H.
PHASING PLAN

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.

As shown on **Figure H1: Preliminary Phasing Plan**, the Final Development Plan is divided into the following three (3) phases:

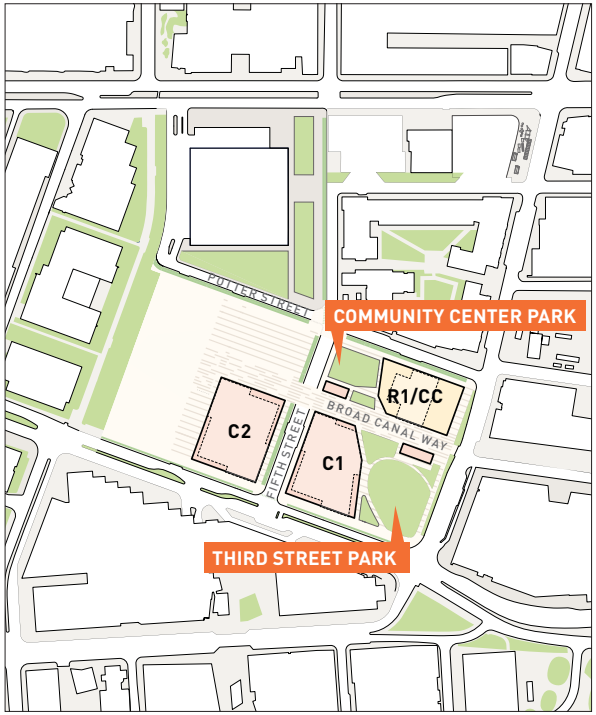
MIT expects to construct the Project over a 10- to 20-year period. The Final Development Plan is divided into the following three (3) phases:

- **Phase 1:** Phase 1 consists of Buildings C1, C2 and R1 (including the square footage of the Community Center).
- **Phase 2:** Phase 2 shall be comprised of Buildings C3, and R3.
- **Phase 3:** Phase 3 shall be comprised of Buildings C4, R4 and R2.

No building permit may be issued for building construction in either of Phases 2 or 3 until all building and associated facilities are under construction in Phase 1, and the commencement of substantial construction activity for R1 in Phase 1 shall be deemed to be a significant portion of the required residential GFA within the Final Development Plan. No Occupancy Permit may be issued for any building in either of Phases 2 or 3 until an Occupancy Permit for shell and core has been issued for all buildings in Phase 1 and all associated improvements in Phase 1 have been completed, except as provided below.

Phases 2 and 3 may be completed at any time after all buildings and associated facilities are under construction in Phase 1, including simultaneously, provided, however, that MIT shall not be entitled to obtain a Certificate of Occupancy for the last non-residential building (not including stand-alone retail kiosks) until it has commenced construction of any and all residential square footages required under 13.93.1(c)(1) of the Cambridge Zoning Ordinance.

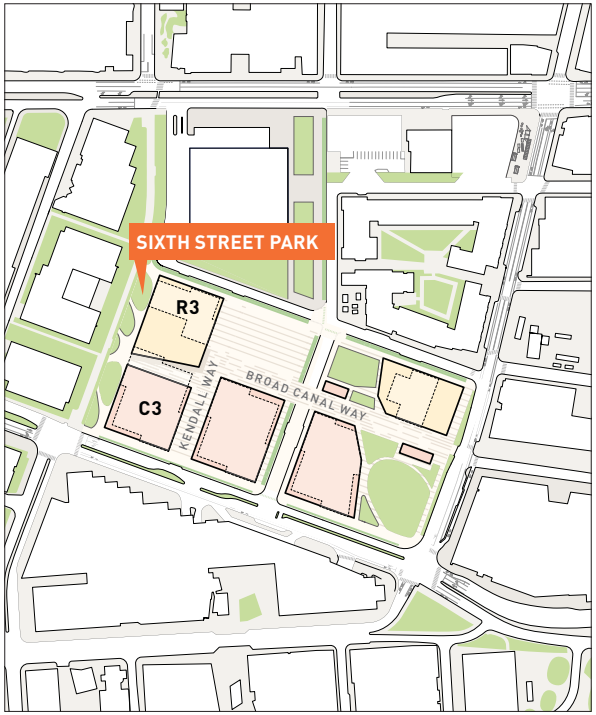
Each Phase shall consist of the buildings, Publicly Beneficial Open Space (including, without limitation, any Permanently Guaranteed Open Space situated therein), streets, utilities, and other physical improvements set forth in the Final Development Plan (as the same may be amended, and in the Design Review process) as being located on or immediately adjacent to and serving the Building Site upon which the particular Phase is being constructed. The issuance of a Certificate of Occupancy for a specific Building shall be subject to the completion of the Publicly Beneficial Open Space (including, without limitation, any Permanently Guaranteed Open Space), public improvements and mitigation associated with such Building, as specifically set forth in the Planning Board Decision on this Final Development Plan, with the exception that the delivery of improvements that may be disrupted during the construction of a future Phase of the development may be delayed until the completion of that future



PHASE ONE

Buildings C1, C2, R1/CC
Third Street Park, Community Center Park
Fifth Street south of Potter
Broad Canal Way east of Fifth Street
Potter Street

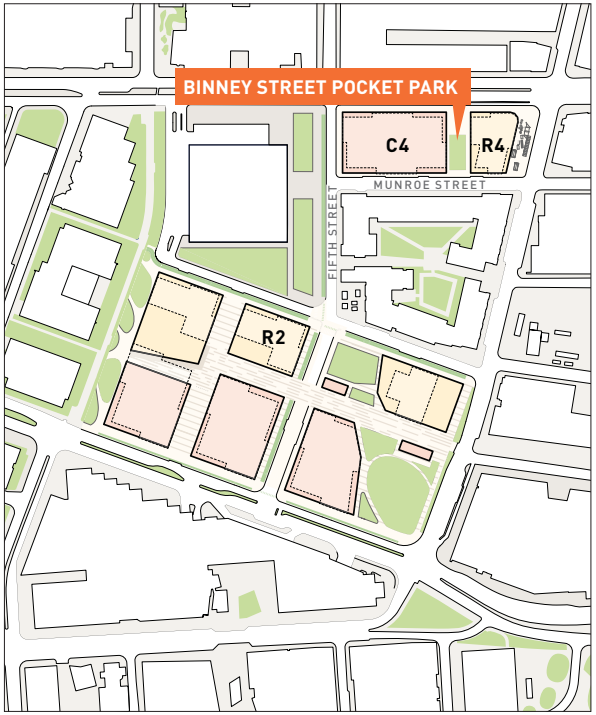
± 17% Residential
± 53% Commercial
± 69% Permanently Guaranteed Open Space
100% Community Center



PHASE TWO

Buildings C3, R3
Sixth Street Park
Broad Canal Way west of Fifth Street
Kendall Way

± 38% Residential
± 26% Commercial
± 20% Permanently Guaranteed Open Space



PHASE THREE

Buildings C4 R4, R2
Binney Street Pocket Park
Fifth Street north of Potter

± 45% Residential
± 21% Commercial
± 11% Permanently Guaranteed Open Space

Figure H1: Preliminary Phasing Plan

Phase of the Project, subject to written approval of the proposed interim condition by CDD and any other applicable City Department.

