BZA

COMPREHENSIVE PERMIT APPLICATION

PETITIONER:	CC HRE 2072 MASS AVE TENANT LLC
PETITIONER'S ADDRESS:	C/O CAPSTONE COMMUNITIES LLC 1087 BEACON STREET, SUITE 302 NEWTON, MA 02459
NAME, ADDRESS, AND PHONE NUMBER OF CONTACT PERSON:	CAPSTONE 2072 MASS AVE LLC C/O CAPSTONE COMMUNITIES LLC 1087 BEACON STREET, SUITE 302 NEWTON, MA 02459 ATTN: JASON KORB 617.513.6320 HRE 2072 MASS AVE LLC C/O HOPE REAL ESTATE ENTERPRISES LLC 907 MASSACHUSETTS AVENUE, SUITE 300 CAMBRIDGE, MA 02139 ATTN: SEAN D. HOPE 617.492.0220
LOCATION OF SITE:	2072 MASSACHUSETTS AVENUE, CAMBRIDGE, MA 02140
DESCRIPTION OF PROJECT:	CC HRE 2072 MASS AVE TENANT LLC – C/O CAPSTONE COMMUNITIES LLC COMPREHENSIVE PERMIT: TO CONSTRUCT A NEW MULTI-FAMILY 100% AFFORDABLE HOUSING COMMUNITY WITH 49 RESIDENTIAL RENTAL UNITS, GROUND FLOOR COMMERCIAL AND BUILDING AMENITY SPACE. THE PROPOSAL INCLUDES AN EIGHT STORY BUILDING WITH THREE (3) ACCESSIBLE PARKING SPACES AND TWO (2) DROP OFF SPACES.
SPECIFY LOCAL REGULATIONS OR REQUIREMENTS FROM WHICH RELIEF IS REQUESTED:	SEE **SECTION 5** REQUESTED WAIVERS FROM LOCAL REQUIREMENTS AND REGULATIONS
THE PETITIONER IS:	A LIMITED DIVIDEND ORGANIZATION
IS THE PROPOSED PROJECT NEW CONSTRUCTION:	THE PROPOSED PROJECT IS NEW CONSTRUCTION
SITE CONTROL:	CC HRE 2072 MASS AVE TENANT LLC EXECUTED A 99-YEAR GROUND LEASE WITH CC HRE 2072 MASS AVE LLC (AN AFFILIATE OF CC HRE 2072 MASS AVE TENANT LLC) FOR THE LAND AND BUILDING AT 2072 MASSACHUSETTS AVENUE. CC HRE 2072 MASS AVE LLC CURRENTLY OWNS 2072 MASSACHUSETTS AVENUE.
SITE ELIGIBILITY:	THE PETITIONER IS SIMULTANEOUSLY APPLYING TO DHCD FOR SITE ELIGIBILITY APPROVAL UNDER THE FOLLOWING SUBSIDIES: AFFORDABLE HOUSING TRUST FUND, DHCD HOUSING STABILIZATION FUND (HSF), HUD HOME PROGRAM (RENTAL PRODUCTION), STATE LOW INCOME HOUSING TAX CREDIT PROGRAM AND THE FEDERAL LOW INCOME HOUSING TAX CREDIT PROGRAM (LIHTC).

TOTAL NUMBER DWELLING UNITS PROPOSED:	49
TOTAL NUMBER OF AFFORDABLE RENTAL UNITS:	49
TOTAL NUMBER OF AFFORDABLE HOME OWNERSHIP UNITS:	0

RESIDENT ELIGILIBITY STANDARDS:	41 UNITS AT OR BELOW 60% AMI, 8 UNITS AT OR BELOW 30% AMI, PURSUANT TO THE LOW INCOME HOUSING TAX CREDIT PROGRAM

PLEASE SEE **SECTIONS 3 – 16** FOR A COMPLETE DESCRIPTION OF THE PROPOSED PROJECT, AND EACH OF THE FOLLOWING ITEMS:

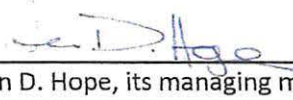
a) Site Development Plans - Site development plans showing locations and outlines of proposed building, existing street elevations, traffic patterns and character of open areas, if any, in the neighborhood;
b) Report on Existing Site Conditions - a summary of conditions in the surrounding areas, showing the location and nature of the existing building, existing street elevations, traffic patterns and character of open areas, if any, in the neighborhood;
c) Drawings – scaled, architectural drawings, including typical floor plans, typical elevations and sections, and identifying construction type and exterior finish. All projects of five or more units must have Site development plans signed by a registered architect;
d) Building Tabulations - a tabulation of the proposed building by type, size (number of bedrooms, floor area) and ground coverage, and a summary showing the percentage of the tract to be occupied by the building by parking and other paved vehicular areas and by open areas; (2 copies)
e) Subdivision Plan - where a subdivision of land is involved, a preliminary subdivision plan; (2 copies)
f) Utilities Plan - a preliminary utilities plan showing the proposed location and types of sewage, drainage, and water facilities, including hydrants.
g) Dimensional Form- provided with application; (2 copies)
h) Photographs – photographs of Site and existing building;
i) Assessor's Plat – available at City of Cambridge, Engineering Department, 147 Hampshire Street, Cambridge, MA;
j) Ownership Certificates – 2 Notarized copies, provided application.

I certify that the information contained herein is true and accurate to the best of my knowledge and belief.

CC HRE 2072 MASS AVE TENANT LLC
By: Capstone 2072 Mass Ave LLC, its managing member

By: Jason Korb, its managing member

By: HRE 2072 Mass Ave LLC, its managing member



By: Sean D. Hope, its managing member

Date: November 10, 2020

BZA APPLICATION FORM - OWNERSHIP INFORMATION

To be completed by OWNER, signed before a notary and returned to The Secretary of the Board of Zoning Appeals.

I/We CC HRE 2072 Mass Ave LLC
(OWNER)

Address: c/o Capstone Communities LLC, 1087 Beacon Street Suite 302, Newton MA 02459

State that I/We own the property located at 2072 Massachusetts Avenue,
which is the subject of this zoning application.

The record title of this property is in the name of CC HRE 2072 Mass Ave LLC

*Pursuant to a deed of duly recorded in the date 04/10/2018, Middlesex South County Registry of Deeds at Book 70850, Page 295; or Middlesex Registry District of Land Court, Certificate No. _____
Book _____ Page _____.

*SIGNATURE BY LAND OWNER OR AUTHORIZED TRUSTEE, OFFICER OR AGENT**

Written evidence of Agent's standing to represent petitioner may be requested.

Commonwealth of Massachusetts, County of Middlesex

The above-name Jason Korb personally appeared before me, this 9th of November, 2020, and made oath that the above statement is true.

JENNIFER TAMARKIN
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires On
February 14, 2025

Notary

My commission expires _____ (Notary Seal).

- If ownership is not shown in recorded deed, e.g. if by court order, recent deed, or inheritance, please include documentation.

DIMENSIONAL INFORMATION
Project Address: 2072 Massachusetts Avenue

		EXISTING CONDITIONS	ORDINANCE REQUIREMENTS		REQUESTED CONDITIONS
			BA-2 / BUSINESS A-2	RESIDENCE B	RESIDENTIAL USE
Lot Area (SF)		8,515 SF	No minimum	5,000 SF (min.)	8,515 SF
Lot Width (Ft)		~75.46' @ Massachusetts Avenue	No minimum	50' (min.)	~75.46' @ Massachusetts Avenue
Total Gross Floor Area (GFA)(SF)		1,860 SF	15,755 SF (max.)(g)	608 SF (max.)(g)	57,395 SF
Residential Base		0	13,129 SF (max.)(g)	507 SF (max.)(g)	54,425 SF
Non-Residential Base		1,860 SF	0	0	2,970 SF (d)
Inclusionary Housing Bonus w/20% affordable		N/A	2,626 SF (max.)(g)	101 SF (max.)(g)	N/A
Ratio of Floor Area to Lot Area	Baseline:	N/A	1.0 / 1.75 (max.)	0.5/0.35 for portions exceeding 5,000 SF (max.)	6.74
	MAOD:		1.75 for mixed-use / 1.0 for all other uses (max.)	1.75 for mixed-use / 1.0 for all other uses (max.)	6.74
Residential Base	Baseline:		1.75	0.5/0.35 for portions exceeding 5,000 SF	6.27
	MAOD:		1.75	1.75	6.27
Non-Residential Base	Baseline:		1.0	N/A	0.47
	MAOD:		N/A	N/A	0.47
Inclusionary Housing Bonus - %	Baseline/MAOD:		20% bonus = 2,626 SF (GFA)(g)	20% bonus = 101 SF (GFA)(g)	N/A
Total Dwelling Units	Baseline/MAOD:	N/A	16 (max.)	0	49
Base Units			600 SF / D.U. = 12	2,500 SF / D.U. = 0	49
Inclusionary Bonus units - 20%			2	0	N/A
Base Lot Area / Unit (SF)			625 SF / D.U. @ 12 UNITS	0 UNITS	174 SF / D.U. @ 49 UNITS
Total Lot Area / Unit (SF)			536 SF / D.U. @ 14 UNITS	0 UNITS	174 SF / D.U. @ 49 UNITS
Building Height(s) (Ft)		13'	45' (max.)(Baseline Zoning)	35' (max.)(Baseline Zoning)	8 Stories / ~89'-8"
	MAOD : Requirements:	N/A	50' max. (Massachusetts Avenue Overlay District) *- Active non-residential ground floor use* *- Minimum ground-floor use depth of 40'* *- Ground floor located at mean grade of abutting sidewalk* *- Minimum 75% Mass Ave frontage occupancy* *- Minimum 15' ground floor height* *- Maximum 5,000 sf per ground floor tenant* *- No bank frontage > 25'*		
Front Yard Setback - Massachusetts Avenue (Ft)(a) *[Baseline Zoning - Article 5.33, Table 5-3, footnote (m)]*		3.8'	Principal wall plane of an adjacent building facing the same street OR the BA-2 baseline requirement; whichever is less		Building is sited to align with building next door which is right on the sidewalk
Front Yard Setback - Walden Street (Ft)(a)		3.5'	5' (min.)(Baseline/MAOD)	15' (min.)(Baseline Zoning)	0' on Walden
Side Yard Setback - Abut City of Cambridge parking lot (Ft)(a)		42.2'	10' (min.)(Baseline/MAOD)	7'-6" (min.)(sum of 20)(Baseline Zoning)	0' (Abut City of Cambridge parking lot)
Side Yard Setback - Abut Cambridge Housing Authority (Ft)(a)		42.4'	10' min.	7'-6" (min.)(sum of 20)(Baseline Zoning)	0' (Abut Cambridge Housing Authority)
Open Space (% of Lot Area)		78.2%	No minimum		0
Private Open Space		78.2%	No minimum	40% Minimum Private Open Space to Lot Area = 405 SF (min.)(g)	0
Permeable Open Space		0.0%	No minimum		0
Other Open Space (Specify)		N/A	No minimum		0
Off-Street Parking Spaces	Baseline and MAOD:	15 (14 regular, 1 accessible)	1 per D.U. = 49 (min.)	N/A (Multifamily dwellings not allowed)	3 accessible (b)(c)
Long-Term Bicycle Parking		0	1:1 first 20 D.U., then D.U. x 1.05 (min.)	1:1 first 20 D.U., then D.U. x 1.05 (min.)	51 (Residential) + 0.4 (Commercial) = 51 (c)
Short-Term Bicycle Parking		0	0.10 per D.U. (min.)	0.10 per D.U. (min.)	0 (e)
Loading Bays		0	N/A	N/A	N/A
Allowable Uses		N/A	Multi Family Residential, Retail, Restaurant, Office, Institutional and Lab	Residential	Residential / Ground floor commercial / restaurant (f) and other uses as described on the Waiver List

(a) Lot is located on a corner. Project team assumed two front and side yards with no rear yard.
(b) Accessible parking requirement rounded up under UFAS (required for Section 504) to three (3) spaces
(c) Commercial Parking is waived under Article 6.36 based on actual quantity required being below four (4) required spots
(d) Garage and bicycle parking exempt from calculation
(e) Project team pursuing public contribution approach for short-term bicycle parking per Article 6.104.2 (b)
(f) Along with other future possible uses as described on the Waiver List
(g) ~1,013 SF of the total lot area is in Residence B, with the remainder in BA-2

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 1
COVER LETTER AND NARRATIVE

CC HRE 2072 Mass Ave Tenant LLC
c/o Capstone Communities LLC
1087 Beacon Street, Suite 302
Newton, MA 02459

November 10, 2020

Board of Zoning Appeal
City of Cambridge
831 Massachusetts Avenue
Cambridge, MA 02139

Re: Comprehensive Permit Application for 2072 Mass Ave Apartments
2072 Massachusetts Avenue, Cambridge, MA

Dear Board of Zoning Appeal Members:

CC HRE 2072 Mass Ave Tenant LLC ("Applicant"), an affiliate of Capstone Communities LLC (www.capstonecommunities.com) ("Capstone") and Hope Real Estate Enterprises LLC ("Hope"), propose to construct an affordable housing community located at 2072 Massachusetts Avenue in Cambridge's Porter Square and North Cambridge (the "Site"). The resulting residential community will consist of 49 affordable rental apartment homes with a variety of unit sizes – 14 one-bedroom, 21 two-bedroom, and 14 three-bedroom apartments – that will be affordable to individuals and families earning a range of incomes – from 30% to 60% of the area median income (the "Project"). Capstone is a Newton-based developer of mixed income, affordable, and historic apartment communities, and Hope is a Cambridge-based real estate development company with significant zoning consultation and permitting expertise. Capstone and Hope are currently developing Frost Terrace, a 40-apartment 100% affordable housing community located a few blocks south at 1785-1791 Massachusetts Avenue which is anticipated to open in spring 2021. Previously, Hope and Capstone developed Port Landing, a 20-apartment, 100% affordable housing community in The Port/Kendall Square neighborhood in 2016.

Development Proposal

Existing Site Conditions

Located with frontage on Massachusetts Avenue to the northeast and Walden Street to the northwest, the Site is comprised of one lot with approximately 8,515 square feet. Currently, the Site is occupied by an 1,860 sf, one-story building leased to Darul Kabab restaurant. The building is widely known to have housed Kentucky Fried Chicken for many years.

The immediate context along Massachusetts Avenue includes a mix of commercial, residential, and institutional buildings directly fronting the Avenue. The current one-story building and surface parking lot on the Site were constructed in 1971, having replaced a ca. 1890 four-story Odd Fellows Building which occupied most of the parcel. Though the Massachusetts Avenue corridor maintained a small-scale residential character throughout much of the 19th century, by the early 20th century the blocks north of Porter Square were dominated by multi-story commercial, civic, and religious buildings directly fronting the

Avenue. Massachusetts Avenue remains a densely developed artery lined with multi-story commercial, residential, and institutional buildings.

I.O.O.F. Building formerly located at 2072 Massachusetts Avenue, depicted during the 1968 fire which led to its demolition (*Cambridge Chronicle*).

Proposal Summary

The Project will include forty-nine (49) 100% affordable rental housing apartments. The affordability will be in perpetuity. Approximately 71% (35 apartments) will be two and three bedrooms for families. Specifically, the proposal includes 14 one-bedroom apartments, 21 two-bedroom apartments, and 14 three-bedroom apartments. Units average in size from 625 sf (one-bedroom apartments) to 824 sf (two-bedroom apartments) to 1,087 sf (three-bedroom apartments). The high proportion of two- and three-bedroom apartments will provide safe and accommodating housing to families.

Additionally, the Project will include three handicapped accessible parking spaces and two short-term drop-off/pick-up spaces in a covered garage area at the rear of the Site, along with 51 long term bike parking spaces located on the lower level of the building (48 regular and 3 tandem). Electric vehicle charging stations will be provided for the three accessible spaces and power outlets will be provided in the bike room for electric bicycles and repairs. The Project will also include retail space on Massachusetts Avenue and a resident amenity space within the first floor. The retail space is slated for a community use. The Project's operating budget also includes a part-time resident services coordinator who will plan events for families and others in the building and will assist with creating community building and educational activities.

Current Condition

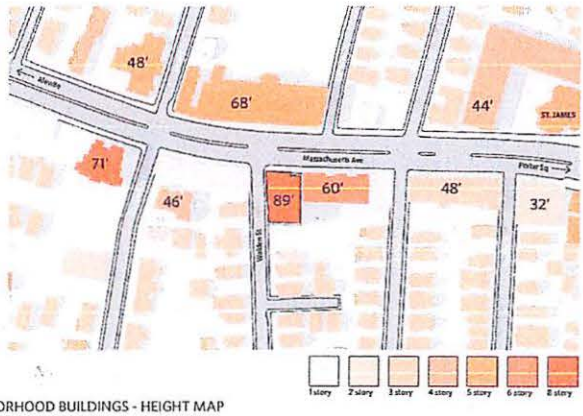
Proposed Condition

The new eight-story building will be constructed to Passive House US (PHIUS) standards and will target PHIUS Certification, and will include a green roof, rooftop solar along with a stormwater management system. The resilient, environmentally friendly materials used to construct the contemporary building façade will ensure long-term sustainability for the Project while adding dimension and rhythm to the Avenue. See **Section 9 Green Building Report** for more information.

Neighborhood

Situated to the northwest (less than 0.3 miles from the center) of Porter Square, the Project will complement an already vibrant mixed-use area of institutional, residential, office, restaurant and retail uses. Located in the North Cambridge neighborhood and adjacent to Neighborhood Nine, the Project's density and scale aligns with other buildings on Massachusetts Avenue. Directly to the Site's southeast and fronting on Massachusetts Avenue is the six-story affordable age restricted Russell House Apartments that is owned and operated by the Cambridge Housing Authority. Russell House Apartments is approximately 60' and contains 52 apartments. The five-story, 68' historic Henderson Carriage Building is located across Massachusetts Avenue from the Site. 2130 Massachusetts Avenue, an eight-story, 71' building is located one block to the northwest of the Site. Directly across Walden Street from the Site is a single-story retail building and the three and a half story 5 Walden Street condominiums. Spanning the entire rear of the Site is a municipal parking lot that provides an almost 50' wide buffer from the mostly three-story multifamily residential neighborhood to the west. The owners of the Henderson Carriage Building and Russell House Apartments support the Project.

The below Neighborhood Buildings – Height Map details the surrounding building heights.



NEIGHBORHOOD BUILDINGS - HEIGHT MAP

Area Amenities

This Site is well-served by public transit. The Porter Square MBTA Redline and Commuter Rail stations are less than 0.3 miles from the Site and the Davis Square MBTA Redline is located 0.5 miles from the Site. In addition, the #77 and #83 MBTA bus routes are at the Site, the nearest BLUEbikes station is located directly across the street, and the nearest Zipcar space is less than 200 feet away. These various rapid transit options provide access to jobs, services, and amenities throughout Cambridge, Boston, and the suburbs. Additionally, the Site is located within walking distance to the Porter Square Shopping Center, which provides several key family-friendly amenities including a grocery store, pharmacy, hardware store and various other community-serving businesses. In the context of Cambridge's extreme shortage of affordable family housing, the Project will provide forty-nine (49) households with access to a desirable, transit oriented, and thriving neighborhood. According to Walkscore.com, the Site's Walk Score is 97, which is considered a Walker's Paradise.

The Site is also within walking distance to a number of public elementary schools and daycare centers including the Rindge Avenue Upper School (0.2 miles or 6-minute walk), Wild Rose Montessori School (0.3 miles or 7-minute walk) and Benjamin Banneker Public Charter School (0.4 miles or an 8-minute walk). Below is a partial list of amenities within 0.5 miles of the Site. The play yard at St. James Church will be open to the Project's residents as well as the general public from 8am to dusk every day of the week with few exceptions. St. James Church, at 1991 Massachusetts Avenue, is one block from the Project.

Restaurants		Groceries		Shopping	
Wasabi at Porter	0.03 Miles	Star Market	0.2 Miles	China Fair	0.01 Miles
McCabe's on Mass	0.08 Miles	Pemberton Farm	0.2 Miles	Barefoot Books	0.04 Miles
Andy's Diner	0.1 Miles	Spindler Confections	0.2 Miles	Seth Berman Gardeners	0.05 Miles
Posto	0.2 Miles	Stop & Shop	0.3 Miles	Drinkwater's	0.05 Miles
Palm Sugar Thai Cuisine	0.2 Miles	Davis Square Farmers Market	0.3 Miles	Big Picture Framing	0.09 Miles
Dakzen	0.2 Miles			General Optical Co.	0.01 Miles
The Shawarma Place	0.2 Miles	Parks		Fun Antiques	0.2 Miles
Newtowne Grille	0.2 Miles	Bergin Playground	0.2 Miles	Stellabella toys	0.2 Miles
Domino's Pizza	0.2 Miles	Rindge Field	0.2 Miles	The Caning Shoppe	0.2 Miles
Sugar & Spice Thai	0.2 Miles	Kenney Park	0.3 Miles	Books by Design	0.2 Miles
Urban Hearth	0.3 Miles	Corcoran Playground	0.4 Miles	Nebia	0.2 Miles
Punjabi Grill	0.3 Miles	Statute Park	0.4 Miles	Buffalo Exchange	0.3 Miles
Rosebud American Cuisine	0.3 Miles	Sheridan Square	0.4 Miles	Watch Shop	0.3 Miles
Snappy Kitchen	0.3 Miles	Seven Hills Park	0.4 Miles	Ace Wheel Works	0.3 Miles
Anna's Taqueria	0.3 Miles	Saint Peters Field	0.5 Miles	Michaels	0.3 Miles
Christopher's	0.3 Miles			Family Dollar Store	0.3 Miles
Café Barada	0.3 Miles	Schools		Magpie	0.3 Miles
Redbones BBQ	0.3 Miles	Ringe Avenue Upper School	0.2 Miles	Sprint	0.3 Miles
Toad	0.3 Miles	Wild Rose Montessori School	0.3 Miles	Mind's Eye Yarns	0.3 Miles
Wok N Roll Restaurant	0.3 Miles	Benjamin Banneker Public Charter	0.4 Miles	Porter Square Books	0.3 Miles
Panera Bread	0.3 Miles	Cambridge Friends School	0.4 Miles	Bike Boom	0.4 Miles

Building Program and Site Design

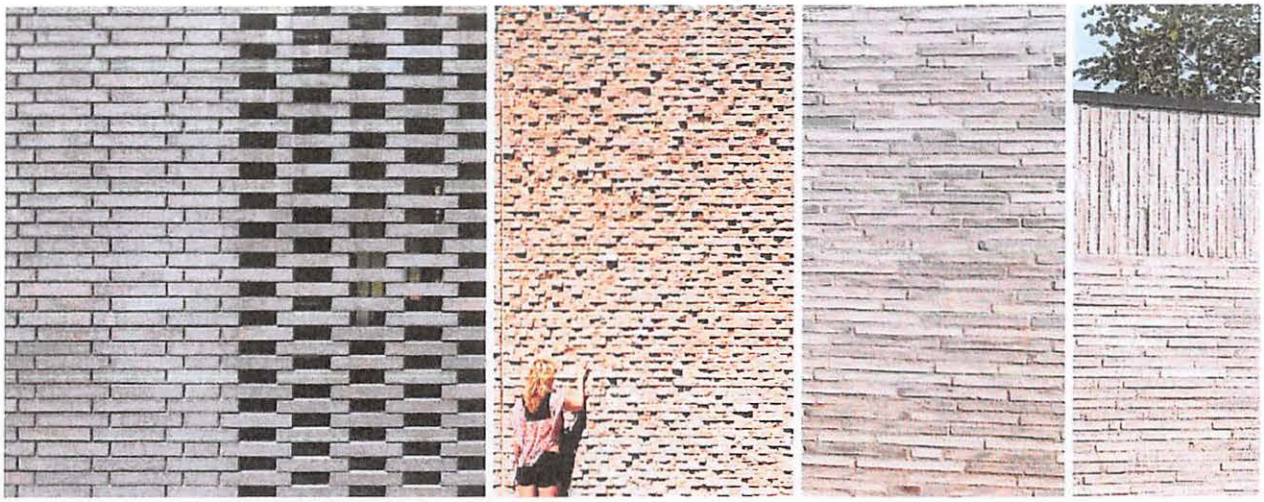
The Project's design balances a complex set of contextual priorities for the Site which have arisen from analysis, community meetings, and various meetings with the City of Cambridge Urban Planning, Community Development and Traffic and Parking teams. The design goals are:

Create a high-quality affordable housing apartment community for families in Cambridge
The design reflects its context, a strong corner on Cambridge's main street. The building massing is slender, allowing for light and air for all apartment homes. The site is linked to amenities and services in this walkable neighborhood and the unit interiors are simple, but elegant.

Create significant transparency: Activate the streetscape
A primary design goal is to maintain transparency at street level to facilitate visual connections and to activate the streetscape. The first floor along Mass Ave will be wrapped with transparent storefront glazing and will include both the retail and residential entryway. The residential entryway will be pushed back to create a more pedestrian-scaled experience for residents. The storefront turns the corner onto Walden St and continues along with transparency into the retail and resident amenity spaces. An entrance to limited parking and services area is hidden on the rear part of the site.

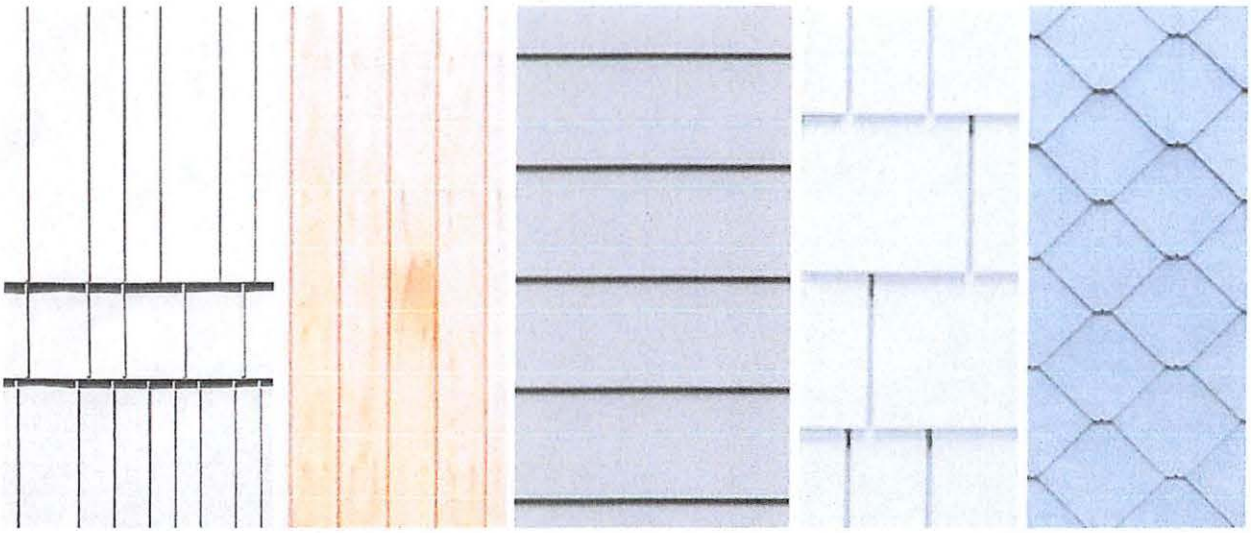
Shaping: Building Form
The building consists of two interconnected 8-story volumes. Along Massachusetts Avenue and West along Walden Street, a seven-story suspended aluminum clad cube sits above one story of recessed with storefront glazing. The suspended cube of the floors is clad in light colored anodized aluminum / zinc vertical panels with a staggered pattern, creating a light and airy volume that floats above the street, minimizing the Project's perceived mass, and also has a strong corner presence that is visible from the street intersection. A grid of openings accentuates the suspended cube, incorporating large windows which provide natural daylight into the interior units, as well as vertical infill composite panels that resemble wood, bringing warmth and texture. Each window and infill panel pair are framed with a metal projection that provides a rhythm to the façade.

Human Scale: Material Palette
The residential anchor consists of a materials palette that relates to the surrounding residential buildings. The brick plinth / base is located on the ground floor, most prominently at the residential entry which is recessed along Mass Ave, adjacent to the retail space and bus shelter. The crafted long brick at street levels enlivens the pedestrian experience and allows for interactions as the wall angles back and forth. This culminates in a gradient of increasingly frequent openings that also serve as visibility into the parking area, as well as creating ventilation. Above the parking entry, the brick is oriented vertically as a contemporary response to the traditional lintel approach, while highlighting the playfulness of the material.



Brick pattern material precedents

Above the brick plinth, painted clapboard comprises the main field of the body. Proportionately sized and spaced windows bordered by a trim are located along all orientations of the residential anchor. On the south elevations, each window has an infill panel below, clad in a lighter colored shingle panel to provide an accent from the main field, as well as to give the perception of the same proportions compared to windows on the north and west facades. In addition, solar shades are proposed on the South façade that not only livens the rhythm of the façade, but also serves a functional purpose of providing shade to reduce the building's overall energy consumption. The top of the residential anchor is defined by a cornice band of half-round shingles.



Suspended cube and residential anchor material precedents

Streetscape and Greenery

Except as indicated below, while there is no open space or landscaping on the Site, several street trees are located on the opposite side of Walden Street. Due to the existing electrical duct banks below the sidewalks adjacent to the Site on Massachusetts Avenue and Walden Street, it is not possible to plant street trees in these locations. Planters and fences supporting the growth of vertical green are located on the Project's

southwest facade, and at the openings to the parking and service areas. An intensive green roof is also visible along Walden Street above the parking entrance, with a variety of non-invasive plant species.

There is a 12" DBH Tilia cordata, Littleleaf linden located on the Site's south property line. This tree is mostly located on the 2050 Massachusetts Avenue property. Daniel E. Cathcart, an ISA Board Certified Master Arborist, developed a Tree Protection Plan (included herein) that will be followed by the development team prior to, during, and after construction. See **Section 10** for the **Tree Protection Plan.**

Accessibility

The Project is designed to comply with the requirements of 521 CMR, Massachusetts Architectural Access Board (MAAB), the Fair Housing Act, the Americans with Disabilities Act (ADA), as well as the Uniform Federal Accessibility Standards (UFAS). 3 apartments (1 of each bedroom type) in the Project will be Group 2 units for individuals with mobility difficulties (521 CMR 9.4), with the rest being Group 1 units (521 CMR 9.3). In addition, 1 apartment will be a Group 1 unit that also provides sleeping accommodations for persons who are deaf or hard of hearing (521 CMR 9.7).

Sustainability

The Project will incorporate sustainable and resilient design strategies that reflect a commitment to environmental stewardship that aligns with affordable housing with a strong focus on lowering utility costs, carbon and greenhouse gases reduction and creating healthy environments. The Project is targeting Passive House certification to the standards set by the Passive House Institute US (PHIUS) for their PHIUS+ Core rating system, as well as certifying through the EPA Indoor air PLUS program. The PHIUS+ CORE rating system includes stringent and verified building performance metrics as well as professional testing of the building envelope and air sealing at two stages during building construction. EPA Indoor air PLUS certification includes verification of indoor air quality (IAQ) quality control measures including but not limited to: moisture control, HVAC venting and sealing, and use of low VOC materials in construction. In addition, the design team is also planning to conduct a systems commissioning process in addition to the envelope. The above will result in a highly efficient building that lowers utility costs, protects occupant health through excellent indoor air quality, as well as contributes to the overall reduction in carbon and greenhouse gases emissions. Specifications for a simple, durable materials palette will emphasize the choice of healthier building materials and reinforce the Passive House approach, these measures also act as quality-of-life improvements for the residents, and will be integrated with the management of the property.

In terms of addressing resiliency concerns such as extreme weather events and future climate change, the project team evaluated the flood risk based on current maps and future projections for the site and surrounding area. In addition, various protection, adaptation, and backup strategies have been incorporated. Additional details can be found in **Section 9 Green Building Report.**

Affordable Housing

Due to its unit mix and income set asides, the Project's 49 apartment homes will attract a variety of households. 41 units will be set aside for households that earn at or below 60% of AMI, currently a household income ranging from $53,760 – $82,920, depending on household size. Eight (8) units will be Section 8 PBV units set aside for households that earn at or below 30% of AMI, currently there is no minimum household income, and a maximum income of $30,720 – $41,460, depending on household size. Including all utilities and for the 60% AMI apartments, monthly one-bedroom rents are estimated to be $1,440, monthly two-bedroom rents are estimated to be $1,728, and monthly three-bedroom rents are

estimated to be $1,995. When accounting for utilities, these rents are approximately 40% of the neighborhood's market rate rents, which are deeply unaffordable to households in this income range.

The proposed income mix provides housing that is affordable to families and individuals earning a range of incomes. The immediate market area shows strong demand for this unit mix as effective vacancy rates are 0%. The demand for affordable units is even more significant than that for market rate apartments. At Port Landing, which was opened in 2016, 1,386 applicants applied for its 20 apartments prior to the lottery. Data obtained from The Finch, an affordable apartment community owned by Homeowner's Rehab which completed its lease-up in 2020, showed that 2,261 individuals or families applied for 98 apartment homes. There are currently 20,703 unique applicants on the Cambridge Housing Authority waitlists.

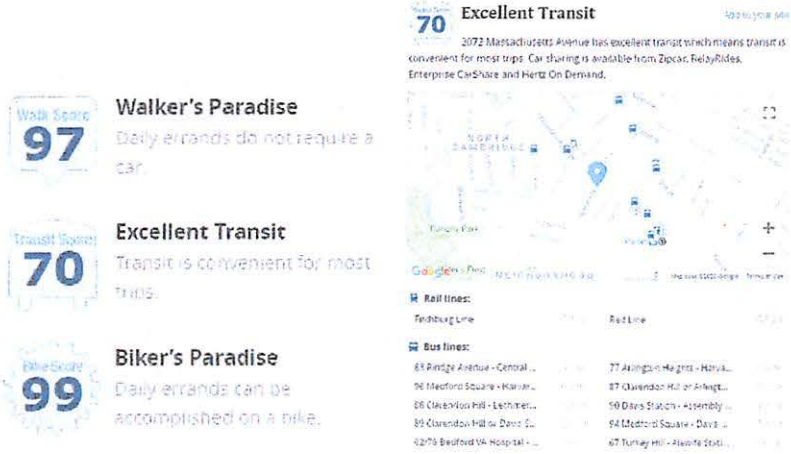
To the extent permitted by Department of Housing and Community Development, 70% of the apartments will give preference to current Cambridge residents, municipal and school department employees, and employees of local businesses.

Transportation and Parking

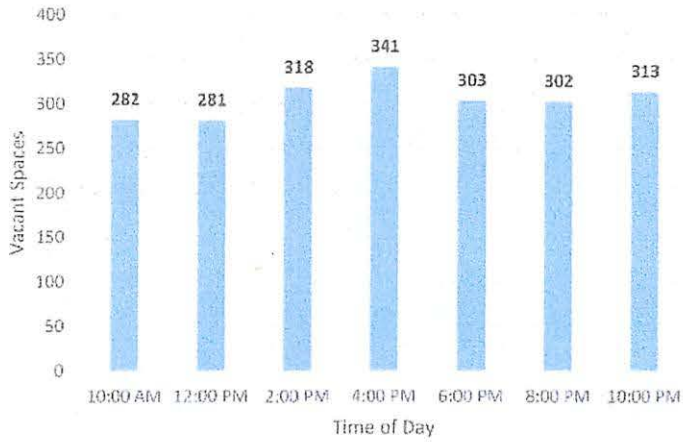
The site plan proposes three (3) covered, on-site accessible parking spaces that will be dedicated to residents and guests with disability plates or placards. In addition, there will be two (2) short-term COVERED drop-off and pick-up spaces to aid in reducing congestion along Walden Street.

As previously indicated, the Site is a short walk from numerous forms of transit options including the Porter Square Station less than 0.3 miles from the Project that includes the MBTA subway Red Line, Fitchburg/South Acton Commuter Rail Line, four Bus Lines (Bus Route #77, 96, 83 and 87) and several car sharing locations. The Parking and Traffic Assessment by Vanasse & Associates, Inc. (VAI) included in **Section 6** suggests approximately half of the building's households, or ~25 households, will have cars. Those residents with or without cars will benefit from Transportation Demand Management (TDM) that will include covering the cost of MBTA passes for property management staff, subsidizing MBTA passes for residents, BLUEbikes memberships, or ride sharing memberships, as further detailed in the VAI report. In addition, the installation of public transportation and ride share timing screens at a centralized location will provide residents with information for easy access to transit. Ownership and building management will provide information at move-in to all residents on all public transportation options within a short distance of the Site.

Below is a map from Walkscore.com highlighting the Site's adjacent transit options:



VAI determined the Project's projected parking demand and quantified the availability of on-street parking within a quarter (0.25) mile from the Site entirely within the City of Cambridge boundaries during peak parking demand hours. In summary, at the time of its study on Tuesday, October 20, 2020, VAI determined that the peak hour demand was at 12:00pm at which time a total of 281 on-street parking spaces were available within a quarter (0.25) mile of the Site. VAI concludes its report by stating: "In summary, a detailed parking survey was completed in the area of the Project and based upon this data it can be concluded that there is more than sufficient availability of on-street parking to accommodate the Project. The Project proponent is committed to implementing a Travel Demand Management plan which promotes alternatives modes of transportation and will minimize the Project's impact on available on-street parking and traffic in the area."



VAI Parking Study, October 20, 2020, Figure 4

It is expected that many of the Project's residents will utilize alternative modes of transportation other than automobiles. Based upon the U.S. Census and 2018 American Community Survey data for Census Tract 3547, the tract in which the Project is located, the mode split characteristics of the Project are estimated as follows: 32 percent automobile trips; 43 percent transit; 10 percent walk; six (6) percent bicycle, and nine (9) percent other trips. Pursuant to VAI's report, the Project is expected to generate approximately 98 vehicle trips on an average weekday (49 entering/49 exiting), with approximately six (6) vehicle trips (2 entering/4 exiting) expected during the weekday morning peak-hour. During the weekday evening peak hour, the Project is expected to generate approximately 9 new vehicle trips (5 entering/4 exiting).

The Project's proximity to several alternative transit options and community serving amenities (schools, pharmacy, grocery store) within walking distance will produce a thriving walkable residential community. The Project's design is consistent with smart growth principles and the Cambridge City Council's goal to reduce reliance on vehicle usage while promoting alternative forms of transportation.

<u>Walden Street Widening</u>

Through discussions with Cambridge Community Development, Traffic and Parking, Department of Public Works, and community outreach, the development team identified that the portion of Walden Street adjacent to the Site is unusually narrow for a three lane street. Currently Walden Street is ~26'-8", with a ~10'-0" travel lane outbound from Massachusetts Avenue and two ~8'-4" travel lanes inbound. This constriction slows traffic moving through the intersection, makes turns difficult, and does not align with best practices and guidelines.

The proposed design includes the widening of Walden Street from ~26'-8" to 30'-0". This is achieved by locating the exterior walls of the ground floor ~4'-0" inside the property line and then granting an easement to the City for a sidewalk in that area, resulting in three (3) 10'-0" travel lanes and making a more spacious street condition. The proposed design also improves the sidewalk by widening it from its current ~6'-5" width to be ~7'-2" wide, both measurements are inclusive of the curb. The proposed upper floors of the new building overhang the sidewalk by ~3'-6" with an overhead clearance of ~13'-0".

Regarding the constructability of widening Walden Street, the development team approximately located electrical duct banks in the Walden Street sidewalk. Based on visual inspections of the manholes and a utility Ground Penetrating Radar (GPR) report by GPRS, it seems unlikely that the location of these duct banks will conflict with the proposed construction associated with the widening of Walden Street. Conversations with Eversource on the exact elevation of the duct banks are ongoing. The GPR report is included in **Section 8**.

