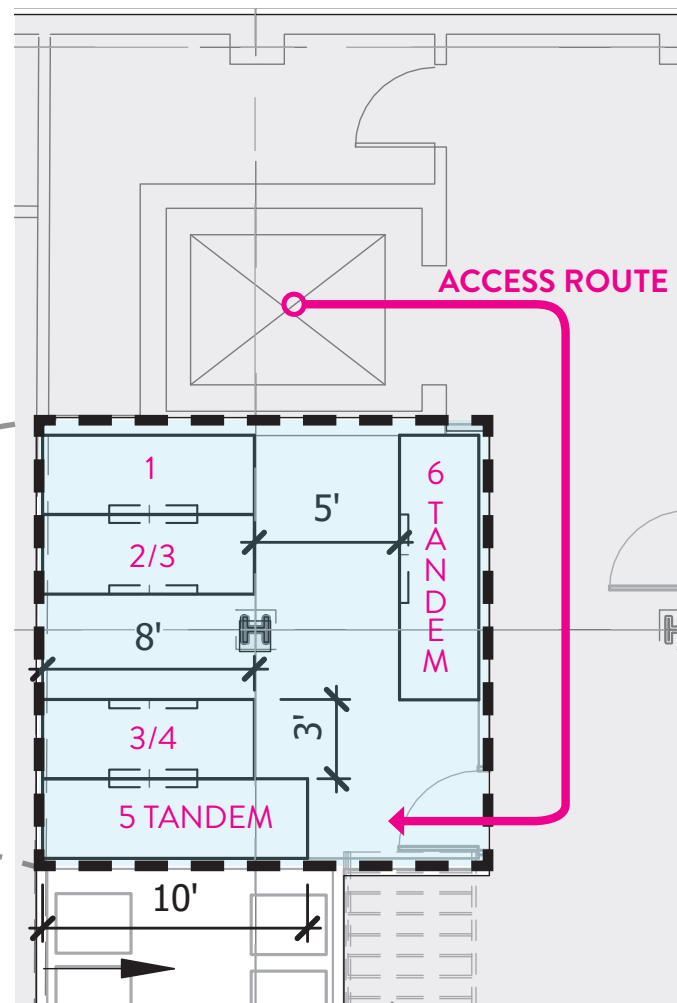
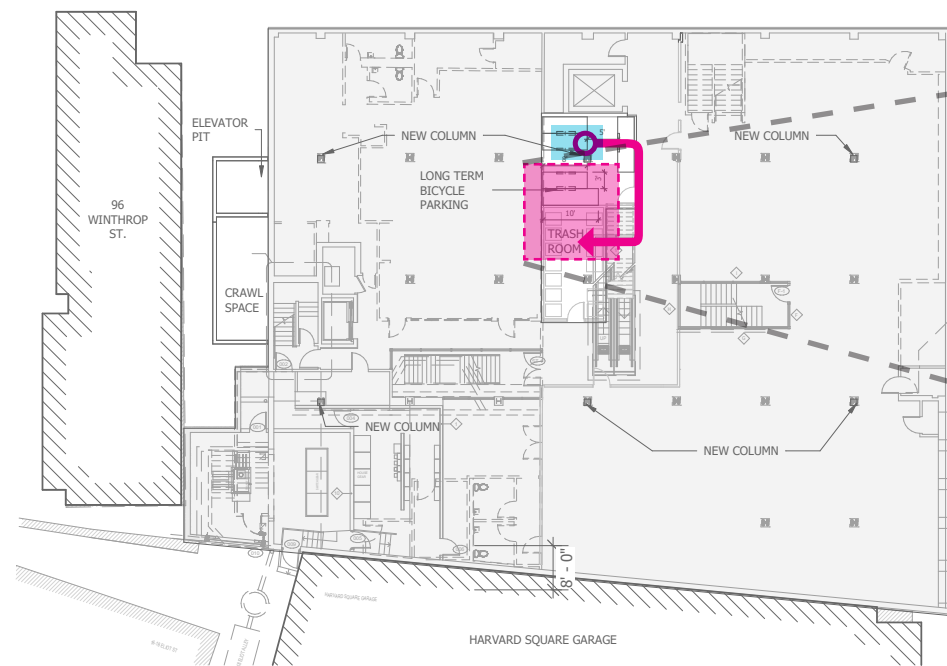
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BIKE LOCKING RAIL. REF. FIGURE 17



LONG TERM BIKE PARKING		
LEVEL	APARTMENT UNIT	BIKE PARKING COUNT
3-5	40	40
BASEMENT	-	6
TOTAL		46



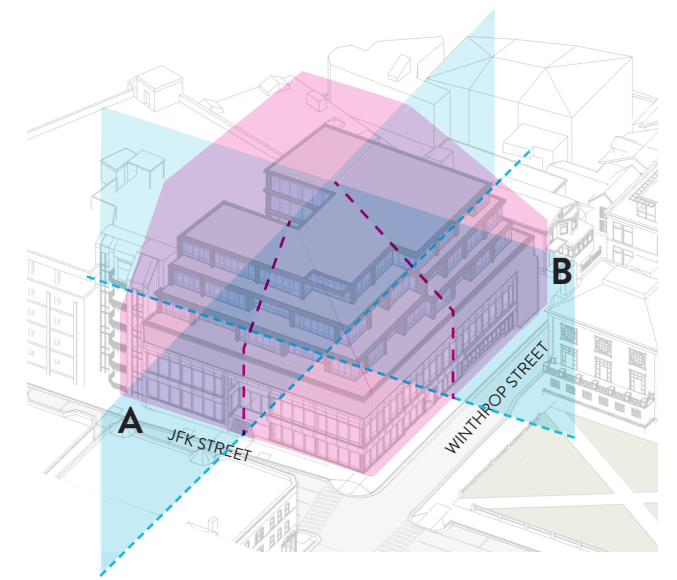
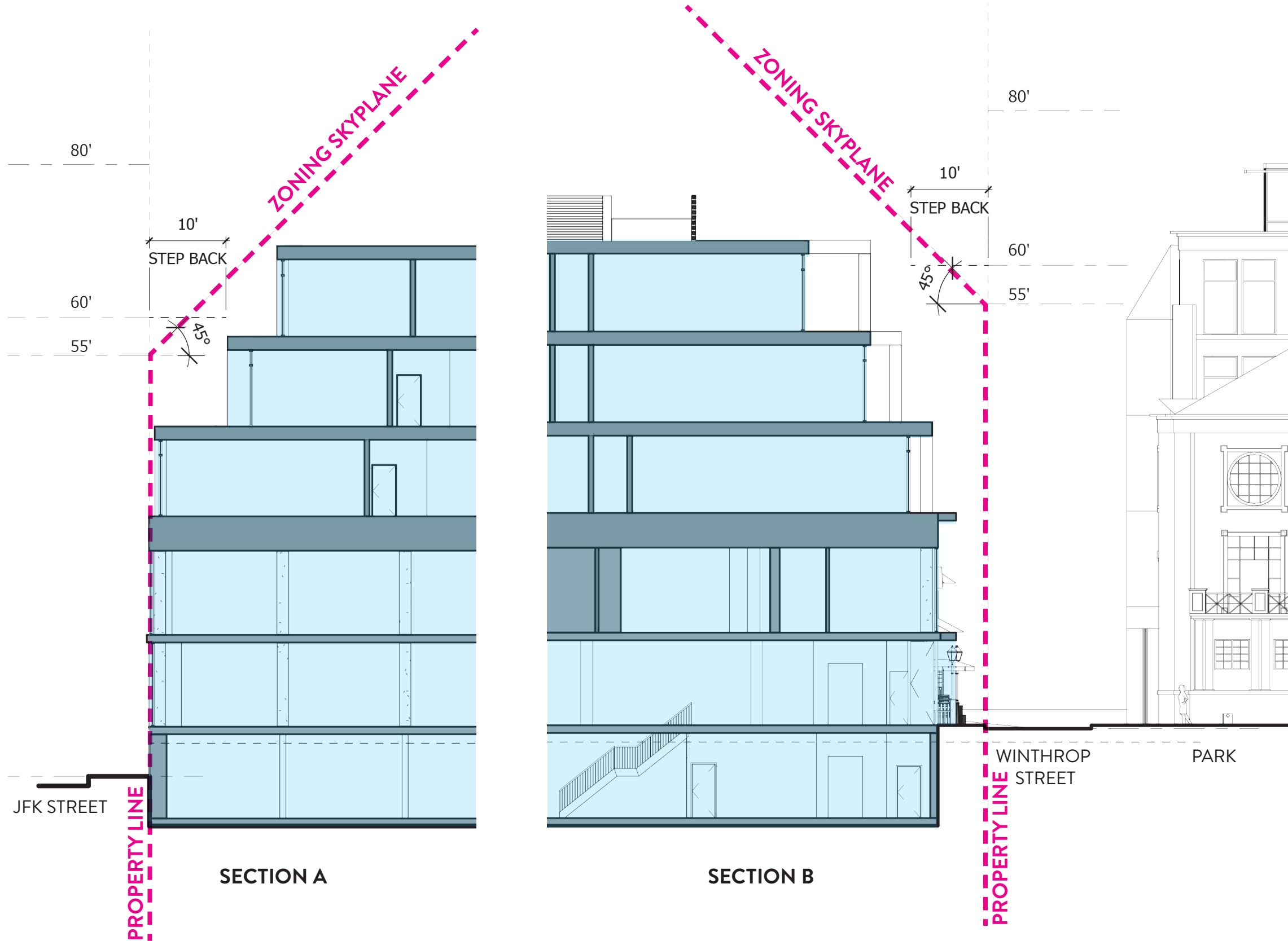
WINTHROP STREET, SHORT TERM BICYCLE PARKING. REF. FIGURE 6

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BASEMENT

BIKE PARKING @ BASEMENT

FIGURE 15



MARCH 29, 2022

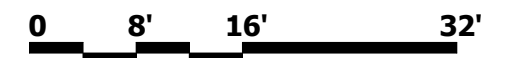


FIGURE 16

PROPOSED AREAS:

STUDIO

UNIT 308	462 SF
UNIT 310	542 SF
UNIT 312	668 SF
UNIT 313	555 SF
UNIT 405	486 SF
UNIT 407	413 SF
UNIT 408	345 SF
UNIT 409	458 SF
UNIT 412	536 SF
UNIT 502	520 SF
UNIT 503	485 SF
UNIT 504	398 SF
UNIT 506	470 SF
UNIT 510	520 SF

TOTAL UNIT AREA	6858
AVERAGE UNIT COUNT	490

1 BED

UNIT 301	724 SF
UNIT 306	680 SF
UNIT 307	511 SF
UNIT 309	535 SF
UNIT 309	446 SF
UNIT 314	652 SF
UNIT 401	855 SF
UNIT 406	708 SF
UNIT 410	431 SF
UNIT 411	629 SF
UNIT 413	500 SF
UNIT 414	465 SF
UNIT 501	730 SF
UNIT 505	712 SF
UNIT 507	580 SF
UNIT 508	505 SF
UNIT 509	629 SF
UNIT 511	506 SF
UNIT 512	467 SF

TOTAL UNIT AREA	11265
AVERAGE UNIT COUNT	593

IN-BOARD 1 BED

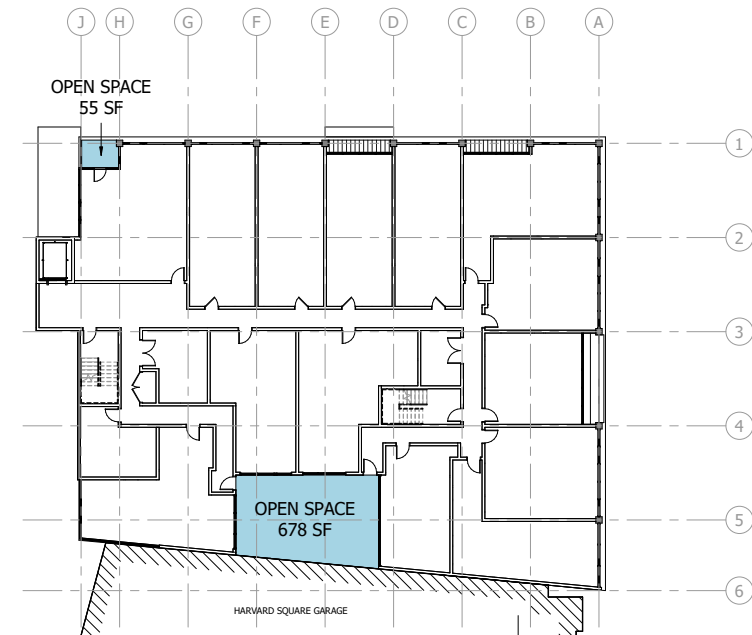
UNIT 302	566 SF
UNIT 303	566 SF
UNIT 304	530 SF
UNIT 305	566 SF
UNIT 402	547 SF
UNIT 403	581 SF
UNIT 404	520 SF

TOTAL UNIT AREA	3876
AVERAGE UNIT COUNT	554

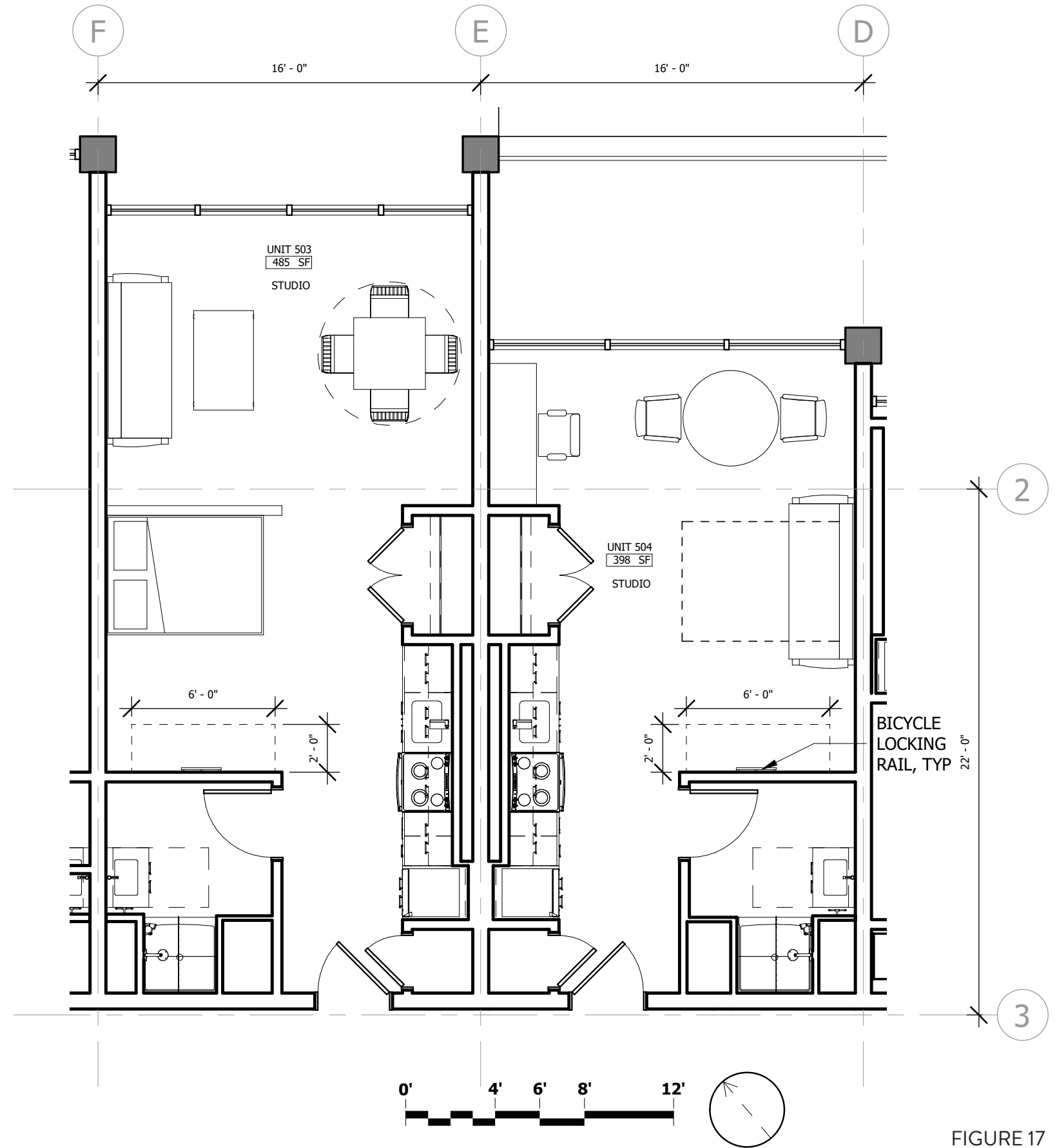
OPEN SPACE

COURTYARD	678 SF
TERRACE	55 SF

TOTAL OPEN AREA	733
-----------------	-----



Scale: 1/16" = 1'-0" Sheet No.:



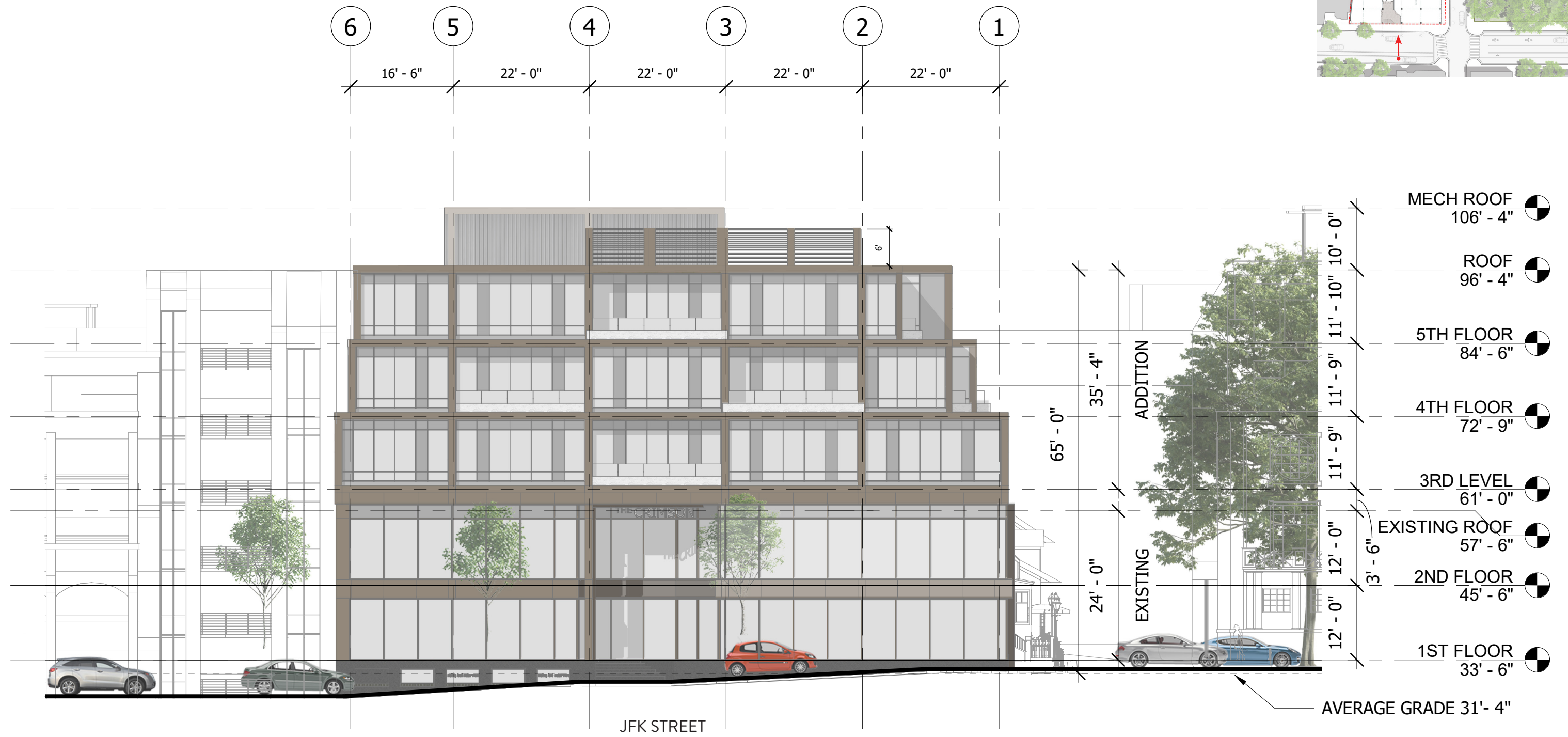
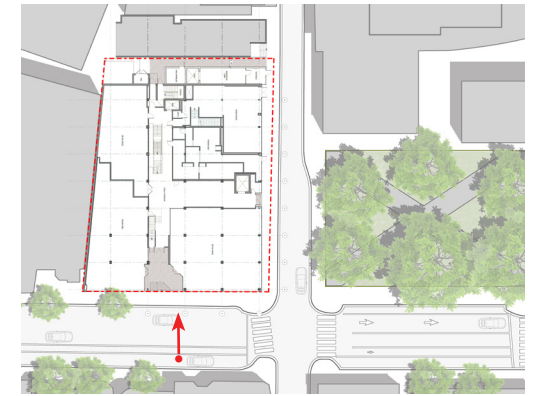
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UNIT AREA SCHEDULE & TYPICAL STUDIOS