Construction of accessory parking facilities may precede the establishment of the uses that are served by such parking facilities, provided, however, that at no point in time shall the number of available accessory parking spaces exceed the maximum number authorized by the uses completed and occupied at that time. Wherever parking spaces have been constructed in excess of the number of spaces allowed for the authorized uses occupied at that time, such excess spaces shall be made physically inaccessible to users in a manner approved by TP&T.

The Project was conceived in a manner such that the build-out of one phase can limit interdependencies on other phases, and will satisfy all parking, infrastructure, stormwater management, and blackwater removal requirements on a phase-by-phase basis. MIT will work in a transparent manner to mitigate any possible impacts from necessary temporary conditions that arise given the scale and complexity of the interconnected systems. The phasing of all buildings will comply with Section 13.93.1(c)(3) of the Cambridge Zoning Ordinance to ensure delivery of housing units.

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 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.

I.
SUSTAINABILITY PLAN

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.

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. During the planning phase, MIT has studied feasibility and infrastructure requirements in order to accommodate future electrification at the building design level. Page 15 of the Green Building Report outlines a concept-level study of equipment and estimated mechanical space requirements to transition to electric commercial buildings. Analysis also included fundamental timing of potential electric upgrades if pursued after initial occupancy. At the Final Development Plan stage, MIT's design decisions allow for the potential for commercial buildings to be all electric once each building is fully designed.

Load sharing between complementary building

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

programs will be explored to maximize heat exchange and optimize energy performance of the development. As stated in the Green Building Report on page 10, a district or semi-district approach to energy supply could potentially reduce emissions associated with operations. To maximize energy savings and take advantage of complementary loads between different programs or building types, the design team will continue to explore, at planning and building phases, shared connections, either as a district or phased pairs of buildings to redistribute heat. This innovative approach aligns with electrification of the development while optimizing load sharing across buildings. Potential building connections for heat exchange will need to be better understood during the design of each building as efficiencies for internal heat recovery within each building improve. This approach, if found to be beneficial from an energy, carbon, and operations perspective, could be phased and integrated into the current plan.

Building energy efficiency will continue to be explored during each building's design. As captured in the envelope sensitivity studies in the Green Building Report, high performance envelope design is important for building energy performance as well as optimization for daylighting, views, thermal comfort, and visual comfort. When designed, building envelope systems will be optimized for these metrics. By combining insulated wall and spandrel areas with triple glazing, the buildings will incorporate high performance insulated envelope strategies, while balancing performance goals for daylighting, views, and visual comfort. During the individual building design process, other envelope performance criteria such as infiltration rate, frame assembly design, and window-to-wall ratio (WWR) will be studied for enhanced energy performance. Ultimately, envelope commissioning will be implemented to ensure assembly performance targets are achieved in construction.

Based on the analysis of all criteria, the masterplan team has established envelope performance targets for individual building's overall R-value, minimum glazing performance, and WWR targets in order to benchmark and study impacts of envelope, systems, and district strategies on energy performance. A summary of these baseline values and target performance ranges can be found in the Net Zero narrative template.

Furthermore, proposed on-site rooftop photovoltaic (PV) arrays, supplemented by procurement of off-site renewable energy, will help offset the development's electricity use and contribute to additional points under LEED's Energy and Atmosphere Renewable Energy and Green Power+ Carbon Offsets credits. During the building design phases, renewable energy systems for rooftops will be studied in line with Cambridge's amendment to Article 22.30 Green Roofs to include

for 80% of non-mechanical or non-occupied roof area, green roof or solar energy systems. During the building design process, MIT will determine if green roof or solar rooftop PV would be a preferred application. Alongside on-site renewables such as PV, MIT is committed to transition to a carbon-neutral investment portfolio and will offset the entirety of the Volpe development's remaining operational carbon emissions annually.

Beyond operational carbon, MIT looks to reduce total carbon impacts of development projects, including embodied energy. Looking at other project precedents and building material life cycle analysis where applicable, the design team will identify construction materials to prioritize for embodied energy reductions. Applying previous lessons learned at the master planning stage of the Volpe project, the team indicated areas where future optimization of embodied energy could be beneficial. Using data from sample northeast regional projects currently in design, MIT identified priority areas of building construction – including superstructure, substructure, enclosure, and interiors (where applicable) as potential opportunities for material embodied carbon reductions. Further study will focus in design phases on opportunities to identify building elements driving embodied carbon emissions with substitution of materials to reduce embodied carbon.

MIT has made a commitment to offset all remaining embodied carbon from construction of the development, as a step towards a carbon-neutral investment portfolio. This commitment is described in a recently released MIT report entitled Fast Forward: MIT's Climate Action Plan for the Decade.

Ultimately, MIT is committed to holistically reducing operational carbon and embodied carbon in building design and construction.

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. Recycled water will be diverted to cooling towers for makeup water reuse, significantly reducing process water demands. Alternative strategies will be studied for reduction of building water use where feasible during building

design to exceed LEED minimum requirements. Any additional availability of reuse water will be studied for applications such as irrigation (green roof or site water) or flushing, if available.

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.

As discussed in the Green Building Report on page 17, energy storage strategies will continue to be explored as part of the building design, including how they may be incorporated in a holistic all-electric system. Energy storage systems, especially battery type storage, could be phased into excess below grade spaces if the uses allow. As energy storage technologies improve, opportunities may arise as program needs and uses change in buildings or within the site. Ideally, incorporating energy storage could also pair with advancements in solar renewable technologies to generate clean energy to be stored. The team continues to evaluate infrastructure needs to accommodate future flexibility in below grade spaces.

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.

Likewise, each building design will study feasibility of WELL and or Fitwel certifications, where applicable, to benchmark incorporated wellness strategies for healthy building design.

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.

Social equity has been a fundamental driver of the Volpe development design. MIT is exploring equity metrics to benchmark success of an inclusive design process, construction process, and ultimately, a diverse, welcoming neighborhood. Some of these may align with LEED Innovation credits or other equity benchmarking systems.

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 that can be done with what is known 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 property and equipment 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 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

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.

On January 20, 2021, MIT submitted a Transportation Demand Management (TDM) Plan to the City's PTDM officer who provided a Draft Finding on March 18, 2021. MIT will submit a Final PTDM plan to the City in the coming weeks. 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. The PTDM plan was developed to satisfy the requirements of the City's Parking and Transportation Demand Management (PTDM) ordinance.

Employee-related TDM programs will be available to employees of commercial tenants regardless of land use. Several TDM programs and alternative mode accommodations will also be utilized by patrons of the retail tenants. The requirement for tenants to offer the PTDM programs to their employees and visitors, as well as participate in monitoring requirements will be incorporated into the tenant lease language.

Below is a summary of MIT's TDM measures (details for each will be included in the PTDM Plan):

1. Designation of employee transportation coordinator/s
2. Marketing and Promotion of TDM programs
3. Coordination with the Cambridge Office of Workforce Development and availability of Job Connector
4. Membership in the Charles River TMA with access to the following services:
    a. EZ Ride Shuttle Service
    b. Ride matching
    c. Emergency Ride Home
    d. Carsharing Program
5. Office/R&D employees will have access to a range of subsidy options, including up to 100% for transit, 50% for vanpool, $90 monthly payment, Gold Level Bluebike membership – depending on how much the tenant companies decided to charge their employees for parking.

Parking charge has to be a minimum of 50% market rate, with no free parking allowed.