Evidence of Need for Affordable Housing:

The City of Cambridge historically was the home of immigrants and low and middle-income earners that were vital to Cambridge's glassworks and furniture factories from the 1920's through the 1970's. However, since rent control ended in 1994, Cambridge has experienced an exponential increase in land value, resulting in a disproportionate impact on the availability of affordable housing options for low and middle-income individuals and families. HUD defines "cost burdened" households as those who pay more than 30% of their income for housing.[1] According to the U.S. Census Bureau, 43% of renters in Cambridge are paying 30% or more of their household income on rent and are therefore considered cost burdened.[2]

Lower and middle income families in Cambridge find it exceptionally difficult to secure family friendly housing throughout the City. In the last six (6) months, accordingly to MLS, the median sale price for a single family home in Cambridge was $1,733,500 and the average condominium sale price was $812,500. Based on an informal October 2020 survey of larger apartment communities in the immediate market area, two-bedroom apartment rents are $3,600 and three-bedroom apartment rents are $4,500.[3] In order to afford these rents and not be cost burdened, a household would need to earn at least $152,000 – $190,000 annually. Over 60% of Cambridge households make less than $150,000, making these units unaffordable to a majority of current Cambridge residents.[4]

The City's housing stock is also older and many units contain lead based paint hazards, which further constrain families from locating safe, quality housing for their children. In fact, 71.4% of Cambridge's housing inventory was constructed prior to 1980.[5] Upon completion, all of 2072 Massachusett's Avenue's apartments will be new.

Once completed, the Project will provide urgently needed affordable housing in an area where a significant number of families and individuals are unable to afford quality housing. Additionally, the high number of three-bedroom apartments (29%) will specifically be occupied by families.

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[1] U.S. Department of Housing and Urban Development, "Housing Choice Voucher Program" https://www.hud.gov/hudprograms/hcvp (accessed October 9, 2020)

[2] U.S. Census Bureau American Community Survey 2019: ACS 1-Year Estimates TableID DP04

[3] The Wyeth – 120 Rindge Avenue, Cambridge

[4] U.S. Census Bureau American Community Survey 2019: ACS 1-Year Estimates TableID S2503

[5] U.S. Census Bureau American Community Survey 2019: ACS 1-Year Estimates TableID DP04

Financing

If 2072 Massachusetts Avenue's Site Comprehensive Permit application is approved, the development team anticipates applying for an array of local, state and federal subsidies as well as private investments. The development team will apply to the Massachusetts Department of Housing and Community Development (DHCD) for an allocation of state and federal low-income housing tax credits as well as additional subsidies.

In 2018 the Cambridge Affordable Housing Trust provided a $3.8 million loan to finance the Site acquisition and certain predevelopment expenses. If the Project receives its permitting, the development team anticipates applying for additional City funding and for eight (8) Cambridge Housing Authority Section 8 Project Based Vouchers.

Site Control, Permitting and Community Process

Site Control

Capstone and Hope have created separate entities that own/will own the Site/Project and that will develop the Project. CC HRE 2072 Mass Ave LLC, an affiliate of Capstone and Hope, purchased the 2072 Mass Ave land and building using loan proceeds from the Cambridge Affordable Housing Trust in April 2018.

On November 9, 2020, CC HRE 2072 Mass Ave LLC entered into a 99-year ground lease with CC HRE 2072 Mass Ave Tenant LLC for the 2072 Massachusetts Avenue land. See the attached organizational chart that outlines the entity structure once the Project receives all its financing. This ground lease structure is typical of affordable housing developments in Cambridge due to the complicated financing structure required by local and state financing agencies.

Permitting

CC HRE 2072 Mass Ave Tenant LLC is a Limited Dividend Organization under M.G.L. c.40B, §§ 20 through 23. Pursuant to 760 CMR 56, CC HRE 2072 Mass Ave Tenant LLC is applying to the Department of Housing and Community Development, as the Subsidizing Agency, for Project Eligibility under the following subsidy programs: Affordable Housing Trust Fund, DHCD Housing Stabilization Fund (HSF), HUD HOME Program (Rental Production), State Low Income Housing Tax Credit Program, and the Federal Low Income Housing Tax Credit Program (LIHTC). An affordable housing restriction will be recorded against the land and buildings with a term in perpetuity and the Project will comply with the Affirmative Fair Housing Marketing and Resident Selection Plan as required by 760 CMR 56.

According to the Zoning Map, the majority of the Site has a base zoning of Business A-2 and a small portion (13'+/-) at the rear of the parcel is in the Residence B base zoning district. Both districts allow for residential uses as of right although the Business A-2 district also allows for a range of commercial/retail and multi-family residential uses whereas the Residence B district is a one- and two-family district only. The Site also is in the Massachusetts Avenue Overlay District and North Massachusetts Overlay Sub- district (the "Massachusetts Avenue Overlay").

The development team is proposing to obtain all of 2072 Massachusetts Avenue's local approvals through an MGL Chapter 40B Comprehensive Permit from the Cambridge Board of Zoning Appeal (BZA). Since the City of Cambridge has met its obligations under MGL Chapter 40B, the development team is requesting that the BZA accept this Comprehensive Permit application. Pursuant to 760 CMR 56.05(7), please refer to

Section 5 for a detailed list of requested Waivers from Local Requirements and Regulations. **Section 4** is the Dimensional Form.

Community Process

The development team has worked extensively with the City of Cambridge, including the Community Development Department (Zoning, Housing, Sustainability, Urban Design, Pedestrian and Bicycle), Fire Department, Traffic and Parking, Department of Public Works, and Historical Commission.

In addition, the development team has engaged the community through individual abutter Zoom meetings and a large Zoom community meeting on September 29, 2020 that was attended by 82 people. The Project was also presented to the Porter Square Neighbors Association (PSNA) on October 15, 2020 and is schedule to reappear at the PSNA on November 19, 2020. Understanding that many residents of the adjacent Russell House Apartments do not have access to computers and/or the internet, and in conjunction with the building's management, the development team displayed large renderings of the Project and comment cards in the building's lobby so that Russell House residents would have an opportunity to provide input.

Community outreach and various City department input resulted in the following changes to the proposal: (1) setting back further the first floor facing Walden Street, (2) relocating the main pedestrian entrance from Walden Street to Massachusetts Avenue, (3) widening Walden Street and the sidewalk adjacent to the Project, (4) programming the retail space to accommodate varied and community uses, and (4) developing partnerships with community stakeholders to access additional amenities for the Project's residents. An additional community meeting via Zoom is scheduled for November 16, 2020 to share design updates and elaborate on changes that were made to incorporate community feedback. The development team has maintained a website, www.2072massaveapts.com, that provides updated and detailed information on the proposal. The website includes copies of plans, FAQs (forthcoming), news and events, information on the development team, and contact information for the community to provide feedback and ask questions.

Development Team

The following development team has been formed to include industry experts ensuring a seamless and successful completion:

- **Developers:**
    - *Capstone Communities LLC* (www.capstonecommunities.com), is a Newton, Massachusetts based real estate development firm experienced in structuring complex financing involving multiple federal and state subsidies. Jason Korb is the principal of Capstone Communities LLC where he has developed market rate, mixed income, and 100% affordable housing. Since founding Capstone in October 2010, Jason has successfully completed a total of $60,000,000 of development transactions in Cambridge, Somerville, Arlington, Newton and Brockton Massachusetts. These include converting Brockton's first brick shoe factory into 25 mixed-income apartments, co-developing 20 100% affordable family apartments on a vacant lot in Cambridge's Port neighborhood. Additionally, Capstone and Hope are currently developing Frost Terrace, a 40 apartment, 100% affordable community in Porter Square which is estimated to be complete in Spring of 2021.

      Prior to forming Capstone, Jason was the Vice President of Acquisitions at Beacon Communities LLC, a developer, owner, and manager of over 9,000 apartment homes in the Northeast. At Beacon, Jason was responsible for sourcing new acquisitions and overseeing

mixed income, affordable and market rate development and financing opportunities. In his seven years at Beacon, Jason was responsible for developing over 600 apartment homes totaling over $100M. Prior to joining Beacon in 2004, Jason was a Housing Project Manager at the Fenway Community Development Corporation in Boston. Jason is a former Director of Caritas Communities and a former Vice-Chair of Preservation Massachusetts. Jason received an MS from the Massachusetts Institute of Technology's Center for Real Estate and a BA from the University of Michigan, Ann Arbor. Jason's MIT thesis, The Low Income Housing Tax Credit: HERA, ARRA, and Beyond has been cited by Harvard University's Joint Center for Housing Studies and the US Senate Budget Committee.

- *Hope Real Estate Enterprises LLC*, is led by Cambridge based attorney and Real Estate Developer Sean D. Hope who specializes in Zoning and municipal permitting/consulting. Sean was co-developer with Jason Korb of Port Landing - a 100% affordable housing development located in The Port/Kendall Square that opened at the end of 2016 providing 20 units of family friendly housing to the Port neighborhood where Sean's family first moved to from the island of Barbados. Additionally, Hope has partnered with Capstone again to develop Frost Terrace, a 40 apartment, 100% affordable community in Porter Square which is estimated to be complete in Spring of 2021. Sean has also represented developers and property owner on numerous construction projects in Cambridge including new construction, historic preservation and adaptive reuse projects. Prior to entering into private practice in 2008 Sean was an associate member of the Cambridge Board of Zoning Appeal voting on several keys applications including Print Shop Condominiums, an affordable home ownership project developed by CASCAP in 2007. Sean also serves as in-house counsel for Pentecostal Tabernacle in Cambridge and is former member of the Cambridge Historic Society.

- **Preconstruction Cost Estimator**: *Callahan Construction Managers* (www.callahan-inc.com): Established in 1954, Callahan Construction Managers is a full-service construction company experienced with a variety of building types and construction methods in Massachusetts and the Northeast. Callahan specializes in a wide range of preconstruction and construction management services, and including projects in multi-family residential, senior housing, hospitality, retail, corporate office, life sciences, educational, and other markets. Most recently, Callahan began the historic renovation, addition, and new construction project at Squirrelwood Apartments, an affordable housing community owned by Just-A-Start Corporation in Cambridge, MA. The Squirrelwood Apartments contain 88 units and the new construction building will be built to Passive House Standards.

- **Architect**: *Bruner/Cott Architects (Bruner/Cott)* (www.brunercott.com): Bruner/Cott is a mid-sized, full service architecture and planning firm, located in Boston, Massachusetts. Founded 45 years ago, Bruner/Cott is dedicated to enhancing the quality of life, economic vigor, and sense of community through thoughtful, sustainable design. As pioneers in transformative reuse, Bruner/Cott strives to recognize the character and value of an existing structure and understand that sustainable design extends beyond the boundaries of a single building. Whether new construction, transformative reuse, historic preservation, or a large-scale planning project, Bruner/Cott makes buildings that communicate with their surroundings, transforming place by creating architecture of enduring value.

  Bruner/Cott is committed to its mission of achieving design excellence through collaboration, creativity, and critical thinking, crafting thoughtful design solutions that fulfill their clients'

aspirations, and enhancing the human experience while respecting the natural environment. The firm's work has been consistently recognized for design, winning awards for renovation, adaptive reuse, and new construction. In the Cambridge/Boston area, Bruner/Cott is working on Frost Terrace (currently under construction), and completed the Lunder Arts Center at Lesley University in Porter Square and The Viridian at 1282 Boylston Street.

- **Legal (General and Zoning)**: *Nixon Peabody LLP* (www.nixonpeabody.com): Nixon Peabody is a full-service law firm with more than 600 lawyers nationwide and internationally. Our clients range from developers (for-profit and nonprofit), financing institutions and governmental entities to *Fortune* 100 companies. Nationally recognized in real estate, the firm handles highly complex development and financing transactions involving every class of assets, and has been at the forefront of financing, developing and preserving affordable housing for more than 45 years. In fact, with approximately 25 attorneys and paralegals possessing significant experience working with federal, state and local governmental agencies, NP has one of the largest affordable housing legal teams in the country.

  The NP team also handles land use, zoning and permitting for a range of development projects, and is regularly brought into transactions to review site plans and perform zoning analyses. Through this work, the team has developed a comprehensive understanding of the local zoning and permitting processes and the multiple administrative steps that developers face during the course of development, which can include navigating the zoning approval process, obtaining Comprehensive Permit approvals, or establishing zoning overlay district areas and zoning map amendments.

Conclusion

The Project will bring high-quality housing to the Porter Square/North Cambridge neighborhood that will be affordable to a diverse array of low- and moderate-income households. With immediate proximity to rapid transit and essential community services, the Project can provide critically needed housing in an attractive, sustainable development. Designed to provide contemporary amenities with a focus on transit-oriented development and sustainability, the Project will be high-quality family housing in the heart of one of Cambridge's most vibrant neighborhoods.

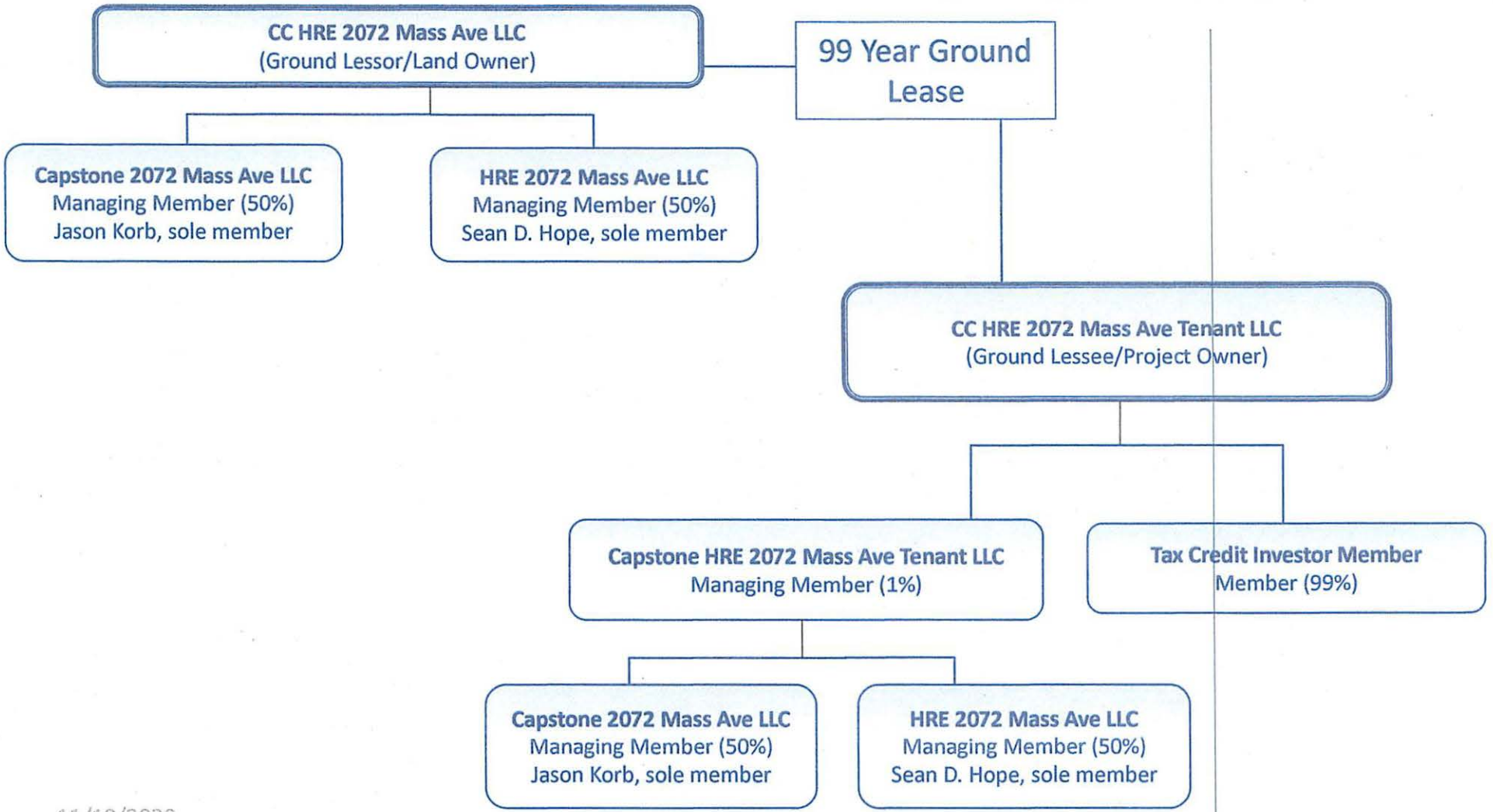
We look forward to presenting this exciting Project to the Board at your earliest convenience.

Sincerely,

Jason Korb
Managing member of managing member

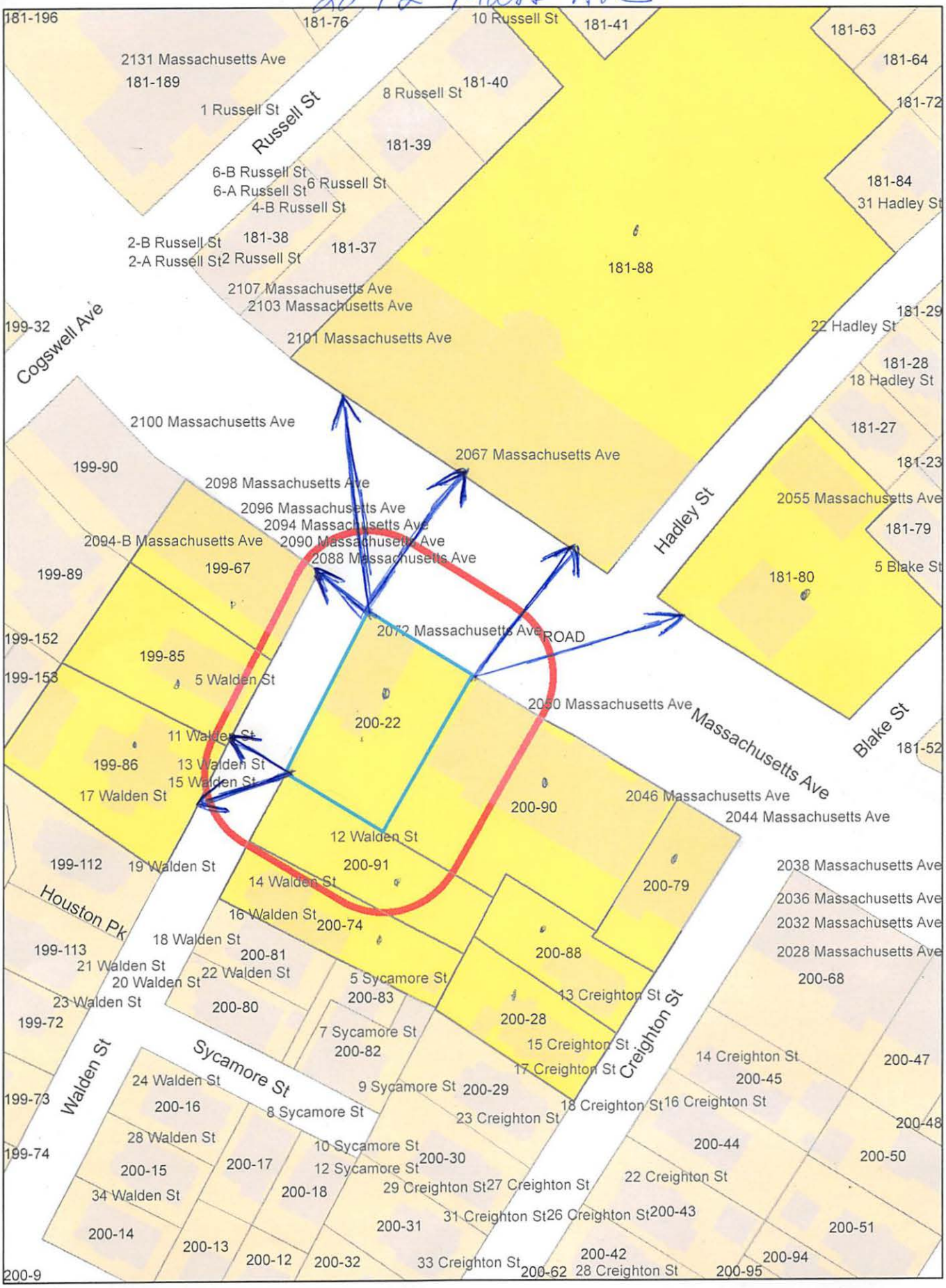
Sean D. Hope
Managing member of managing member

2072 Mass Ave Apartments Organizational Chart



11/10/2020

2072 Mass Ave



2072 Mass Ave

Petitioner

181-80
CHRISTOS POUTAHIDIS MANAGEMENT, LLC.
C/O HESS REALTY LLC, PROPERTY TAX DEPT.
539 SOUTH MAIN ST
FINDLAY, OH 45840

200-22
CC HRE 2072 MASS AVE LLC
C/O CAPSTONE COMMUNITIES LLC
PO BOX 610083
NEWTON HIGHLANDS, MA 02461

HRE 2072 MASS AVE LLC
C/O HOPE REAL ESTATE ENTERPRISES LLC
ATTN: SEAN D. HOPE
907 MASS AVE, SUITE 300
CAMBRIDGE, MA 02139

200-90
CAMBRIDGE HOUSING AUTHORITY
675 MASSACHUSETTS AVE
CAMBRIDGE, MA 02139

181-88
HENDERSON CARRIAGE LIMITED PARTNERSHIP
C/O H.J. DAVIS DEVELOPMENT TRUST
125 HIGH STREET 21ST FL
BOSTON, MA 02110

CAPSTONE 2072 MASS AVE LLC
C/O CAPSTONE COMMUNITIES LLC
1087 BEACON STREET, SUITE 302
NEWTON, MA 02459
ATTN: JACOB KORB

200-91
CAMBRIDGE CITY OF COMMUNITY DEV
57 INMNAN ST
CAMBRIDGE, MA 02139

200-91
CITY OF CAMBRIDGE
C/O NANCY GLOWA
CITY SOLICITOR

200-91
CITY OF CAMBRIDGE
C/O LOUIS DEPASQUALE
CITY MANAGER

199-85
STROUD, MARY F.
5 WALDEN ST., UNIT# 6
CAMBRIDGE, MA 02139

199-85
LI, XINGFANG
5 WALDEN ST., #3
CAMBRIDGE, MA 02140

199-85
LIN, PEI-YU
5 WALDEN ST., UNIT #5
CAMBRIDGE, MA 02140

199-67
COLANNINO, JOSEPH A., FRANCIS X.,
ROBERT ANTHONY J., MARIAN L. & MARIA C.
C/O RIVERSIDE MANAGEMENT
P.O.BOX 440317
W.SOMERVILLE, MA 02144

199-85
LEE, TIEN-YI
4 IVY STREET
CAMBRIDGE, MA 02138

199-85
CAMBRIDGE AFFORDABLE HOUSING
675 MASS AVE
362 GREEN STREET
CAMBRIDGE, MA 02139-3306

199-86
FOLEY, MARIA HOTTELET
17 WALDEN ST
CAMBRIDGE, MA 02140

199-86
RUBIO, ELAISA E. & ELAISA S. RUBIO
15 WALDEN ST
CAMBRIDGE, MA 02140

199-86
HYDE, SAMUEL MARCELLA HYDE
11 WALDEN ST UNIT #13
CAMBRIDGE, MA 02140

199-86
EGAN, MARYBETH L.
C/O MARYBETH L. EGAN
11 WALDEN ST
CAMBRIDGE, MA 02140

199-85
DOCHOW, CYRUS AIDAN
JENNIFER YESSUE CHUONG
5 WALDEN ST UNIT 8
CAMBRIDGE, MA 02140

199-85
JAS HOMEOWNERSHIP LLC,
ATN: JUST A START CORPORATION
1035 CAMBRIDGE STREET#12
CAMBRIDGE , MA 02141

199-85
KWAKU, INGER MARIE & KEVIN FORREST
43 STEVENS RD
HANOVER, NH 03750

200-79
FITZSIMONS, CHRISTOPHER
TR. THE 2046 MASS AVE. REALTY TRUST
17 REYNOLDS STREET
NORTH EASTON , MA 02356

200-28
MCMANUS, HUGH L. & LISA M. MCMANUS
17 CREIGHTON STREET
CAMBRIDGE, MA 02140

200-74
KEBEDE, MEKONNEN & ALMAZ ABEBE
14 WALDEN ST
CAMBRIDGE, MA 02140

200-88
MCINTOSH, LINDA G.
TRUSTEE OF THE LINDA MCINTOSH 2017 TRUST
80 PARK ST UNT #72
BROOKLINE, MA 02446

Comprehensive Permit Application
2072 Massachusetts Avenue
Cambridge, MA 02140

Submitted by:

CC HRE 2072 Mass Ave Tenant LLC

Submitted to:

City of Cambridge Board of Zoning Appeal

November 10, 2020

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS

2072 MASSACHUSETTS AVENUE, CAMBRIDGE 02140

Submitted to:	CITY OF CAMBRIDGE BOARD OF ZONING APPEAL
By:	CC HRE 2072 Mass Ave Tenant LLC
Date:	NOVEMBER 10, 2020

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COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 1
COVER LETTER AND NARRATIVE

CC HRE 2072 Mass Ave Tenant LLC
c/o Capstone Communities LLC
1087 Beacon Street, Suite 302
Newton, MA 02459

November 10, 2020

Board of Zoning Appeal
City of Cambridge
831 Massachusetts Avenue
Cambridge, MA 02139

Re: Comprehensive Permit Application for 2072 Mass Ave Apartments
2072 Massachusetts Avenue, Cambridge, MA

Dear Board of Zoning Appeal Members:

CC HRE 2072 Mass Ave Tenant LLC ("Applicant"), an affiliate of Capstone Communities LLC (www.capstonecommunities.com) ("Capstone") and Hope Real Estate Enterprises LLC ("Hope"), propose to construct an affordable housing community located at 2072 Massachusetts Avenue in Cambridge's Porter Square and North Cambridge (the "Site"). The resulting residential community will consist of 49 affordable rental apartment homes with a variety of unit sizes – 14 one-bedroom, 21 two-bedroom, and 14 three-bedroom apartments – that will be affordable to individuals and families earning a range of incomes – from 30% to 60% of the area median income (the "Project"). Capstone is a Newton-based developer of mixed income, affordable, and historic apartment communities, and Hope is a Cambridge-based real estate development company with significant zoning consultation and permitting expertise. Capstone and Hope are currently developing Frost Terrace, a 40-apartment 100% affordable housing community located a few blocks south at 1785-1791 Massachusetts Avenue which is anticipated to open in spring 2021. Previously, Hope and Capstone developed Port Landing, a 20-apartment, 100% affordable housing community in The Port/Kendall Square neighborhood in 2016.

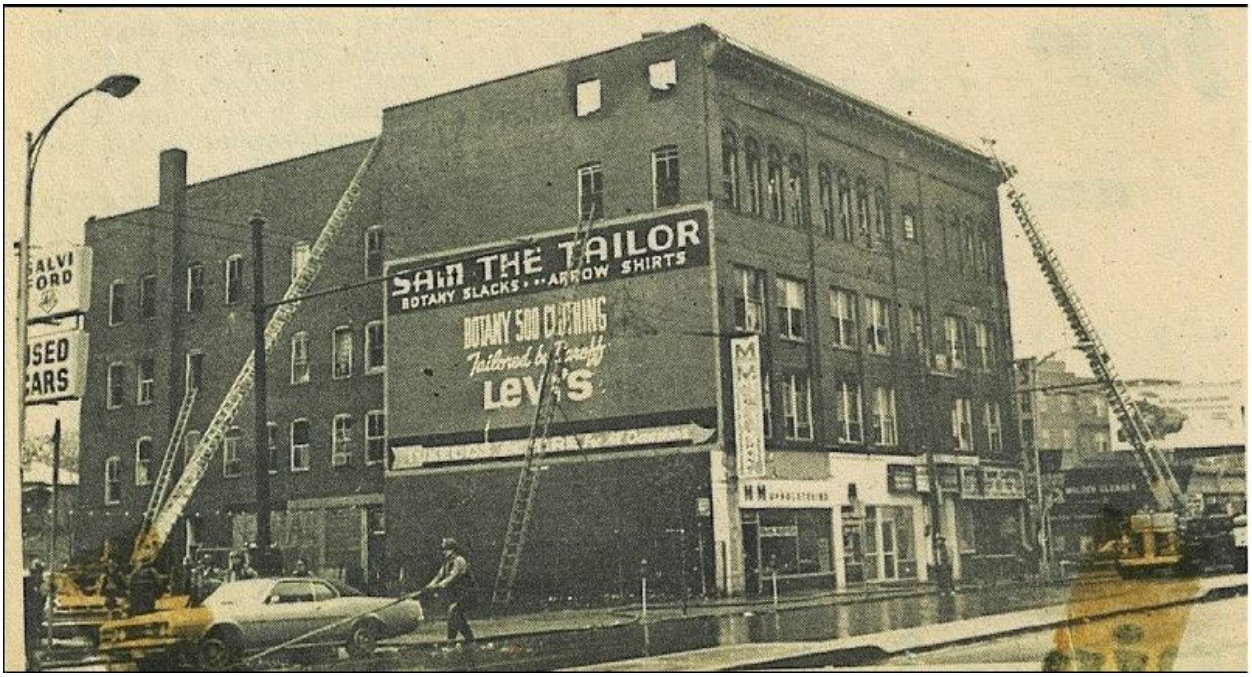
Development Proposal

Existing Site Conditions

Located with frontage on Massachusetts Avenue to the northeast and Walden Street to the northwest, the Site is comprised of one lot with approximately 8,515 square feet. Currently, the Site is occupied by an 1,860 sf, one-story building leased to Darul Kabab restaurant. The building is widely known to have housed Kentucky Fried Chicken for many years.

The immediate context along Massachusetts Avenue includes a mix of commercial, residential, and institutional buildings directly fronting the Avenue. The current one-story building and surface parking lot on the Site were constructed in 1971, having replaced a ca. 1890 four-story Odd Fellows Building which occupied most of the parcel. Though the Massachusetts Avenue corridor maintained a small-scale residential character throughout much of the 19th century, by the early 20th century the blocks north of Porter Square were dominated by multi-story commercial, civic, and religious buildings directly fronting the

Avenue. Massachusetts Avenue remains a densely developed artery lined with multi-story commercial, residential, and institutional buildings.



I.O.O.F. Building formerly located at 2072 Massachusetts Avenue, depicted during the 1968 fire which led to its demolition (*Cambridge Chronicle*).

Proposal Summary

The Project will include forty-nine (49) 100% affordable rental housing apartments. The affordability will be in perpetuity. Approximately 71% (35 apartments) will be two and three bedrooms for families. Specifically, the proposal includes 14 one-bedroom apartments, 21 two-bedroom apartments, and 14 three-bedroom apartments. Units average in size from 625 sf (one-bedroom apartments) to 824 sf (two-bedroom apartments) to 1,087 sf (three-bedroom apartments). The high proportion of two- and three-bedroom apartments will provide safe and accommodating housing to families.

Additionally, the Project will include three handicapped accessible parking spaces and two short-term drop-off/pick-up spaces in a covered garage area at the rear of the Site, along with 51 long term bike parking spaces located on the lower level of the building (48 regular and 3 tandem). Electric vehicle charging stations will be provided for the three accessible spaces and power outlets will be provided in the bike room for electric bicycles and repairs. The Project will also include retail space on Massachusetts Avenue and a resident amenity space within the first floor. The retail space is slated for a community use. The Project's operating budget also includes a part-time resident services coordinator who will plan events for families and others in the building and will assist with creating community building and educational activities.

Current Condition *Proposed Condition*

The new eight-story building will be constructed to Passive House US (PHIUS) standards and will target PHIUS Certification, and will include a green roof, rooftop solar along with a stormwater management system. The resilient, environmentally friendly materials used to construct the contemporary building façade will ensure long-term sustainability for the Project while adding dimension and rhythm to the Avenue. See **Section 9 Green Building Report** for more information.

Neighborhood

Situated to the northwest (less than 0.3 miles from the center) of Porter Square, the Project will complement an already vibrant mixed-use area of institutional, residential, office, restaurant and retail uses. Located in the North Cambridge neighborhood and adjacent to Neighborhood Nine, the Project's density and scale aligns with other buildings on Massachusetts Avenue. Directly to the Site's southeast and fronting on Massachusetts Avenue is the six-story affordable age restricted Russell House Apartments that is owned and operated by the Cambridge Housing Authority. Russell House Apartments is approximately 60' and contains 52 apartments. The five-story, 68' historic Henderson Carriage Building is located across Massachusetts Avenue from the Site. 2130 Massachusetts Avenue, an eight-story, 71' building is located one block to the northwest of the Site. Directly across Walden Street from the Site is a single-story retail building and the three and a half story 5 Walden Street condominiums. Spanning the entire rear of the Site is a municipal parking lot that provides an almost 50' wide buffer from the mostly three-story multifamily residential neighborhood to the west. The owners of the Henderson Carriage Building and Russell House Apartments support the Project.

The below Neighborhood Buildings – Height Map details the surrounding building heights.

NEIGHBORHOOD BUILDINGS - HEIGHT MAP

Area Amenities

This Site is well-served by public transit. The Porter Square MBTA Redline and Commuter Rail stations are less than 0.3 miles from the Site and the Davis Square MBTA Redline is located 0.5 miles from the Site. In addition, the #77 and #83 MBTA bus routes are at the Site, the nearest BLUEbikes station is located directly across the street, and the nearest Zipcar space is less than 200 feet away. These various rapid transit options provide access to jobs, services, and amenities throughout Cambridge, Boston, and the suburbs. Additionally, the Site is located within walking distance to the Porter Square Shopping Center, which provides several key family-friendly amenities including a grocery store, pharmacy, hardware store and various other community-serving businesses. In the context of Cambridge's extreme shortage of affordable family housing, the Project will provide forty-nine (49) households with access to a desirable, transit oriented, and thriving neighborhood. According to Walkscore.com, the Site's Walk Score is 97, which is considered a Walker's Paradise.

The Site is also within walking distance to a number of public elementary schools and daycare centers including the Rindge Avenue Upper School (0.2 miles or 6-minute walk), Wild Rose Montessori School (0.3 miles or 7-minute walk) and Benjamin Banneker Public Charter School (0.4 miles or an 8-minute walk). Below is a partial list of amenities within 0.5 miles of the Site. The play yard at St. James Church will be open to the Project's residents as well as the general public from 8am to dusk every day of the week with few exceptions. St. James Church, at 1991 Massachusetts Avenue, is one block from the Project.

Restaurants		Groceries		Shopping	
Wasabi at Porter	0.03 Miles	Star Market	0.2 Miles	China Fair	0.01 Miles
McCabe's on Mass	0.08 Miles	Pemberton Farm	0.2 Miles	Barefoot Books	0.04 Miles
Andy's Diner	0.1 Miles	Spindler Confections	0.2 Miles	Seth Berman Gardeners	0.05 Miles
Posto	0.2 Miles	Stop & Shop	0.3 Miles	Drinkwater's	0.05 Miles
Palm Sugar Thai Cuisine	0.2 Miles	Davis Square Farmers Market	0.3 Miles	Big Picture Framing	0.09 Miles
Dakzen	0.2 Miles			General Optical Co.	0.01 Miles
The Shawarma Place	0.2 Miles	Parks		Fun Antiques	0.2 Miles
Newtowne Grille	0.2 Miles	Bergin Playground	0.2 Miles	Stellabella toys	0.2 Miles
Domino's Pizza	0.2 Miles	Rindge Field	0.2 Miles	The Caning Shoppe	0.2 Miles
Sugar & Spice Thai	0.2 Miles	Kenney Park	0.3 Miles	Books by Design	0.2 Miles
Urban Hearth	0.3 Miles	Corcoran Playground	0.4 Miles	Nebia	0.2 Miles
Punjabi Grill	0.3 Miles	Statute Park	0.4 Miles	Buffalo Exchange	0.3 Miles
Rosebud American Cuisine	0.3 Miles	Sheridan Square	0.4 Miles	Watch Shop	0.3 Miles
Snappy Kitchen	0.3 Miles	Seven Hills Park	0.4 Miles	Ace Wheel Works	0.3 Miles
Anna's Taqueria	0.3 Miles	Saint Peters Field	0.5 Miles	Michaels	0.3 Miles
Christopher's	0.3 Miles			Family Dollar Store	0.3 Miles
Café Barada	0.3 Miles	Schools		Magpie	0.3 Miles
Redbones BBQ	0.3 Miles	Ringe Avenue Upper School	0.2 Miles	Sprint	0.3 Miles
Toad	0.3 Miles	Wild Rose Montessori School	0.3 Miles	Mind's Eye Yarns	0.3 Miles
Wok N Roll Restaurant	0.3 Miles	Benjamin Banneker Public Charter	0.4 Miles	Porter Square Books	0.3 Miles
Panera Bread	0.3 Miles	Cambridge Friends School	0.4 Miles	Bike Boom	0.4 Miles

Building Program and Site Design

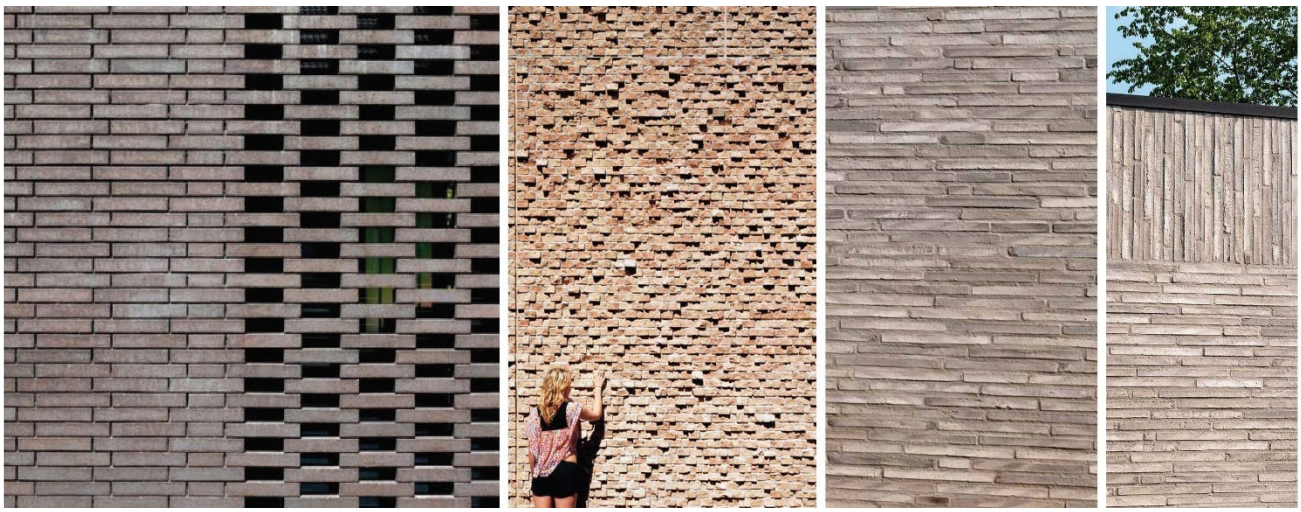
The Project's design balances a complex set of contextual priorities for the Site which have arisen from analysis, community meetings, and various meetings with the City of Cambridge Urban Planning, Community Development and Traffic and Parking teams. The design goals are:

Create a high-quality affordable housing apartment community for families in Cambridge
The design reflects its context, a strong corner on Cambridge's main street. The building massing is slender, allowing for light and air for all apartment homes. The site is linked to amenities and services in this walkable neighborhood and the unit interiors are simple, but elegant.

Create significant transparency: Activate the streetscape
A primary design goal is to maintain transparency at street level to facilitate visual connections and to activate the streetscape. The first floor along Mass Ave will be wrapped with transparent storefront glazing and will include both the retail and residential entryway. The residential entryway will be pushed back to create a more pedestrian-scaled experience for residents. The storefront turns the corner onto Walden St and continues along with transparency into the retail and resident amenity spaces. An entrance to limited parking and services area is hidden on the rear part of the site.

Shaping: Building Form
The building consists of two interconnected 8-story volumes. Along Massachusetts Avenue and West along Walden Street, a seven-story suspended aluminum clad cube sits above one story of recessed with storefront glazing. The suspended cube of the floors is clad in light colored anodized aluminum / zinc vertical panels with a staggered pattern, creating a light and airy volume that floats above the street, minimizing the Project's perceived mass, and also has a strong corner presence that is visible from the street intersection. A grid of openings accentuates the suspended cube, incorporating large windows which provide natural daylight into the interior units, as well as vertical infill composite panels that resemble wood, bringing warmth and texture. Each window and infill panel pair are framed with a metal projection that provides a rhythm to the façade.

