

F. Ground Floor and Activation Plan

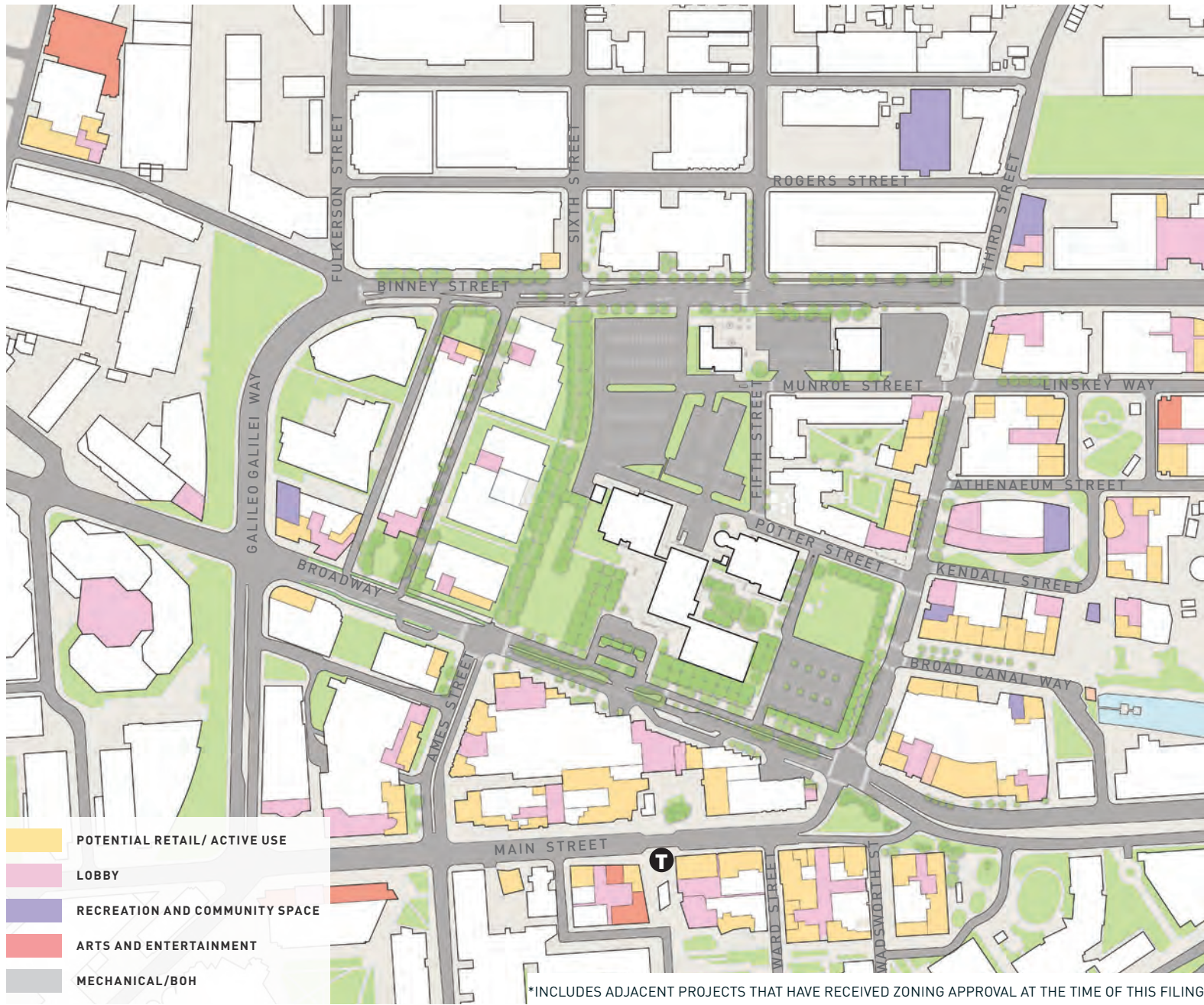
Illustrate the conceptual arrangement of functions such as retail establishments and other active uses, residential and office lobbies, and utility spaces at the ground floor of each building in the Master Plan Area, as well as the locations and anticipated sizes of Active Space, Innovation Space and Community Space that may be required or incentivized by the specific provisions of the Section 13.90 and strategies for programming and activating those spaces (specifically including a report from a retail specialist describing strategies for recruiting and supporting retail tenants in a manner that will support the requirements and goals of the District).

The Project is designed to enhance the pedestrian usage of the sidewalks and create a sense of neighborhood continuity by providing an interesting, lively and active presence at street-level. Over the past 20 years, Kendall Square has transformed from an industrial area to one with successful ground floor amenity and retail along Third Street, Main Street and Binney Street, as well as along One Broadway, Broad Canal Way and Kendall Streets east of Third Street (**Figure F1: Ground Floor Activation – Existing Context**). In addition, there are several planned cultural facilities in the area, including the Foundry and the MIT Museum, that will add additional texture to the resident and visitor experiences. The ground floor and public realm at the Project is an opportunity to further advance this vision. MIT will build upon this activation by creating a ground floor environment that is inclusive, innovative, extends hours of operation and supports local and independent concepts to create a destination that resonates with all members of the Cambridge community.

As shown on **Figure F2: Ground Floor Activation – Proposed**, the Project creates a central node of activity in and around Broad Canal Way, a pedestrian-scaled street that cuts through the heart of the Project and builds upon the success of the existing eastern portion of the street, which runs between Third Street and the Broad Canal. Building fronts on Broad Canal Way will be occupied

by retail, cultural, community, recreational and other active uses. North-south running streets intersecting Broad Canal Way will act as retail feeder streets, providing ground floor spaces that can be occupied by similar uses, and also spaces that will support less foot-traffic dependent active uses such as fitness, neighborhood services, commuter services. Buildings in the Project fronting Binney Street, Third Street and Broadway will house retail and active uses that benefit from adjacencies to vehicular-centric streets and the unique attributes of said edges and their respective proximity to projects outside of the PUD-7 District.

The Project's **Conceptual Activation Plans (Figures F3 and F4)** are organized around three integrated concepts that work together to activate the development: a network of programmed open spaces, community and cultural spaces, and accessible, inventive retail and active uses.



- POTENTIAL RETAIL/ ACTIVE USE
- LOBBY
- RECREATION AND COMMUNITY SPACE
- ARTS AND ENTERTAINMENT
- MECHANICAL/BOH

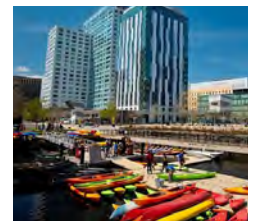
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LANDMARK THEATER



THE FOUNDRY



KAYAK LAUNCH

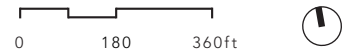


BROTHERS MARKETPALCE



MIT MUSEUM

Figure F1: Ground Floor Activation - Existing Context



Integrated Concept 1 - A Network of Programmed Open Spaces

As described in Section E - Open Space Plan of this proposal, the Project will include two major new parks that will anchor a network of open spaces that connect to the neighborhood context. With activation that touches all sides of each building, the retail will work together with the parks, sidewalks and streets to create a range of gathering spaces that foster community and allow for new and enhanced social and economic opportunities. This activation also provides the necessary flexibility to site complementary uses next to each other to create synergies and to support diverse retail.

Integrated Concept 2 - Community and Cultural Spaces

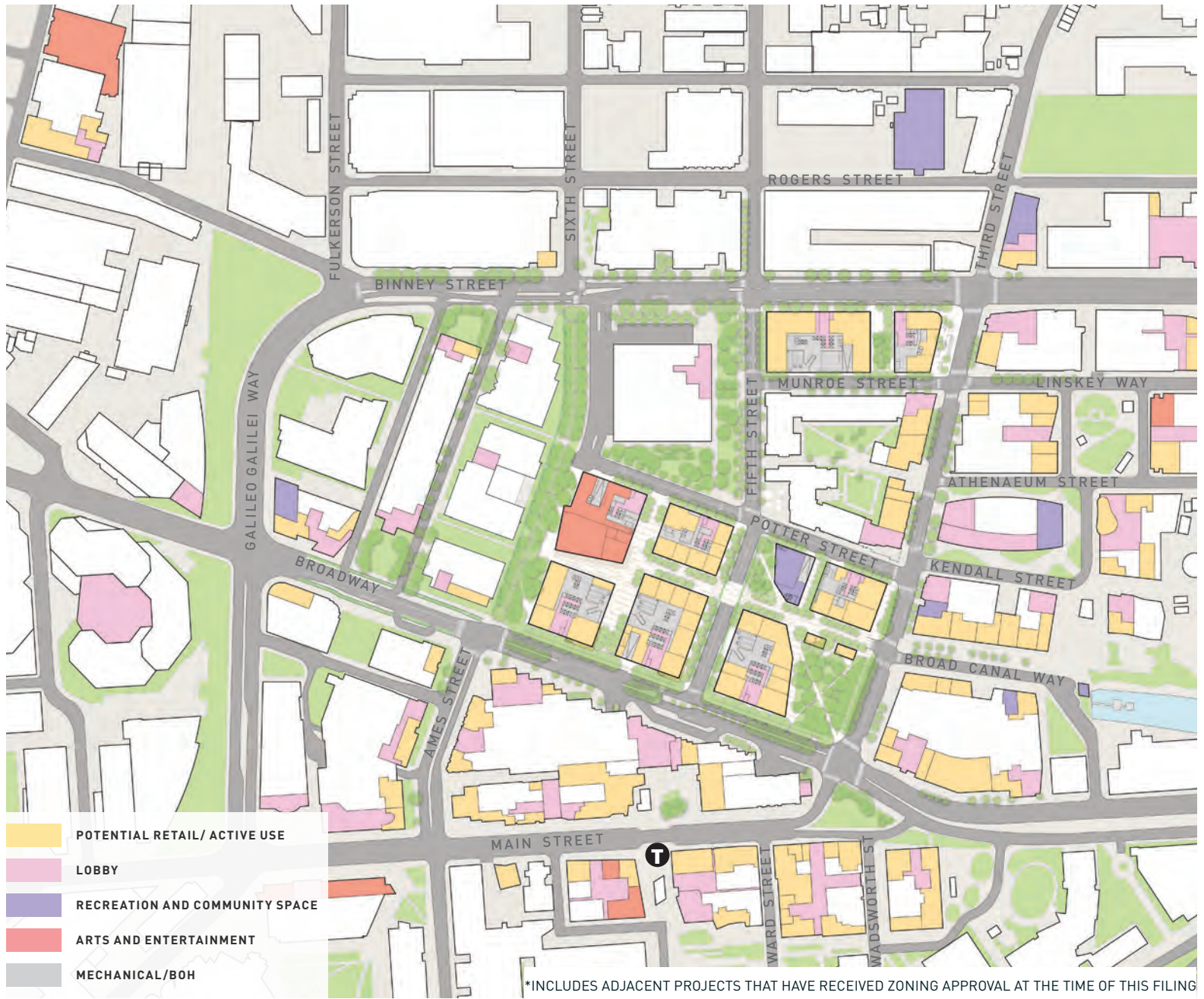
The Community Center, entertainment venue, and cultural and art uses together will allow for a fully integrated place with a range of experiences that naturally bring together a diverse audience.

The Community Center and its adjacent open space and park will be designed as a place for friends and neighbors to come together for recreation, relaxation and recharging. The Community Center is envisioned as a stand-alone building that will signal it as a space that is “owned” by the community and which can be used in whole - including interior, exterior, roof and adjacent open

spaces – for community related programming. The immediate surrounding retail space could have complementary uses, such as an ice cream shop, bakery, pizza shop and the like, in effect creating a mini neighborhood hub right in the middle of the Project.

The entertainment venue will be an active anchor that is visible from Third Street and Broadway, drawing people into the Site from both the east and the west, a visual anchor that acts as a magnet to draw people east-to-west. The energy of the entertainment venue will further bolster nearby retail activity. This symbiotic, interdependent relationship that exists between the Project’s retail and the entertainment venue and open space, is central to the Project’s success and the viability of the retail plan. Each of these components are strategically sited to maximize their support of one another and thus increase their potential for continued success. Likewise, the entertainment venue will be an integral part of a burgeoning cultural district in Kendall Square that will include the MIT Museum as well as the Foundry and the Canal District Arts + Culture facility planned by others. MIT has begun and will continue to coordinate with the sponsors of the other venues to ensure that programming is complementary and works together to strengthen the cultural district as a whole.

These spaces are designed to accommodate a



RETAIL



ARTS AND ENTERTAINMENT



RECREATION AND COMMUNITY SPACE



ACTIVE CIVIC SPACE



ACTIVE USE

Figure F2: Ground Floor Activation - Proposed



variety of programs – from daily, passive activities like eating lunch or playing a game of chess on a weekday afternoon to a weekend farmers’ and/or artisans’ market that takes advantage of the variety of the open spaces to a full-scale festival that incorporates the retailers, parks and utilizes the ability to close down streets.

Integrated Concept 3 - Accessible, Inventive Retail and Active Uses

The retail mix of the future will be inventive and familiar, accessible and interesting. It will offer a variety of price points and experiences while blending the innovative and the every day. This Project will build upon MIT’s values of diversity, equity and inclusion and strategies for achievement will be developed in concert with the community through a robust public process.

Broad Canal Way will be a pedestrian-scaled street that serves to connect to and bring the existing activity along Broad Canal Way east of Third Street into and through the Project. Storefronts will be filled with a mix of traditional and small, locally-owned retailers whose concepts are so compelling that people will want to visit from both near and far. Retail will be complemented by other active uses, such as cultural, community and recreational spaces and will be fed by the activity coming in from the North-South streets that connect into Broad Canal Way. The locations of retail will be

intentional and strategic: those located closest to the periphery will have a relationship to the character and use of their adjacent streets and neighboring developments.

Broad Canal Way has been designed to be a very active street with significant spill out activity and many doors on the street. Broad Canal Way is prioritized for retail uses, each of which will have its own ground floor entry onto the street. To further enhance the activation and contribute to a two sided street, the plan proposes retail kiosks along the park edge. While pedestrians and bicycles will be given priority on this shared, curbsless street, the design also accommodates limited vehicular traffic, on-street parking and drop off areas to support retail and its viability. Parallel parking exists along the entirety of the street, which is threshold to creating a strong retail and pedestrian environment. In addition, on-street parking and drop off areas will provide access to those who, due to age or ability, may be unable to walk or bike. Broad Canal Way will use high quality streetscape materials, textures and signage to guide pedestrians, bicycles and vehicles along the way as opposed to hard edges that will separates uses and divert from the free flowing character of this retail street.

MIT envisions Broad Canal Way, Third Street and Broadway as one of the most prominent and successful retail corridors in the City and region.

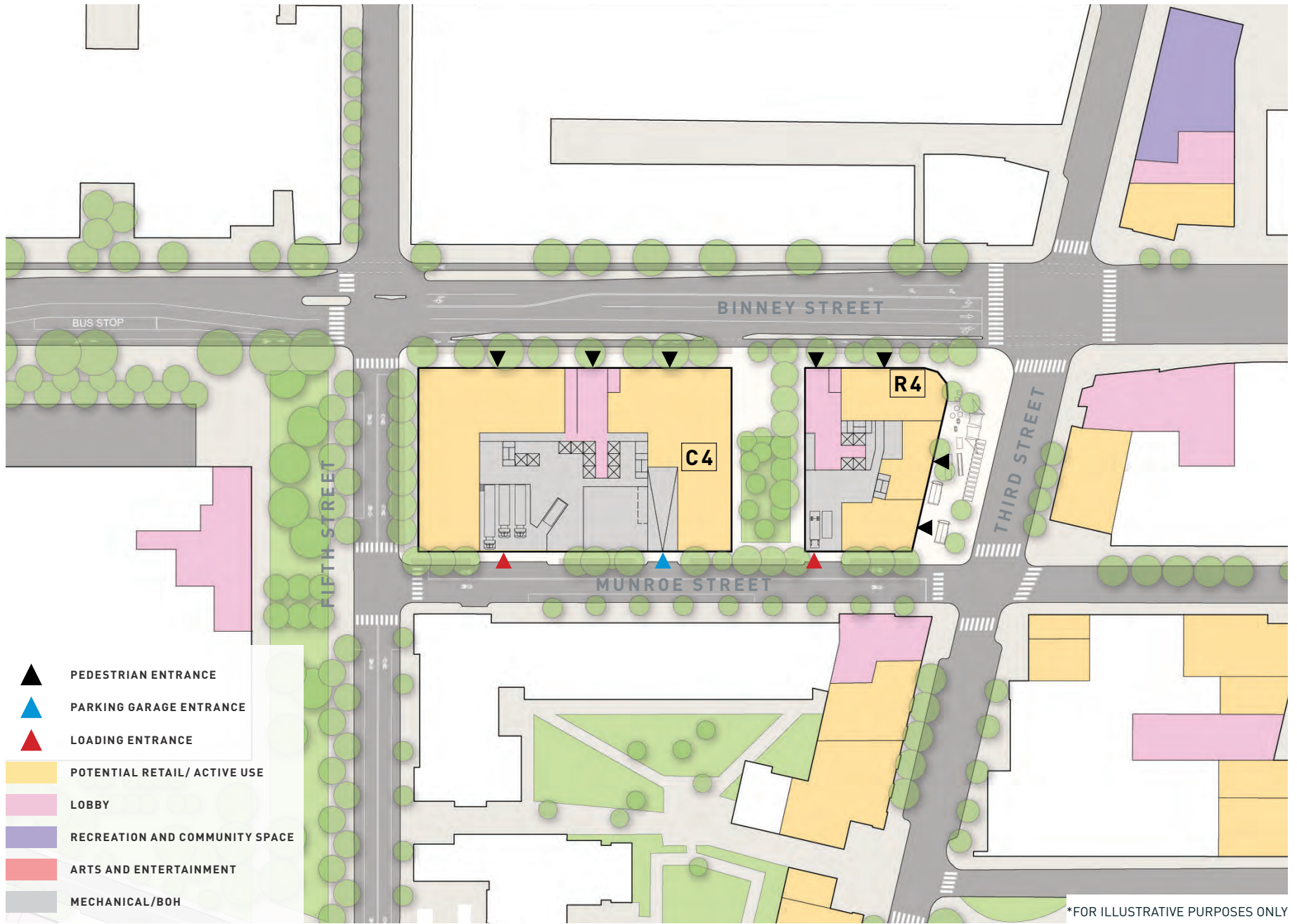


Figure F3: Conceptual Activation Plan - North of Potter Street

Not only will these streets and sidewalks be heavily activated by bicyclists, pedestrians and vehicles but the width of the sidewalks provide a unique opportunity to integrate indoor/outdoor elements such as patio seating. The City's recently-completed Retail Study indicated that businesses with a deck or patio can experience a 20% to 60% increase in revenue, depending on the number of seats provided and whether the area is weatherized. Since then, the restaurant industry has learned first-hand how valuable outdoor seating can be and have found creative ways to prolong their ability to provide outdoor seating well into and even beyond the shoulder seasons. The Project contemplates ample space for outdoor activities such as this particularly along Broad Canal Way and Fifth Street, and on Broadway, where the use of "porches" will allow a slightly elevated and unique view of street-level activity. In addition to food and beverage (F&B), these retail corridors are also primed for a combination of traditional, experience-based and tech-based retail establishments.

Areas along particular nodes of activity, such as near the Community Center and Third Street Park, will be secondary retail locations with uses that complement their adjacencies. For example, food and beverage concepts in the base of C1 could include large windows that open to the outside and outdoor dining that overlooks Third Street

Park, or an ice cream shop being located near the Community Center.

The retail environment is changing rapidly, and as such, the ground floor has been designed to provide tremendous flexibility for whatever the "retail of the future" will look like. As noted in the City's Retail Study, flexibility for retailers is important. They need the flexibility to test new concepts and incorporate new offerings, and our plan allows them to do so. In areas where retail might otherwise struggle, alternative concepts could include makerspaces, civic and cultural spaces, galleries, creative office or shared workspaces. In fact, it is this combination of uses – traditional retail plus other non-traditional but active uses – that will serve to attract different user groups to the site for several different purposes, well beyond simply shopping or dining, and at many times of day.

Retail viability will require more than just thoughtful siting. Businesses – particularly local and independent businesses – may need other forms of support to be viable—both during their buildout phase and well into operations. This may include flexibility with their physical space, financing, lease terms, rent structure and more. MIT is uniquely positioned to provide these different levels of support, having institutional patience and having found similarly unique solutions for retailers at NoMa-SoMa and beyond. MIT will continue to

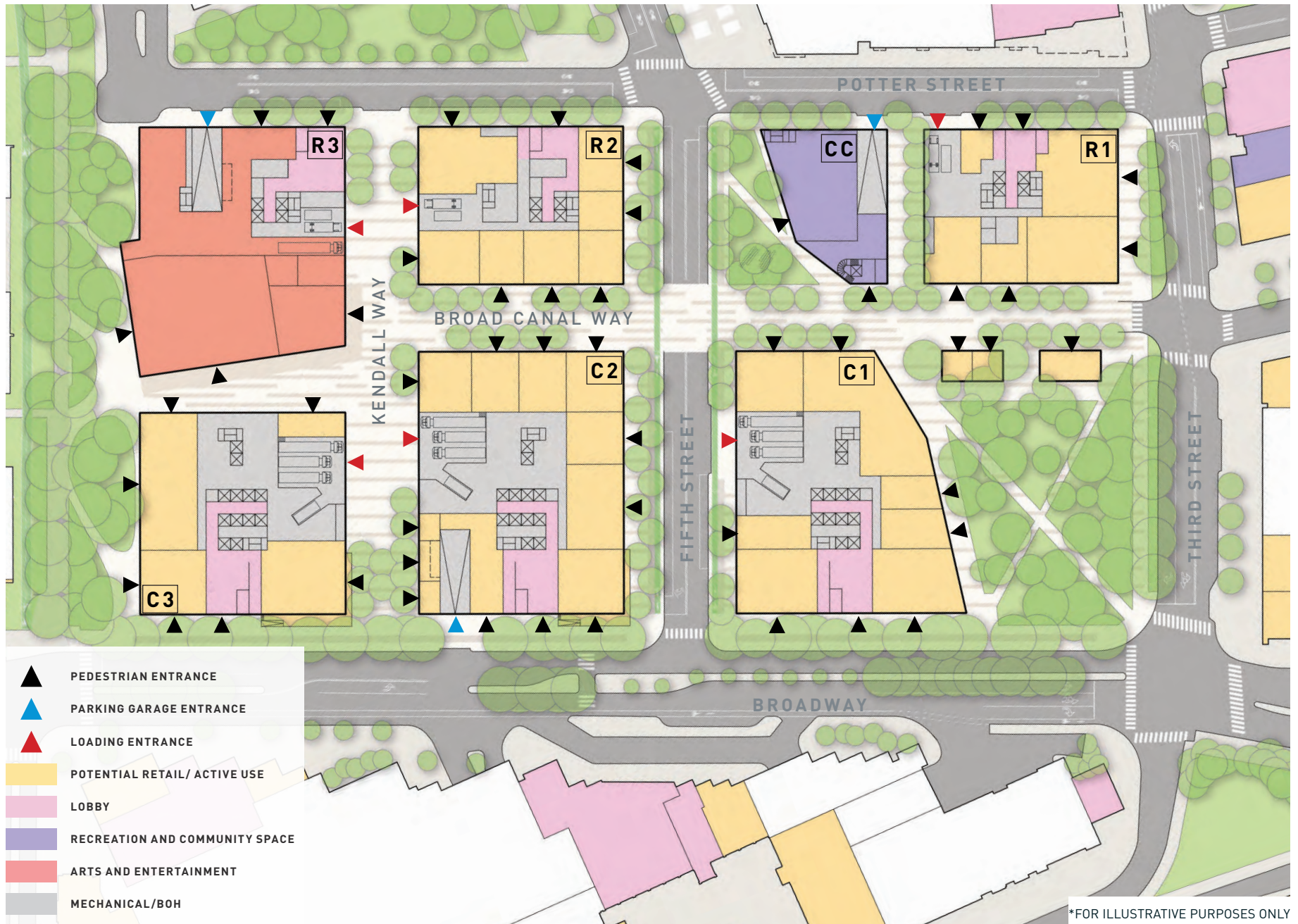
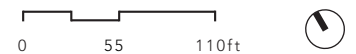


Figure F4: Conceptual Activation Plan - South of Potter Street



explore various ways to support local business – particularly small, locally-owned and minority owned businesses – to ensure their viability at the Project. We will lean on our Community Workshops and Retail Advisory Committee for advice as we seek new and innovative ways to support our retailers and will look to fill vacancies as expeditiously as possible when turnover inevitably occurs from time to time. This multi-pronged approach will position the Project to be a case study in how large, retail-heavy mixed-use projects can support the local retail economy.

The retail plan will meet the requirements of 13.96.1, including provisions related to activating the street edges along Third Street and Broadway and tenancing 25% of the active use spaces by individual retailers occupying less than 3,000 square feet per storefront. As incented by the PUD-7 Zoning, the proposed retail plan intends to include a significant number of small-scale retail establishments. MIT has engaged a retail consultant to advise on tenancing strategies for Project and the recommendations are included in a memo in Volume 3: Appendices, Section F.

G. Housing Plan

Provide the approximate number and mix of housing unit types proposed on each residential site and identifying the anticipated location of dwelling units that may be required or incentivized by specific provisions of this Section 13.90.

Housing will be a significant component of this Project. At least 40% of the non-exempt GFA included in the Project is devoted to residential use. This equates to approximately 1,400 units of new housing located throughout the four residential buildings. Twenty percent (20%) of the net residential unit square footage of each building will be designated as affordable. The Project also includes 20 middle-income units that will be affordable to eligible renters with incomes of 80% to 120% of the Area Median Income. The Project will include three-bedroom units to encourage families to live in the district. In addition, 5% of the net square footage of the net residential unit square footage is devoted to Innovation Units, defined as 350 to 450 SF, to further assist with affordability and diversity of housing on the site.

MIT will work with the City's Housing Division to determine the distribution of inclusionary housing, middle-income, and Innovation Units. Preliminarily, the Project distributes units proportionately by square footage (approximately 325 units in R1, 320 units in R2, 485 units in R3 and 270 units in R40), but this distribution is likely to change as building concepts and designs evolve. During the Design Review, the proponent will present information regarding the type and size of units, their overall distribution, the unit and floor plan layouts, and building services. The identification of each individual inclusionary and

middle-income unit will come after the approval of the Special Permit and before the issuance of the Building Permit.

MIT is committed to the creation of a residential community that includes a variety of ages, races, genders, and family structures that is reflective of the broader Cambridge community. The Project offers a variety of community recreation spaces and active areas. While not yet programmed, the open spaces could support a dog park, playground, exercise space, outdoor dining and farmers'/artisans' markets. Additionally, the Community Center will be an inclusive and welcoming space for all employees and residents of the Project and the surrounding community designed to encourage all to interact, play, exercise, learn and come together in one place to encourage chance encounters and collaboration across user groups.

In addition to the variety of Project amenities, MIT intends a robust program of building amenities inside and additional open space on rooftop terraces for family friendly activities and that will further foster MIT's values of diversity, equity, inclusion and provide a sense of community for all residents

This Project is an incredible opportunity to build upon MIT's values of diversity, equity and inclusion. As the building designs are developed, the team will be evolving unit mix, unit sizes, targeted

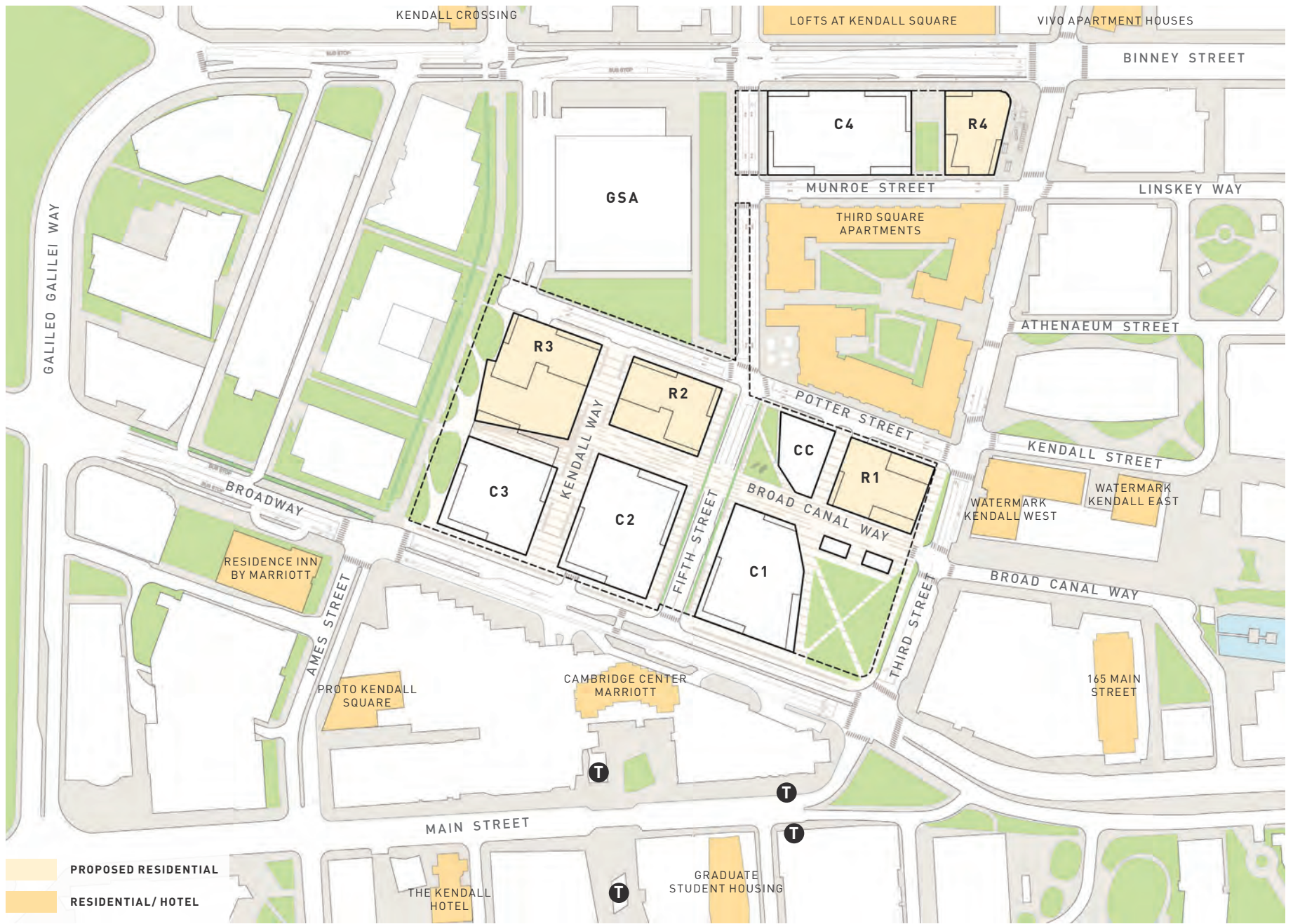


Figure G1: Site Development Plan - Residential

demographics, programming and phasing across the residential buildings in the development. Strategies for achieving DEI goals will be developed

in concert with the community during community workshops, including a workshop focused on housing equity.

H. Phasing Plan

Describe the general sequence in which development is proposed to proceed, and specifically describing how the phasing requirements set forth in this Section 13.90 will be met.