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FIGURE 17



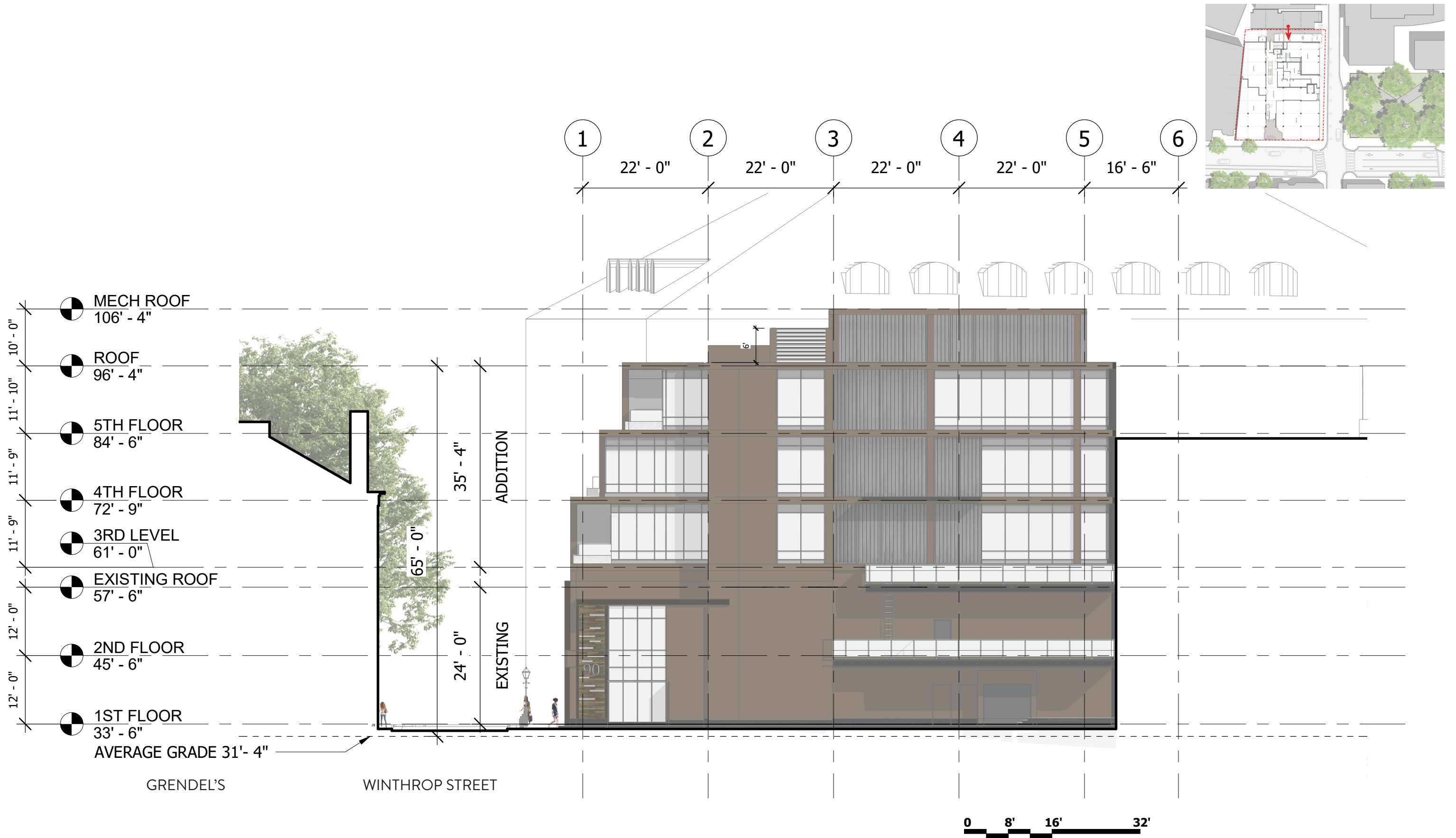
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FIGURE 18



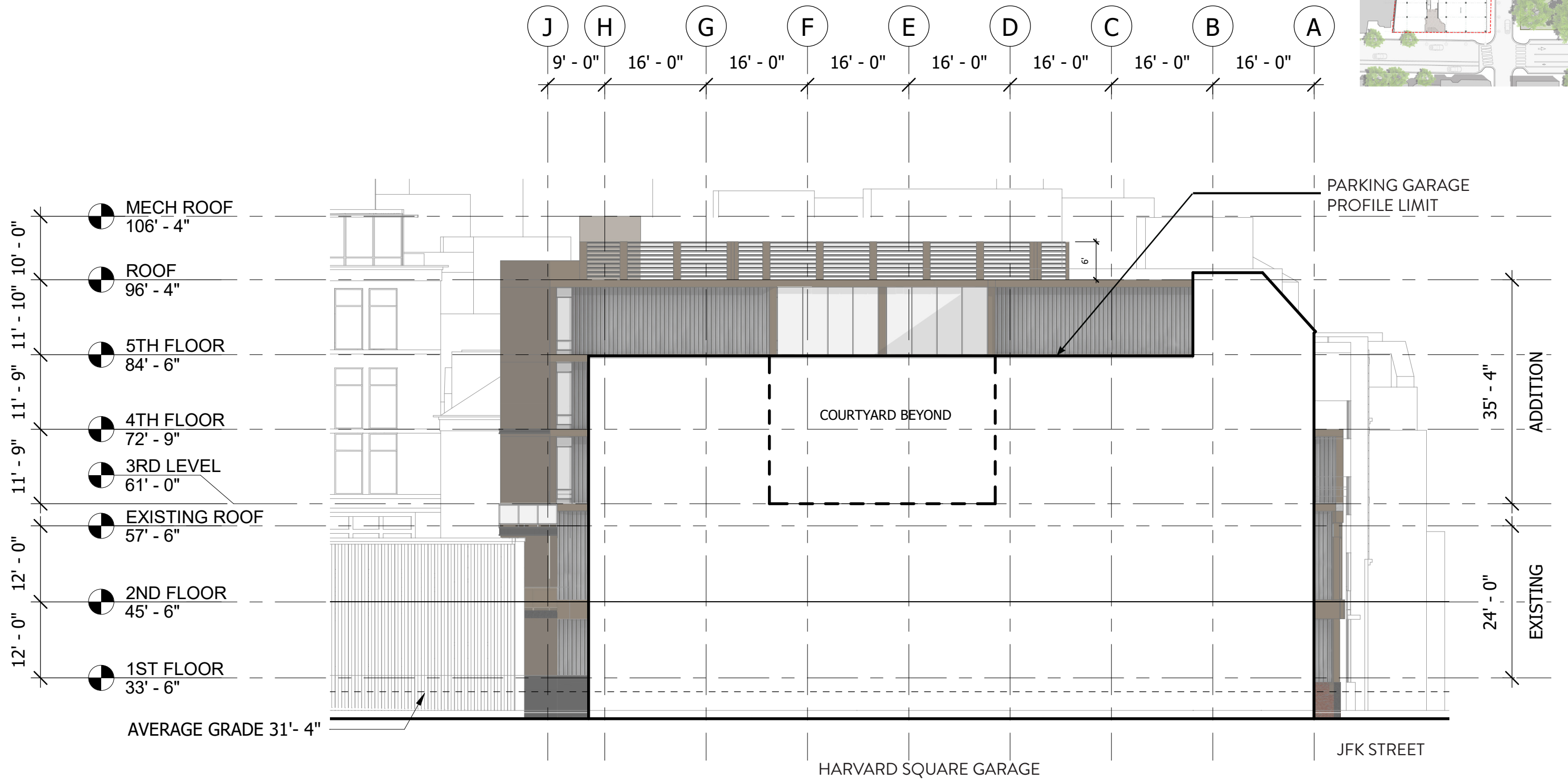
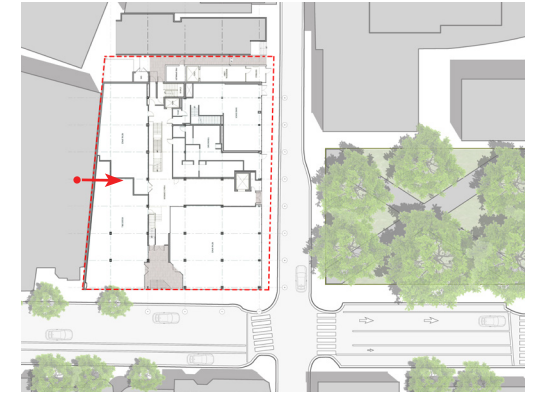
MARCH 29, 2022

FIGURE 19



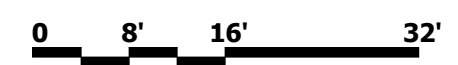
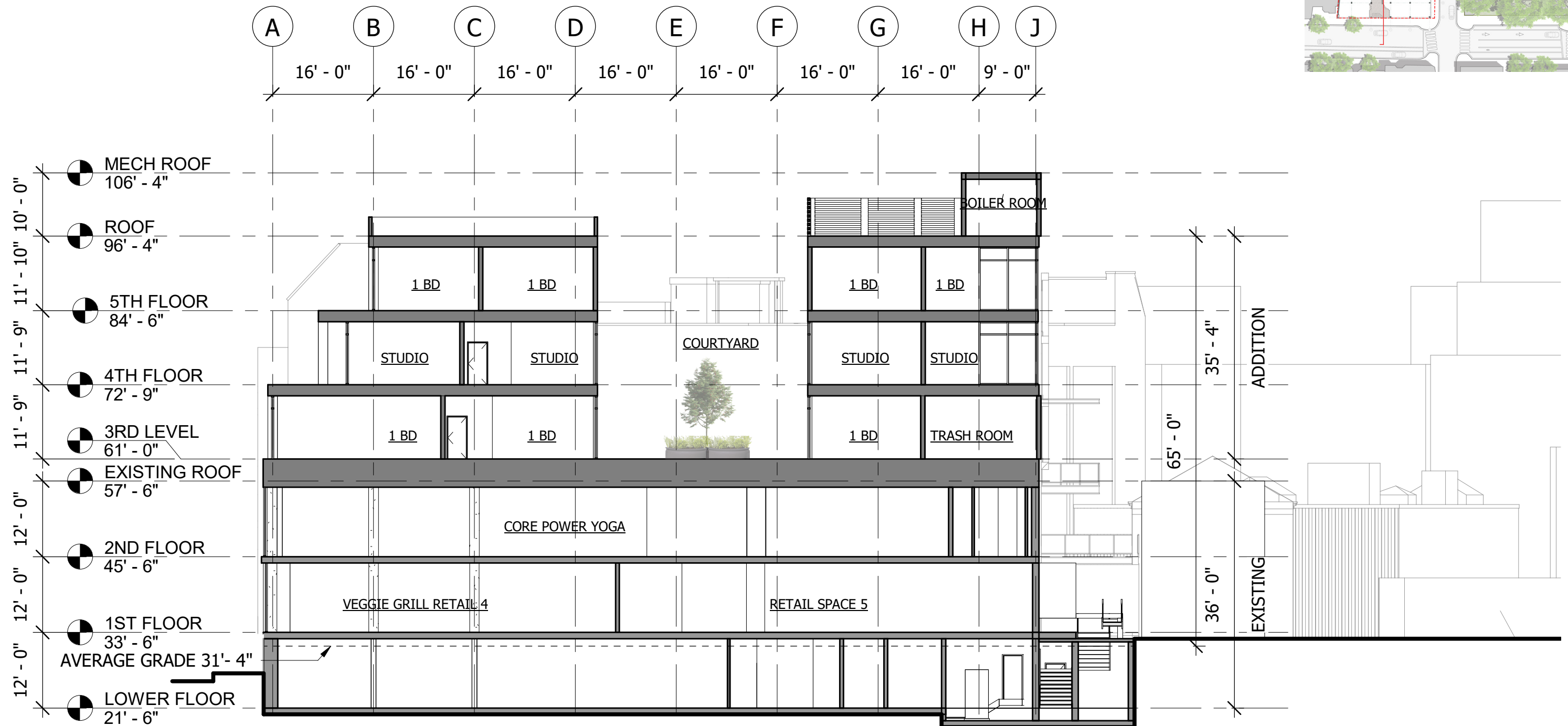
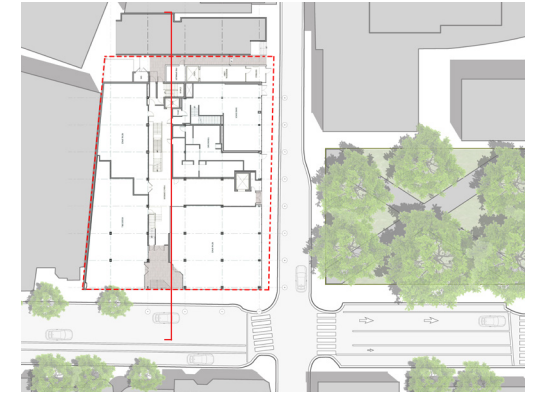
MARCH 29, 2022

FIGURE 20



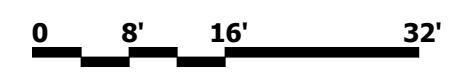
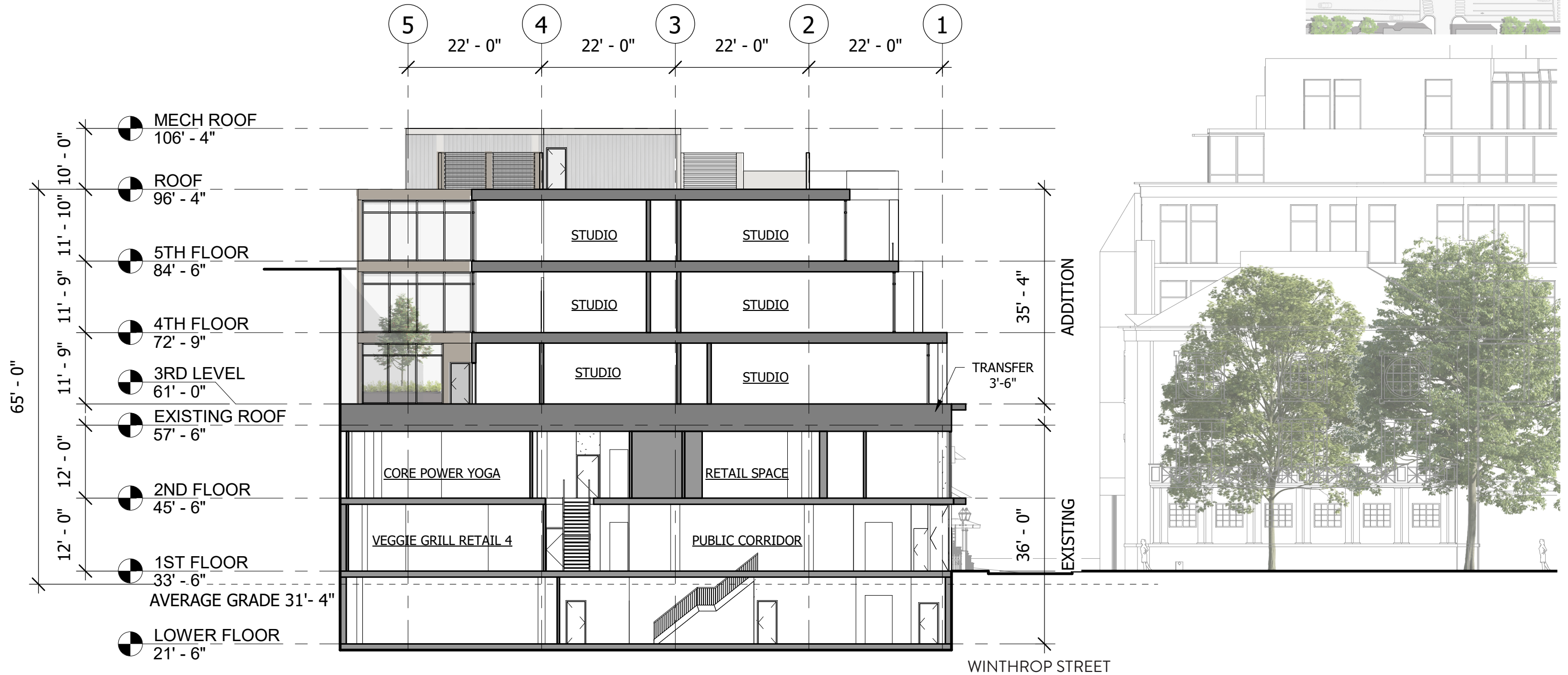
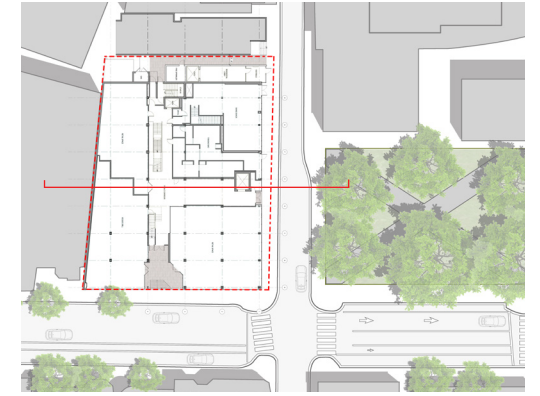
MARCH 29, 2022

FIGURE 21



MARCH 29, 2022

FIGURE 22



MARCH 29, 2022

FIGURE 23



BUILDING SECTION THROUGH JFK STREET

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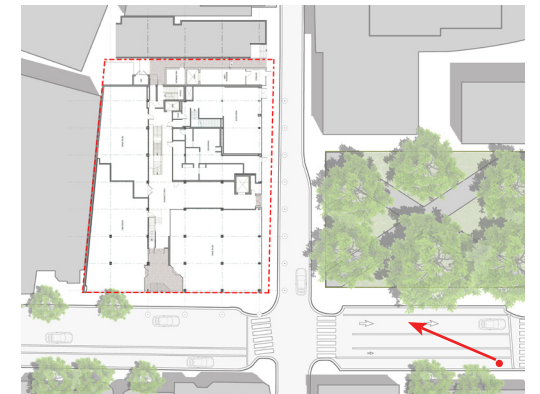
RENDERING OF CORNER OF JFK STREET & WINTHROP STREET

MARCH 29, 2022

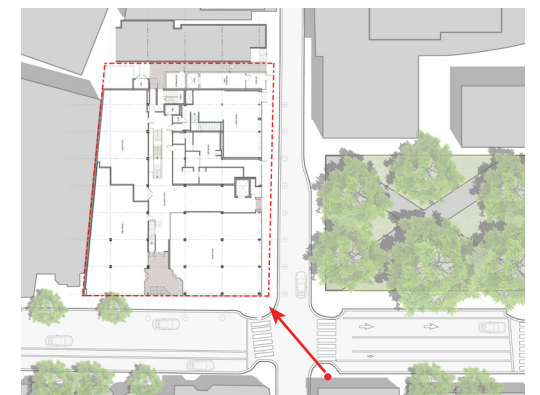
FIGURE 24



VIEW LOOKING SOUTH ON JFK STREET



VIEW LOOKING WEST ON WINTHROP STREET

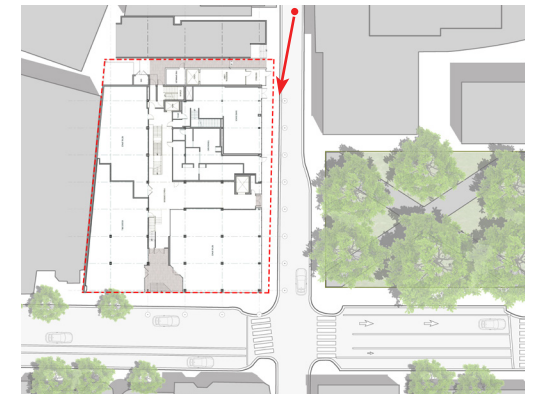


MARCH 29, 2022

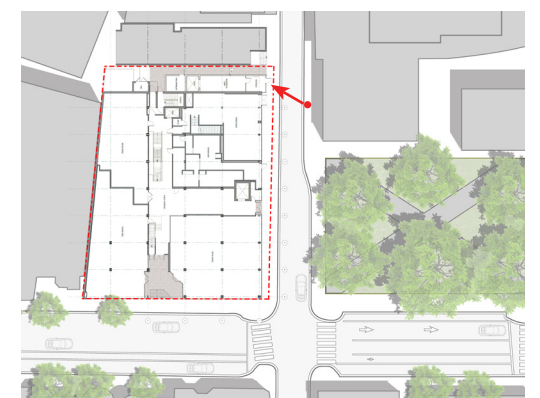
FIGURE 25



VIEW LOOKING EAST ON WINTHROP STREET



VIEW OF NEW RESIDENTIAL ENTRY ON WINTHROP STREET



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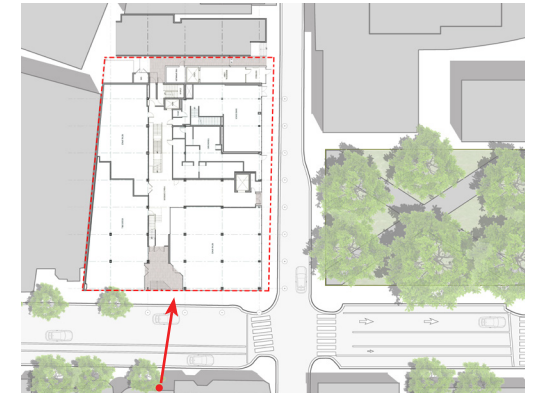
EXTERIOR PERSPECTIVES

FIGURE 26

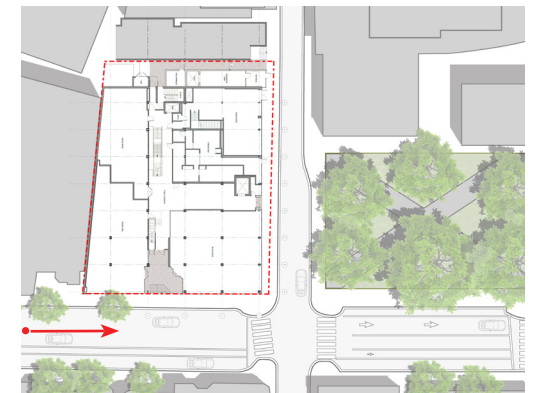
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BIRDSEYE VIEW FROM JFK STREET