6. Pre-Tax funds
7. Retail/Restaurant, Entertainment, Community Center Patron TDM Measures
8. Bicycle and Pedestrian Programs
    a. Bicycle and walking options information
    b. Short-term and long-term bicycle parking
    c. Access to showers and changing rooms
    d. Contribution of $138,150 towards the purchase and installation of two 27-dock Bluebike stations
    e. Bluebike valet area
    f. Air/bike repair stand
    g. Electrical outlets in bike rooms
9. Flexible work schedules
10. Parking supply management
    a. Shared parking
    b. Carpool/vanpool dedicated preferential spaces
    c. Dedicated Electric Vehicle charging stations

MIT, in coordination with TP&T, has developed a robust transportation mitigation plan that aims to offset the Project's impacts on transportation systems. The proposed mitigation accounts for the proposed scale and phasing of development and the limitations on system capacity to accommodate new vehicle, transit, and other trips. Highlights of the mitigation plan are noted below:

1. Two 27-dock Bluebike stations
2. Space for a Bluebike valet
3. Bike fixit stations in bike room and near clusters of short-term bike parking
4. Complete 100% design plans and reconstruction of both sides of Binney Street between 6th St and Third St
5. Design and construct Binney St / Fifth St. intersection with turn lanes, crossings and signalization (if warranted)
6. Design and construct separated bike lanes on Fifth St. between Binney St and Broadway[8]
7. Design and construct ped/bike connection from Potter St to Kittie Knox Path/Sixth Street walkway
8. Share the cost of completing 100% design plans and reconstruction of Broadway (including both sides of Broadway between

[8] Subject to the receipt of any necessary rights from the owners of 303 Third Street.

Ames St and Third St)

9. Design and construct a pedestrian crossing near the intersection of Broadway / Kendall Way / Green Garage Signalize with a Rectangular Rapid Flash Beacon (RRFB)

10. Design and construct left turn lane from Broadway to Fifth St. (include signalization if warranted)

11. Design and construct crossing for improved connection to Kendall Sq T Station; Signalize with RRFB

12. Upgrade traffic signal equipment at Binney St./Third St. intersection to accommodate cycle tracks

13. Reconstruct Munroe St. between Fifth St. and Third St.

14. Share the cost (with BioMed) of completing 100% design plans and reconstructing Third St. between Binney St. and Broadway

15. Design and construct a two way cycle track on Potter Street between Third St and Volpe GSA driveway

16. Install a new traffic signal at Potter St/Third St intersection, including dedicated northbound left lane on Third St and crosswalks at approaches

17. Install crosswalks and signage at intersection of Third St at Broad Canal Way

18. Upgrade traffic signal equipment at Broadway/ Third Street intersection to accommodate cycle tracks

In addition to these mitigation measures, MIT will contribute approximately $8.5 million towards transit improvements (Section 13.96.6(a)(1) of the CZO) and make an $8.5 million contribution towards Grand Junction Path design and construction (Section A of the PUD-7 Commitment Letter).

K.
ENVIRONMENTAL COMFORT PLAN

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. As shown in **Figures K1-K4**, 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 wind tunnel testing was conducted before the Community Center was moved into the base of building R1 and the massing of C1 was reduced to expand the footprint of the Third Street Park. However, these changes will not change the general wind conditions projected. In addition, 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 and additional wind evaluation will be provided at design review for each building if required.

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.

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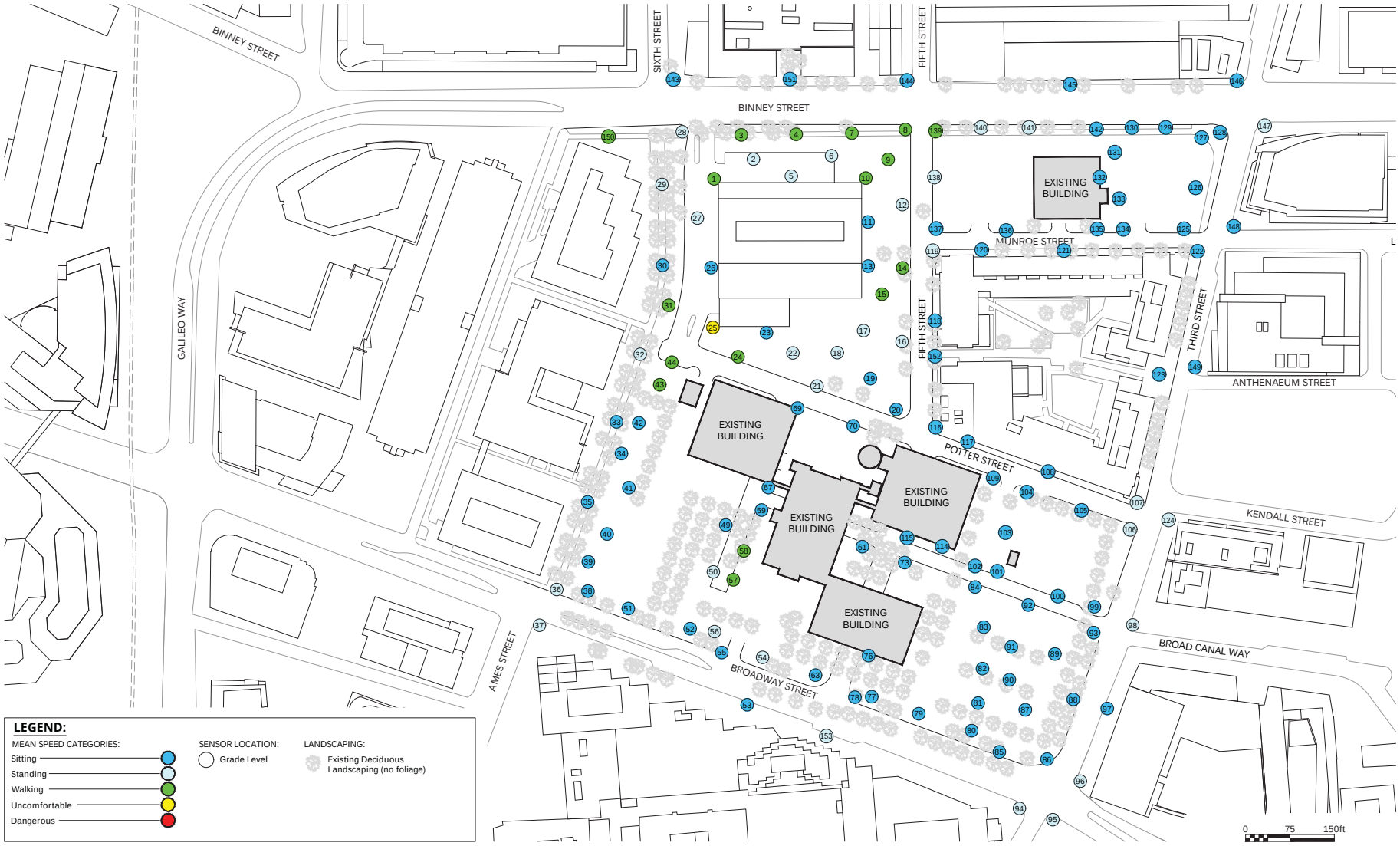