MIT expects to construct the Project over a 10- to 15-year period. The exact sequence will be determined based on market conditions, zoning requirements and the requirements of the overall development. MIT may choose to pursue more than one building simultaneously or in sequential fashion. That said, the Project is complex and there are a number of foundational principles that will guide phasing decisions as the Project moves forward:

- The intent is to deliver a large garage on the South Parcel that will be built in phases along with the buildings above. In the finished condition, the garage will function as a single garage with shared entrances and below-grade continuity. Because development along Binney Street (Buildings R4 and C4) is isolated from the balance of the site, these buildings could be built independently without significant implications on the other phases.
- Open space and public realm improvements within each phase will be constructed in conjunction with the construction of the buildings within each phase.
- The below-grade parking garages will be constructed sufficiently to support commercial and residential buildings per phase. However, MIT may choose to construct the entire southern garage at once to maximize

construction efficiencies.

The proponent understands the importance of infrastructure and amenities and these will be delivered on in conjunction with the Project buildings. The Project was conceived in a manner such that the build-out of one phase can limit interdependencies on other Project phases, and will satisfy all parking, infrastructure, stormwater management, and blackwater removal requirements on a phase-by-phase basis. Given the complexity of the Development Parcel and the number of interdependent systems, there may be periods between phases when systems don't function as intended when the Project is complete. MIT will work in a transparent manner to mitigate any possible impacts this may create. Building phasing will comply with the Section 13.93.1.1 to ensure delivery of housing units prior to the completion of the commercial buildings.

MIT will coordinate the final phasing with the Department of Public Works, as the construction relates to the proposed infrastructure. The proposed infrastructure has been planned to meet DPW design guidelines for stormwater management and sanitary sewer for each independent phase, so that proposed infrastructures systems do not rely upon subsequent construction phases to meet DPW design guidelines. MIT expects to coordinate the final sewer generation calculation with the Department of Public Works, as this calculation

relates to the phasing and I/I mitigation required at the Certificate of Occupancy for the respective buildings during each construction phase. MIT will continue to coordinate the appropriate I/I mitigation

project with the Department of Public Works prior to Building Permit, with the understanding that I/I mitigation is required respective to each construction phase.

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I. Sustainability Plan

Describe: (1) how the sustainability requirements set forth in Section 13.96.4 below will be met; (2) expected greenhouse gas emissions from the development and strategies employed to improve energy efficiency and support renewable energy production, through individual building design and by utilizing existing or new district-wide energy systems; and (3) expected vulnerability of the development to the effects of climate change, increased precipitation, flood risk, temperature and urban heat island effect, and strategies to promote resiliency within individual building sites and at a larger district-wide level, including natural stormwater management systems, increased vegetation and shade, and measures to withstand and recover from extreme climatological events.

The Project applies a comprehensive sustainability approach involving best practices in resiliency, energy and water efficiency, community engagement, and transportation. As a new initiative in MIT's portfolio, the proposed Project establishes a new benchmark in urban sustainable development and pilots innovative solutions to address local and regional environmental design issues.

MIT is committed to developing projects that are at the forefront of sustainability, and with this project, MIT exceeds past precedents in sustainable design by incorporating next generation technologies and approaches to district level systems for resource efficiency.

There are several key strategies that establish the Project as an exemplar of sustainable master plan design. First, the Project will include the largest urban district-scale blackwater treatment plant in the northeast to reuse all building water on-site. Additionally, the development will have the largest number of all-electric residential units (40% of the development) in the region with zero on-site emissions to support a net-zero carbon future. The design also strives to enhance community engagement by activating the street level with community services and publicly accessible open space. Together, these exemplary strategies distinguish Volpe from regional peers and build on sustainable commitments for site, transit,

resiliency, and healthy building design.

For additional information on expected greenhouse gas emissions, district and building energy strategies, and site and building responses to climate risks, refer to Volpe's certified Green Building Report.

Efficiency, Electrification and Path to Net Zero Carbon

The Project is designed to maximize energy efficiency and support a path for a net-zero carbon future. Residential buildings will be all-electric, and commercial buildings will be designed with a path to electrification that will integrate with the long-term vision for a low-carbon New England power grid. MIT is anticipating future reductions in grid emissions as additional renewable energy sources are brought online and committing to designing buildings that transition with the grid, leading peers with a supplemental investment to position the Volpe buildings to be ready for an electric future. Load sharing between complementary building programs will be explored to maximize heat exchange and optimize energy performance of the development. Furthermore, proposed on-site rooftop photovoltaic (PV) arrays, supplemented by procurement of off-site renewable energy, can help offset the development's electricity use. Electrified residential buildings alongside commercial buildings designed with a path to electrification



100% Water Reuse

On-site blackwater treatment to **reuse all building water**.



ZERO Emissions Residential Buildings

Largest all electric residential development in the northeast with **zero on-site emissions from fossil fuels**.



Exemplary Sustainable Community

Walkable community targets **over 70% active use and community services** on the street level with **substantial publicly accessible open space**.



Enhanced Climate Resiliency

Entire district significantly elevated to be above future 2070 100-year flood elevation.

Figure I1: Exemplary Master Plan

chart a net zero carbon future.

Exemplary On-site Water Treatment and Resilience Approach

The development will include the largest urban district-scale blackwater treatment plant in the northeast to reuse all building water on-site. Collection, treatment, and reuse of all available greywater and blackwater in district blackwater treatment plants will minimize potable water consumption, improve self-sufficiency of the district, and mitigate the impact of the development on regional sewer systems. By investing in blackwater treatment, the development can increase density from the existing condition without significant flow increases to the City's sewer systems.

To respond to the changing climate and prepare for projected increases in precipitation, the Project will embrace resilient design strategies including elevating critical equipment, residential units, and all building ground floors above the 2070 100-year flood elevation. Further, by incorporating stormwater mitigation strategies in concert with the planned phases of development; and providing standby power for critical equipment resiliency is at the forefront of design for this development. To minimize risks associated with projected temperature increases, the development will reduce urban heat island effect through high-

albedo roofing and paving and minimize cooling loads by significantly insulating and shading building facades.

Design for the Future of Transportation

MIT recognizes that improving bicycle facilities is a priority for the City, and the development supports low-carbon mobility, with bicycle facilities and a bicycle network, electric vehicle charging stations, connections to public transit, rideshare pick-up points, and a walkable site. A significant early design decision to break up the existing super block enhances permeability, connectivity, and likelihood of success for alternative transportation strategies. The pedestrian experience is enhanced through walkable site strategies. The development is planned to evolve and adapt for the next generation of modality, both on the site and below grade.

Benchmarking to Measure Performance

Continuing MIT's commitment to sustainable development in the Kendall Square area, the Volpe district will be one of the largest LEED developments in the Cambridge and Boston areas. Each building is committed to achieving a minimum LEED Gold rating under the LEED version 4 system, and MIT will explore opportunities to incorporate evolving wellness and equity benchmarking initiatives.

Sustainable Community

As a mixed-use project, the Project promotes social sustainability in the urban context to support a thriving community of workers, residents, and visitors. By providing connections with Cambridge neighborhoods and varied amenities on-site, the development transforms the Kendall area into a destination that serves as an educational and regional model of how sustainable master plans can integrate into existing urban contexts and promote collaboration, engagement, and diversity.

Evolving Standards + City Engagement

As the masterplan for the district has progressed, the design team has continued to evaluate the site, stormwater, and energy performance against new guidelines and standards. The team will continue to evaluate all opportunities and technologies. The current design approach at the planning level takes a holistic look at sustainability to maximize and optimize community benefits, activation, and environmental performance, while balancing competing interests and conflicts. The team will continue to refine how sustainability elements fit together to demonstrate the most we can do with what we know today while positioning the future design of buildings to use advancements in technologies for more efficient and enhanced environmental performance.

MIT is committed to exceeding local energy standards where possible by incorporating a whole system, integrated approach and to continually re-evaluate design strategies to stay at the forefront of technical developments and improve environmental performance. Energy efficiency and resource conservation are at the heart of the sustainability framework developed for the Volpe site and will remain a focus for the entire team as the Project develops.

MIT and the design team members continue to be engaged with the City's initiatives and environmental design expectations for the design and operation of the buildings. The outlined sustainability plan encompasses all buildings proposed in the Volpe masterplan, and further detail on sustainability performance will be provided once buildings are designed and included in individual buildings' future Design Review submissions. MIT and the design teams look forward to continued collaboration with the City and Cambridge community to develop a sustainable destination in the Volpe District.

Cambridge 2070 Flood Elevations

MIT has reviewed the 2070 resiliency elevations within the Cambridge Flood Viewer for both Precipitation and Sea Level Rise / Storm Surge (SLR/SS). In review of the Development Parcel, the current 2070 10-year storm events do not reach the Site.

The 2070 100-year storm event ranges from elevation 20.1 to 21.4 above the Cambridge City Base (CCB) datum throughout the Site. The finished floor elevation for all buildings in the Project will be set to a minimum elevation of 21.4 CCB to allow for buildings to be resilient towards the 2070 100-year storm elevation. Additionally, critical infrastructure will be raised to a minimum of elevation 21.4 CCB.

Existing elevations range on-site from approximately elevation 18.9' CCB towards the southwesterly corner of the site adjacent to Broadway, up to elevation 22.2' CCB towards the northeasterly corner of the site adjacent to Potter Street. The building FFE's will be designed with these abutting site grades within the City right-of-way to mitigate grading impacts to roadway elevations. The building frontage along Broadway is anticipated to have an approximate 18 inch grade change to meet the resiliency elevation of 21.4' CCB. Approximate existing site elevations have been provided within the Appendix of this document,

which depicts the Cambridge Floodviewer for the 2070 10-year and 100-year storm events.

Temporary flood barriers will be provided as an Architectural feature at garage entrances that are located below elevation 21.4' CCB. These flood barriers will be deployed as needed in extreme weather events to an elevation at or above 21.4' CCB to help protect critical infrastructure located within the subsurface garage.

MIT understands that the Flood Viewer is a dynamic model that will be updated periodically by the City. Prior to Design Review for each building, MIT will review the latest version of the Flood Viewer to ensure that finished floor elevations are set at or above the projected 2070 100-year storm event elevation or will incorporate alternate flood protection arrangements in order to effectively protect the building and its occupants from a 100-year storm based on an elevation that exceeds the anticipated 2070 100-year storm event elevation in effect at the time of this Application.

J. Transportation Plan

Incorporate: (1) a Transportation Impact Study required by Section 19.20; (2) a Shared Parking Study required by Section 13.95.5; (3) a study of the impacts of increased demand on public transportation services in the Kendall Square area; (4) a description of the development's relationship to future regional rail, bus, pedestrian/bicycle and other transportation system connections in the area, such as the Grand Junction rail corridor; and (5) a Transportation Demand Management and Mitigation program describing measures to offset or mitigate the Project's impacts on transportation systems. Such studies shall account for the proposed scale and phasing of development and the limitations on system capacity to accommodate new vehicle, transit, and other trips.

MIT submitted a Transportation Impact Study (TIS) – including a Shared Parking Study, a study of impacts on public transportation and a description of relationship to future regional transit – to the City's Traffic, Parking + Transportation Department (TP+T). The TIS was certified on November 4, 2020.

MIT has submitted a draft Transportation Demand Management (TDM) to the PTDM officer and is discussing a transportation mitigation program with TP+T.. MIT will support a TDM program to reduce automobile trips generated by the Project. The goal of the Project's TDM plan is to reduce the use of single-occupancy vehicles by encouraging carpooling and vanpooling, bicycling, walking, and increased use of the area's public transportation system by employees and visitors.

MIT will work with tenants of the new buildings to join the Charles River Transportation Management Association and implement effective TDM strategies that will be incorporated in a PTDM Plan to be approved by the City's PTDM Officer.

K. Environmental Comfort Plan

Overarching project aspirations include the desire to increase connectivity between the Project and the surrounding neighborhoods and to improve the quality, vibrancy, diversity and inclusiveness of the public realm through a network of open space. At the same time, the Project must minimize adverse impacts of development on environmental comfort. The following describes analyses undertaken or planned in order to understand the existing environmental conditions, predict any potentially adverse impacts of the proposed development, and develop strategies to minimize or mitigate those impacts.

Wind

A quantitative pedestrian-level wind study of the Project build-out was conducted by RWDI utilizing wind-tunnel analysis. The assessment focused on critical pedestrian areas, including building entrances and public sidewalks. Wind tunnel analysis of the proposed building massing and landscaping indicated that wind conditions at grade-level on and around the Site are generally predicted to be similar to the existing wind conditions and suitable for the intended uses.

The analysis included approximately 150 receptor locations. On an annual basis, no dangerous mean wind speeds were detected at any location and wind speeds rated comfortable for sitting, standing or walking are expected at all locations with the exception of a few building corners. Wind speeds at most building entrances are expected to be comfortable for sitting or standing on an annual basis, which is suitable for the intended use. Wind speeds near the entrance of Building C3 is expected to be uncomfortable, which is considered higher than desired for the intended use. This issue can be mitigated through design strategies including canopies or structures or by locating entrances further from the building corners or recessing them into the building façade.

Wind speeds are predicted to meet the effective gust criterion on an annual basis, with the exception

of the southwest corner of the US DOT Volpe Exchange Project near the service area. Seasonal exceedance of effective gust criteria is predicted at a few building corners during the winter. Minor revisions to the massing of the building corners can mitigate this effect.

The detailed configuration of building massing and landscape features, as analyzed through wind-tunnel testing, should not be considered final. Future design efforts for individual buildings and development-wide streetscape and landscape design will strive to mediate any marginal conditions.

As design progresses, the team will analyze entrainment as is typical to understanding and managing lab exhaust at upper levels. There are now many examples in Kendall Square of lab buildings adjacent to high rise residential buildings including at University Park, along the north side of Binney Street, at Kendall Street, at Water Street and in Cambridge Crossing. All lab building proposals on this site will be required to submit building specific wind studies as part of Article 19 Design Review submissions.

Shadow

MIT has performed a shadow study to evaluate the shadow impacts of the proposed building massing on existing neighboring buildings as well as on existing and proposed elements of the public realm.

The shadow study evaluates existing and proposed conditions to illustrate the net new shadow (shown in blue) as a result of the Project's proposed building massing envelopes US DOT Volpe Exchange Project. The illustrations document shadow impacts at the specific annual markers of 9:00 am, 12:00 pm and 3:00 pm on the Spring / Fall Equinox and on the Summer and Winter Solstice. For the purposes of the shadow study, the US DOT Volpe Exchange Project has been considered to be existing. The massing of proposed buildings used to generate shadows is consistent with the maximum building envelopes described herein.

The net new shadow illustrated falls on both public realm ground plane and on rooftops. Based on the shadow studies, the Project will create a degree of net new shadow consistent with an urban development project of this magnitude. Significantly, the shadow study supports the placement of a major civic park at the corner of Third Street and Broadway. In addition to being the most public corner of the Development Parcel, existing urban form and solar orientation combine

to maximize the hours of direct sunlight on a public park at this location.

Spring / Fall Equinox (March 21 and September 21)

On the Spring and Fall Equinoxes (March 21 and September 21, respectively), the hours of daylight and darkness are equal. At 9:00 am, Buildings C3 and R3 will cast net new shadows across Loughrey Walkway/Kittie Knox Bike Path and neighboring buildings to its west, and Building C4 will cast new shadow on Binney Street north and west of Parcel C4, incremental new shadow on the south facades of buildings on the north side of Binney Street, and on the northeast corner of the US DOT Volpe Exchange Project. At 12:00 pm, Buildings C3 and R3 will cast net new shadows to the west and northwest, on Loughrey Walkway/Kittie Knox Bike Path, and incremental new shadow on buildings immediately west of Loughrey Walkway/Kittie Knox Bike Path; Buildings R2 and R3 will cast new shadows on the south façade and landscape of the US DOT Volpe Exchange Project; Building R1 will cast new shadow on the south façade of 303 Third Street Residences; Building C4 will cast new shadows north across Binney Street and incrementally onto the south façade of buildings on the north side of Binney Street; and Building R4 will cast new shadows north across Binney Street and onto the south façade of the building on the



LEGEND:

MEAN SPEED CATEGORIES:	SENSOR LOCATION:	LANDSCAPING:
Sitting (Blue circle)	Grade Level (Circle with dot)	Existing Deciduous (Circle with leaf)
Standing (Light Blue circle)		Landscaping (no foliage) (Circle with leaf)
Walking (Green circle)		
Uncomfortable (Yellow circle)		
Dangerous (Red circle)		

Pedestrian Wind Conditions - Mean Speed
 No Build
 Annual (January to December, 0:00 to 23:00)
 Volpe - Cambridge, MA

True North ↑

0 75 150ft

Drawn by: GRE Figure: 1A
 Approx. Scale: 1"=150'
 Project #1903749 Date Revised: Dec. 23, 2020




Figure K1: Pedestrian Wind Conditions Mean Speed - Existing



Isometric View of Buildings

LEGEND:

MEAN SPEED CATEGORIES:	SENSOR LOCATION:	LANDSCAPING:
Sitting (Blue circle)	Grade Level (Blue circle)	Existing Deciduous Landscaping (no foliage) (Light green circle)
Standing (Light blue circle)	Entrance Location (Black triangle)	Proposed Deciduous Landscaping - 15 ft Tall (no foliage) (Medium green circle)
Walking (Green circle)		Proposed Marcescent Landscaping (foliage throughout the year - 15 ft Tall) (Dark green circle)
Uncomfortable (Yellow circle)		
Dangerous (Red circle)		

Pedestrian Wind Conditions - Mean Speed
 Build
 Annual (January to December, 0:00 to 23:00)
 Volpe - Cambridge, MA

True North ↑
 Drawn by: GRE Figure: 1B
 Approx. Scale: 1"=150'
 Project #1903749 Date Revised: Nov. 10, 2020


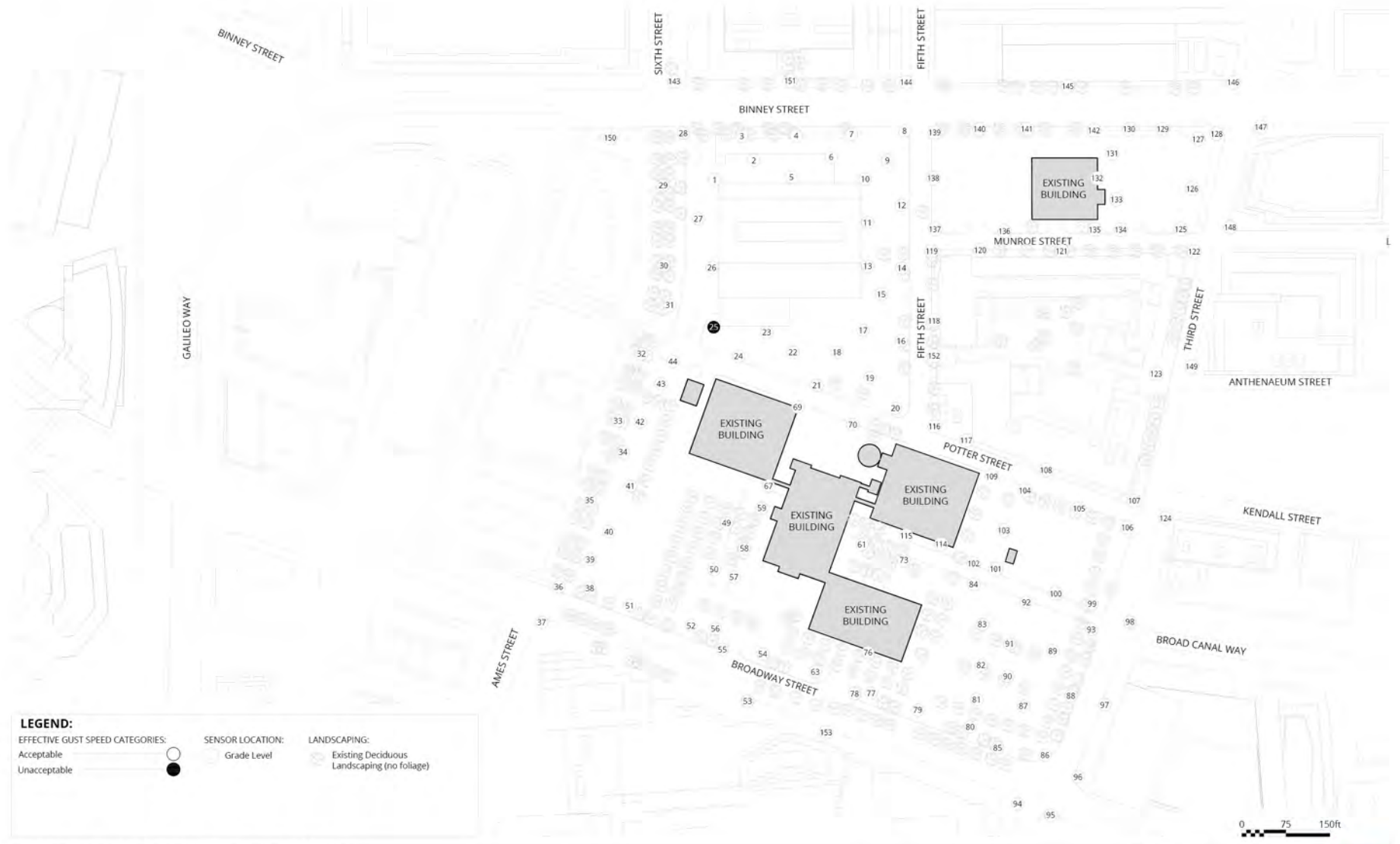


Figure K2: Pedestrian Wind Conditions Mean Speed - Proposed



Pedestrian Wind Conditions - Effective Gust Speed

No Build
Annual (January to December, 0:00 to 23:00)

Volpe - Cambridge, MA

Drawn by: GRE Figure: 2A
Approx. Scale: 1"=150'
Project #1903749 Date Revised: Dec. 23, 2020



Figure K3: Pedestrian Wind Conditions Effective Gust Speed - Existing



Pedestrian Wind Conditions - Effective Gust Speed

Build
Annual (January to December, 0:00 to 23:00)

Volpe - Cambridge, MA



Drawn by: GRE Figure: 2B

Approx. Scale: 1"=150'

Project #1903749 Date Revised: Nov. 10, 2020



Figure K4: Pedestrian Wind Conditions Effective Gust Speed - Proposed

north side of Binney Street. At 3:00 pm, Buildings C4 and R4 will cast net new shadow to the north and east across Binney Street to the facades of buildings on the north side of the street; Buildings R1 and C1 will cast new shadows to the north and east, onto the southeast corner of 303 Third Street and across Third Street to properties on the east side of Third Street; and Buildings R2 and R3 will cast new shadows on the southwest corner of 303 Third Street and across the southeast corner of the new Government Owned Parcel and on the south façade of the US DOT Volpe Exchange Project.

Summer Solstice (June 21)

On the Summer Solstice of June 21, the sun is highest in the sky and the hours of daylight are the longest of the year. As a result, the Project will cast the least amount of net new shadow on this day, most of which will fall within the Development Parcel boundaries. At 9:00 am, Buildings C1, C2 and C3 will each cast incremental net new shadow on the north sidewalk of Broadway; Buildings C3 and R3 will cast net new shadow to the west across Loughrey Walkway/Kittie Knox Bike Path and onto the east facades of the buildings to its west; and Building C4 will cast new shadow onto the northeast corner of the US DOT Volpe Exchange Project. At 12:00 pm, Buildings C3 and R3 will cast incremental net new shadow on Loughrey Walkway/Kittie Knox Bike Path; Buildings R2 and

R3 will cast new shadow on the southern side of the US DOT Volpe Exchange Project; Building R1 will cast new shadow to the north across Potter Street and onto the sidewalk south of 303 Third Street; and Buildings C4 and R4 will cast new shadow to the north across Binney Street. At 3:00 pm, Buildings R2 and R3 will cast net new shadow on the southeast corner of the US DOT Volpe Exchange Project and on the southwest corner of 303 Third Street Residences; Buildings C4 and R4 will cast new shadow to the north and east onto Binney Street and Building R4 will cast new shadow onto the west façade of the building on the east side of Third Street; and Building R1 will cast new shadow across Potter and Third Streets, onto the southeast corner of 303 Third Street, and onto properties on the east side of Third Street.

Winter Solstice (December 21)

On the Winter Solstice of December 21, the sun is lowest in the sky and the hours of daylight are the shortest of the year. Although the Project will cast the most amount of net new shadow on this day, the area already experiences shadow. At 9:00 am, most of the Loughrey Walkway/Kittie Knox Bike Path is already in shadow and the new buildings cast a limited amount of net new in this area; Buildings C4 and R4 will cast net new shadow to the north on both sides of Binney Street. At 12:00 pm, Buildings C3 and R3 will cast incremental net new

shadow on Loughrey Walkway/Kittie Knox Bike Path; Buildings R2 and R3 will cast new shadow on the southern side of the US DOT Volpe Exchange Project; Building R1 will cast new shadow to the north across Potter Street and onto the sidewalk south of 303 Third Street; and Buildings C4 and R4 will cast new shadow to the north across Binney Street. At 3:00 pm, the light is low and net new shadow is cast to the north, primarily upon buildings along Third Street.

Lighting

Urban street, sidewalk, pathway and landscape site lighting is critical to providing a sense of comfort, safety and security. A consistent, cohesive approach to illumination and fixture selection will contribute to the connectivity of the open space network within the public realm. Similarly, the interior illumination of active retail, dining and entertainment venues will increase transparency into those public uses, blur the edge between indoor and outdoor space, and heighten the sense of security and neighborhood identity well into the evening. Exterior building lighting will also be important for identity, especially for commercial buildings within the Project.

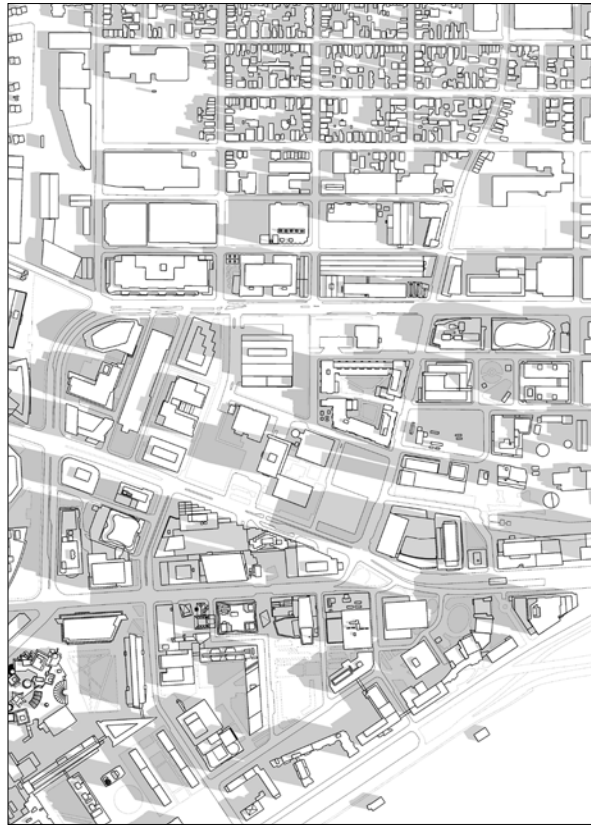
Future building and site design will need to address these positive attributes while also mitigating light spill, avoiding light pollution, and conforming to applicable night-sky ordinances.

The use of occupancy or vacancy sensors within the upper floors of commercial buildings and light cut-off housings for exterior pole-type fixtures are two specific methods that future building and landscape design will address.

Urban Heat Island Effect

Urban heat island effects will be mitigated using a hybrid approach. All new buildings will employ high albedo, green roof, blue roof, or solar panels, as applicable, to reflect heat and mitigate urban heat island effects in accordance with PUD-7 Zoning requirements. Hardscape materials will be chosen for high SR/SRI values and permeability attributes. The Project will incorporate outdoor spaces with vegetation such as canopy trees, pergolas, trellises, green walls, and other measures to reduce urban heat gain.

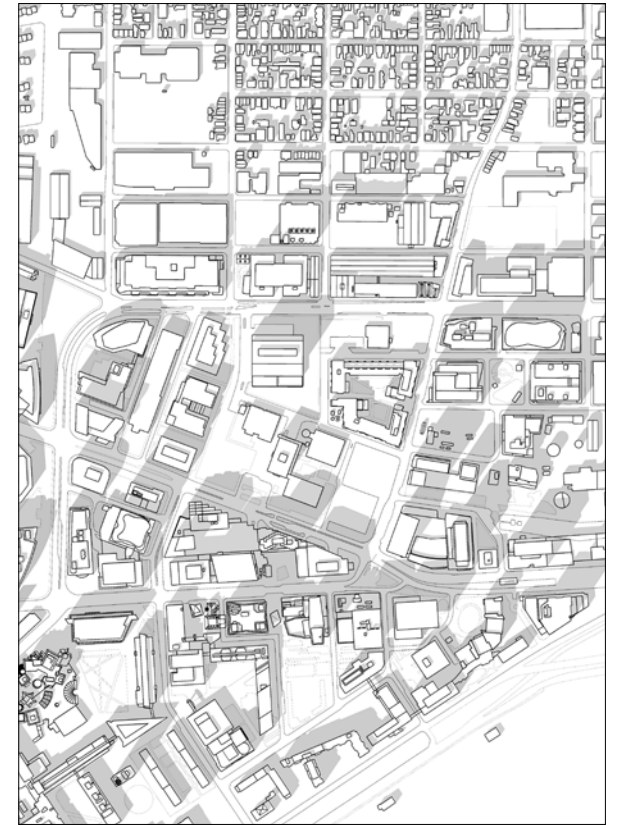
Shade trees and canopies will mitigate heat gains on sidewalks and pedestrians while increased ground vegetation and light-colored surfaces will reduce overall heat island effects, aligning with key strategies for climate resiliency to withstand and recover from extreme events. MIT will evaluate a weighted score based on Site features including shaded structures, paving with high SRI, planting areas and tree canopies. Based on the tree canopy designed, the remaining open space and paved materials will be specified to meet the cooling target.