Human Scale: Material Palette
The residential anchor consists of a materials palette that relates to the surrounding residential buildings. The brick plinth / base is located on the ground floor, most prominently at the residential entry which is recessed along Mass Ave, adjacent to the retail space and bus shelter. The crafted long brick at street levels enlivens the pedestrian experience and allows for interactions as the wall angles back and forth. This culminates in a gradient of increasingly frequent openings that also serve as visibility into the parking area, as well as creating ventilation. Above the parking entry, the brick is oriented vertically as a contemporary response to the traditional lintel approach, while highlighting the playfulness of the material.



Brick pattern material precedents

Above the brick plinth, painted clapboard comprises the main field of the body. Proportionately sized and spaced windows bordered by a trim are located along all orientations of the residential anchor. On the south elevations, each window has an infill panel below, clad in a lighter colored shingle panel to provide an accent from the main field, as well as to give the perception of the same proportions compared to windows on the north and west facades. In addition, solar shades are proposed on the South façade that not only livens the rhythm of the façade, but also serves a functional purpose of providing shade to reduce the building's overall energy consumption. The top of the residential anchor is defined by a cornice band of half-round shingles.

Suspended cube and residential anchor material precedents

<u>Streetscape and Greenery</u>

Except as indicated below, while there is no open space or landscaping on the Site, several street trees are located on the opposite side of Walden Street. Due to the existing electrical duct banks below the sidewalks adjacent to the Site on Massachusetts Avenue and Walden Street, it is not possible to plant street trees in these locations. Planters and fences supporting the growth of vertical green are located on the Project's

southwest facade, and at the openings to the parking and service areas. An intensive green roof is also visible along Walden Street above the parking entrance, with a variety of non-invasive plant species.

There is a 12" DBH Tilia cordata, Littleleaf linden located on the Site's south property line. This tree is mostly located on the 2050 Massachusetts Avenue property. Daniel E. Cathcart, an ISA Board Certified Master Arborist, developed a Tree Protection Plan (included herein) that will be followed by the development team prior to, during, and after construction. See **Section 10** for the **Tree Protection Plan**.

Accessibility

The Project is designed to comply with the requirements of 521 CMR, Massachusetts Architectural Access Board (MAAB), the Fair Housing Act, the Americans with Disabilities Act (ADA), as well as the Uniform Federal Accessibility Standards (UFAS). 3 apartments (1 of each bedroom type) in the Project will be Group 2 units for individuals with mobility difficulties (521 CMR 9.4), with the rest being Group 1 units (521 CMR 9.3). In addition, 1 apartment will be a Group 1 unit that also provides sleeping accommodations for persons who are deaf or hard of hearing (521 CMR 9.7).

Sustainability

The Project will incorporate sustainable and resilient design strategies that reflect a commitment to environmental stewardship that aligns with affordable housing with a strong focus on lowering utility costs, carbon and greenhouse gases reduction and creating healthy environments. The Project is targeting Passive House certification to the standards set by the Passive House Institute US (PHIUS) for their PHIUS+ Core rating system, as well as certifying through the EPA Indoor air PLUS program. The PHIUS+ CORE rating system includes stringent and verified building performance metrics as well as professional testing of the building envelope and air sealing at two stages during building construction. EPA Indoor air PLUS certification includes verification of indoor air quality (IAQ) quality control measures including but not limited to: moisture control, HVAC venting and sealing, and use of low VOC materials in construction. In addition, the design team is also planning to conduct a systems commissioning process in addition to the envelope. The above will result in a highly efficient building that lowers utility costs, protects occupant health through excellent indoor air quality, as well as contributes to the overall reduction in carbon and greenhouse gases emissions. Specifications for a simple, durable materials palette will emphasize the choice of healthier building materials and reinforce the Passive House approach, these measures also act as quality-of-life improvements for the residents, and will be integrated with the management of the property.

In terms of addressing resiliency concerns such as extreme weather events and future climate change, the project team evaluated the flood risk based on current maps and future projections for the site and surrounding area. In addition, various protection, adaptation, and backup strategies have been incorporated. Additional details can be found in **Section 9 Green Building Report.**

Affordable Housing

Due to its unit mix and income set asides, the Project's 49 apartment homes will attract a variety of households. 41 units will be set aside for households that earn at or below 60% of AMI, currently a household income ranging from $53,760 – $82,920, depending on household size. Eight (8) units will be Section 8 PBV units set aside for households that earn at or below 30% of AMI, currently there is no minimum household income, and a maximum income of $30,720 – $41,460, depending on household size. Including all utilities and for the 60% AMI apartments, monthly one-bedroom rents are estimated to be $1,440, monthly two-bedroom rents are estimated to be $1,728, and monthly three-bedroom rents are

estimated to be $1,995. When accounting for utilities, these rents are approximately 40% of the neighborhood's market rate rents, which are deeply unaffordable to households in this income range.

The proposed income mix provides housing that is affordable to families and individuals earning a range of incomes. The immediate market area shows strong demand for this unit mix as effective vacancy rates are 0%. The demand for affordable units is even more significant than that for market rate apartments. At Port Landing, which was opened in 2016, 1,386 applicants applied for its 20 apartments prior to the lottery. Data obtained from The Finch, an affordable apartment community owned by Homeowner's Rehab which completed its lease-up in 2020, showed that 2,261 individuals or families applied for 98 apartment homes. There are currently 20,703 unique applicants on the Cambridge Housing Authority waitlists.

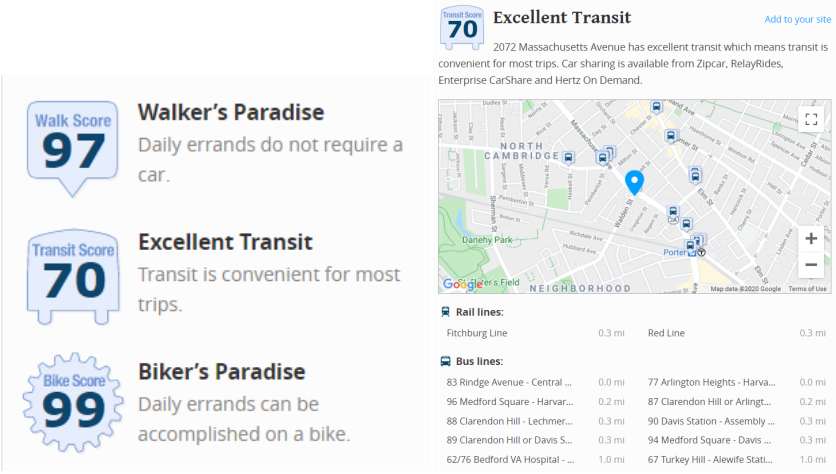
To the extent permitted by Department of Housing and Community Development, 70% of the apartments will give preference to current Cambridge residents, municipal and school department employees, and employees of local businesses.

Transportation and Parking

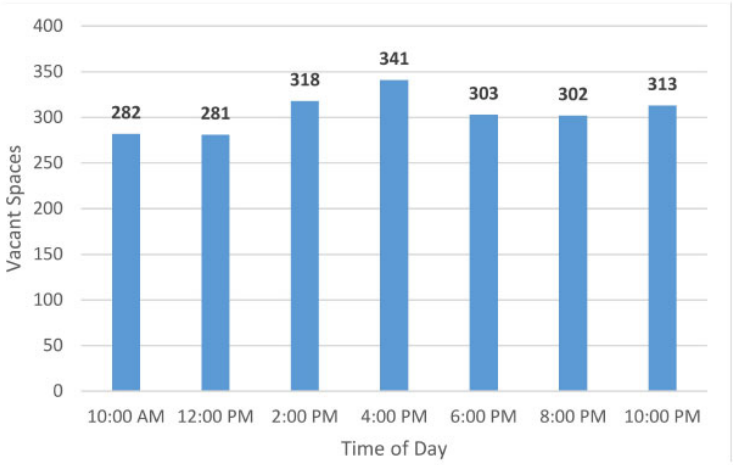
The site plan proposes three (3) covered, on-site accessible parking spaces that will be dedicated to residents and guests with disability plates or placards. In addition, there will be two (2) short-term COVERED drop-off and pick-up spaces to aid in reducing congestion along Walden Street.

As previously indicated, the Site is a short walk from numerous forms of transit options including the Porter Square Station less than 0.3 miles from the Project that includes the MBTA subway Red Line, Fitchburg/South Acton Commuter Rail Line, four Bus Lines (Bus Route #77, 96, 83 and 87) and several car sharing locations. The Parking and Traffic Assessment by Vanasse & Associates, Inc. (VAI) included in **Section 6** suggests approximately half of the building's households, or ~25 households, will have cars. Those residents with or without cars will benefit from Transportation Demand Management (TDM) that will include covering the cost of MBTA passes for property management staff, subsidizing MBTA passes for residents, BLUEbikes memberships, or ride sharing memberships, as further detailed in the VAI report. In addition, the installation of public transportation and ride share timing screens at a centralized location will provide residents with information for easy access to transit. Ownership and building management will provide information at move-in to all residents on all public transportation options within a short distance of the Site.

Below is a map from Walkscore.com highlighting the Site's adjacent transit options:



VAI determined the Project's projected parking demand and quantified the availability of on-street parking within a quarter (0.25) mile from the Site entirely within the City of Cambridge boundaries during peak parking demand hours. In summary, at the time of its study on Tuesday, October 20, 2020, VAI determined that the peak hour demand was at 12:00pm at which time a total of 281 on-street parking spaces were available within a quarter (0.25) mile of the Site. VAI concludes its report by stating: "In summary, a detailed parking survey was completed in the area of the Project and based upon this data it can be concluded that there is more than sufficient availability of on-street parking to accommodate the Project. The Project proponent is committed to implementing a Travel Demand Management plan which promotes alternatives modes of transportation and will minimize the Project's impact on available on-street parking and traffic in the area."



VAI Parking Study, October 20, 2020, Figure 4

It is expected that many of the Project's residents will utilize alternative modes of transportation other than automobiles. Based upon the U.S. Census and 2018 American Community Survey data for Census Tract 3547, the tract in which the Project is located, the mode split characteristics of the Project are estimated as follows: 32 percent automobile trips; 43 percent transit; 10 percent walk; six (6) percent bicycle, and nine (9) percent other trips. Pursuant to VAI's report, the Project is expected to generate approximately 98 vehicle trips on an average weekday (49 entering/49 exiting), with approximately six (6) vehicle trips (2 entering/4 exiting) expected during the weekday morning peak-hour. During the weekday evening peak hour, the Project is expected to generate approximately 9 new vehicle trips (5 entering/4 exiting).

The Project's proximity to several alternative transit options and community serving amenities (schools, pharmacy, grocery store) within walking distance will produce a thriving walkable residential community. The Project's design is consistent with smart growth principles and the Cambridge City Council's goal to reduce reliance on vehicle usage while promoting alternative forms of transportation.

<u>Walden Street Widening</u>

Through discussions with Cambridge Community Development, Traffic and Parking, Department of Public Works, and community outreach, the development team identified that the portion of Walden Street adjacent to the Site is unusually narrow for a three lane street. Currently Walden Street is ~26'-8", with a ~10'-0" travel lane outbound from Massachusetts Avenue and two ~8'-4" travel lanes inbound. This constriction slows traffic moving through the intersection, makes turns difficult, and does not align with best practices and guidelines.

The proposed design includes the widening of Walden Street from ~26'-8" to 30'-0". This is achieved by locating the exterior walls of the ground floor ~4'-0" inside the property line and then granting an easement to the City for a sidewalk in that area, resulting in three (3) 10'-0" travel lanes and making a more spacious street condition. The proposed design also improves the sidewalk by widening it from its current ~6'-5" width to be ~7'-2" wide, both measurements are inclusive of the curb. The proposed upper floors of the new building overhang the sidewalk by ~3'-6" with an overhead clearance of ~13'-0".

Regarding the constructability of widening Walden Street, the development team approximately located electrical duct banks in the Walden Street sidewalk. Based on visual inspections of the manholes and a utility Ground Penetrating Radar (GPR) report by GPRS, it seems unlikely that the location of these duct banks will conflict with the proposed construction associated with the widening of Walden Street. Conversations with Eversource on the exact elevation of the duct banks are ongoing. The GPR report is included in **Section 8**.

Evidence of Need for Affordable Housing:

The City of Cambridge historically was the home of immigrants and low and middle-income earners that were vital to Cambridge's glassworks and furniture factories from the 1920's through the 1970's. However, since rent control ended in 1994, Cambridge has experienced an exponential increase in land value, resulting in a disproportionate impact on the availability of affordable housing options for low and middle-income individuals and families. HUD defines "cost burdened" households as those who pay more than 30% of their income for housing.[1] According to the U.S. Census Bureau, 43% of renters in Cambridge are paying 30% or more of their household income on rent and are therefore considered cost burdened.[2]

Lower and middle income families in Cambridge find it exceptionally difficult to secure family friendly housing throughout the City. In the last six (6) months, accordingly to MLS, the median sale price for a single family home in Cambridge was $1,733,500 and the average condominium sale price was $812,500. Based on an informal October 2020 survey of larger apartment communities in the immediate market area, two-bedroom apartment rents are $3,600 and three-bedroom apartment rents are $4,500.[3] In order to afford these rents and not be cost burdened, a household would need to earn at least $152,000 – $190,000 annually. Over 60% of Cambridge households make less than $150,000, making these units unaffordable to a majority of current Cambridge residents.[4]

The City's housing stock is also older and many units contain lead based paint hazards, which further constrain families from locating safe, quality housing for their children. In fact, 71.4% of Cambridge's housing inventory was constructed prior to 1980.[5] Upon completion, all of 2072 Massachusett's Avenue's apartments will be new.

Once completed, the Project will provide urgently needed affordable housing in an area where a significant number of families and individuals are unable to afford quality housing. Additionally, the high number of three-bedroom apartments (29%) will specifically be occupied by families.

[1] U.S. Department of Housing and Urban Development, "Housing Choice Voucher Program" https://www.hud.gov/hudprograms/hcvp (accessed October 9, 2020)
[2] U.S. Census Bureau American Community Survey 2019: ACS 1-Year Estimates TableID DP04
[3] The Wyeth – 120 Rindge Avenue, Cambridge
[4] U.S. Census Bureau American Community Survey 2019: ACS 1-Year Estimates TableID S2503
[5] U.S. Census Bureau American Community Survey 2019: ACS 1-Year Estimates TableID DP04

Financing

If 2072 Massachusetts Avenue's Site Comprehensive Permit application is approved, the development team anticipates applying for an array of local, state and federal subsidies as well as private investments. The development team will apply to the Massachusetts Department of Housing and Community Development (DHCD) for an allocation of state and federal low-income housing tax credits as well as additional subsidies.

In 2018 the Cambridge Affordable Housing Trust provided a $3.8 million loan to finance the Site acquisition and certain predevelopment expenses. If the Project receives its permitting, the development team anticipates applying for additional City funding and for eight (8) Cambridge Housing Authority Section 8 Project Based Vouchers.

Site Control, Permitting and Community Process

Site Control

Capstone and Hope have created separate entities that own/will own the Site/Project and that will develop the Project. CC HRE 2072 Mass Ave LLC, an affiliate of Capstone and Hope, purchased the 2072 Mass Ave land and building using loan proceeds from the Cambridge Affordable Housing Trust in April 2018.

On November 9, 2020, CC HRE 2072 Mass Ave LLC entered into a 99-year ground lease with CC HRE 2072 Mass Ave Tenant LLC for the 2072 Massachusetts Avenue land. See the attached organizational chart that outlines the entity structure once the Project receives all its financing. This ground lease structure is typical of affordable housing developments in Cambridge due to the complicated financing structure required by local and state financing agencies.

Permitting

CC HRE 2072 Mass Ave Tenant LLC is a Limited Dividend Organization under M.G.L. c.40B, §§ 20 through 23. Pursuant to 760 CMR 56, CC HRE 2072 Mass Ave Tenant LLC is applying to the Department of Housing and Community Development, as the Subsidizing Agency, for Project Eligibility under the following subsidy programs: Affordable Housing Trust Fund, DHCD Housing Stabilization Fund (HSF), HUD HOME Program (Rental Production), State Low Income Housing Tax Credit Program, and the Federal Low Income Housing Tax Credit Program (LIHTC). An affordable housing restriction will be recorded against the land and buildings with a term in perpetuity and the Project will comply with the Affirmative Fair Housing Marketing and Resident Selection Plan as required by 760 CMR 56.

According to the Zoning Map, the majority of the Site has a base zoning of Business A-2 and a small portion (13'+/-) at the rear of the parcel is in the Residence B base zoning district. Both districts allow for residential uses as of right although the Business A-2 district also allows for a range of commercial/retail and multi-family residential uses whereas the Residence B district is a one- and two-family district only. The Site also is in the Massachusetts Avenue Overlay District and North Massachusetts Overlay Sub- district (the "Massachusetts Avenue Overlay").

The development team is proposing to obtain all of 2072 Massachusetts Avenue's local approvals through an MGL Chapter 40B Comprehensive Permit from the Cambridge Board of Zoning Appeal (BZA). Since the City of Cambridge has met its obligations under MGL Chapter 40B, the development team is requesting that the BZA accept this Comprehensive Permit application. Pursuant to 760 CMR 56.05(7), please refer to

Section 5 for a detailed list of requested Waivers from Local Requirements and Regulations. **Section 4** is the Dimensional Form.

Community Process

The development team has worked extensively with the City of Cambridge, including the Community Development Department (Zoning, Housing, Sustainability, Urban Design, Pedestrian and Bicycle), Fire Department, Traffic and Parking, Department of Public Works, and Historical Commission.

In addition, the development team has engaged the community through individual abutter Zoom meetings and a large Zoom community meeting on September 29, 2020 that was attended by 82 people. The Project was also presented to the Porter Square Neighbors Association (PSNA) on October 15, 2020 and is schedule to reappear at the PSNA on November 19, 2020. Understanding that many residents of the adjacent Russell House Apartments do not have access to computers and/or the internet, and in conjunction with the building's management, the development team displayed large renderings of the Project and comment cards in the building's lobby so that Russell House residents would have an opportunity to provide input.

Community outreach and various City department input resulted in the following changes to the proposal: (1) setting back further the first floor facing Walden Street, (2) relocating the main pedestrian entrance from Walden Street to Massachusetts Avenue, (3) widening Walden Street and the sidewalk adjacent to the Project, (4) programming the retail space to accommodate varied and community uses, and (4) developing partnerships with community stakeholders to access additional amenities for the Project's residents. An additional community meeting via Zoom is scheduled for November 16, 2020 to share design updates and elaborate on changes that were made to incorporate community feedback. The development team has maintained a website, www.2072massaveapts.com, that provides updated and detailed information on the proposal. The website includes copies of plans, FAQs (forthcoming), news and events, information on the development team, and contact information for the community to provide feedback and ask questions.

<u>Development Team</u>

The following development team has been formed to include industry experts ensuring a seamless and successful completion:

- **Developers**:
    - *Capstone Communities LLC* (www.capstonecommunities.com), is a Newton, Massachusetts based real estate development firm experienced in structuring complex financing involving multiple federal and state subsidies. Jason Korb is the principal of Capstone Communities LLC where he has developed market rate, mixed income, and 100% affordable housing. Since founding Capstone in October 2010, Jason has successfully completed a total of $60,000,000 of development transactions in Cambridge, Somerville, Arlington, Newton and Brockton Massachusetts. These include converting Brockton's first brick shoe factory into 25 mixed-income apartments, co-developing 20 100% affordable family apartments on a vacant lot in Cambridge's Port neighborhood. Additionally, Capstone and Hope are currently developing Frost Terrace, a 40 apartment, 100% affordable community in Porter Square which is estimated to be complete in Spring of 2021.

      Prior to forming Capstone, Jason was the Vice President of Acquisitions at Beacon Communities LLC, a developer, owner, and manager of over 9,000 apartment homes in the Northeast. At Beacon, Jason was responsible for sourcing new acquisitions and overseeing

mixed income, affordable and market rate development and financing opportunities. In his seven years at Beacon, Jason was responsible for developing over 600 apartment homes totaling over $100M. Prior to joining Beacon in 2004, Jason was a Housing Project Manager at the Fenway Community Development Corporation in Boston. Jason is a former Director of Caritas Communities and a former Vice-Chair of Preservation Massachusetts. Jason received an MS from the Massachusetts Institute of Technology's Center for Real Estate and a BA from the University of Michigan, Ann Arbor. Jason's MIT thesis, The Low Income Housing Tax Credit: HERA, ARRA, and Beyond has been cited by Harvard University's Joint Center for Housing Studies and the US Senate Budget Committee.

- *Hope Real Estate Enterprises LLC*, is led by Cambridge based attorney and Real Estate Developer Sean D. Hope who specializes in Zoning and municipal permitting/consulting. Sean was co-developer with Jason Korb of Port Landing - a 100% affordable housing development located in The Port/Kendall Square that opened at the end of 2016 providing 20 units of family friendly housing to the Port neighborhood where Sean's family first moved to from the island of Barbados. Additionally, Hope has partnered with Capstone again to develop Frost Terrace, a 40 apartment, 100% affordable community in Porter Square which is estimated to be complete in Spring of 2021. Sean has also represented developers and property owner on numerous construction projects in Cambridge including new construction, historic preservation and adaptive reuse projects. Prior to entering into private practice in 2008 Sean was an associate member of the Cambridge Board of Zoning Appeal voting on several keys applications including Print Shop Condominiums, an affordable home ownership project developed by CASCAP in 2007. Sean also serves as in-house counsel for Pentecostal Tabernacle in Cambridge and is former member of the Cambridge Historic Society.

- **Preconstruction Cost Estimator**: *Callahan Construction Managers* (www.callahan-inc.com): Established in 1954, Callahan Construction Managers is a full-service construction company experienced with a variety of building types and construction methods in Massachusetts and the Northeast. Callahan specializes in a wide range of preconstruction and construction management services, and including projects in multi-family residential, senior housing, hospitality, retail, corporate office, life sciences, educational, and other markets. Most recently, Callahan began the historic renovation, addition, and new construction project at Squirrelwood Apartments, an affordable housing community owned by Just-A-Start Corporation in Cambridge, MA. The Squirrelwood Apartments contain 88 units and the new construction building will be built to Passive House Standards.

- **Architect**: *Bruner/Cott Architects (Bruner/Cott)* (www.brunercott.com): Bruner/Cott is a mid-sized, full service architecture and planning firm, located in Boston, Massachusetts. Founded 45 years ago, Bruner/Cott is dedicated to enhancing the quality of life, economic vigor, and sense of community through thoughtful, sustainable design. As pioneers in transformative reuse, Bruner/Cott strives to recognize the character and value of an existing structure and understand that sustainable design extends beyond the boundaries of a single building. Whether new construction, transformative reuse, historic preservation, or a large-scale planning project, Bruner/Cott makes buildings that communicate with their surroundings, transforming place by creating architecture of enduring value.

  Bruner/Cott is committed to its mission of achieving design excellence through collaboration, creativity, and critical thinking, crafting thoughtful design solutions that fulfill their clients'

aspirations, and enhancing the human experience while respecting the natural environment. The firm's work has been consistently recognized for design, winning awards for renovation, adaptive reuse, and new construction. In the Cambridge/Boston area, Bruner/Cott is working on Frost Terrace (currently under construction), and completed the Lunder Arts Center at Lesley University in Porter Square and The Viridian at 1282 Boylston Street.

- **Legal (General and Zoning)**: *Nixon Peabody LLP* (www.nixonpeabody.com): Nixon Peabody is a full-service law firm with more than 600 lawyers nationwide and internationally. Our clients range from developers (for-profit and nonprofit), financing institutions and governmental entities to *Fortune* 100 companies. Nationally recognized in real estate, the firm handles highly complex development and financing transactions involving every class of assets, and has been at the forefront of financing, developing and preserving affordable housing for more than 45 years. In fact, with approximately 25 attorneys and paralegals possessing significant experience working with federal, state and local governmental agencies, NP has one of the largest affordable housing legal teams in the country.

  The NP team also handles land use, zoning and permitting for a range of development projects, and is regularly brought into transactions to review site plans and perform zoning analyses. Through this work, the team has developed a comprehensive understanding of the local zoning and permitting processes and the multiple administrative steps that developers face during the course of development, which can include navigating the zoning approval process, obtaining Comprehensive Permit approvals, or establishing zoning overlay district areas and zoning map amendments.

Conclusion

The Project will bring high-quality housing to the Porter Square/North Cambridge neighborhood that will be affordable to a diverse array of low- and moderate-income households. With immediate proximity to rapid transit and essential community services, the Project can provide critically needed housing in an attractive, sustainable development. Designed to provide contemporary amenities with a focus on transit-oriented development and sustainability, the Project will be high-quality family housing in the heart of one of Cambridge's most vibrant neighborhoods.

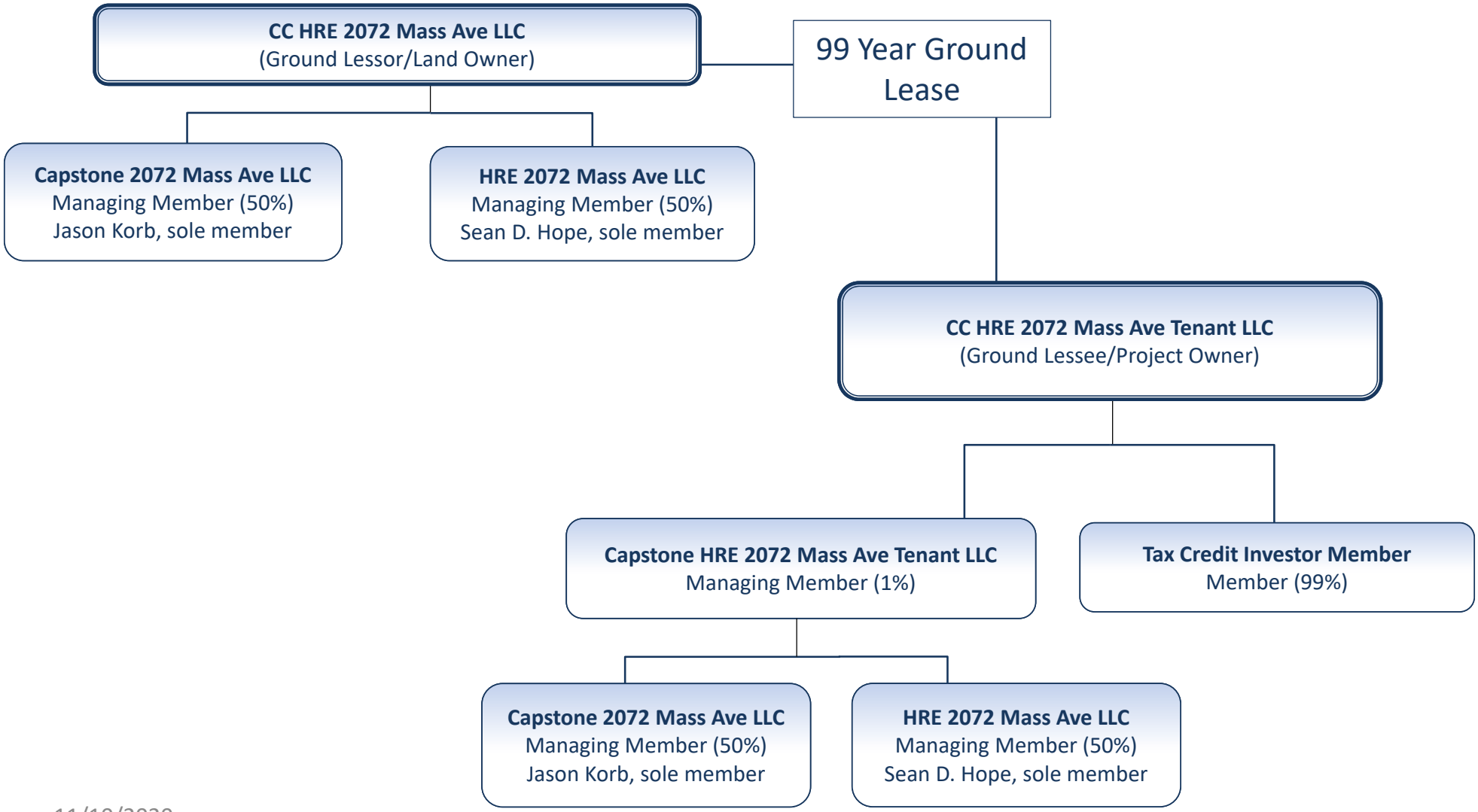
We look forward to presenting this exciting Project to the Board at your earliest convenience.

Sincerely,

Jason Korb
Managing member of managing member

Sean D. Hope
Managing member of managing member

2072 Mass Ave Apartments Organizational Chart



11/10/2020

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS

2072 MASSACHUSETTS AVENUE, CAMBRIDGE 02140

SECTION 2
COMPREHENSIVE PERMIT APPLICATION FORM

COMPREHENSIVE PERMIT APPLICATION

PETITIONER:	CC HRE 2072 MASS AVE TENANT LLC
PETITIONER'S ADDRESS:	C/O CAPSTONE COMMUNITIES LLC 1087 BEACON STREET, SUITE 302 NEWTON, MA 02459
NAME, ADDRESS, AND PHONE NUMBER OF CONTACT PERSON:	CAPSTONE 2072 MASS AVE LLC C/O CAPSTONE COMMUNITIES LLC 1087 BEACON STREET, SUITE 302 NEWTON, MA 02459 ATTN: JASON KORB 617.513.6320 HRE 2072 MASS AVE LLC C/O HOPE REAL ESTATE ENTERPRISES LLC 907 MASSACHUSETTS AVENUE, SUITE 300 CAMBRIDGE, MA 02139 ATTN: SEAN D. HOPE 617.492.0220
LOCATION OF SITE:	2072 MASSACHUSETTS AVENUE, CAMBRIDGE, MA 02140
DESCRIPTION OF PROJECT:	SEE **SECTION 1** (COVER LETTER AND NARRATIVE)
SPECIFY LOCAL REGULATIONS OR REQUIREMENTS FROM WHICH RELIEF IS REQUESTED:	SEE **SECTION 5** REQUESTED WAIVERS FROM LOCAL REQUIREMENTS AND REGULATIONS
THE PETITIONER IS:	A LIMITED DIVIDEND ORGANIZATION
IS THE PROPOSED PROJECT NEW CONSTRUCTION:	THE PROPOSED PROJECT IS NEW CONSTRUCTION
SITE CONTROL:	CC HRE 2072 MASS AVE TENANT LLC EXECUTED A 99-YEAR GROUND LEASE WITH CC HRE 2072 MASS AVE LLC (AN AFFILIATE OF CC HRE 2072 MASS AVE TENANT LLC) FOR THE LAND AND BUILDING AT 2072 MASSACHUSETTS AVENUE. CC HRE 2072 MASS AVE LLC CURRENTLY OWNS 2072 MASSACHUSETTS AVENUE.
SITE ELIGIBILITY:	THE PETITIONER IS SIMULTANEOUSLY APPLYING TO DHCD FOR SITE ELIGIBILITY APPROVAL UNDER THE FOLLOWING SUBSIDIES: AFFORDABLE HOUSING TRUST FUND, DHCD HOUSING STABILIZATION FUND (HSF), HUD HOME PROGRAM (RENTAL PRODUCTION), STATE LOW INCOME HOUSING TAX CREDIT PROGRAM AND THE FEDERAL LOW INCOME HOUSING TAX CREDIT PROGRAM (LIHTC).

TOTAL NUMBER DWELLING UNITS PROPOSED:	49
TOTAL NUMBER OF AFFORDABLE RENTAL UNITS:	49
TOTAL NUMBER OF AFFORDABLE HOME OWNERSHIP UNITS:	0

RESIDENT ELIGILIBITY STANDARDS:	41 UNITS AT OR BELOW 60% AMI, 8 UNITS AT OR BELOW 30% AMI, PURSUANT TO THE LOW INCOME HOUSING TAX CREDIT PROGRAM

PLEASE SEE **SECTIONS 3 – 16** FOR A COMPLETE DESCRIPTION OF THE PROPOSED PROJECT, AND EACH OF THE FOLLOWING ITEMS:

a) Site Development Plans - Site development plans showing locations and outlines of proposed building, existing street elevations, traffic patterns and character of open areas, if any, in the neighborhood;
b) Report on Existing Site Conditions - a summary of conditions in the surrounding areas, showing the location and nature of the existing building, existing street elevations, traffic patterns and character of open areas, if any, in the neighborhood;
c) Drawings – scaled, architectural drawings, including typical floor plans, typical elevations and sections, and identifying construction type and exterior finish. All projects of five or more units must have Site development plans signed by a registered architect;
d) Building Tabulations - a tabulation of the proposed building by type, size (number of bedrooms, floor area) and ground coverage, and a summary showing the percentage of the tract to be occupied by the building by parking and other paved vehicular areas and by open areas; (2 copies)
e) Subdivision Plan - where a subdivision of land is involved, a preliminary subdivision plan; (2 copies)
f) Utilities Plan - a preliminary utilities plan showing the proposed location and types of sewage, drainage, and water facilities, including hydrants.
g) Dimensional Form- provided with application; (2 copies)
h) Photographs – photographs of Site and existing building;
i) Assessor's Plat – available at City of Cambridge, Engineering Department, 147 Hampshire Street, Cambridge, MA;
j) Ownership Certificates – 2 Notarized copies, provided application.

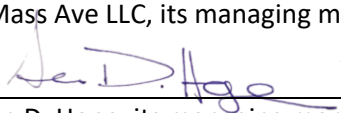
I certify that the information contained herein is true and accurate to the best of my knowledge and belief.

CC HRE 2072 MASS AVE TENANT LLC

By: Capstone 2072 Mass Ave LLC, its managing member

By: Jason Korb, its managing member

By: HRE 2072 Mass Ave LLC, its managing member



By: Sean D. Hope, its managing member

Date: November 10, 2020

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 3
BZA APPLICATION FORM – OWNERSHIP INFORMATION

BZA APPLICATION FORM - OWNERSHIP INFORMATION

To be completed by OWNER, signed before a notary and returned to The Secretary of the Board of Zoning Appeals.

I/We CC HRE 2072 Mass Ave LLC
(OWNER)

Address: c/o Capstone Communities LLC, 1087 Beacon Street Suite 302, Newton MA 02459

State that I/We own the property located at 2072 Massachusetts Avenue, which is the subject of this zoning application.

The record title of this property is in the name of CC HRE 2072 Mass Ave LLC

*Pursuant to a deed of duly recorded in the date 04/10/2018, Middlesex South County Registry of Deeds at Book 70850, Page 295; or Middlesex Registry District of Land Court, Certificate No. _____ Book _____ Page _____.

*SIGNATURE BY LAND OWNER OR AUTHORIZED TRUSTEE, OFFICER OR AGENT**

***Written evidence of Agent's standing to represent petitioner may be requested.**

Commonwealth of Massachusetts, County of Middlesex

The above-name SEAN HOPE personally appeared before me, this 10th of 11, 2020, and made oath that the above statement is true.

CMalagon Notary

My commission expires JAN. 23, 2026 (Notary Seal)

CHRISTIAN JOSUE MALAGON
Notary Public
Commonwealth of Massachusetts
My Commission Expires Jan. 23, 2026

- If ownership is not shown in recorded deed, e.g. if by court order, recent deed, or inheritance, please include documentation.

BZA APPLICATION FORM - OWNERSHIP INFORMATION

To be completed by OWNER, signed before a notary and returned to The Secretary of the Board of Zoning Appeals.

I/We CC HRE 2072 Mass Ave LLC
(OWNER)

Address: c/o Capstone Communities LLC, 1087 Beacon Street Suite 302, Newton MA 02459

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which is the subject of this zoning application.

The record title of this property is in the name of CC HRE 2072 Mass Ave LLC

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*SIGNATURE BY LAND OWNER OR AUTHORIZED TRUSTEE, OFFICER OR AGENT**

***Written evidence of Agent's standing to represent petitioner may be requested.**

Commonwealth of Massachusetts, County of Middlesex

The above-name Jason Korb personally appeared before me, this 9th of November, 2020, and made oath that the above statement is true.

JENNIFER TAMARKIN
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires On
February 14, 2025

Notary

My commission expires _____ (Notary Seal).

- If ownership is not shown in recorded deed, e.g. if by court order, recent deed, or inheritance, please include documentation.

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 4
DIMENSIONAL FORM

DIMENSIONAL INFORMATION

Project Address: 2072 Massachusetts Avenue

		EXISTING CONDITIONS	ORDINANCE REQUIREMENTS		REQUESTED CONDITIONS
			BA-2 / BUSINESS A-2	RESIDENCE B	RESIDENTIAL USE
Lot Area (SF)		8,515 SF	No minimum	5,000 SF (min.)	8,515 SF
Lot Width (Ft)		~75.46' @ Massachusetts Avenue	No minimum	50' (min.)	~75.46' @ Massachusetts Avenue
Total Gross Floor Area (GFA)(SF)		1,860 SF	15,755 SF (max.)**(g)**	608 SF (max.)**(g)**	57,395 SF
Residential Base		0	13,129 SF (max.)**(g)**	507 SF (max.)**(g)**	54,425 SF
Non-Residential Base		1,860 SF	0	0	2,970 SF **(d)**
Inclusionary Housing Bonus w/20% affordable		N/A	2,626 SF (max.)**(g)**	101 SF (max.)**(g)**	N/A
Ratio of Floor Area to Lot Area	Baseline:		1.0 / 1.75 (max.)	0.5/0.35 for portions exceeding 5,000 SF (max.)	6.74
	MAOD:		1.75 for mixed-use / 1.0 for all other uses (max.)	1.75 for mixed-use / 1.0 for all other uses (max.)	6.74
Residential Base	Baseline:		1.75	0.5/0.35 for portions exceeding 5,000 SF	6.27
	MAOD:	N/A	1.75	1.75	6.27
Non-Residential Base	Baseline:		1.0	N/A	0.47
	MAOD:		N/A	N/A	0.47
Inclusionary Housing Bonus - %	Baseline/MAOD:		20% bonus = 2,626 SF (GFA)**(g)**	20% bonus = 101 SF (GFA)**(g)**	N/A
Total Dwelling Units	Baseline/MAOD:		16 (max.)	0	49
Base Units			600 SF / D.U. = 12	2,500 SF / D.U. = 0	49
Inclusionary Bonus units - 20%		N/A	2	0	N/A
Base Lot Area / Unit (SF)			625 SF / D.U. @ 12 UNITS	0 UNITS	174 SF / D.U. @ 49 UNITS
Total Lot Area / Unit (SF)			536 SF / D.U. @ 14 UNITS	0 UNITS	174 SF / D.U. @ 49 UNITS
Building Height(s) (Ft)		13'	45' (max.)(Baseline Zoning)	35' (max.)(Baseline Zoning)	
	MAOD : Requirements:	N/A	50' max. (Massachusetts Avenue Overlay District) *- Active non-residential ground floor use* *- Minimum ground-floor use depth of 40'* *- Ground floor located at mean grade of abutting sidewalk* *- Minimum 75% Mass Ave frontage occupancy* *- Minimum 15' ground floor height* *- Maximum 5,000 sf per ground floor tenant* *- No bank frontage > 25'*		8 Stories / ~89'-8"
Front Yard Setback - Massachusetts Avenue (Ft)**(a)** [*Baseline Zoning - Article 5.33, Table 5-3, footnote (m)]*		3.8'	Principal wall plane of an adjacent building facing the same street OR the BA-2 baseline requirement; whichever is less		Building is sited to align with building next door which is right on the sidewalk
Front Yard Setback - Walden Street (Ft)**(a)**		3.5'	5' (min.)(Baseline/MAOD)	15' (min.)(Baseline Zoning)	0' on Walden
Side Yard Setback - Abut City of Cambridge parking lot (Ft)**(a)**		42.2'	10' (min.)(Baseline/MAOD)	7'-6" (min.)(sum of 20)(Baseline Zoning)	0' (Abut City of Cambridge parking lot)
Side Yard Setback - Abut Cambridge Housing Authority (Ft)**(a)**		42.4'	10' min.	7'-6" (min.)(sum of 20)(Baseline Zoning)	0' (Abut Cambridge Housing Authority)
Open Space (% of Lot Area)		78.2%	No minimum		0
Private Open Space		78.2%	No minimum	40% Minimum Private Open Space to Lot Area =	0
Permeable Open Space		0.0%	No minimum	405 SF (min.)**(g)**	0
Other Open Space (Specify)		N/A	No minimum		0
Off-Street Parking Spaces	Baseline and MAOD:	15 (14 regular, 1 accessible)	1 per D.U. = 49 (min.)	N/A (Multifamily dwellings not allowed)	3 accessible **(b)(c)**
Long-Term Bicycle Parking		0	1:1 first 20 D.U., then D.U. x 1.05 (min.)	1:1 first 20 D.U., then D.U. x 1.05 (min.)	51 (Residential) + 0.4 (Commercial) = 51 **(c)**
Short-Term Bicycle Parking		0	0.10 per D.U. (min.)	0.10 per D.U. (min.)	0 **(e)**
Loading Bays		0	N/A	N/A	N/A
Allowable Uses		N/A	Multi Family Residential, Retail, Restaurant, Office, Institutional and Lab	Residential	Residential / Ground floor commercial / restaurant **(f)** and other uses as described on the Waiver List

(a) Lot is located on a corner. Project team assumed two front and side yards with no rear yard.