Figure K1: Pedestrian Wind Conditions Mean Speed - Existing

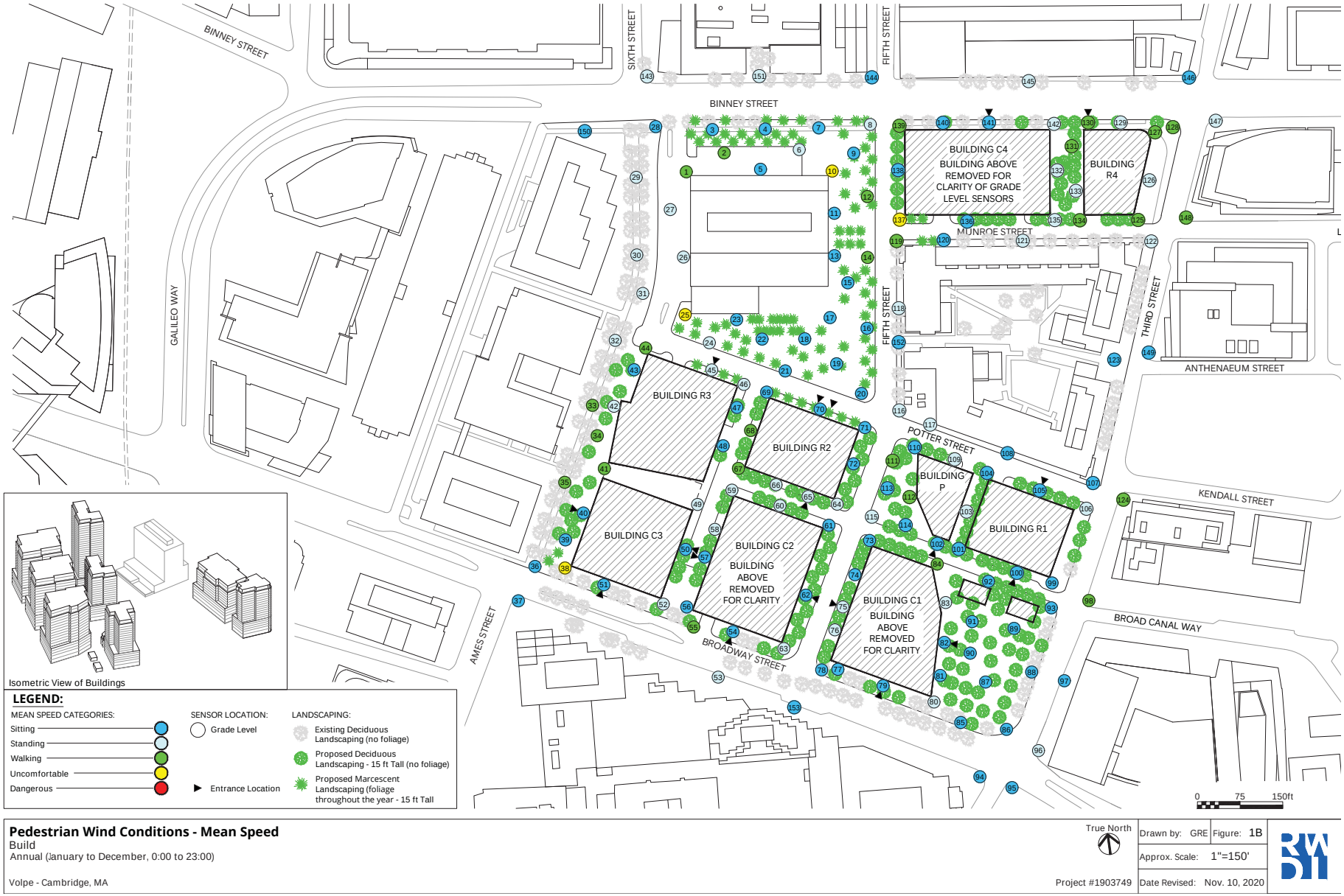


Figure K2: Pedestrian Wind Conditions Mean Speed - Proposed

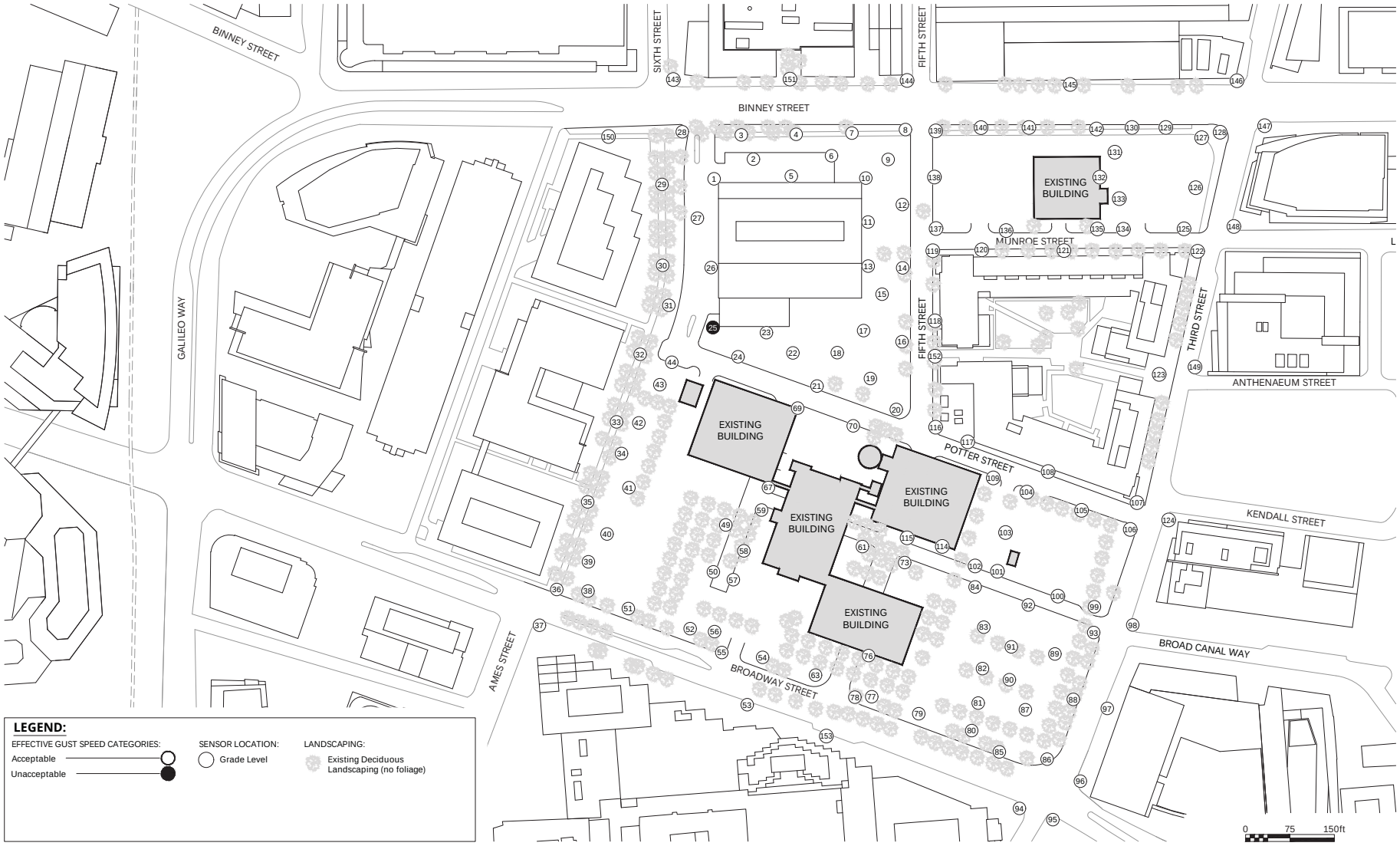


Figure K3: Pedestrian Wind Conditions Effective Gust Speed - Existing

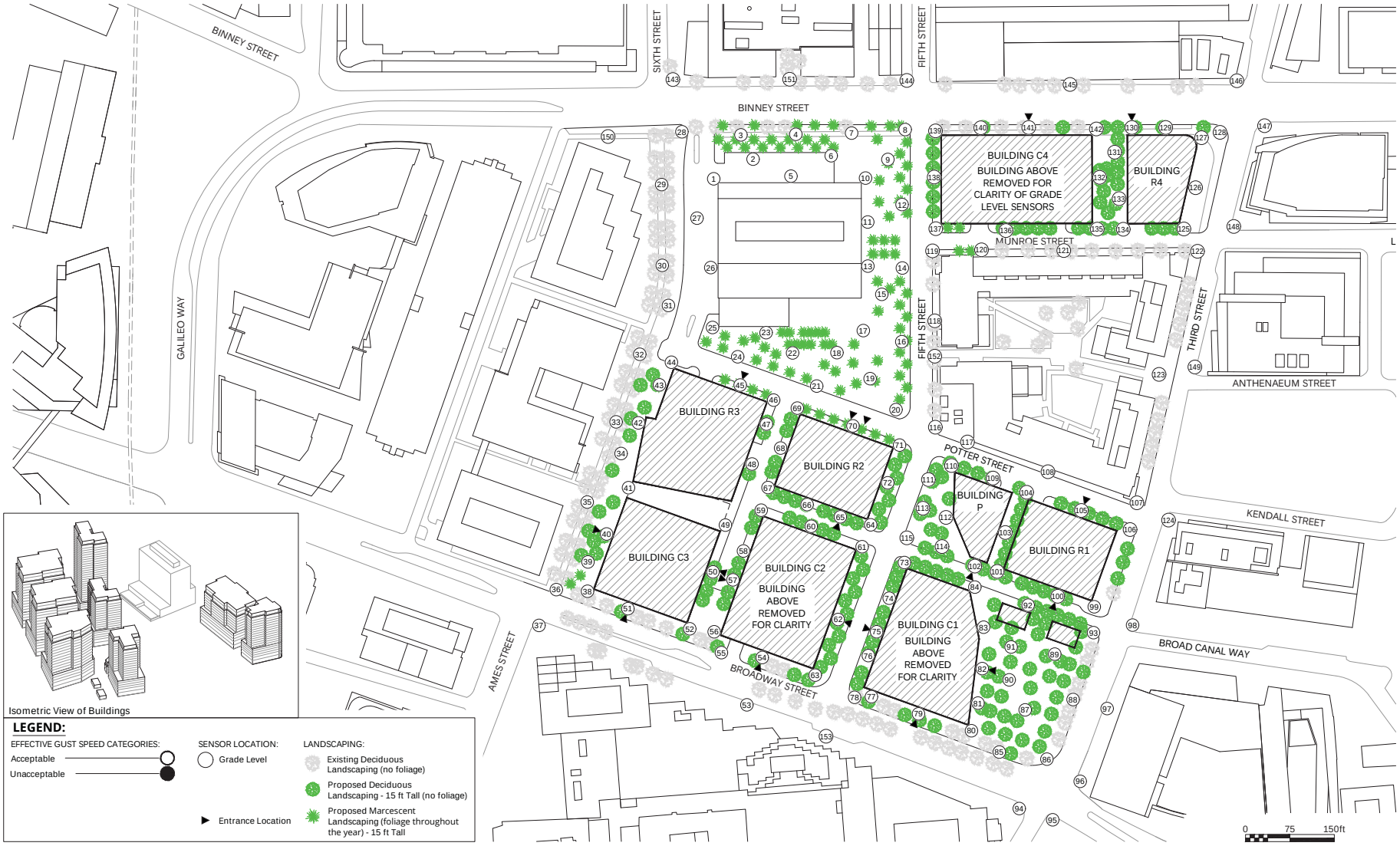


Figure K4: Pedestrian Wind Conditions Effective Gust Speed - Proposed

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 including the US DOT Volpe Exchange Project. **Figures K5-K10** 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 is considered 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.