9 AM

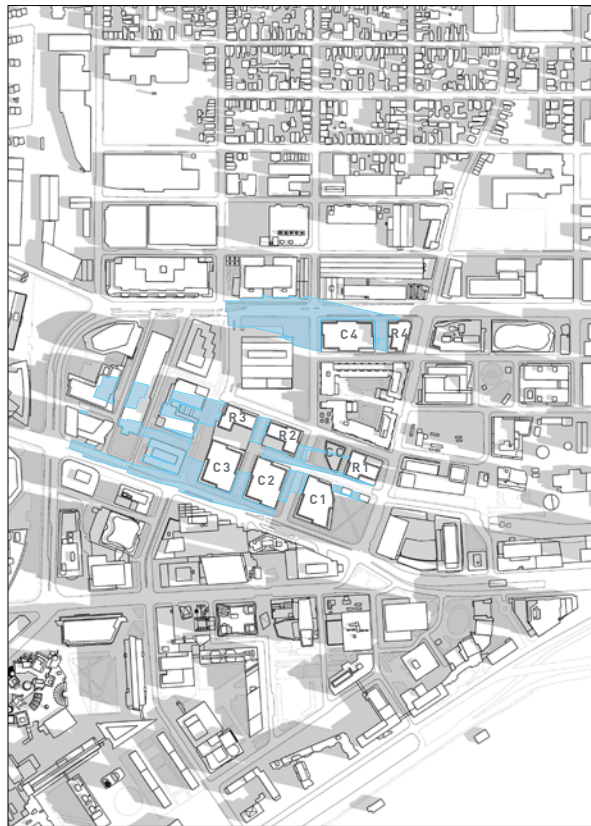


12 PM

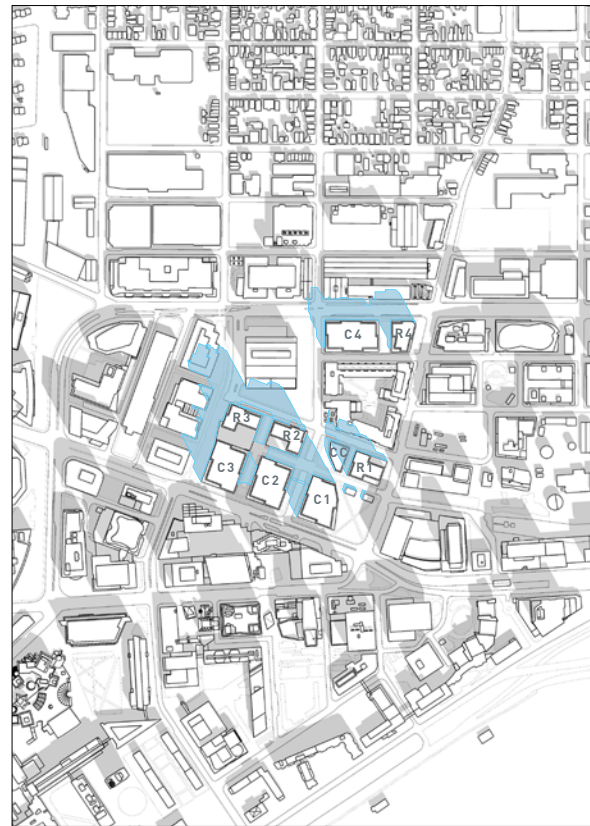


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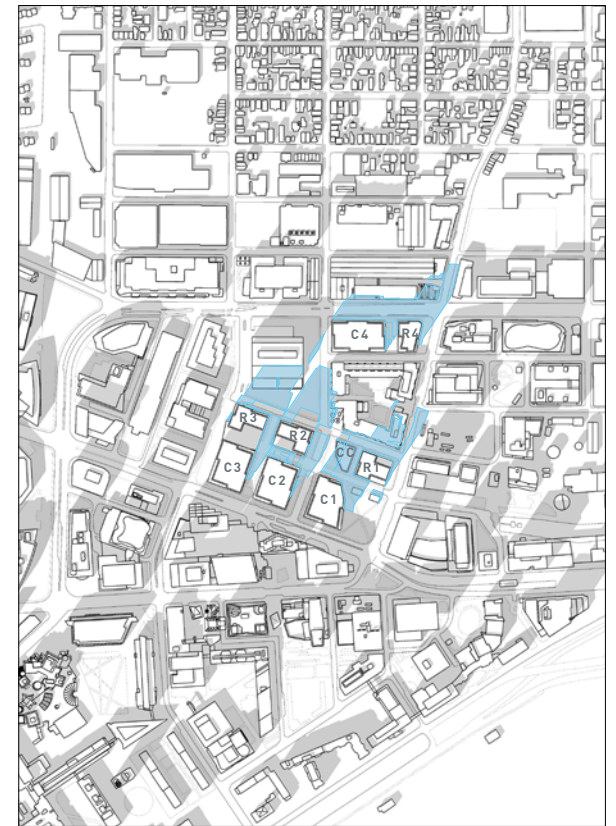
Figure K5: Shadow on Spring/Fall Equinox - Existing



9 AM



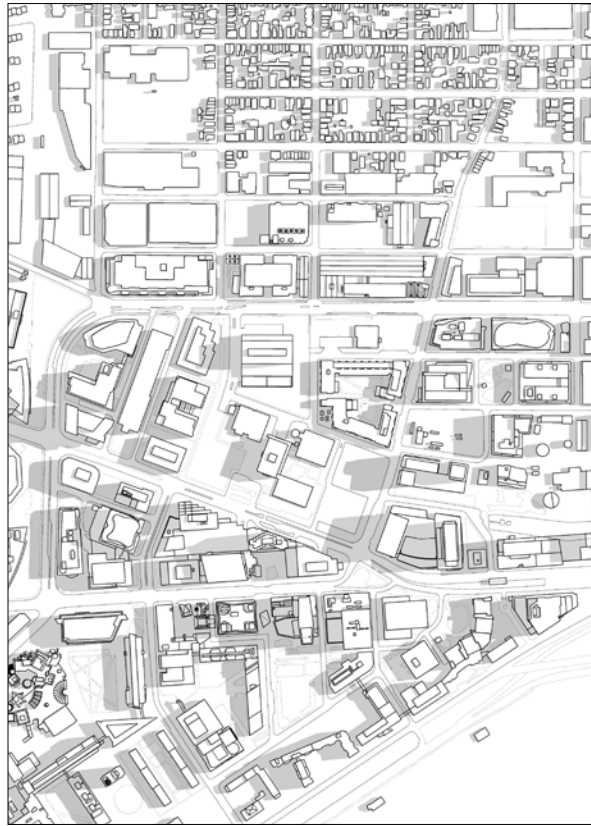
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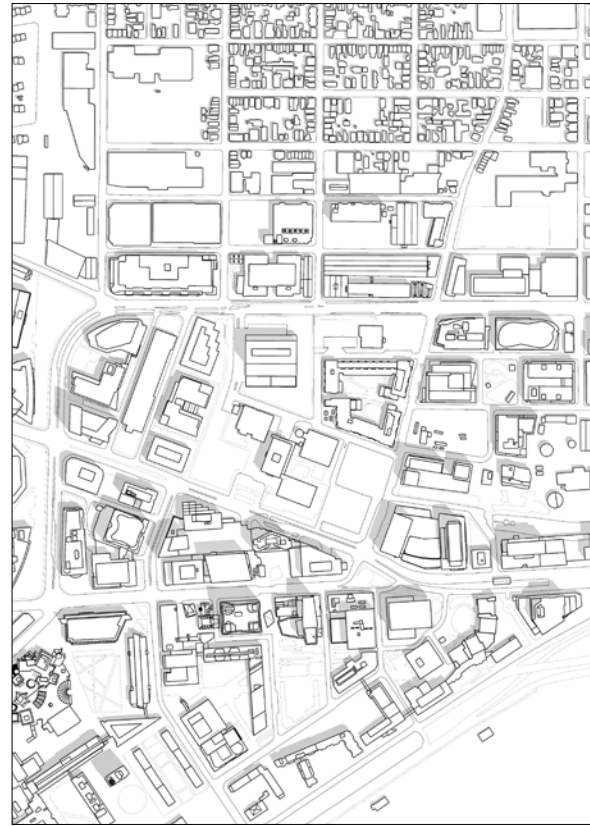
3 PM

 NEW NET SHADOW

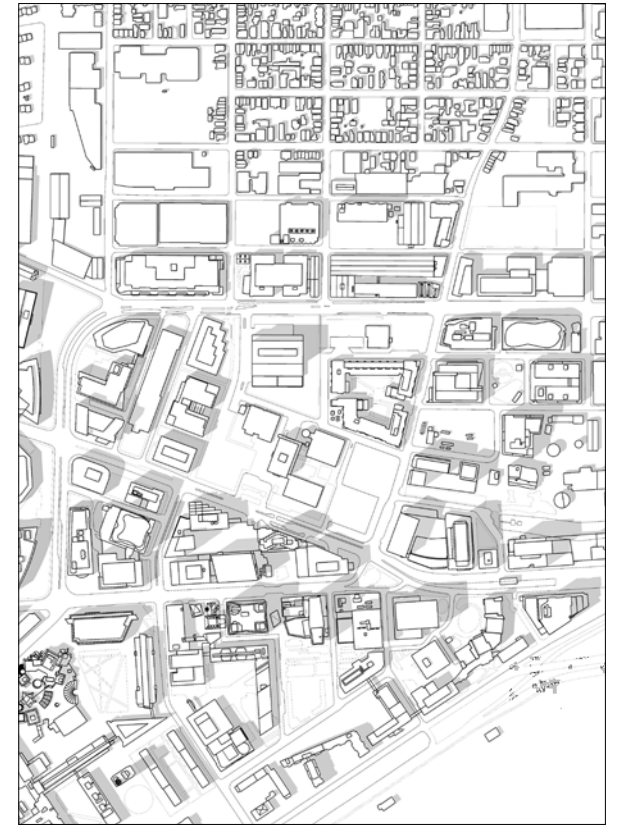
Figure K6: Shadow on Spring/Fall Equinox - Proposed



9 AM

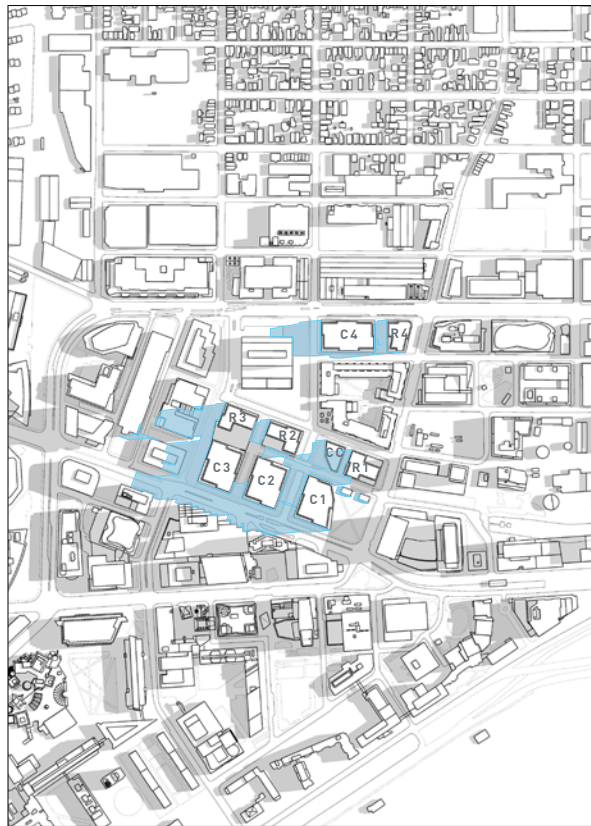


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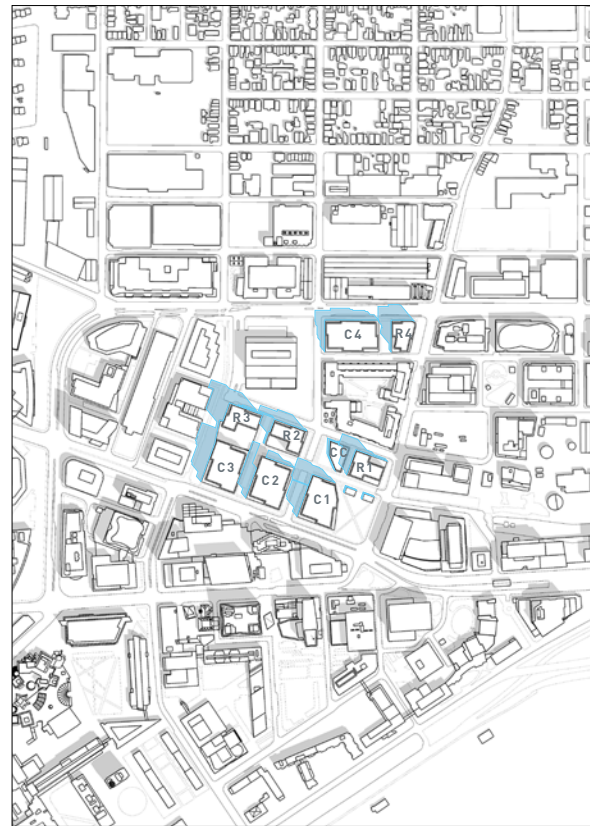


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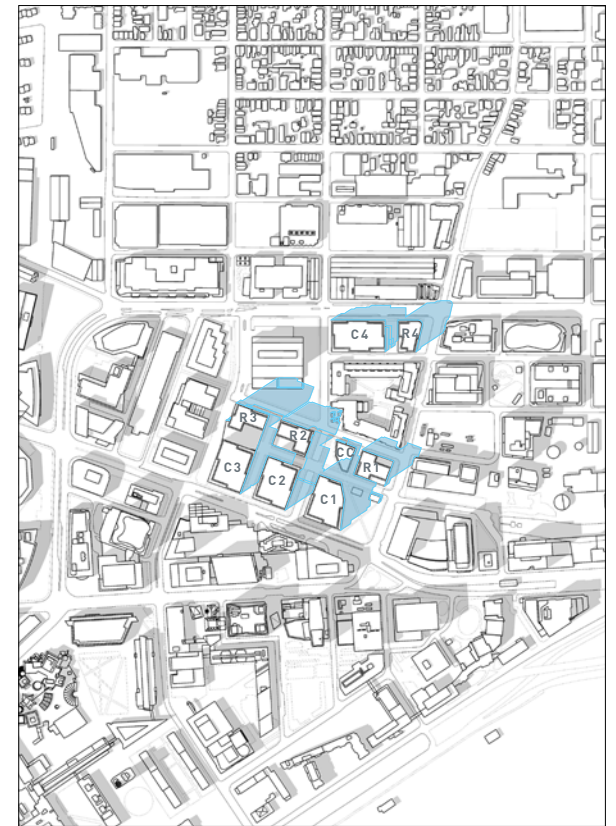
Figure K7: Shadow on Summer Solstice - Existing



9 AM



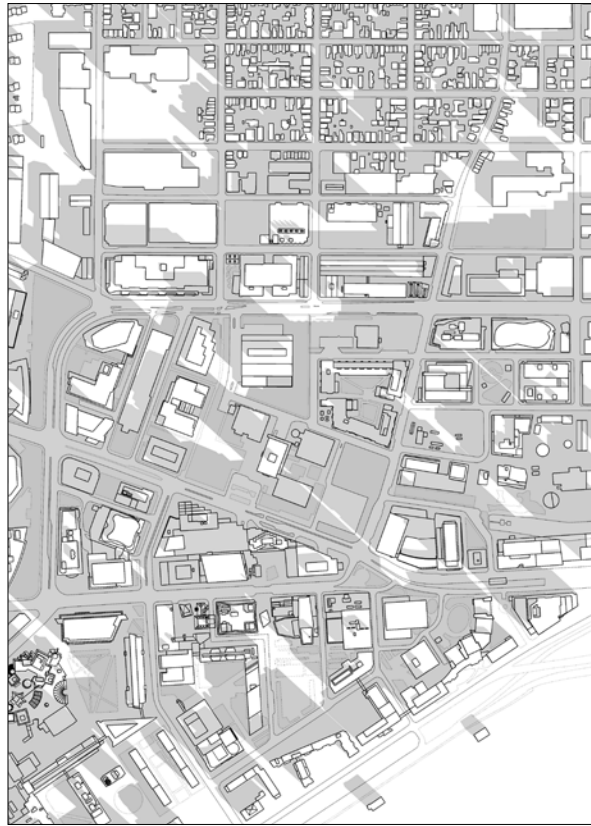
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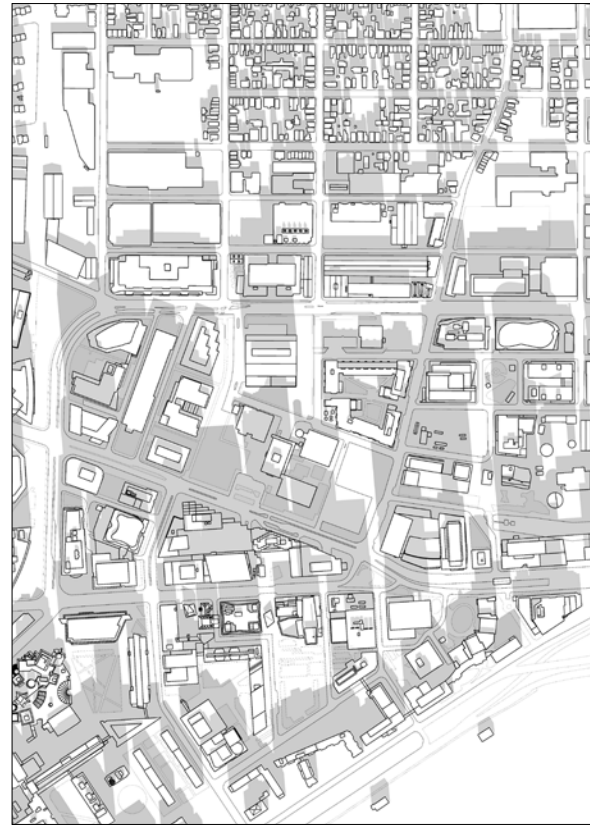
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 NEW NET SHADOW

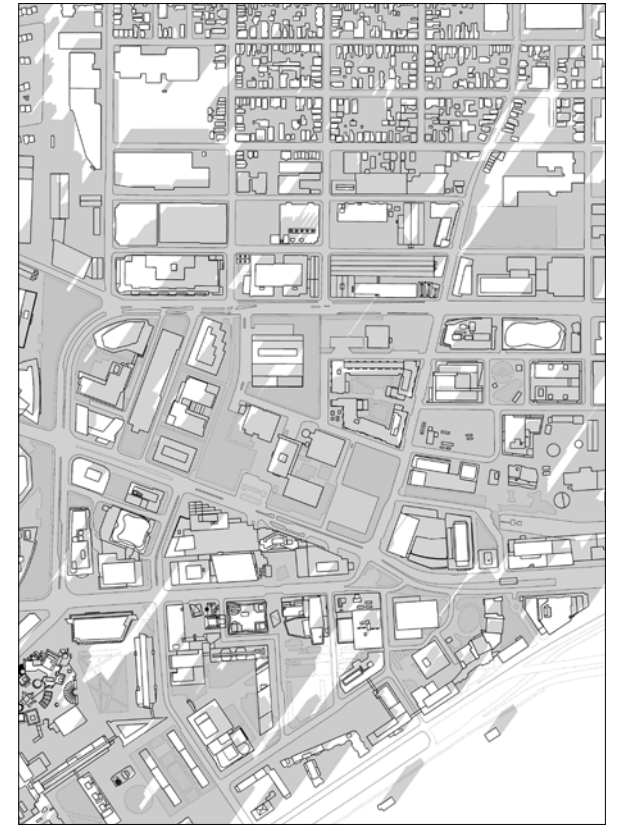
Figure K8: Shadow on Summer Solstice - Proposed



9 AM

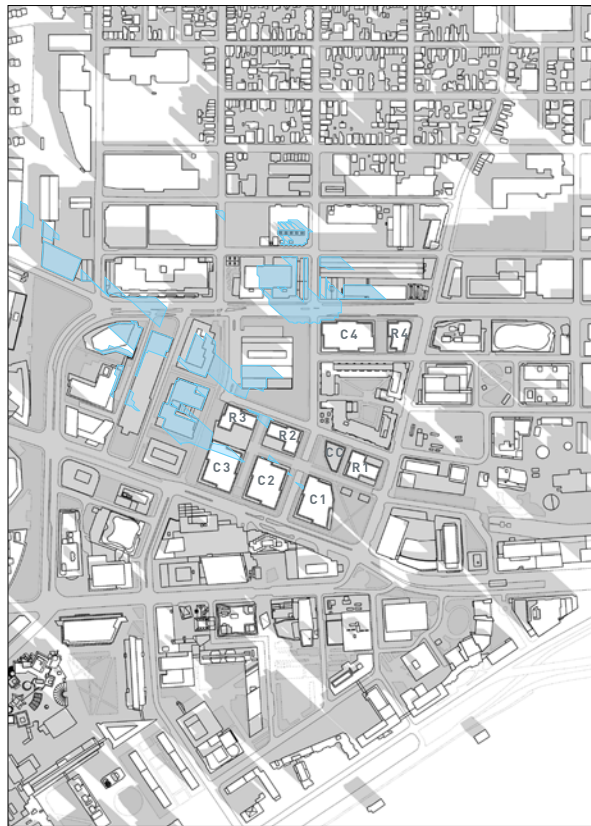


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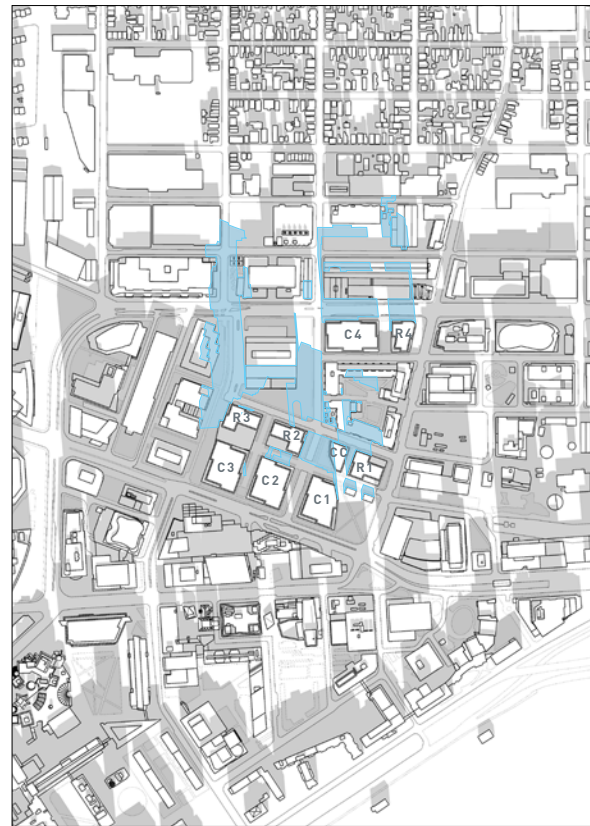


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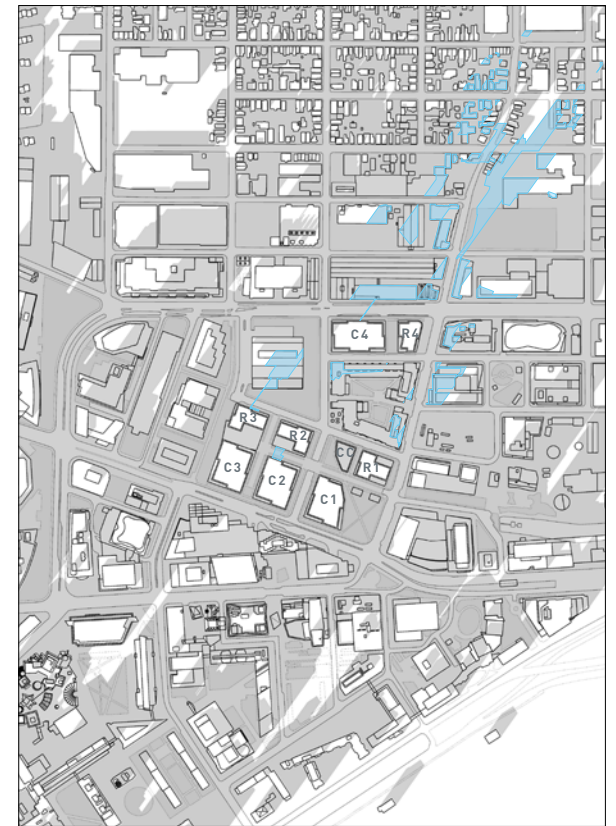
Figure K9: Shadow on Winter Solstice - Existing



9 AM



12 PM



3 PM

Figure K10: Shadow on Winter Solstice - Proposed

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L. Architectural Character Plan

The following describes design intentions with regard to the character of public realm open spaces and buildings, outlining programmatic, compositional and detail strategies with which to develop the overall character of the Project. The design objective is outstanding design – innovative, sustainable and tangibly part of Cambridge. It is understood and encouraged that a great deal of design diversity is possible within these guidelines and that individual open spaces and buildings will be further reviewed as they are developed.

Public Realm

The public realm network has been intentionally designed to create and enhance a series of view corridors into, through, and around the Development Parcel. The most significant of these will be the one which draws the eye from the corner of Third and Broadway, through Third Street Park, past a new Community Center, and to the Volpe Art Lawn and the New Volpe Center.

Similarly, the introduction of Fifth Street, connecting Binney Street to Broadway, will provide a tree-lined promenade visually connecting the neighborhood fabric of East Cambridge to Kendall Square.

The extension of Broad Canal Way as a pedestrian-focused street across Third Street and into Development Parcel will serve to visually connect the Project to a unique urban element of Cambridge and accentuate the neighborhood's connection to the Charles.

Along the western edge of the Development Parcel, Loughrey Walkway/Kittie Knox Bike Path will be given room to exhale by its merger with Sixth Street Park—preserving, emphasizing and embracing a beloved but somewhat hidden allee within the city.

Open Space

The Project's parks, squares, courts, passages and streets will provide opportunities for active and passive use for a diverse population. The new one-acre Third Street Park will provide for the flexible use of large gatherings while its periphery will be supported by active retail and food and beverage. Smaller courts and passages will create more intimate gathering places for smaller groups and individuals. These varied open spaces are distributed throughout the Development Parcel, located to take advantage of adjacencies and create a highly connected network that draws people into and through the Development Parcel.

- Parks will be varied in character, yet evident as part of an interconnected whole. They will be designed as shared elements of the public realm, relating equally to streets and buildings both inside and outside of the Development Parcel.
- Urban squares and plazas act as punctuation marks within the open space network. They are understood as public places to pause, gather, people-watch and to feel part of a greater urban community.
- Courts will be intimate in scale, employing smaller-scale landscape elements and relating specifically to the buildings that define them.

- Passages will be designed to be both transient spaces, intended to connect the open space network, and static spaces, intended to provide a reservoir of pre-function and spillover space associated with adjacent public uses.
- Streets are the primary connective tissue of the public realm. They will be efficient in the circulation of pedestrians, bicyclists and vehicles, safe in their accommodation of each, while offering a wonderful, tree-lined, urban path along which to stroll, shop, dine or rest.
- **Buffer:** providing a safe space between the bike lane and the vehicular lane.
- **Active curb zone / short-term parking:** location and frequency will vary by street to allow for vehicles to safely and briefly stop along the curb.
- **Travel lane:** will convey vehicular traffic through the Site and may either be dedicated to vehicles or shared with pedestrians and bicyclists.

Streetscape

Beyond circulation, the street components create spaces for relaxation and gathering. In order to accommodate their many functions, the streets will be divided into several components.

- **Pedestrian walkway:** including a clear walking area plus an area of retail frontage and spillover, both sized appropriately to the scale and use of the street.
- **Furnishing zone:** including street lighting, trees and other plantings, a variety of street furniture, bike racks and signage.
- **Bike lane:** designed per City standards, the bike lane will be dedicated for cyclist travel.

Form and Character of Streetwalls

The planning initiative for the Site has been intentionally driven by the primacy of public realm – the network of open spaces, the connections to surrounding land use and infrastructure, the view corridors into, through and around the site. The form and character of streetwalls play a large role in the definition of open space and public realm. The extension and connection of surrounding streets and paths define the urban character of a connected grid of small blocks on the south parcel. The streetwalls at the frontage zone define the character of Broad Canal Way – relatively narrow, pedestrian scaled, regular and orthogonal.

The regularity and consistency of streetwalls for the commercial buildings on Broadway create a strong edge to the wide boulevard, a defined public realm, and continuity with buildings to the east at

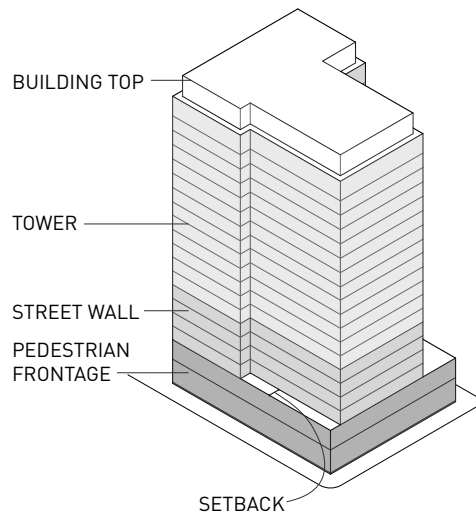
One Broadway and to the west at the MXD District. The less regular streetwalls of Building C1 and the Community Center are configured to define a separate pedestrian path that splits off from Fifth Street and connects the intersection of Fifth and Potter Streets to the intersection of Broadway and Third Street to Galaxy Park, Wadsworth Street and the Charles River.

Buildings R4 and C4 on the north parcel reinforce the existing streetwall established by 100 Binney and 50 Binney, and C4 provides the edge which makes the civic lawn at Government Owned Parcel legible.

Building Form

A primary planning goal of the Project is to create new human-scaled streets and open spaces and a district where the built form contributes to an overall sense of place by employing simple, shared urban design principles. The massing envelopes of each of the eight high-rise buildings proposed are conceived with four horizontal zones: pedestrian frontage, streetwall, tower, and building top.

- **Pedestrian frontage:** This street level zone will maximize transparency, revealing lobby, retail, dining and recreation uses and fostering a sense of security along the streetscape.
- **Streetwall:** Floors within this zone may utilize less overall transparency than the pedestrian frontage zone, as they reflect the specific functional use of the overall building and define the urban scale of streets and open spaces.
- **Tower:** Defining the majority of the building's presence above the streetwall zone, the building tower participates at the scale of the district. Fenestration patterns in this zone will relate to the primary function of the building, and it is in the tower massing where the most opportunity exists to manipulate bulk and proportion.
- **Building top:** The building top operates on the scale of the city and lends identity to the building and compositional character to the profile of the city skyline.



Common Features

- Simple definition of pedestrian frontage, tower and top (3,4)
- strong expression of frame and legibility of scale (1, 2, 3, 4)
- architectural language of residential (2, 4)

1. Lantern House / New York, NY
2. Pompenburg / The Netherlands
3. 1 Flatbush Ave / Brooklyn, NY
4. Echelon Seaport / Boston, MA

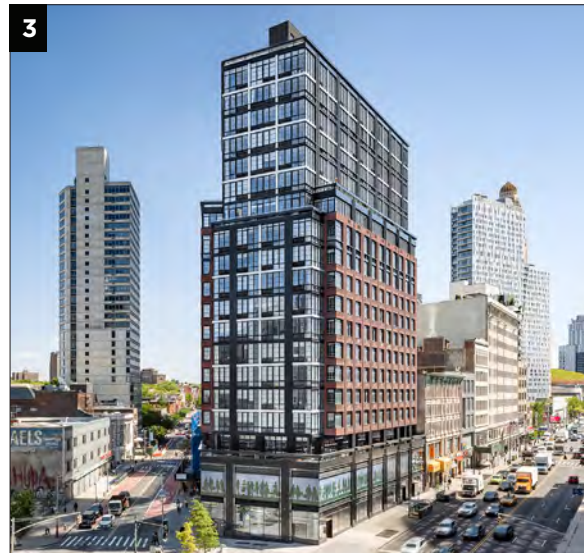


Figure L1: Architecture Character - Residential

Building Use Typologies

All buildings will have active, highly transparent street levels, with particular emphasis on frontages that face major streets and open spaces. The individual building architecture will reflect specific uses in building metrics like floor-to-floor height, structural bay spacing, and in fenestration patterns and material selection.