VIEW LOOKING NORTH ON JFK STREET



MARCH 29, 2022



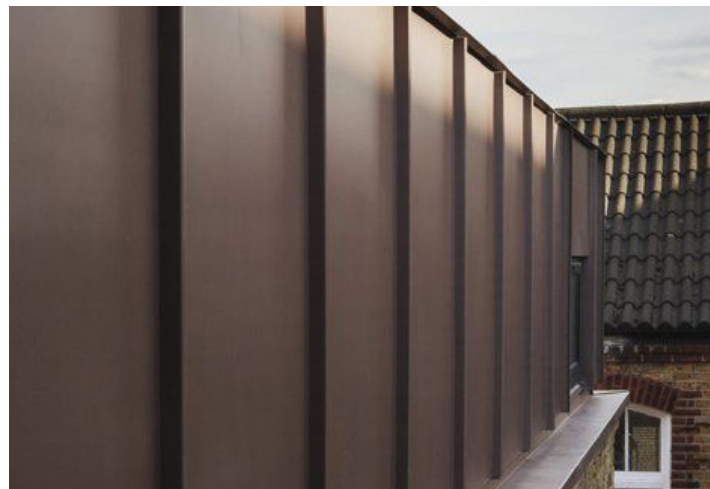
EXTERIOR PERSPECTIVES

FIGURE 27

57 JFK STREET PROJECT
CRIMSON GALERIA LIMITED PARTNERSHIP



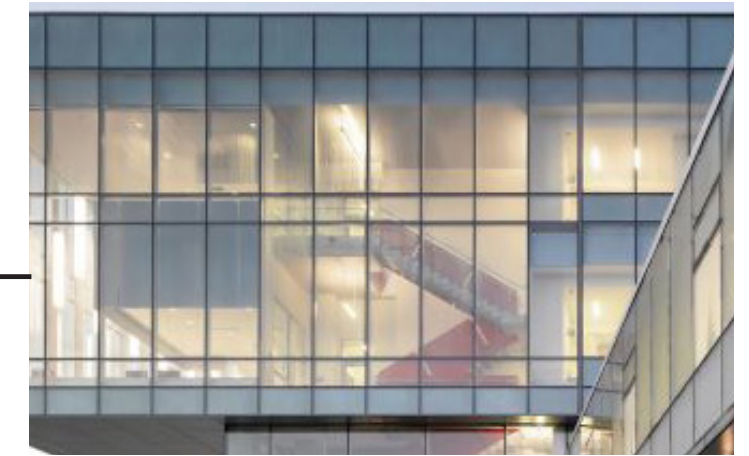
PLANTERS



METAL PANEL SYSTEM



MEDIUM WARM BRONZE COLOR



SPANDREL GLASS



WOOD CEILING

MARCH 29, 2022

NELSON

MATERIAL SELECTION

FIGURE 28

57 JFK STREET PROJECT
CRIMSON GALERIA LIMITED PARTNERSHIP



57 JFK STREET PROJECT

SPECIAL PERMIT APPLICATION: VOLUME 3

57 JFK STREET, CAMBRIDGE, MA

BUSINESS B ZONING DISTRICT AND
THE HARVARD SQUARE OVERLAY DISTRICT

MARCH 29, 2022

CLIENT:

CRIMSON GALERIA LIMITED PARTNERSHIP
166 HARVARD STREET, BROOKLINE, MA 02446

PREPARED BY:

NELSON WORLDWIDE
198 TREMONT STREET, SUITE 439, BOSTON, MA 02116

STRUCTURAL CONSULTANT:

SILMAN
111 DEVONSHIRE STREET, BOSTON, MA 02109

MEP CONSULTANT

ZADE ENGINEERING LLC
1 BILLINGS RD, SUITE 306, QUINCY, MA 02171

VOLUME 3 - Table of Contents

Cover Page.....	1
Table of Content.....	2-3
Solar Studies	4-11
Spring Equinox – March 20	4-5
Summer Solstice - June 20	6-7
Autumn Equinox – September 22.....	8-9
Winter Solstice – December 21	10-11
Tree Report Letter	12
Green Building Project Checklist	13-14
Affidavit Form for Green Building Professional Special Permit.....	15-16
Draft Application Submission.....	17-42
Project Overview.....	19
Project Data	19
LEED Overview	20
Integrative Process	20
Location and Transportation	21-28
Sustainable Sites	29-30
Water Efficiency.....	31-32
Energy and Atmosphere	33-34
Materials and Resources.....	35-36
Indoor Environmental Quality	36-38
Innovation.....	39
Regional Priority.....	39
Appendix A.....	40-42
Net Zero Narrative	43-56
Project Overview.....	44
Project Profile	44
Green Building Rating System.....	44
Proposed Project Design Characteristics	45-46
Integrative Design	47
Green Building Incentive Program Assistance	47

Net Zero Scenario Transition	48
Energy System Comparison	49
Assumptions.....	50
Non Carbon Fuel Scenario	50
Solar Ready Roof Assessment.....	51
Scenarios.....	52
Stretch Code Modeling Results.....	53
Conclusion.....	54
Appendix B.....	55
Appendix C.....	56
Rooftop Mechanical Narrative	57
Long Term Bicycle Parking Narrative.....	58
Net Floor Area Calculations.....	59-61