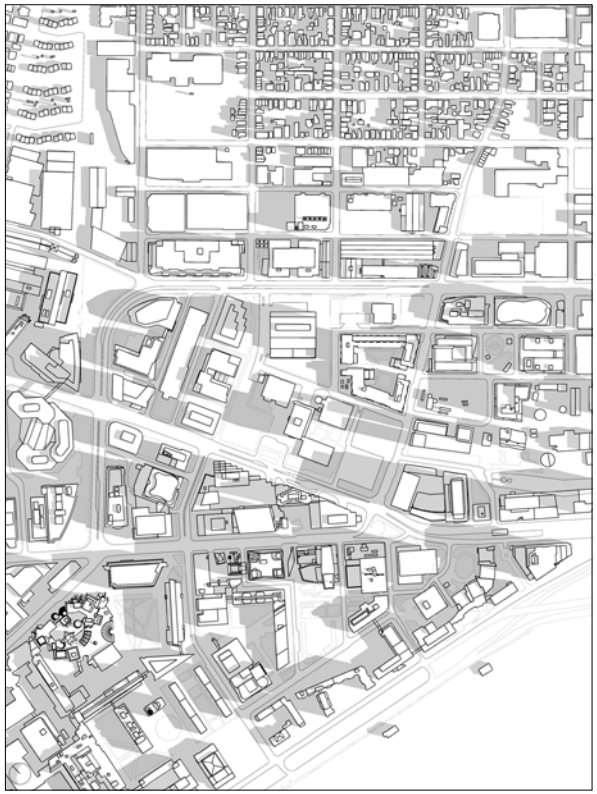
Spring / Fall Equinox (March 21 and September 21)

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 but the integration of the Community Center into R1 and the reduction of massing on R1 have reduced the impact since the Development Proposal Application. 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 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 on the west sidewalk of Third Street. The reduction of R1 and C1 massing eliminates new shadow on the east sidewalk of Third Street cast by those buildings. 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.