Residential Buildings

Residential building architecture will reflect the private nature of individual homes and residential spaces, emphasizing a lower window-to-wall ratio and a diversity of fenestration patterns, responding to unit organization and solar orientation. Residential floor plates are inherently thinner than commercial floor plates, and accentuating the slender proportions of the residential plates is encouraged. Balconies, whether projecting from the typical plane of the exterior facade or recessed into it, will be utilized to lend scale and variety to the massing and contribute to the language of residential typology.

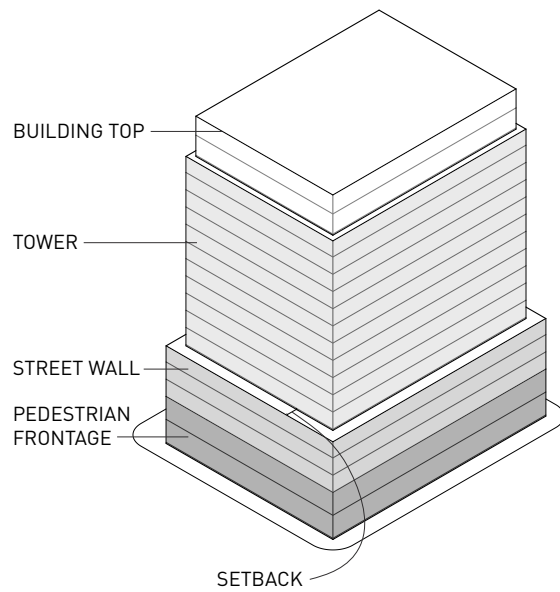
Commercial Buildings

The proposed commercial buildings will differ from residential buildings by virtue of their larger floor plates, greater floor-to-floor heights, rigorous structural bay spacing, and more uniform pattern

of fenestration. Building massing and envelope details will respond to distinctions between primary front facades and secondary facades and to differences in solar orientation. Careful articulation of large commercial buildings is critical to enable the buildings to relate to the scales of the city, the neighborhood, and the pedestrian.

Community Center

The Community Center is a low-rise, free-standing building, located at the heart of the district, adjoining public open space to invite and encourage use by the community. Its architecture, in terms of size, configuration, formal expressiveness and transparency, will reinforce this welcoming invitation and sense of inclusiveness. Massing and architectural elements will take advantage of the building's location at the intersection of multiple significant view corridors with details that blur the line between inside and outside. The architecture will be open, free of barriers and a celebration of community.



Common Features

- Simple definition of pedestrian frontage, tower and top (1, 2, 3)
- strong expression of frame and legibility of scale (1, 2, 3)
- confident use of color (1, 2, 3)
- legibility of commercial use, universal and flexible space (1, 2, 3, 4)

1. Four Hudson Square / New York, NY
2. 75 Ames Street / Cambridge, MA
3. R7 Kings Cross / London, UK
4. Jerome Science Center / New York, NY

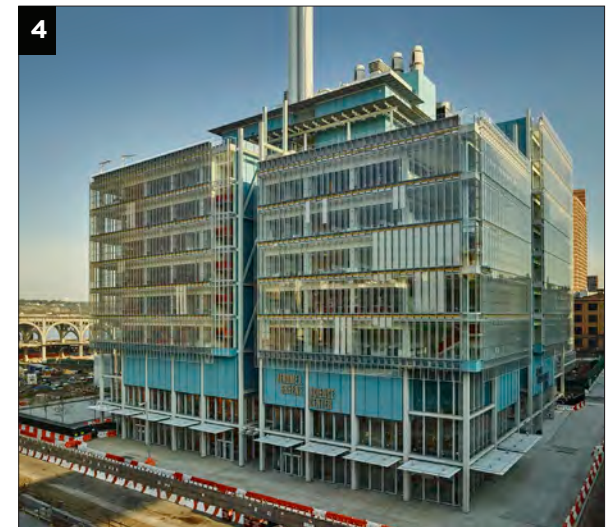
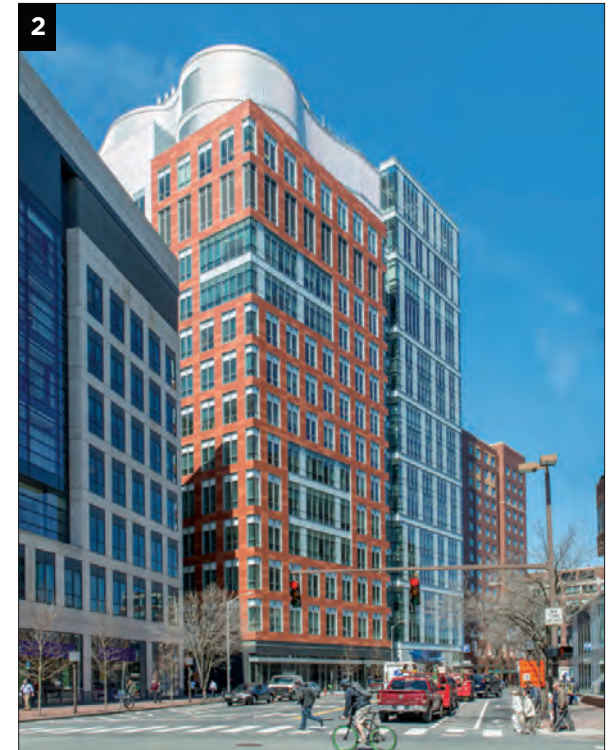


Figure L2: Architecture Character - Commercial

Context

Building design will consider the existing architecture of Kendall Square and East Cambridge as presenting a vocabulary of contextual precedent which is background for the integration of the Project's new buildings into the existing city fabric. That fabric is by no means uniform – multiple materials, colors, and proportions of massing elements and fenestration exist nearby and may be precedent in developing compositional strategies for new buildings. While imitation is highly discouraged, a strategy of reference and interpretation is encouraged, with individual design teams encouraged to study elements of the Cambridge vocabulary for inspiration. A city consists of both background buildings and foreground buildings. As an ensemble, the Project build-out will be comprised of foreground buildings set in the context of important background buildings.

Character and Composition

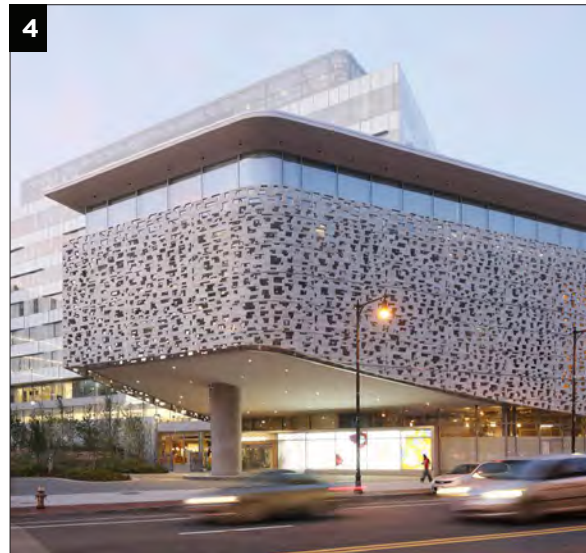
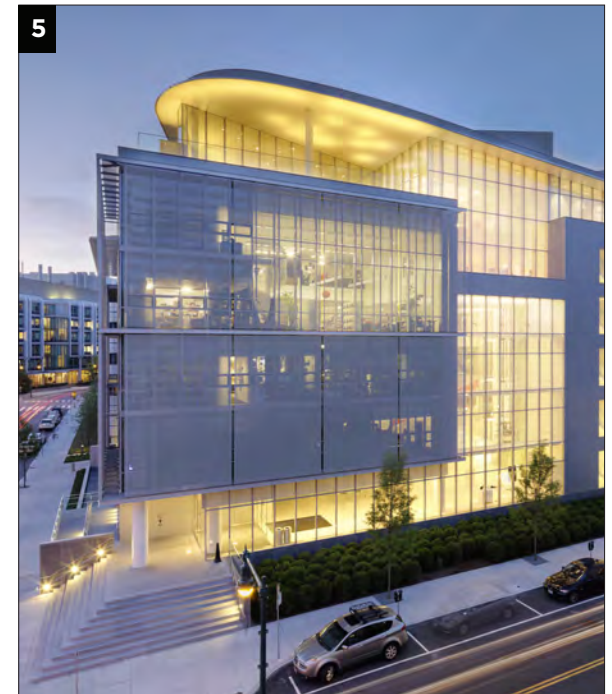
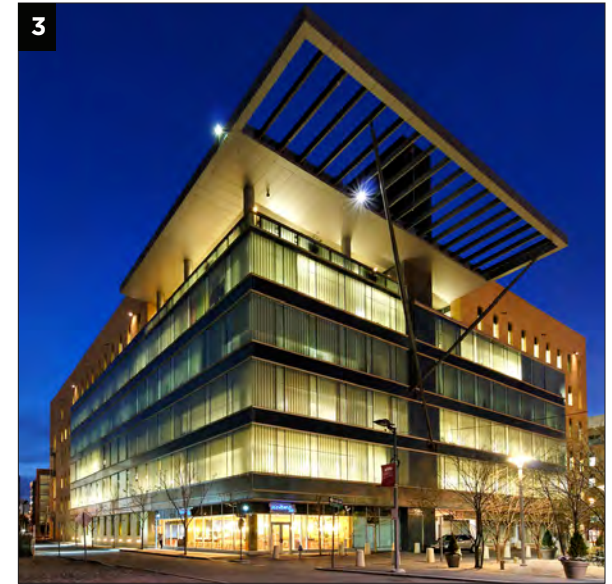
Architectural character and composition will emphasize a distinct identity for each building while also expressing a consistent level of quality, proportional elegance and detail throughout the Project. These buildings will relate to human scale by means of material selection, transparency and public accessibility at lower levels, fenestration patterns, and exterior details and articulation.

They will be specific to context, climate, and to the urban and solar orientations of their specific sites.

Architectural character will weave into the history and tradition, material and color palette, and compositional organization evident in Kendall Square and East Cambridge. Attributes that will create distinct architectural composition include the proportions of major massing elements, cohesive or contrasting use of materials and color. Individual building identity and character will be legible from adjacent streets and critical view corridors, while the collective Project's skyline will be recognizable when seen from a distance.

The architectural character will support these objectives by:

- Providing diversity and variety within a community of buildings.
- Contributing to the definition and beauty of the public realm.
- Relating to human scale and address urban scale at the pedestrian, building, and district levels.
- Responding to the surrounding context of Kendall Square and East Cambridge.



The context of Kendall Square includes the historic stone and masonry buildings of manufacturing and warehouse, the academic research buildings of MIT and the contemporary buildings of science and innovation. The context is defined by diversity, invention and high quality.

- 1. Volpe National Transportation Systems Center / Cambridge, MA
- 2. 238 Main Street / Cambridge, MA
- 3. 675 Kendall Street / Cambridge, MA
- 4. 181 Massachusetts Avenue / Cambridge, MA
- 5. 75 Amherst Street / Cambridge, MA

Figure L3: Architecture Character - Context

Building Orientation

The overall building massing and massing orientation are driven by the grid of streets and pathways, the desire for relatively small floorplates, and the goal of avoiding large walls that obstruct visual porosity. Hence, the buildings do not generally conform to the more typical east west massing orientation. All of the buildings on the Development Parcel will meet the Massachusetts Stretch Energy Code 2020 Amendment, and all the buildings are programmed to achieve LEED Gold certification. Individual buildings will employ a suite of strategies to facilitate the achievement of requirements related to building envelope:

- All around high performance envelope
- Alternative strategies related to solar heat gain by building orientation
- Alternative window to wall ratios by solar orientation.
- We anticipate that this design direction across nine buildings will contribute to the design narrative of and sense of place.

Wind Mitigation

The Design Guidelines attached to the PUD-7 Zoning describe an urban streetwall with four vertical components and a series of stepbacks between the podium and the tower and between the tower and

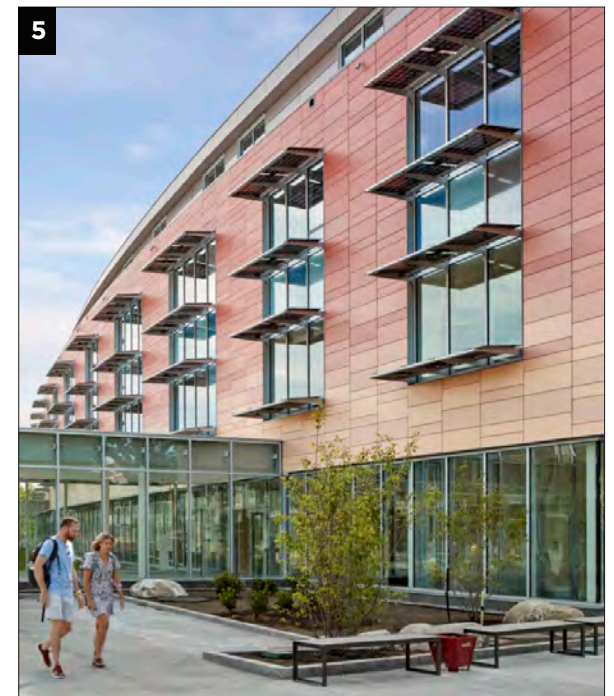
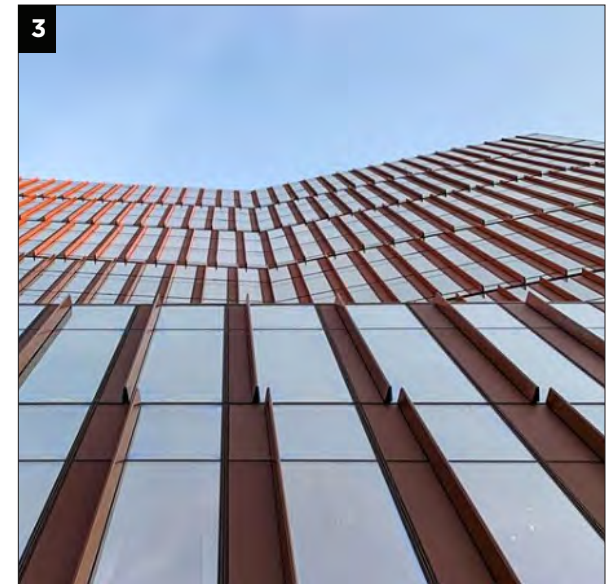
the mechanical penthouses. Beyond establishing a common architectural character and increasing light to the public realm, these stepbacks will contribute significantly to the mitigation of wind at street level. There may still be conditions where wind or gust conditions at street level will require additional architectural responses which can take the form of structural canopies or manipulation of massing, particularly at building corners. The need for implementation of these solutions will be evident in the required wind studies at Article 19 Design Review submission for each building, and specific solutions will be proposed at that time.

Window to Wall Ratios

The ratio of window to wall on all buildings will be guided by both qualitative and quantitative criteria:

- The architecture of the Project will be connected to the history of Kendall Square and inspired by the science and innovation of Kendall Square
- The buildings of the Project will meet all requirements of the 2020 Amendment to the Massachusetts Stretch Energy Code which mandates a high-performance building envelope and highly favors limited vision glass on both commercial and residential buildings.

Exact ratios are difficult to predict because they will be a function of both glazing configuration



1. Harvard University Science and Engineering Complex / Allston, MA
2. Cambridge Public Library / Cambridge, MA
3. MIT 314 Main Street / Cambridge, MA
4. University of Massachusetts, Integrated Sciences Building / Amherst, MA
5. King Open and Cambridge Street Upper Schools & Community Complex / Cambridge, MA

Figure L4: Architecture Character - Solar Control Precedents

and performance (layers of glass, number and effectiveness of coatings, thermal isolation of assembly parts) as well as insulation performance of all opaque wall areas.

Building Materials

The palette of building materials will be of high quality and diverse, providing a visual legibility of use and scale and avoiding homogeneity and the lack of perceptual scale associated with many commercial buildings.

Legibility of use means a simple understanding of the personal and diverse character of residential spaces versus the universal, flexible character of commercial spaces. Perceptual scale means a simple unconscious sense of the number of floors, of overall metrics, and of unusual and specific space types.

The actual palette of acceptable materials is not limited except by quality and durability and the requirement of diversity among buildings and the legibility of scale and use at each building.

Design Guidelines and Article 19 Design Review

All of the building designs will be subject to Article 19 Design Review. MIT has developed building design guidelines that will provide direction for building architects and landscape architects for each building and major open spaces guidance as to the specific considerations and conditions to which they should respond as they design each building. This will also provide the architects common language with the City and other stakeholders about the goals for each building. Block Guidelines for the buildings are included in this Section L Architectural Plan and a fuller document incorporating other important planning aspects of the Project from this Preliminary Development Plan and the Final Development Plan will be finalized as these Special Permit details evolve.

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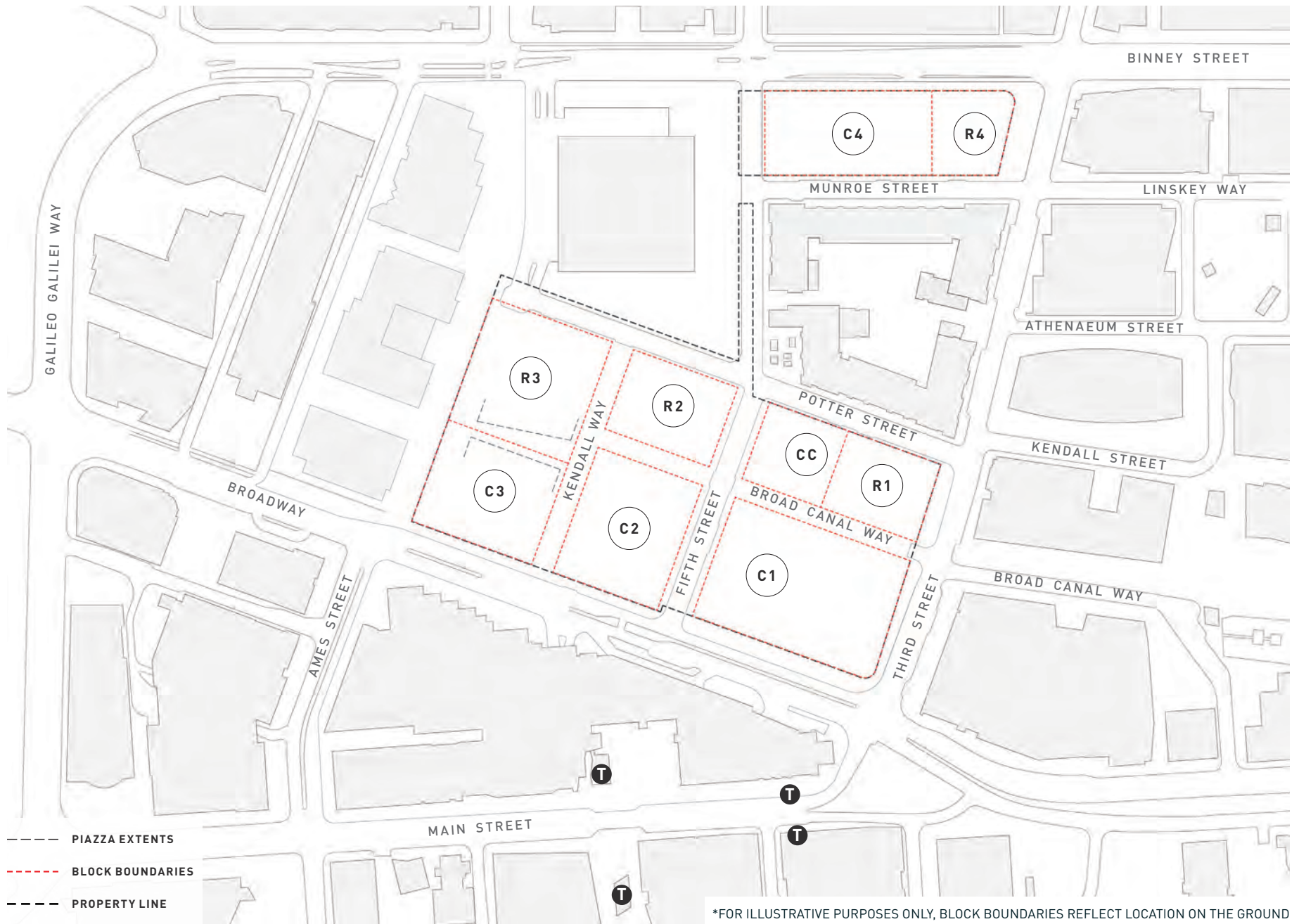


Figure L5: Site Development Plan - Block Plan

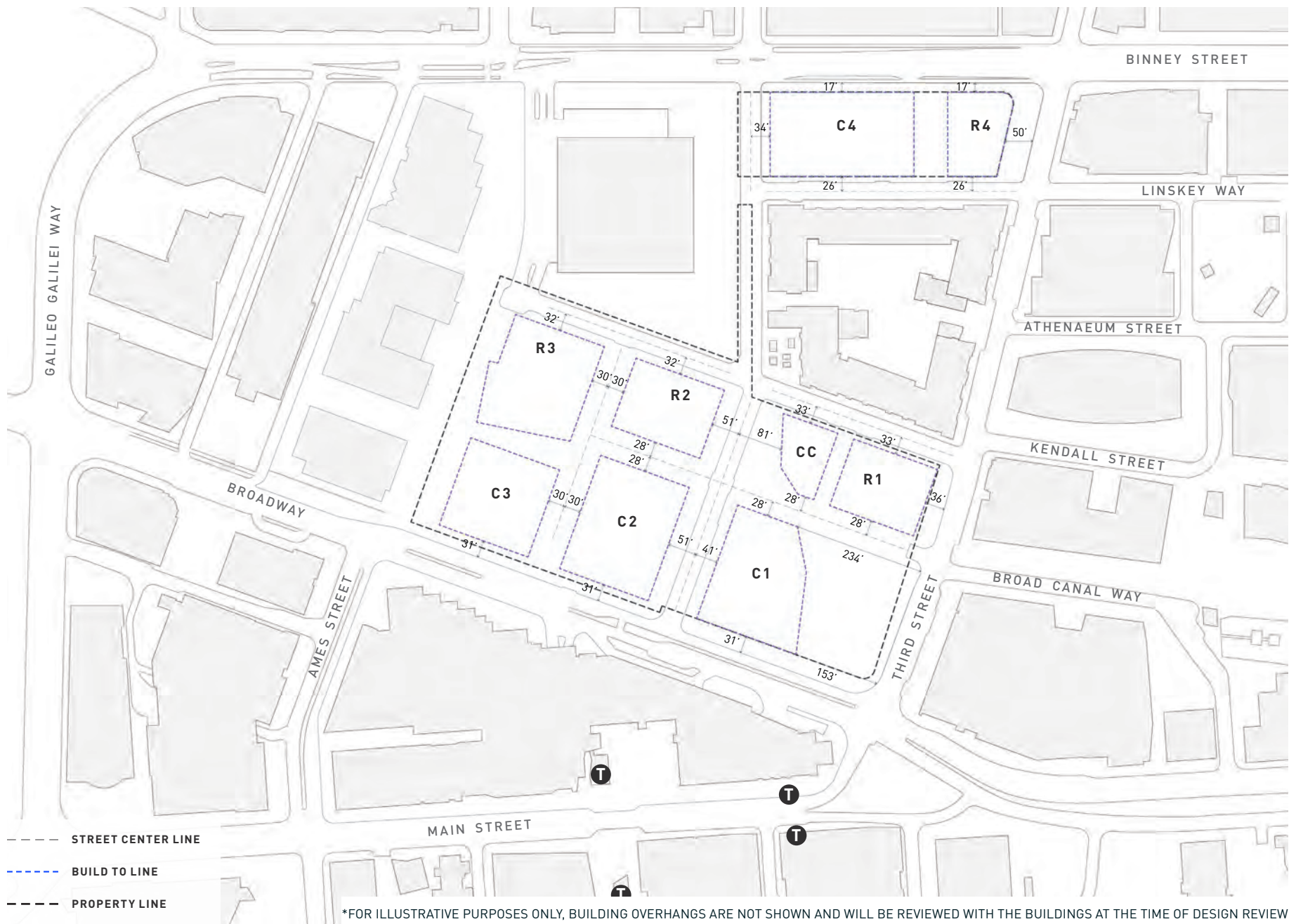
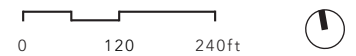


Figure L6: Site Development Plan - Build to Line



Block R1

Approximate GFA : 225,000 - 275,000 SF
Maximum height : 250 - 500 FT
Use : Residential and Retail

Block R1 is a residential building parcel, bounded by Third Street to the east, Potter Street to the north, and Broad Canal Way to the south. Building R1 will be a gateway building, highly visible from Broadway, Galaxy Park, Broad Canal Way and Third Street.

- The tower massing for Building R1 is to be set back from the streetwall along Potter Street in recognition that R1 is located across Potter Street from the residential property at 303

Third Street. The pedestrian frontage and streetwall should contribute to the residential character of Potter Street.

- The street wall along Third Street is to be consistent in height and compositional scale with other buildings along Third Street.
- The design should recognize that R1 abuts the public open space at Third Street and Broadway. The tower massing is to be set back from the streetwall along Broad Canal Way to enhance and define the open space.
- The pedestrian frontage and streetwall are to engage Broad Canal Way and are important elements with which to articulate the character of this street and create a

comfortable pedestrian experience.

- The ground floor along Broad Canal Way and Third Street is to be lined with active uses and contribute to the vibrancy of the district.

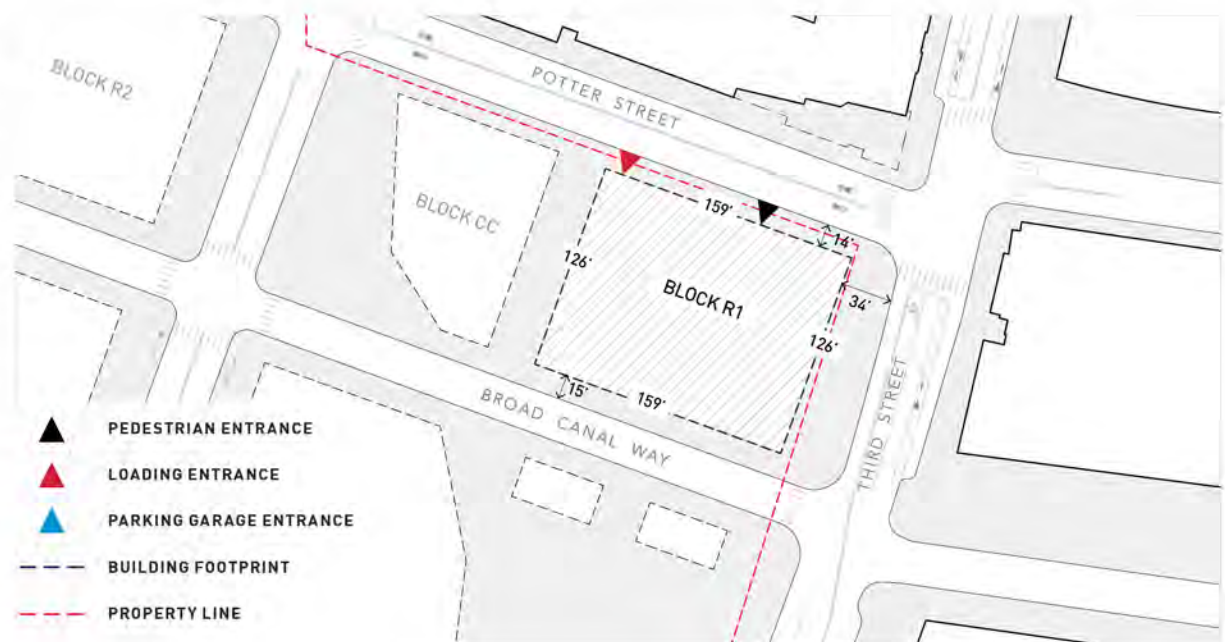
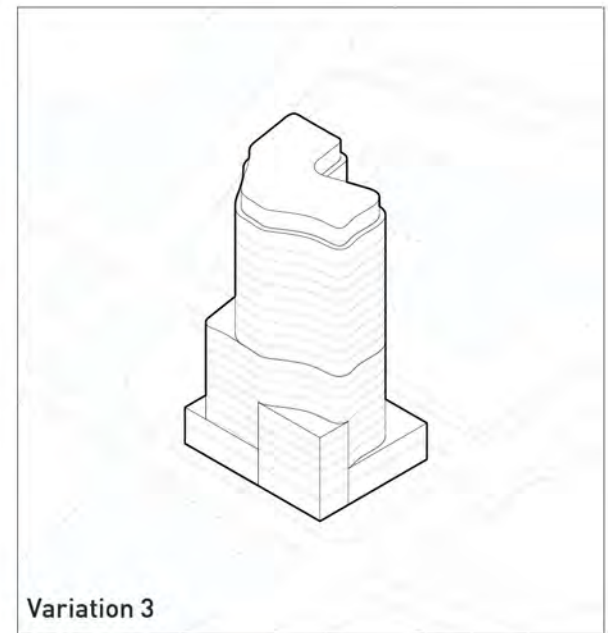
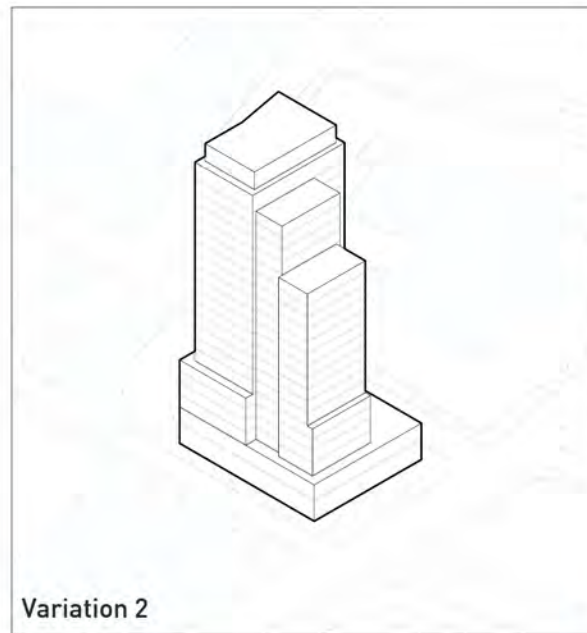
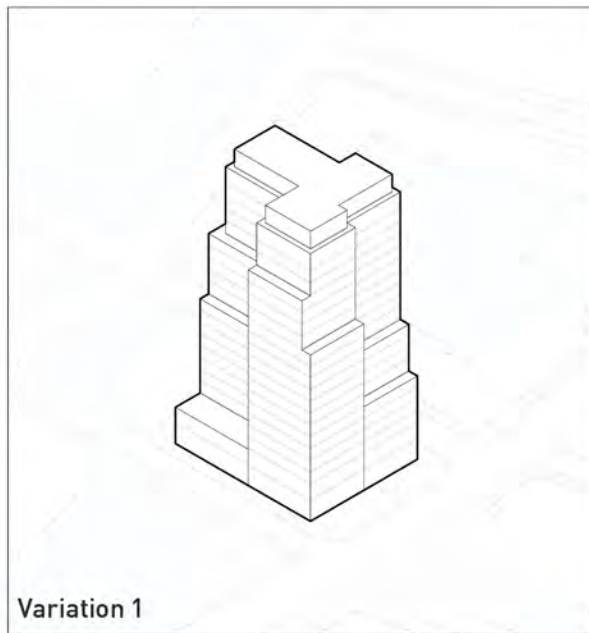
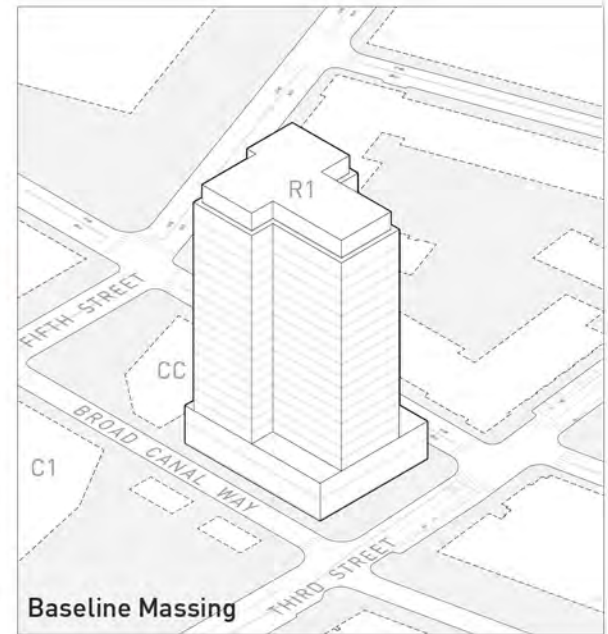
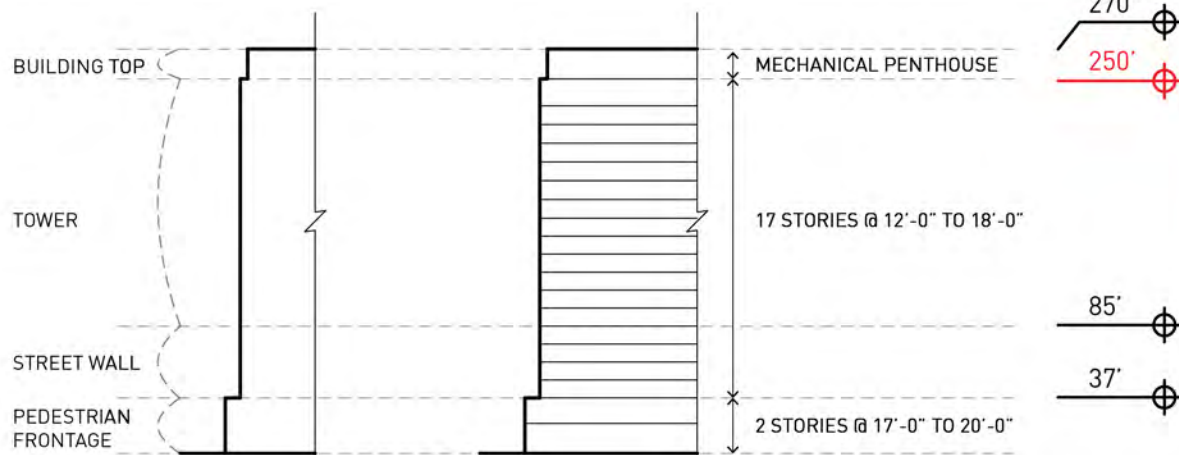


Figure L7: Block Guidelines - R1



Block R2

Approximate GFA : 225,000 - 275,000 SF
Maximum height : 250 - 500 FT
Use : Residential and Retail

Block R2 is a residential building parcel, bounded by Fifth Street to the east, Potter Street to the north, Kendall Way to the west, and Broad Canal Way to the south. Building R2 will be highly visible along Broad Canal Way and will play an important part in creating the identity of Broad Canal Way.