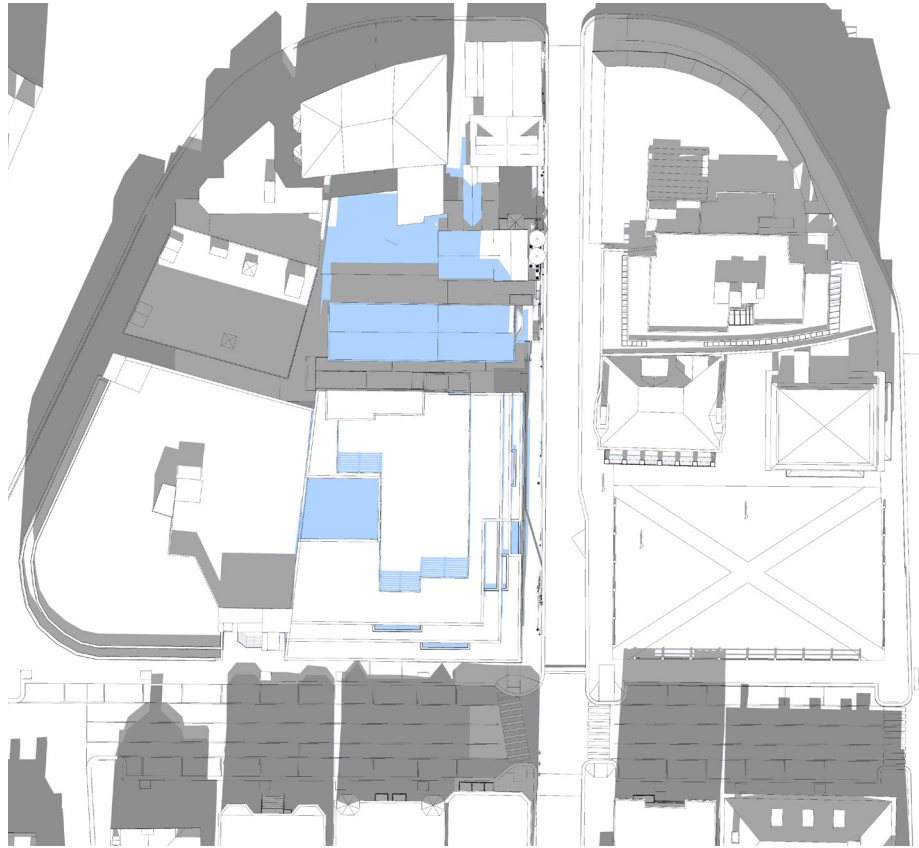
SOLAR STUDIES

SPRING EQUINOX - MARCH 20

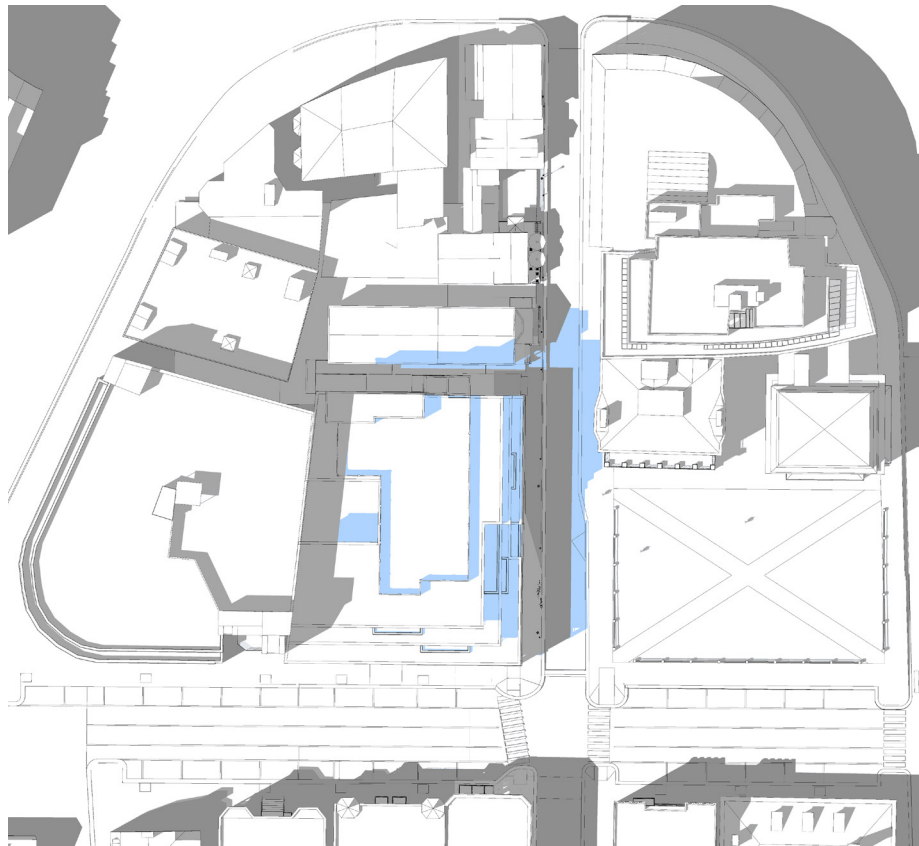
KEY LEGEND

EXISTING SHADOW

SHADOW IMPACT FROM ADDITION



9:00 AM SHADOW



12:00 PM SHADOW

FIGURE 1

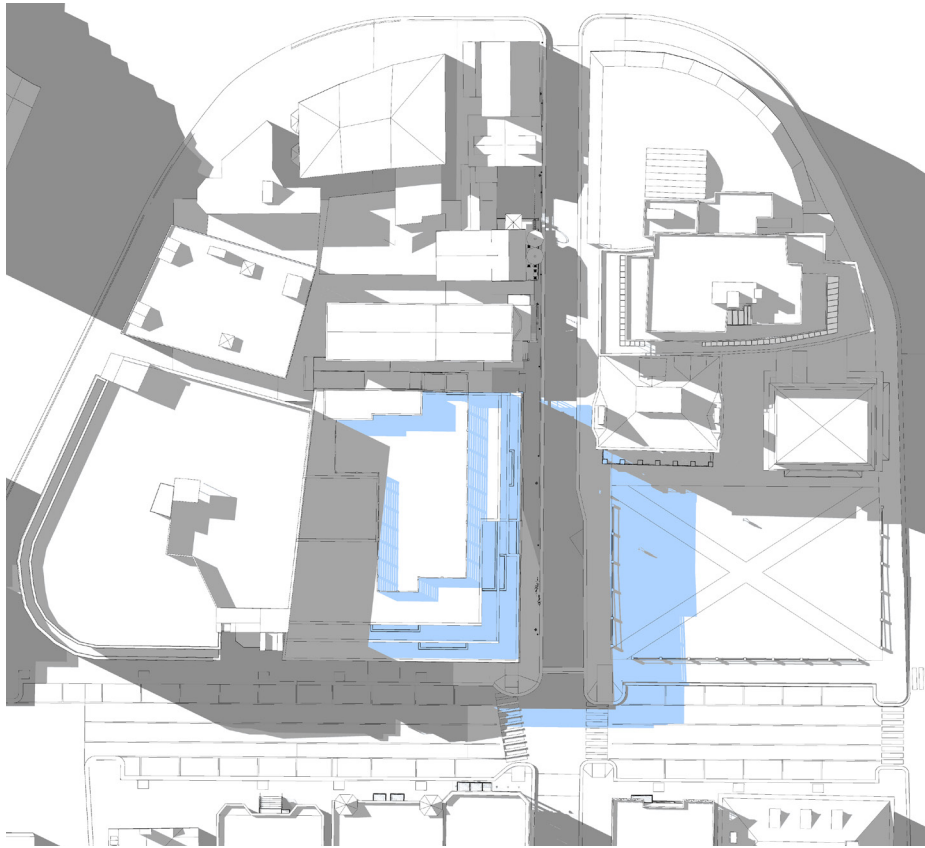
SOLAR STUDIES

SPRING EQUINOX - MARCH 20

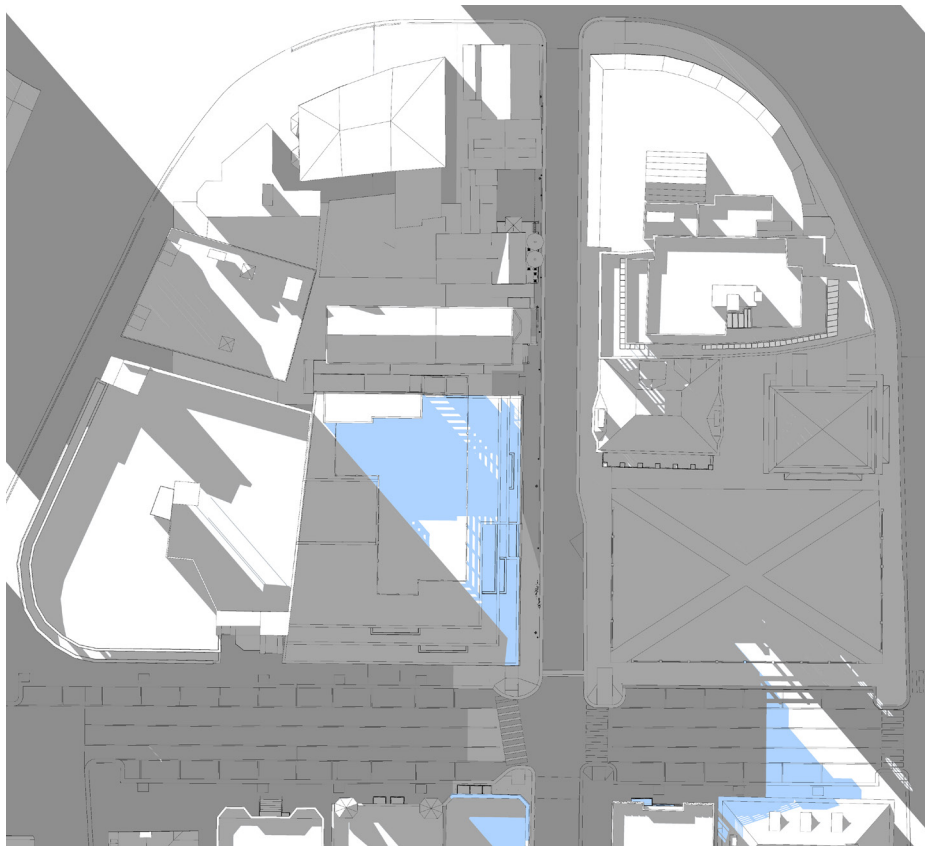
KEY LEGEND

EXISTING SHADOW

SHADOW IMPACT FROM ADDITION



3:00 PM SHADOW



5:00 PM SHADOW

FIGURE 1

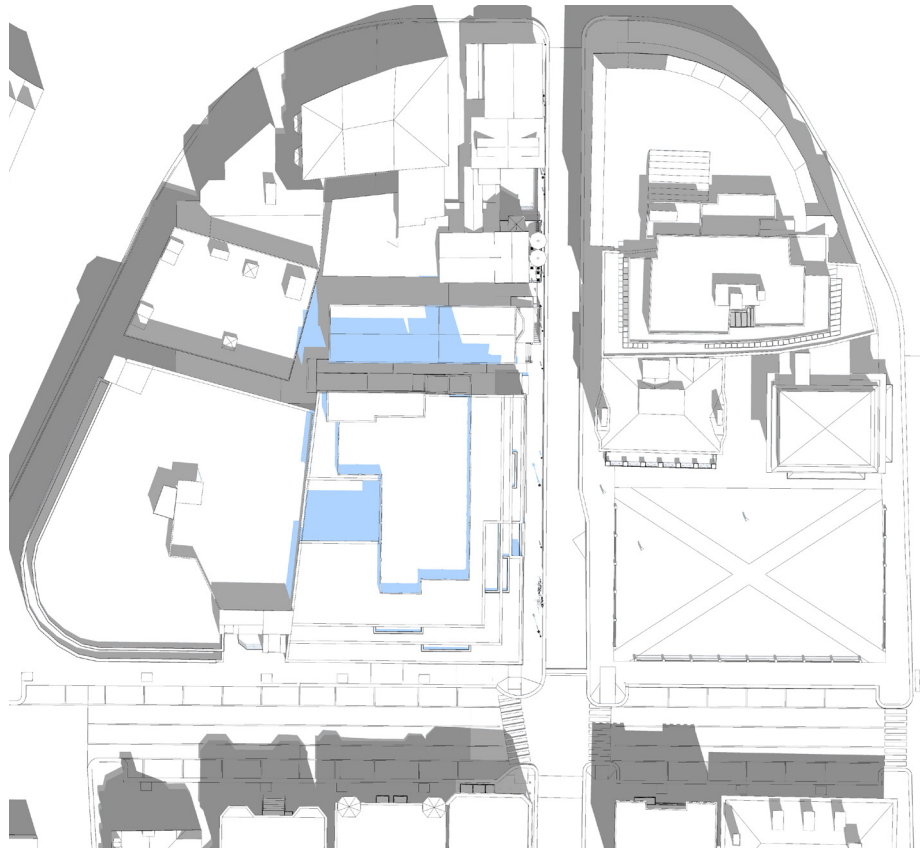
SOLAR STUDIES

SUMMER SOLSTICE - JUNE 20

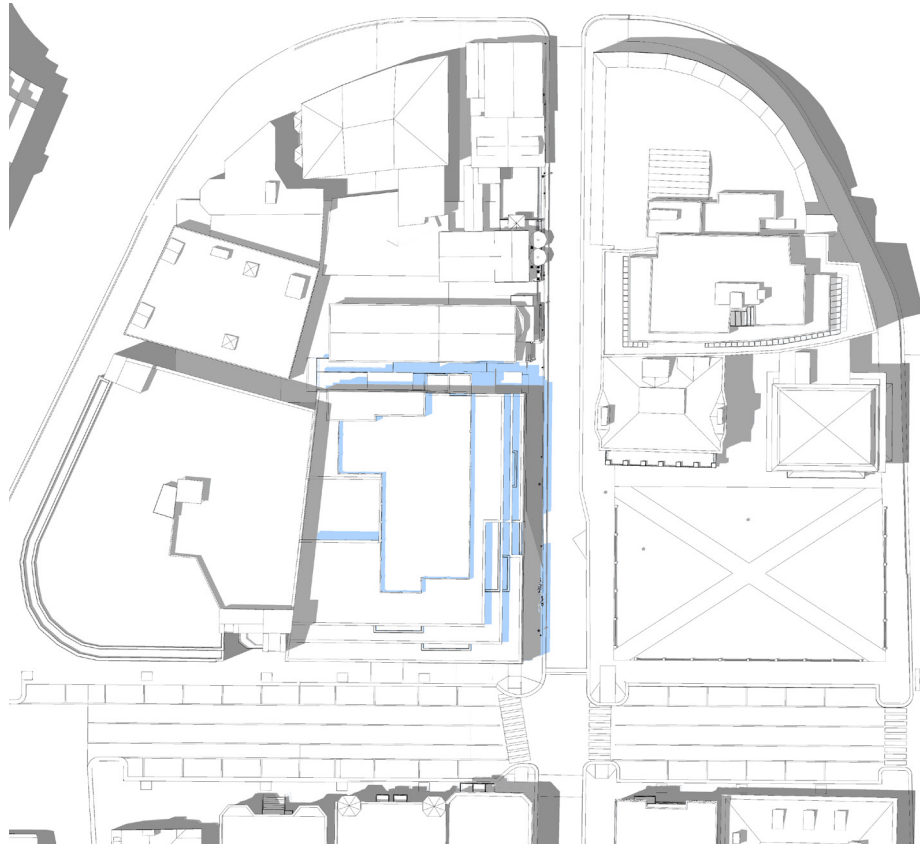
KEY LEGEND

EXISTING SHADOW

SHADOW IMPACT FROM ADDITION



9:00 AM SHADOW



12:00 PM SHADOW

FIGURE 2

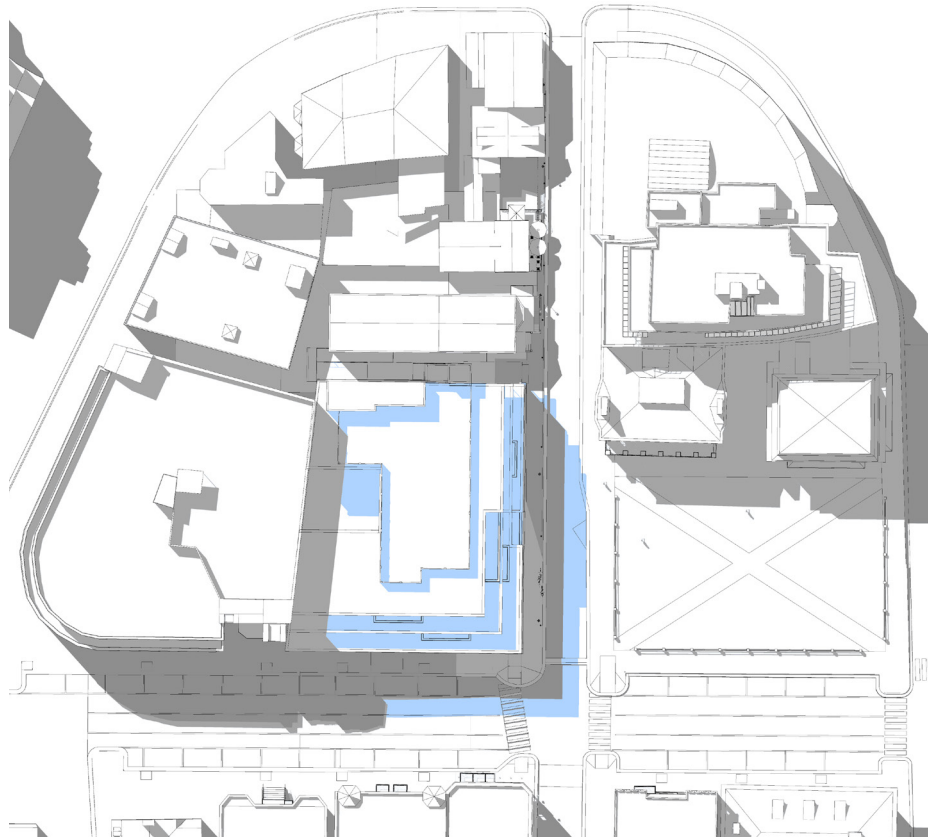
SOLAR STUDIES

SUMMER SOLSTICE - JUNE 20

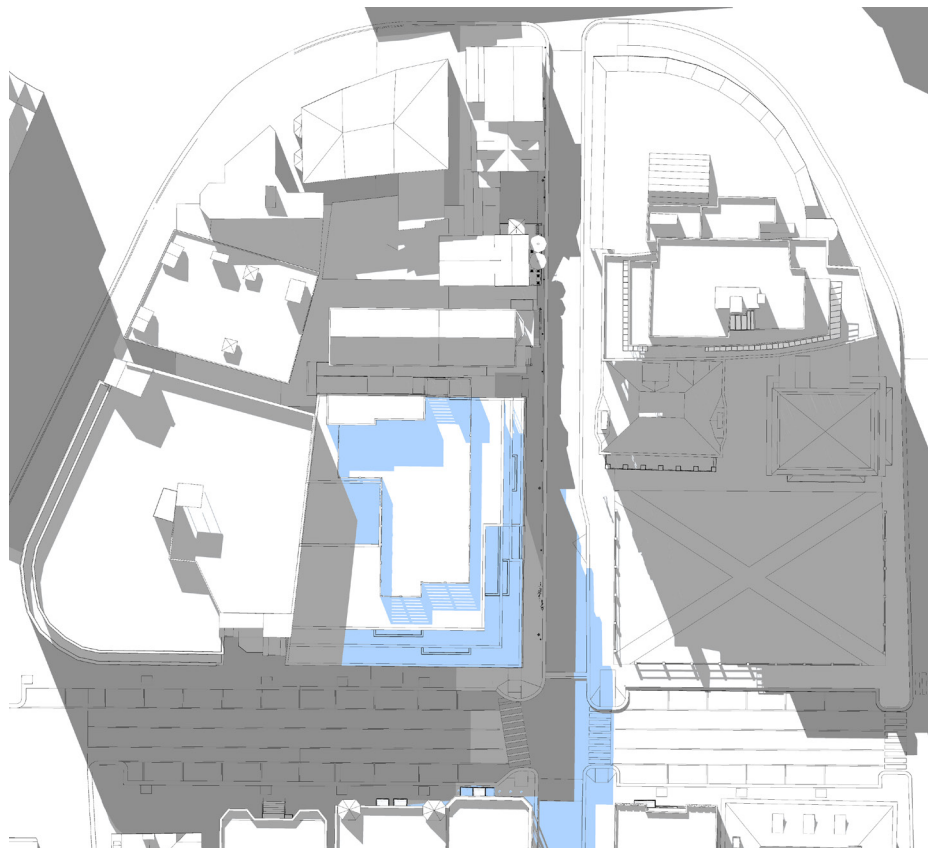
KEY LEGEND

EXISTING SHADOW

SHADOW IMPACT FROM ADDITION



3:00 PM SHADOW



5:00 PM SHADOW

FIGURE 2

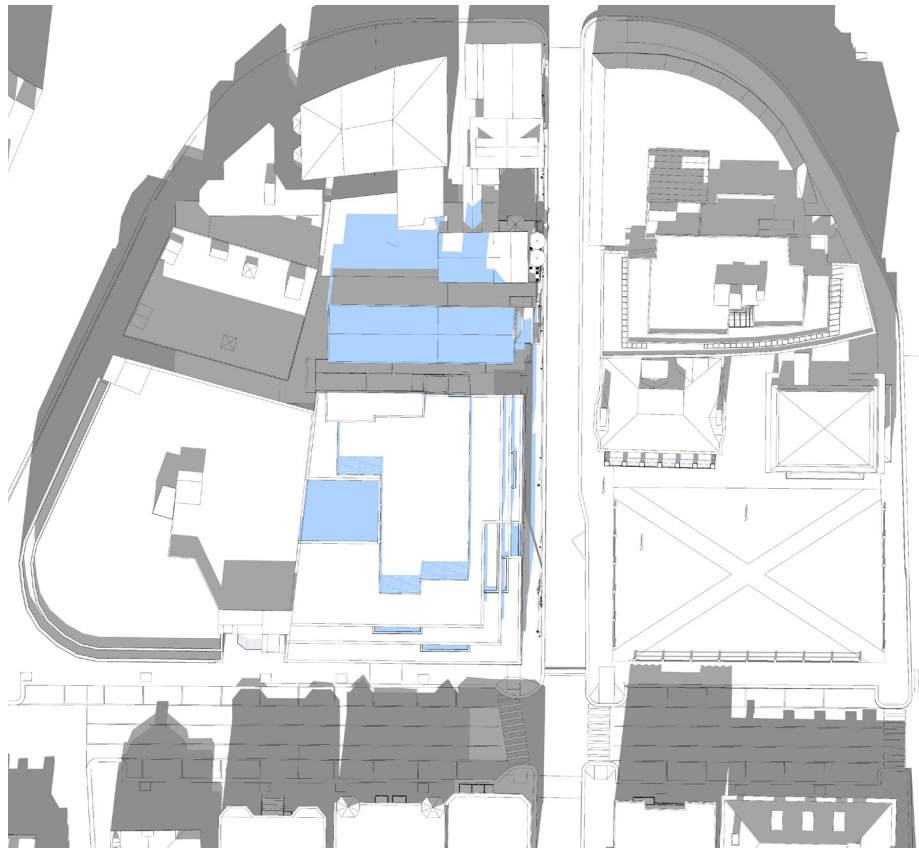
SOLAR STUDIES

AUTUMN EQUINOX - SEPTMEBER 22

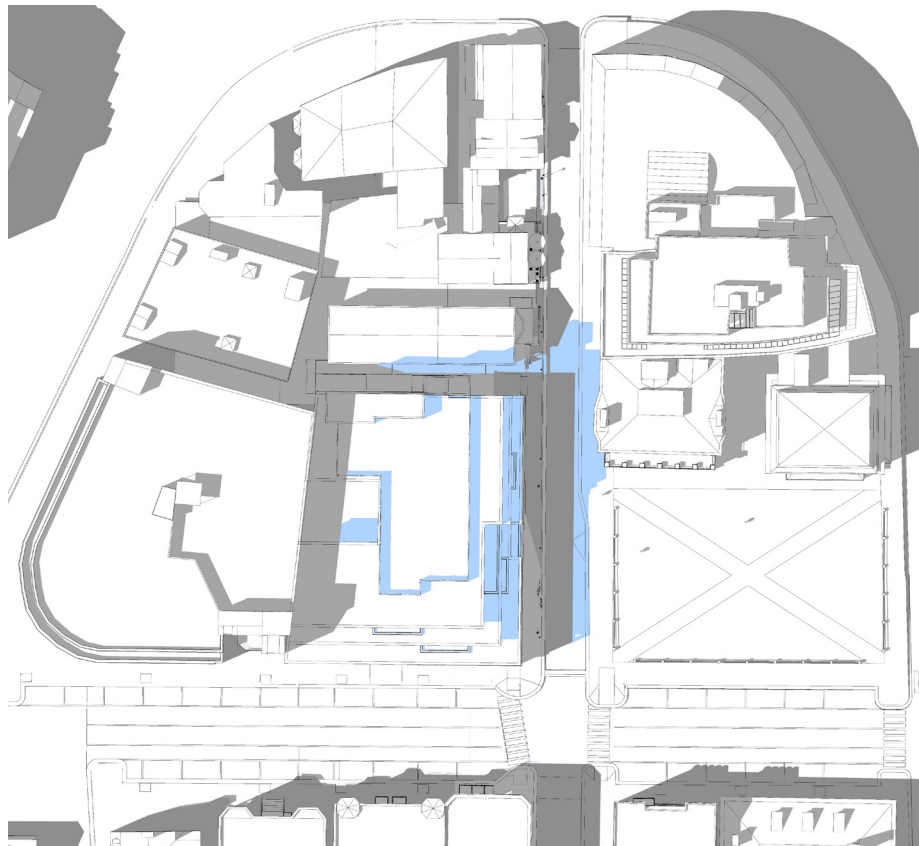
KEY LEGEND

EXISTING SHADOW

SHADOW IMPACT FROM ADDITION



9:00 AM SHADOW



12:00 PM SHADOW

FIGURE 3

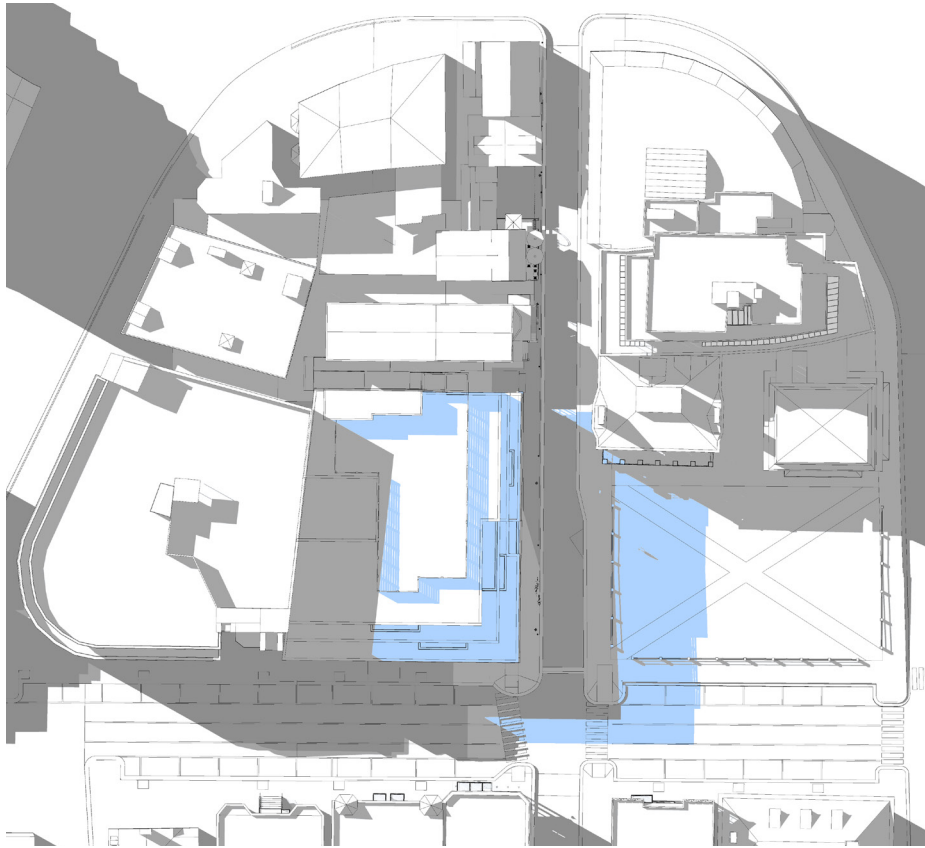
SOLAR STUDIES

AUTUMN EQUINOX - SEPTMEBER 22

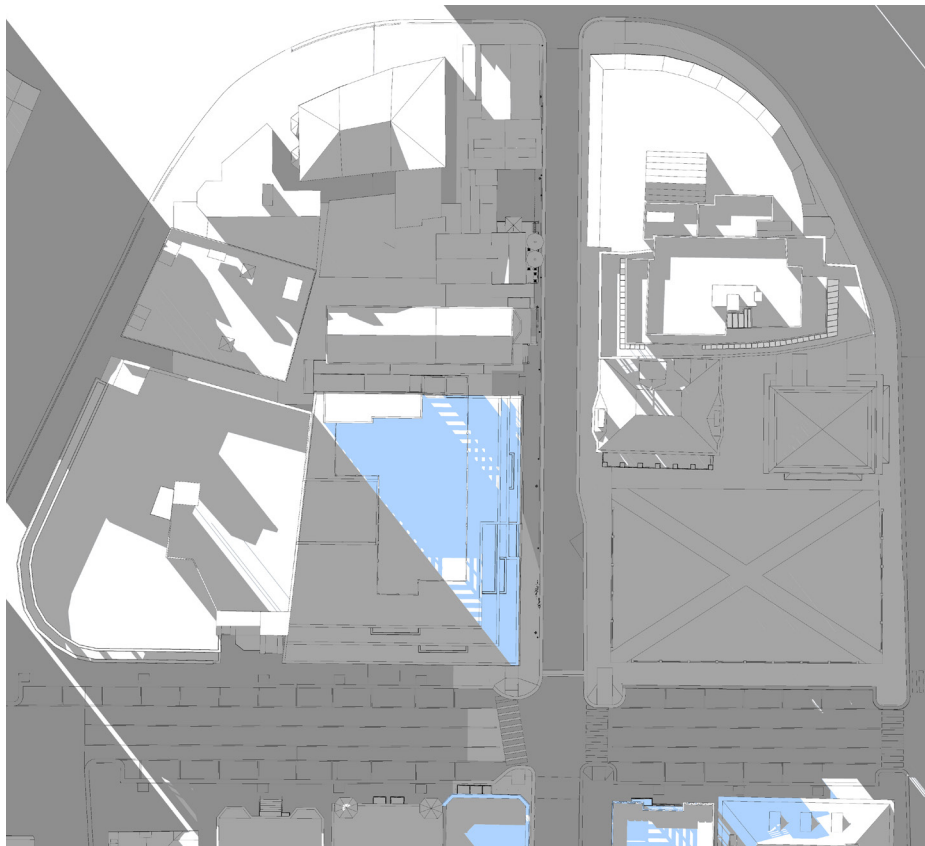
KEY LEGEND

EXISTING SHADOW

SHADOW IMPACT FROM ADDITION



3:00 PM SHADOW



5:00 PM SHADOW

FIGURE 3

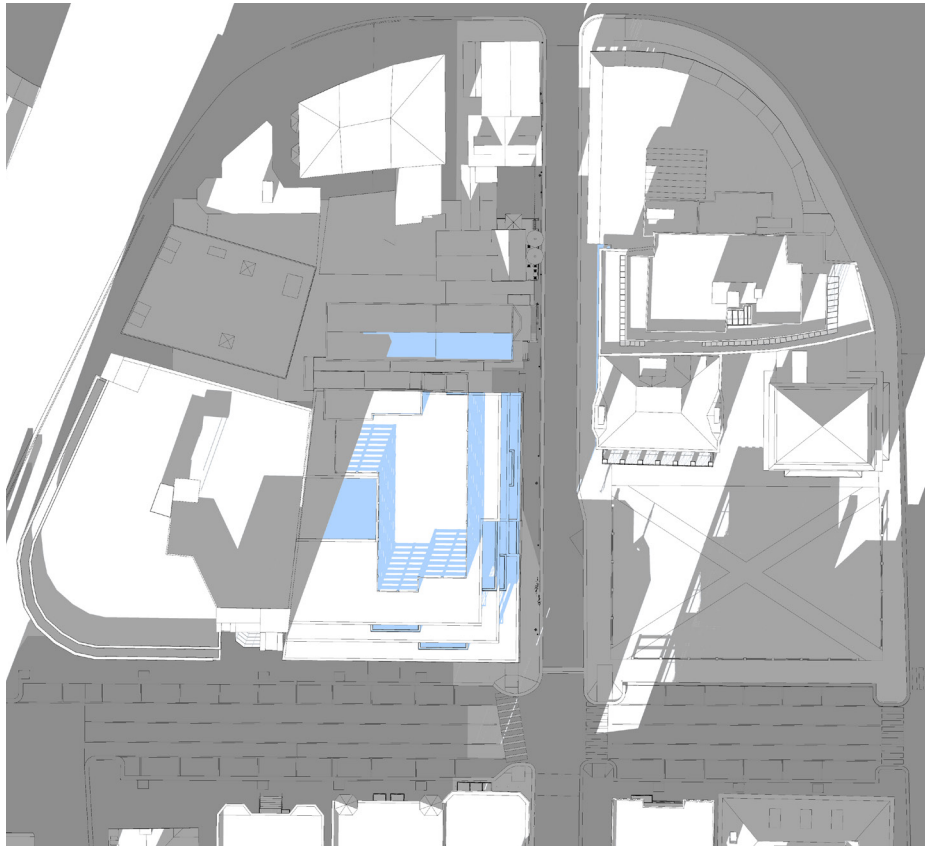
SOLAR STUDIES

WINTER SOLSTICE - DECEMBER 21

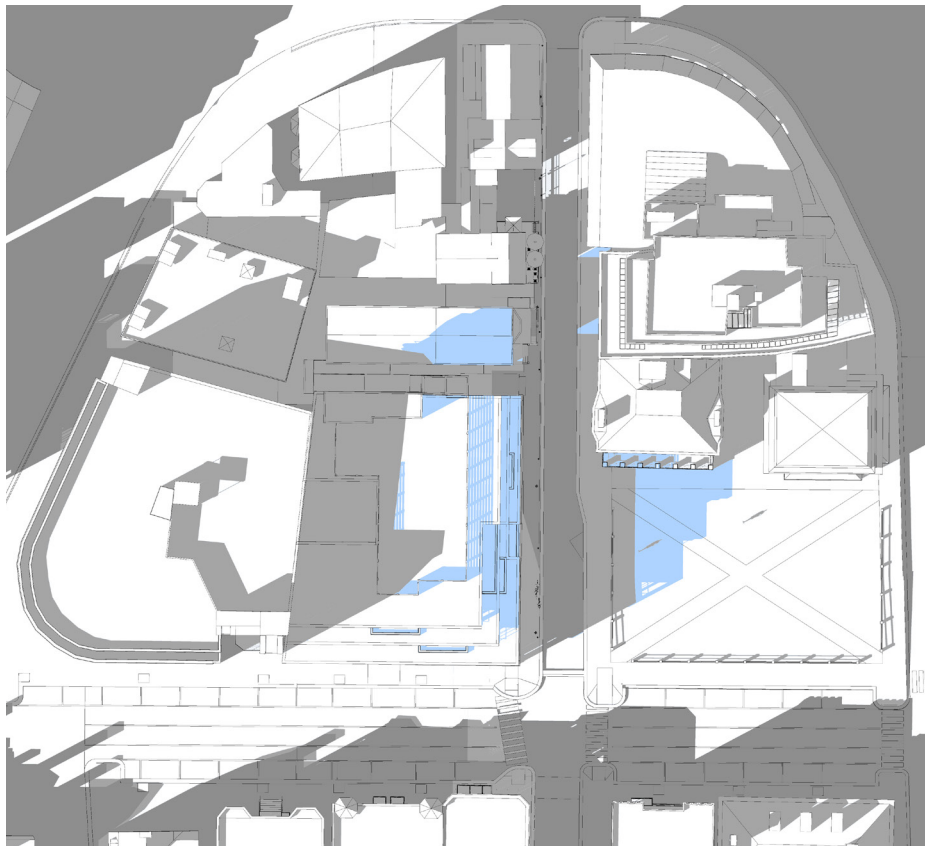
KEY LEGEND

EXISTING SHADOW

SHADOW IMPACT FROM ADDITION



9:00 AM SHADOW



12:00 PM SHADOW

FIGURE 4

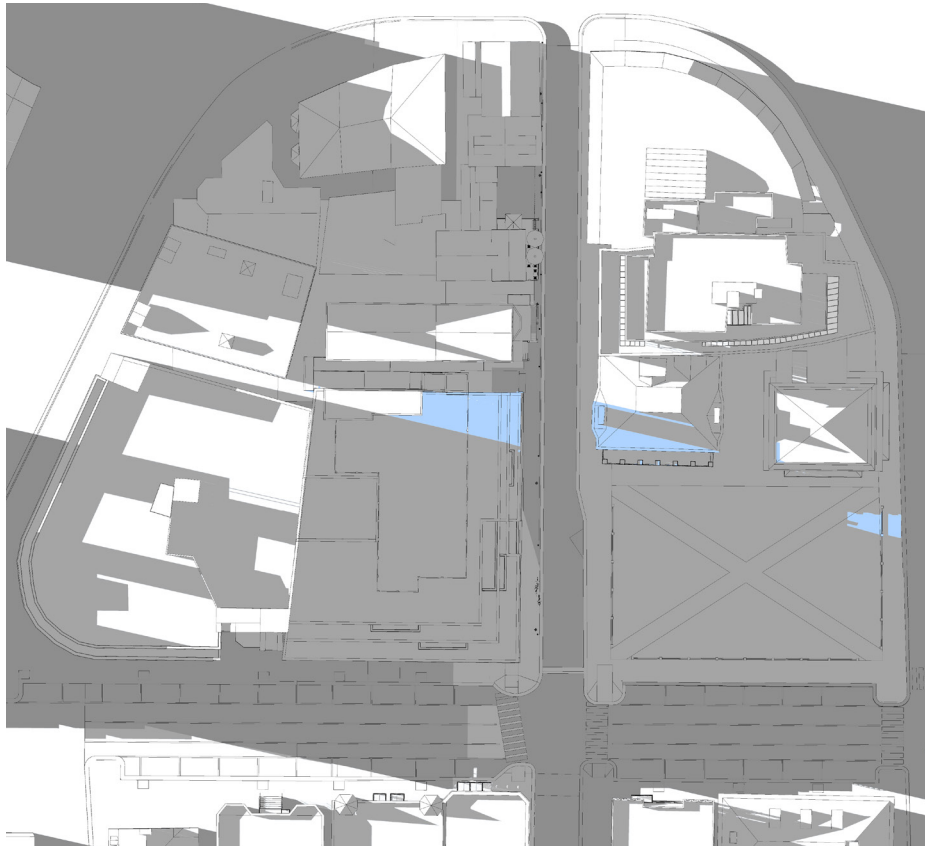
SOLAR STUDIES

WINTER SOLSTICE - DECEMBER 21

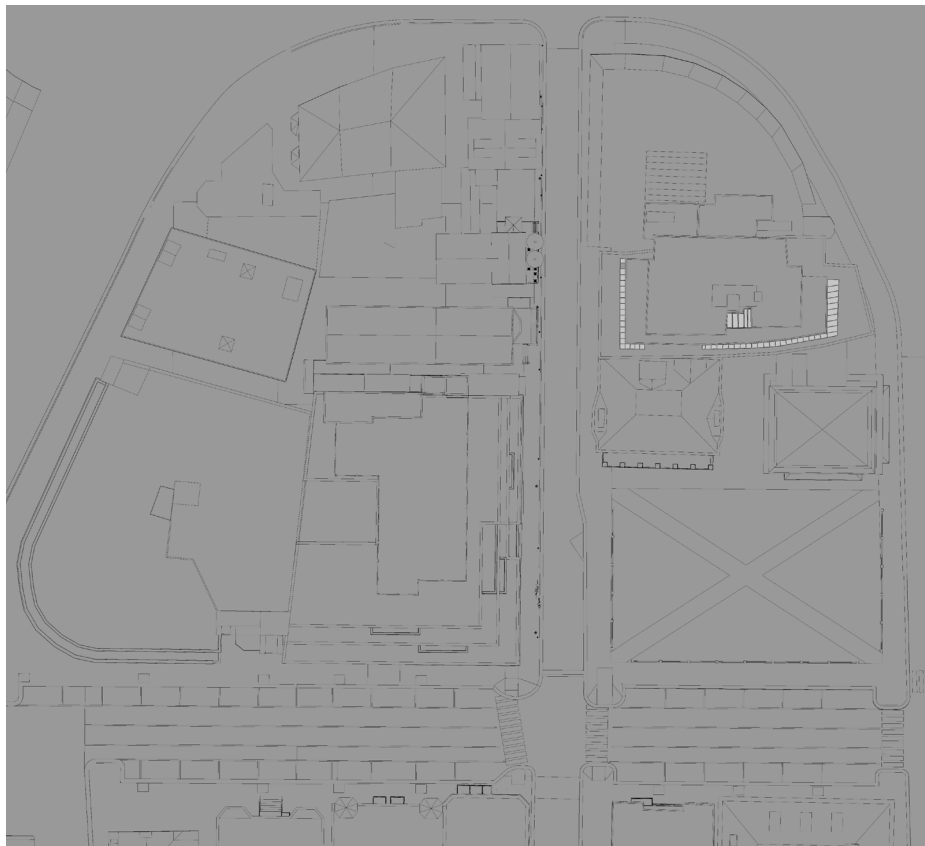
KEY LEGEND

■ EXISTING SHADOW

■ SHADOW IMPACT FROM ADDITION



3:00 PM SHADOW



5:00 PM SHADOW

FIGURE 4

November 23, 2021

Rachna Balakrishna, ESQ.
VP/General Counsel
Mason & Murphy Inc.
166 Harvard Street
Brookline, MA 02446



57 JFK St, Cambridge

Dear Rachna,

You contacted John Murphy about a letter stating that there are no trees on the 57 JFK St Cambridge, MA site.

This letter is to confirm that the only trees in proximity to the site are the three young honeylocusts in tree pits in the sidewalk.

These trees will not be significantly impacted by the construction provided that no excavation occurs within the critical root zone, no materials are stored near the trees, and that no products are drained in the tree pits.



If you have any questions about this letter, please contact me.

Image of two of the three young honeylocusts in front of 57 JFK St

Timothy Armstrong
Board Certified Master Arborist
NE-71132B
ISA Tree Risk Assessment Qualified
tim.armstrong@bartlett.com

Green Building Project Checklist

Green Building
Project Location: 57 John F. Kennedy Blvd, Cambridge MA

Applicant

Name: Crimson Galeria, LP
Address: 166 Harvard Street, Brookline, MA 02446
Contact Information
Email Address: Rachna@masonmurphyinc.com
Telephone #: 617-838-6535

Project Information (select all that apply):

- New Construction – GFA: _____
- Addition – GFA of Addition: 29,477 square feet
- Rehabilitation of Existing Building – GFA of Rehabilitated Area: _____
 - Existing Use(s) of Rehabilitated Area: _____
 - Proposed Use(s) of Rehabilitated Area: _____
- Requires Planning Board Special Permit approval
- Subject to Section 19.50 Building and Site Plan Requirements
- Site was previously subject to Green Building Requirements

Green Building Rating Program/System:

- Leadership in Energy and Environmental Design (LEED) – Version: _____
 - Building Design + Construction (BD+C) – Subcategory: _____
 - Residential BD+C – Subcategory: Multifamily Midrise
 - Interior Design + Construction (ID+C) – Subcategory: _____
 - Other: _____
- Passive House – Version: _____
 - PHIUS+
 - Passivhaus Institut (PHI)
 - Other: _____
- Enterprise Green Communities – Version: _____



Project Phase

x SPECIAL PERMIT

Before applying for a building permit, submit this documentation to CDD for review and approval.

Required Submissions

All rating programs:

- |x Rating system checklist
- |x Rating system narrative
- x Net zero narrative (see example template for guidance)
- x Affidavit signed by Green Building Professional with attached credentials – use City form provided (Special Permit)



Affidavit Form for Green Building Professional Special Permit

Green Building

Project Location: 57 JFK Street, Cambridge MA

Green Building Professional

Name: Stefan David Vogelmann

- Architect
 Engineer

License Number: MA #AR 50118

Company: Nelson Architecture & Interiors

Address: 198 Tremont Street, Suite 439, Boston, MA 02116

Contact Information

Email Address: SVogelmann@nelsonww.com

Telephone Number: 617 751 5888

I, Stefan Vogelmann LEED AP, as the Green Building Professional for this Green Building Project, have reviewed all relevant documents for this project and confirm to the best of my knowledge that those documents indicate that the project is being designed to achieve the requirements of Section 22.24 under Article 22.20 of the Cambridge Zoning Ordinance.


(Signature)

12/15/2021

(Date)

Attach either:

- Credential from the applicable Green Building Rating Program indicating advanced knowledge and experience in environmentally sustainable development in general as well as the applicable Green Building Rating System for this Green Building Project.
- If the Green Building Rating Program does not offer such a credential, evidence of experience as a project architect or engineer, or as a consultant providing third-party review, on at least three (3) projects that have been certified using the applicable Green Building Rating Program.



People

Stefan Vogelmann



Regional Design Leader

Hingham, Massachusetts



Bio Courses Articles

No bio found.

our community of green building professionals.

GBCI# : 0010627556



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57 John F. Kennedy Street

Cambridge, MA

Draft Application Submission

Article 22.20 – Green Building



Submitted 12/20/2021

NJ • NY • PA • CT • MA • MD • DC • VA • OH
PO Box 364 • Chester, CT 06412 • 1-888-MAGRANN • www.magrann.com



Contents

Project Overview	3
Project Data	3
Integrative Process	4
Location and Transportation	5
Sustainable Sites	13
Water Efficiency	15
Energy and Atmosphere	17
Materials and Resources	19
Indoor Environmental Quality	20
Innovation	23
Regional Priority	23
Appendix A	24

Project Overview