(b) Accessible parking requirement rounded up under UFAS (required for Section 504) to three (3) spaces

(c) Commercial Parking is waived under Article 6.36 based on actual quantity required being below four (4) required spots

(d) Garage and bicycle parking exempt from calculation

(e) Project team pursuing public contribution approach for short-term bicycle parking per Article 6.104.2 (b)

(f) Along with other future possible uses as described on the Waiver List

(g) ~1,013 SF of the total lot area is in Residence B, with the remainder in BA-2

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 5
REQUESTED WAIVERS FROM LOCAL REQUIREMENTS AND REGULATIONS

LIST OF REQUESTED EXEMPTIONS/ EXCEPTIONS/WAIVERS FROM THE APPLICABLE CITY OF CAMBRIDGE ORDINANCES AND REGULATIONS for CC HRE 2072 MASS AVE TENANT LLC (Updated as of November 10, 2020)

CAMBRIDGE ZONING ORDINANCE – CHAPTER 17 OF MUNICIPAL CODE

	Section	Provision	Requested Exemption/Exception/Waivers
1.	§ 4.30 Table of Use Regulations and §4.31(g)	Multifamily dwelling is Prohibited in Residence B Zoning District.	The Applicant seeks zoning relief to allow the proposed Multifamily Development.
2.	§ 4.21 Special Classification Rules (Accessory Uses)	Allowed accessory uses include, inter alia, off-street parking, customary home occupations and certain service establishments and eating establishments for residents of multi-family dwellings.	To the extent that the proposed building amenity uses are not enumerated in Section 4.21, the Applicant seeks zoning relief to allow the proposed amenity uses for the building occupants.
3.	§ 4.37(B) (2) Light Industry, Wholesale Business and Storage	Table of Uses in article 4.30 prohibits Catering Commercial kitchen as known as wholesale food products, including bakery, confectionery and dairy products	The Applicant seeks zoning relief to allow a Catering or Commercial Kitchen in the area shown on the plans as Retail.
4.	§ 5.11 Development Standards – General Regulations	No building or structure shall be built nor shall any existing building or structure be enlarged which does not conform to the regulations as to maximum ratio of floor area and lot areas, minimum lot sizes, minimum lot area for each dwelling unit or equivalent, minimum lot width, minimum dimensions of front, side and rear yards and maximum height of structures.	The Applicant seeks zoning relief to allow the proposed Multifamily Development as shown on the Plans. Specific requests are set forth below. A Comprehensive Permit may provide all local permits and approvals per M.G.L. c. 40B.
5.	§ 5.22.1 and § 5.22.3; §5.31 and Table 5-1 - Table of Dimensional Requirements – Residential Districts	Private open space shall be provided and shall be a percentage of the lot area as set forth in Section 5.31. An area designated as private open space must have both a width and a length of at least 15', except for balconies, and may not have a slope greater than 10%. With the exception of balcony areas, private open space shall be accessible to all occupants of a building; not less than ½ of the required private open space shall be provided at ground level or within 10' of the level of the lowest floor used for residential purposes. In the Residence B Zoning District, at least 50% of the required Private open space shall meet all of the requirements of Section 5.22.1. At least 50% of the required Private open space shall meet the definition of Permeable Open Space and shall not be subject to the dimensional limitations of Section 5.22.1 as applied to Private open space.	The Applicant seeks zoning relief to allow the proposed Multifamily Development as shown on the Plans. The proposed private open space has a width and length of less than 15', as shown on the Plans. All private open space is located at ground level. At least 50% of the provided private open space will be Permeable Open Space (as shown on the Plans); however, as described above, the proposed Multifamily Development does not meet the required private open space requirement. A Comprehensive Permit may provide all local permits and approvals per M.G.L. c. 40B.

	Section	Provision	Requested Exemption/Exception/Waivers
6.	§ 5.31 and Table 5-1 - Table of Dimensional Requirements – Residence B and Business A-2 District	Business A-2 Maximum Ratio of Floor Area to Lot Area = 1.0 for Non-residential Uses and 1.75 for Residential Uses. Residence B Maximum Ratio of Floor Area to Lot Area i s .50. For those portions of any lot exceeding 5,000 sf, the applicable Maximum Ratio of Floor Area to Lot Area shall be 0.35 for all permitted residential uses.	To waive the requirement for dimensional variances and to allow the proposed Multifamily Development as shown on the Plans. The existing Ratio of Floor Area to Lot Area is approximately 0.22 and the proposed Ratio of Floor Area to Lot Area is approximately 6.74.
7.	§ 5.31 and Table 5-1 - Table of Dimensional Requirements – Residence B and Business A-2 District	Business A-2 Minimum Lot Area for Each Dwelling Unit = 600 sf. Per dwelling unit. Residence B Minimum Lot Area for Each Dwelling Unit = 2,500 per dwelling unit. For those portions of any lot exceeding 5,000 sf, the applicable Minimum Lot Area for Each Dwelling Unit shall be 4,000 sf.	To waive the requirement for dimensional variances and to allow the proposed Multifamily Development as shown on the Plans. The proposed 49 dwelling units cannot comply with the Minimum Lot Area for Each Dwelling Unit requirement.
8.	§ 5.31 and Table 5-1 - Table of Dimensional Requirements – Residence B and Business A-2 District	Business A-2 Minimum Front Yard = 5’ Residence B Minimum Front Yard = 15’	To waive the requirement for dimensional variances and to allow the proposed Multifamily Development as shown on the Plans. The smallest existing front yard setback is approximately 0’; the smallest proposed front yard setback will be approximately 0’.
9.	§ 5.31 and Table 5-1 - Table of Dimensional Requirements – Residence B and Business A-2 District	Business A-2 Minimum Side Yard = 10’ on both side yards. Residence B Minimum Side Yard = 7'6" (sum of 20).	To waive the requirement for dimensional variances and to allow the proposed Multifamily Development as shown on the Plans. The smallest existing side yard setback is approximately 42.4’; the smallest proposed side yard setback will be approximately 0’.
10.	§ 5.31 and Table 5-1 - Table of Dimensional Requirements – Residence B and Business A-2 District	Business A-2 Maximum Height = 45’ Residence B Maximum Height =35’	Due to the need for a building height of approximately 89’ and considering the adjustments that may occur during development of the plans and drawings from design development to full construction drawings, the Applicant seeks a waiver of the height requirement not less than 89’ and not greater than 95’.
11.	§6.36.1 – Schedule of Parking and Loading Requirements	In Business A-2 District, there is a one parking space per dwelling requirement. In Residence B district, multifamily dwellings are not allowed; therefore, Section 6.36.1(g) states that there is no applicable requirement for off-street parking for multifamily dwellings in the Residence B district.	Although there is no technical requirement for off-street parking in the Residence B district for a multifamily use, the Applicant seeks a waiver to allow the proposed Multifamily Dwelling with three (3) proposed accessible off-street parking spaces and two (2) drop off spaces as shown on the Plans. A Comprehensive Permit may provide all local permits and approvals per M.G.L. c. 40B.

	Section	Provision	Requested Exemption/Exception/Waivers
12.	§6.42 – Design and Maintenance of Off-Street Parking Facilities – Dimensions for Off-Street Parking Spaces	Dimensions for off street parking spaces. Aisle Width of 22' required.	To waive the requirement for a dimensional variance and to allow the proposed Multifamily Development as shown on the Plans. The proposed dimension of parking spaces shall be less than minimum required aisle width will be less than the required 22'.
13.	§6.43.4(c) – Design and Maintenance of Off-Street Parking Facilities – Driveways	Grade and design of driveway shall provide a clear view to the driver of any car exiting from the facility, or traffic on the street and of pedestrians.	Due to constraints of the driveway location and building, the clear view from the proposed driveway to Massachusetts Avenue when looking south may be compromised. The Applicant requests a waiver from the requirement for a variance and to allow the proposed Multifamily Development as shown on the Plans.
14.	Article 19 – Project Review	Establishes traffic and urban design standards for development projects exceeding 20,000 gross square feet that are likely to have a significant impact on abutting properties and the surrounding urban environment. Requirements include a Special Permit from the Planning Board including Traffic Impact Review (including a Traffic Impact Study), Urban Design Review, Tree Study, Sewer Service Infrastructure Review, Water Service Infrastructure Review, Noise Mitigation Review, Citywide Advisory Development Consultation and specific building and site plan elements.	To waive all of the applicable Article 19requirements for a Planning Board Special Permit and other requirements and to allow the proposed Multifamily Development that exceeds 20,000 gross square feet. A Comprehensive Permit may provide all local permits and approvals per M.G.L. c. 40B.
15.	§20.100 Massachusetts Avenue Overlay District	Contains specific requirements for projects located within the Massachusetts Avenue Overlay District, including use regulations, dimensional requirements, and design standards. Projects are also required to comply with the Large Project Review process.	To waive all of the applicable requirements of Section 20.100 without the need for a Planning Board Special Permit and to allow the proposed Multifamily Dwelling without a Special Permit from the Planning Board. A Comprehensive Permit may provide all local permits and approvals per M.G.L. c. 40B.

MUNICIPAL CODE

	Section	Provision	Requested Exemption/Exception/Waivers and Notes
1.	Chapter 12.04.020 - Street Numbers	The City Council shall assign numbers to houses.	To waive the requirements of this provision of the Municipal Code so that no separate approval is required from the City Council. To allow the Board of Zoning Appeals to delegate the task of assigning house number(s) for the proposed Multifamily Development to the Building Department, to be completed prior to issuance of Certificates of Occupancy. A Comprehensive Permit may provide all local permits and approvals per M.G.L. c. 40B.
2.	Chapter 12.12.010 – Street Excavations	No excavation in a public way or disturbance of any sidewalk without a license from the Superintendent of Streets or approval from the City Council.	To waive the requirements of this provision of the Municipal Code so that no separate approval is required from the Superintendent of Streets and/or the City Council. To allow the Board of Zoning Appeals to allow any necessary excavation or disturbance of any public way or sidewalk needed for the construction and operation of the Multifamily Development, as shown on the Plans. A Comprehensive Permit may provide all local permits and approvals per M.G.L. c. 40B.

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 6
PARKING AND TRAFFIC INFORMATION

- Parking and Traffic Assessment by Vanasse & Associates, Inc.
- Plans
  - Bike Room Layout Plan
  - Bus Stop Layout Plan
  - Parking Sight Lines

MEMORANDUM

TO: Mr. Jason Korb
Sean Hope, Esq.
CC HRE 2072 Mass Ave LLC
c/o Capstone Communities LLC
1087 Beacon Street, Suite 302
Newton, MA 02459

FROM: F. Giles Ham, P.E. *and*
Derek Roach, E.I.T
Vanasse & Associates, Inc.
35 New England Business Center Drive
Suite 140
Andover, MA 01810
(978) 474-8800

DATE: November 9, 2020

RE: 8716

SUBJECT: Parking and Traffic Assessment - Proposed Residential Development
2072 Massachusetts Avenue, Cambridge, Massachusetts

Vanasse & Associates, Inc. (VAI) has completed a Parking and Traffic Assessment of a proposed 49-unit 100% affordable residential development with 1,040 square feet (sf) or ground floor retail to be located at 2072 Massachusetts Avenue in Cambridge, Massachusetts (Project). This is a revised study of the October 13, 2020 memorandum. The entire study was redone due to some Somerville streets being included in the October study area. Two short-term drop-off/pick-up spaces and three handicap spaces are proposed on-site. Contained within this memorandum is a parking supply and demand analysis within a quarter mile radius of site, estimated trip generation by mode split and a recommended a Travel Demand Management plan (TDM) for the proposed project.

PARKING SUPPLY AND DEMAND ANALYSIS

A comprehensive field inventory of the existing parking supply within approximately a quarter-mile radius of the Project was conducted in September 2020. While residents want to park as close as possible to their residence, the study area radius established by the city is a relatively short walk (5 minutes). Figure 1 depicts the study area. The field inventory consisted of on-street parking by quantity and type (handicapped, permit only and regulations). The study area was subdivided into twenty-seven (27) parking zones in order to identify parking trends occurring within the study area. Figure 2 identifies the parking regulations and number of parking spaces (928) in the area. Figure 3 depicts the residential permit parking spaces, handicap spaces, and spaces with no regulations which total 806 of the 928 spaces.

In order to determine the availability of parking spaces, a parking demand survey was conducted during a typical weekday (Tuesday October 20, 2020). The parking observations were conducted every 2 hours from 10:00 AM to 10:00 PM. Table 1 and Figure 4 summarize the parking demand observations for the available resident parking.

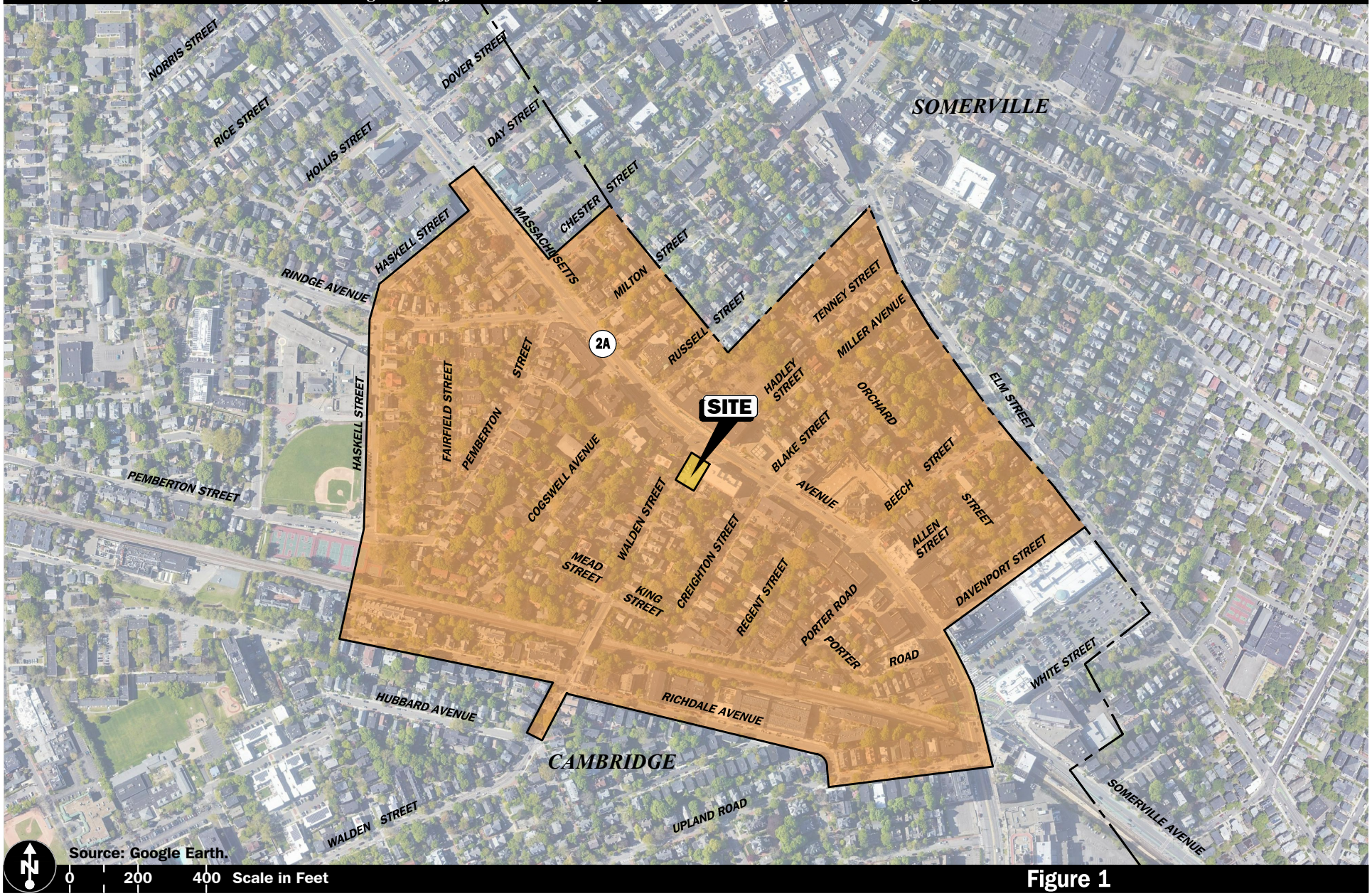

Figure 1

Parking Supply Area

Vanasse & Associates inc

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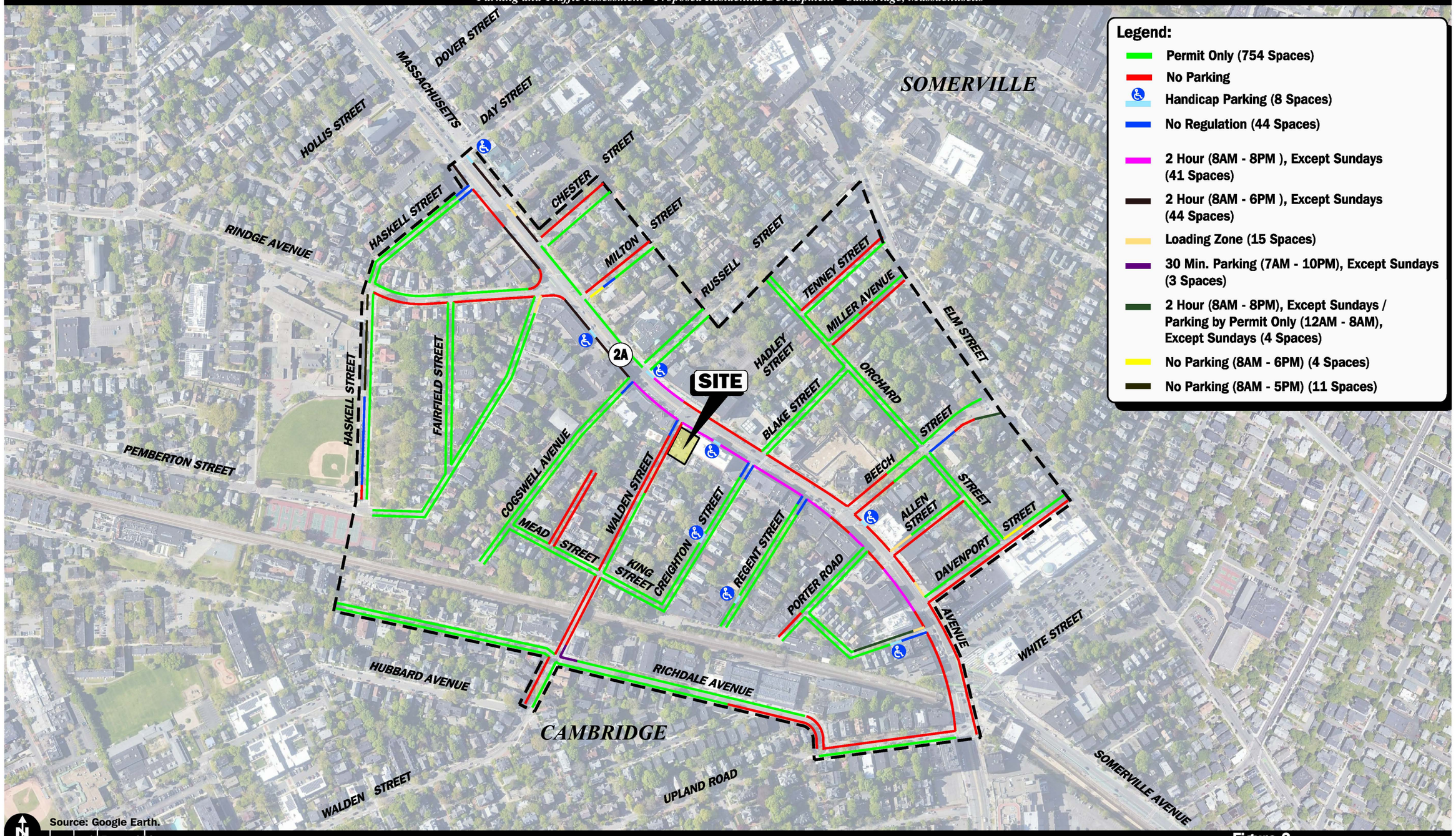

Source: Google Earth.

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0 175 350 Scale in Feet

Figure 2

Existing Parking Regulations

Vanasse & Associates inc

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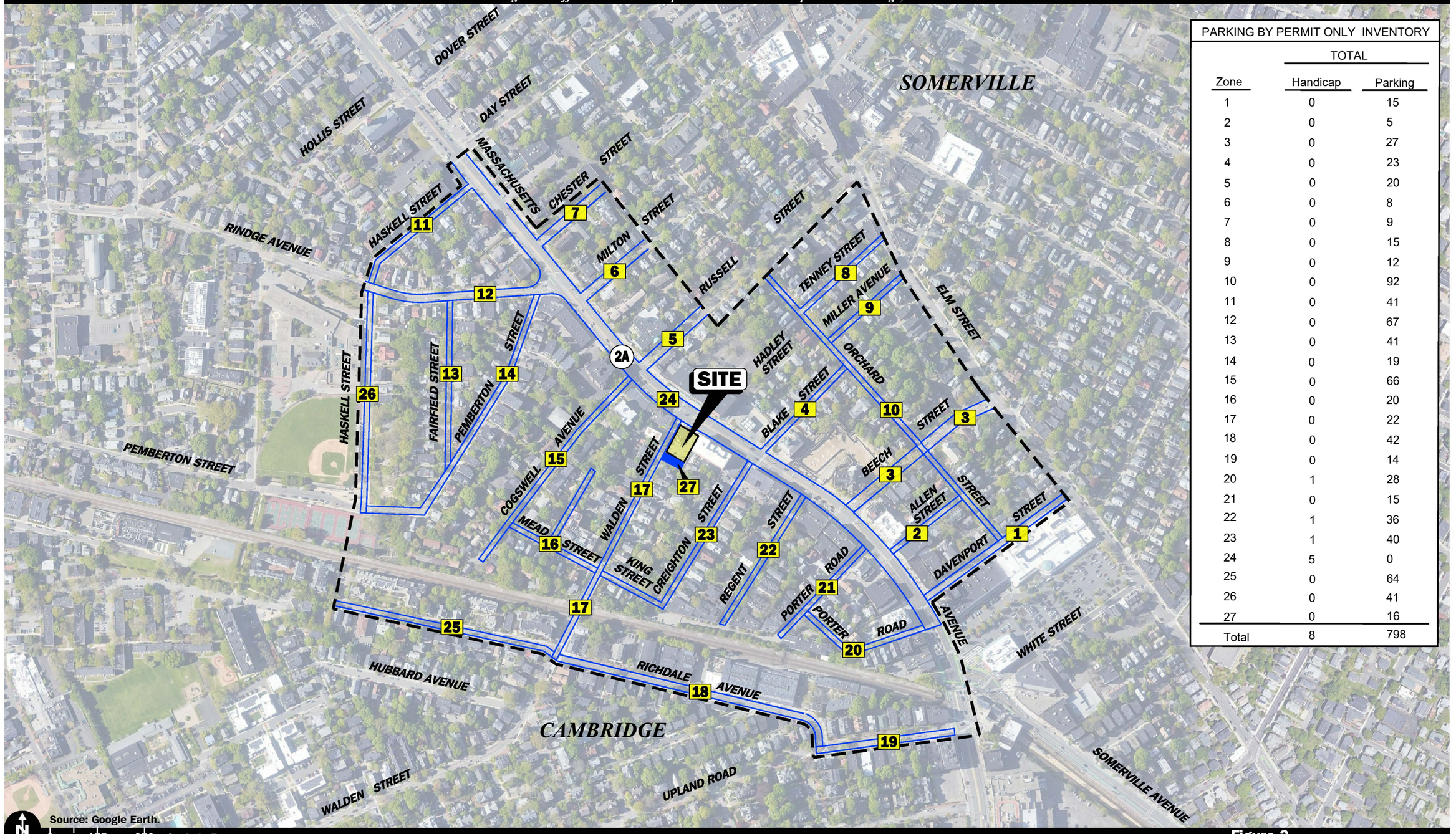

PARKING BY PERMIT ONLY INVENTORY

Zone	TOTAL Handicap	TOTAL Parking
1	0	15
2	0	5
3	0	27
4	0	23
5	0	20
6	0	8
7	0	9
8	0	15
9	0	12
10	0	92
11	0	41
12	0	67
13	0	41
14	0	19
15	0	66
16	0	20
17	0	22
18	0	42
19	0	14
20	1	28
21	0	15
22	1	36
23	1	40
24	5	0
25	0	64
26	0	41
27	0	16
Total	8	798

Source: Google Earth.

N

0 175 350 Scale in Feet

Figure 3

Existing Permit Only Parking / No Regulation Spaces

Vanasse & Associates inc

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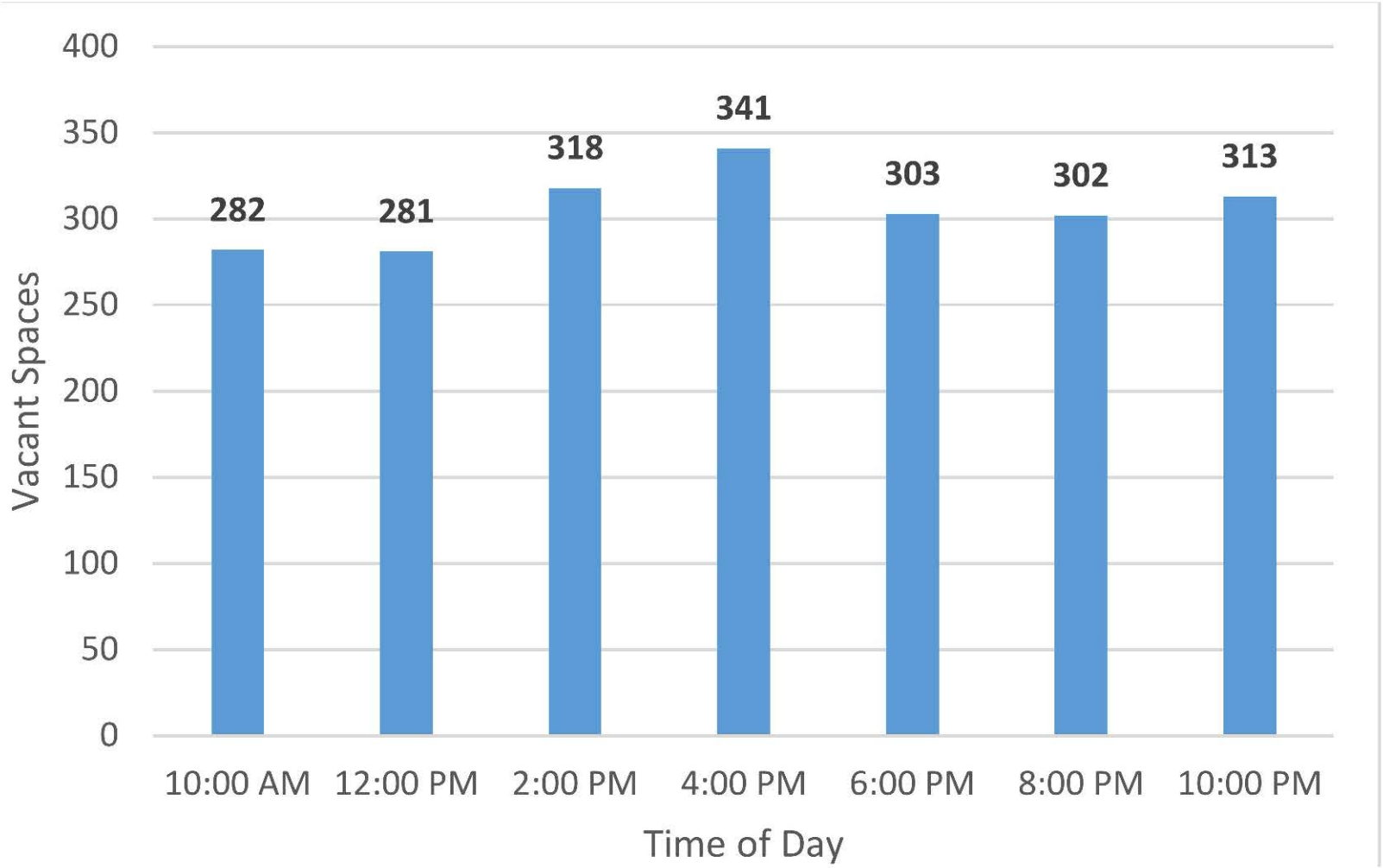


Figure 4

Parking Chart

Vanasse & Associates inc

Table 1
PARKING OBSERVATIONS
October 20, 2020

Zone	Parking Supply	Vacant Spaces						
		10:00 AM	12:00 PM	2:00 PM	4:00 PM	6:00 PM	8:00 PM	10:00 PM
1	20	5	3	8	7	11	10	16
2	6	0	1	1	1	2	1	2
3	30	3	4	6	6	4	6	3
4	23	13	10	11	7	7	7	6
5	22	4	4	4	5	1	6	4
6	8	2	3	3	3	2	2	2
7	9	1	1	2	2	4	0	0
8	15	6	5	6	6	3	3	3
9	12	6	7	7	8	4	6	7
10	92	21	19	18	20	12	14	15
11	41	13	10	9	17	7	9	11
12	70	18	28	30	25	27	30	26
13	41	13	11	13	15	12	9	6
14	19	4	6	9	8	10	10	11
15	66	16	17	14	23	13	13	14
16[a]	20	7	5	6	4	11	10	8
17[a]	23	7	6	5	4	5	7	6
18[a]	44	21	20	24	23	19	14	12
19	14	1	0	0	0	0	0	0
20	35	6	4	6	13	9	9	8
21	15	1	1	1	3	3	1	1
22[a]	37	11	9	14	10	9	8	9
23[a]	41	2	4	2	5	8	6	7
24	93	47	43	55	60	61	63	82
25	64	25	27	27	26	26	28	23
26	52	20	24	28	29	24	24	21
27[a]	16	9	9	9	11	9	6	10
TOTAL	**928**	**282**	**281**	**318**	**341**	**303**	**302**	**313**

[a]Highlighted rows include zones within two block of the site.

As shown in Table 1 and Figure 4 the peak demand occurs at 12:00 PM when 281 spaces were vacant. The Project has proposed only 2 short-term drop-off/pick-up spaces and 3 handicap spaces on-site and all other parking will be on-street. By not providing parking, the Project impact will be minimized as auto ownership will be discouraged. An auto ownership of 0.50 vehicles per unit equates to 25 vehicles. Zoning requires one space per unit. U.S. Census and 2018 American Community Survey data for Census Tract 3547, the tract in which the Project is located, indicates that 32 percent of trips are automobile trips. This suggests that the affordable residential unit ownership may be lower than the 50 percent. The 50 percent auto ownership is conservative. Residents of the site will want to park as close to the site as possible. Focusing on Zones 15, 16, 17, 22, 23, and 27 which are all 2 blocks from the site, there is a minimum of 50 spaces available during the peak parking demand at 12:00 PM. At 10:00 PM there are 54 spaces available in close proximity to the site. Based upon the parking analysis, there is more than adequate on-street parking to accommodate the Project.

PROPOSED SITE TRIP GENERATION

Traffic volumes expected to be generated by the Project were determined by using the ITE *Trip Generation*[1] manual and utilized Land Use Code (LUC 221), Multifamily Housing (Mid-Rise) and LUC 820, Shopping Center. It should be noted that the project is proposing affordable housing units which have lower vehicle trip rates than market rate units therefore the actual trip increases due to the development will be less than what is estimated by LUC 221. In addition, it is expected that a significant portion of the residents of the Project will utilize alternative modes of transportation other than automobiles. Based upon the U.S. Census and 2018 American Community Survey data for Census Tract 3547, the tract in which the Project is located, the mode split characteristics of the Project are estimated as follows: 32 percent automobile trips; 43 percent transit; 10 percent walk; 6 percent bicycle, and 9 percent other trips.

The Project trip generation by mode is summarized in Table 2.

As can be seen in Table 2, the Project is expected to generate approximately 98 vehicle trips on an average weekday (49 entering/49 exiting), with approximately 6 vehicle trips (2 entering/4 exiting) expected during the weekday morning peak-hour. During the weekday evening peak hour, the Project is expected to generate approximately 9 new vehicle trips (5 entering/4 exiting).

[1] *Trip Generation*, 10th Edition; Institute of Transportation Engineers; Washington, DC; 2017.

Table 2
PROJECT TRIP GENERATION SUMMARY

Time Period/Direction	ITE LUC 221 (A)[a]	ITE LUC 820 (B)[b]	ITE Total Vehcile Trips (C=A+B)	Vehicle Occupancy Rate (D)[c]	Person Trips						Total Vehicle Trips (K=F/D)
					Total Trips (E=C*D)	Auto Trips[d] (F=E*0.32)	Transit Trips[e] (G=E*0.43)	Walk Trips[f] (H=E*0.10)	Bicycle Trips[g] (I=E*0.06)	Other Trips[h] (J=E*0.09)	
Weekday Daily:	266	40	306	1.07	328	104	142	32	20	30	98
Weekday Morning Peak Hour:											
Entering	4	1	5	1.07	5	2	2	1	0	0	2
Exiting	13	0	13	1.07	14	4	7	1	1	1	4
Total	17	1	18	1.07	19	6	9	2	1	1	6
Weekday Evening Peak Hour:											
Entering	13	2	15	1.07	16	5	7	2	1	1	5
Exiting	9	2	11	1.07	12	4	5	1	1	1	4
Total	22	4	26	1.07	28	9	12	3	2	2	9

[a]Based on ITE LUC 221 Multifamily (Mid-Rise), 49 units.
[b]Based on ITE LUC 820 Shopping Center, 1,040 sf.
[c]Source: United States Census and American Community Survey 2018 5-year estimates; Census Tract 3547.
[d]Automobile trips are 32 percent of total person trips, Census Tract 3547.
[e]Transit trips are 43 percent of total person trips, Census Tract 3547.
[f]Walking trips are 10 percent of total person trips, Census Tract 3547.
[g]Bicycle trips are 6 percent of total person trips, Census Tract 3547.
[h]Other trips are 6 percent of total person trips, Census Tract 3547. Includes work from home.

TRANSPORTATION DEMAND MANAGEMENT (TDM)

Reducing the amount of traffic generated by the Project is an important component of the development plan. The goal of the TDM plan is to reduce the use of Single Occupant Vehicles by encouraging car/vanpooling, bicycle commuting, the use of public transportation and pedestrian travel. The following measures will be implemented as a part of the proposed project management team in an effort to reduce the number of vehicle trips generated:

- Designate an on-site employee as the site's Transportation Coordinator to oversee marketing and promoting of transportation options at the site.

- Provide new residents transportation information packets with information on getting around Cambridge sustainably.

- Install a real-time transit display screen in the lobby to make it simpler for residents, visitors, and employees to access real-time transit and Bluebikes availability information in the area. The screens will also post other useful information on single occupancy modes of travel, such as carpool/vanpool to supermarkets, etc.

- Subsidize 100 percent of the cost of a MBTA T pass for employees (building property managers/maintenance staff) or $240 annual reimbursement for bike maintenance for employees who choose to commute by bike.

- Organize orientation sessions with residents to teach biking rules, safe biking measures, basic maintenance and repairs and help identify bike routes to various locations.

- Bicycle racks and a bicycle "Fix-it" station will be provided on-site.

- Annually, upon initial move-in and lease renewal, residents will be offered the choice of: (1) annual Bluebikes membership (including one-time discounted helmet through bluebikes), (2) $90 credit for ride share service; (3) 1-month adult MBTA Monthly LinkPass, and/or (4) 3-month Student or Senior Monthly LinkPass. This will be provided PER RESIDENT (not per household) on an annual basis.

The above strategies will encourage non-auto travel by the residents.

SUMMARY

In summary, a detailed parking survey was completed in the area of the Project and based upon this data it can be concluded that there is more than sufficient availability of on-street parking to accommodate the Project. The Project proponent is committed to implementing a Travel Demand Management plan which promotes alternatives modes of transportation and will minimize the Project's impact on available on-street parking and traffic in the area.

APPENDIX

TRIP GENERATION CALCULATIONS

TRIP GENERATION CALCULATIONS

Institute of Transportation Engineers (ITE)
Trip Generation, 10 th Edition
Land Use Code (LUC) 221 - Multifamily Housing (Mid-Rise)

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 49

AVERAGE WEEKDAY DAILY

T = 5.45 * (X) - 1.75
T = 5.45 * 49 - (1.75)
T = 265.30
T = 266 vehicle trips
with 50% (133 vpd) entering and 50% (133 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln T = 0.98 * Ln(X) - 0.98
Ln T = 0.98 * Ln 49 - (0.98)
Ln T = 2.83
T = 17.01
T = 17 vehicle trips
with 26% (4 vph) entering and 74% (13 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln T = 0.96 * Ln(X) - 0.63
Ln T = 0.96 * Ln 49 - (0.63)
Ln T = 3.11
T = 22.33
T = 22 vehicle trips
with 61% (13 vph) entering and 39% (9 vph) exiting.