- The relationship between Buildings R2, C2 and R3 will be carefully studied. The tower volume is to be set back from the streetwall along Broad Canal Way and Kendall Way to maintain

distance from adjacent towers to maximize daylight and views.

- The design should recognize that R2 abuts the Fifth Street Promenade and the public open space in front of the Community Center. The tower massing is to be set back from the streetwall along Fifth Street to enhance these open spaces.
- The pedestrian frontage and streetwall are to engage Broad Canal Way. They are important elements with which to articulate the character of this street and create a comfortable pedestrian experience.
- The ground floor along Broad Canal Way and Fifth Street is to be lined with active uses and

contribute to the vibrancy of the district.

- The pedestrian frontage and streetwall along Potter Street are to contribute to the residential character of the street.

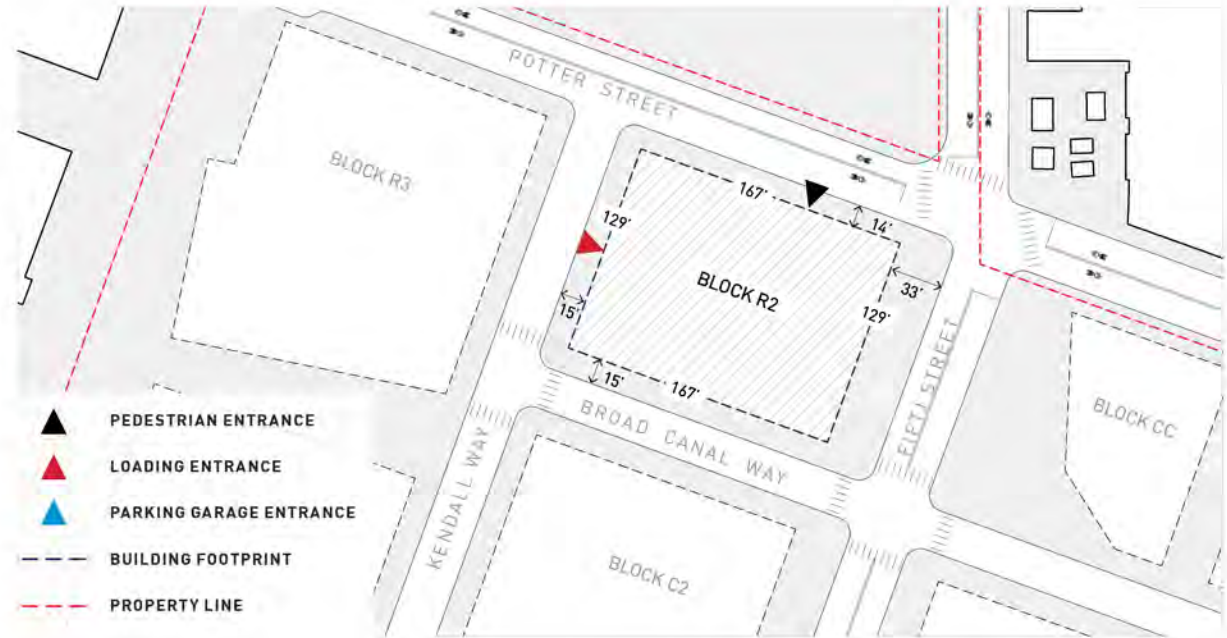
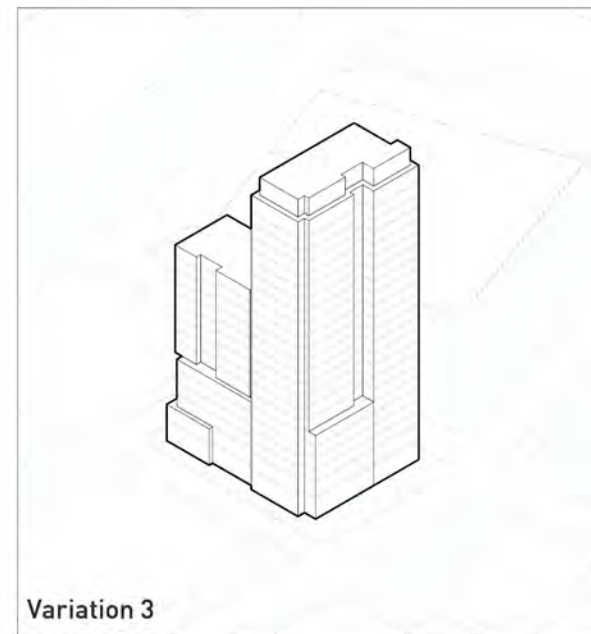
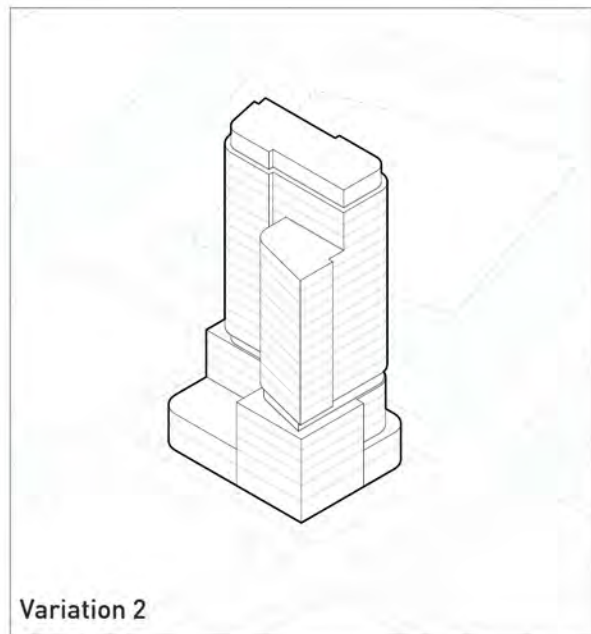
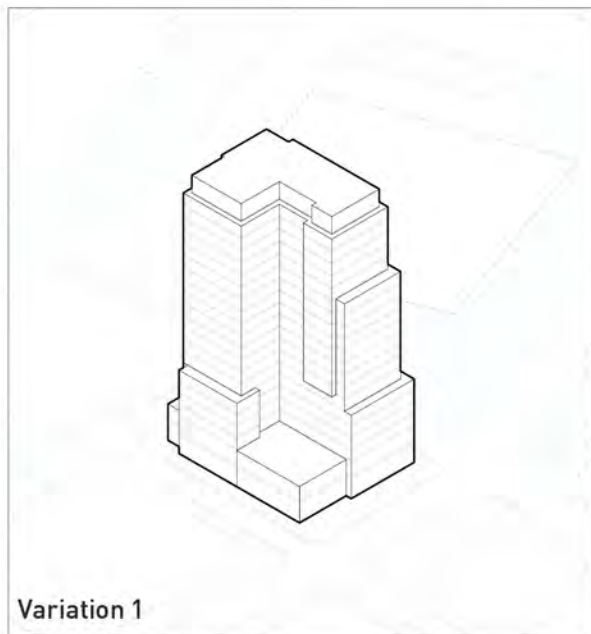
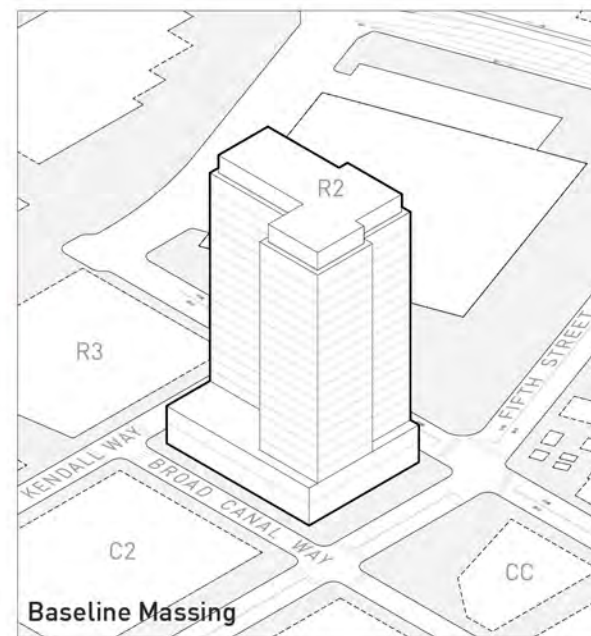
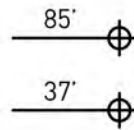
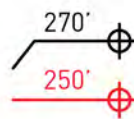
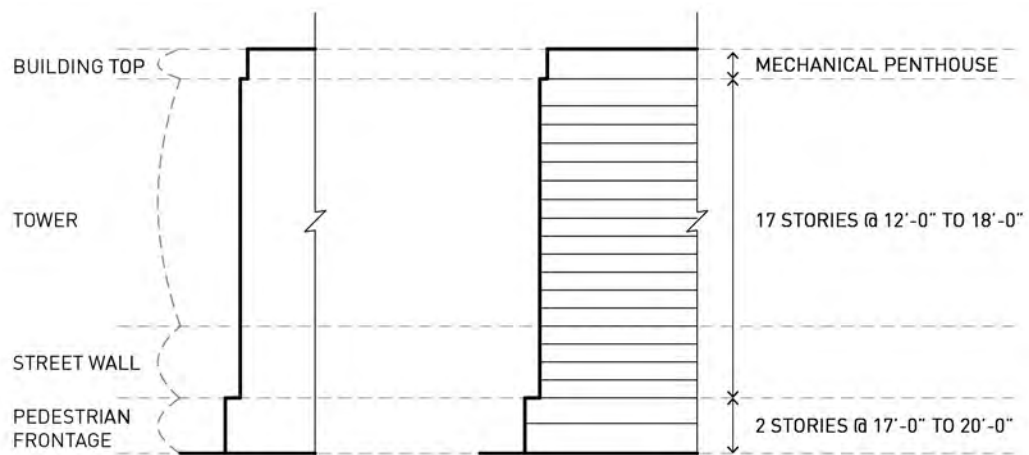


Figure L8: Block Guidelines - R2



Block R3

Approximate GFA : 350,000 - 400,000 SF
Maximum height : 250 - 500 FT
Use : Residential and Retail

Block R3 is a residential building parcel bounded by Kendall Way to the east, Potter Street to the north, the public open space of Sixth Street Park to the west, and the covered passage to Sixth Street Walkway to the south.

- The relationship between Buildings R3, C3 and R2 will be carefully studied. The tower massing is to be set back from the streetwall along Broad Canal Way and Kendall Way to maintain distance from adjacent towers to

maximize daylight and views.

- The design should recognize that R3 abuts the public open space of Sixth Street Park and the covered passage to Sixth Street Walkway. The tower massing is to be set back from these edges to enhance the open space.
- The pedestrian frontage and streetwall are to engage Kendall Way and are important elements with which to articulate the character

of this street and create a comfortable pedestrian experience.

- The pedestrian frontage and streetwall along Potter Street are to contribute to the residential character of the street.

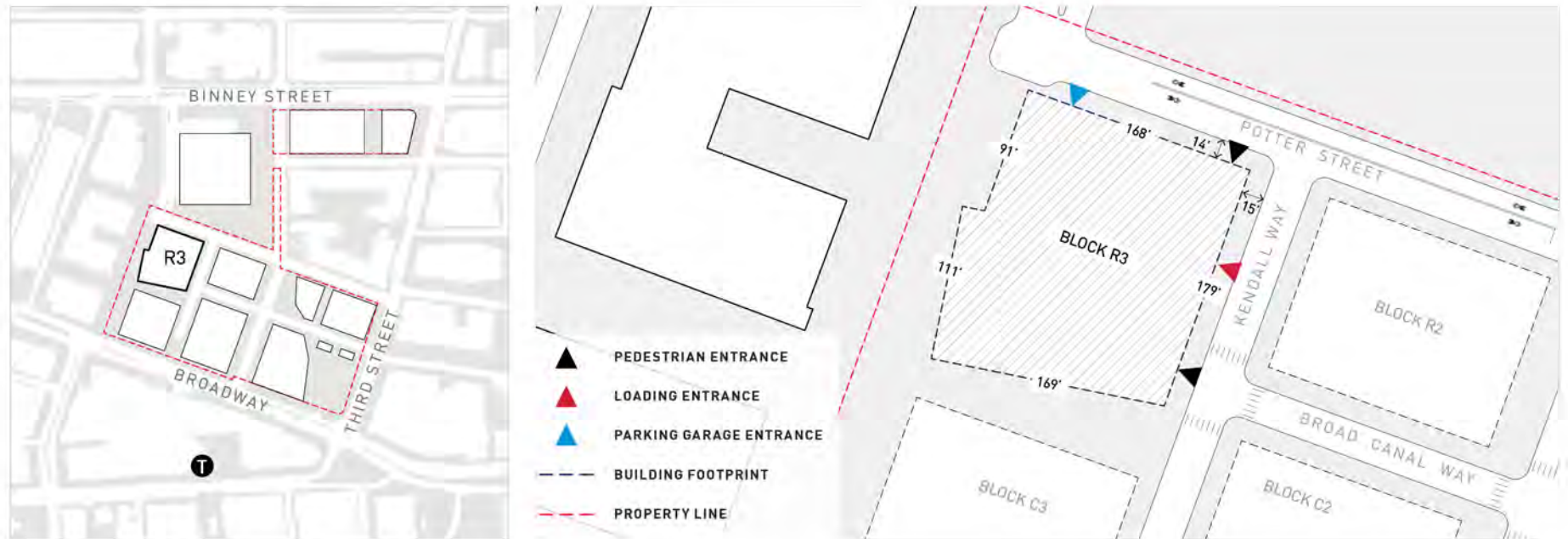
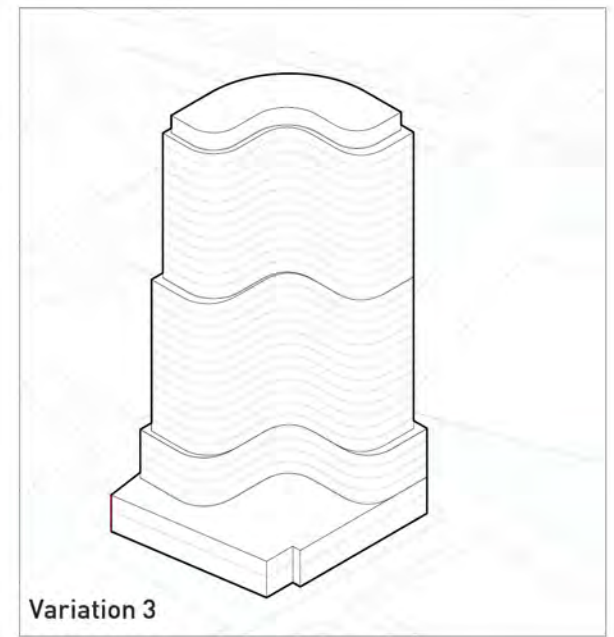
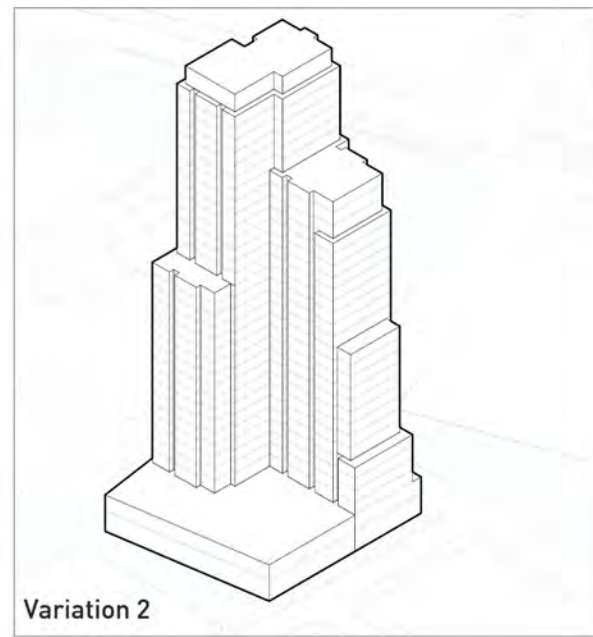
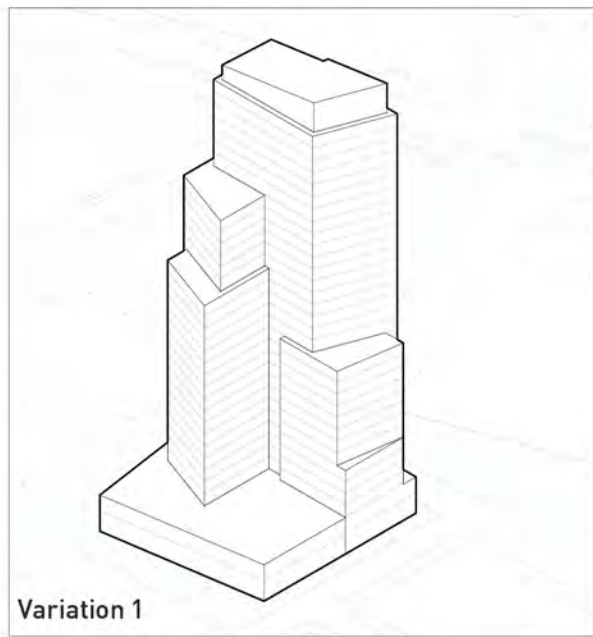
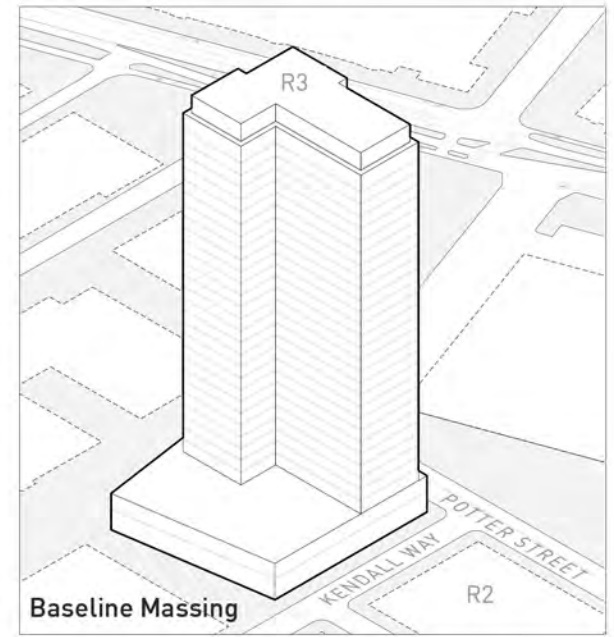
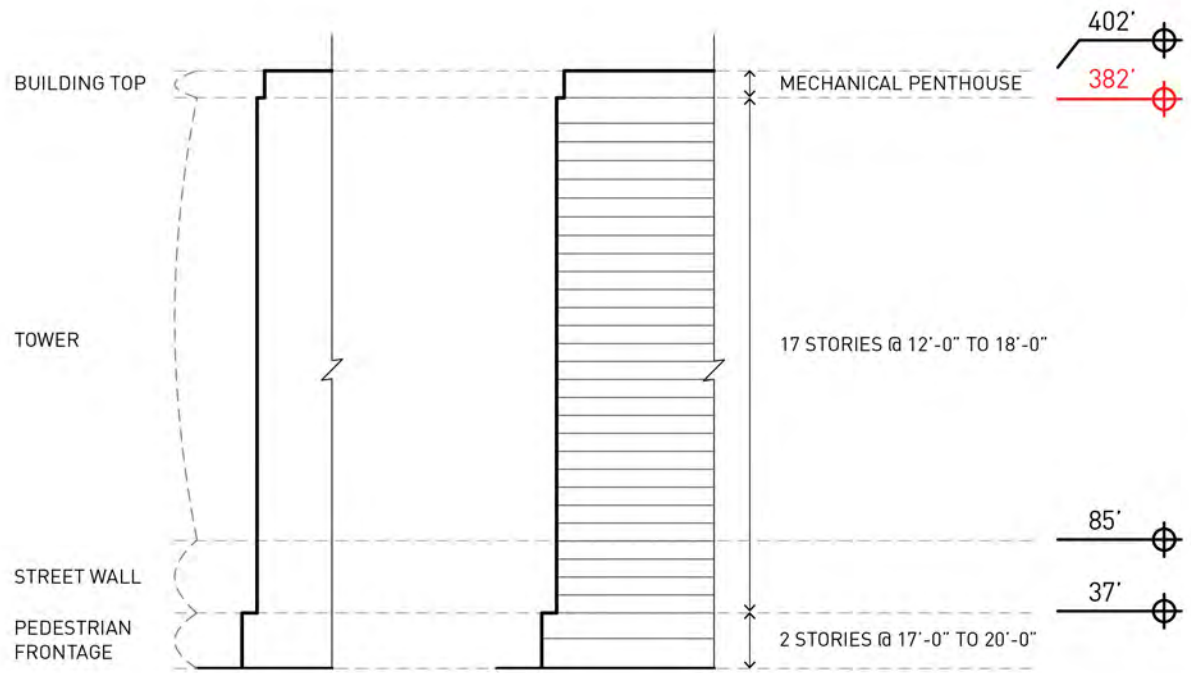


Figure L9: Block Guidelines - R3



Block R4

Approximate GFA : 200,000 - 250,000 SF
Maximum height : 250 FT
Use : Residential and Retail

Block R4 is a residential building parcel bounded by a small parcel of land owned by the CRA and Third Street to the east, Binney Street to the north, and Munroe Street to the south. Building R4 will be highly visible from both Binney Street and Third Street.

- The relationship between Building R4 and 303 Third Street Residential Apartments will be carefully studied. The tower massing is to be set back significantly from the streetwall along

Munroe Street. The pedestrian frontage and streetwall are to contribute to the residential character of Munroe Street.

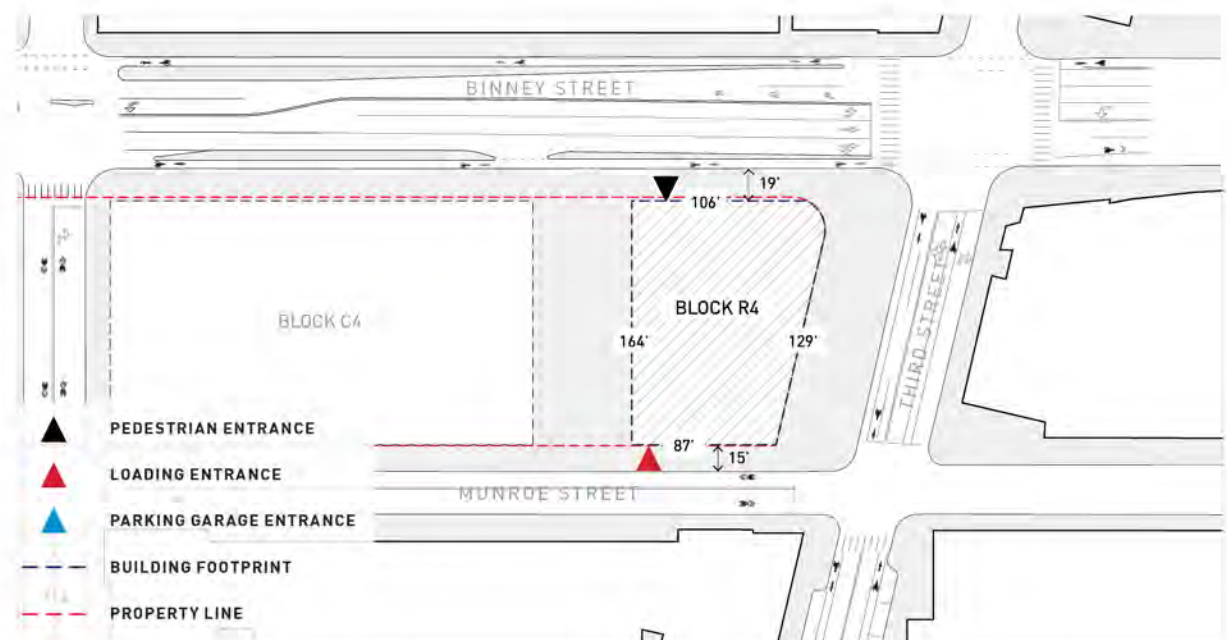
- The streetwall along Third Street and Binney Street is to be consistent in height and compositional scale with other buildings along these urban edges.
- The design should recognize that Building R4 is located between open space to the east and a small scale park to the west. The tower is to be set back from these edges to enhance those open spaces.
- The pedestrian frontage and streetwall are to engage Third Street and are important elements with which to articulate the character

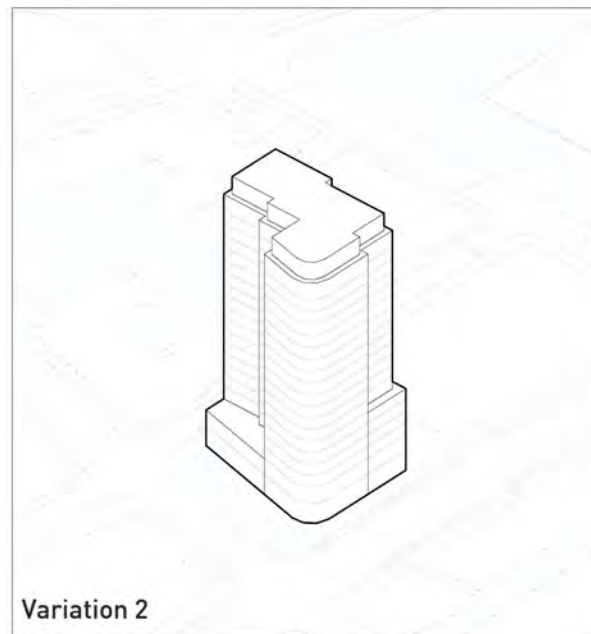
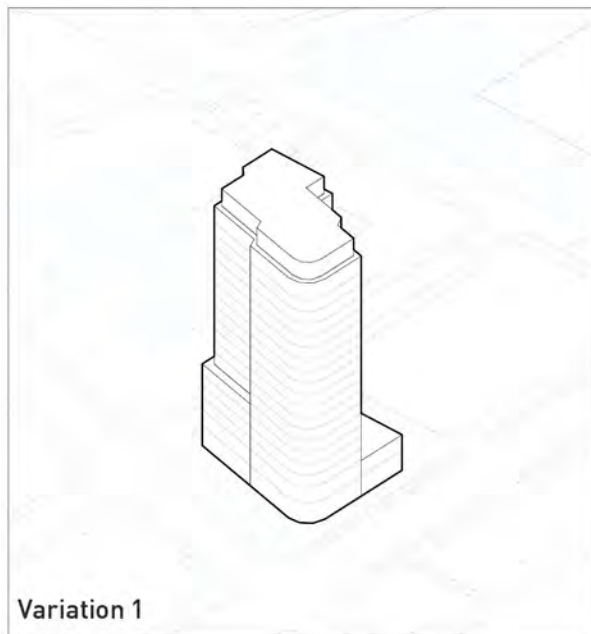
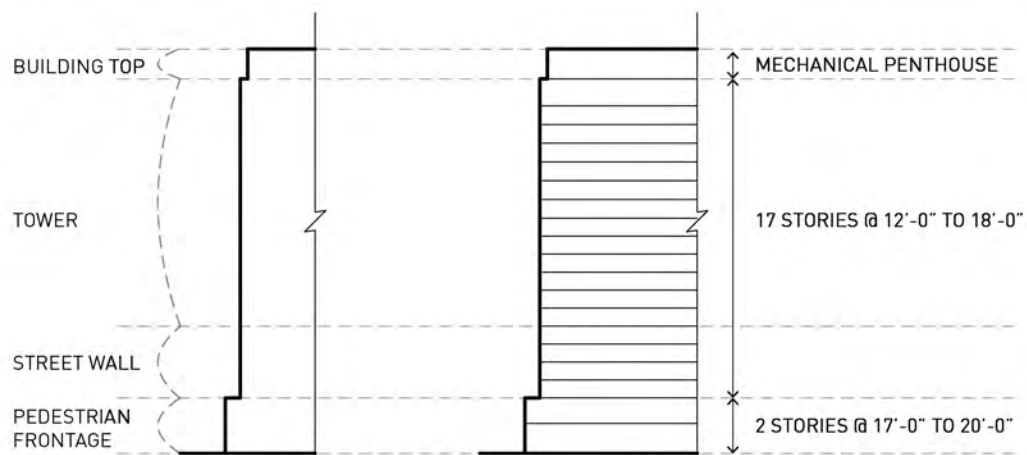
of this street and create a comfortable pedestrian experience.