The site is located at 57 John F. Kennedy Street on a parcel consisting of approximately 14,506 total square feet of land (0.33 acres) (“Site”). The Site is currently a two-story retail building known as “Crimson Galeria” and is bounded by Winthrop Street to the North and Harvard Square Parking Garage to the South.

The proposed development consists of one (1) building addition totaling approximately 29,477 gross square feet. It will contain forty (40) residential units build atop the existing two-story retail structure. The retail spaces will not be renovated and is not part of the proposed construction project other than to add structural support for the new addition above. The proposed residential units will contain a mix of studio and one-bedroom units.

This report provides an overview of the sustainable design elements proposed as part of the Project at this time of schematic design to demonstrate that the Project will meet the requirements of Article 22.20 of the Cambridge Zoning Ordinance relative to the City’s Sustainable Design and Development Green Building Requirements. The building will pursue a minimum of Silver level qualification under the United States Green Building Council’s (USGBC) Leadership in Energy and Environmental Design (LEED) Building Design and Construction (BD+C) Multifamily Midrise rating system (LEED MR v4).

Project Data

Units: 40

By type:

Studio: 28

1 Bedroom: 12

Parking:

Vehicles: Zero

Bicycles: 41 spaces in lower level

LEED Overview

57 JFK Street addition intends to incorporate sustainable design and construction principles and practices into the Project, in compliance with the requirements of Article 22.20 of the Cambridge Zoning Ordinance relative to the City's Sustainable Design and Development Green Building Requirements. The development intends to take the appropriate measures to achieve a LEED Silver building. The design phase LEED Scorecard is tracking 74.5 'yes' points and 11.5 'maybe' credits for a preliminary Gold rating. The current 'maybe' points represent credits that will be pursued during construction but will not absolutely be required. This approach continues to signal to the market that some green practices, while not absolute mandatory features, are still preferred. This project will capture those additional increases in green performance based on availability and schedule. This total represents a noteworthy increase in LEED points compared to 50 points needed for a Silver rating, as required by Article 22.24.1 (a) for projects below 50,000 gross square feet. 57 JFK Street project will adhere to the LEED Multifamily Midrise rating system. The latest scorecard is included at the end of this document. A summary of LEED compliance pathway for the proposed 57 JFK Street development follows here.

Integrative Process

The Integrative Process (IP) category ensures the integration of sustainable principles throughout the design and construction phase, while also addressing growing concerns of building durability and longevity. The credit's intent is to maximize opportunities for cost effective adoption of green design and construction strategies by uncovering opportunities that would have remained hidden with a lower level of collaboration. The Project already includes team members from all related occupations including architectural, mechanical engineering, building science analysis, civil engineering, and energy efficiency expertise. At least two LEED Accredited Professionals are on the team. Furthermore, the team will ensure that the selected contractor is knowledgeable and capable of implementing green features by completing an orientation meeting that may grow into the full trades training session as outlined by the LEED system.

IP c Integrated Project Team

Project team members have met at least monthly during entitlements and through Conceptual Design to present. Team members will be added during SD and DD phases with meetings moving to weekly. Project team meetings are expected to be ongoing, and the consultants will be engaged for construction administration, ensuring that the benefits of their design intent will be carried into construction.

Current team members include members of the following organizations:
Crimson Galeria, LP, Nelson Architecture & Interiores, Silman (Structural Engineering) and MaGrann Associates.

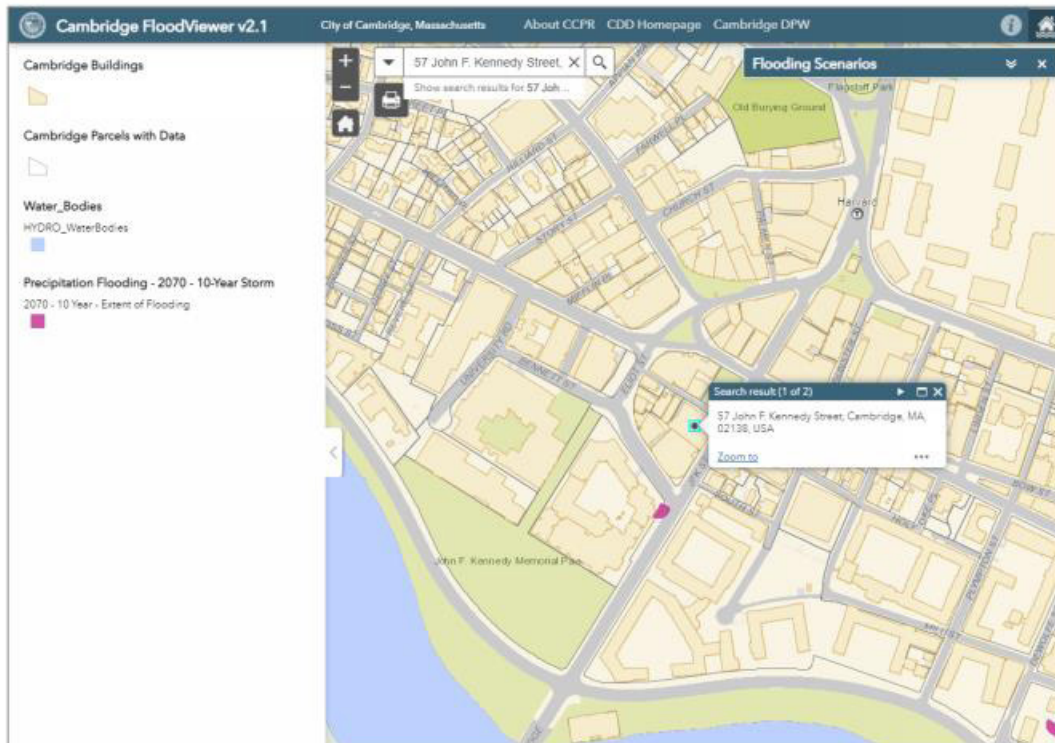
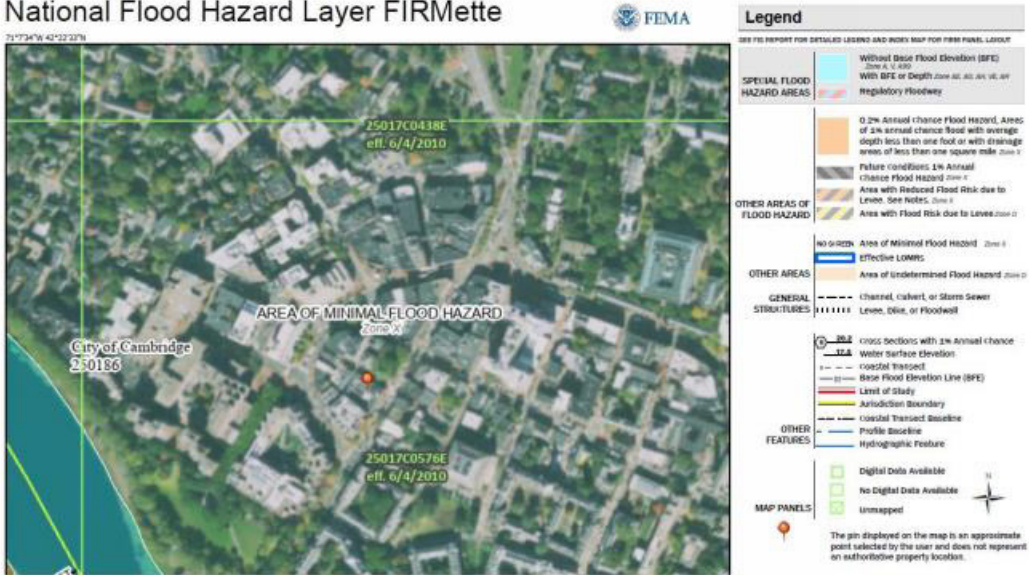
Location and Transportation

The Location and Transportation (LT) category addresses reduction of urban sprawl and rewards development on and near existing infrastructure, public transportation, and previously developed land. The Project is a redevelopment of an existing, urban infill parcel, requiring no undeveloped land for its construction, providing access to existing utility lines and public transportation, as well as accessible open space for occupant recreation. The project location is outside of the 100 and 500 year floods as demonstrated by current FEMA maps. The 57 JFK Street location also provides its residents with walkable (within ½ mile) access to numerous neighborhood amenities, including restaurants, grocery stores, pharmacies, religious institutions, laundry services, and recreation facilities. For more distant trips, on-site bicycle storage with direct access from outdoors will promote resident biking by offering secure, covered storage spaces.

LT p Floodplain Avoidance

Both FEMA and Cambridge FloodViewer v2.1 with 2070 10-year storm show minimal flood hazard for the site.

National Flood Hazard Layer FIRMette



LT c Site Selection

Option 1 Sensitive Land Protection

Path 1 Previously Developed

As is evident from the aerial photo below, the lot is currently an existing building qualifying as previously developed for the point under the synonymous path.



Option 2 Infill Development

Infill development awards one point to projects where 75% of the land within a half mile radius is previously developed. Water, public parks, and areas legally prohibited for development are excluded from both numerator and denominator. Removing those areas within the circle below (Charles River, John F. Kennedy Memorial Park, Riverbend Park, Cambridge Common) the remaining area is 100% previously developed.



Option 3 Open Space

John F. Kennedy Memorial Park is publicly accessible and within a 0.5 mile walking distance.

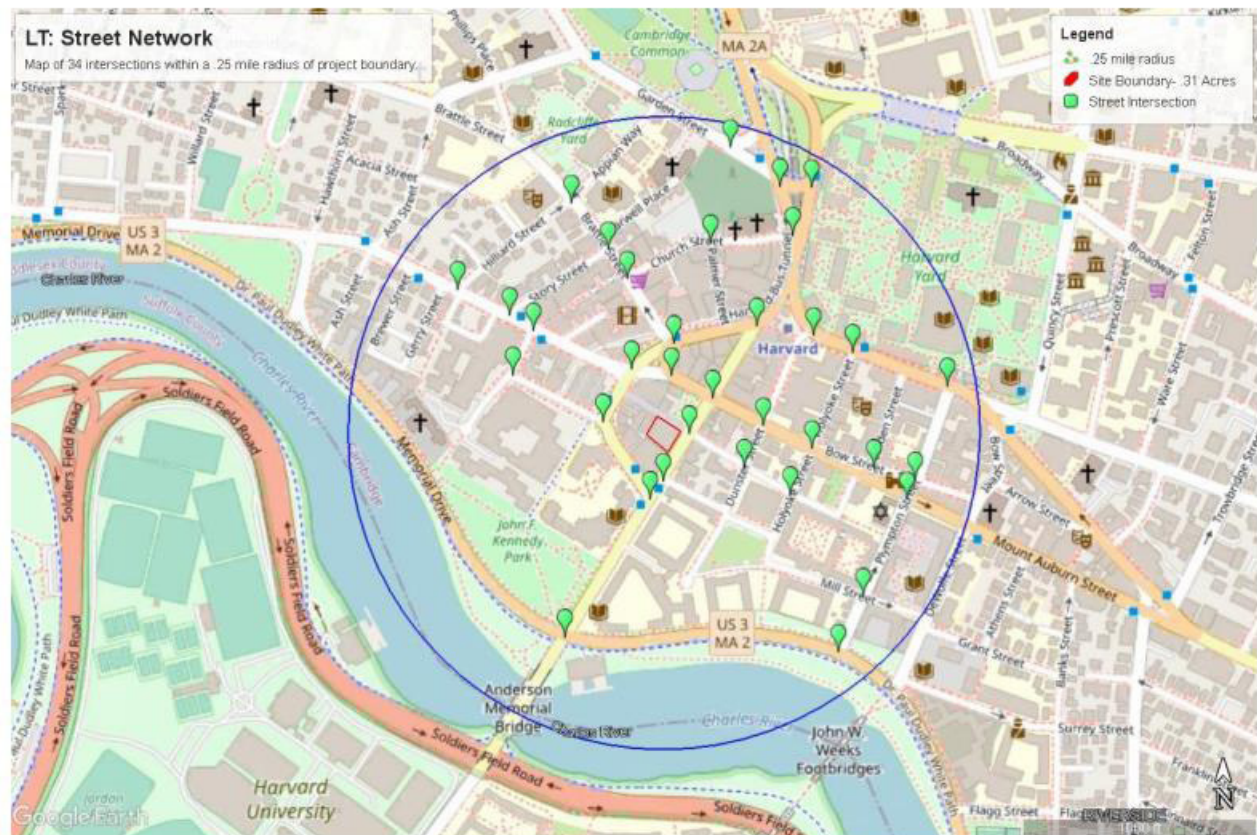


Option 4 Street Network

The point for Street Network will be awarded because the land within the ¼ mile radius circle in blue below has an intersection density greater than 90 intersections per square mile.