Institute of Transportation Engineers (ITE)
Trip Generation, 10 th Edition
Land Use Code (LUC) 820 - Shopping Center

Average Vehicle Trips Ends vs: 1,000 Square Feet Gross Leasable Area
Independent Variable (X): 1.040

AVERAGE WEEKDAY DAILY

T = 37.75 * X
T = 37.75 * 1.040
T = 39.26
T = 40 vehicle trips
with 50% (20 vpd) entering and 50% (20 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.94 * (X)
T = 0.94 * 1.040
T = 0.98
T = 1 vehicle trips
with 62% (1 vph) entering and 38% (0 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

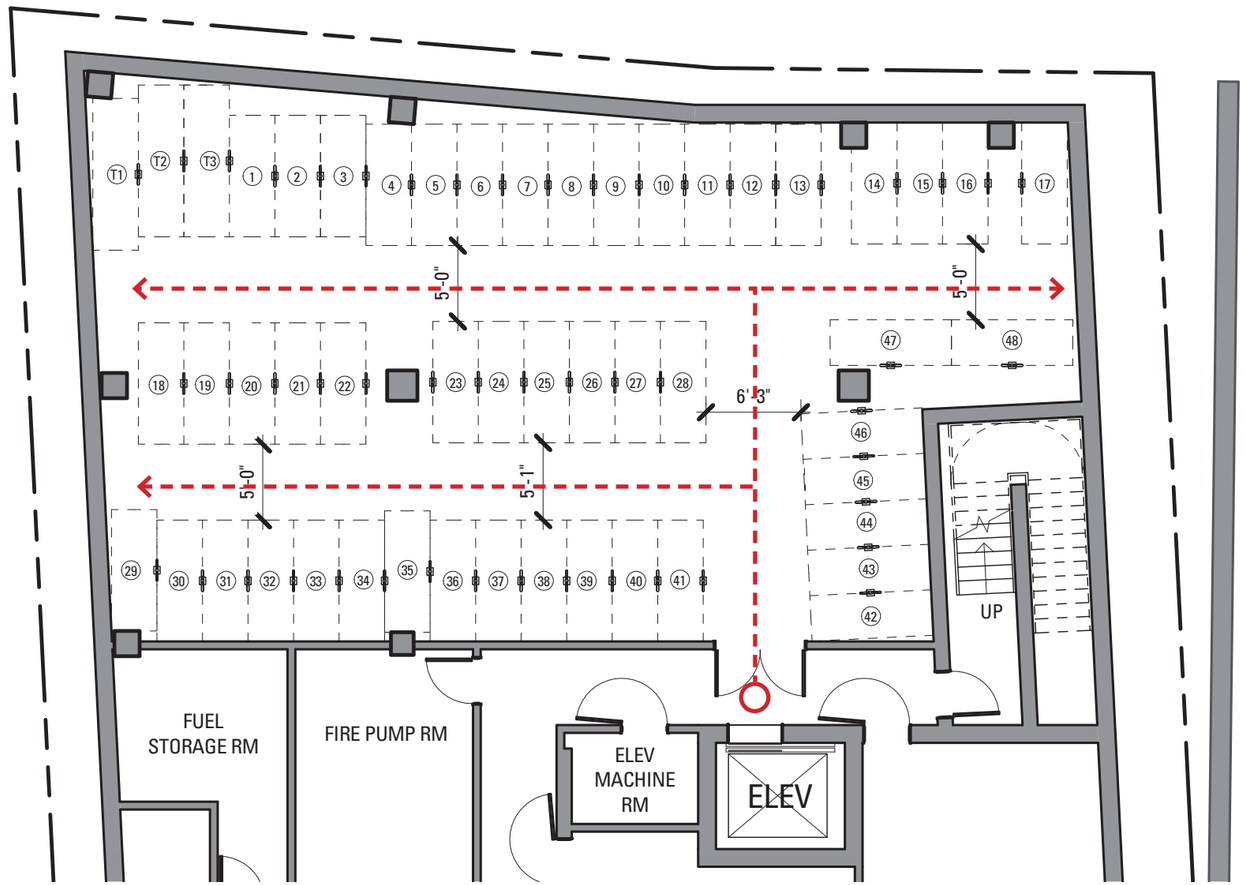
T = 3.81 * X
T = 3.81 * 1.040
T = 3.96
T = 4 vehicle trips
with 48% (2 vph) entering and 52% (2 vph) exiting.

COMMUTING CHARACTERISTICS BY SEX

United States™ Census Bureau

Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

	Census Tract 3547, Middlesex County, Massachusetts		
	Total		Male
Label	Estimate	Margin of Error	Estimate
Workers 16 years and over	1,752	±232	865
MEANS OF TRANSPORTATION TO WORK			
Car, truck, or van	31.6%	±6.9	32.8%
Drove alone	27.9%	±6.6	28.9%
Carpooled	3.8%	±2.2	3.9%
In 2-person carpool	3.3%	±2	3.0%
In 3-person carpool	0.0%	±2	0.0%
In 4-or-more person carpool	0.5%	±0.7	0.9%
Workers per car, truck, or van	1.07	±0.05	1.07
Public transportation (excluding taxicab)	42.9%	±6.8	41.3%
Walked	9.5%	±3.9	5.3%
Bicycle	5.8%	±3.7	6.4%
Taxicab, motorcycle, or other means	1.7%	±1.3	3.4%
Worked at home	8.6%	±3.9	10.9%
PLACE OF WORK			
Worked in state of residence	99.0%	±1.2	98.8%
Worked in county of residence	64.4%	±6.2	63.2%
Worked outside county of residence	34.5%	±6	35.6%
Worked outside state of residence	1.0%	±1.2	1.2%
Living in a place	100.0%	±2	100.0%
Worked in place of residence	42.2%	±7.3	41.3%
Worked outside place of residence	57.8%	±7.3	58.7%
Not living in a place	0.0%	±2	0.0%
Living in 12 selected states	100.0%	±2	100.0%
Worked in minor civil division of residence	42.2%	±7.3	41.3%
Worked outside minor civil division of residence	57.8%	±7.3	58.7%
Not living in 12 selected states	0.0%	±2	0.0%
Workers 16 years and over who did not work at home	1,602	±237	771
TIME LEAVING HOME TO GO TO WORK			
12:00 a.m. to 4:59 a.m.	2.8%	±2.8	2.5%
5:00 a.m. to 5:29 a.m.	0.0%	±2.2	0.0%
5:30 a.m. to 5:59 a.m.	0.0%	±2.2	0.0%
6:00 a.m. to 6:29 a.m.	1.1%	±1.2	1.2%
6:30 a.m. to 6:59 a.m.	6.2%	±3.4	6.0%
7:00 a.m. to 7:29 a.m.	16.6%	±4.4	19.8%
7:30 a.m. to 7:59 a.m.	14.9%	±5.7	8.8%
8:00 a.m. to 8:29 a.m.	21.4%	±5.1	24.3%



2050 MASS AVE
6 STORIES

BIKE PARKING

REQUIRED BY ZONING :	PROVIDED BY DEVELOPMENT :
LONG-TERM: 48	STANDARD: 48
TANDEM: 3	TANDEM: 3
SHORT TERM: 5	SHORT TERM: 0 (e)
TOTAL: 56	**TOTAL: 51**

(c) COMMERIAL PARKING IS WAIVED UNDER 6.36 BASED ON ACTUAL QUANTITY REQUIRED BEING BELOW 4 REQUIRED SPOTS

(e) PROJECT TEAM SEEKING ALTERNATIVE PUBLIC CONTRIBUTION OPTION OF SATISFYING SHORT-TERM BIKE PARKING REQUIREMENTS PER ARTICLE 6.104.2 (b)

BIKE PARKING ACCESS

0′ 10′ 20′

SCALE 1″= 10′-0″

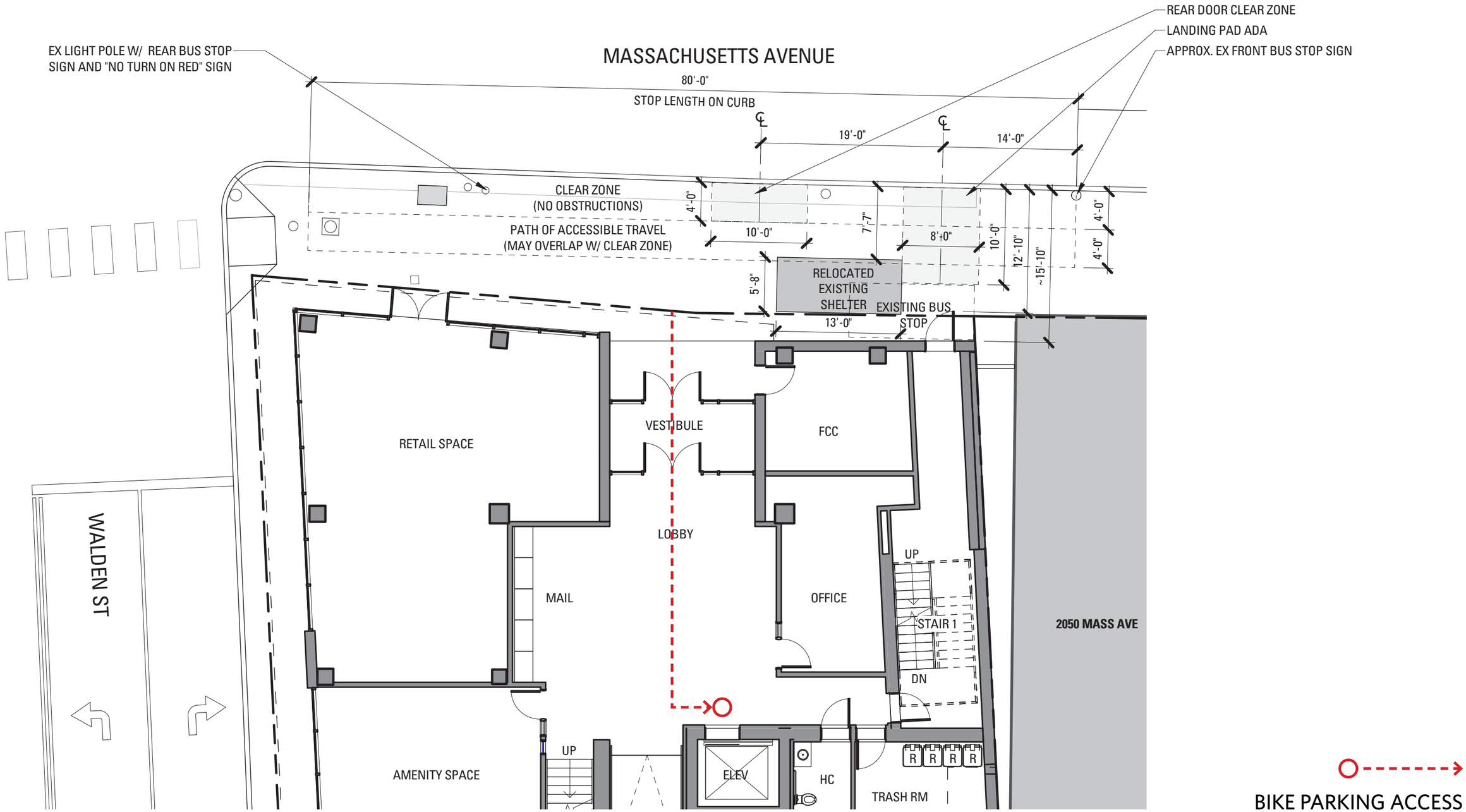
N

BIKE ROOM LAYOUT PLAN

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

2072 MASSACHUSETTS AVENUE
NOVEMBER 10, 2020



BIKE PARKING ACCESS

0′ 10′ 20′

SCALE 1"= 10'-0"

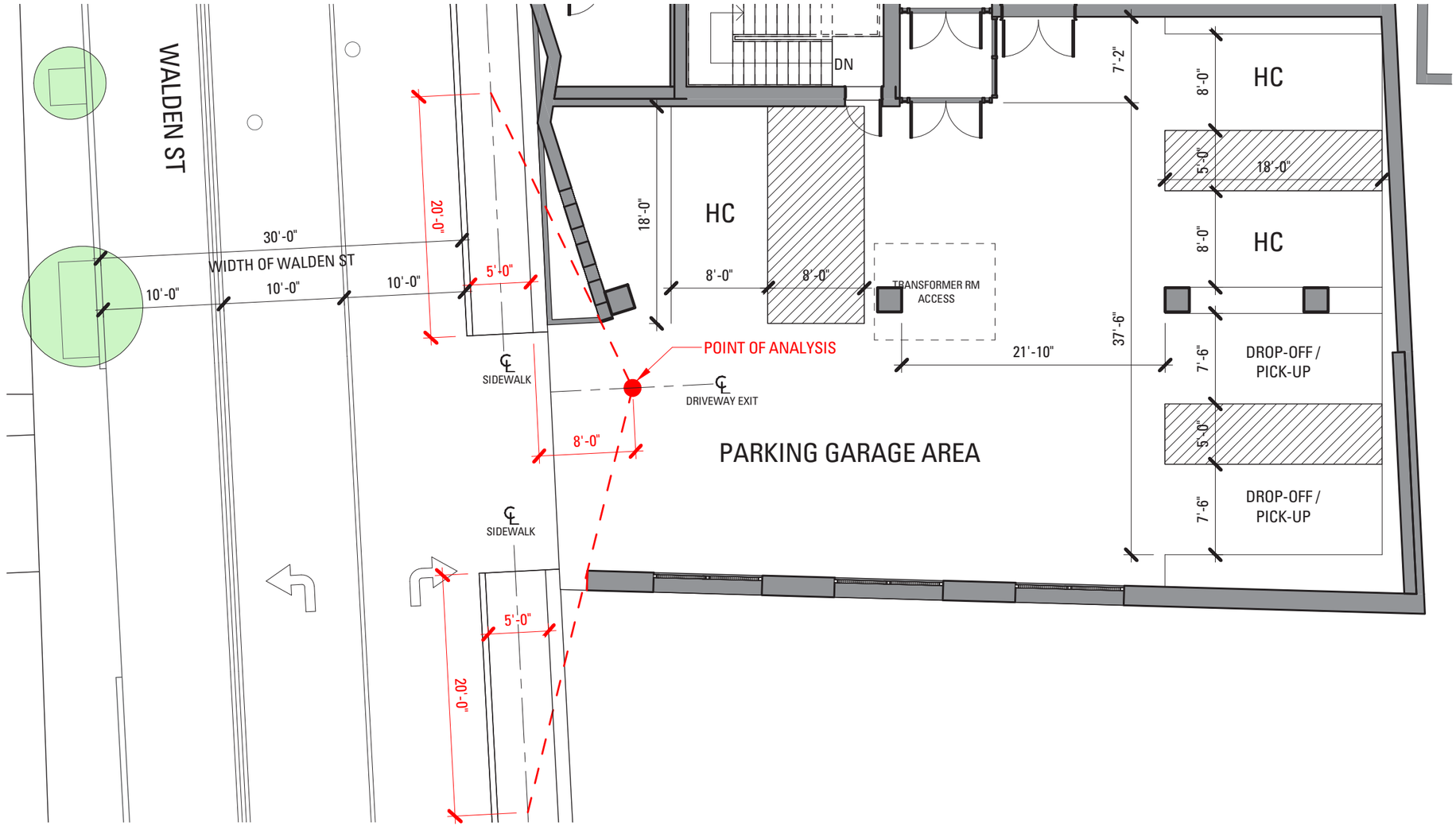
BUS STOP LAYOUT PLAN

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

2072 MASSACHUSETTS AVENUE

NOVEMBER 10, 2020



PARKING SIGHT LINES

Bruner/Cott
ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

0′ 10′ 20′

SCALE 1″= 10′-0″

2072 MASSACHUSETTS AVENUE

NOVEMBER 10, 2020

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 7
CIVIL ENGINEER'S NARRATIVE

Nitsch Engineering

2 Center Plaza, Suite 430
Boston, MA 02108-1928
T: 617-338-0063
F: 617-338-6472
www.nitscheng.com

2072 Massachusetts Avenue – Nitsch Project #14047
Infrastructure Narrative

Sanitary Sewer

The existing site is currently comprised of a restaurant with associated access, parking, and utilities.

A breakdown of the site's existing sanitary sewer flow rates are as follows:

Existing Sanitary Sewer Flows (per 310 CMR 15.203)

Use	Unit Sewer Flow Rate (gpd)	Size	Existing Sewer Flow Rate (gpd)
Restaurant	35 (per seat)	37 seats	1,295
Total			**1,295**

The project proposes to redevelop the site into an eight-story building containing affordable housing units with ground floor retail. The sanitary sewage from the proposed building will be collected in new onsite sewer infrastructure and discharge into the existing 8-inch sewer main in Walden Street.

A breakdown of the site's proposed sanitary sewer design flow rates are as follows:

Proposed Sanitary Sewer Flows (per 310 CMR 15.203)

Use	Unit Sewer Flow Rate (gpd)	Size	Proposed Sewer Flow Rate (gpd)
Residential Occupancy	110 (per bedroom)	98 bedrooms	10,780
Retail	50 (per 1000 sf)	4,380 square feet	219
Total			**10,999**

Stormwater/Drainage

The proposed drainage system is designed in compliance with MassDEP's Stormwater Management Standards, as well as the City of Cambridge's design requirements. These requirements include the use of NOAA Atlas 14 precipitation frequency estimates and the 2030 City of Cambridge storms in stormwater modeling, as well as phosphorus removal.

The majority of the stormwater runoff from the site will be collected and directed to an onsite stormwater detention/infiltration system located underneath the proposed parking garage. The system has been designed to meet the City's attenuation and treatment requirements. The stormwater detention/infiltration system will overflow to the City's combined sewer main in Walden Street.

Peak Runoff Rates

The Project proposes to collect the entire roof area (a majority of the site), including 1,170 square feet of green roof and direct it to an infiltration system. The proposed stormwater system is able to achieve the reduction of the peak flow rate for the proposed 25-year storm event to the existing 2-year storm event using 2030 Cambridge storm events. The project will also reduce the peak flow rates of all analyzed storm events to meet the MassDEP Stormwater Standards.

Peak Rates of Runoff (cfs) for the Total Site

Storm Event	Existing (Total, DP1)	Proposed
2-Year	**0.62***	0.31
10-Year	1.05	0.49
25-Year	1.36	**0.61***
100-Year	1.91	1.88

***Indicates comparison for 25-to-2 Requirement for City of Cambridge**

Water Quality

The proposed infiltration system will provide 80% TSS removal rate as required by the MassDEP Stormwater Standards, as well as 65% Total Phosphorus removal as required by the City of Cambridge.

PHOSPHORUS REMOVAL CALCULATIONS

Land Conversion

	Existing			Proposed		
	Area ac	Export Rate lbs/acre/yr	Phosphorus Load lbs P/yr	Area ac	Export Rate lbs/acre/yr	Phosphorus Load lbs P/yr
Impervious - Pavement	0.15	1.78	0.27	0.02	2.32	0.04
Impervious - Roof*	0.04	1.1	0.05	0.11	1.1	0.12
Pervious - Planted Roof	0.00	0.12	0.00	0.07	0.12	0.01
Pervious **	0.00	0.21	0.00	0.00	0.27	0.00
Total	0.20		0.32	0.20		0.17
Total Phosphorus Removal through Land Conversion						0.14
Phosphorus reduction required (65% of Existing Phosphorus Load)						**0.20**
Remaining reduction required after land-use change						**0.06**

*Export rate using average value from compiled research data

Structural Stormwater Strategies

	Surface Type	Treated Area (ac)	P Load Rate (lbs/ac/yr)	Starting P Load (lbs/yr)	P Removal (%)	P Removed (lbs/yr)
Infiltration	Roof	0.111	1.1	0.122		0.105
	Pavement	0.000	1.78	0.000	86%	0.00
	Landscape	0.000	0.27	0.000		0.000
				0.12		**0.11**

Total Phosphorus Removed	**0.25**

Groundwater Recharge

The annual recharge from the post-development site will approximate the annual recharge from pre-development conditions using the guidelines provided in the MassDEP Stormwater Management Handbook. The guidelines are based on soil type and the Project Site is an HSG C type soil.

Impervious Area in HSG C = 8,510 square feet
Rv (Recharge Volume) = 8,510 x 0.25 in. / (12 inches/ft)
= 177 cubic feet

Proposed Recharge Volumes

Infiltration BMP	Recharge Volume (cf)
Subsurface Infiltration System	**666**

A minimum two feet of separation has been maintained between the bottom of the infiltration system and seasonal high groundwater.

Conclusions

The project has been designed to meet, and in some cases, exceed, the MassDEP Stormwater Standards as well as the City of Cambridge's stormwater requirements.

Domestic Water and Fire Protection Service

The Project's water demand estimate for domestic services is based on the Project's estimated sewage generation, described above. A conservative factor of 1.1 (10%) is applied to the estimated average daily wastewater flows calculated with 310 CMR 15.203 values to account for consumption, system losses and other usages to estimate an average daily water demand. The Project's estimated domestic water demand is 12,099 gallons per day. The project proposes to install new domestic and fire protection services that connect to the City water main in Walden Street in accordance with the Cambridge Water Department regulations and requirements. All water service connections will be fully coordinated with the City Water Department.

A hydrant flow test was recently completed to determine pressure in the existing water main. Based on the results, it is anticipated that a water pressure booster pump will be required for the domestic water system, and a fire pump will be required to provide the required pressure for the building's sprinkler system. The fire protection system design will be coordinated with the City Fire Chief.

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 8
WALDEN STREET UTILITIES REPORT

Summary of Underground Utility Locating

Prepared For: Capstone Communities

Prepared By:
Sean Parker
Sean.Parker@gprsinc.com
Project Manager -Boston
617-372-6695

Capstone Communities
Attn: Jenny Tamarkin
Site: 2072 Massachusetts Ave
Cambridge, MA

We appreciate the opportunity to provide this report for our work completed on November 2, 2020.

PURPOSE

The purpose of the project was to search for underground utilities within the project boundaries provided by the client. The scope of work consisted of 1 sidewalk and 2 electrical manholes/vaults. The client was concerned with the depth of the primary electrical lines running up and down the sidewalk adjacent to the building.

EQUIPMENT

- **Underground Scanning GPR Antenna**. The antenna with frequencies ranging from 250 MHz-450 MHz is mounted in a stroller frame which rolls over the surface. The surface needs to be reasonably smooth and unobstructed in order to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the feasibility of GPR. The data is displayed on a screen and marked in the field in real time. The total depth achieved can be as much as 8' or more with this antenna but can vary widely depending on the types of materials being scanned through. Some soil types such as clay may limit maximum depths to 3' or less. As depth increases, targets must be larger in order to be detected and non-metallic targets can be especially difficult to locate. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **Electromagnetic Pipe Locator**. The EM locator can passively detect the electromagnetic fields from live AC power or from radio signals travelling along some conductive utilities. It can also be used in conjunction with a transmitter to connect directly to accessible, metallic pipes or tracer wires. A current is sent through the pipe or tracer wire at a specific frequency and the resulting EM field can then be detected by the receiver. A utility's ability to be located depends on a variety of factors including access to the utility, conductivity, grounding, interference from other fields, and many others. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **GPS**. This handheld GPS unit offers accuracy down to 4 inches; however, the accuracy will depend on the satellite environment and obstructions and should not be considered to be survey-grade. Features can be collected as points, lines, or areas and then exported into Google Earth or overlaid on a CAD drawing. For more information, please visit: Link

PROCESS

The process typically begins with using the EM pipe locator to locate pipes or utilities throughout the scan area. First, the transmitter is used to connect to and trace any visible risers, tracer wires, or accessible, conductive utilities provided that there is an exposed, metallic surface. The areas are then swept with the receiver to detect live power or radio frequency signals. Locations and depths are painted or flagged on the surface. Depths cannot always be provided depending on the location method and can be prone to error.

Initial GPR scans were then collected in order to evaluate the data and calibrate the equipment. Based on these findings, a scanning strategy is formed, typically consisting of scanning the entire area in a grid with 5x5' scan spacing in order to locate any potential utilities that were not found with the pipe locator. The GPR data is viewed in real time and anomalies in the data are located and marked on the surface along with their depths using spray paint, pin flags, etc.

LIMITATIONS

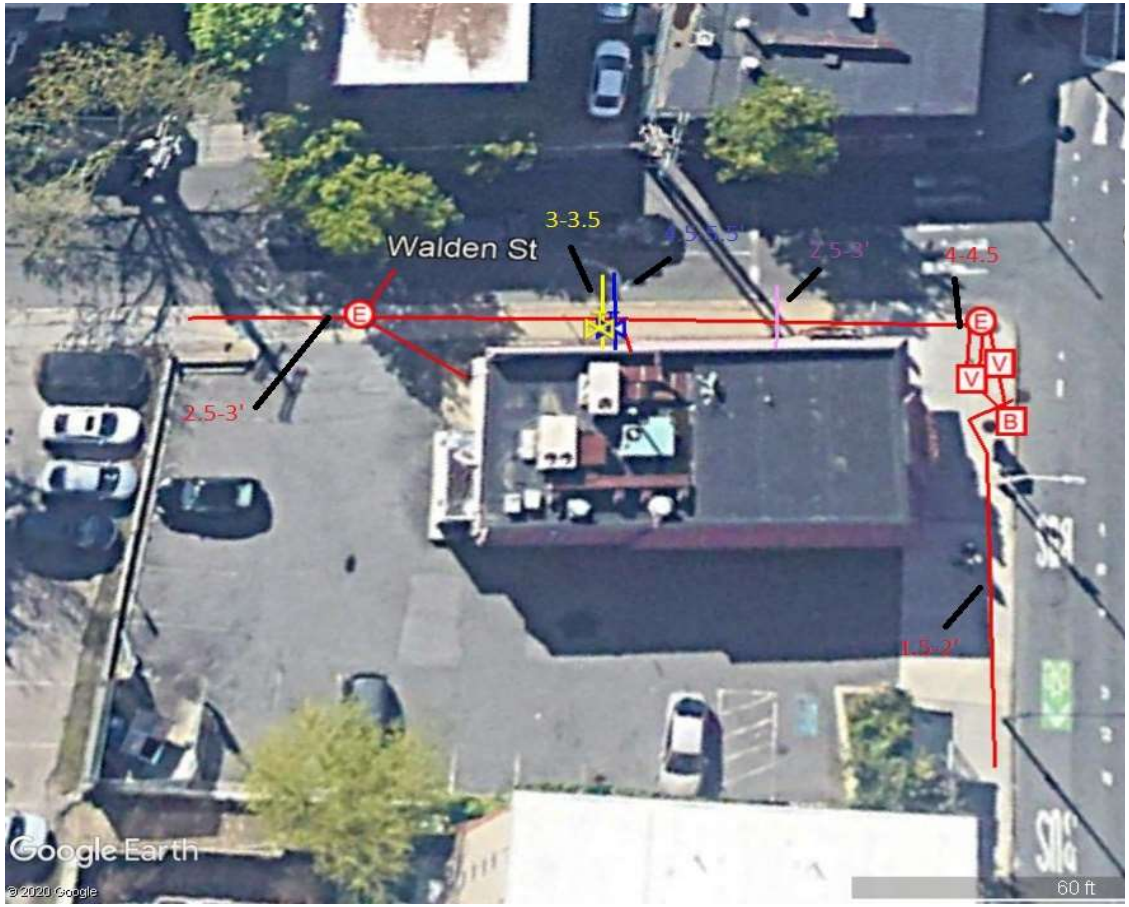
Please keep in mind that there are limitations to any subsurface investigation. The equipment may not achieve maximum effectiveness due to soil conditions, above ground obstructions, reinforced concrete, and a variety of other factors. No subsurface investigation or equipment can provide a complete image of what lies below. Our results should always be used in conjunction with as many methods as possible including consulting existing plans and drawings, exploratory excavation or potholing, visual inspection of above-ground features, and utilization of services such as One Call/811. Depths are dependent on the dielectric of the materials being scanned so depth accuracy can vary throughout a site. Relevant scan examples were saved and will be provided in this report.

FINDINGS

The subsurface conditions at the time of the scanning allowed for maximum GPR depth penetration of 4-5 feet in most areas. Multiple utilities were able to be located such as gas, water, unknown, signal controls and possible secondary lines feeding street lamps using either the GPR or EM pipe locator. Some utilities were not able to be located such as the sanitary line. GPR data did not allow for depth information and exploring manholes located on Walden St did not show any laterals, estimated depth entering the sanitary main would be 7-9 feet.

The primary electrical line was estimated at 3.5-4.5 feet for most of the investigation, one manhole it was measured at 2.5-3 feet from the surface, and after passing through the service utilities it measured 5 feet at the manhole on the corner or Walden and Mass Ave. GPR depths in the middle sections estimated at lines at 3.5-4.5 feet.

The following pages will provide further explanation of the findings.



Terms and Conditions

GPRS does not provide land survey or civil engineering data collection or documentation. This is provided as a reference map of the field markings and is not survey-grade.

LEGEND

	ELECTRIC		SANITARY
	WATER		STORM
	COMM		UNKNOWN
	GAS		

2072 Massachusetts Ave
Cambridge, MA

Prepared by:

GPRS

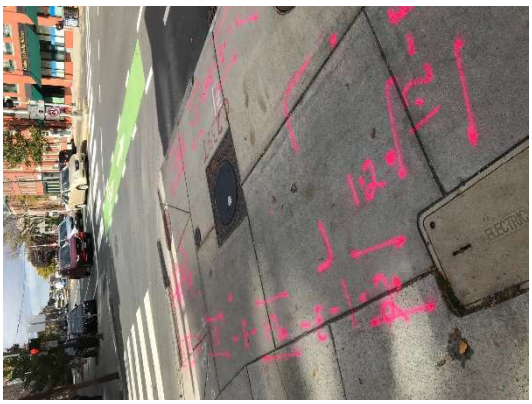
Secondary electrical line to the building exits at 1.5-2 feet and enters the building under the concrete ramp area.

Primary electrical line exits this manhole at 2.5-3 feet from the surface and travels up the sidewalk at a depth of 3.5-4.5 feet.

Water service 4.5-5.5 feet from the surface, valve located on the sidewalk, gas line 3-3.5 deep, valve located on the sidewalk. Electrical line 4-4.5 in this section.

Manhole located on the corner of Walden and Mass Ave, enters the vault at 5-5.5 feet with multiple lines running to adjacent handholes and vaults 2-3 feet from the surface and 1-2 feet.

Possible signal control or site lighting located 1-2 feet from the surface, extending in both directions down Mass Ave.



Electrical handhole located on the bottom right, potential signal or site lighting controls – electrical was being feed from a black transformer located on the sidewalk.

CLOSING

GPRS, Inc. has been in business since 2001, specializing in underground storage tank location, concrete scanning, utility locating, and shallow void detection for projects throughout the United States. I encourage you to visit our website (www.gprsinc.com) and contact any of the numerous references listed.

GPRS appreciates the opportunity to offer our services, and we look forward to continuing to work with you on future projects. Please feel free to contact us for additional information or with any questions you may have regarding this report.

Thank you,

Sean Parker
Project Manager —Boston

Direct: 617-372-6695

Sean Parker

www.gprsinc.com

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 9
GREEN BUILDING REPORT

NEW ECOLOGY
Community-Based Sustainable Development

2072 Mass Ave. Passive House Net Zero Narrative

2072 Massachusetts Avenue Passive House

2072 Mass Ave., Cambridge MA, 02140
September 10, 2020

Submitted To:

Community Development Department, City of Cambridge
344 Broadway, Cambridge MA, 02138

15 COURT SQUARE, SUITE 420 | BOSTON, MA 02108 | P (617) 557-1700 F (617) 557-1770

NEW ECOLOGY
Community-Based Sustainable Development

PROJECT PROFILE

DEVELOPMENT CHARACTERISTICS

Lot Area (sq.ft.):	~8,515 SF
Existing Land Use(s) and Gross Floor Area (sq.ft.), by Use:	BA-2 / Business A02, ~1,860 GSF
Proposed Land Use(s) and Gross Floor Area (sq.ft.), by Use:	Residential Use, ~65,710 GSF (w/Basement), ~57,400 GSF (no basement)
Proposed Building Height(s) (ft. and stories):	~89'-0", 8 Stories
Proposed Dwelling Units:	49 affordable
Proposed Open Space (sq.ft.):	0
Proposed Parking Spaces:	3 handicapped
Proposed Bicycle Parking Spaces (Long-Term and Short-Term):	51 long-term (48 Long-Term & 3 Tandem), 5 short-term

GREEN BUILDING RATING SYSTEM

The Rating System Selected for this project is as follows:

Passive House Institute US (PHIUS)			
Rating System & Version:	PHIUS+ Core	**Seeking Certification?**	YES

PROPOSED PROJECT DESIGN CHARACTERISTICS

BUILDING ENVELOPE

Roof	Roof Trusses w/ ~R-32 c.i. (~6" XPS Insulation)
Foundation	Concrete Foundation w/ ~R-30 c.i. (6" Low GWP Closed-cell Spray Foam Insulation @ R-5/in)
Exterior Walls	6" metal stud wall w/ ~R-18 c.i. (3" Polyisocyanurate or XPS), exterior rainscreen system

Windows	PHIUS approved window assemblies, thermally broken storefront system
Window to Wall Ratio	~30%
Other Components	Project team is considering sun shades on the south facade

ENVELOPE PERFORMANCE

	Proposed		Baseline	
	Area (sf)	U-value	Area (sf)	U-Value
Window	~7,250 SF	U-0.17 (SHGC – 0.32)	~7,250 SF	U-0.38 (fixed), U-0.45 (operable), 0.38 (SHGC - South, East, West), 0.51 (SHGC - North)
Wall	~32,865 SF	~U-0.05	~32,865 SF	U-0.064
Roof	~7,500 SF	~U-0.031 c.i.	~7,500 SF	U-0.032

ENVELOPE COMMISSIONING PROCESS

The project team has planned to test and verify the envelope air barrier and air infiltration rates using bi-directional blower door testing both at construction midpoint and again after construction completion. Two (2) inspections will be performed after framing and air-sealing are complete but before insulation is installed, in order to identify any potential areas of thermal bridging and/or air infiltration. These inspections will be documented with site photos. Once installed, the air barrier will be tested with a bi-directional whole building blower door test conducted to PHIUS+ CORE standards. At the end of construction, the whole building blower door test will be repeated to confirm air-tightness, and 13 units will be blower door tested for air infiltration rates per RESNET sampling protocols. In addition, a two hour inspection using a thermal imaging camera will be conducted to show compliance with thermal bridging and air sealing protocols.

BUILDING MECHANICAL SYSTEMS

SYSTEM DESCRIPTIONS

System	System Description
Space Heating:	Central VRF (11.2 EER, 23.4 IEER, 3.30 COP at 47F, 24.7 SCHE)
Space Cooling:	Central VRF (11.2 EER, 23.4 IEER, 3.30 COP at 47F, 24.7 SCHE)
Heat Rejection:	See above systems
Pumps & Auxiliary:	See above systems
Ventilation:	Central rooftop energy recovery ventilator with 75% heat recovery efficiency wheel and DX coil for heating/dehumidification
Domestic Hot Water:	Central gas-fired boiler plant potentially located at a penthouse level mechanical room to allow for future conversion to an all-electric DHW system
Interior Lighting:	LED
Exterior Lighting:	LED
Other Equipment:	TBD

SYSTEMS COMMISSIONING PROCESS

The project will retain a licensed commissioning agent (CxA) who will develop a detailed commissioning plan based on the building specifications and systems. The CxA will develop a functional performance test sheet for each system to be commissioned, and will commission the following systems: Mechanical systems and equipment including Energy Recovery Ventilation (ERV) systems, common space exhaust fans, the central VRF heating and cooling system and all apartment fan coils, and all direct digital controls. For lighting systems, all common space lighting control systems including occupancy sensors will be commissioned and sampled at the appropriate rate. For plumbing systems, the domestic hot water heating system including hot water heaters, storage tanks, circulating pumps, thermostatic mixing valves, and controls will be sampled at the appropriate rate.

ANTICIPATED ENERGY LOADS AND GREENHOUSE GAS EMISSIONS

Assumptions

The project will pursue Passive House certification and utilize WUFI energy modeling to demonstrate energy loads and energy use. The anticipated baseline building (ASHRAE 90.1-2013) energy use is indicated in the table below. Building heating and cooling loads, hot water heating load, lighting in units and common spaces, appliance and plug loads as well as miscellaneous system loads were included in this preliminary energy model.

	Proposed	Baseline
Site EUI (kBtu/yr./sq.ft.)	20	43.9
Source EUI (kBtu/yr./sq.ft.)	48	124.8

Annual Projected Greenhouse Gas (GHG) Emissions:

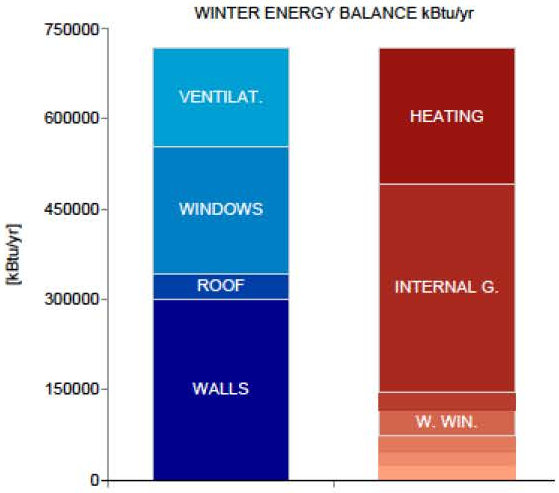
The annual expected Co2 emissions for the building based on the preliminary WUFI energy model are as follows:

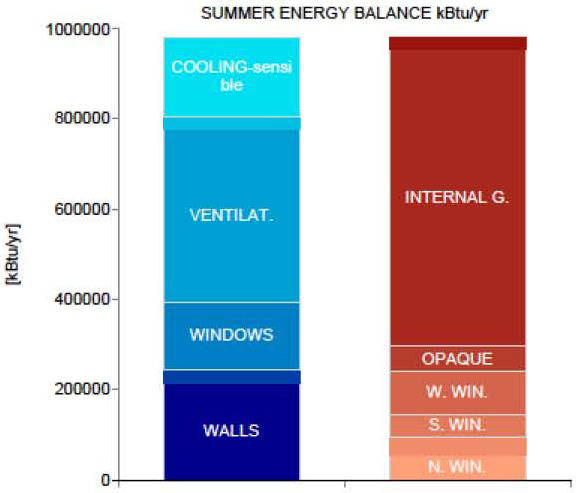
Utility	Co2 emissions in metric tons/yr.
Electricity	69.45
Natural Gas	14.98

Annual Projected Energy Consumption:
The annual expected energy consumption for the project is presented in the tables on the following pages. These tables were generated as part of the preliminary WUFI modeling exercise for the project.