- The ground floor along Binney Street and Third Street is to be lined with active uses and contribute to the vibrancy of the district.



Figure L10: Block Guidelines - R4





Block C1

Approximate GFA : 425,000 - 475,000 SF

Maximum height : 250 - 300 FT

Use : Technical Office and Retail

Block C1 is a commercial building parcel bounded by Third Street Park to the east, Broad Canal Way to the north, Fifth Street to the west, and Broadway to the south. Building C1 will be a gateway building, highly visible from Broadway, Galaxy Park, Broad Canal Way and Third Street.

- The relationship between Building C1 and Kendall Center has been carefully studied. The streetwall along Broadway is to be consistent in compositional scale with buildings along

Broadway. The massing and articulation of the south facade will be important in defining the character of Broadway.

- The location of building entrances and ground floor active use are to consider existing pedestrian crossings along Broadway.
- The design should recognize that Building C1 abuts the public open space at Third and Broadway to the east, and Fifth Street promenade to the west. The tower massing is to be set back from the streetwall along these edges to enhance those open spaces. The massing should also recognize a relationship to the diagonal connection from Broadway and Third Street to Fifth Street.

- The pedestrian frontage and streetwall are to engage Broad Canal Way and are important elements with which to articulate the character of this street and create a comfortable pedestrian experience.

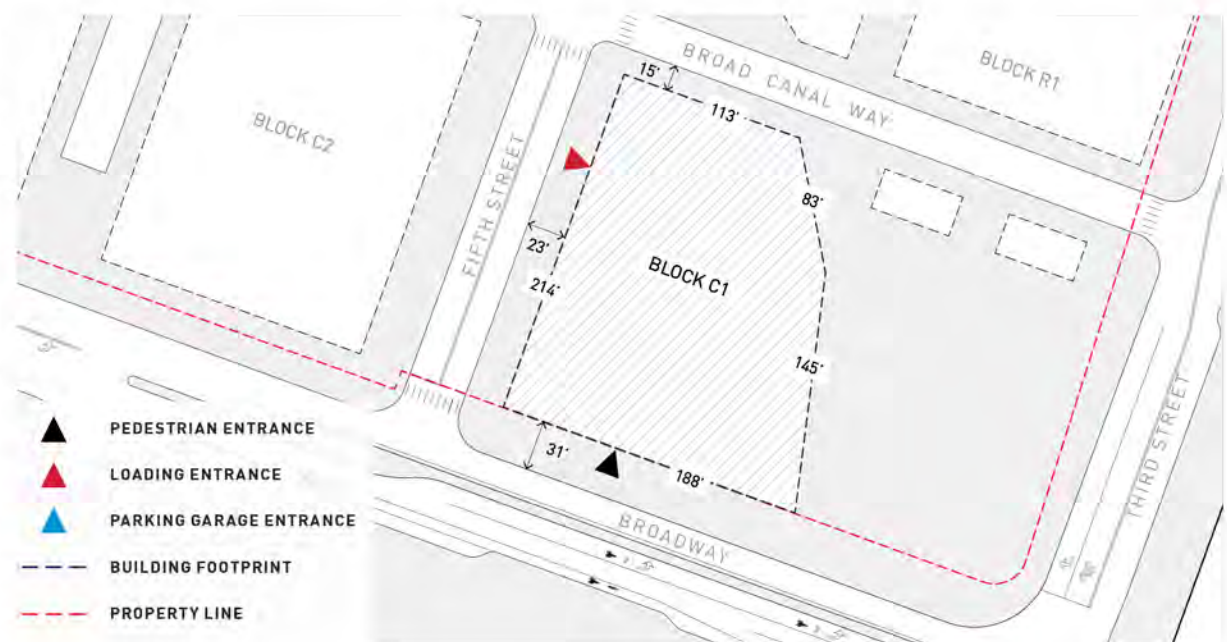
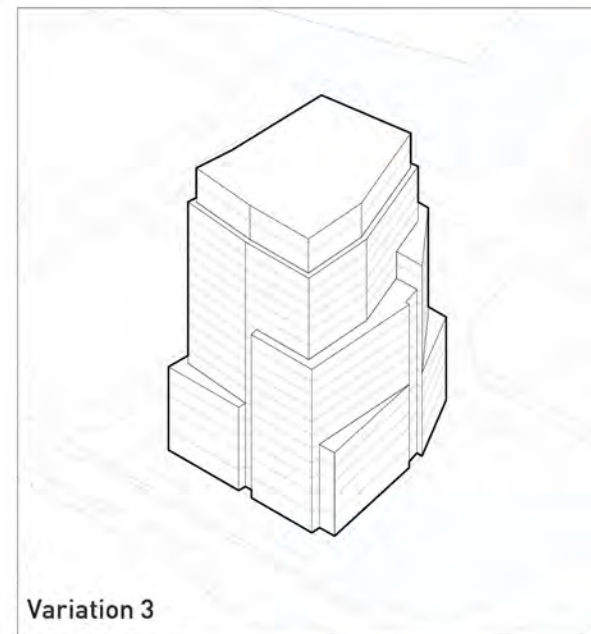
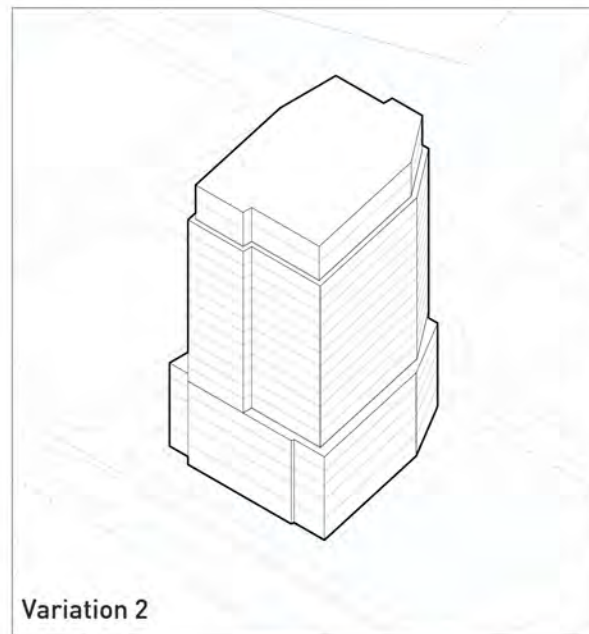
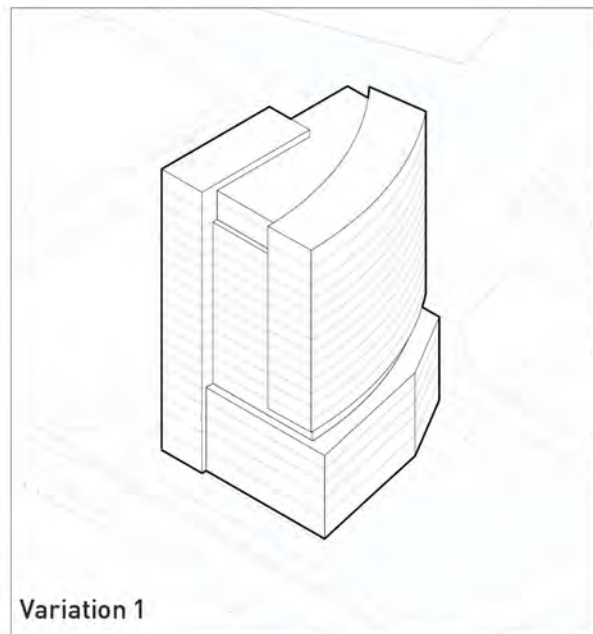
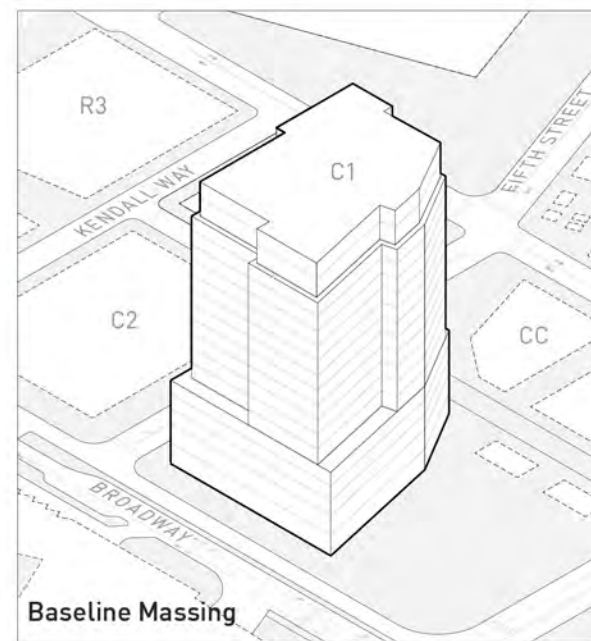
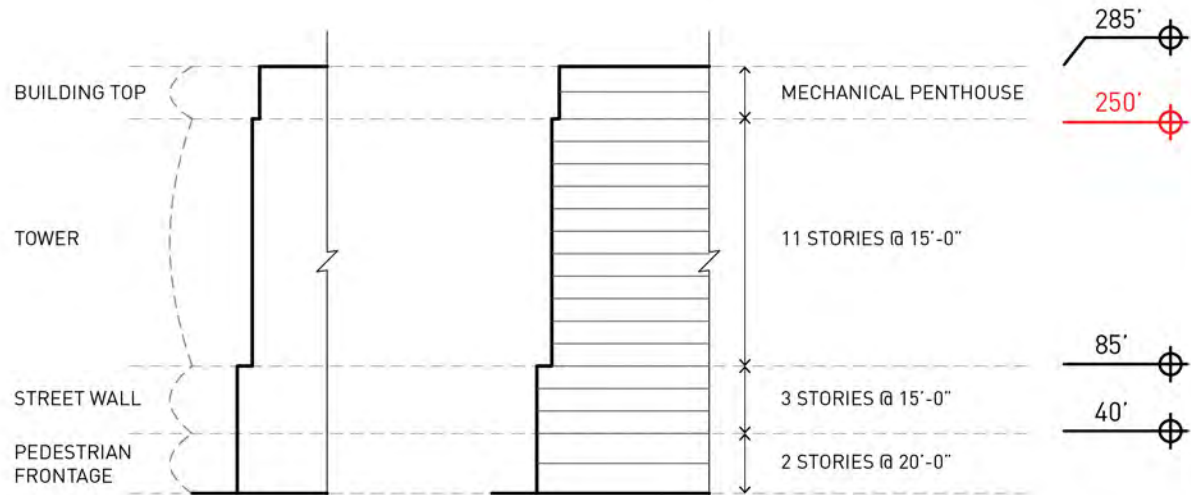


Figure L11: Block Guidelines - C1



Block C2

Approximate GFA : 450,000 -500,000 SF

Maximum height : 250 - 300 FT

Use : Technical Office and Retail

Block C2 is a commercial building parcel bounded by Fifth Street to the east, Broad Canal Way to the north, Kendall Way to the west, and Broadway to the south.

- The relationship between Building C2 and Kendall Center will be carefully studied. The street wall along Broadway is to be consistent in compositional scale with buildings along Broadway. The massing and articulation of the south facade will be important in defining the

character of Broadway.

- The location of building entrances and ground floor active use are to consider existing pedestrian crossings along Broadway.
- The design should recognize that Building C2 abuts the Fifth Street promenade - an important north-south pedestrian connection that leads to the Kendall Square T-station. The massing is to minimize the impact of wind

along Fifth Street.

- The pedestrian frontage and streetwall should engage Broad Canal Way and are important elements with which to articulate the character of this street and create a comfortable pedestrian experience.

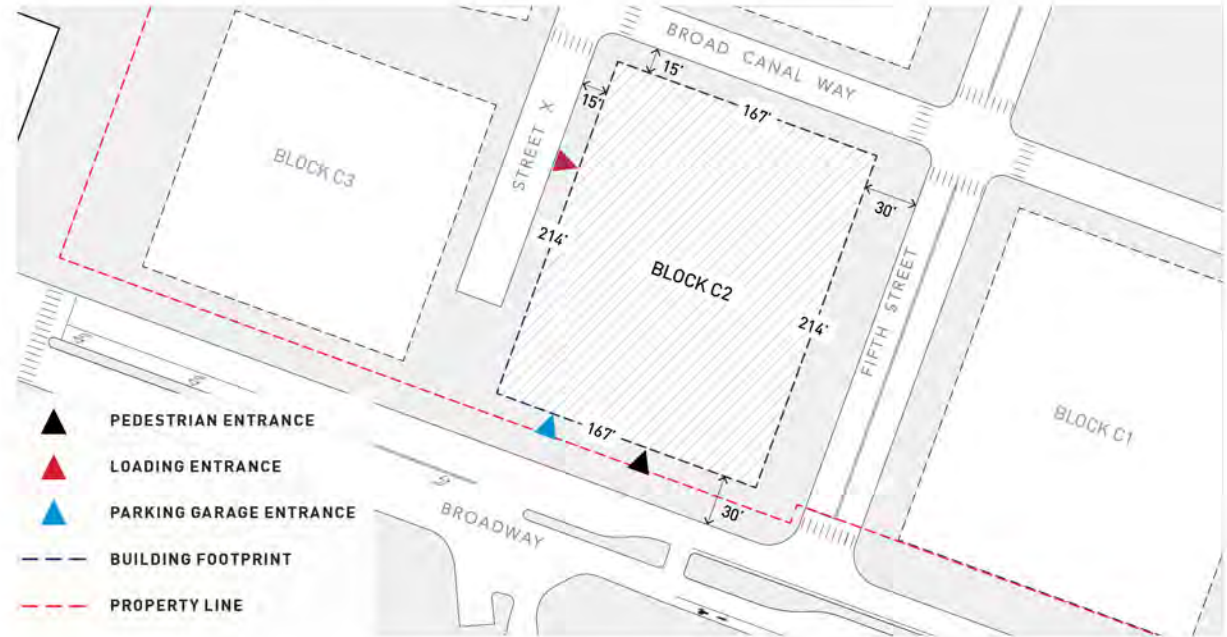
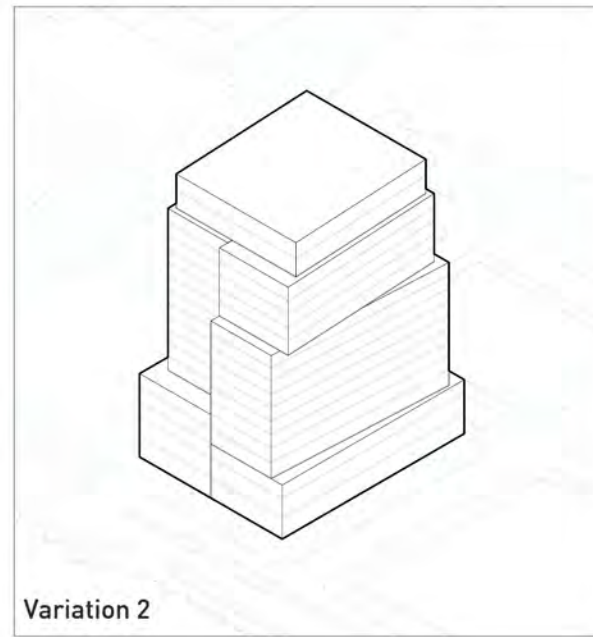
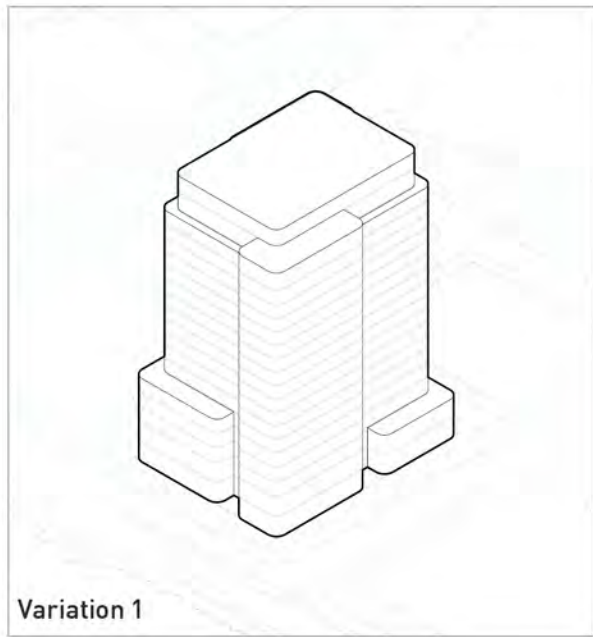
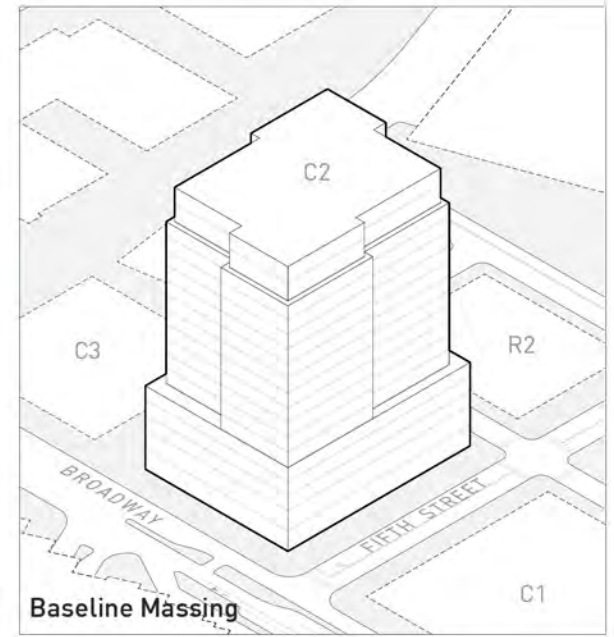
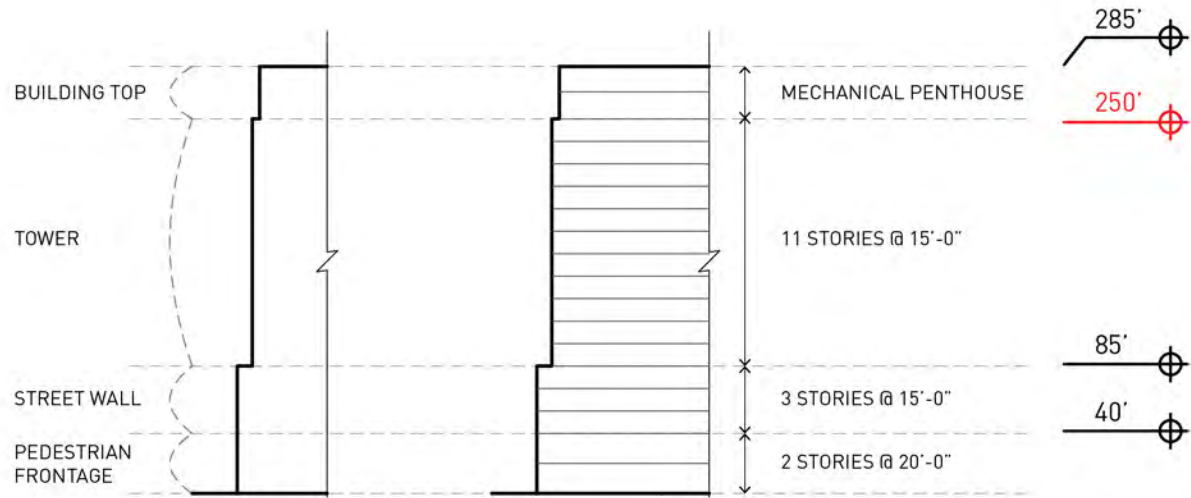


Figure L12: Block Guidelines - C2



Block C3

Approximate GFA : 450,000 - 500,000 SF
Maximum height : 250 - 300 FT
Use : Technical Office and Retail

Block C3 is a commercial building parcel bounded by Kendall Way to the east, the covered passage to Sixth Street Walkway to the north, the public open space of Sixth Street Park to the west, and Broadway to the south.

- The relationship between Building C3 and Kendall Center will be carefully studied. The streetwall along Broadway is to be consistent in compositional scale with buildings along Broadway. The massing and articulation of the

south facade will be important in defining the character of Broadway.

- The location of building entrances and ground floor active use are to consider existing pedestrian crossings along Broadway.
- The design should recognize that Building C3 abuts the public open space along Sixth Street Park and a pedestrian piazza. The design is to enhance the active street experience and inviting nature of those open spaces. The tower massing is to be set back from the streetwall along Sixth Street Park.
- The pedestrian frontage and streetwall are to engage Kendall Way and are important elements with which to articulate the character

of this street and create a comfortable pedestrian experience.

- Building C3 is to be undercut on its north pedestrian frontage zone to allow publicly accessible passage to Sixth Street Park.

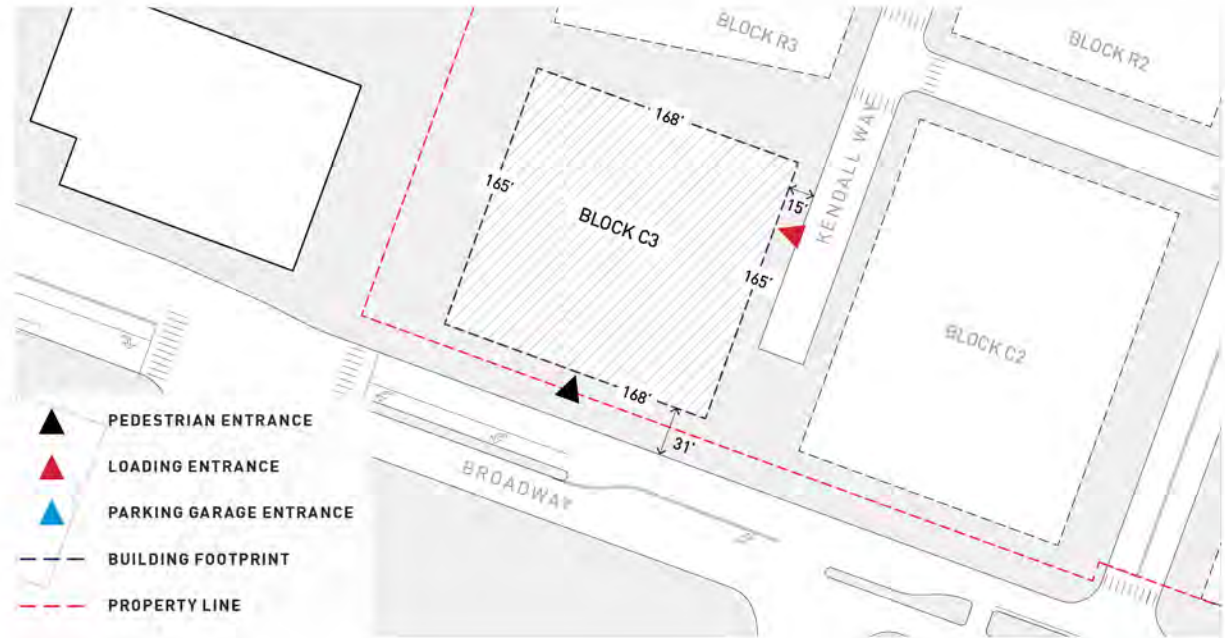
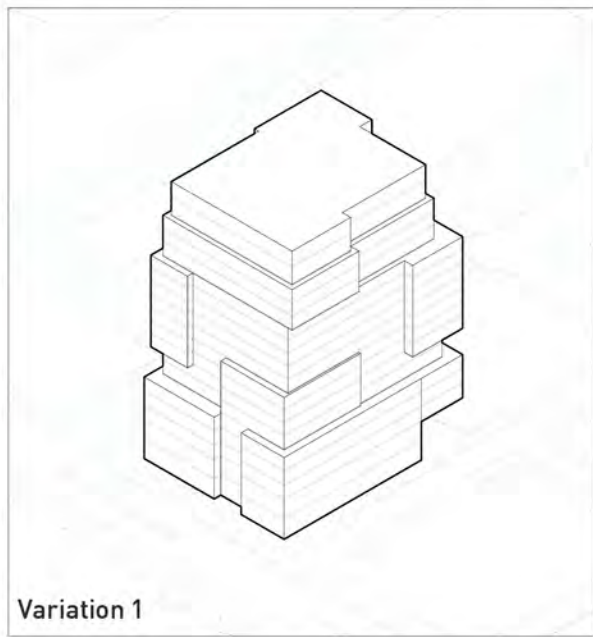
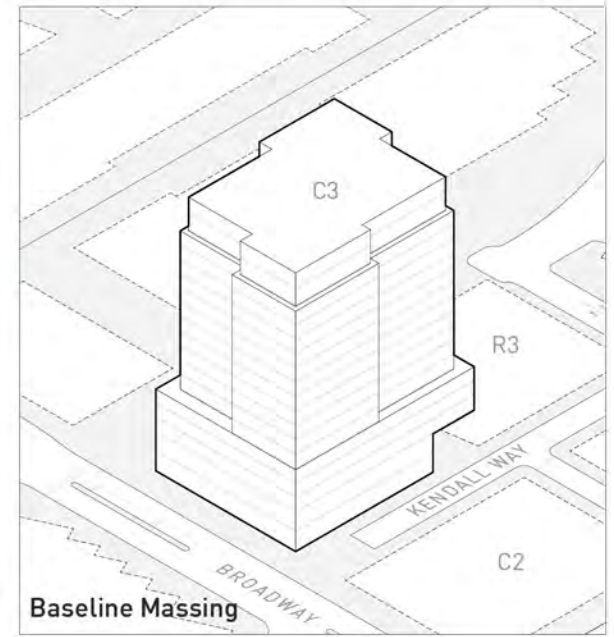
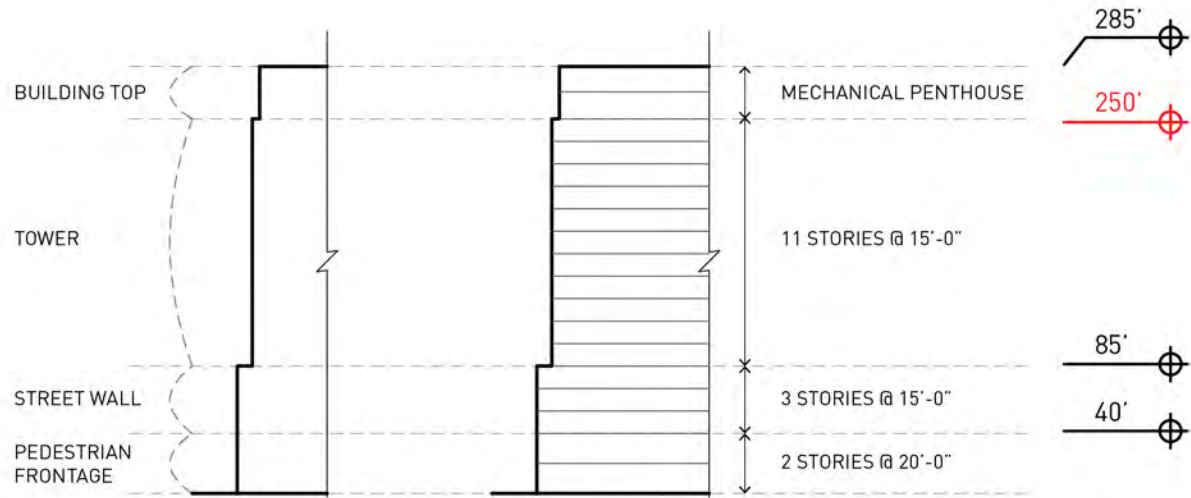
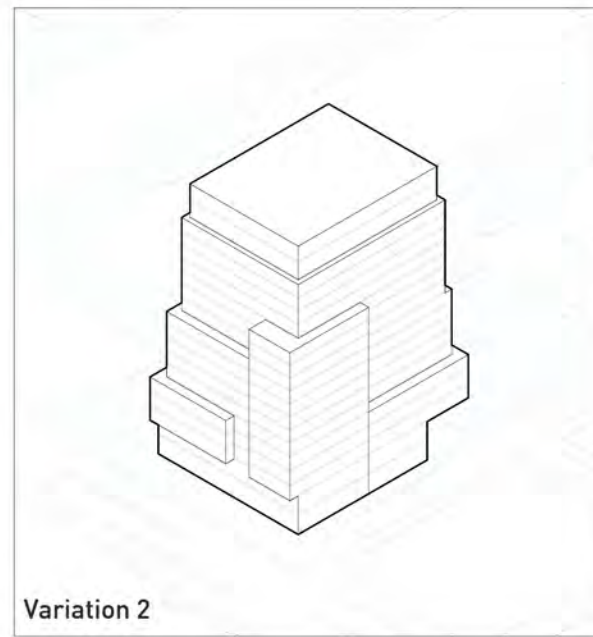


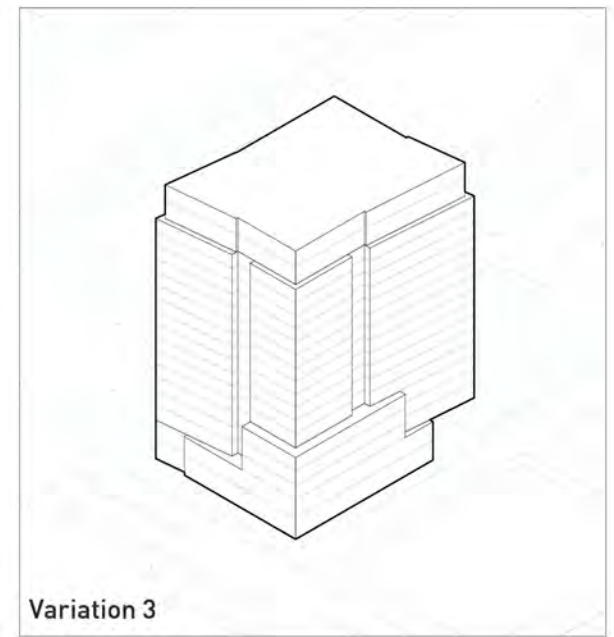
Figure L13: Block Guidelines - C3



Variation 1



Variation 2



Variation 3

Block C4

Approximate GFA : 350,000 - 400,000 SF
Maximum height : 170 FT
Use : Technical Office and Retail

Block C4 is a commercial building parcel bounded by Binney Street to the north, Fifth Street to the west and Munroe Street to the south.

- The relationship between Building C4 and 303 Third Street Residential Apartments will be carefully studied. The tower massing is to be set back a significant distance from the streetwall along Munroe Street. The pedestrian frontage and streetwall are to contribute to the residential character of

Munroe Street.

- The streetwall along Binney Street is to be consistent in compositional scale with buildings along this urban edge. The massing and articulation of the north facade will be important in defining the character of Binney Street. The location of building entrances and ground floor active use are to consider existing pedestrian crossings along Binney Street.
- The design should recognize that C4 abuts Fifth Street promenade to the west and a small scale park to the east. The tower massing is to be set back from these edges to enhance those open spaces.

- The pedestrian frontage and streetwall are to engage Binney Street and are important elements with which to articulate the character of this street and create a comfortable pedestrian experience.