The blue circle has a baseline area of 0.196 square miles. $90 \text{ intersections / square mile} * 0.196 \text{ square miles} > 17.6 \text{ intersections needed for credit at this site.}$

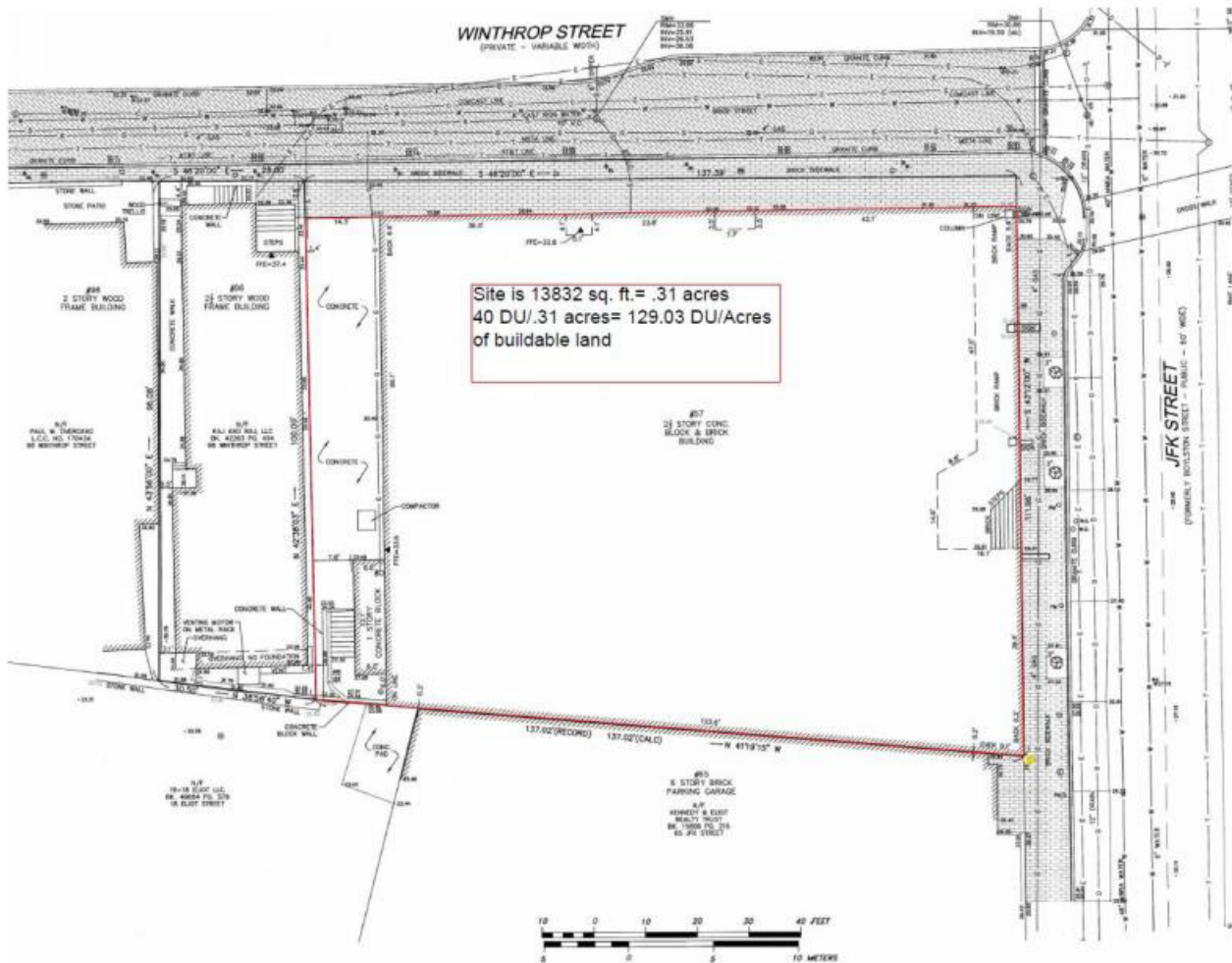
The total of 34 intersections (identified by the green pins below) yields a qualifying intersection density of 170 intersections / square mile. This is well beyond the requirement for credit and would be higher still if the area of water bodies and public parks were removed from the denominator.



LT c Compact Development

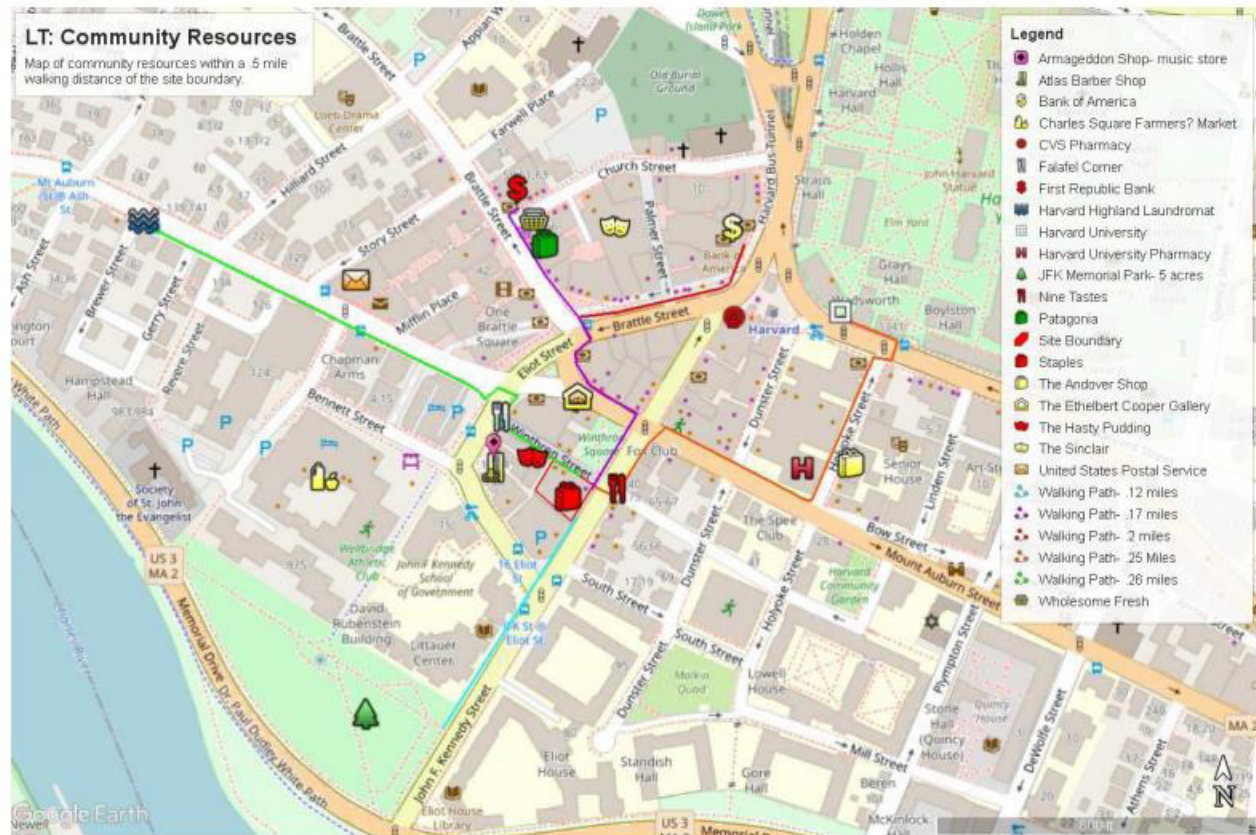
The take off from the site plan below shows an area of 78,795 square feet (1.80 acres). Dividing the proposed 219 units over the 1.8 acres, the project will have a residential density of 121.67 units per acre for 3 points.

0.31	Total project boundary area (acre)
0.31	Buildable land area (acre)
40	Number of dwelling units
129.03	DU/acre of buildable land



LT c Community Resources

At least twenty (20) Community Resources with no more than two per category have been identified within a 0.5 mile walking distance. Walking paths to the furthest community resources are called out on the map below, assuming the reader will infer that community resources passed on a walking path that is 0.5 miles or lower will also be reachable in under 0.5 miles. This qualifies for two points here in LT and one additional in IN Innovation for Exemplary Performance.



Sustainable Sites

The Sustainable Sites (SS) category addresses environmental issues related to landscape and site design, promoting a seamless co-existence between the built environment and the natural environment. Any landscaping provided will include only drought-tolerant, non-invasive plantings, maximizing survival and vitality while and minimizing the need for irrigation and the possibility of spreading troublesome ecological invaders. As a fully developed site that will remain so – opportunities to improve the sustainability of the site are limited. Erosion will be prevented during construction. The site design will maintain the same level of permeability as is currently present at 57 JFK Street.

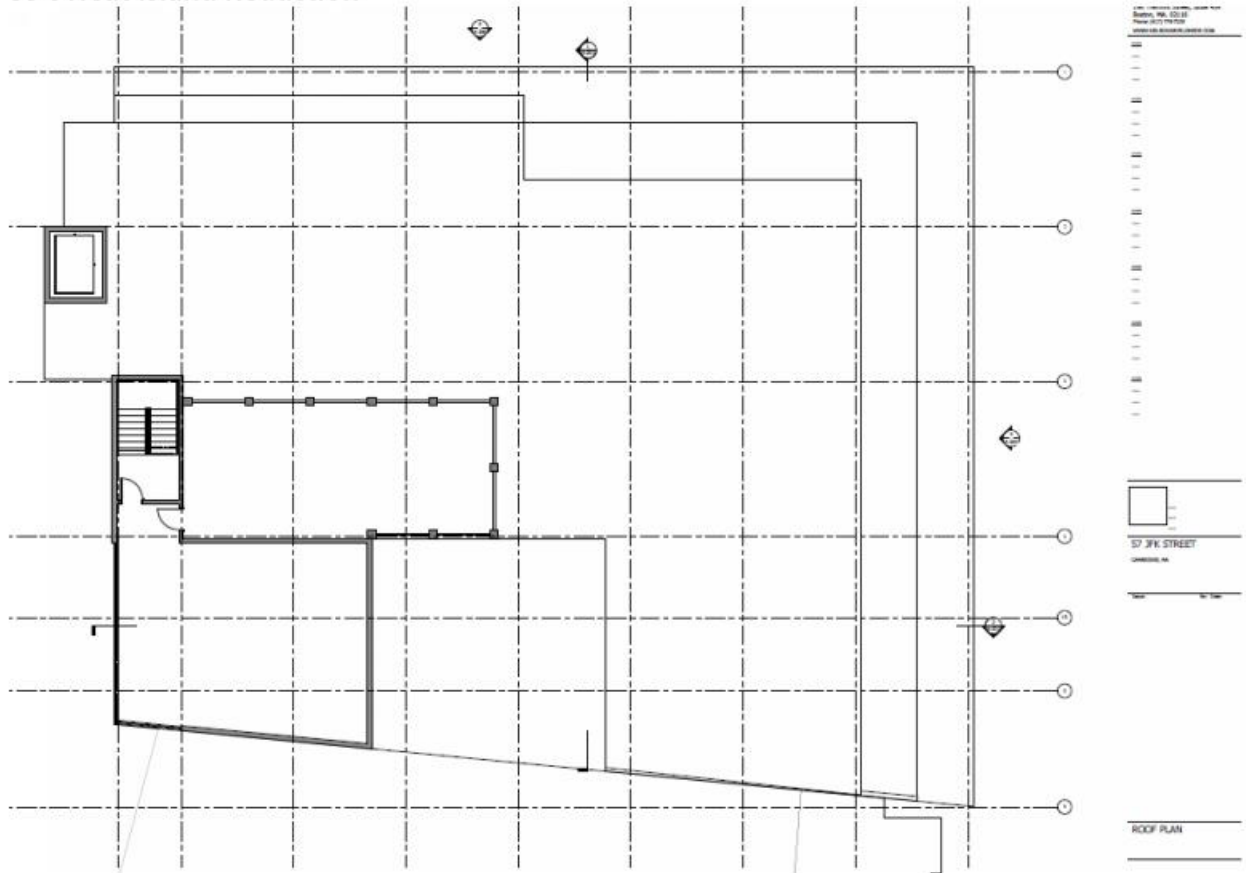
SS p Construction Activity Pollution Prevention

Erosion control measures will be documented on the civil plans prior to application for a site permit. The installation and upkeep of these measures will be verified during each of the Green Rater's site visits, meeting the Verification and Submittal requirement: Conduct on-site verification that all applicable erosion and pollution control measures are installed.

SS p No Invasive Plants

No new landscaping is intended, automatically meeting the prerequisite to introduce no invasive species. If that changes, and some landscaping will be provided in tenant roof deck or patio areas, all plantings will be required to be native, offering reassurance that they are both well adapted to the region and non-invasive.

SS c Heat Island Reduction



Most of the site hardscape area is flat roof, allowing the project team to specify roofing strategies either with an SRI greater than 78, green or biosolar to meet Heat Island Reduction credit with at least 50% of the roof area as non-absorptive. A regional priority credit is available to projects that reach 75%. Therefore, the team will seek to make at least 75% of the lot non-absorptive since that will add 2 points to the overall LEED score, having been identified as a regionally important strategy.

SS c Nontoxic Pest Control

These measures are documented on plans but for LEED purposes will be verified during construction by the Green Rater on-site. The Integrated Pest Management plan will be incorporated into the Operations and Maintenance manual.

The reference guide states that the [Verification and Submittals for this credit](#) are:

- Conduct on-site verification that credit requirements are met.

Indicating that no documentation is required for the achievement of this credit.

Water Efficiency

The Water Efficiency (WE) category addresses environmental degradation related to overuse of potable water within residential buildings and irrigation systems. Native or well adapted but non-invasive plants will be specified and zoned according to watering needs. If it becomes clear that irrigation is intended the design will be required to use high efficiency strategies such as: spray heads will be efficient and only installed as needed, no hardscapes or building foundations will be watered, and drip irrigation will be used in most planting beds. Given the scale of the building relative to its landscaped area, the Total Water Use credit will eventually be analyzed to confirm the team's preliminary understanding that the unit level fixture specifications represent the greatest opportunity for conservation of potable water at 57 JFK Street. In response to this opportunity, residential units in the Project will utilize high-efficiency, low-flow fixtures for water closets, lavatory faucets, showers, and kitchen faucets, all of which will bear the WaterSense label if available for the given product type.

WE p Water Metering

The water metering prerequisite will be met by a whole building water meter which will be shown on plumbing drawings.

The reference guide states that the [Verification and Submittals for this credit](#) are:

- Conduct on-site verification that credit requirements are met.

Indicating that no documentation is required for the achievement of this credit.

WE c Indoor Water Use

Lavatory Faucet (1-2 points)

(Select one)	All installed lavatory faucets and/or faucet aerators are WaterSense labeled.
1.00	Average rated flow volume across all lavatory faucets (gpm)

Showerheads (1-2 points)

(Select one)	All installed showerhead fixtures and fittings are WaterSense labeled.
1.75	Average rated flow volume per shower compartment (gpm)

Toilets (1 point)

(Select one)	All installed toilet fixtures and fittings are WaterSense labeled.
1.28	Average rated flush volume across all toilets (gpf)

Clothes Washers (1 point)

True	All clothes washers are ENERGY STAR qualified or performance equivalent
------	-------------------------------------------------------------------------

WE c Outdoor Water Use

Project will install no landscaping and thus no turfgrass. This will drive the outdoor water demand to zero gallons, earning all four points.

Energy and Atmosphere

The Energy and Atmosphere (EA) category addresses ongoing energy usage and continued building performance. Commissioning requirements are embedded in Minimum Energy Performance.

EA p Minimum Energy Performance & EA c Annual Energy Use

Updated energy models show a 26.6% cost-based between proposed and baseline building at ASHRAE 90.1-2010 standard. Furthermore, the models show a 37% consumption-based savings between proposed and baseline building at ASHRAE 90.1-2013 standard. This significantly exceeds the Massachusetts's Stretch Energy Code, which calls for at least a 10% reduction without savings from the three selected additional energy efficiency options. The Project will also utilize high-efficiency ventilation systems limiting both the conditioning and fan power energy used to provide fresh air to the units. 57 JFK Street will include effective thermal and air barriers at the exterior envelope, reducing thermal losses to the exterior via conduction and convection, respectively. Heat pump heating and cooling equipment will address the conditioning load that the envelope cannot. All installed systems will be commissioned prior to building occupancy, according to LEED Multifamily Midrise requirements, using Option 1: Energy Star Testing & Verification Protocols.

The project team is currently engaging with MaGrann Associates to conduct a feasibility analysis for PHIUS certification, a separate pathway within Article 22.20 of the Cambridge Zoning Ordinance related to Green Building. If this option is selected, subsequent Green Building reports will indicate the pivot to this deeper dive on energy efficiency represented by the pursuit of Passive House. One initial scenario was modeled to offer an idea of what kind of savings this pursuit would offer. If heat pump water heating systems replace standard electric tank systems, consumption savings jump up from 37% to 44%.

MaGrann Associates
Making Buildings Better

Points are awarded for both the % reduction from ASHRAE 90.1-2010 and the average home size point adjustment (from the Multifamily HSA sheet in the LEED Midrise workbook).

Comparison to ASHRAE 90.1 - 2010:

Performance Rating Calculation								
	Baseline			Proposed			Savings, %	\$ Savings, %
	Fossil Fuel, Btu	Electricity, Btu	Cost, \$	Fossil Fuel, Btu	Electricity, Btu	Cost, \$		
Annual Heating	0	370,462,165	\$24,158.22	0	305,012,328	\$19,890.17	17.67%	17.67%
Annual Cooling	0	157,510,715	\$10,271.43	0	90,888,856	\$5,926.96	42.30%	42.30%
Annual Lighting	0	136,234,336	\$8,883.98	0	136,234,336	\$8,883.98	0.00%	0.00%
Annual Hot Water	0	216,414,630	\$14,112.62	0	74,746,684	\$4,874.31	65.46%	65.46%
Annual Appliance	0	372,180,960	\$24,270.30	0	349,620,816	\$22,799.13	6.06%	6.06%
Annual Other	0	189,238,050	\$12,340.41	0	101,923,264	\$6,646.52	46.14%	46.14%
Total without Renewable	0	1,442,040,856	\$94,036.96	-	1,058,426,284	\$69,021.06	26.60%	26.60%
Annual Renewable	0	0	\$0.00			\$0.00	0.00%	0.00%
Total with Renewable	0	1,442,040,856	\$94,036.96	-	1,058,426,284	\$69,021.06	26.60%	26.60%

Average home size point adjustment (Multifamily HSA sheet of LEED Workbook):

Building ID	0 Bedrooms		1 Bedroom		2 Bedrooms		3 Bedrooms		4 Bedrooms		5 Bedrooms		6 Bedrooms	
	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)
	28	518.50	12	774.00										
Home size adjustment	48%		23%		0%		0%		0%		0%		0%	
Point adjustment	12.0		5.7		0.0		0.0		0.0		0.0		0.0	
Total number of units														40
Average home size point adjustment														10.0

Total Points from EA c Annual Energy Use:

25.0%	Percent reduction from ASHRAE 90.1-2010
17	Points earned
10.0	Average home size point adjustment (from the Multifamily HSA tab)
27.0	Final points earned

EA p Energy Metering

Each unit will be metered separately offering feedback to occupants on their consumption. Individual unit electricity meters will be shown on the Electrical Power Riser Diagram, and verified on-site by the Green Rater

EA p Education of Owner, Tenant or Building Manager

Occupants and the Building Manager will be provided with a 'green guide' (unit or building manual) to assure that they are aware of basic green living strategies and why they will benefit from implementing them in their homes.

Materials and Resources

The Materials and Resources (MR) category addresses all installed materials, including framing and interior finishes, as well as diversion of waste from landfills.

MR p Certified Tropical Wood

The Project will utilize exclusively non-tropical wood products or for necessary wood from tropical countries, Forestry Stewardship Council certification will be specified.

MR p Durability Management & MR c Durability Management Verification

The project will meet the requirements of the Energy Star for Homes version 3, water management system builder checklist as appropriate including implementation of all Durability Management measures listed in the LEED rating system. The Green Rater will also verify the measures called out on the Energy Star Checklist adding an additional layer of quality assurance and accountability to the construction team regarding basic strategies to avoid water damage during construction and operation.

MR c Environmentally Preferable Materials

Certain impactful materials will be specified for their environmental benefits such as regionally sourced and environmentally preferable to minimize the embodied carbon profile of the building. Concrete aggregate materials will be sourced within 100-miles of the project site, and the team intends to specify that local material is preferred for drywall, reducing the transportation-related impact of two of the heaviest components of the building. Insulation and drywall will be specified as having meaningful quantities of recycled content, reducing the pressure on virgin resources to manufacture those products.

Although the LEED credit does not directly address it, the team is aware that the embodied carbon associated with different building materials varies widely. IT was in-part due to this concern that the scope of the project was designated as one that would be permitted as a wood structure. Wood buildings have a much lower embodied carbon footprint, and offer some carbon sequestration benefits. This is a good example of the inadequacy of simply prioritizing products with recycled content. Steel studs have a relatively high recycled content as a standard practice, and though this reduces the embodied carbon compared to steel studs made of 100% newly mined material, either option is far higher than a standard wood structure.

These measures will be documented as part of the submittal process. All referenced products will be required to be submitted with both recycled content and point of extraction information

disclosed, allowing the team to make informed decisions in favor of these low and no cost environmentally preferable materials.

MR c Construction Waste Management

During demolition and construction on-site, all waste produced will be tracked to maximize diversion from landfills. The project will seek to achieve a minimum diversion rate of 75% during construction, with an overall target of less than 10 pounds per square foot of finished floor area. The waste hauler will be required to provide information on at least 4 separate streams of recycled content generated by the site. This will be documented via Construction Waste Management plan provided after the Notice to Proceed is sent from the developer to the General Contractor, as well as the post construction reporting provided by the GC with support from the waste handling company.

Indoor Environmental Quality

The Indoor Environmental Quality (EQ) category addresses the exhaust and ventilation of all interior spaces within the building, ensuring a consistent healthy environment for building residents.

EQ p Ventilation & EQ c Enhanced Ventilation

The Project will design all residential areas to meet the ASHRAE 62.2-2013 whole house and local exhaust ventilation standard. The fan will operate continuously, which will qualify the project for Option 1: Enhanced Local Exhaust as well.

All common spaces areas will be designed to meet the ASHRAE 62.1-2010 ventilation standard based on space type, square footage and expected occupancy. Delivered ventilation

In accordance with Energy Star and crucial for the comfort of occupants, residential heat pumps and ductwork are designed in accordance with the ACCA Manual J Heating and Cooling Loads, and Manual D Duct Sizing standards.