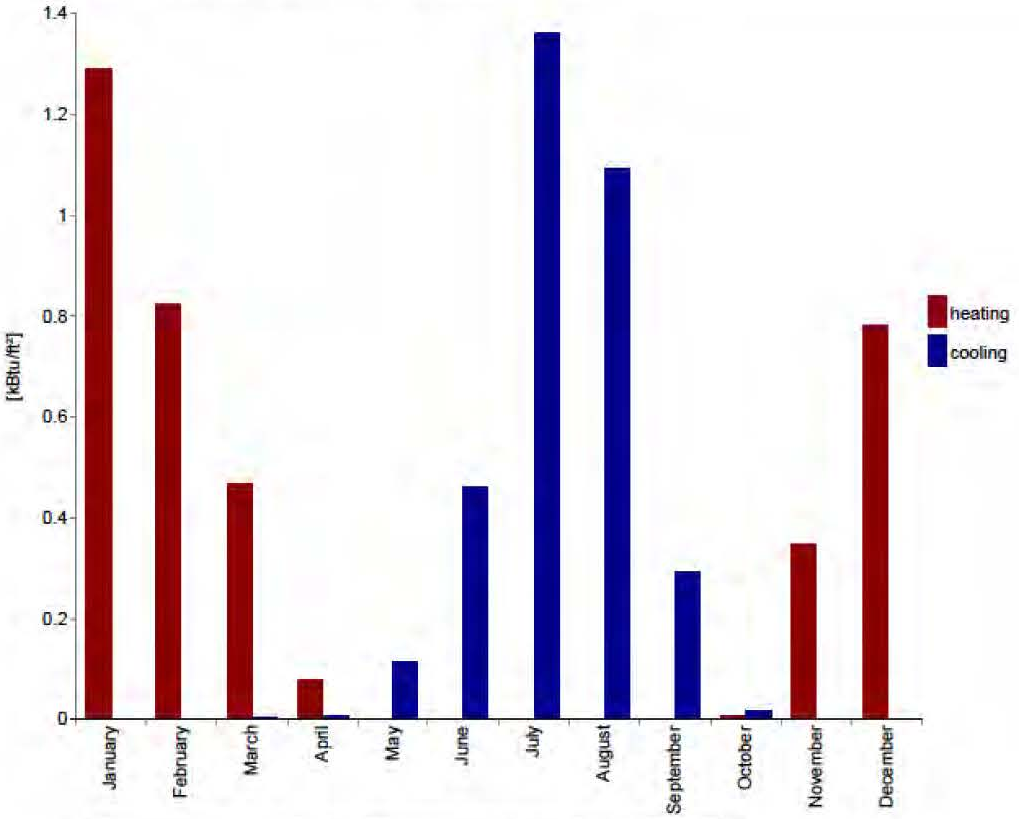
ANNUAL HEAT DEMAND		
Transmission losses :	**551,675**	kBtu/yr
Ventilation losses:	**164,937**	kBtu/yr
Total heat losses:	**716,611**	kBtu/yr
Solar heat gains:	**168,519**	kBtu/yr
Internal heat gains:	**399,611**	kBtu/yr
Total heat gains:	**568,130**	kBtu/yr
Utilization factor:	**86.2**	%
Useful heat gains:	**489,669**	kBtu/yr
Annual heat demand:	**226,943**	kBtu/yr
Specific annual heat demand:	**3,805.2**	Btu/ft²yr

ANNUAL COOLING DEMAND		
Solar heat gains:	**297,293**	kBtu/yr
Internal heat gains:	**656,805**	kBtu/yr
Total heat gains:	**954,098**	kBtu/yr
Transmission losses :	**836,470**	kBtu/yr
Ventilation losses:	**828,133**	kBtu/yr
Total heat losses:	**1,664,603**	kBtu/yr
Utilization factor:	**46.8**	%
Useful heat losses:	**779,693**	kBtu/yr
Cooling demand - sensible:	**174,405**	kBtu/yr
Cooling demand - latent:	**25,356**	kBtu/yr
Annual cooling demand:	**199,760**	kBtu/yr
Specific annual cooling demand:	**3.3**	kBtu/ft²yr





SPECIFIC HEAT/COOLING DEMAND MONTHLY



Month	Heating [kBtu/ft²]	Cooling [kBtu/ft²]
January	1.3	0
February	0.8	0
March	0.5	0
April	0.1	0
May	0	0.1
June	0	0.5
July	0	1.4
August	0	1.1
September	0	0.3
October	0	0
November	0.4	0
December	0.8	0

NEW ECOLOGY
Community-Based Sustainable Development

HEATING LOAD

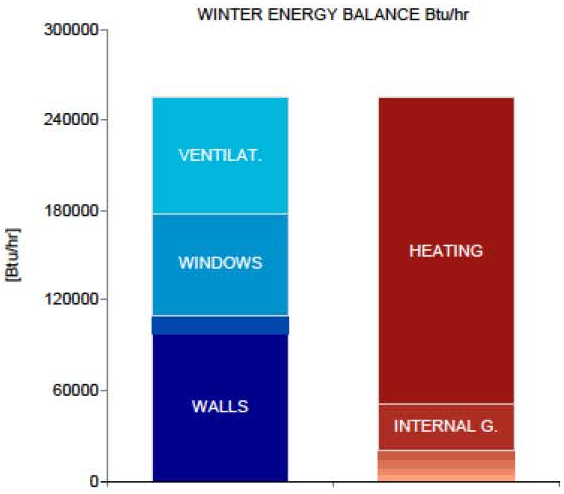
	First climate	Second climate
Transmission heat losses:	**178,137.7** Btu/hr	**126,703.6** Btu/hr
Ventilation heat losses:	**76,794.1** Btu/hr	**54,621.2** Btu/hr
Total heat loss:	**254,931.8** Btu/hr	**181,324.7** Btu/hr
Solar heat gain:	**20,522.7** Btu/hr	**11,605.6** Btu/hr
Internal heat gain:	**30,252.3** Btu/hr	**30,252.3** Btu/hr
Total heat gains heating:	**50,775** Btu/hr	**41,857.9** Btu/hr
Heating load:	**204,156.8** Btu/hr	**139,466.8** Btu/hr

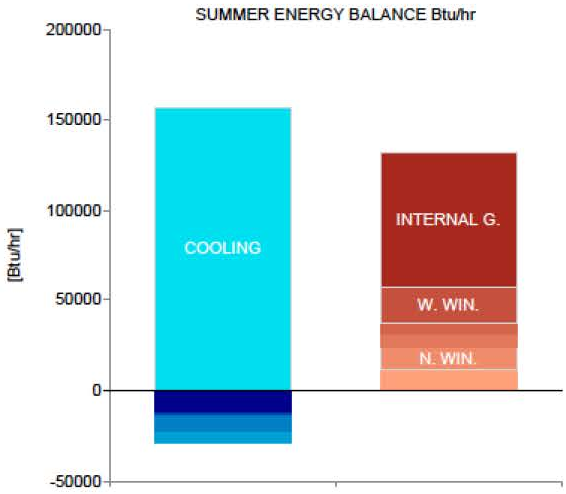
Relevant heating load: **204,156.8** Btu/hr
Specific heating load: **3.4** Btu/hr ft²

COOLING LOAD

Solar heat gain:	**56,811.3** Btu/hr
Internal heat gain:	**74,985.1** Btu/hr
Total heat gains cooling:	**131,796.4** Btu/hr
Transmission heat losses:	**-18,131** Btu/hr
Ventilation heat losses:	**-6,751.1** Btu/hr
Total heat loss:	**-24,882.1** Btu/hr
Cooling load - sensible:	**156,678.6** Btu/hr
Cooling load - latent:	**0** Btu/hr

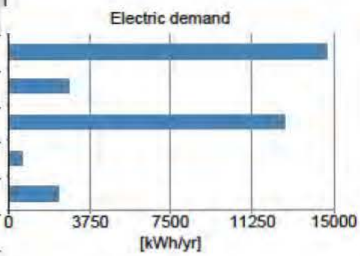
Relevant cooling load: **156,678.6** Btu/hr
Specific maximum cooling load: **2.6** Btu/hr ft²





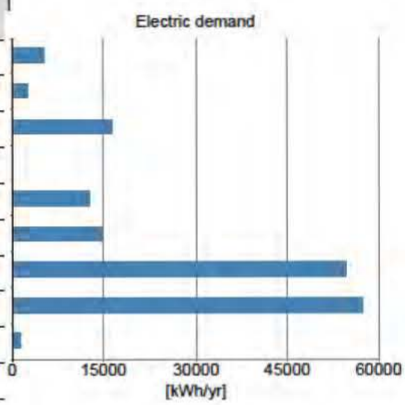
ELECTRICITY DEMAND - AUXILIARY ELECTRICITY

Type	Quantity	Indoor	Norm demand	Electric demand [kWh/yr]	Source energy [kBtu/yr]
Ventilation winter	1	no	1 W/cfm	14719.2	140613.4
Ventilation Defrost	1	no	14,790.3 W	2777.6	26534.9
Ventilation summer	1	no	1 W/cfm	12813.5	122407.8
DHW circulating pump	1	yes	77.8 W	649	6199.6
DHW storage load pump	1	yes	418.9 W	2311.7	22083.8
Σ				33271	317839.5



ELECTRICITY DEMAND RESIDENTIAL BUILDING

Type	Quantity	Indoor	Norm demand	Electric demand [kWh/yr]	Non-electric demand [kWh/yr]	Source energy [kBtu/yr]
Kitchen dishwasher	1	yes	1.2	5192.6	0	49605.4
Laundry - washer	1	yes	0.3	2381.6	0	22751.3
Laundry - dryer	1	yes	3.9	16487.5	0	157506.2
Energy consumed by evaporation	0	yes	3.1	0	1499.5	7350.9
Kitchen fridge/freeze combo	1	yes	0.7	12519.5	0	119599.5
Kitchen cooking	1	yes	0.2	14700	0	140429.9
User defined MELs	1	yes	54,532	54532	0	520947.1
User defined lighting	1	yes	57,607	57607	0	550322.8
User defined lighting	1	no	1,405	1405	0	13422
Σ	8			164825.2	1499.5	1581935.1



DHW AND DISTRIBUTION

DHW consumption per person per day:	**6.6**	gal/Person/day
Average cold water temperature supply:	**52.8**	°F
Useful heat DHW:	**249,984.9**	kBtu/yr
Specific useful heat DHW:	**4,191.6**	Btu/ft²yr
Total heat losses of the DHW system:	**32,418**	kBtu/yr
Specific losses of the DHW system:	**543.6**	Btu/ft²yr
Performance ratio DHW distribution system and storage:	**1.1**	
Utilization ratio DHW distribution system and storage:	**0.9**	
Total heat demand of DHW system:	**282,402.9**	kBtu/yr
Total specific heat demand of DHW system:	**4,735.1**	Btu/ft²yr
Total heat losses of the hydronic heating distribution:	**0**	kBtu/yr
Specific losses of the hydronic heating distribution:	**0**	Btu/ft²yr
Performance ratio of heat distribution:	**100**	%

BUILDING ENERGY PERFORMANCE MEASURES

Overview

Land Uses	The project is a mixed-use affordable housing transit-oriented development that is close to the Porter Square MBTA station. It also promotes walking and bicycling. Efficient use of limited building footprint includes approximately 525 square feet of amenity space, approximately 1040 square feet of neighborhood retail, and pedestrian scaled streetscapes.
Building Orientation/Massing	The proposed project is an eight (8) story tower with residential access to the building on Walden St, and retail space opening onto Mass. Ave.
Envelope Systems	High performance glazing and building envelope reduces the heating/cooling equipment sizes and low air infiltration rates improve indoor air quality and thermal comfort to the occupants.
Mech Systems	High efficiency mechanical systems include energy recovery ventilation, efficient air source heat pump technology, MERV 13 filtration, LED lighting, and low-flow plumbing fixtures.
Renewable Energy Systems	Preliminary WUFI energy models show that the project may meet the PHIUS site energy requirements without the inclusion of Solar PV. The project team will continue to track this item.
District Wide Energy Systems	N/A
Other	The project team has included 3 accessible parking spaces at the ground level and 2 temporary parking spaces to serve as a drop-off/pick-up area. The project has also focused on minimizing auto use, and has included 51 long term bike parking spaces (48 racks and 3 spaces for tandem or utility bikes).

INTEGRATIVE DESIGN PROCESS

The development team will present to the community on potential designs, design features, and the inclusion of affordable units as part of their early stage process. As part of the integrative design process, the developer, architect, mechanical engineer, and environmental consultant team have conducted a Green Charrette early on in the Schematic Design process and developed consensus on building systems and design that is consistent with PHIUS Passive House requirements.

SOLAR READY ROOF ASSESSMENT

To meet the very high level of performance required by the Passive House PHIUS+ CORE standard, results from preliminary energy models run by the project team indicated that this building likely does not require a PV array on the roof to meet the source energy goals. The project team is currently exploring placement of a mechanical room on the roof to enable a conversion to an all-electric DHW system in the future. This will limit available roof space for solar PV, but the building will be solar ready to allow for the potential addition of PV in the future. While this 49 unit building will be as energy efficient as possible, maximizing the potential to be a carbon neutral building in the future would likely involve purchasing renewable energy credits to offset the emissions from grid purchased power.

GREEN BUILDING INCENTIVE PROGRAM ASSISTANCE

Below is a description of programs applicable to this project that support improved energy performance or reduced greenhouse gas emissions, and which of those programs have been contacted and may be pursued.

The project plans to offset the costs of an energy efficient building envelope and electric heating and cooling system cost by utilizing all available rebate programs. The project is enrolled in the MassSave Passive House incentive program, and expects to use the Passive House Feasibility incentives from this program to offset the costs of energy modeling to meet Passive House standards. The project team plans to fully certify the building in order to be eligible for the full incentive package offered by MassSave. In addition, should the building systems qualify for the DOER Alternative Energy Certificate (AEC) incentive program, the project team will register for that incentive package as well.

NEW ECOLOGY
Community-Based Sustainable Development

NET ZERO SCENARIO TRANSITION

Below is a description of the technical framework by which the project can be transitioned to net zero greenhouse gas emissions in the future, acknowledging that such a transition might not be economically feasible at first construction. This description explains the future condition and the process of transitioning from the proposed design to the future condition.

	Net Zero Condition	**Transition Process**
Building Envelope	The building envelope will be built to PHIUS Passive House standards, making it an ideal structure to achieve Net Zero. The envelope will be well insulated and have a low level of air infiltration which will be tested and verified at construction.	This system will be a zero (site) emissions system at installation.
HVAC Systems	The heating system will be all-electric, with a highly efficient central VRF system installed at construction. In addition, central rooftop energy recovery ventilation will be used to capture energy from the ventilation system.	This system will have a zero (site) emissions system at installation.
Domestic Hot Water	A central gas-fired boiler plant will be included at construction. The project team is investigating the potential of locating these systems in a penthouse level mechanical room to allow for future conversion to an all-electric DHW system.	At the end of the system lifetime, the project team expects the all-electric DHW system technology to have advanced sufficiently to allow for conversion of this system to all-electric. The project team is investigating locating the DHW system on the roof specifically to allow for future conversion.
Lighting	The project will use LED lighting throughout at construction. The building energy model for this project, completed using WUFI modeling software for use in Passive House projects, does factor in and measure Lighting Power Density as a calculation in overall building energy	The building and management team will include updated technology as it is available and will update systems at the end of service life of the lighting systems.

	consumption. Fixtures have been modeled and will be specified in project documents to meet or exceed the energy requirement of the WUFI model.	
Renewable Energy Systems	The building will be Solar Ready at construction.	In order to become fully carbon neutral, this project will likely have to purchase renewable energy credits given the building footprint and limited roof area.
Other Strategies	The project is actively considering and modeling the use of window shading to reduce building energy consumption during summer months, while also allowing solar thermal gains during winter months.	

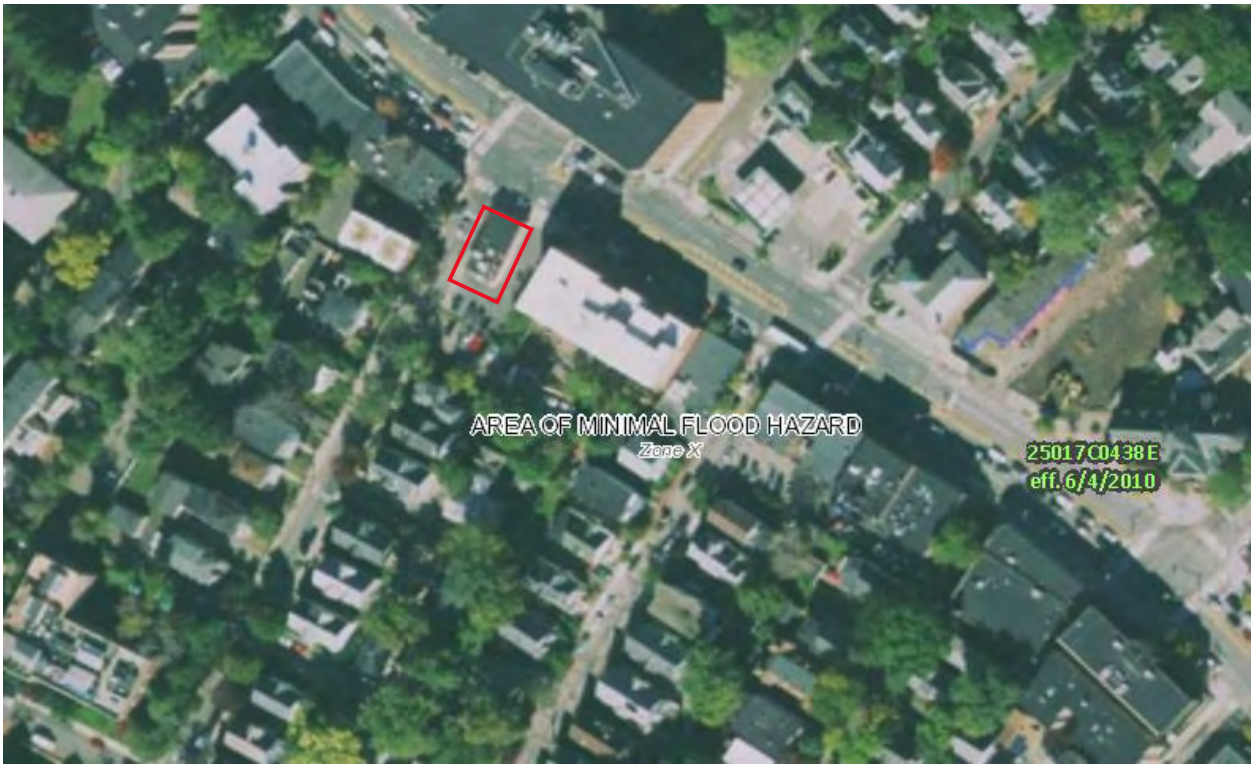
RESILIENCY

The project team has considered various resiliency strategies to reduce the project's and the residents' overall vulnerability. These resilience strategies are identified and summarized below in five sections.

EXISTING SITE ASSESSMENT

The project team has evaluated the flood risk based on current maps and future projections for the site and surrounding area. While the site is not located in a FEMA flood zone, and is not projected to be exposed to flood risk in forward looking models through the year 2070, the project team is actively considering resilience and risk mitigation strategies.

The project is at an average site elevation of ~35.95 ft-CCB, which translates to ~25.11 NGVD (ft-CCB is at 10.84 below NGVD). Based on the 2010 FEMA / FIRM Map, the site is located in Zone X Area of Minimal Flood Hazard, and is determined to be outside the 0.2% annual chance floodplain boundary (500-year flood scenario). Since the project is outside of the FEMA flood zones, FEMA has not determined a base flood elevation for this project site. The image below shows the project's location on the FEMA flood map.



Based on the City of Cambridge FloodViewer v2.1, the site is outside the boundary of both the 2070 – 10 and 100 Year flood elevations. The below diagram indicates the extents of 2070 – 100 Year Precipitation nearby further down Walden St, and across Massachusetts Avenue. Although the project is not projected to be impacted by flooding, the project team has considered how to mitigate impacts from extreme events, and has outlined a number of resilience strategies and actions below.

Address: 12 Walden St

Ground Elevation Min:	35.70 ft-CCB
Ground Elevation Max:	38.90 ft-CCB
2070- 100 Year- SLR/SS	N/A
2070- 100 Year - Precip	N/A
2070- 10 Year - SLR/SS	N/A
2070- 10 Year - Precip	N/A
2030- 100 Year - Precip	N/A
2030- 10 Year - Precip	N/A
Present Day - 100 Year	N/A
Present Day - 10 Year	N/A
FEMA 500 Year	N/A
FEMA 100 Year	N/A

Selected Map-Lot: 200-22
Selected Address: 12 Walden St

PROTECTION STRATEGIES

The project will use strategies to reduce the building's vulnerability to extreme weather. The basement area will be waterproofed, as the building is outside of future projected flood risk zones. Flood resistant materials will be used in the basement, with concrete being the main material used. Sealants will be applied as needed and any cracks and penetrations will be sealed. Drywall use will be minimized in the basement, and any drywall used in the basement will be moisture, mold and mildew resistant purple board.

The transformer room will be waterproofed as needed based on its location in the building. Equipment located in the basement that must be on the floor will be located on 6" or 12" concrete pads as appropriate. Electrical outlets will be located 3'-0" above basement floor level. To prevent water intrusion, backwater valves will be installed as appropriate. In order to remove any water that does enter the basement, a sump pump will be installed and connected to emergency power. The project team will also work with the owner to develop an O&M manual which will include steps to take during flooding events.

ADAPTATION STRATEGIES

The project team is exploring the following strategies to improve the facility's ability to adapt to changing climate conditions. These strategies include both building elements and mechanical systems.

Building adaptation strategies include, but are not limited to, the following: Passive House level building envelope with operable windows to help with "passive survivability" – keeping the building habitable during extended power outages in any season. Reduced urban heat island effect enabled by the use of light colored and vegetated roofs. Window sunshades installed on the southwest façade to reduce solar heat gain during the summer, and interior window treatments (blinds) to reduce heat gain while allowing in light as needed.

Building mechanical system adaptation strategies include, but are not limited to, the following: Decentralized VRF heat pump mechanical system for both heating and cooling locates mechanical equipment on roof and in units instead of an area that can be potentially damaged by flooding. Other mechanical equipment, including air handlers, energy recovery ventilators, and emergency generator, are located on the roof and away from flood risk. All residential living areas are elevated, all are located on the second floor or above. The project team is also actively considering the inclusion of a stormwater capture system, including infiltration tanks.

BACKUP STRATEGIES

The project team is exploring how to provide for critical needs if the building loses power or other services. The project team plans to include an emergency generator located on roof and appropriate emergency lighting for evacuation and “sheltering-in-place”. Storage space will be available to provide access to water storage containers and access to potable water in the event of a power outage.

COMMUNITY RESILIENCE STRATEGIES

The project team is exploring how to encourage behavior which enhances resilience through cooperation. To enable this, the building’s amenity room encourages community building among residents. The planned amenity room includes communications resiliency measures e.g. phone charging, emergency refrigeration, and access to potable water as mentioned above. The project team will also evaluate the creation of an emergency operations manual for residents.

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 10
TREE PROTECTION PLAN

Plant Healthcare Consultants

American Society of Consulting Arborist ▪ International Society of Arboriculture
Massachusetts Arborist Association ▪ Massachusetts Tree Wardens and Foresters Association
TREE INVENTORIES ▪ APPRAISALS ▪ DIAGNOSIS ▪ TREE RISK ASSESSMENTS

Tree Protection Plan
2072 Massachusetts Avenue
Cambridge, MA 02140

Prepared for:

CC HRE 2072 MASS AVE LLC
c/o Capstone Communities LLC
1087 Beacon Street, Suite 302
Newton, MA 02459

Prepared by:

Daniel E. Cathcart
Certified Consulting Arborist
Plant Healthcare Consultants
76 Stony Brook Road
Westford, MA 01886

November 4, 2020

Table of Contents

Summary

I was retained by CC HRE 2072 MASS AVE LLC for perform an evaluation of a Tilia cordata (Littleleaf linden) on the property line between 2050 and 2072 Massachusetts Avenue, Cambridge, MA. The focus of the evaluation was to assess the health and condition of the tree and, if preservation is an option, develop a Tree Protection Plan.

It is my opinion that the tree can be preserved and the specifications for the Tree Protection Plan are included in this report.

Introduction

On October 20, 2020 Jason Korb, of CC HRE 2072 MASS AVE LLC, contacted my office inquiring to retain consulting arborists in regard to a redevelopment project in Cambridge, MA. Mr. Korb informed me that there was a tree on the property line between the property he was redeveloping at 2072 Mass Ave. and the abutter at 2050 Mass Ave. He expressed a desire to preserve the tree and requested specification for a Tree Protection Plan.

I agreed to assist on the project. A site visit was scheduled for October 23, 2020 at 10:00 am.

Background & History

CC HRE 2072 MASS AVE LLC has acquired 2072 Mass Avenue, Cambridge, MA an ~8,500 sq ft property on the corners of Mass Ave and Walden Street. CC HRE 2072 MASS AVE LLC plans to renovate the property. There is one mature tree on the property line between 2072 and 2050 Mass Ave, a 12" diameter at breast height (DBH) Littleleaf linden. CC HRE 2072 MASS AVE LLC's goal is to preserve this tree.

A Tree Protection plan will be implemented to maximize the likelihood of the Littleleaf linden surviving the construction.

Assignment

The scope of the assignment is to assist CC HRE 2072 MASS AVE LLC in creating a Tree Protection Plan for the Littleleaf linden. This plan will have recommendations and specifications to provide the tree with the best chance of surviving the construction project.

The plan is included in this report.

Limits of Assignment

The recommendations and conclusions provided in this report are based on visual observations only. No examinations of the tree's interiors were taken nor were and soil or plant tissue taken and submitted for laboratory testing unless otherwise stated.

Purpose and Use of Report

This report is intended to provide CC HRE 2072 MASS AVE LLC with as much information regarding the tree at 2072 Mass Ave. It will outline the tree protection plan, tree management plan and provide recommendations and specifications for care of the tree in all phases of the site development.

This report is the property of CC HRE 2072 MASS AVE LLC and can be used and shared as they see fit.

Observations

On October 23, 2020 at approximately 10:00 am I visited the site and inspected the Littleleaf linden. At this visit I observed the tree and its surrounding and took measurements and photographs. I also examined the construction plans for the site to determine impact in regard to the tree.

I identified the tree as a 12" DBH Tilia cordata, Littleleaf linden. It is located on the west property line of 2070 Mass Ave that abuts 2050 Mass Ave. It is growing in a strip of land approximately 10' x 55' running in roughly a north-south orientation.

Planting Strip

The Littleleaf linden appears to be in good health and has established itself well in this area.

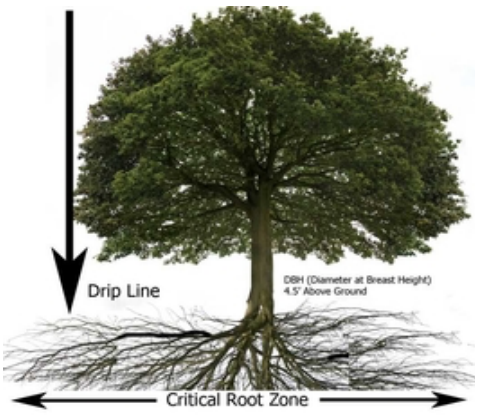
Due to the fact that the roots zone is confined by a retaining wall to the west and the paved parking area to the east, the majority, if not all, of the viable roots of the tree are located in the planting strip. As such, if this area is to be protected and proper steps taken, the root system should remain viable and sustain the tree through construction.

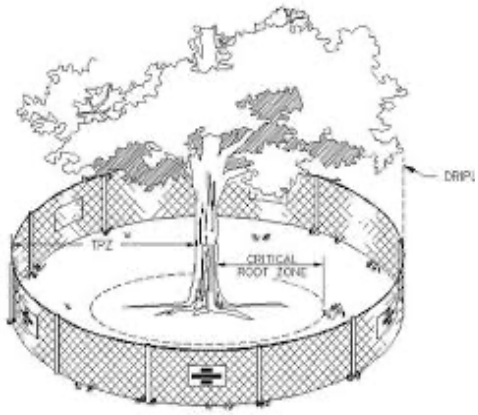
I also reviewed to attached Support of Excavation (SOE), (See page XXX). The proposed soldier piles and lagging, denoted by the red-dashed line on the plans, will allow for the following tree protection plan to be implemented.

Discussion

Tree Projection Zone

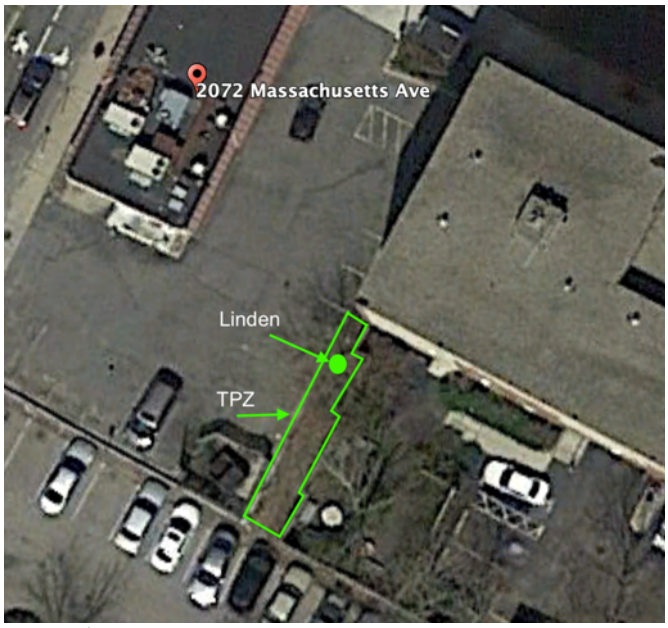
A Tree Preservation Plan has several components, all focusing on giving the tree the best chance for surviving the construction project. The majority of the components involve protection the Critical Root Zone (CRZ). The CRZ is the minimum area beneath the canopy of a tree which must be left undisturbed in order to preserve a sufficient root mass to give a tree a reasonable chance of survival. The CRZ should be defined, at a minimum, of the tree's dripline, the area represented by the outer canopy of the tree. This is crucial because the absorbing roots, the roots that take in water and nutrients, must be undisturbed or the tree will suffer stress and may decline and even die. The Tree Protection Plan includes the establishment of a Tree Protection Zone (TPZ), ideally, the TPZ must include the CRZ. The larger the TPZ the better as the root zone of a tree could extend as much as two or three times the width of the canopy. This is an area that is enclosed by a semi-permanent fence with appropriate signage. Within the CRZ, trenching, pavement, soil compaction, mechanical injury, storing of materials and spoils and any change in grade should be avoided.





Ideal Tree Protection Zone

In this case the CRZ has been encroached upon by the pavement and retaining wall and the tree has adjusted its root growth accordingly by concentrating its root into the planting strip. As a result of the trees natural compensation to its environment a modified TPZ should be made to include as much of the planting strip as possible.

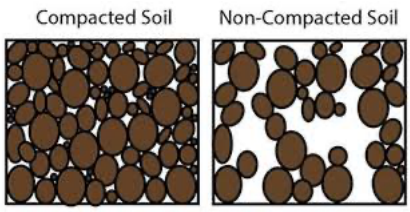


Proposed TPZ

Soil Compaction

All protected trees in the construction zone are subject to soil compaction from heavy vehicles, and any heavy debris placed in the Critical Root Zone (CRZ). Soil compaction occurs when the pore space

between soil particles is greatly reduced. This causes the reduction of oxygen available to the roots and can lead to decline in trees. Use of equipment, grading, digging, and heavily used walking paths can cause soil compaction in a construction area. Use protective fencing, mulching within the protective fencing, and limiting the amount of access routes will minimize soil compaction.



As the root system of trees is far more extensive than just the dripline, in this case in the entire planting strip, all equipment and materials should be kept out of the TPZ.

Mechanical Injury

There will be heavy equipment and vehicles used near the trees that are to be protected.
Wounds to the tree's branches and trunk, caused by mechanical damage, may reduce tree stability by decreasing the wood strength, the internal movement of water and nutrients, and the ability to compartmentalize against decay. Enclosing the Critical Root Zone with protective fencing will prevent damage from construction equipment.

Change in Grade

Lowering or rising of the grade within the root zone can damage or kill a tree. The normal exchange of moisture and gases within the root zone is disrupted with the change in grade. The original grade should be maintained as far out from the trunk as possible. As little as four inches of soil placed over the root system can kill some species of trees. The change in grade can have either immediate or long-term adverse effects on the tree. If grade change is required use of retaining walls or soil cuts can improve the tree's tolerance to the grade change.

Excavation & Trenching

This project will require excavation for foundations. Excavation & trenching within the CRZ can damage the root system of a tree. Practicality requires the need to encroach on the CRZ, but care should be taken to excavate as little of the area adjacent to the tree as possible.

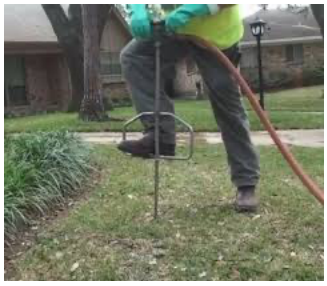
Irrigation

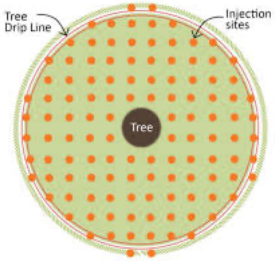
Irrigation should be provided within the CRZ as needed. A deep watering of the trees should take place before construction begins. During construction, the soil in the CRZ should be watered regularly and deeply so water penetrates the root area at least six to eight inches deep. A watering schedule will vary with climatic conditions, but a rule of thumb is 1" of water weekly during construction.

Soil Treatment

I am prescribing a non-nitrogen fertilizer that is high in phosphorus and potassium (0-20-20 fertilizer analysis) to promote root development. I recommend a fertilization in the spring. Applying the fertilizer in the early spring will prepare the trees for a flush of root development. Root development is most critical for the trees to prepare themselves for construction impact. The healthier and abundant the root system the more water and nutrients the tree can take in which is the best defense against stress.

The fertilizer shall be applied in a water solution, injected directly into the CRZ, in this case the entire TPZ, by means of an application needle under pressure. Injections should be made about every foot in a grid-like pattern.





Plant Healthcare

At this stage there does not appear to any major pest concerns on the trees. This will be monitored regularly (monthly) to see if conditions change. If there is a need to address insect, mite or disease pest a proper course of action will be prescribed at that time.

All plant healthcare treatments shall be performed by a certified arborist who is also a licensed pesticide applicator and supervised by an ISA Board Certified Master Arborist.

Conclusion

Based on my education, training and experience it is my opinion that taking this proactive approach to tree preservation will provide the Littleleaf linden at 2070 Mass Ave the best chance of surviving the construction. Setting up tree protection zones around the trees to retain, managing the flow and access of heavy equipment, performing required tree work prior to commencing construction and regular monitoring of the work site to ensure all practices are adhered to should make for a successful worksite.

Recommendations

Pre-Construction

Prior to construction the Tree Protection Zone should be established. A six-foot chain-link fence (or suitable alternative, i.e. snow fence), with signage designating a Tree Protection Zone, Keep Out, should be erected around all the protected tree and encompass the modified Critical Root Zone as explained above. Once installed this fence should not be moved nor the CRZ disturbed for the duration of the construction project.

The access way for heavy equipment should be established, as well as where equipment and materials will be stored. This should be as far away as possible from all protected trees and their root systems. No equipment or material may be stored on the root systems of the protected trees.

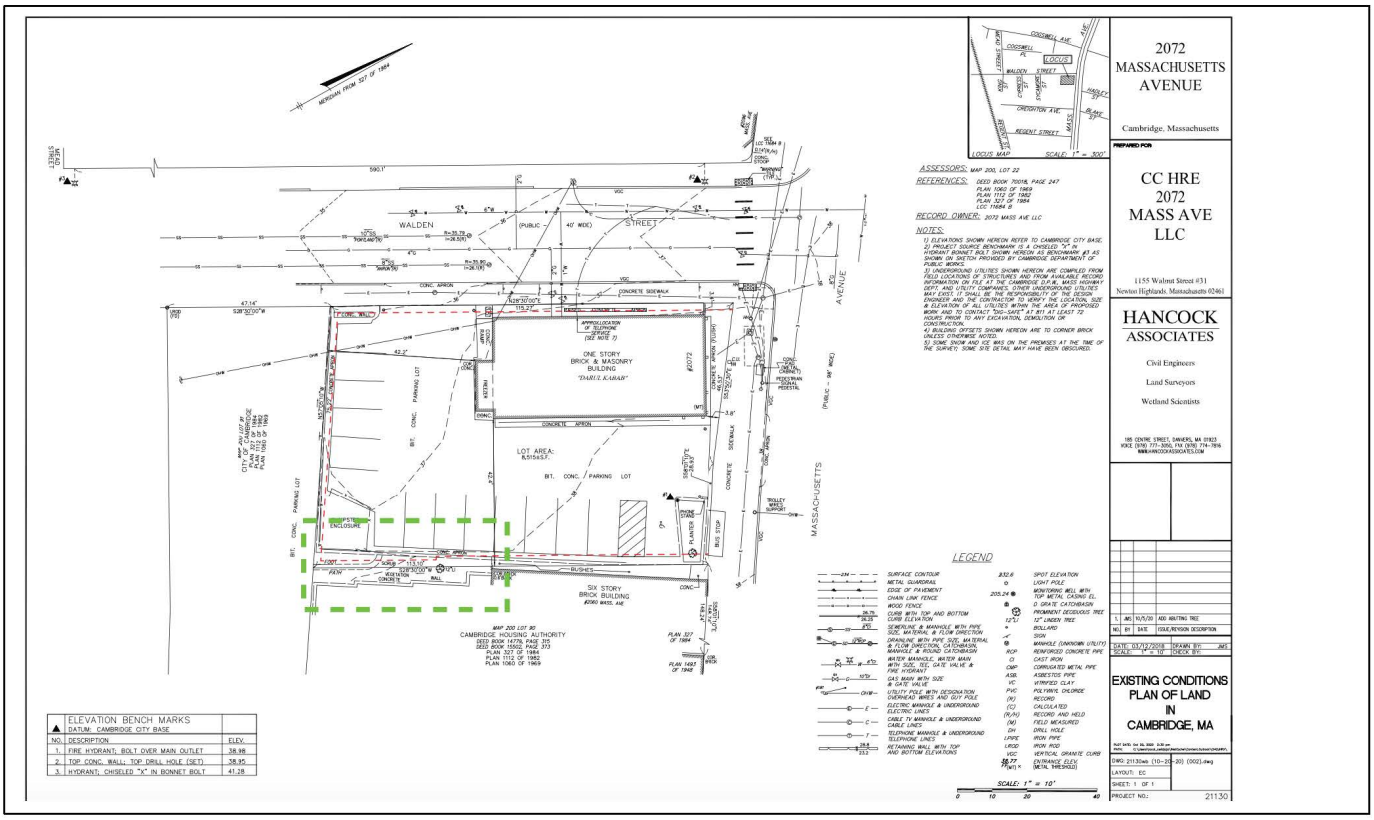
Construction

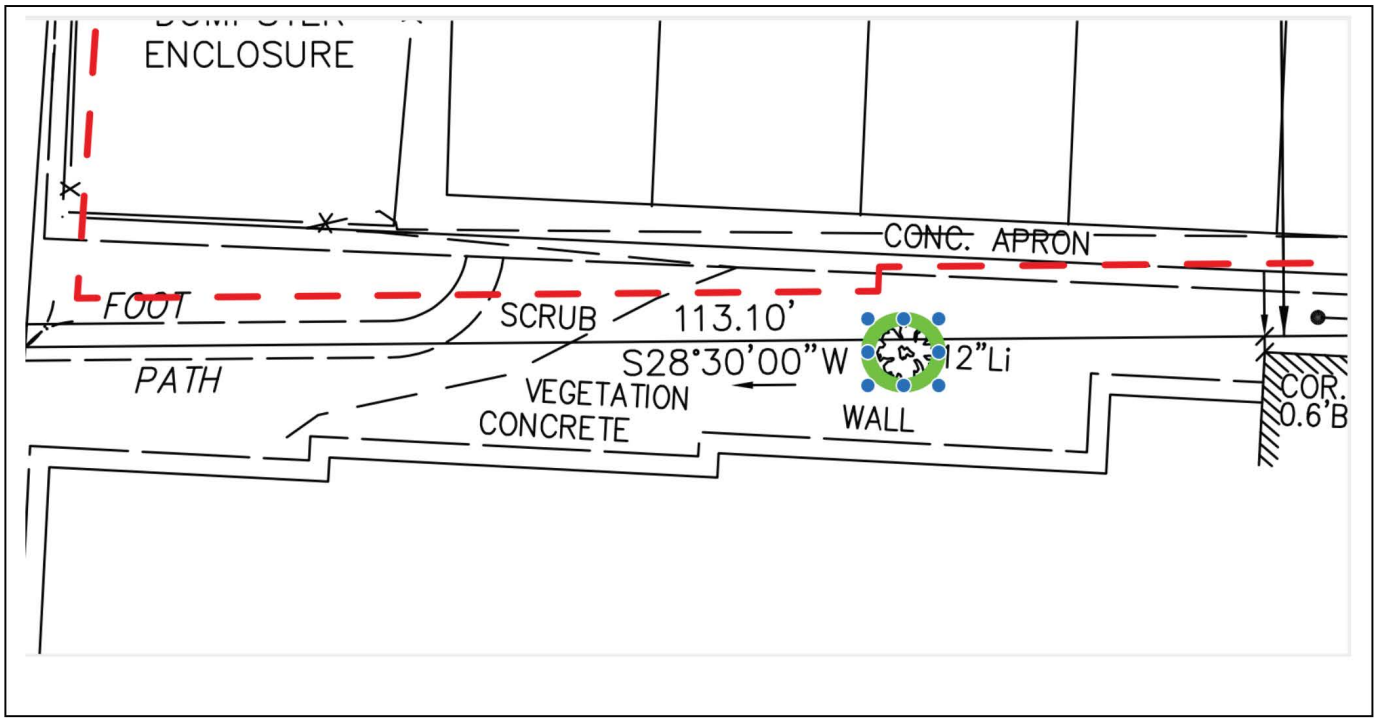
During the construction Phase of the project monitoring of the site is crucial. An ISA Board Certified Master Arborist should inspect the site monthly. The purpose of those visits is to ensure that the Tree Preservation Plan is being adhered to, adequate watering is taking place, trenching and excavations are following plan, inspect the trees for pest issues and make observations regarding any changes to the trees on the site.

Post-Construction

Monitoring after the construction is completed is very important to the long-term health of the trees. For a period of one growing season (starting the April following construction completion through that September) monthly monitoring will continue as during the construction period.