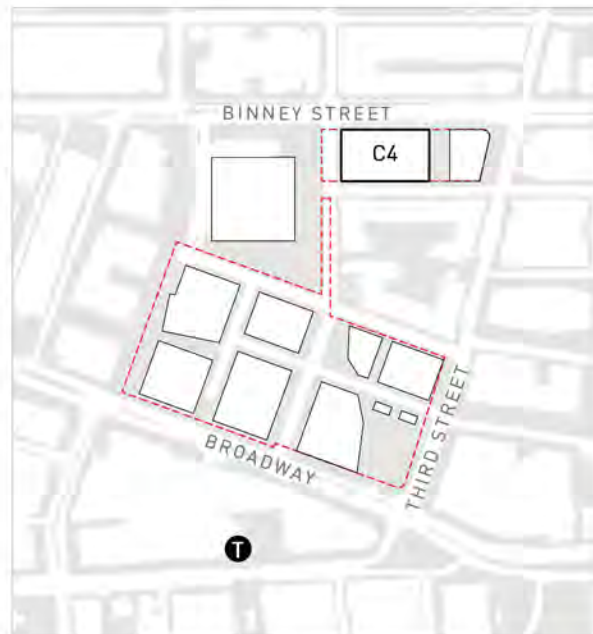
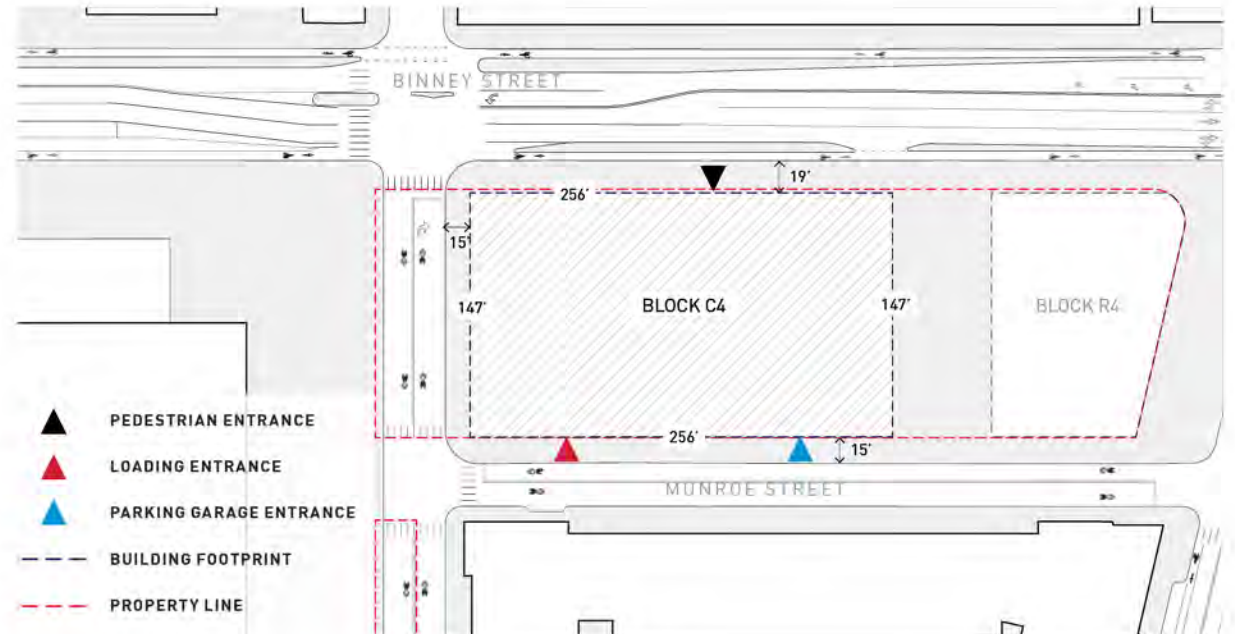
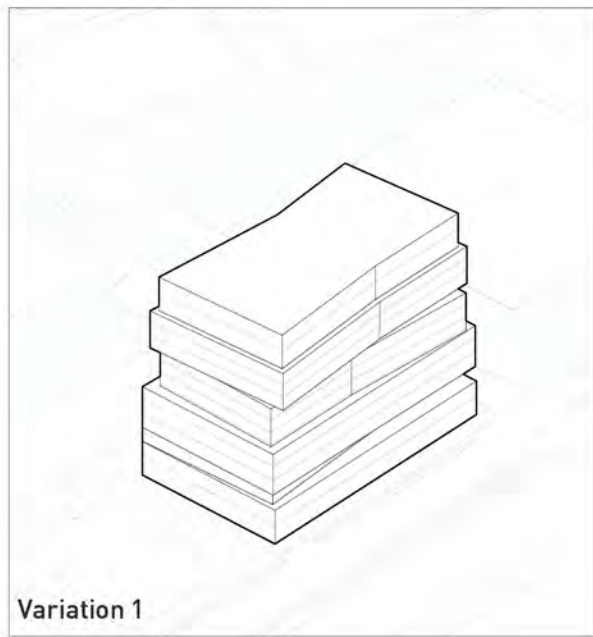
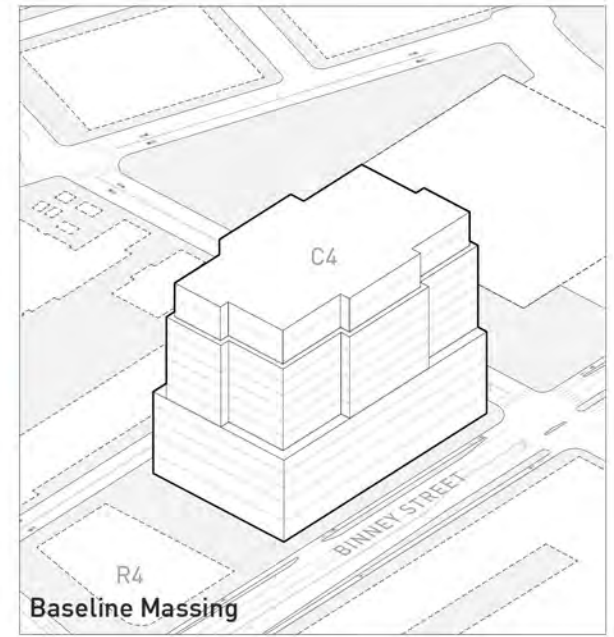
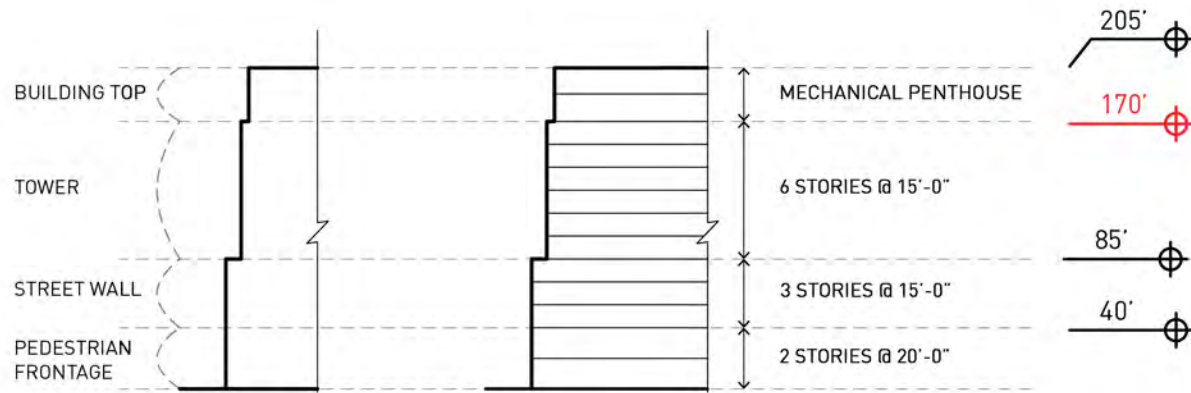
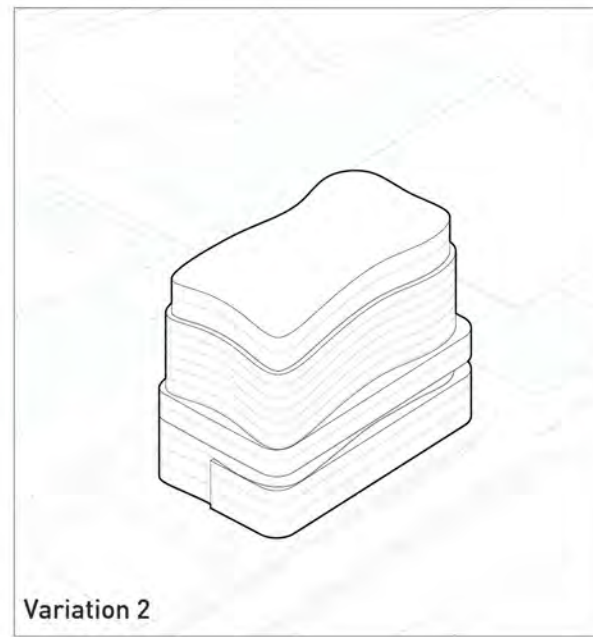


Figure L14: Block Guidelines - C4

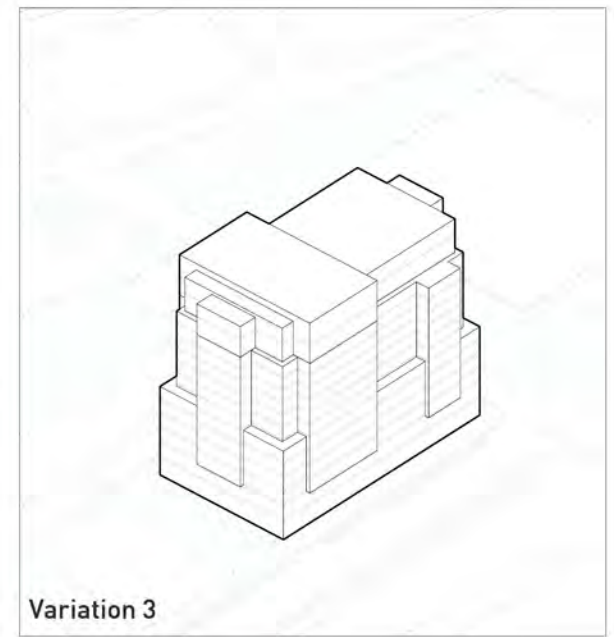




Variation 1



Variation 2



Variation 3

Block CC

Approximate GFA : 20,000 SF
Use : Community

Block CC is the designated location for the Community Center, bounded by Potter Street to the north, Fifth Street to the west, and Broad Canal Way to the south. The Community Center will be an important landmark that is to be highly visible from the public open space at Third and Broadway, Broad Canal Way, and Fifth Street promenade.

- The design should recognize the significance of the Community Center as an amenity for the community and is intended to have an iconic

presence. Parcel CC is centrally located, at the intersection of multiple connecting pathways.

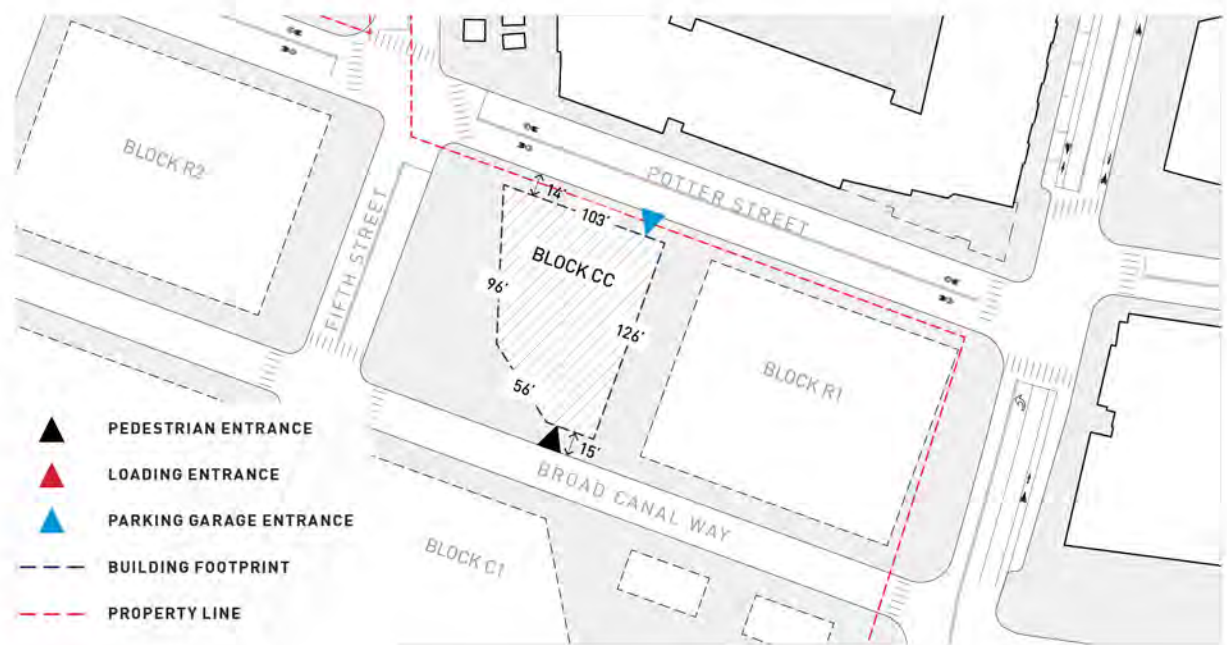
- Special consideration should be given to the relationship of the Community Center to 303 Third Street Residential Apartments and its site-utility paddock. The building massing is to respond to the diagonal connection from Broadway and Third Street to Fifth Street.
- The design should recognize that parcel CC

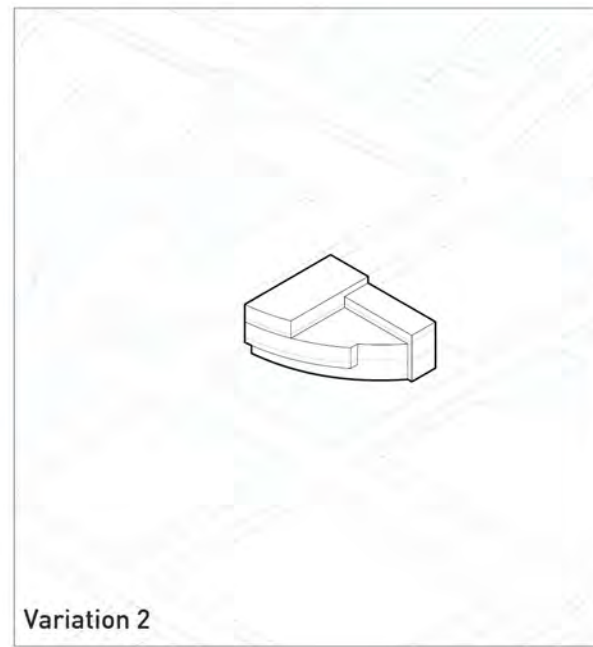
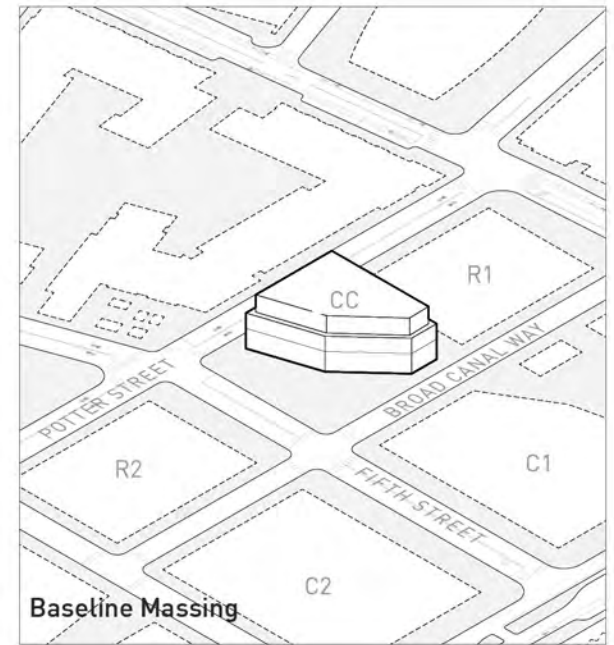
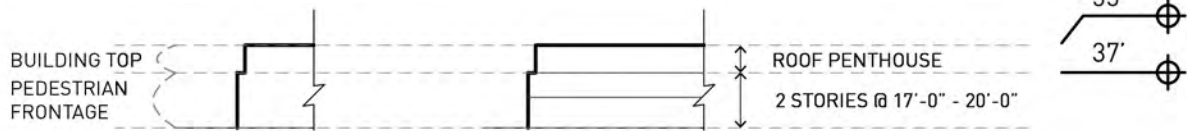
abuts the public open space along Fifth Street. The articulation of the massing is to engage that open space and Broad Canal Way, and to create a welcoming center for the community.

- The ground floor along Broad Canal Way and Fifth Street is to be lined with active uses and contribute to the vibrancy of the district.



Figure L15: Block Guidelines - CC





Volume 2, Section 2: Article 19 Requirements

Per Section 19.24, an application to the Planning Board for a Project Review Special Permit shall include certain information and narratives. This application contains the required information as follows:

1. Planning Board Special Permit Application Form: Included in Volume 1
2. Traffic Study: MIT submitted a Transportation Impact Study (TIS) - including a Shared Parking Study, a study of impacts on public transportation and a description of relationship to future regional transit - to the City's Traffic, Parking + Transportation Department (TP+T) on October 22, 2020. The TIS was certified on November 4, 2020 and is included in Volume 4 of this Application.
3. Tree Study: MIT submitted a Tree Study to the City's Arborist on October 27, 2020. The arborist certified the study on December 18, 2020. An overview narrative is included in this document as Section M below.
4. Urban Design Objectives Narrative: This narrative is included in Section N below.
5. Sewer Service Infrastructure Narrative: This narrative is included in Section O below.
6. Water Service Infrastructure Narrative: This narrative is included in Section O below.
7. Noise Mitigation Narrative: This narrative is included in Section P below.

M. Tree Mitigation Plan

The importance of maintaining tree canopy is an important issue in the city of Cambridge. From the beginning of the Volpe process, it has been clear that trees will be impacted in order to accomplish the goals for the Development Parcel.

Approximately 90% of the street trees that border the Site will be preserved. In addition, the buildings will be set back nearly 50 feet from Loughrey Walkway/Kittie Knox Bike Path – significantly more than the 10 feet required by zoning – to celebrate and enhance the walkway and ensure the continued health of the trees along the path.

As described in the certified Tree Mitigation Plan (**Figures M1-M6**), the Project requires the removal of 120 private trees on the Volpe property and 11 street trees adjacent. The Project proposes a robust planting plan that will add back approximately 213 new trees on the property and immediate surroundings for a net increase of 100 trees.

The new canopy will be more diverse and resilient than what is in place today. This will result in long-term benefits, and as soon as the trees grow and mature, they will far exceed the

carbon sequestration, storm-water benefit, and contribution to air quality than what is on the Site today.

In the short-term, despite the increase in the number of trees and the fact that they will be planted at 4”-8” caliper, there will be a caliper-inch deficit until the new trees reach maturity. To address this, MIT is working with the City and has engaged in outreach to DCR in an effort to develop mechanisms to add tree canopy, particularly in neighborhoods adjacent to the Project, and MIT will pay into the City’s Tree Replacement Fund for any remaining mitigation as required by the Tree Protection Ordinance.

The City street trees proposed for removal are primarily located along Broadway. The proponent is evaluating appropriate options with the TP&T department to provide safe access to the garage via left-turn from Broadway while limiting the impact to the existing trees along the Broadway median. MIT is also working with the City, CRA and others on the final design of the Broadway streetscape and its impact to existing trees will evolve.

Total DBH on Volpe	2,299"
Significant DBH on Volpe	2,271"

-  ORNAMENTAL TREES IN FAIR OR POOR HEALTH CONDITION
-  ORNAMENTAL TREES IN GOOD HEALTH CONDITION
-  NORWAY MAPLES
-  TREES IN POOR OR FAIR HEALTH CONDITION
-  TREES IN GOOD HEALTH CONDITION
-  CAMBRIDGE STREET TREES IN POOR OR FAIR HEALTH CONDITION
-  CAMBRIDGE TREES IN GOOD HEALTH CONDITION
-  CAMBRIDGE STREET TREES - DEAD



Figure M1: Existing Tree Inventory - Volpe Site

Total DBH on adjacent City R.O.W	1,919"
Significant DBH on adjacent City R.O.W	1,856"

-  ORNAMENTAL TREES IN FAIR OR POOR HEALTH CONDITION
-  ORNAMENTAL TREES IN GOOD HEALTH CONDITION
-  NORWAY MAPLES
-  TREES IN POOR OR FAIR HEALTH CONDITION
-  TREES IN GOOD HEALTH CONDITION
-  CAMBRIDGE STREET TREES IN POOR OR FAIR HEALTH CONDITI
-  CAMBRIDGE TREES IN GOOD HEALTH CONDITION
-  CAMBRIDGE STREET TREES - DEAD



Figure M2: Existing Tree Inventory - City of Cambridge

Total DBH removed	2,142"
Significant DBH removed	2,117"

Volpe Trees	# of Trees
 Trees in Good Health Condition	56
 Trees in Poor or Fair Health Condition	47
 Norway Maples	17
Development Plan Removals	120
Remaining Volpe Trees	8 of 128

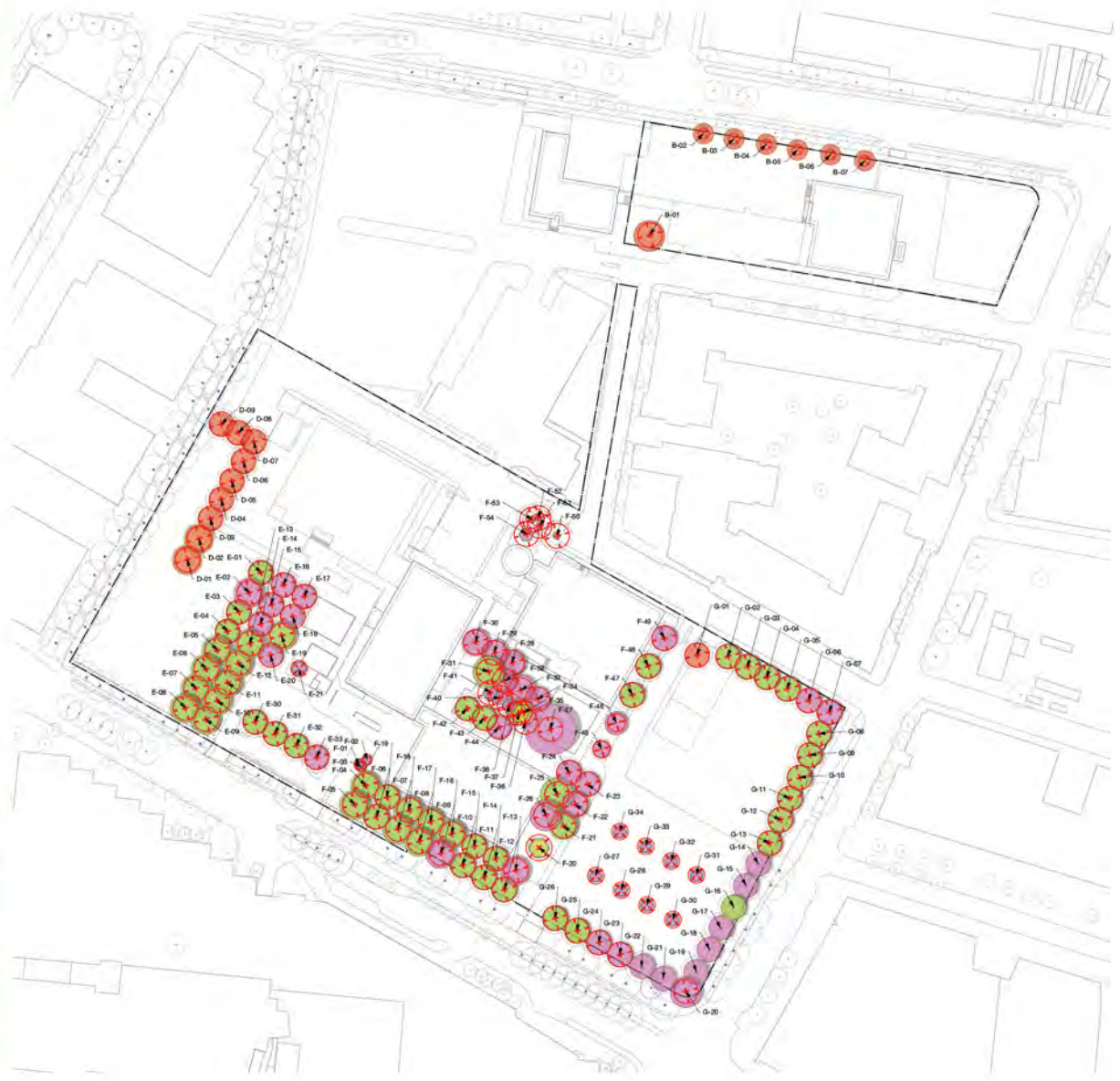


Figure M3: Proposed Tree Removal - Volpe Site

Total DBH removed	122"
Significant DBH removed	114"



Cambridge Trees	# of Trees
Cambridge Street - Good	8
Cambridge Street Trees - Fair or Poor	2
Cambridge Street Trees - Dead	1
Development Plan Removals	11
Remaining Cambridge Trees	127 of 138

*TREES TO BE REMOVED WITHIN THE CITY R.O.W. SHALL BE HANDLED THROUGH A SEPERATE PROCESS OF M.G.L. CHAPTER 87

Figure M4: Proposed Tree Removal - City of Cambridge

Total DBH planted	1,028"
Total DBH remaining for mitigation	1,089"



Type of Tree Canopy	# of Trees
8" DBH Canopy Tree	33
6" DBH Canopy Tree	110
4" DBH Canopy Tree	26
Total Trees	169

Figure M5: Proposed Tree Plan - Volpe Site

Total DBH planted	218"
Total DBH remaining for mitigation	-104"



Type of Tree Canopy	# of Trees
6" DBH Canopy Tree	21
4" DBH Canopy Tree	23
Total Trees	44

Figure M6: Proposed Tree Plan - City R.O.W

N. Urban Design Objectives (City of Cambridge Zoning Ordinance, Section 19.24.4)

The Project embraces each of the seven Urban Design Objectives enumerated within the PUD-7 Zoning. In addition, the proposed Project is consistent with the PUD-7 Zoning and the following documents that collectively comprise the PUD-7 Guidelines and Principles:

- Kendall Square (“K2”) Planning Study and Design Guidelines (2013);
- The Planning and Design Principles established by the City’s Volpe Working Group (2017); and
- Volpe Site Design Guidelines (2017).

Specific descriptions of the Project’s consistency with the PUD-7 Guidelines is covered elsewhere in Volume 1 of this Application under Consistency with Planning Documents. The following is intended to document the consistency between the Project, as hereby submitted for Special Permit Project Review, and the Urban Design Objectives set forth in the PUD-7 Zoning.

1. Responsiveness to the existing or anticipated pattern of development

The overarching goal of the Project is to create a welcoming, connected innovation environment, establishing a vibrant, diverse, inclusive, mixed-use district that provides opportunities for shared discovery, community and collaboration.

The Project is conceived as an interconnected whole made up of streets, parks, urban plazas and passageways which together constitute the civic framework for the Site by connecting it to surrounding neighborhoods. The Project’s diverse, connected network of open spaces is strategically located to draw the public into and through the Development Parcel. Where there is currently an isolated parcel, there will be an extension of the existing city fabric, in which the edges between existing neighborhood and new development are intentionally blurred.

Key to establishing connectivity to both the existing network of streets and to the scale of the surrounding neighborhood is the idea of breaking up the superblock of the Site. By introducing Fifth Street to connect Broadway to Binney Street, the Project reestablishes both a neighborhood scale and an urban pathway that has not existed for 50 years. By extending Broad Canal Way deeply into the Site as a multi-modal, pedestrian-focused street, the Project gives emphasis to the Broad Canal and increases the sense of connectivity to the Charles River.

The components of streets provide opportunities to support local businesses through retail frontage and spillover, while creating spaces for relaxation and gathering and weaving the urban circulation network through the fabric of the City.

2. Embrace and enhance a pedestrian- and bicycle-friendly city

The Project will embrace the unique opportunity to knit the City together by providing north-south connections from the East Cambridge neighborhood to Kendall Square, and east-west connections to the Charles River. Sidewalks will be provided along the entire Development Parcel with safe pedestrian crossings at all internal and adjacent intersections. The proposed Project streetscapes must meet the needs of all kinds of users, including bicyclists, pedestrians and vehicles, as they perform daily activities appropriate to an urban context including recreational strolling, walking to/from lunch or striding to/from public transit; bicycling for transportation, pleasure or exercise; and dropping off/picking up users of the Community Center or office, retail and restaurant workers – all while maintaining the Project goals of vibrancy, connectivity and inclusivity.

The Project proposes to locate primary building entries along major streets (Broadway and Binney and Potter Streets) with service access provided from secondary streets. Largely transparent, active places of public accommodation will be located at ground-level (including retail, restaurants, and other active uses), infusing significant street-level activity throughout the Development Parcel. This active ground floor will contribute to the vibrancy of the district and will foster a sense of security

throughout the day and into the night.

Pedestrian circulation paths will follow sidewalks and crosswalks and lead to general entry locations for the proposed buildings. Significant planned pedestrian connections include those crossing Binney Street to the adjacent neighborhood, multiple connections across Third Street to the existing retail and commercial buildings, and connections on the south, crossing Broadway to Main Street and MIT's South of Main campus as well as to the Kendall/MIT Red Line Stations. The pedestrian easement through the Marriott Hotel is an important pedestrian connection between the site and Red Line access on Main Street and connections to it will be maintained and strengthened. MIT is committed to strengthening pedestrian crossings across Broadway between Fifth Street and the Marriott hotel and at the Third Street Park/Galaxy Park intersection. On the west side of the Development Parcel, the Loughrey Walkway/Kittie Knox Bike Path will remain an important pedestrian pathway along the edge of the proposed development.

Bicycle pathways through and around the Development Site will connect to the East Cambridge bicycle network and will establish connections to public transit lines and to Boston and Somerville. A combination of current and planned bicycle facilities – including bike lanes, cycle tracks and/or multi-use paths – will

facilitate these connections. Secondary streets internal to the Development Parcel will utilize shared vehicular and bicycle lanes. Buildings will house indoor bicycle storage in compliance with City requirements and short-term outdoor bicycle parking areas will be located throughout the Development Parcel. The placement of outdoor bike racks will meet zoning requirements regarding distance from entries and offsets from other racks. Existing BlueBike stations will be supplemented by an additional, new BlueBike docking station, preliminarily proposed to be located along Broadway at the Third Street Park.

The Project contemplates two underground garages – a north garage between Binney and Munroe Streets, and a south garage between Potter Street and Broadway. Parking entrances are limited to four points within the Project, helping to reduce cross-circulation between pedestrians and vehicles. One garage entrance on Munroe Street, two garage entrances on Potter Street, and one garage entrance on Broadway are proposed. The opportunity exists to introduce limited active curbs and on-street parking along the proposed new streets, though locations have not been finalized. On-street parking currently exists as either public (Munroe Street) or private (the east side of Fifth Street). MIT does not propose eliminating any of those existing on-street spaces.