EQ p Combustion Venting & EQ c Combustion Venting

All installed combustion equipment will be directly vented to the exterior; and, each floor of each unit, as well as all common spaces, will be equipped with combination smoke and carbon dioxide detectors. Also, no fireplace or woodstove will be installed, avoiding the associated potential indoor contamination, satisfying Option 1 for 2 points.

EQ p Garage Pollutant Prevention & EQ c Enhanced Garage Pollutant Prevention

The project will not include a garage, avoiding the potential for indoor pollution that originates in garages.

EQ p Radon Resistant Construction

The project is in EPA Radon Zone 1. As an existing building, the project will test the final built project and remediate if the levels of radon are found to be above the action level recommended by the EPA of 4 pc/L.

EQ p Air Filtering

MERV 8 filters will be installed on all recirculating air handling units with more than 10 feet of supply ductwork. Mechanically supplied outside air will pass through a MERV 6 or higher filter before encountering a conditioning coil. Filter make and model number will be verified on-site.

Attempting to learn some of the lessons of the COVID-19 pandemic, many have called for ever increasingly higher levels of MERV ratings on filtration. While there are some benefits from increasing filtration levels and outside air ventilation in school, retail and office buildings, we do not see the same potential to make our buildings safer in residential settings. The primary driver of this difference is that residential units are primarily shared by individuals of the same household, while households intermingle in school, retail and office buildings. The longer duration exposure associated with sharing a household cannot be overcome by a MERV 13 filter, and reduced airflow and increased fan power consumption will undoubtedly make the building less sustainable with no detectable decrease in risk of COVID transmission. A more impactful, passive strategy is to focus on compartmentalization to prevent the transmission of air between units and households. Higher levels of filtration applied to incoming outside air will not help mitigate transmission unless infectious individuals have a reason to be congregating adjacent to the building outdoor air intake.

EQ p Environmental Tobacco Smoke & EQ c Environmental Tobacco Smoke

The building and lot will be completely smoke free, further improving the indoor air quality and overall health of the residents. This will be verified at final via signage on-site and inclusion of smoke free requirements in tenant leases and the tenant and building manager manuals.

EQ p Compartmentalization

Each residential unit will be sealed for compartmentalization, per the Energy Star Multifamily High Rise Program Testing and Verification Protocols with an allowable maximum leakage rate of 0.3 cfm50 per square foot of enclosure. Details to help achieve this will be included in the construction documents, showing the compartmentalization air barrier running continuously around the units in plan and section. Verification of this measure will be completed by the Green Rater as part of their final testing protocol.

EQ c Balancing of Heating and Cooling Systems

Case 1 Forced-Air Systems, Option 1

All units are below 800 square feet, automatically qualifying for this credit.

EQ c Low emitting Materials

Paints, primers, adhesives, sealants will comply with the South Coast Air Quality Management District Rules #1113 and #1168, as permitted by v4.1 Low-Emitting Products credit substitution. All flooring materials will include Green Label Plus certification (carpet) or FloorScore certification (resilient flooring), as applicable. These requirements will be called out in specifications.

Innovation

The Innovation (IN) category ensures that as sustainable design strategies and measures are evolving and improving and as new technologies are introduced to the marketplace, LEED provides a way for the project to take advantage of opportunities that may not be codified in the LEED system.

IN c Innovation

Under Option 1, 57 JFK Street will earn [Innovation credit Housing Types and Affordability](#) for including 5 units that are set aside for individuals earning no more than 60% of the Area Median Income, to be rented to them at a rate within the affordability guidelines of HUD. Under Option 3, Exemplary performance will be earned for doubling the highest thresholds in both Community Resources and Access to Transit. The team will consider [HVAC Startup Credentialling](#) credit, which is available in LEED Homes, but not Midrise.

IN c LEED Accredited Professional

This credit will be earned by including Jon Jensen, LEED AP Homes on the project team. Jon has held a this credential since it was introduced in March of 2009.

These credits are well established pathways for projects under MaGrann Associates LEED Providership. If confusing or unfamiliar to the reviewer in a way that might result in a rejection of this narrative, please consider them automatically dropped, given the significant buffer the 57 JFK Street project currently holds over the current LEED Midrise Gold rating.

Regional Priority

Every location has its own unique environmental challenges. While there are common themes of what can be done to mitigate environmental impact, the issue of how much emphasis to place on each is strongly impacted by the project's location on the Earth. To acknowledge this reality, USGBC created Regional Priority Credits. They then tapped their network of volunteers to identify the zones that define where priorities differ, and which 6 credits are available at which threshold in each zone. If a selected credit is earned at the appropriate level, the project may claim an additional point, up to 4 in Regional Priority.

RP c Regional Priority

57 JFK Street will earn 3 points in RP. A regional priority credit will be earned for achieving Access to Transit at 1 point, Non-toxic pest control at 2 points, and Annual Energy Use at 15 points. Heat Island reduction at 2 points is a possible fourth RP credit that may be earned by the project as the design develops.

Appendix A
LEED Multifamily Midrise Scorecard

57 JFK Scorecard

Location: 57 JFK Street, Cambridge, MA 02138, USA

Note: The information on this tab is READ-ONLY. To edit this information, see the Credit Category tabs.



Integrative Process		Preliminary	Y	1 of 2	M	2	Verified	0
IPc	Integrative Process			1 of 2		2		



Location and Transportation		Preliminary	Y	15 of 15	M	0	Verified	0
LTp	Floodplain Avoidance			Required				Not Verified
<i>Performance Path</i>								
LTc	LEED for Neighborhood Development			0 of 15		0		
<i>Prescriptive Path</i>								
LTc	Site Selection			8 of 8		0		
LTc	Compact Development			3 of 3		0		
LTc	Community Resources			2 of 2		0		
LTc	Access to Transit			2 of 2		0		



Sustainable Sites		Preliminary	Y	3 of 7	M	4	Verified	0
SSp	Construction Activity Pollution Prevention			Required				Not Verified
SSp	No Invasive Plants			Required				Not Verified
SSc	Heat Island Reduction			1 of 2		2		
SSc	Rainwater Management			0 of 3		2		
SSc	Nontoxic Pest Control			2 of 2		0		



Water Efficiency		Preliminary	Y	8 of 12	M	0	Verified	0
WEp	Water Metering			Required				Not Verified
<i>Performance Path</i>								
WEc	Total Water Use			0 of 12		0		
<i>Prescriptive Path</i>								
WEc	Indoor Water Use			4 of 6		0		
WEc	Outdoor Water Use			4 of 4		0		



Energy and Atmosphere		Preliminary	Y	27 of 37	M	0	Verified	27
EAp	Minimum Energy Performance			Required				Not Verified
EAp	Energy Metering			Required				Not Verified
EAp	Education of the Homeowner, Tenant or Building Manager			Required				Not Verified
EAc	Annual Energy Use			27 of 30		0		27
EAc	Efficient Hot Water Distribution System			0 of 5		0		
EAc	Advanced Utility Tracking			0 of 2		0		



Materials and Resources		Preliminary	Y	3.5 of 9	M	2.5	Verified	0
MRp	Certified Tropical Wood			Required				Not Verified
MRp	Durability Management			Required				Not Verified
MRc	Durability Management Verification			1 of 1		0		
MRc	Environmentally Preferable Products			1.5 of 5		2.5		
MRc	Construction Waste Management			1 of 3		1		



Indoor Environmental Quality		Preliminary	Y	10 of 18	M	0	Verified	0
EQp	Ventilation			Required				Not Verified
EQp	Combustion Venting			Required				Not Verified
EQp	Garage Pollutant Protection			Required				Not Verified
EQp	Radon-Resistant Construction			Required				Not Verified
EQp	Air Filtering			Required				Not Verified
EQp	Environmental Tobacco Smoke			Required				Not Verified
EQp	Compartmentalization			Required				Not Verified
EQc	Enhanced Ventilation			1 of 3		0		
EQc	Contaminant Control			0 of 2		0		
EQc	Balancing of Heating and Cooling Distribution Systems			2 of 3		0		
EQc	Enhanced Compartmentalization			0 of 3		0		
EQc	Combustion Venting			2 of 2		0		
EQc	Enhanced Garage Pollutant Protection			1 of 1		0		
EQc	Low-Emitting Products			3 of 3		0		
EQc	No Environmental Tobacco Smoke			1 of 1		0		



Innovation		Preliminary	Y	4 of 6	M	1	Verified	0
INp	Preliminary Rating			Required				Not Verified
INc	Innovation			3 of 5		1		
INc	LEED Accredited Professional			1 of 1		0		



Regional Priority		Preliminary	Y	3 of 4	M	1	Verified	0
RPc	Regional Priority			3 of 4		1		

Point Floors

The project earned at least 8 points total in Location and Transportation and Energy and Atmosphere	<input type="text" value="Yes"/>
The project earned at least 3 points in Water Efficiency	<input type="text" value="No"/>
The project earned at least 3 points in Indoor Environmental Quality	<input type="text" value="No"/>

Total	Preliminary	Y	74.5 of 110	M	11.5	Verified	27
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Certification Thresholds Certified: 40-49, Silver: 50-59, Gold: 60-79, Platinum: 80-110



57 John F. Kennedy Street

Cambridge, MA

Net Zero Narrative

Article 22.20 – Green Building



Submitted 12/20/2021

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Project Overview

The site is located at 57 John F. Kennedy Street on a parcel consisting of approximately 14,506 total square feet of land (0.33 acres) (“Site”). The Site is currently a two-story retail building known as “Crimson Galeria” and is bounded by Winthrop Street to the North and Harvard Square Parking Garage to the South.

The proposed development consists of one (1) building addition totaling approximately 29,477 gross square feet. It will contain forty (40) residential units build atop the existing two-story retail structure. The retail spaces will not be renovated and is not part of the proposed construction project other than to add structural support for the new addition above. The proposed residential units will contain a mix of studio and one-bedroom units.

This report provides an overview of the sustainable design elements proposed as part of the Project at this time of schematic design to demonstrate that the Project will meet the requirements of Article 22.20 of the Cambridge Zoning Ordinance relative to the City’s Sustainable Design and Development Green Building Requirements. In response to the requirements of 22.25.1 (6) the following description outlines how the design of 57 JFK Street is being designed in response to the City’s Net Zero Action Plan. The building will not use any carbon-based fuels on-site, enabling a reasonably straightforward transition to fully renewable energy supplied by the grid.

Project Profile

Lot Area (sq.ft.):	14,506
Existing Land Use(s) and Gross Floor Area (sq.ft.), by Use:	35,250 Commercial Retail
Proposed Land Use(s) and Gross Floor Area (sq.ft.), by Use:	29,477 square foot Residential addition
Proposed Building Height(s) (ft. and stories):	65’ Five Stories
Proposed Dwelling Units:	40
Proposed Open Space (sq.ft.):	1,123
Proposed Parking Spaces:	0
Proposed Bicycle Parking Spaces (Long-Term and Short-Term):	41 Long Term; 4 Short Term

Green Building Rating System

LEED-Leadership in Energy & Environmental Design (U.S. Green Building Council)			
<i>Rating System & Version:</i>	<i>Multifamily Midrise</i>	<i>Seeking Certification?</i>	TBD
<i>Rating Level:</i>	GOLD	<i># of Points: 74.5</i>	

Proposed Project Design Characteristics

Building Envelope

Roof:	R-30 c.i.
Floor over Commercial space:	R-20 c.i.
Exterior Walls:	1" c.i. + R-21 between 2x6 wood studs
Windows:	U = 0.28 SHGC = 0.35
Window to Wall Ratio:	35.6%
Other Components	

Envelope Performance

	Proposed		Baseline	
	Area – sf	U-value	Area – sf	U-value
Roof:	9954	0.032	9954	0.032
Wall:	23015	0.055	23015	0.055
Window:	8190	0.35	8190	0.35

No savings are assumed between proposed and baseline envelope values because the team has selected this as one of their Additional Efficiency Package Options from the stretch code. The overall U value for the proposed envelope that will be built will be more than 10% better than the baseline. As a selected AEPO, this improvement may not be used to generate any of the savings for stretch code compliance.

Envelope Commissioning Process

The envelope will be commissioned using a third-party verification team, also responsible for verification of installed LEED related measures, known as a Green Rater. The Green Rater will visit the site to verify air sealing at rough stage prior to insulation installation, then after insulation and before drywall to confirm the thoroughness of the insulation installation quality and last at final to perform compartmentalization and other performance testing on each unit. Also known as a blower door test, these will verify that the units leak no more than 0.30 CFM50/square foot of enclosure area. At these leakage rates, the team can be assured that major leaks have not been overlooked and that the building will perform as designed with regard to minimizing uncontrolled leakage through the envelope and between units.

Building Mechanical Systems

Space Heating:	VRF system
Space Cooling:	VRF system
Heat Rejection:	Roof-top condenser component of VRF system
Pumps & Auxiliary:	NEMA Premium pumps as needed
Ventilation:	RenewAire ERV – one per floor provides OA to units and common area, bathroom exhaust fan
Service Hot Water:	Electric resistance tank
Interior Lighting:	LPD 0.9 times the IECC allowance
Exterior Lighting:	LPD 0.9 times the IECC allowance
Other Equipment:	ESTAR Appliances, common laundry

Systems Commissioning Process:

The systems at 57 JFK Street will be commissioned according to the Energy Star Multifamily New Construction process from EPA. This includes a mixture of contractor documentation and testing completed by the third-party Green Rater. Beyond the aforementioned blower door testing, all ventilation air flow rates will be verified to comply with the design and ASHRAE 62.1, In unit HVAC and central ventilation systems will have duct leakage testing. Central mechanical systems will have functional testing according to the standards set forth by EPA in the design of the Multifamily New Construction program from Energy Star.

Integrative Design

Project team members have met at least monthly during entitlements and through Conceptual Design to present. Team members will be added during SD and DD phases with meetings moving to weekly. Project team meetings are expected to be ongoing, and the consultants will be engaged for construction administration, ensuring that the benefits of their design intent will be carried into construction.

Current team members include members of the following organizations:
Crimson Galeria, LP, Nelson Architecture & Interiors, Silman (Structural Engineering), Zade Associates (MEP) and MaGrann Associates.

Green Building Incentive Program Assistance

This project plans to pursue incentives from MassSave under the residential new construction pathway for multifamily or through their Passive House program. PHIUS+Core feasibility is currently being assessed by CPHCs at MaGrann.

Net Zero Scenario Transition

	Net Zero Condition	Transition Process
Building Envelope:	Thermally broken windows, c.i. included walls	No changes needed
Heating & Cooling:	VRF system with no refrigerant leaks	No changes needed, however when the VRF system reaches the end of useful life, Condensers and/or air handling units could be replaced with new models which may be more efficient.
Ventilation:	Individual or central ERVs	Pending design decision on initial ventilation systems
Service Hot Water:	Heat Pump Water Heaters (HPWH)	If the team decides not to include HPWH in the initial build, retrofit style HPWH would be needed to replace the high efficiency electric resistance tanks specified at the end of their lifespan.
Lighting:	LED with motion sensor controls in common areas	LEDs are intended. Motion sensor controls, if not included in the initial build would be retrofitted into corridors, stairwells and any other common spaces.
Renewable Energy Systems:	Rooftop PV installed to maximum capacity	Project intends to include all applicable solar-ready features according to EPA's Renewable Energy Ready Specifications
Other Strategies:	Demand response	As utilities clarify the scope of their demand response offerings, the owner would seek to incorporate those grid stabilizing features into the controls for the central VRF system.

Energy Systems Comparison

This report provides an overview of the project's future pathway to net zero carbon emissions. A crucial first step is to design the building with electricity as the only energy source. All ongoing demands for cooking, heating, ventilation, and domestic hot water will be met by electrical appliances. Electricity will also meet demands for the traditional uses of cooling, lighting and plug loads.

We know from the movement to “electrify everything” that accelerating the transition of existing fossil fuel-based systems to electricity-based alternatives advances our transition to a carbon neutral economy. Logically, we must avoid the installation of fossil fuel appliances in new buildings wherever possible. To complete this necessary shift, electricity generation must also hasten the ongoing transition from centralized, fossil fuel-based sources to renewable and low carbon alternatives. Recognizing the task before us in this moment, new construction projects in high density areas that people want to live in and that meet their needs with electricity, are the most responsible form of real estate development from a carbon perspective.

Electricity is the only fuel source that is already becoming cleaner over time. It is also the only one that is currently being produced by clean, renewable on-site generation at scale by buildings today.

To mitigate the intensity of the transformation to our electricity generation infrastructure, demand reduction is required. The energy efficiency measures selected by the 57 JFK Street design team target overall reduction, pairing envelope design with efficient mechanical systems to meet the occupant needs. Individual systems are under consideration, but the configuration of roof space and the lack of room to situate condensers at grade may make a central VRF a more realistic solution. Central VRF heat pumps also provide the opportunity to introduce heat-recovery as part of the heat pump system. Individual water heating systems also allow for less capital-intensive upgrades, for example replacing each of these water heaters with a heat-pump type when they reach the end of their lifespan.

As an all-electric building, the 57 JFK Street proposed design is prepared to meet the building demands with zero carbon energy when fed by a renewable electricity grid.

Assumptions

	Included in Analysis?		Why?
	Yes	No	
Solar PV	Yes		Limited roof area may mean that a future solar canopy would be needed to achieve a cost-effective solar array. Nonetheless, PV remains the most universally deployable renewable energy source, so the building will be made PV ready.
Solar Thermal		No	Limited roof space and complexity integrating with individual service hot water systems
Ground Source Heat Pumps		No	Lack of scale means GSHP cannot compete in a financial or efficiency analysis.
Water Source Heat Pumps		No	Lack of scale means central boiler/chiller systems cannot compete in a financial or efficiency analysis. These are far more tempted to continue use of fossil fuels for heating loop temperature maintenance.
Air Source Heat Pumps	Yes		Are included in the proposed design
District Energy		No	Lack of scale, infill project with almost no land area or newly constructed neighbors with shared ownership agreements in place.

Non-Carbon Fuel Scenario

No on-site fossil fuel combustion is planned.

Solar Ready Roof Assessment

For a plan of the roof, see Appendix A

Total Roof Area	7,581 sq. ft.
Unshaded Roof Area	4,872 sq. ft.
Structural Support	Will be designed to accommodate a ballast mounted PV array, or biosolar system, using green roof to ballast PV panel racking.
Electrical Infrastructure	Conduit from main electrical room to part of the unshaded roof area. Adequate space in electrical room for service disconnects and an inverter if needed.
Other Roof Appurtenances	Roof access stair tower and elevator overrun will limit the available area for panels
Solar Ready Roof Area	4,872 sq. ft.
Capacity of Potential Solar Array	42 kW
Financial Incentives	Mass SMART Program & Mass Net Metering policies. Others as tracked by DSIRE.org as project approaches the decision to include in addition scope or a future installation
Cost Feasibility	TBD as project team proceeds with a Solar ready assumption and researches financial and technical impacts of using a biosolar or traditionally ballasted array.

Scenarios

The baseline design of the proposed building, the proposed design as well as two other scenarios were modeled using eQUEST software, a DOE2 compliant energy modeling tool. The additional scenarios were 1) the proposed building with a heat pump water heater of UEF 2.4 central heat pump water heating systems and 2) the proposed building with both on-site photovoltaics and off-site (grid-supplied) renewable energy supplied to reach net zero carbon emissions from the building's modeled consumption.

Heat pump water heaters yielded approximately 11% savings overall, which is a good option, and will continue to be considered. This strategy is highly likely if the project decides to go forward with PHIUS certification. This lowered the site EUI by 2 kBtu/sf*yr and source EUI by 5.8 kBtu/sf*yr.

The solar ready roof area shown in Appendix A, currently 4,872 sf, has the potential to generate 51,381 kWh/year according to analysis using PVWatts, a tool from the US DOE's National Renewable Energy Labs. Adding this amount of PV would decrease site EUI from 18.4 kBtu/sf*yr to 16.4 kBtu/sf*yr. With 14.7% of the building load off set by on-site production, the remaining 85.3% of the load, or 298,249 kWh/year, would need to be produced and secured from grid supplied renewable sources for the building to reach carbon neutral status.