Support of Excavation Plan





Glossary of Terms

Absorbing Roots	Fine, fibrous roots that take up water and minerals; most of them are within the top 12 inches of soil
Branch Union	The structural union of a lateral branch to the tree stem.
Caliper	Is measured approximately 6-12" from the root collar. Caliper is an American Nursery Standard measurement. Synonym for trunk diameter used to measure the size of nursery stock; by convention, measured 6" above the ground.
Canopy	The part of the crown composed of leaves and small twigs.
Certified Arborist	A professional arborist possessing current certification issued by the Massachusetts Arborists Association (MAA) and/or the International Society of Arboriculture (ISA)
Clinometer	A device used to measure the height of an object
Co-dominant	equal in size and relative importance usually associated with either the trunk/stems or scaffold limbs/ branches in the crown.
Critical Root Zone (CRZ)	The minimum area beneath the canopy of a tree which must be left undisturbed in order to preserve a sufficient root mass to give a tree a reasonable chance of survival. The CRZ is represented by a concentric circle centering on the tree's trunk and extending outward towards the tree's drip-line. The minimum area of the CRZ shall be dependent on the required minimum radius of the CRZ; the required CRZ shall be determined by multiplying a tree's DBH (in inches) by eighteen (18) inches, with the resulting product constituting the minimum radius of the CRZ.
Compost	Organic matter that has been intentionally subjected to decay processes and is more or less decomposed.
Crown	The upper part of a tree, measured from the lowest branch, including all the branches and foliage
DBH	Stands for Diameter Breast Height. The diameter of a tree measured at 4.5 feet above the ground.
Drip-line	Perimeter of the area under a tree including the branches and leaves
Establishment	The process of a tree becoming acclimated to a new environment, usually correlating the new root development that can sustain normal biological functions of the tree

Monitoring	A holistic approach to plant healthcare that includes inspecting plants for cultural problems, proper soil moisture and nutrient content and insect and disease issues-treating as necessary
Parity	The time, usually in years, that it takes for a replacement tree to provide similar attributes and benefits of a removed tree
Pruning	Systematic removal of branches of a plant usually a woody perennial
Restoration/Maintenance Program	A plan of maintenance and monitoring of trees to maximize survival or recovery rate of damaged or newly planted trees
Root Collar	Area at the base of the tree where the roots and the stem merge
Soil Compaction	Compression of the soil resulting in a reduction of the total air or pore space
Specimen Tree	A tree of high perceived value attributed to location, size, aesthetics, form or function
Stress	Any change in environment conditions that produce a less than ideal plant response
Transplant Shock	The stress a tree undergoes as a result of planting in a new location
Tree Protection Plan	Report to identify and protect trees indicated to remain. Procedures shall include protective measures to be used for both above and below grade.
Tree Protection Zone	An area usually defined by the drip-line of a tree. To protect a tree, no construction should ever occur within this area.

Assumptions and Limited Conditions

1. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes or other governmental regulations.
2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
4. Unless required by law, otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant.
5. Unless required by law, neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant-particularly as to value conclusions, identity of the consultant, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant as stated in his qualifications.
6. This report expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
7. Sketches, drawings, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys unless expressed otherwise. The reproduction of any information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is for the express purpose of coordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by *Plant Healthcare Consultants* as to the sufficiency or accuracy of said information.
8. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring unless otherwise specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.
9. Loss or alteration of any part of this report invalidates the entire report.

Certification of Performance

Plant Healthcare Consultants certify that:

1. We have personally inspected the tree and property referred to in this report and have stated our findings accurately.

2. We have no current or prospective interest in the trees or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.

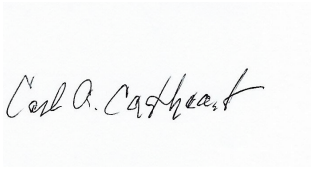
3. The analysis, opinions and conclusions stated herein are our own and are based on current scientific procedures and facts.

4. Our analysis, opinions and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.

5. No one provided significant professional assistance to us, except as indicated within the report.

6. Our compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party or upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

We further certify that Plant Healthcare Consultants is a member in good standing of the Massachusetts Arborist Association, American Society of Consulting Arborists, the International Society of Arboriculture and Massachusetts Tree Wardens and Foresters Association. We have been involved in the field of Arboriculture for over 60 years



Carl A. Cathcart
A.S.C.A. Registered Consulting Arborist RCA #606
Massachusetts Certified Arborist #1114
International Society of Arboriculture #WE-0716A
ISA Tree Risk Assessment Qualified

Daniel E. Cathcart
American Society of Consulting Arborists
Massachusetts Certified Arborist #41801
ISA Board Certified Master Arborist #TX-1357B
ISA Tree Risk Assessment Qualified
Massachusetts Qualified Tree Warden #1097

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 11
PLANS

CC HRE 2072 MASS AVE TENANT LLC
OWNER

C/O CAPSTONE COMMUNITIES LLC
1087 BEACON ST, SUITE 302
NEWTON CENTRE, MA 02459

C/O HOPE REAL ESTATE ENTERPRISES LLC
907 MASSACHUSETTS AVE, SUITE 300
CAMBRIDGE, MA 02139

BRUNER/COTT ARCHITECTS
ARCHITECT

225 FRIEND ST, SUITE 701
BOSTON, MA 02114

NITSCH ENGINEERING INC.
CIVIL ENGINEER

2 CENTER PLAZA, #430
BOSTON, MA 02108

PETERSEN ENGINEERING INC.
MEP/FP ENGINEER

127 PARROTT AVE
PORTSMOUTH, NH 03801

L.A. FUESS PARTNERS
STRUCTURAL ENGINEER

211 CONGRESS ST, SUITE 810
BOSTON, MA 02110

NEW ECOLOGY INC
SUSTAINABILITY CONSULTANT

15 COURT SQ, SUITE 420
BOSTON, MA 02108

CODE RED CONSULTANTS LLC
CODE CONSULTANT

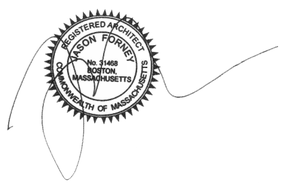
154 TURNPIKE RD, SUITE 200
SOUTHBOROUGH, MA 01772

2072 MASS AVE

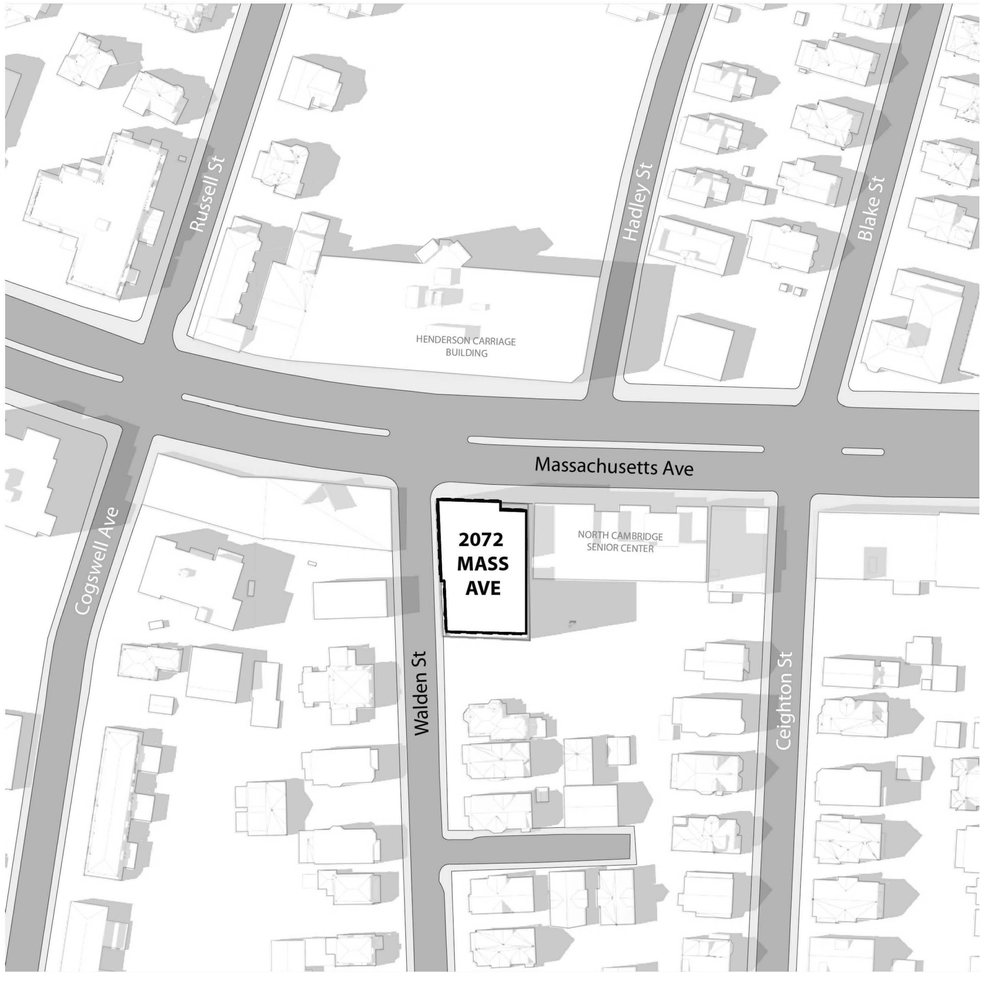
2072 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02140

COMPREHENSIVE PERMIT

NOVEMBER 10, 2020



NEIGHBORHOOD MAP



SITE PLAN

Bruner/Cott
ARCHITECTS
225 Friend St., Suite 701
Boston, MA 02114
617.492.8400
www.brunercott.com

Rev	Date	Remarks

Date	NOVEMBER 10, 2020
Scale	
Project Number	20.001
Drawn By	Author

2072 MASS AVE

2072 Massachusetts Avenue, Cambridge, MA 02140

COMPREHENSIVE PERMIT
NOT FOR CONSTRUCTION

REGISTERED ARCHITECT JASON FORNEY No. 31468 BOSTON, MASSACHUSETTS COMMONWEALTH OF MASSACHUSETTS

NEIGHBORHOOD MAP/ SITE PLAN

G-100

DRAWING LIST

GENERAL

G-100	NEIGHBORHOOD MAP/ SITE PLAN
G-101	DRAWING LIST, UNIT MATRIX, ZONING SUMMARY
EC	EXISTING CONDITIONS PLAN OF LAND IN CAMBRIDGE, MA

CIVIL

C-100	CIVIL SITE UTILITY AND LAYOUT PLAN
C-101	PROPOSED EASEMENT PLAN

ARCHITECTURAL

A-100	BASEMENT FLOOR PLAN
A-101	FIRST FLOOR PLAN
A-102	TYPICAL FLOOR PLAN (FLRS 2-8)
A-109	ROOF PLAN
A-300	EXTERIOR ELEVATIONS
A-301	EXTERIOR ELEVATIONS
A-302	EXTERIOR ELEVATIONS
A-303	EXTERIOR ELEVATIONS
A-304	EXTERIOR ELEVATIONS
A-305	PERSPECTIVES
A-306	PERSPECTIVES
A-307	PERSPECTIVES
A-308	PERSPECTIVES
A-309	PERSPECTIVES
A-310	PERSPECTIVES
A-400	STREET SECTIONS
A-401	BUILDING SECTION
A-402	BUILDING SECTION

2072 MASSACHUSETTS AVENUE, CAMBRIDGE, MA
BUILDING TABULATIONS
PREPARED BY BRUNER/COTT ARCHITECTS

SITE AND BUILDING

BUILDING GROSS FLOOR AREA (GFA) (PER ZONING)

BASEMENT	Excluded
FIRST FLOOR	4,580
SECOND FLOOR	7,545
THIRD FLOOR	7,545
FOURTH FLOOR	7,545
FIFTH FLOOR	7,545
SIXTH FLOOR	7,545
SEVENTH FLOOR	7,545
EIGHTH FLOOR	7,545
TOTAL GFA	**57,395**

BUILDING GROSS SQUARE FOOTAGE (GSF)

BASEMENT	5,465
FIRST FLOOR	4,580
SECOND FLOOR	7,545
THIRD FLOOR	7,545
FOURTH FLOOR	7,545
FIFTH FLOOR	7,545
SIXTH FLOOR	7,545
SEVENTH FLOOR	7,545
EIGHTH FLOOR	7,545
TOTAL GSF	**62,860**

TOTAL PARCEL SIZE (SF)	8,515
FAR	6.74
PARKING RATIO (EXCLUDES DROP-OFF/PICK-UP)	6%
LONG TERM BIKE PARKING RATIO	104%
OPEN SPACE	0%
CONSTRUCTION TYPE *	Type IA construction (2-story podium, basement and first floor), Type IIA construction (above podium, second to eigth floors)

* Alternative option of seeking a variance to permit the use of the new construction type classifications found in the 2021 IBC and classifying the tower as Type IV-B

PARKING

	HC	TOTAL *	HC UNIT : SPACE RATIO
COVERED PARKING	3	3	1:1

* Commercial parking is waived under Article 6.36 based on actual quantity required being below four (4) required spots

* Two (2) pick-up/drop-off spaces will also be provided

	LONG-TERM	TANDEM	SHORT-TERM	TOTAL
BIKE PARKING	48	3	0*	51

* Project team is seeking alternative public contribution option of satisfying short-term bike parking requirements per Article 6.104.2 (b)

UNIT MIX

	STUDIO	1 BR	2 BR	3 BR	TOTAL
SECOND FLOOR	0	2	3	2	7
THIRD FLOOR	0	2	3	2	7
FOURTH FLOOR	0	2	3	2	7
FIFTH FLOOR	0	2	3	2	7
SIXTH FLOOR	0	2	3	2	7
SEVENTH FLOOR	0	2	3	2	7
EIGHTH FLOOR	0	2	3	2	7
TOTAL	**0**	**14**	**21**	**14**	**49**

% PER UNIT TYPE	0%	29%	42%	29%
% 2 AND 3 BR COMBINED	71%			

	STUDIO	1 BR	2 BR	3 BR	TOTAL
TOTAL NUMBER OF BEDROOMS	0	14	42	42	**98**

UNIT NUMBER *	UNIT TYPE	UNIT AREA (SF)
UNIT X01	1 BR	569
UNIT X02	1 BR	681
UNIT X03	3 BR	1144
UNIT X04	2 BR	800
UNIT X05	2 BR	850
UNIT X06	3 BR	1031
UNIT X07	2 BR	823

* For typical floors (second through eight floors)

UNIT TYPE	AVERAGE AREA (SF)
STUDIO	N/A
1 BR	625
2 BR	824
3 BR	1088

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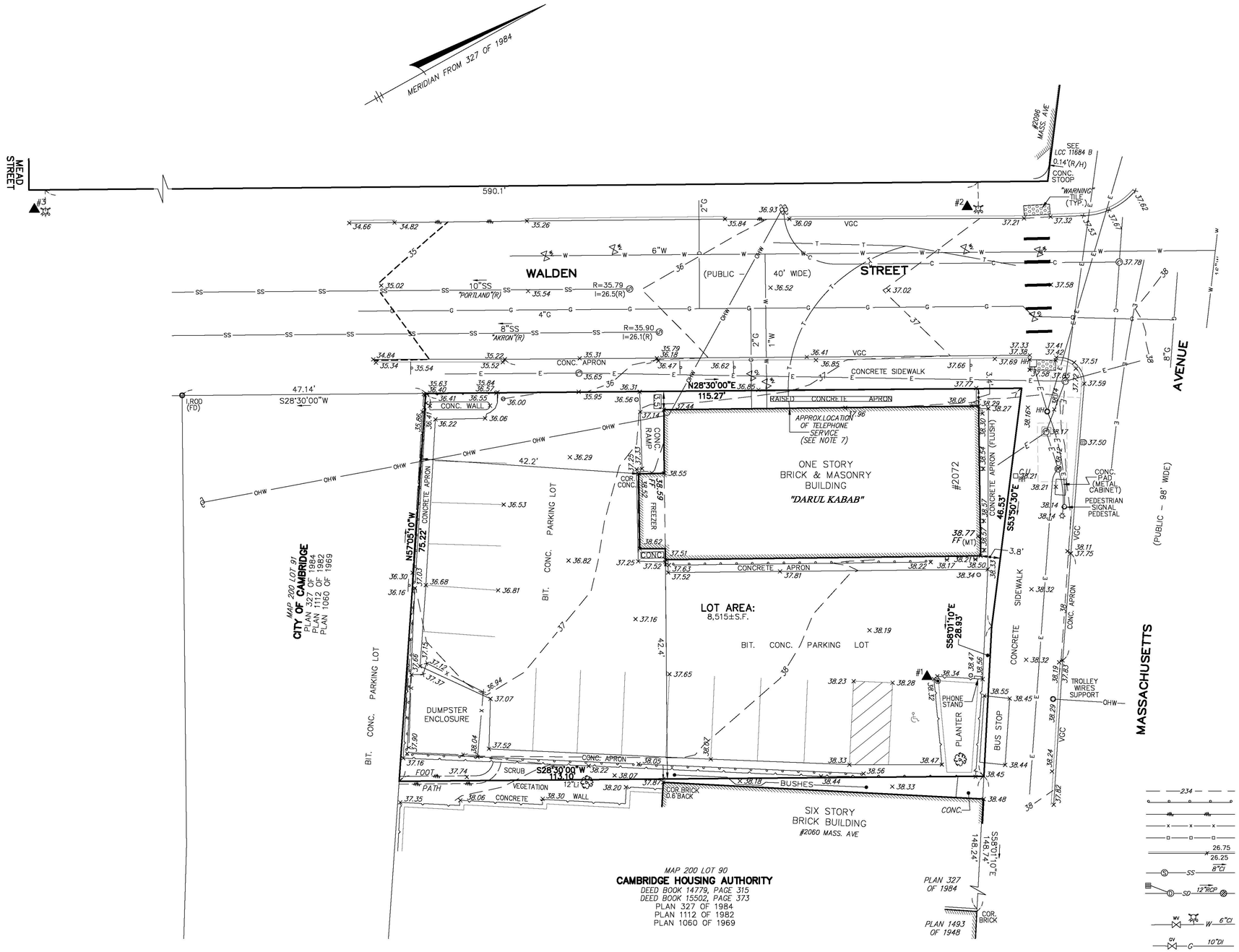
2072 MASS AVE

2072 Massachusetts Avenue, Cambridge, MA 02140

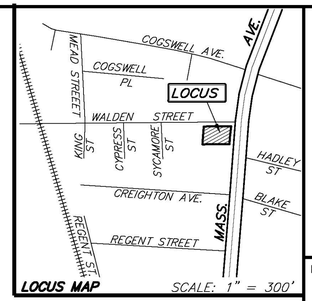
COMPREHENSIVE PERMIT
NOT FOR CONSTRUCTION

DRAWING LIST, UNIT MATRIX, ZONING SUMMARY

G-101



▲	ELEVATION BENCH MARKS **DATUM:** CAMBRIDGE CITY BASE	
NO.	DESCRIPTION	ELEV.
1.	FIRE HYDRANT; BOLT OVER MAIN OUTLET	38.98
2.	TOP CONC. WALL; TOP DRILL HOLE (SET)	38.95
3.	HYDRANT; CHISELED "X" IN BONNET BOLT	41.28



LOCUS MAP SCALE: 1" = 300'

ASSESSORS: MAP 200, LOT 22

REFERENCES: DEED BOOK 70018, PAGE 247
PLAN 1060 OF 1969
PLAN 1112 OF 1982
PLAN 327 OF 1984
LCC 11684 B

RECORD OWNER: 2072 MASS AVE LLC

NOTES:

1) ELEVATIONS SHOWN HEREON REFER TO CAMBRIDGE CITY BASE.
2) PROJECT SOURCE BENCHMARK IS A CHISELED "X" IN HYDRANT BONNET BOLT SHOWN HEREON AS BENCHMARK #3 AS SHOWN ON SKETCH PROVIDED BY CAMBRIDGE DEPARTMENT OF PUBLIC WORKS.
3) UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM FIELD LOCATIONS OF STRUCTURES AND FROM AVAILABLE RECORD INFORMATION ON FILE AT THE CAMBRIDGE D.P.W., MASS HIGHWAY DEPT. AND UTILITY COMPANIES. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER AND THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION.
4) BUILDING OFFSETS SHOWN HEREON ARE TO CORNER BRICK UNLESS OTHERWISE NOTED.
5) SOME SNOW AND ICE WAS ON THE PREMISES AT THE TIME OF THE SURVEY; SOME SITE DETAIL MAY HAVE BEEN OBSCURED.

LEGEND

234	SURFACE CONTOUR	232.6	SPOT ELEVATION
	METAL GUARDRAIL	☼	LIGHT POLE
	EDGE OF PAVEMENT	205.24 ⊗	MONITORING WELL WITH TOP METAL CASING EL.
x x x	CHAIN LINK FENCE		D GRATE CATCHBASIN
	WOOD FENCE		PROMINENT DECIDUOUS TREE
	CURB WITH TOP AND BOTTOM CURB ELEVATION	26.75 / 26.25	12"Li 12" LINDEN TREE
SS 8"CI	SEWERLINE & MANHOLE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION	○	BOLLARD
SD 12"RCP	DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCHBASIN, MANHOLE & ROUND CATCHBASIN		SIGN
		Ⓜ	MANHOLE (UNKNOWN UTILITY)
		RCP	REINFORCED CONCRETE PIPE
W 6"CI	WATER MANHOLE, WATER MAIN WITH SIZE, TEE, GATE VALVE & FIRE HYDRANT	CI	CAST IRON
		CMP	CORRUGATED METAL PIPE
G 10"DI	GAS MAIN WITH SIZE & GATE VALVE	ASB.	ASBESTOS PIPE
		VC	VITRIFIED CLAY
#181 OHW	UTILITY POLE WITH DESIGNATION OVERHEAD WIRES AND GUY POLE	PVC	POLYVINYL CHLORIDE
		(R)	RECORD
E	ELECTRIC MANHOLE & UNDERGROUND ELECTRIC LINES	(C)	CALCULATED
C	CABLE TV MANHOLE & UNDERGROUND CABLE LINES	(R/H)	RECORD AND HELD
		(M)	FIELD MEASURED
T	TELEPHONE MANHOLE & UNDERGROUND TELEPHONE LINES	DH	DRILL HOLE
		I.PIPE	IRON PIPE
		I.ROD	IRON ROD
28.8 / 23.2	RETAINING WALL WITH TOP AND BOTTOM ELEVATIONS	VGC	VERTICAL GRANITE CURB
		38.77 FF(MT) ×	ENTRANCE ELEV. (METAL THRESHOLD)

SCALE: 1" = 10'
0 10 20 40

2072 MASSACHUSETTS AVENUE

Cambridge, Massachusetts

PREPARED FOR:

CC HRE 2072 MASS AVE LLC

1155 Walnut Street #31
Newton Highlands, Massachusetts 02461

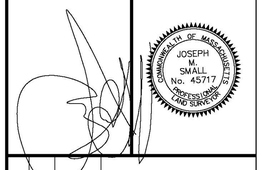
HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM



NO.	BY	DATE	ISSUE/REVISION DESCRIPTION
1.	JMS	10/5/20	ADD ABUTTING TREE

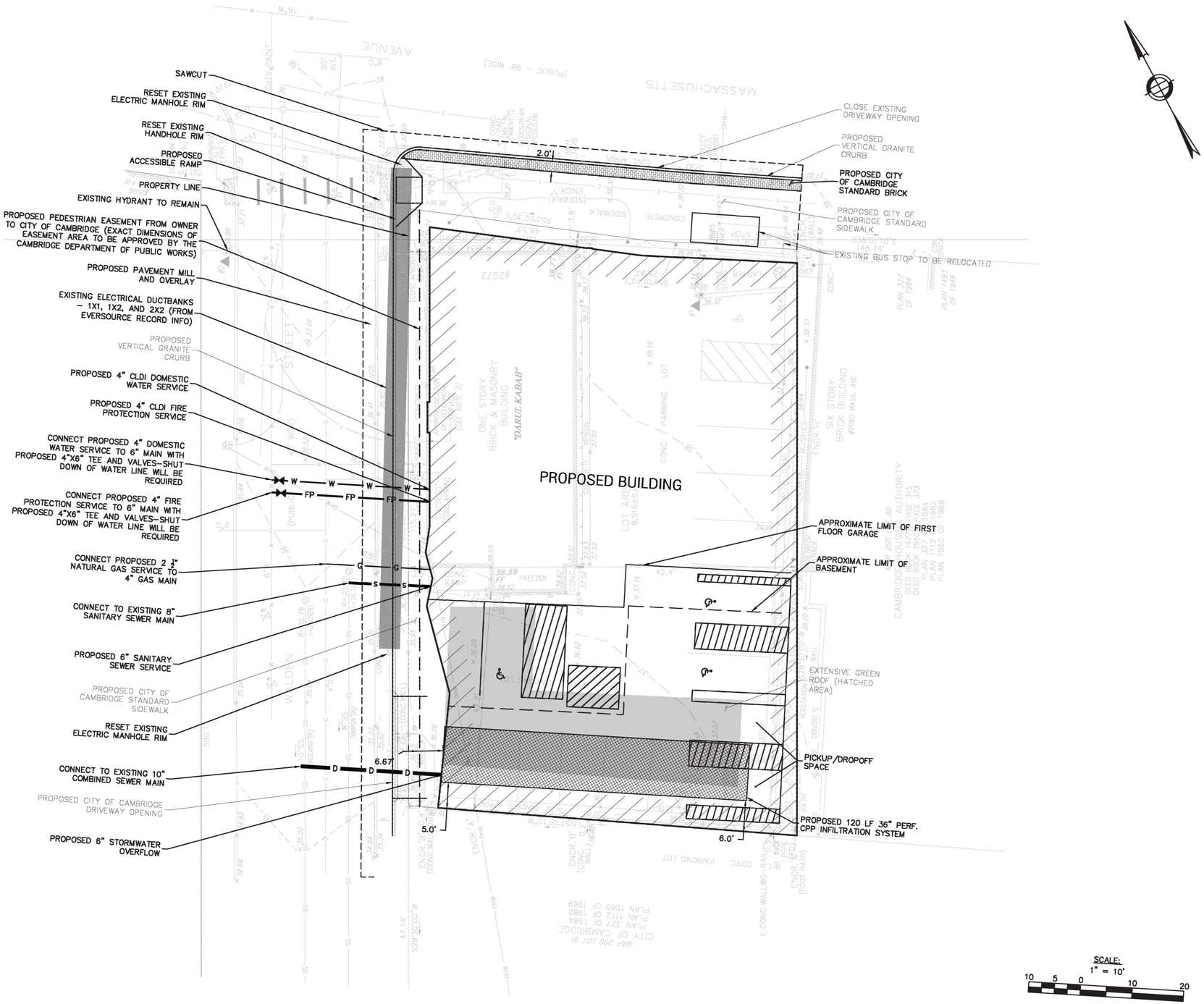
DATE: 03/12/2018 DRAWN BY: JMS
SCALE: 1" = 10' CHECK BY:

EXISTING CONDITIONS PLAN OF LAND IN CAMBRIDGE, MA

PLOT DATE: Oct 20, 2020 10:20 am
PATH: F:\Civil 3D Projects\21130 - Capstone Communities - Cambridge

DWG: 21130sv.dwg
LAYOUT: EC
SHEET: 1 OF 1

PROJECT NO.: 21130



SCALE:
1" = 10'
10 5 0 10 20

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11/9/2020 2:46:24 PM

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Boston, MA 02114
617.492.8400
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2 Center Plaza, Suite 430
Boston, MA 02108
T: (617) 338-0063
F: (617) 338-6472
Nitsch Engineering
Civil Engineers
GIS
www.nitscheng.com
- Land Surveying
- Transportation Engineering
- Structural Engineering
- Green Infrastructure
- Planning

Rev. 11/09 Remark

Date NOVEMBER 10, 2020
Scale 1"=10'
Project Number NITSCH #14047
Drawn By MLC

2072 MASS AVE

2072 Massachusetts Avenue, Cambridge, MA 02140

COMPREHENSIVE PERMIT
NOT FOR CONSTRUCTION

NITSCH PROJECT #14047

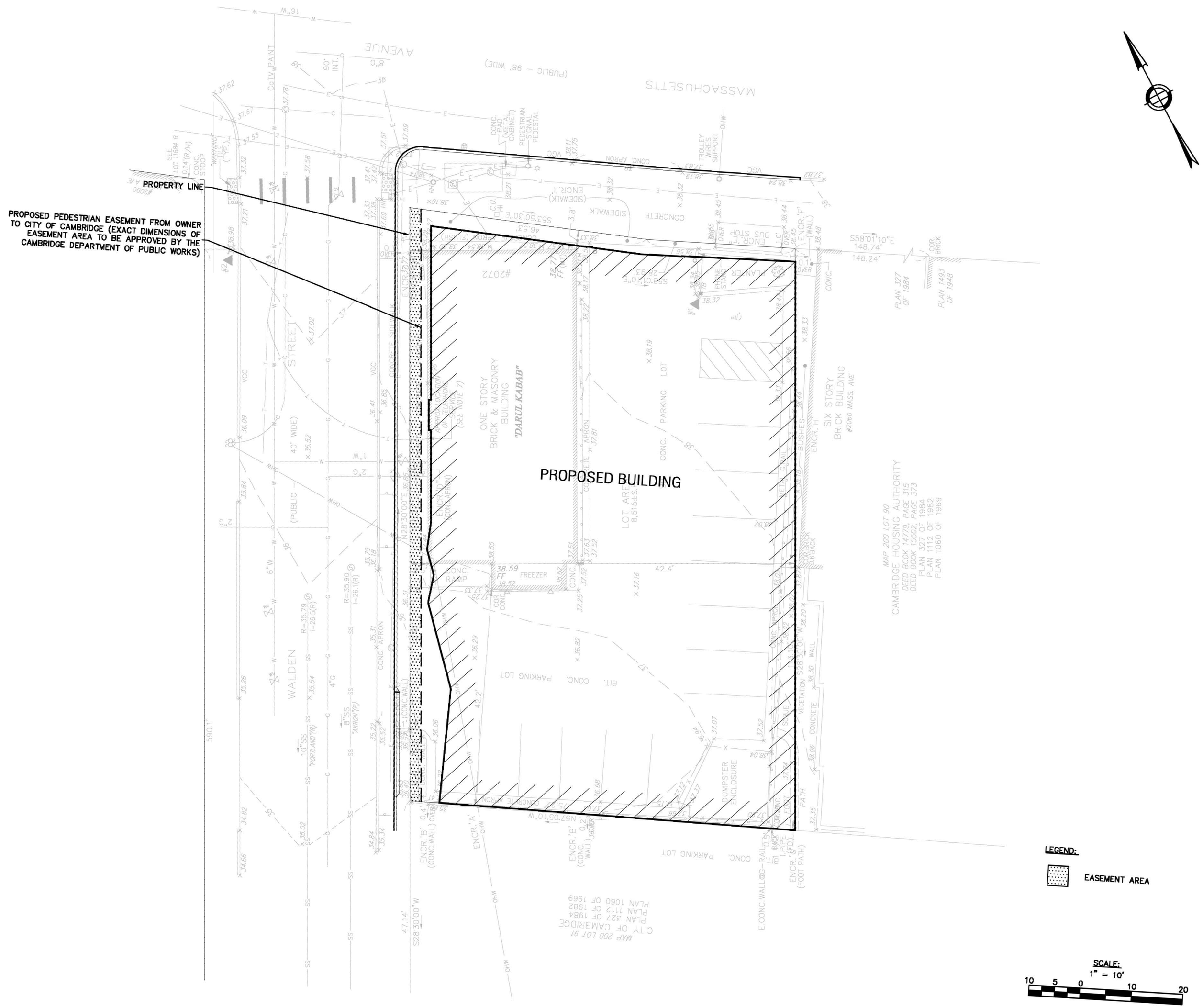
MICHELLE L. CALLAHAN
CIVIL
NO. 49586
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

November 9, 2020

PRELIMINARY, NOT FOR CONSTRUCTION

CIVIL SITE UTILITY AND LAYOUT PLAN

C-100



LEGEND:

EASEMENT AREA

SCALE:
1" = 10'
10 5 0 10 20

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Rev. — Remarks

Date NOVEMBER 10, 2020
Scale 1"=10'
Project Number NITSCH #14047
Drawn By MLC

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2072 Massachusetts Avenue, Cambridge, MA 02140

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NITSCH PROJECT #14047

COMMONWEALTH OF MASSACHUSETTS
MICHELLE L. CALLAHAN
CIVIL
NO. 49566
REGISTERED PROFESSIONAL ENGINEER
November 9, 2020
FOR PERMITTING ONLY - NOT FOR CONSTRUCTION

PROPOSED EASEMENT PLAN

C-101

1 FLOOR PLAN - BASEMENT
SCALE: 1/8" = 1'-0"

FLOOR AREA PLAN

BIKE RM	2130 SF
CORR	524 SF
ELEC RM	434 SF
ELEV MACHINE RM	58 SF
FIRE PUMP RM	211 SF
FUEL STORAGE FM	156 SF
STAIR 01	232 SF
STAIR 02	185 SF
STORAGE	214 SF
TRANSFORMER RM	738 SF
WATER ENTRY RM	122 SF

0 4' 8' 16'

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Project Number	20.001
Drawn By	Author

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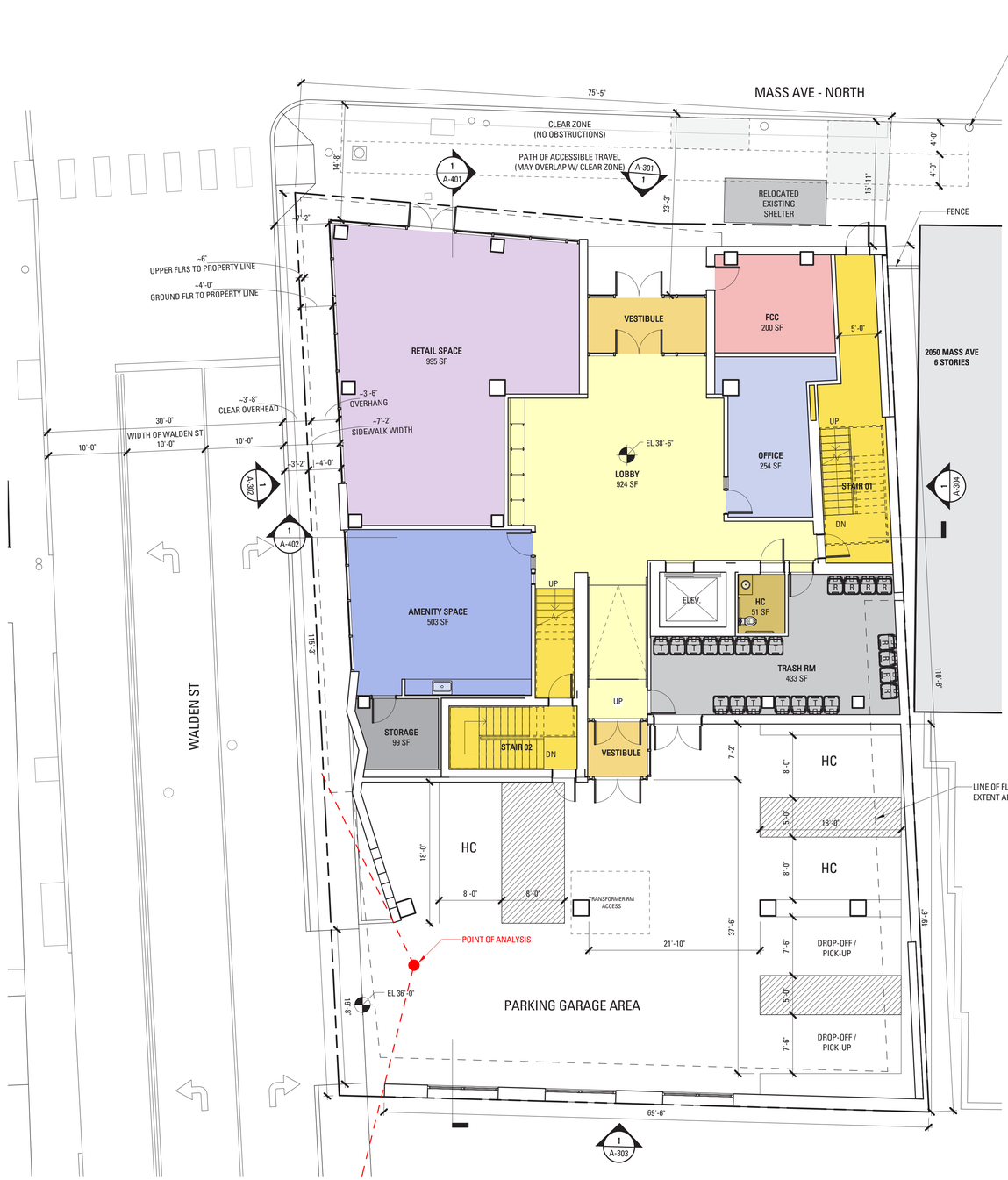
JASON FORNEY
No. 31468
BOSTON, MASSACHUSETTS
COMMONWEALTH OF MASSACHUSETTS

BASEMENT FLOOR PLAN

A-100



1 FLOOR PLAN - FIRST FLOOR
SCALE: 1/8" = 1'-0"

FLOOR AREA PLAN

AMENITY SPACE	503 SF
LOBBY	200 SF
RETAIL SPACE	51 SF
FCC	924 SF
HC	254 SF
OFFICE	995 SF
STAIR 01	315 SF
STAIR 02	259 SF
STORAGE	99 SF
TRASH RM	433 SF
VESTIBULE	174 SF

0 4' 8' 16'

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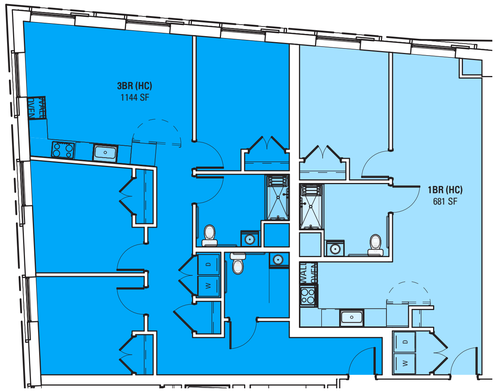
No. 31468
BOSTON, MASSACHUSETTS
COMMONWEALTH OF MASSACHUSETTS

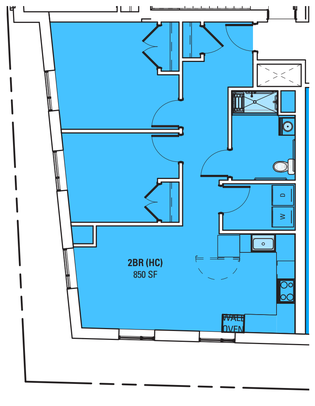
FIRST FLOOR PLAN

A-101



*NOTE: 3 BR GROUP 2 UNIT LOCATED ON FLR 3
1 BR GROUP 2 UNIT LOCATED ON FLR 8

2 GROUP 2 UNITS - 1 BR & 3 BR
SCALE: 1/8" = 1'-0"



*NOTE: 2 BR GROUP 2 UNIT LOCATED ON FLR 4

3 GROUP 2 UNITS - 2 BR
SCALE: 1/8" = 1'-0"

1 FLOOR PLAN - TYP FLOORS (FLRS 2-8)
SCALE: 1/8" = 1'-0"

FLOOR AREA PLAN

1BR	1250 SF
2BR	2473 SF
3BR	2175 SF
CORR	389 SF
ELEC. CLOSET	15 SF
STAIR 01	186 SF
STAIR 02	197 SF

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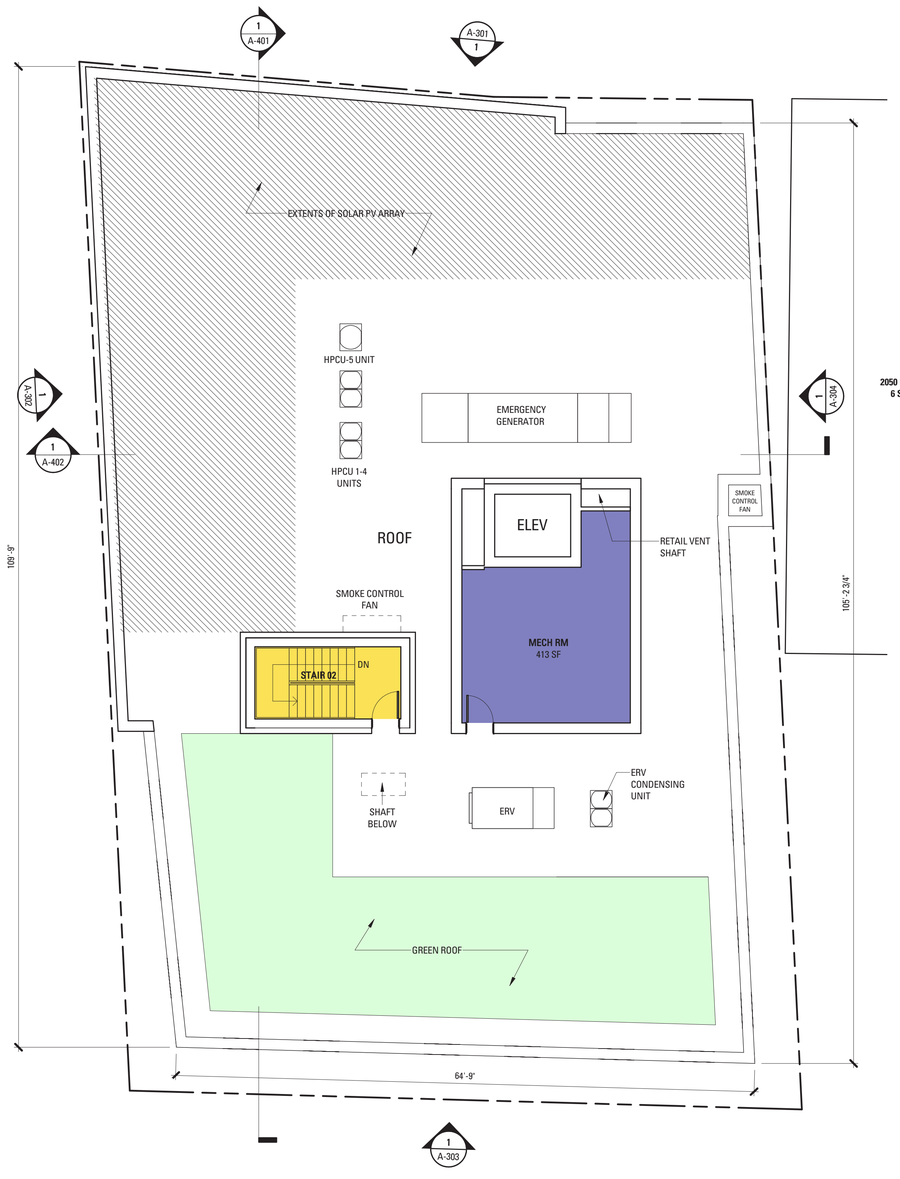
BOSTON, MASSACHUSETTS
COMMONWEALTH OF MASSACHUSETTS

TYPICAL FLOOR PLAN (FLRS 2-8)

A-102



1 FLOOR PLAN - ROOF
SCALE: 1/8" = 1'-0"

FLOOR AREA PLAN

MECH RM	413 SF
STAIR 02	132 SF

0 4' 8' 16'

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No. 31468
BOSTON
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COMMONWEALTH OF MASSACHUSETTS

ROOF PLAN

A-109

1 MASSACHUSETTS AVENUE ELEVATION - NORTH
SCALE: 1/16" = 1'-0"

2 WALDEN STREET ELEVATION - WEST
SCALE: 1/16" = 1'-0"

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EXTERIOR ELEVATIONS

A-300

1 BUILDING ELEVATION - NORTH
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

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EXTERIOR ELEVATIONS

A-301

1 BUILDING ELEVATION - WEST
SCALE: 1/8" = 1'-0"

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EXTERIOR ELEVATIONS

A-302

1 BUILDING ELEVATION - SOUTH
SCALE: 1/8" = 1'-0"

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EXTERIOR ELEVATIONS

A-303

1 BUILDING ELEVATION - EAST
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

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EXTERIOR ELEVATIONS

A-304

RENDERING - VIEW AT MASS AVE TOWARDS WALDEN ST LOOKING NORTH-WEST

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REGISTERED ARCHITECT
JASON FORNEY
No. 31468
BOSTON, MASSACHUSETTS
COMMONWEALTH OF MASSACHUSETTS

PERSPECTIVES

A-305

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RENDERING - VIEW OF MASS AVE & WALDEN ST INTERSECTION LOOKING SOUTH-EAST

Rev	Date	Remarks

Date	NOVEMBER 10, 2020
Scale	
Project Number	20.001
Drawn By	Author

2072 MASS AVE

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REGISTERED ARCHITECT
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No. 31468
BOSTON, MASSACHUSETTS
COMMONWEALTH OF MASSACHUSETTS

PERSPECTIVES

A-306

IF THIS SHEET IS NOT 24" x 36", IT HAS BEEN REDUCED OR ENLARGED.