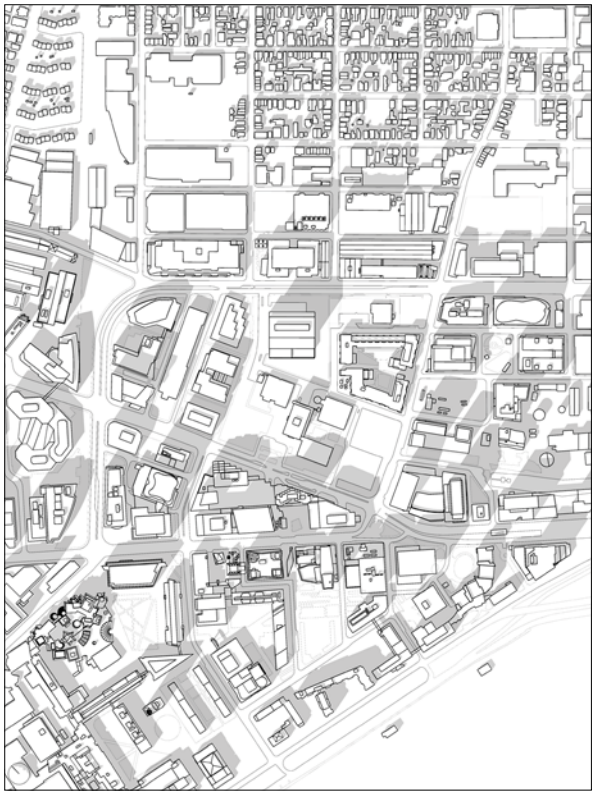
Summer Solstice (June 21)

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 Exchange Project but the integration of the Community Center into R1 and the reduction of massing on R1 have reduced the impact since the Development Proposal Application. 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. The reduction of R1 and C1 massing eliminates new shadow on the east sidewalk of Third Street cast by those buildings.



9 AM

12 PM



3 PM

Figure K5: Shadow on Spring/Fall Equinox - Existing

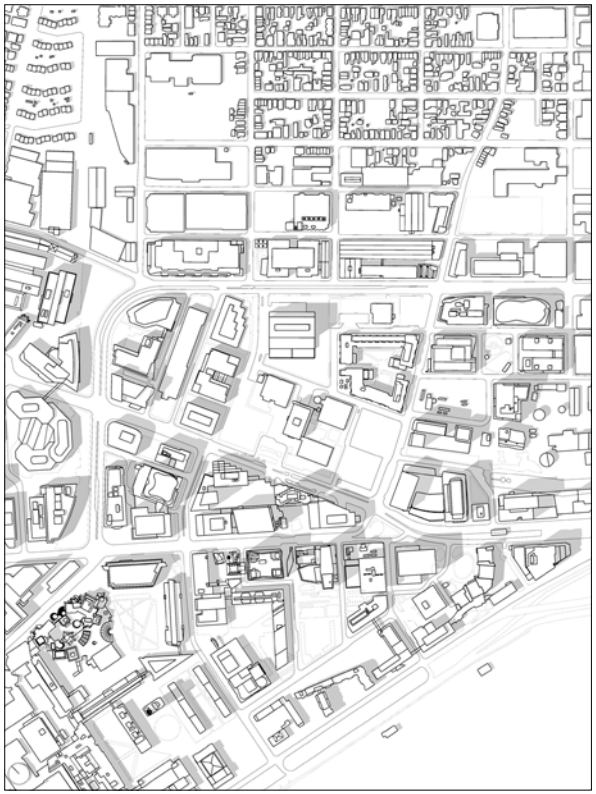
9 AM **12 PM** **3 PM**

NEW NET SHADOW

Figure K6: Shadow on Spring/Fall Equinox - Proposed

9 AM

12 PM



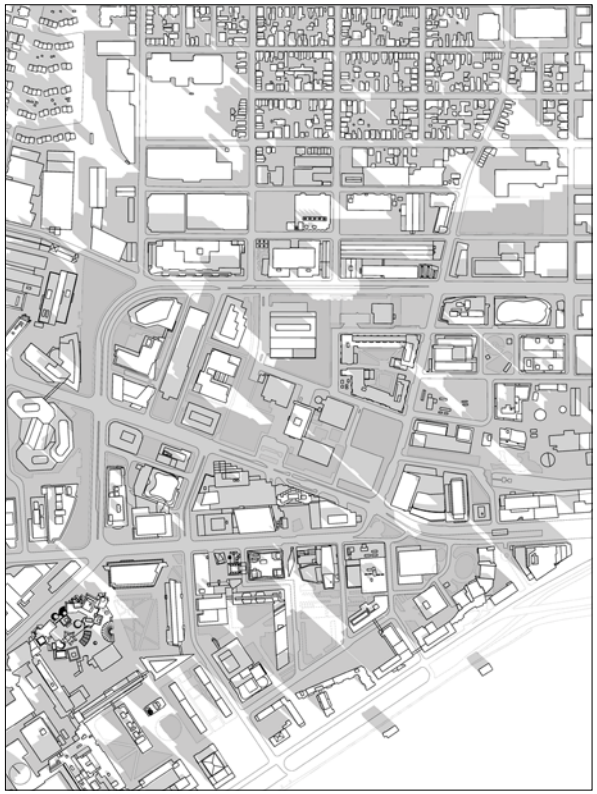
3 PM

Figure K7: Shadow on Summer Solstice - Existing

9 AM **12 PM** **3 PM**

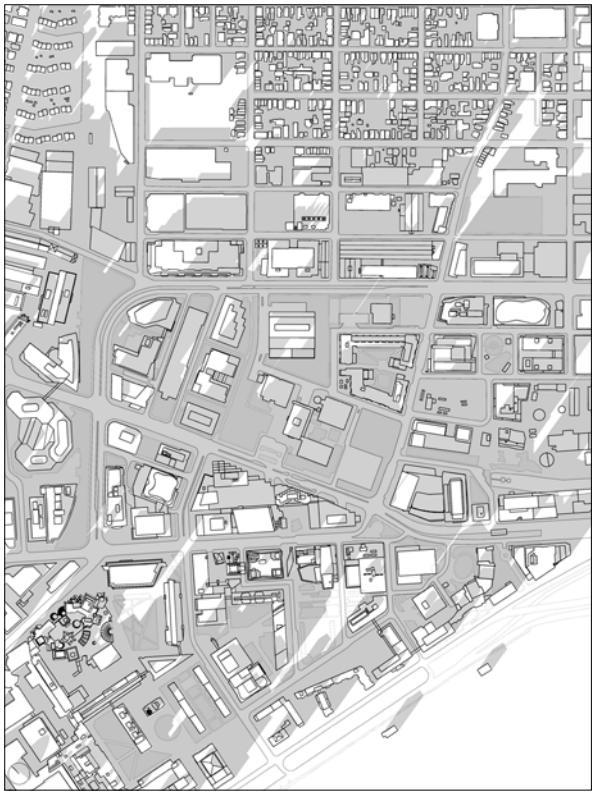
NEW NET SHADOW

Figure K8: Shadow on Summer Solstice - Proposed



9 AM

12 PM



3 PM

Figure K9: Shadow on Winter Solstice - Existing

9 AM **12 PM** **3 PM**

NEW NET SHADOW

Figure K10: Shadow on Winter Solstice - Proposed

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. During the building design phases, renewable energy systems for rooftops will be studied in line with Cambridge's recent amendment to Article 22.30 Green Roofs to include Green Roof Area, Biosolar Green Roof Area or Solar Energy Systems, as required for residential

and non-residential buildings, on at least 80% of the roof area of each building, after excluding those portions of the roofs identified in Section 22.35.2 of the CZO, including mechanical areas. During the building design process, MIT will determine if Green Roof Area, Biosolar Green Roof Area or Solar Energy Systems are the preferred application. 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.

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L.
ARCHITECTURAL CHARACTER PLAN

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, Community Center Park, and to the Volpe Art Lawn and the New Volpe Center. The reduction in footprint of C1 and the relocation of the Community Center into the podium of R1 significantly enhances this view corridor.

Similarly, the introduction of Fifth Street, connecting Binney Street to Broadway, will provide a tree-lined street 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.