Stretch Code Modeling Results

Standard electric water heating - Site EUI = 18.4 kBtu/sf*yr - Source EUI = 51.6 kBtu/sf*yr

	Baseline			Proposed			Site BTU Savings, %
	Fossil Fuel, Btu	Electricity, Btu	Cost, \$	Fossil Fuel, Btu	Electricity, Btu	Cost, \$	
Annual Heating	788,900,000	0	\$14,444.76	0	255,828,348	\$16,682.83	67.57%
Annual Cooling	0	157,510,715	\$10,271.43	0	76,490,216	\$4,988.01	51.44%
Annual Lighting	0	136,234,336	\$8,883.98	0	136,234,336	\$8,883.98	0.00%
Annual Hot Water	248,150,000	0	\$4,543.63	0	145,828,880	\$9,509.65	41.23%
Annual Appliance	0	372,180,960	\$24,270.30	0	349,620,816	\$22,799.13	6.06%
Annual Other	0	198,197,962	\$12,924.69	0	228,934,964	\$14,929.08	-15.51%
<i>Total without Renewable</i>	1,037,050,000	864,123,973	\$75,338.79	-	1,192,937,560	\$77,792.68	37.25%
<i>Annual Renewable</i>	0	0	\$0.00			\$0.00	0.00%
<i>Total with Renewable</i>	1,037,050,000	864,123,973	\$75,338.79	-	1,192,937,560	\$77,792.68	37.25%

Centralized Heat Pump Water Heaters - Site EUI = 16.4 kBtu/sf*yr - Source EUI = 45.8 kBtu/sf*yr

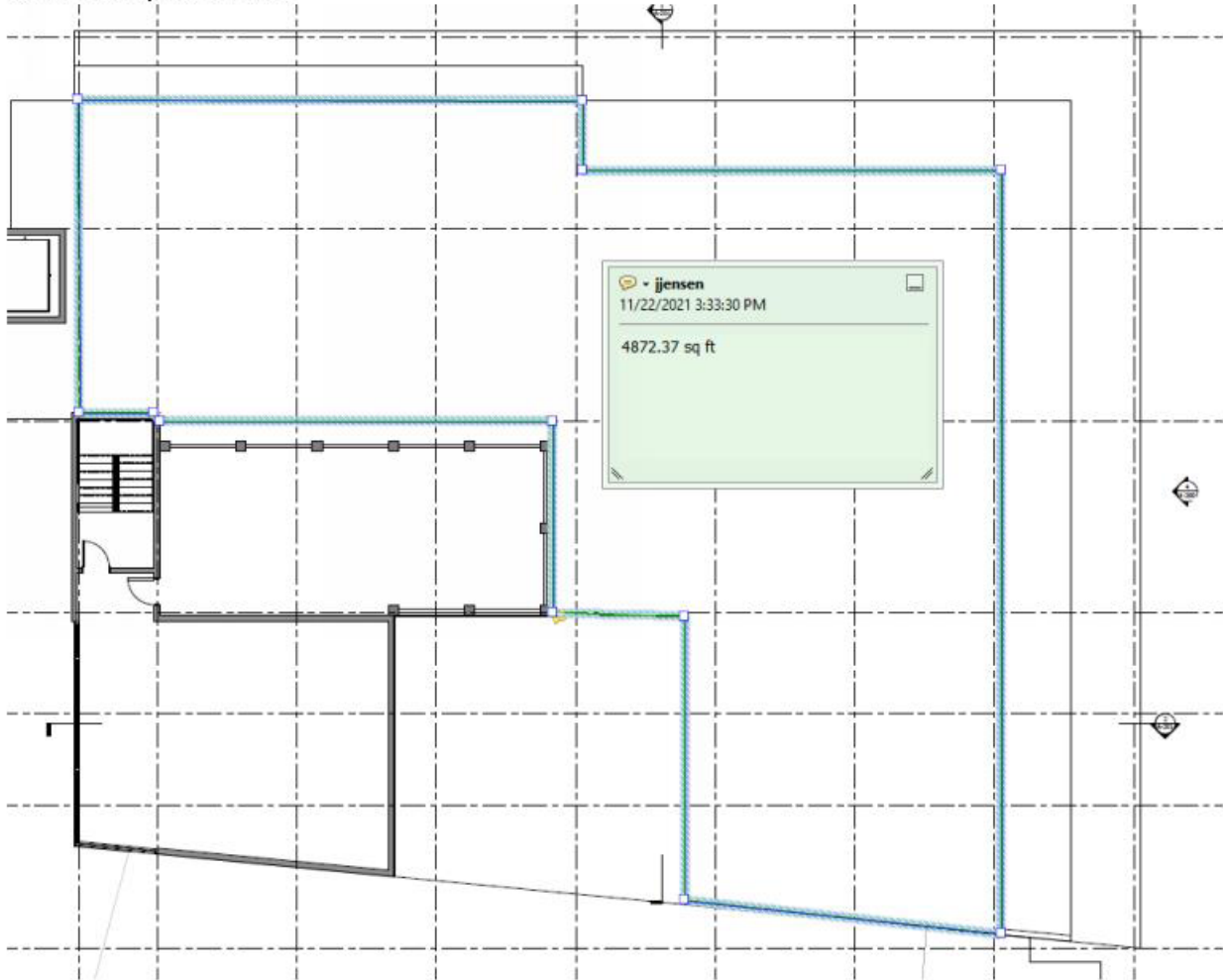
	Baseline			Proposed			Site BTU Savings, %
	Fossil Fuel, Btu	Electricity, Btu	Cost, \$	Fossil Fuel, Btu	Electricity, Btu	Cost, \$	
Annual Heating	788,900,000	0	\$14,444.76	0	305,012,328	\$19,890.17	61.34%
Annual Cooling	0	157,510,715	\$10,271.43	0	90,888,856	\$5,926.96	42.30%
Annual Lighting	0	136,234,336	\$8,883.98	0	136,234,336	\$8,883.98	0.00%
Annual Hot Water	248,150,000	0	\$4,543.63	0	74,746,684	\$4,874.31	69.88%
Annual Appliance	0	372,180,960	\$24,270.30	0	349,620,816	\$22,799.13	6.06%
Annual Other	0	198,197,962	\$12,924.69	0	101,923,264	\$6,646.52	48.58%
<i>Total without Renewable</i>	1,037,050,000	864,123,973	\$75,338.79	-	1,058,426,284	\$69,021.06	44.33%
<i>Annual Renewable</i>	0	0	\$0.00			\$0.00	0.00%
<i>Total with Renewable</i>	1,037,050,000	864,123,973	\$75,338.79	-	1,058,426,284	\$69,021.06	44.33%

Conclusion

The 57 JFK Street project team is pushing for a highly efficient building that is affordable to construct under current constraints. The Net Zero Analysis confirms that certain features may improve the building's performance and will be considered. Lighting savings are expected but are not currently modeled in order to use highly efficient lighting as one of the selected stretch code "Additional Energy Efficiency Options" from C406.1. The ownership team is excited to proceed on the pathway to a carbon neutral building when that becomes feasible for them. By virtue of engaging in this assessment, they understand several potential pathways that process could take, and are making the most important initial step now – no new fossil fuel infrastructure will be included in this project.

Appendix B

Solar Ready Roof Area



Appendix C

PV Watts Evaluation

PV Potential	roof evaluation	
upper roof	4872	sf
TOTAL	4872	sf
assume 50% coverage	2436	sf
kW/sf	0.018	moderate
kW potential:	43.8	kW
PV Watts		
DC size	42.0	kW
module type	standard	
array type	fixed	
system losses:	14.08	default
Tilt	10	degrees
azimuth	180	degrees
Annual PV production:	51,381	kWh/year
	175,311,972	Btu/year
Annual modeled demand	349,630	kWh/year
	1,192,937,560	Btu/year
Off-site purchase to achieve carbon neutral	298,249	kWh/year
	1,017,625,588	Btu/year

Rooftop Mechanical Narrative

Mechanical Equipment:

There is no ground level mechanical equipment. At 6 stories above grade, the proposed projects residential rooftop mechanical equipment is contained within an architectural screened area and mechanical penthouse which is setback from 23' from the facade along Winthrop Park and setback 28' from JFK Street façade.

Sound attenuation measures such as equipment selection criteria and sound barriers may be employed to minimize noise impacts on the Harvard Square community and to comply with all applicable noise regulations. At this time, the mechanical system design and equipment specifications are not sufficiently developed to include specifics on any necessary sound control measures. Updates will be presented as this project proceeds.

Long Term Bicycle Parking Narrative

The Residences at 57 JFK provides 46 non-motorized Long-Term Bicycle Parking Spaces across multiple locations within weather protected enclosed spaces. Two of these spaces are extended spaces (10' long) meeting the 5% requirement for tandems and trailers.

The Long-Term Bicycle Parking system provides 57 JFK residential tenants with a Bicycle Parking solution of even greater accessibility and convenience than most Cambridge multi-family developments.

Convenience – tenants bicycle parking guaranteed. Tenants will have peace of mind knowing their bicycle will be free from damage by others. Tenants will only need to pass one security entry point, ride one elevator, comfortably remain indoors for the entire parking experience, and never need retrace their path to return to their apartment. As a benefit, the residential visitors bicycle parking will be accommodated within their unit if the tenant desires increasing the opportunity for bicycle use.

Safety – clean, well-lighted, interior travel paths monitored under building surveillance and being in the presence of other tenants ensure the tenant a safe transport and parking experience.

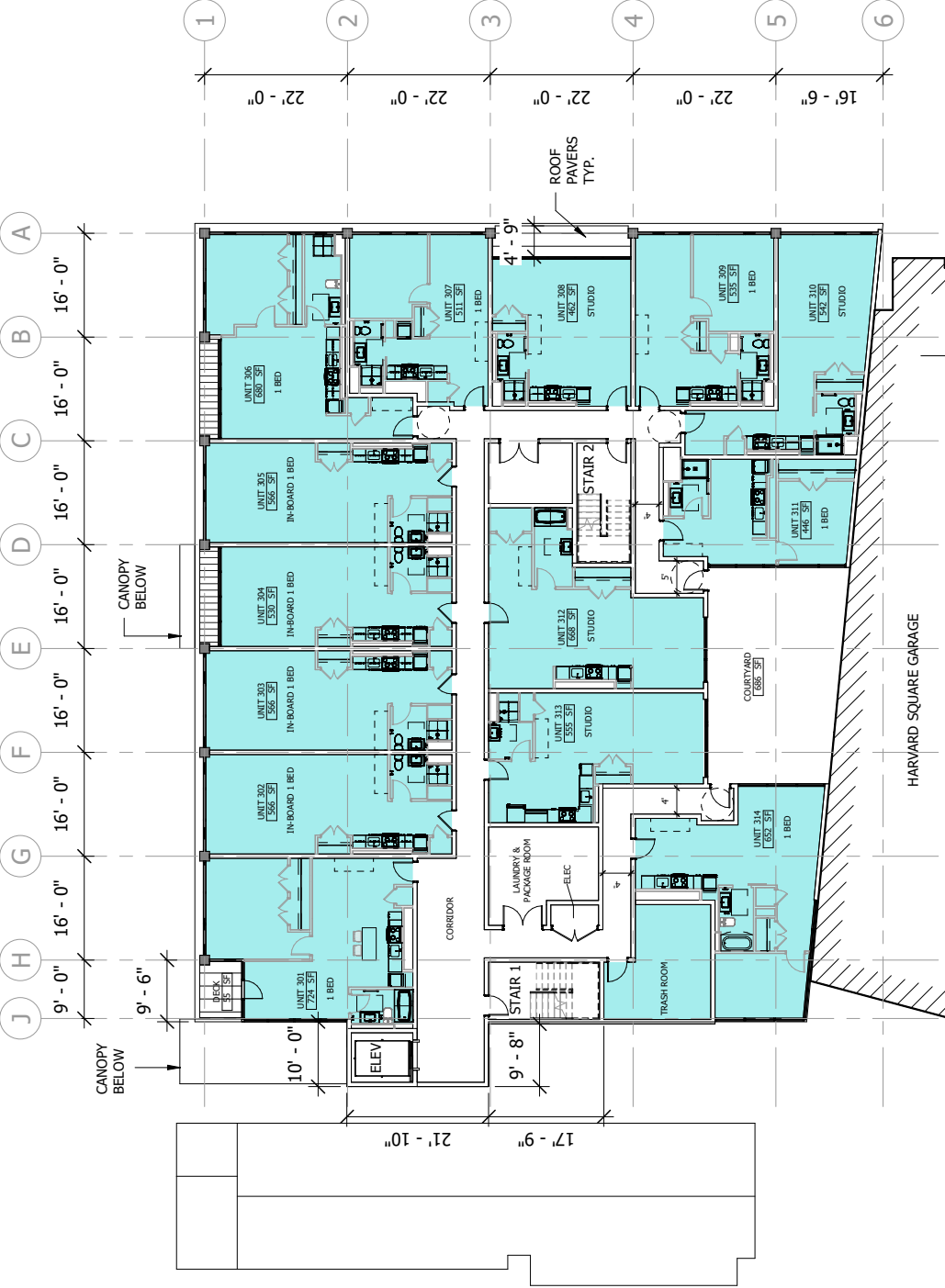
Security – Cambridge approved Loop and Post stand securely anchored provides for 2-point locking of bicycle within a tenant's secure apartment and in the buildings common bicycle room.

Experience – user familiarity with the parking environment lessens unexpected occurrences. Wide hallways and oversized elevator make maneuverability easy. Time of "Bicycle to Road" minimized. This "in-home" experience is quick and convenient and will further the overall goal of encouraging bicycle use. The tenant controls the cleanliness and temperature of the storage environment. Building Management and its Operations maintain attractive bicycle circulation to the tenant's unit.

Refer to Volume 2, figures 14 and 15

Net Floor Area Calculations

FLOOR AREA NET.		
Name	Type	Area
UNIT 301	1 BED	724
UNIT 302	IN-BOARD 1 BED	566
UNIT 303	IN-BOARD 1 BED	566
UNIT 304	IN-BOARD 1 BED	530
UNIT 305	IN-BOARD 1 BED	566
UNIT 306	1 BED	680
UNIT 307	1 BED	511
UNIT 308	STUDIO	462
UNIT 309	1 BED	535
UNIT 310	STUDIO	542
UNIT 311	1 BED	446
UNIT 312	STUDIO	668
UNIT 313	STUDIO	555
UNIT 314	1 BED	659
UNIT 401	1 BED	855
UNIT 402	IN-BOARD 1 BED	547
UNIT 403	IN-BOARD 1 BED	581
UNIT 404	IN-BOARD 1 BED	520
UNIT 405	STUDIO	486
UNIT 406	1 BED	708
UNIT 407	STUDIO	413
UNIT 408	STUDIO	345
UNIT 409	STUDIO	458
UNIT 410	1 BED	431
UNIT 411	1 BED	629
UNIT 412	STUDIO	526
UNIT 413	1 BED	500
UNIT 414	1 BED	465
UNIT 501	1 BED	730
UNIT 502	STUDIO	520
UNIT 503	STUDIO	485
UNIT 504	STUDIO	398
UNIT 505	1 BED	712
UNIT 506	STUDIO	470
UNIT 507	1 BED	580
UNIT 508	1 BED	505
UNIT 509	1 BED	629
UNIT 510	STUDIO	520
UNIT 511	1 BED	506
UNIT 512	1 BED	467
Grand total: 40		21,992



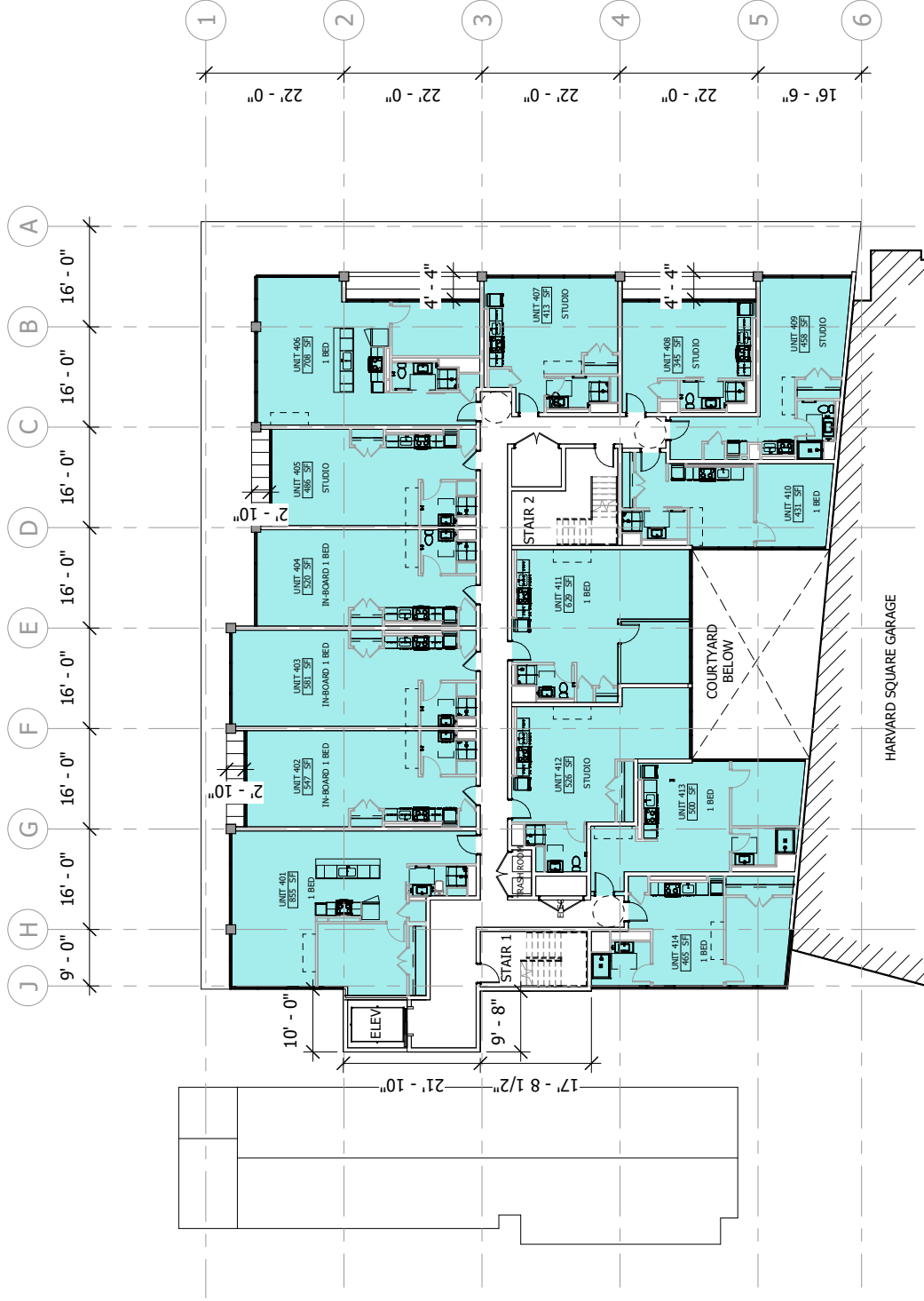
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 Project: 57 JFK
 Proj. No.: 20.0003391

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 Date: 03/18/22
 Drawn By: Author

THIRD FLOOR PLAN

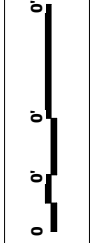
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Net Floor Area Calculations



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 Project: 57 JFK
 Proj. No.: 20.0003391

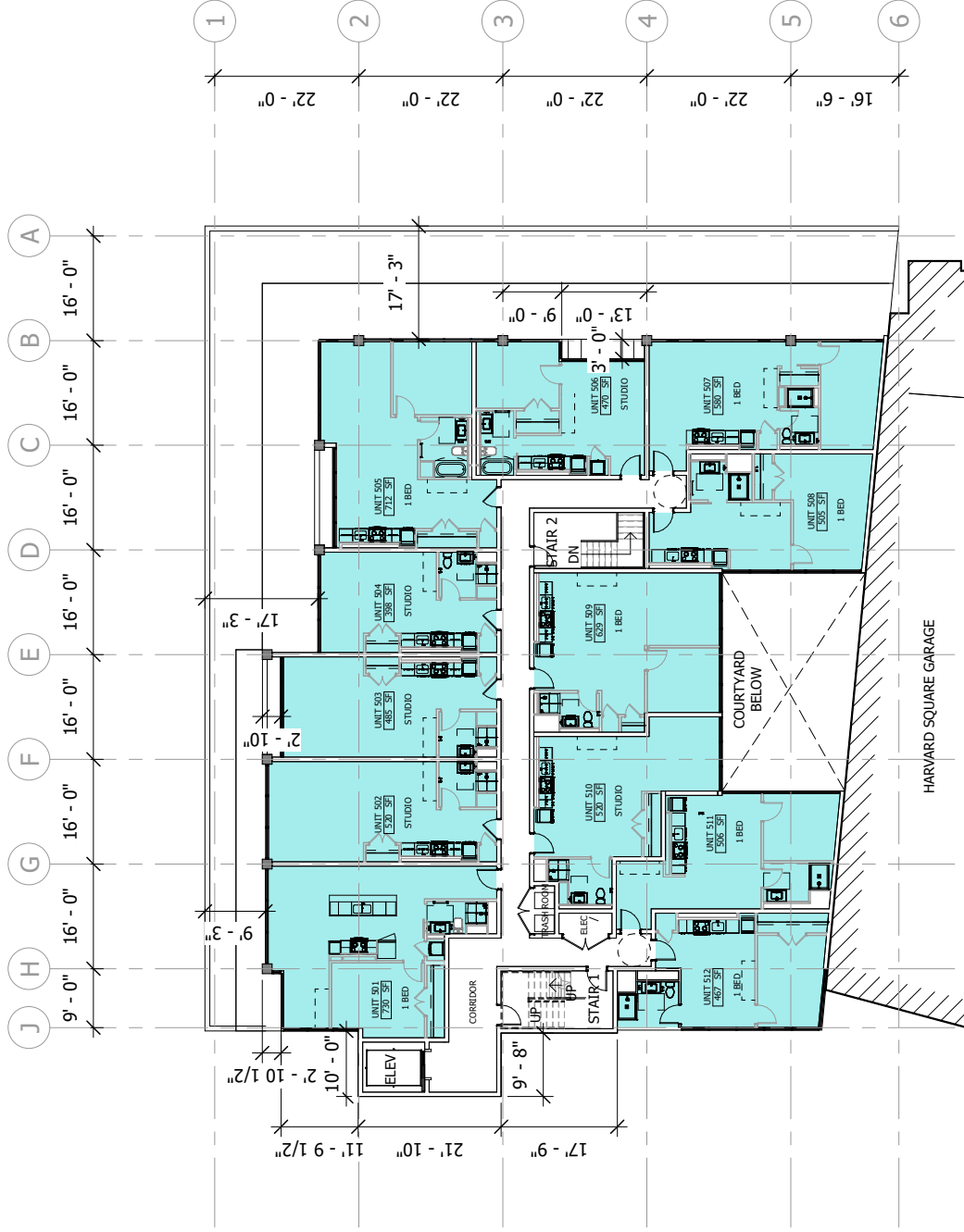
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 Drawn By: Author



FOURTH FLOOR PLAN

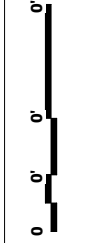
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Net Floor Area Calculations



Client: CRIMSON GALERIA LIMITED PARTNERSHIP
 Project: 57 JFK
 Proj. No.: 20.0003391

Scale: 1/16" = 1'-0"
 Date: 03/22/22
 Drawn By: Author



FIFTH FLOOR PLAN

Sheet No.:

A-110