In 2019, the Kendall Square Association in partnership with the City and the CRA released the Transport Kendall Report: Actions to Transform Mobility. This report builds on the work of the Kendall Square Mobility Task Force and outlines priority transportation projects for the Kendall Square area. The focus areas include the Grand Junction, MBTA Red Line, and Bus Service. As part of the PUD-7 Zoning, MIT has committed to \$8.5 million for transit improvements to reduce vehicular traffic and another \$8.5 million for design and construction of the Grand Junction Path. Bus riders

The foremost urban design objective is to ensure that the Site is an integrated part of the City with architecture and landscape design that is welcoming and inclusive. The following criteria are primary:

Connectivity: The framework of the proposed plan is based on connectivity of streets and paths to the surrounding context:

- Fifth Street extended through the site from Binney to Broadway restoring the historic alignment
- Potter Street extended from Fifth Street to Loughrey Walkway/Kittie Knox Bike Path

- Broad Canal Way extended from the Canal and the development east of Third Street to Loughrey Walkway/Kittie Knox Bike Path.

Grounded in its infrastructure, this is not a separate enclave.

Accessibility: The primary open spaces at Third Street Park and Sixth Street Park are connected to the adjacent network of open spaces; they are visible and accessible from public ways and have immediate access to public transit, and these spaces are planned with active edges of retail and restaurants at Third Street Park and other active use spaces at Sixth Street Park. There are no fences, portals or gateways.

Sociability: The majority of street level space is dedicated to food and beverage, retail, maker space, entertainment and other active uses that is open to the public and that will provide the invitation to meet, dwell, and to interact with neighbors, friends and strangers. These facilities of public accommodation are clustered on Broad Canal Way but, in fact, are located on more than one side of all buildings – outward looking to the surrounding neighborhood.

Comfort: Specific landscape design will create comfortable places to sit, to eat, to work or to play.

Openness: Many of the street level shops, restaurants and other active use spaces will be

open, transparent and “open-able,” meaning with folding or sliding doors, blurring the line between inside and outside, inviting the guest on the street to enter and engage.

Usability: The open spaces will provide diverse venues for activity ensuring diversity of age, gender and race – venues for play at Sixth Street Park and adjacent to the Community Center, venues for dining on Broad Canal Way, Broadway, Binney Street and Fifth Street; venues for leisure at Third Street Park and Volpe Art Walk.

Architectural Character: The guidelines for architectural character describe buildings of appropriate scale at the level of massing with four zones of urban streetwall including pedestrian frontage, buildings that are legible related to use, buildings of a materiality and window to wall ratio that is not anonymous or scaleless, that is human scaled and legible.

3. Mitigation of adverse environmental impacts

Overarching Project goals include the desire to increase connectivity between the Development Parcel and the surrounding city and to improve the quality, vibrancy, diversity and inclusiveness of the public realm through a network of open space. At the same time, future development must minimize adverse impacts on environmental comfort. The

following describes strategies to minimize or mitigate any potentially adverse impacts of the proposed development.

Buildings within the Project will be designed to meet the City's Noise Control Ordinance requirements. Primary elements that contribute to sound generation within an urban development project include mechanical equipment noise, building service and loading activities, and construction activities.

Major mechanical equipment for individual buildings will be located within enclosed rooftop mechanical penthouses and lower-level mechanical service rooms, and appropriate sound attenuation measures will be incorporated to minimize the acoustic impact of this equipment.

Building loading and service areas are planned to be located off-street, at ground-level, internal to the building footprint. Loading bays will not impinge upon adjacent sidewalk and roadway right-of-ways, and service traffic will be managed to avoid adverse impact on local traffic circulation.

Construction activities associated with the individual buildings and site infrastructure (underground utilities, roadways, and public realm landscape and hardscape features) will temporarily create an increase in noise levels emanating from within the Site. Activities that are likely to generate the highest levels of construction noise include

demolition, excavation and foundations. Primary noise-generating construction activities will be limited to daytime hours. MIT will develop a series of mitigation measures, in collaboration with the City, for each of the various construction projects (both building-related and infrastructure-related).

As discussed previously, shadow studies have been performed for the proposed buildings to evaluate the shadow impacts on existing neighboring buildings and on existing and proposed elements of the public realm. The net new shadow falls on both public realm ground plane and on rooftops. Based on the shadow studies, the Project will create a degree of net new shadow consistent with an urban development project of this magnitude. Significantly, the shadow study supports the placement of a major civic park at the corner of Third Street and Broadway. In addition to being the most public corner of the Development Parcel, existing urban form and solar orientation combine to maximize the hours of direct sunlight on a public park at this location.

The Project's street, sidewalk, pathway and landscape site lighting will provide a sense of comfort, safety and security. A consistent, cohesive approach to illumination and fixture selection will contribute to the connectivity of the open space network within the public realm. Similarly, the interior illumination of active retail, dining and entertainment venues will increase transparency

into those public uses, blur the edge between indoor and outdoor space, and heighten the sense of security and neighborhood identity well into the evening. Future building and site design must address these positive attributes while also mitigating light spill, avoiding light pollution, and conforming to applicable night-sky ordinances.

A quantitative pedestrian-level wind study of the proposed Project build-out was conducted by RWDI utilizing wind-tunnel analysis. The study indicated that wind conditions at grade-level on and around the Site are generally predicted to be suitable for the intended uses. There are no locations at which winds are expected to be rated dangerous. The detailed configuration of building massing and landscape features, as analyzed through wind-tunnel testing, is preliminary. Future design efforts for individual buildings and development-wide streetscape and landscape design will strive to mitigate any marginal conditions.

Urban heat island effects will be mitigated using a hybrid approach. Buildings will employ high-albedo, green roof, blue roof, or solar panels, as applicable, to reflect heat and mitigate urban heat island effects in accordance with the requirements of the PUD-7 Zoning. Site hardscape materials will be chosen for high SR/SRI values and permeability attributes. Outdoor spaces with vegetation such as canopy trees, pergolas, trellises, green walls, and other measures are to be considered as means to

reduce urban heat gain.

A development of this scale will inevitably have an impact on the existing urban tree inventory. While extensive measures will be taken to ensure the integration and preservation of healthy, mature existing trees (particularly within the new Third Street Park and the existing Loughrey Walkway/Kittie Knox Bike Path), the planned streets, open spaces and buildings will require the removal of approximately 132 existing trees. These removals will be offset by the planting of approximately 214 new trees as part of the Project, resulting in a net gain of 82 trees. The future tree canopy will be diverse and resilient and will provide long-term advantages in terms of greater carbon sequestration, stormwater management and air quality.

To respond to climate change and prepare for projected increases in precipitation, the Project embraces resilient design strategies including elevating mission-critical equipment, residential units, and all building ground floors above the projected 2070 100-year flood elevation; incorporating stormwater mitigation strategies; and providing standby power for mission critical equipment.

4. Mitigation of burden on city infrastructure

As required by the PUD-7 Zoning, all of the Project's buildings will be certifiable at the LEED Gold level. An integrative sustainable design process is to be utilized in each future building design to ensure that best practices are employed in the design of exterior envelopes, building energy- and water-use systems, site planting, and site stormwater management systems. Construction practices and materials, interior and exterior lighting design, and daylight maximization will all contribute to the ability to achieve certifiable status under LEED Gold.

The Project has been master planned to maximize energy efficiency and support a path for a net-zero carbon future. The focus throughout the design process for individual buildings will be to drive down projected emissions, both in the manufacture of construction elements and in the long-term operation of the buildings. Residential buildings (approximately 40% of the development) will be all-electric, generating zero on-site emissions from fossil fuel, and commercial buildings will be designed with a path to electrification that will integrate with the long-term vision for a low-carbon power grid. Load sharing between complementary building programs will be explored to maximize heat exchange and optimize energy performance across the Site. On-site rooftop photovoltaic

(PV) arrays, supplemented by procurement of off-site renewable energy, will be explored during individual building design as a means of offsetting the Project's electricity use.

The Project will include one of only three blackwater treatment systems in New England, enabling 100% of all eligible building wastewater flow to be treated and reused on-site, thereby removing approximately 250,000 gallons per day from the city's sanitary sewer system. The collection, treatment, and reuse of all available greywater and blackwater in three phased district blackwater treatment plants will minimize potable water consumption, improve self-sufficiency of the district, and mitigate the impact of the development on regional sewer systems.

To respond to the changing climate and prepare for projected increases in precipitation, the Project will embrace resilient design strategies including elevating mission-critical equipment, residential units, and all building ground floors above the 2070 100-year flood elevation; incorporating stormwater mitigation strategies; and providing standby power for mission critical equipment. To minimize risks associated with projected temperature increases, the Project will aim to reduce urban heat island effect through high-albedo roofing and paving and minimize cooling loads by insulating and shading building facades.

5. Reinforcement of the urban framework of Cambridge

The introduction of active ground floor uses on four sides of the proposed new buildings, such as retail, entertainment and makerspaces, will energize each block, engage with the surrounding neighborhood and will be specific to Kendall Square and East Cambridge. The diverse mix of residential, lab, office, retail and community uses will enable the Project to become part of the neighborhood and seamlessly integrated into the city.

The Project is consistent with the Special Requirements of Section 13.96.3 to require an area equal to at least five percent (5%) of the office and R&D space contained within new buildings as Innovation Space, either within the development or in the vicinity, and subject to the area and lease duration limitations set forth in the PUD-7 Zoning. Innovation space dedicated to small business incubators and entrepreneurs will encourage residents to participate in the local innovation economy and foster the cross-disciplinary interaction that has made Kendall Square famous.

The inclusion of 100,000 square feet of largely transparent, active places of public accommodation located at street level (including retail, restaurants, and other recreational uses) will infuse significant street-level activity throughout the Site and serve

to blur the boundary between inside and outside, energizing both. This ground floor retail and active use space is an integral component of the Project. It will contribute to the vibrancy and inclusiveness of the district, foster a sense of security throughout the day and into the evening, and provide venues for both planned and serendipitous social and intellectual interaction to occur. Small, local, independent retail businesses will create the sense of neighborhood, and connectivity to greater Cambridge will be amplified.

6. Expansion of housing inventory

Consistent with the PUD-7 Zoning requirements, at least 40% of the non-exempt GFA included in the Project is devoted to residential use. This equates to approximately 1,400 units of new housing located throughout the four residential buildings. Twenty percent (20%) of the net residential unit square footage of each building will be designated as affordable. The Project also includes 20 middle-income units that will be affordable to eligible renters with incomes of 80% to 120% of the Area Median Income. The Project will include three-bedroom units to encourage families to live in the district. In addition, 5% of the net square footage of the net residential unit square footage is devoted to Innovation Units, defined as 350 to 450 SF, to further assist with affordability and diversity of housing on the Site

The location of residential parcels between Potter Street and Broad Canal Way and at the corner of Binney and Third Streets will establish relationships of use and scale to neighboring residential buildings, most importantly the 303 Third Street residences.

Housing will have a major impact within the overall development in terms of scale, urban presence and adjacency to open space. The Inclusionary Housing provisions will ensure that the residential nature of the project will relate to an appropriately broad cross-section of the Cambridge population.

7. Enhancement and expansion of open space

The Project's highly interconnected and differentiated network of public realm spaces—its streets, squares, parks, and courts—constitute the plan's fundamental organizing principle. It maximizes permeability for pedestrians, cyclists, workers, residents and neighbors. It emphasizes both solar exposure and the development of a long-term urban tree canopy throughout.

Third Street Park, a major urban park, will be located at the most public corner of the development – a direct response to community input – with streets on three sides and southeast location that maximizes its solar exposure. Linear open spaces at the Sixth Street Park and Loughrey Walkway/Kittie Knox Bike Path, and at the Fifth Street Promenade, will connect Binney Street to Broadway and East Cambridge to Kendall Square. This series of significant open spaces establishes a network that permeates the Site while being intentionally open along the Site's perimeter – at Third Street Park, at Sixth Street Park and, when developed by the Federal government, at Volpe Art Lawn – creating urban green space that is openly shared with neighboring buildings and streets.

The streets, courts, and squares will support a wide range of outdoor uses, and they will be enlivened by pedestrian-oriented functions located on the ground floors of the surrounding buildings.

O. Infrastructure Plan and Narrative

Sewer Service Infrastructure Narrative

The sanitary sewage from the Project will be collected within the Development Parcel and ultimately discharged into the existing municipal sewer mains abutting the Development Parcel. The Project is proposing to greatly reduce the total sewer generation by the installation of blackwater treatment systems, which are proposed to collect and treat sanitary sewage on-site and re-use water for irrigation and cooling tower demand purposes.

The southern half of the Development Parcel will discharge to the 22-inch sewer main within Broadway, and the northern portion of the Development Parcel will discharge to the 28-inch by 32-inch sewer main within Binney Street via the 24-inch Fifth Street sewer main. MIT is actively working with the City's Department of Public Works (DPW) to coordinate the new sanitary connection locations.

The Project is expected to generate a greater quantity of wastewater flow than is produced on the Site today. Based on 314 CMR 7.00, the Commonwealth's Sewer System Extension and Connection Permit Program, the Project will generate approximately 466,000 gallons per day (GPD) of new sanitary sewage without the proposed blackwater treatment systems, as shown in Table 1, provided below in detail on a preliminary basis. The calculation reflected in Table 1 is based on the

Conceptual Project program and may be subject to change during final design of the individual buildings.

The existing buildings on the Site generate approximately 26,990 GPD and have been previously accounted for within the recent development of the US DOT Volpe Exchange Project. The existing Site sewer generation is not counted against the new sewer generation for the Project.

The Project is proposing a phased on-site blackwater treatment system at three locations within the first level of the subsurface garage. The southern garage is located adjacent to Broadway with two blackwater systems proposed, and the northern garage is located adjacent to Binney Street with a single blackwater system proposed. The blackwater treatment systems are anticipated to collect, treat, and re-use all eligible sanitary sewerage discharging from the Project. The treated blackwater flow will be re-used for cooling tower demand and toilet flushing purposes within the Project. The blackwater treatment system is a sustainable measure, which is anticipated to greatly reduce on-site sanitary sewage discharge into the municipal sewer system, in addition to reducing potable water demand for the Project.

The proposed blackwater treatment systems have been sized to collect all non-lab use sanitary sewerage flow. This includes two proposed

systems on the southern site totaling a preliminary reduction of approximately 205,000 GPD of sanitary sewer flow. The northern site includes a single proposed system with a preliminary reduction of approximately 45,000 GPD of sanitary sewer flow.

In total, the three proposed blackwater treatment systems will total a preliminary reduction of approximately 250,000 GPD of sanitary sewer flow discharging into the municipal sewer system. At the time of this document filing, the blackwater treatment system proposed will be the largest urban district-scale system to be installed in the northeast.

The conceptual program uses depicted within Table 1 are used as a preliminary basis for the sanitary sewer generation calculation. These uses may change as the individual building design develops and may include additional wet lab use. The final calculations will be closely coordinated with DPW and will be reviewed at the time of building permit submission.

The wastewater flow generation threshold for Cambridge DPW Inflow/Infiltration (I/I) mitigation is 15,000 GPD. MIT has begun and will continue discussions with Cambridge DPW to identify an applicable I/I mitigation project for the Project. Based on conversations to date, MIT expects Cambridge DPW to grant an I/I credit for the reduction in sanitary sewer flow discharging into

the Cambridge DPW municipal system. MIT will continue to identify an applicable I/I project with Cambridge DPW, for the significantly reduced sanitary sewer flow entering the City's municipal system.

The blackwater system will reduce the overall sanitary flow into the City's sanitary system, and it will result in significant sewer abatements that will offset this significant capital infrastructure investment.

Table 1 - Conceptual Project Program Wastewater Flows

Proposed Program	Unit / Area	DEP Category	Generation Rate*	Total Generation (GDP)
Building C1				
Office	304,200 SF	Office Building	75 GPD / KSF	22,815
Wet Lab	99,300 SF	Lab**	200 GPD / KSF	19,860
Retail	2,000 SF	Retail Store	50 GPD / KSF	100
Fitness	20 Lockers	Lockers & Showers	20 GPD / Locker	400
Lobby / BOH	30,400 SF	Office Building	75 GPD / KSF	2,280
Restaurant	467 Seats	Restaurant	35 GPD / Seat	16,345
Restaurant (Fast Food)	100 Seats	Restaurant - Fast Food	20 GPD / Seat	2,000
Total				63,800
Building C2				
Office	325,800 SF	Office Building	75 GPD / KSF	24,435
Wet Lab	105,000 SF	Lab**	200 GPD / KSF	21,000
Lobby / BOH	32,400 SF	Office Building	75 GPD / KSF	2,430
Restaurant	400 Seats	Restaurant	35 GPD / Seat	14,000
Restaurant (Fast Food)	100 Seats	Restaurant - Fast Food	20 GPD / Seat	2,000
Total				63,865
Building C3				
Office	319,200 SF	Office Building	75 GPD / KSF	23,940
Wet Lab	100,100 SF	Lab**	200 GPD / KSF	20,020
Fitness	100 Lockers	Lockers & Showers	20 GPD / Locker	2,000
Lobby / BOH	31,600 SF	Office Building	75 GPD / KSF	2,370
Restaurant	67 Seats	Restaurant	35 GPD / Seat	2,345
Total				50,675
Building C4				
Office	218,700 SF	Office Building	75 GPD / KSF	16,403
Wet Lab	112,600 SF	Lab**	200 GPD / KSF	22,520
Retail	24,900 SF	Office Building	75 GPD / KSF	1,868
Total				40,791
Community Center				
Fitness	400 Lockers	Lockers & Showers	20 GPD / Locker	8,000
Total				8,000

Proposed Program	Unit / Area	DEP Category	Generation Rate*	Total Generation (GDP)
Building R1				
Residential	440 Beds	Residential House	110 GPD / Bed	48,400
Lobby/BOH	17,000 SF	Office Building	75 GPD / KSF	1,275
Restaurant	367 Seats	Restaurant	35 GPD / Seat	12,845
Total				62,520
Building R2				
Residential	430 Beds	Residential House	110 GPD / Bed	47,300
Retail	4,000 SF	Retail Store	50 GPD / KSF	200
Fitness	100 Lockers	Lockers & Showers	20 GPD / Locker	2,000
Lobby / BOH	16,800 SF	Office Building	75 GPD / KSF	1,260
Restaurant	100 Seats	Restaurant	35 GPD / Seat	3,500
Total				54,260
Building R3				
Residential	655 Beds	Residential House	110 GPD / Bed	72,050
Lobby / BOH	25,300 SF	Office Building	75 GPD / KSF	1,898
Performance Venue	550 Seats	Movie Theater	5 GPD / Seat	2,750
Total				76,698
Building R4				
Residential	365 Beds	Residential House	110 GPD / Bed	40,150
Retail	4,000 SF	Retail Store	50 GPD / KSF	200
Fitness	80 Lockers	Lockers & Showers	20 GPD / Locker	1,600
Lobby / BOH	14,200 SF	Office Building	75 GPD / KSF	1,065
Restaurant (Fast Food)	67 Seats	Restaurant - Fast Food	20 GPD / Seat	1,340
Total				44,355
Total New Flow				464,964
Existing Sewer Flow				N/A
Net New Sewer Flow				464,964
Proposed Water Demand**				511,460
<p>*314 CMR7.00 Sewer System Extension and Connection Permit Program. **Extrapolated lab use rate based upon similar City of Cambridge Projects. ***Proposed water demand based on estimated sewage generation with a factor of 10 percent for consumption.</p>				

Stormwater Infrastructure Narrative

The proposed stormwater management system will be designed to comply with the City standards and the MADEP Stormwater Management Policy for new construction projects. As currently proposed, the stormwater runoff from the Project will be collected on the roof of each building, with gravity flow discharge to nearby infiltration systems to promote groundwater recharge and reduce the total phosphorus load for the Development Parcel. The proposed roadway catch basins, and site/landscape area drains will be collected within the subsurface garage, and will be directed to a network of subsurface detention systems within the garage structure. These systems are designed to temporarily detain a portion of the stormwater runoff volume to reduce the peak rate of stormwater into the City's municipal stormwater system. These detention systems will be pumped to nearby proprietary water quality units to reduce total phosphorus load for the Development Parcel.

The Project will be designed to comply with DPW Stormwater Management Guidance. MIT intends to review the applicability of managing stormwater for the difference in volume between the 2-year, 24-hour, pre-construction runoff hydrograph and the post-construction 25-year, 24-hour, runoff hydrograph with Cambridge DPW. During a meeting held on October 27, 2020; DPW noted that the applicability of this requirement may

not provide an overall system benefit, given the proximity to the 54-inch Broad Canal Stormwater Outfall. MIT is currently proposing to achieve this design guideline with the use of infiltration systems in open site areas, and stormwater detention tanks within the subsurface garage. The applicability of this standard will be reviewed in concert with Cambridge DPW for the Project and on a system-wide basis.

MIT is anticipating reviewing the ability to incorporate natural stormwater systems into the stormwater management plan, based on feedback given during the October 27, 2020 DPW design review meeting. This would include natural stormwater systems in open space and maximizing natural stormwater systems within the Broad Canal Way Extension to celebrate the former Broad Canal to the maximum extent practicable. With the Development Parcel being an urban environment with a subsurface garage proposed below Broad Canal Way, natural stormwater solutions will present some design challenges.

MIT will work with DPW to find stormwater solutions that expect to yield improvements to the performance of the Development Parcel. This could include added pervious area or additional green roof area as practical.

The 2-year and 25-year rainfall depths used to determine the Site peak discharge rates were

supplied by the DPW in January of 2020 and are based on the predicted 2030 rainfall depths for the City of Cambridge. The 10-year and 100-year rainfall depths used to determine the Site peak discharge rates were taken from the National Oceanic and Atmospheric Administration (NOAA) Atlas Type III, 24-hour historic storm events data for Boston (Station – Boston Logan International Airport). The Project will review and analyze the City of Cambridge 2070 rainfall events provided in December 2020. The final design of the proposed stormwater management systems anticipate utilizing the Cambridge 2070 storm events as a basis for design, as provided by the DPW.

Runoff coefficients for the existing and proposed conditions were determined using NRCS Technical Release 55 (TR-55) methodology as provided in HydroCAD. The HydroCAD model is based on the NRCS Technical Release 20 (TR20) Model for Project Formulation Hydrology. Please refer to the attached HydroCAD Computations. The preliminary results for the existing condition are summarized below in Tables 2 & 3, based on the above noted rainfall events.

The Project is expected to increase the area of pervious surfaces and decrease the area of impervious surfaces as compared to the existing conditions, resulting in a reduced overall runoff volume. Additionally, the Project will propose structural water quality units that will treat

stormwater runoff and achieve the Cambridge DPW recommended removal rates of Phosphorus, Total Suspended Solids and other waterborne pollutants. MIT proposes phosphorus removal of 65% by reducing impervious area and utilizing structural BMPs, in addition to natural stormwater systems.

Table 2 - Existing Peak Stormwater Discharge Rates (cfs*)

Existing	2-Year (3.34")	10-Year (4.97")	25-Year (7.25")	100-Year (7.88")
C1/R1/CC	10.41	16.58	25.09	27.42
C2/R2	8.25	12.68	18.80	20.48
C3/R3	6.63	11.00	17.07	18.73
C4/R4	4.99	7.86	11.80	12.89

Table 3 - Existing Stormwater Volume Analysis (cf)

Existing	2-Year (3.34")	10-Year (4.97")	25-Year (7.25")	100-Year (7.88")
C1/R1/CC	31,893	52,133	80,921	88,922
C2/R2	26,117	41,211	62,474	68,363
C3/R3	19,956	33,807	53,761	59,333
C4/R4	15,444	24,949	38,420	42,158

Water Service Infrastructure Narrative

The estimated domestic water demand for the Project is based on the projected new approximate daily wastewater flow for the Project. As shown in Table 2 above, the Project's approximate domestic water demand is 511,500 GPD. The proposed on-site blackwater treatment systems will reduce the proposed water demand for the Project by re-using sanitary discharge for use as cooling tower demand and toilet flushing purposes within the proposed buildings. As a sustainable measure, the proposed potable water demand from the Project will be reduced by approximately 272,250 GPD by the installation of the blackwater treatment systems. This substantial benefit to the City's water demand will be reviewed with the Cambridge Water Department.

Domestic water will be supplied to the proposed buildings via existing and new water mains. MIT proposes to connect the existing 16-inch water main in Broadway to the existing 16-inch water main in Third Street via a new private water main. This main will be located towards the western garage face adjacent to the proposed buildings R3 and C3 and within Potter Street, to create a continuous supply loop. Most of the buildings on

the Development Parcel will be supplied with domestic services branching off the new 16-inch water main. MIT also proposes to connect into the existing 16-inch water main in Binney Street and the existing 16-inch domestic water main in Broadway.

The Project will coordinate with CWD the discontinuance of the 6-inch water main within Fifth Street through the project site in-between Munroe Street and Binney Street, during final design. This discontinuance has been partially completed at the Munroe Street intersection. The Project anticipates completing the discontinuance of the 6-inch Fifth Street water main in close coordination with CWD, which may involve scope at the Binney Street water main at an isolated location.

The Project will require fire protection services which will tie into the same municipal water mains that will supply domestic water service and include butterfly valves and redundant services as required by the City Water and Fire Departments. Prior to construction, hydrant flow tests will be completed on various fire hydrants adjacent to and within the Development Parcel to verify adequate flow and pressure for the Project's sprinkler systems.

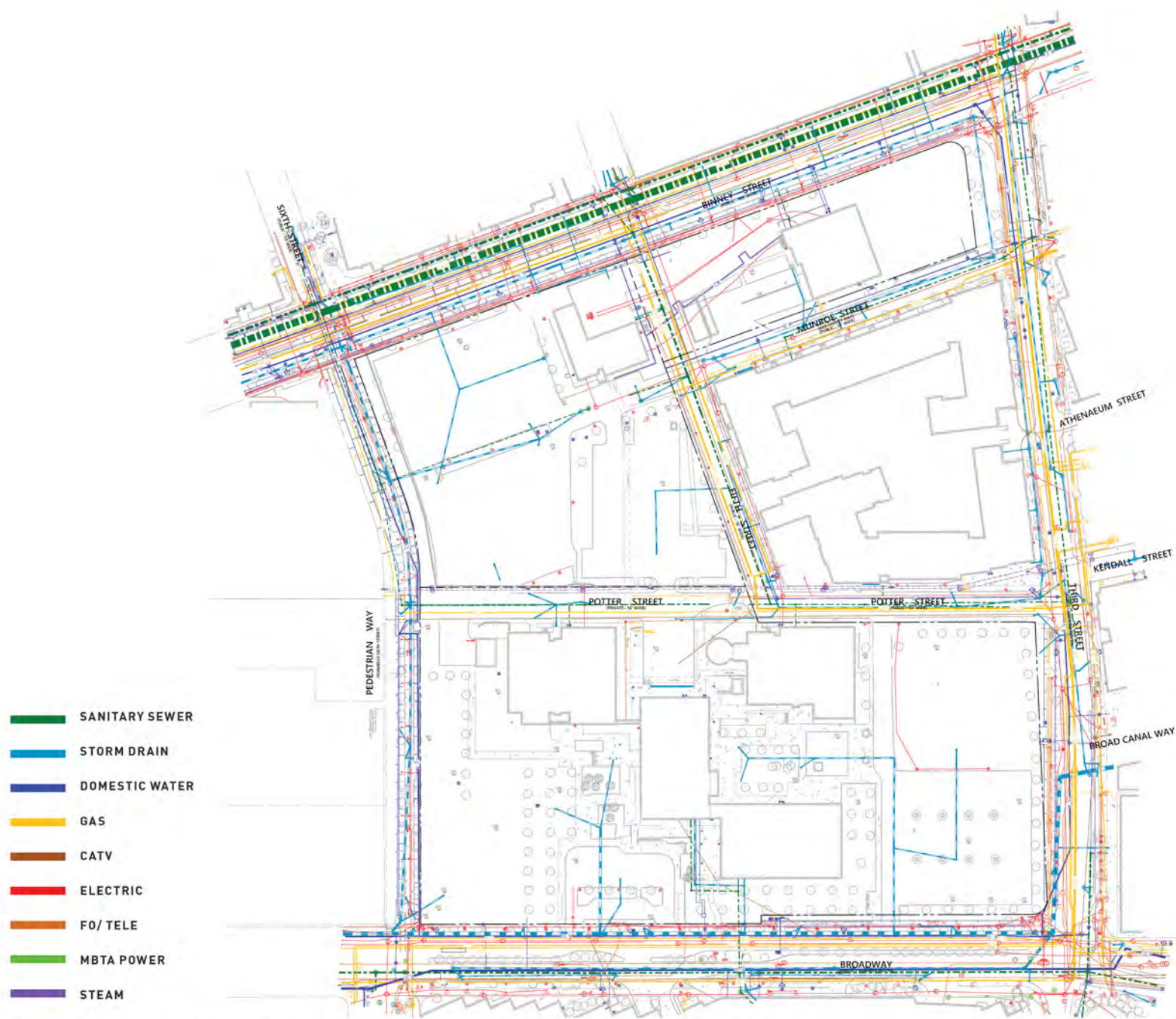


Figure 01: Existing Utilities Plan

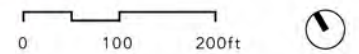




Figure 02: Infrastructure Concept Plan



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P. Noise Mitigation

The Project will be designed to comply with the requirements of both the MassDEP noise policy (310 CMR 7.10) and the City's Noise Control Ordinance (Chapter 8.16 of the Cambridge, Massachusetts Municipal Code), as well as the provisions of Section 13.96.2 of the Ordinance, as applicable.

To confirm compliance with the MassDEP noise policy, during the design review process, MIT will undertake a survey of existing ambient noise levels that establish prevailing background sound levels. This survey will thereby define site-specific limits that, together with the fixed limits in the Cambridge Noise Control Ordinance, will apply to each building developed on the Development Parcel.

During design of each building, MIT will engage qualified acoustics and noise control consultants to advise on the noise mitigation measures necessary to comply with MassDEP and City of Cambridge noise limits, respectively. These measures may include strategic equipment selection and location, equipment noise barriers or screens, sound attenuation devices, or other measures necessary to confirm compliance.

The primary elements that contribute to sound generation within an urban development project such as this are mechanical equipment noise and building service and loading activities. Construction activity temporarily generates noise during the construction of buildings and infrastructure.

Construction activity noise is limited separately within the Cambridge Noise Control Ordinance.

Mechanical Equipment

The future design of individual buildings will include the selection and specification of major mechanical equipment and systems. Major equipment will be located in enclosed roof-top mechanical penthouses and lower-level (ground or second floor) mechanical service rooms, and appropriate sound attenuation measures will be incorporated to minimize the acoustic impact of this equipment. These enclosure and attenuation measures are expected to minimize the adverse impact of mechanical systems noise generation.

Service and Loading Activities

Building loading and service areas are planned to be located off-street, at ground-level, internal to the building footprint. Loading bays will not impinge upon adjacent sidewalk and roadway right-of-ways and service traffic will be managed to avoid adverse impact on local traffic circulation. The incorporation of internal loading and service bays will minimize associated noise impacts.

Construction Activity

Construction activities associated with the individual buildings and site infrastructure

(underground utilities, roadways, and public realm landscape and hardscape features) will temporarily create an increase in noise levels emanating from the Development Parcel. Those activities that are likely to generate the highest levels of construction noise include demolition,

excavation and foundations. Generally, primary sound-generating construction activities will be limited to daytime hours. MIT will develop a series of mitigation measures, for both building- and infrastructure-related projects, in collaboration with the City.

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