The proposed plan now includes four distinct open spaces:

- Third Street Park
- Community Center Park
- Sixth Street Park
- Binney Street Pocket Park

Open Space

The Project's parks, squares, pocket parks, passages and streets will provide opportunities for active and passive use for a diverse population. The new Third Street Park is approximately one acre in size and 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.
- Pocket parks 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.

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. When adjacent to a cycle track, the furnishing zone also serves as a buffer between pedestrians and cyclists.
- **Cycle Track:** designed per City standards, the cycle track will be dedicated for cyclist travel.
- **Buffer:** providing a safe space between the cycle track and the vehicular parking/travel lane.
- **Short-term on street parking/active curb zone:** 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.

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 – intimate, 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 side of R1 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.

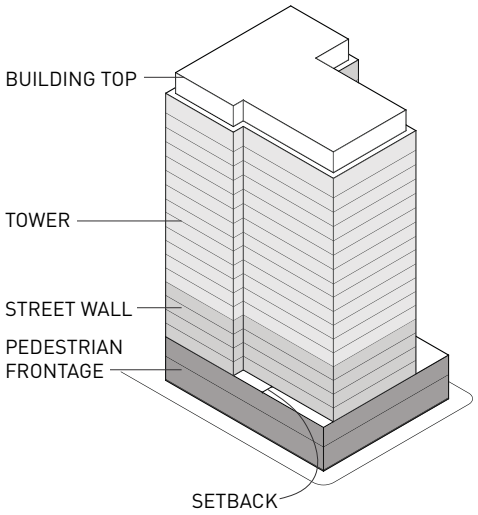
Building Form

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.

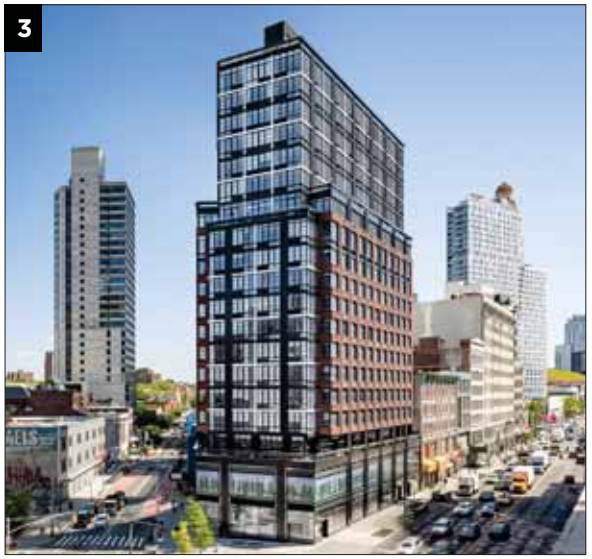
- **Streetwall:** Floors within this zone may utilize less overall transparency than the pedestrian frontage zone, as they reflect the specific functional use of the overall building and define the urban scale of streets and open spaces.

- **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



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

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.

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

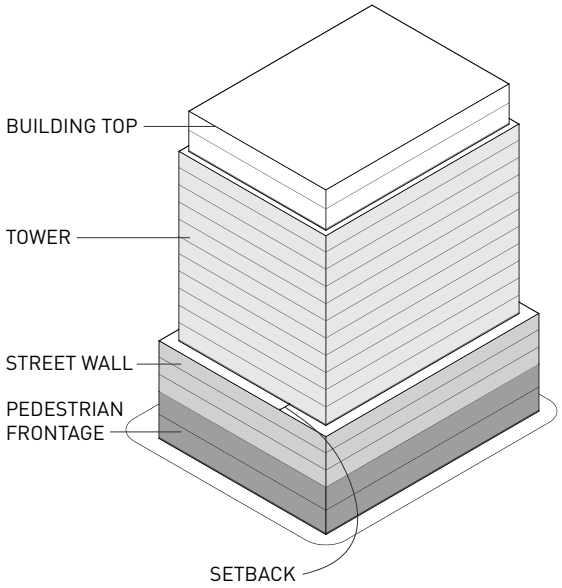
As shown in **Figure L1: Architecture Character - Residential**, Residential building architecture will reflect the private nature of individual homes and residential spaces, emphasizing a lower window-to-wall ratio and a diversity of fenestration patterns, responding to unit organization and solar orientation. 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, may 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. As shown in **Figure L2: Architecture Character - Commercial**, 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 incorporated into the base of the R1 residential building, located at the heart of the district, adjoining public open space to invite and encourage use by the community. The architecture of this base in terms of configuration, formal expressiveness and transparency, will reinforce this welcoming invitation and sense of inclusiveness. 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



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

and outside. The architecture will be open, free of barriers, welcoming and a celebration of community.

Context

As indicated in **Figure L3: Architecture Character - Context**, the context of Kendall Square includes the historic stone and masonry buildings of manufacturing and warehouse, the academic research builidngs of MIT and the contemporary buildings of science and innovation. The context is defined by diversity, invention and high quality.

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.

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

- 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.

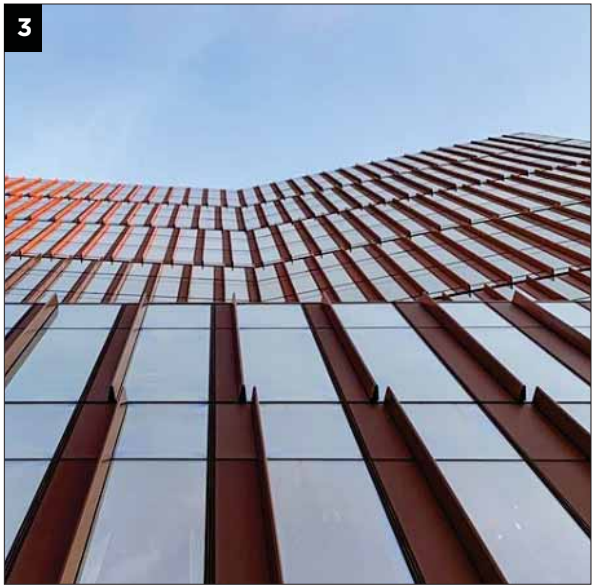
Building Orientation

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. **Figure L4: Architecture Character - Solar Control Precedents** depicts ways in which a building's facade might respond to solar orientation. 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
- design direction across eight buildings will contribute to the design narrative 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.



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

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 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 and landscape 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 shown in **Figures L7 to L14** and a fuller document incorporating other important planning aspects of the Project from this Final Development Plan will be included in the Design Guidelines.