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RENDERING - VIEW ALONG MASS AVE LOOKING SOUTH-EAST

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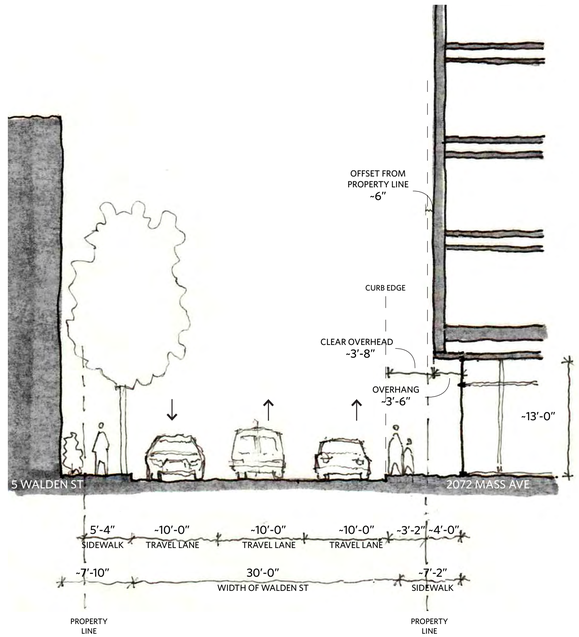
REGISTERED ARCHITECT
JASON FORNEY
No. 31468
BOSTON, MASSACHUSETTS
COMMONWEALTH OF MASSACHUSETTS

PERSPECTIVES

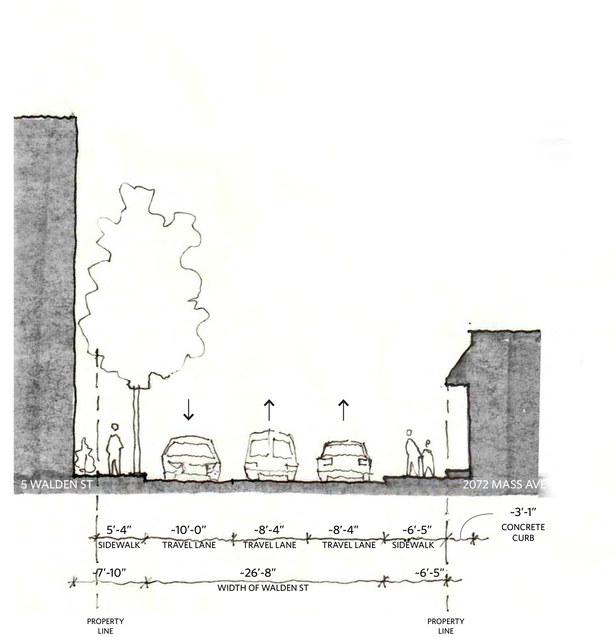
A-310

KEY PLAN



STREET SECTION - PROPOSED DEVELOPMENT WITH WIDENED WIDTH OF WALDEN ST
NTS

KEY PLAN



STREET SECTION - EXISTING CONDITIONS
NTS

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STREET SECTIONS

A-400

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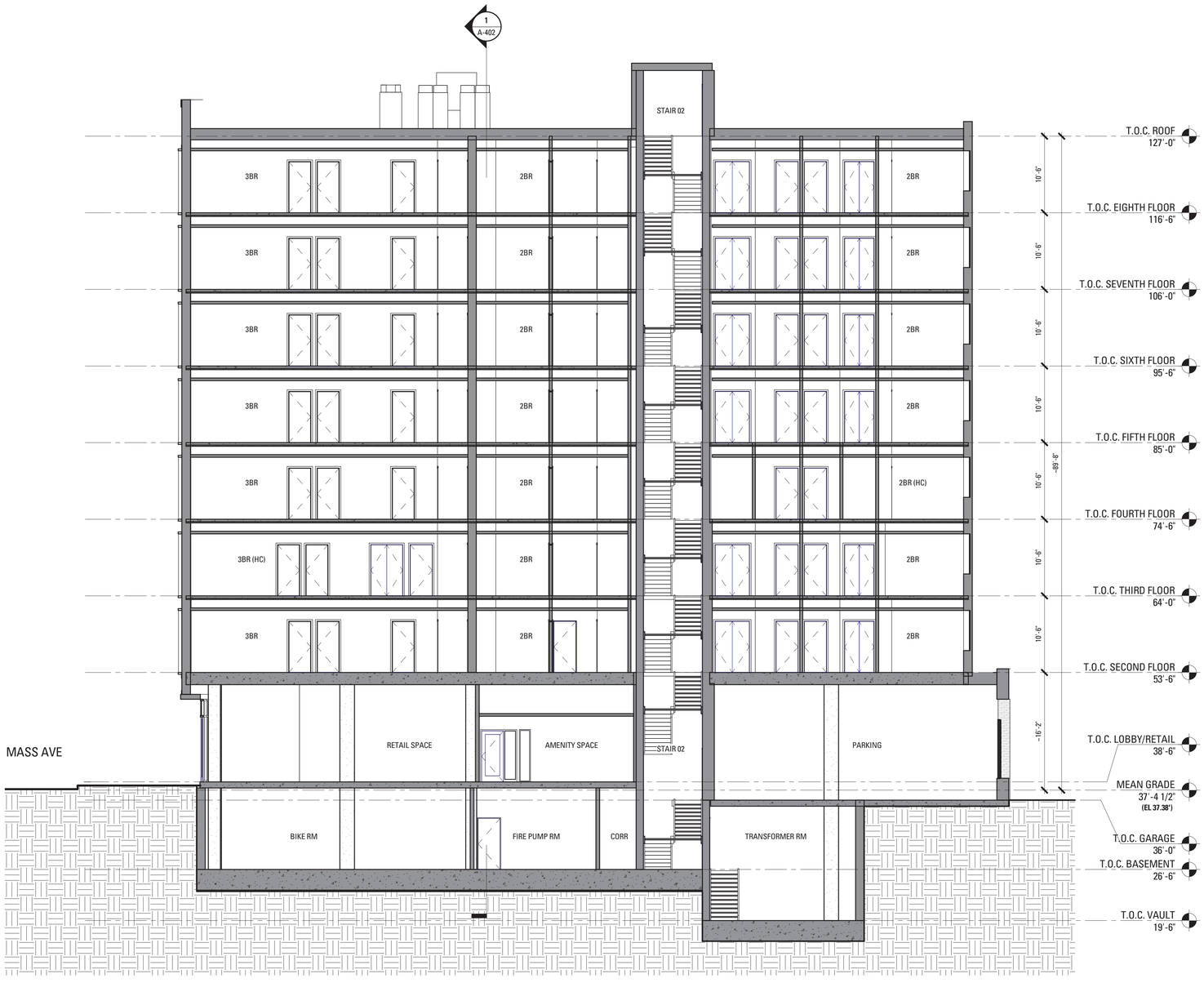

1 BUILDING SECTION - NORTH-SOUTH
SCALE: 1/8" = 1'-0"

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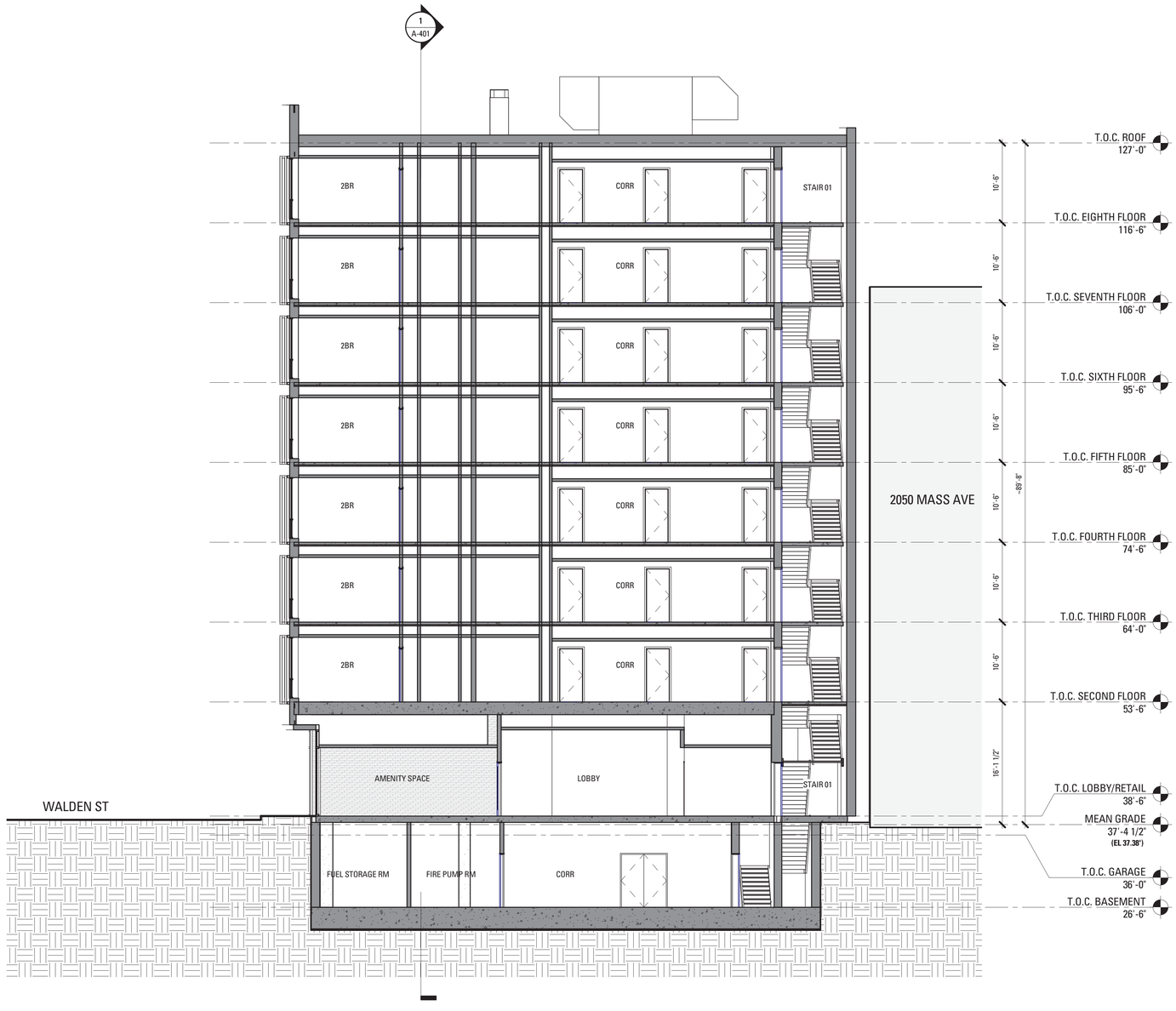
BUILDING SECTION

A-401



1 BUILDING SECTION - EAST-WEST
SCALE: 1/8" = 1'-0"

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JASON FORNEY
No. 31468
BOSTON, MASSACHUSETTS
COMMONWEALTH OF MASSACHUSETTS

BUILDING SECTION

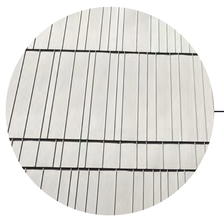
A-402

COMPREHENSIVE PERMIT APPLICATION

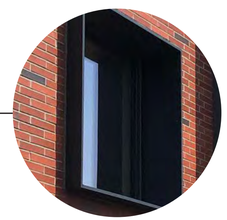
2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 12
PERSPECTIVES AND MATERIALS

RENDERING - VIEW OF MASS AVE LOOKING SOUTH



METAL PANEL WITH EXPOSED SEAMS



HIGH PERFORMANCE UPVC WINDOW WITH METAL FRAME

LONG MASONRY AT STREET LEVEL

VERTICAL INFILL WOOD TEXTURE COMPOSITE PANEL

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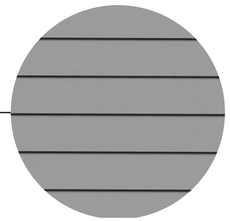
No. 31468
BOSTON, MASSACHUSETTS
COMMONWEALTH OF MASSACHUSETTS

PERSPECTIVES

A-307

RENDERING - VIEW OF WALDEN ST LOOKING WEST

MASONRY SOLDIER COURSE AT HEADER



FIBER CEMENT CLAPBOARD SIDING, PTD

OPENINGS IN MASONRY FACADE

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REGISTERED ARCHITECT JASON FORNEY No. 31468 BOSTON, MASSACHUSETTS COMMONWEALTH OF MASSACHUSETTS

PERSPECTIVES

A-308

RENDERING - VIEW OF WALDEN ST TOWARDS MASS AVE LOOKING NORTH

PERFORATED MTL SUN SHADES

GREEN ROOF

HALF ROUND FIBER CEMENT SHINGLES, PTD

FIBER CEMENT CLAPBOARD SIDING, PTD

FIBER CEMENT SHAKE SHINGLES, PTD

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PERSPECTIVES

A-309

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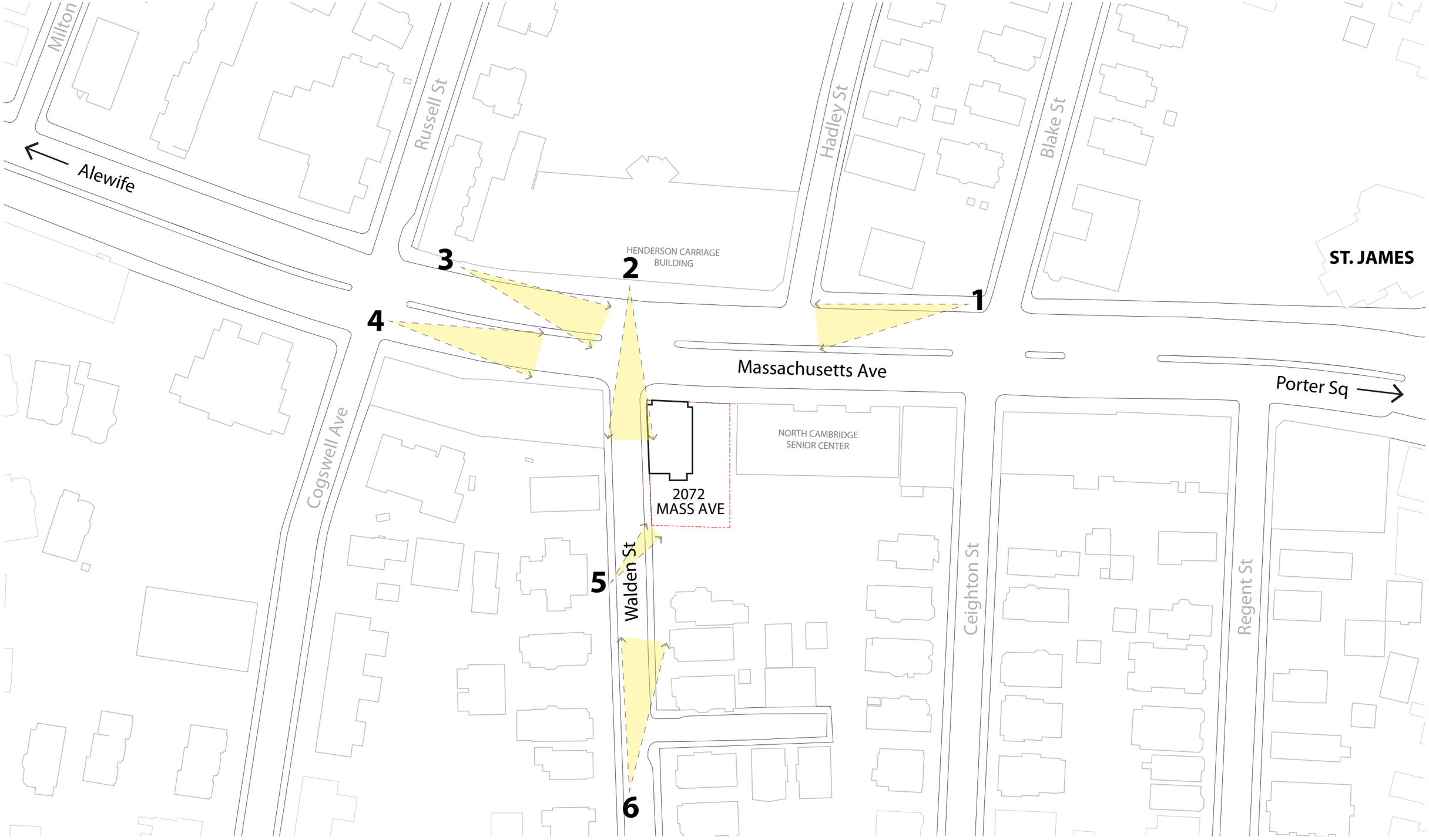
2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 13
PHOTOGRAPHS



SITE PLAN

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

2072 MASSACHUSETTS AVENUE

NOVEMBER 10, 2020

1

View on Massachusetts Avenue
Looking North-West

SITE PHOTOS

View towards Walden Street
Looking South-East

SITE PHOTOS

Corner of Massachusetts Avenue & Walden Street
Looking South

SITE PHOTOS

4

View on Massachusetts Avenue
Looking South-East

SITE PHOTOS

View of property rear & adjacent city parking lot
Looking East

SITE PHOTOS

View of Walden Street towards Massachusetts Avenue
Looking North

SITE PHOTOS

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 14
SHADOW STUDIES

LEGEND

- Existing Shadow
- New Shadow

SUMMER SOLSTICE | June 21, 9:00am

SHADOW STUDIES

LEGEND

- Existing Shadow
- New Shadow

SUMMER SOLSTICE | June 21, 12:00pm

SHADOW STUDIES

LEGEND

- Existing Shadow
- New Shadow

SUMMER SOLSTICE | June 21, 3:00pm

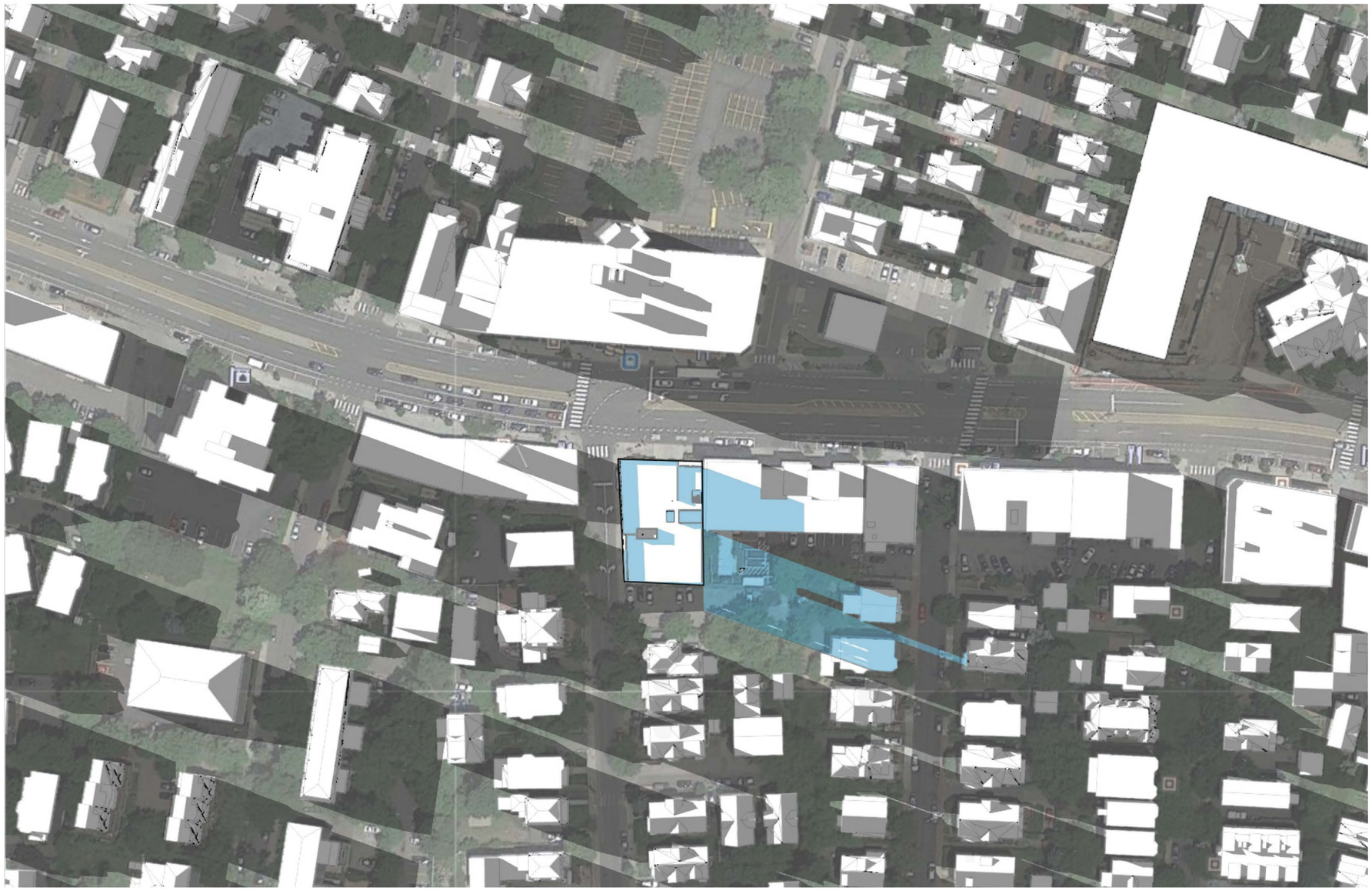
SHADOW STUDIES

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

2072 MASSACHUSETTS AVENUE

NOVEMBER 10, 2020



LEGEND

- Existing Shadow
- New Shadow

SUMMER SOLSTICE | June 21, 6:00pm

SHADOW STUDIES

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

2072 MASSACHUSETTS AVENUE

NOVEMBER 10, 2020

LEGEND

- Existing Shadow
- New Shadow

WINTER SOLSTICE | December 21, 9:00am

SHADOW STUDIES

LEGEND

- Existing Shadow
- New Shadow

WINTER SOLSTICE | December 21, 12:00pm

SHADOW STUDIES

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

2072 MASSACHUSETTS AVENUE
NOVEMBER 10, 2020

LEGEND

- Existing Shadow
- New Shadow

WINTER SOLSTICE | December 21, 3:00pm

SHADOW STUDIES

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

2072 MASSACHUSETTS AVENUE

NOVEMBER 10, 2020

LEGEND

- Existing Shadow
- New Shadow

EQUINOX | March 21 / September 21, 9:00am

SHADOW STUDIES

LEGEND

- Existing Shadow
- New Shadow

EQUINOX | March 21 / September 21, 12:00pm

SHADOW STUDIES

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

2072 MASSACHUSETTS AVENUE

NOVEMBER 10, 2020

LEGEND

- Existing Shadow
- New Shadow

EQUINOX | March 21 / September 21, 3:00pm

SHADOW STUDIES

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

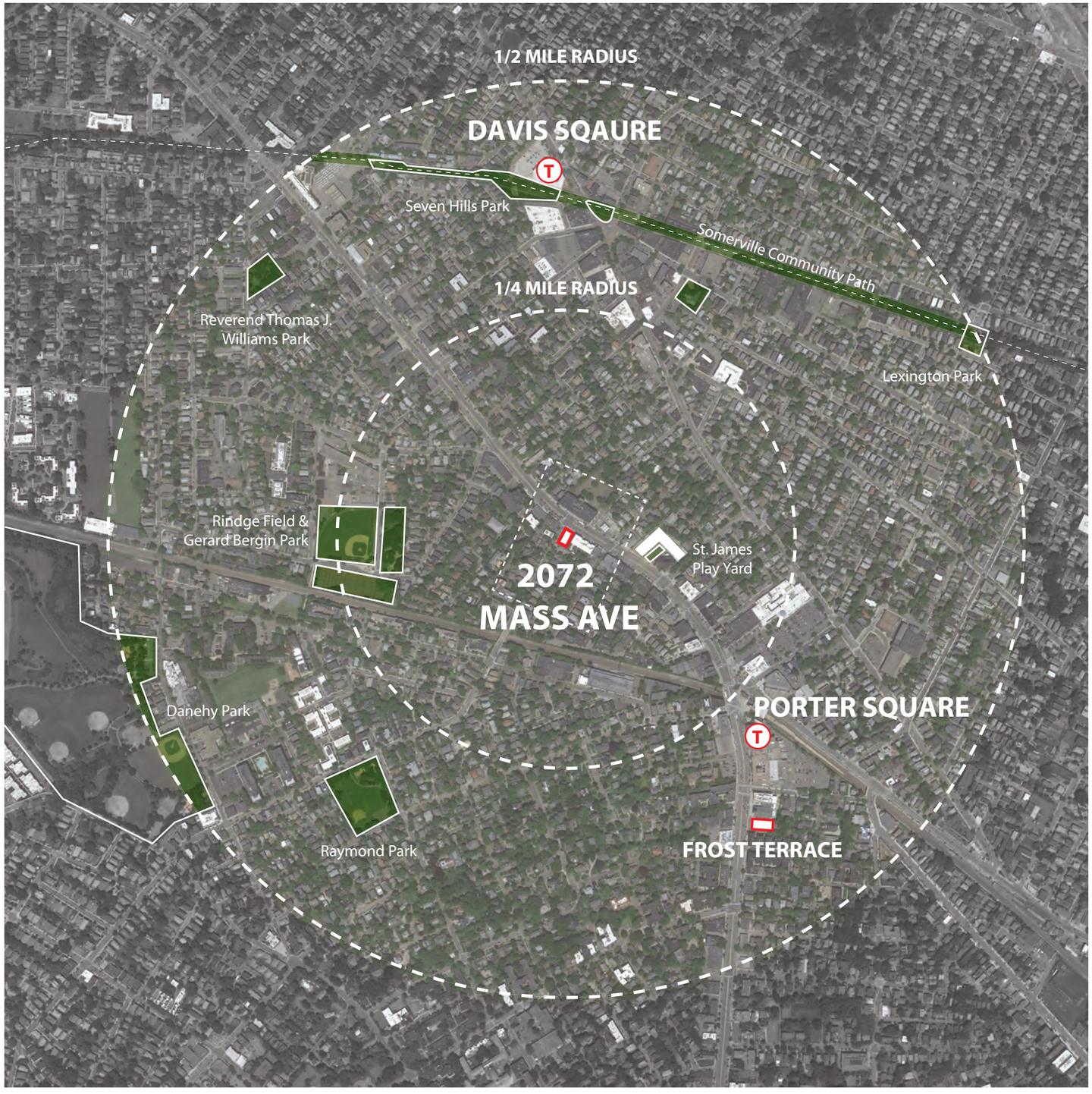
2072 MASSACHUSETTS AVENUE

NOVEMBER 10, 2020

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 15
LOCUS MAP AND ASSESSOR PLAT



LOCUS MAP

Bruner/Cott ARCHITECTS

APPLICANT: CC HRE 2072 MASS AVE TENANT LLC

N

2072 MASSACHUSETTS AVENUE
NOVEMBER 10, 2020


Map-Lot
199-90
Map-Lot
199-89
Map-Lot
199-67
Map-Lot
199-85
Map-Lot
199-86
Map-Lot
199-112
Map-Lot
199-113
Houston Pk
Walden St
Map-Lot
181-88
Hadley St
Map-Lot
181-80
Massachusetts Ave
Map-Lot
200-90
Map-Lot
200-91
Map-Lot
200-74
Map-Lot
200-81
Map-Lot
200-80
Map-Lot
200-79
Map-Lot
200-88
Map-Lot
200-28
Creighton St
Map-Lot
200-68

COMPREHENSIVE PERMIT APPLICATION

2072 MASS AVE APARTMENTS
2072 MASSACHUSETTS AVENUE, CAMBRIDGE, 02140

SECTION 16
EVIDENCE OF SITE CONTROL

Middlesex South Registry of Deeds

Electronically Recorded Document

This is the first page of the document - Do not remove

Recording Information

Document Number	: 48349
Document Type	: DEED
Recorded Date	: April 10, 2018
Recorded Time	: 01:57:08 PM
Recorded Book and Page	: 70850 / 295
Number of Pages(including cover sheet)	: 4
Receipt Number	: 2196120
Recording Fee (including excise)	: $16,541.00

****
MASSACHUSETTS EXCISE TAX
Southern Middlesex District ROD # 001
Date: 04/10/2018 01:57 PM
Ctrl# 279156 10927 Doc# 00048349
Fee: $16,416.00 Cons: $3,600,000.00
****

Middlesex South Registry of Deeds
Maria C. Curtatone, Register
208 Cambridge Street
Cambridge, MA 02141
617-679-6300
www.middlesexsouthregistry.com

After recording return to:
Day Pitney LLP
One International Place
Boston, MA 02110
Attn: Gemma Cashman, Esq.

QUITCLAIM DEED

2072 Mass Ave LLC, a Massachusetts limited liability company whose address is 33 Church Street, Cambridge, Massachusetts ("Grantor")

for consideration paid of Three Million Six Hundred Thousand and 00/100 Dollars ($3,600,000.00),

grants to CC HRE 2072 Mass Ave LLC, a Massachusetts limited liability company whose address is c/o Capstone Communities LLC, 1155 Walnut Street #31, Newton Highlands, Massachusetts ("Grantee"),

WITH QUITCLAIM COVENANTS

A certain parcel of land situated in Cambridge, Middlesex County, Massachusetts, bounded and described as follows:

A certain parcel of land with the buildings thereon situated in said Cambridge on the Southeasterly corner of Massachusetts Avenue and Walden Street, and more particularly bounded and described as follows:

NORTHWESTERLY:	By said Walden Street, one hundred and fifteen and 27/100 (115.27) feet more or less;
SOUTHWESTERLY:	By land of Ferguson, seventy-five and 22/100 (75.22) feet more or less;
SOUTHEASTERLY:	By land of Daniel O'Connell, one hundred and thirteen and 10/100 (113.10) feet more or less;
NORTHEASTERLY:	By said Massachusetts Avenue, seventy-five and 46/100 (75.46) feet more or less in two lines.

Containing eight thousand five hundred and fifteen (8,515) square feet of land more or less.

Grantor is not taxed as a business corporation, but rather as a partnership, and therefore is not subject to the provisions of M.G.L. c. 62C.

Property address: 2072 Massachusetts Avenue, Cambridge, MA

The within conveyance is made subject to rights of existing tenants, and easements, rights, reservations and restrictions of record, if any, insofar as the same are in force, applicable, and survive the sale described herein, however not intending to revive any of the same hereby.

For title see deed in Book 70018, Page 247.

[Signature Page to Follow.]

WITNESS my hands and seals this 9th day of April, 2018.

2072 MASS AVE LLC

By: _____
Name: William Senne
Title: Authorized Signatory

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss

On this 9th day of April, 2018, before me, the undersigned notary public, William Senne as Authorized Signatory for 2072 Mass Ave LLC, personally appeared, proved to me through satisfactory evidence of identification, which were personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose as Authorized Signatory of 2072 Mass Ave LLC as the voluntary act of the limited liability company.

_____
Notary Public Gemma R. Cashman
My Commission Expires 12/10/2021

GEMMA R. CASHMAN
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
December 10, 2021

EXHIBIT C
NOTICE OF LEASE

Pursuant to Massachusetts General Laws, Chapter 183, Section 4, as amended, notice is hereby given of a ground lease (the "Lease") as follows:

EFFECTIVE DATE:	November 9, 2020
LANDLORD:	CC HRE 2072 Mass Ave LLC, a Massachusetts limited liability company
TENANT:	CC HRE 2072 Mass Ave Tenant LLC, a Massachusetts limited liability company
DATE OF EXECUTION OF LEASE:	November 9, 2020
DESCRIPTION OF PREMISES:	The parcel of land located in Cambridge, Massachusetts, more particularly described in Exhibit A attached hereto.
COMMENCEMENT DATE OF ORIGINAL TERM:	November 9, 2020
TERM:	99 years expiring on November 9, 2119

Signed, sealed and delivered as of November 9, 2020.

LANDLORD:

CC HRE 2072 Mass Ave LLC, a Massachusetts limited liability company

By: Capstone 2072 Mass Ave LLC, its managing member

By: _____
Name: Jason Korb
Title: Managing Member

By: HRE 2072 Mass Ave LLC, its managing member

By: _____

Name: Sean D. Hope
Title: Managing Member

TENANT:

CC HRE 2072 MASS AVE TENANT LLC, a Massachusetts limited liability company

By: Capstone 2072 Mass Ave LLC, its managing member

By: _____
Name: Jason Korb
Title: Managing Member

By: HRE 2072 Mass Ave LLC, its managing member

By: _____

Name: Sean D. Hope
Title: Managing Member

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF SUFFOLK

On this 9th day of November, 2020, before me, the undersigned notary public, personally appeared Jason Korb, managing member of Capstone 2072 Mass Ave LLC, as managing member of CC HRE 2072 Mass Ave LLC, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose in my presence as managing member of Capstone 2072 Mass Ave LLC, as managing member of CC HRE 2072 Mass Ave LLC, as the voluntary act of CC HRE 2072 Mass Ave LLC.

JENNIFER TAMARKIN
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires On
February 14, 2025

(Official signature and seal of Notary)
My Commission Expires:

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF SUFFOLK

On this 9th day of November, 2020, before me, the undersigned notary public, personally appeared Sean D. Hope, managing member of HRE 2072 Mass Ave LLC, as managing member of CC HRE 2072 Mass Ave LLC, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose in my presence as managing member of HRE 2072 Mass Ave LLC, as managing member of CC HRE 2072 Mass Ave LLC, as the voluntary act of CC HRE 2072 Mass Ave LLC.

(Official signature and seal of Notary)
My Commission Expires:

JENNIFER TAMARKIN
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires On
February 14, 2025

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF SUFFOLK

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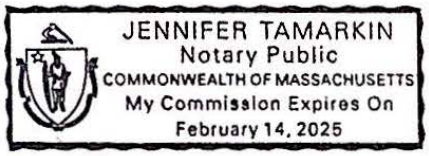
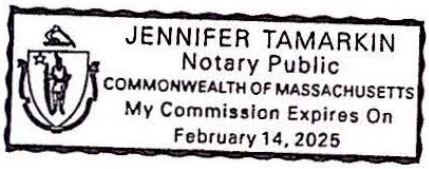


(Official signature and seal of Notary)
My Commission Expires:

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF SUFFOLK

On this 9th day of November, 2020, before me, the undersigned notary public, personally appeared Sean D. Hope, managing member of HRE 2072 Mass Ave LLC, as managing member of CC HRE 2072 Mass Ave Tenant LLC, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose in my presence as managing member of HRE 2072 Mass Ave LLC, as managing member of CC HRE 2072 Mass Ave Tenant LLC, as the voluntary act of CC HRE 2072 Mass Ave Tenant LLC.



(Official signature and seal of Notary)
My Commission Expires:

EXHIBIT A TO NOTICE OF LEASE
Description of the Premises

2072 Massachusetts Avenue, Cambridge, Massachusetts

A certain parcel of land with the buildings thereon situated in said Cambridge on the Southeasterly corner of Massachusetts Avenue and Walden Street, and more particularly bounded and described as follows:

NORTHWESTERLY:	By said Walden Street, one hundred and fifteen and 27/100 (115.27) feet more or less;
SOUTHWESTERLY:	By land of Ferguson, seventy-five and 22/100 (75.22) feet more or less;
SOUTHEASTERLY:	By land of Daniel O'Connell, one hundred and thirteen and 10/100 (113.10) feet more or less;
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Containing eight thousand five hundred and fifteen (8515) square feet of land more or less.