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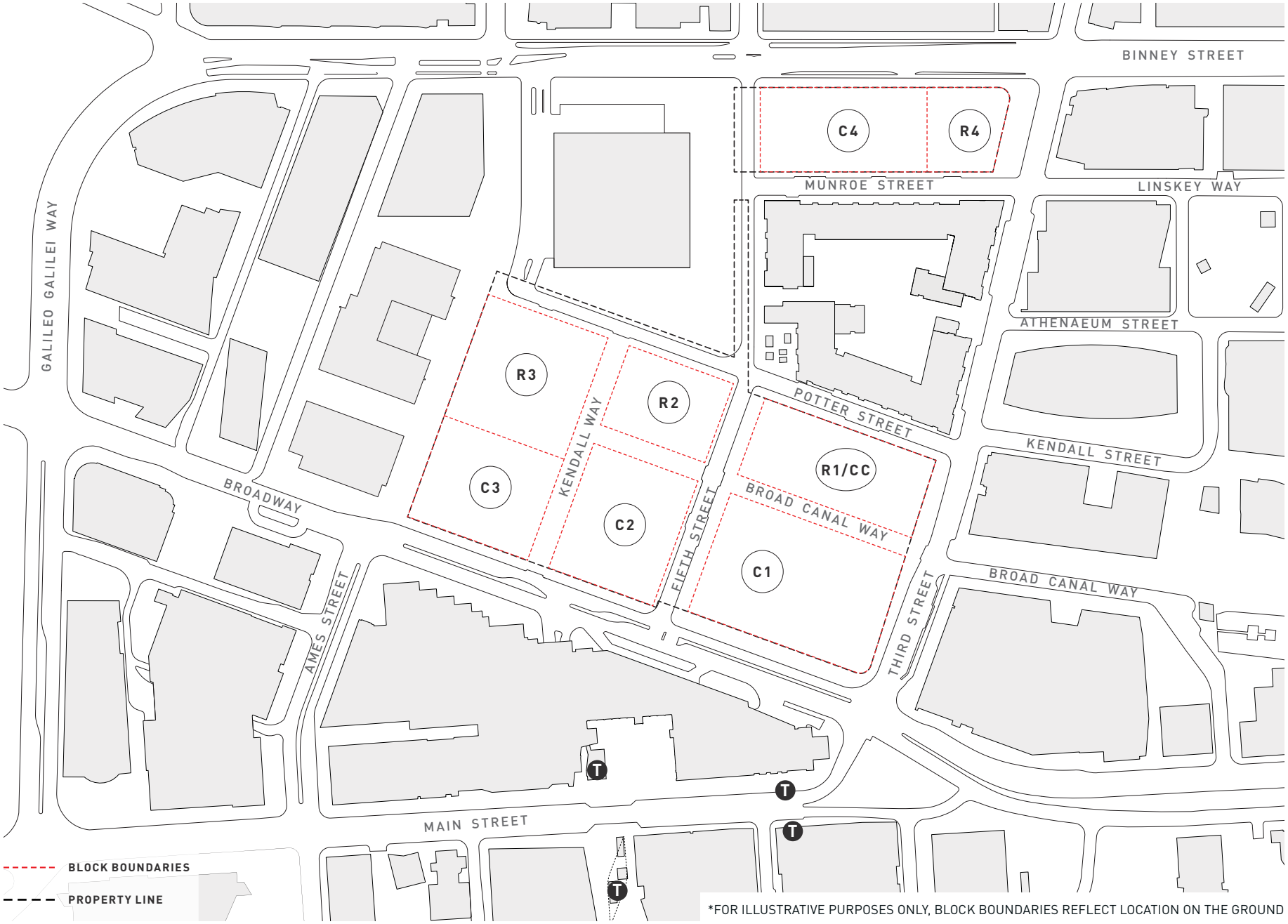


Figure L5: Site Development Plan - Block Plan

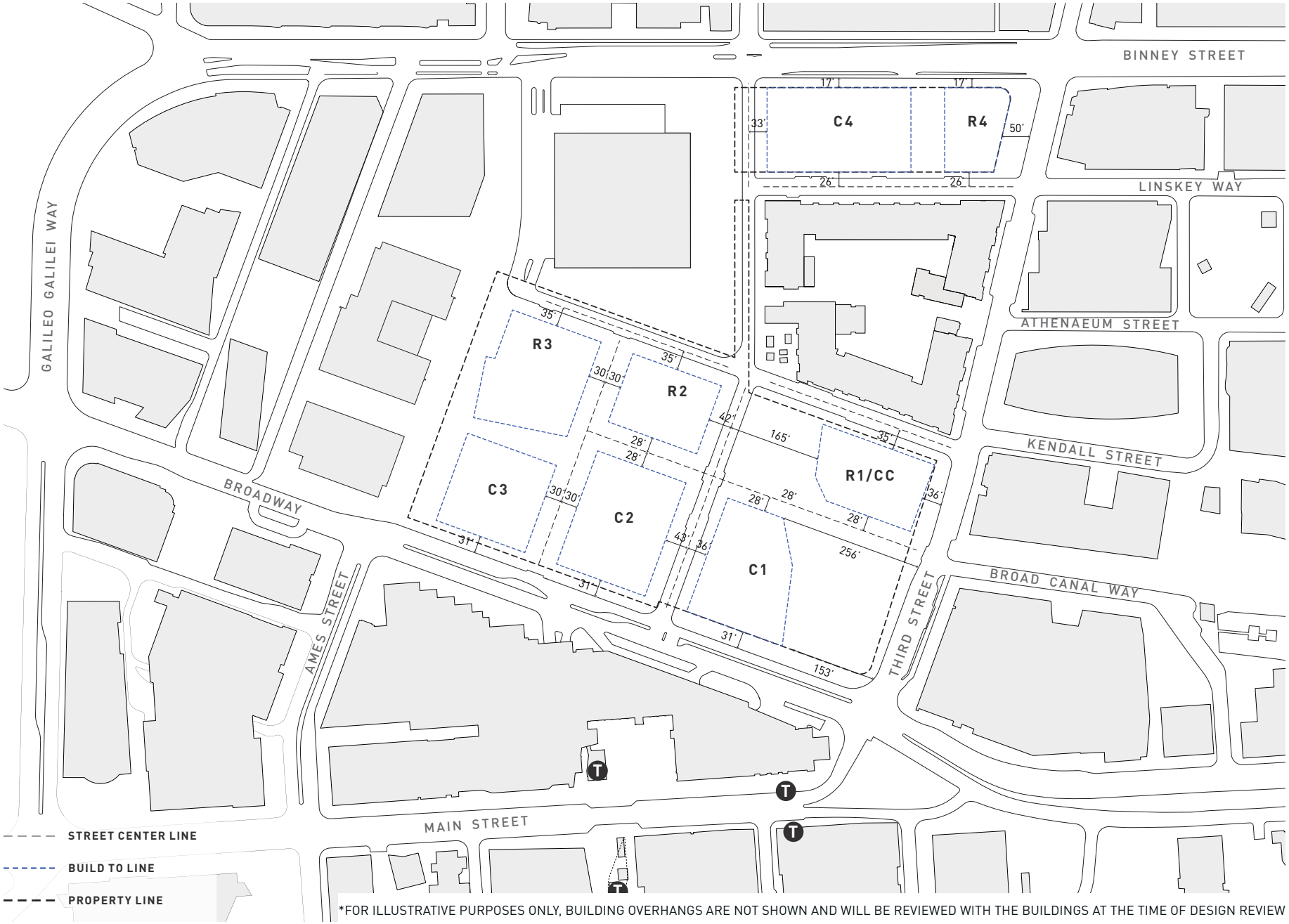


Figure L6: Site Development Plan - Build to Line

Block R1/CC

Approximate GFA	**:**	**175,000 - 225,000 SF**
Maximum height	**:**	**250FT (and with conditions up to 500FT)**
Use	**:**	**Residential, Retail and Communiity Center**

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

- The tower massing for Building R1/CC should recognize that it 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 appropiate in height and compositional scale with other buildings along Third Street.
- The design should recognize that R1/CC abuts the public open space at Third Street and Broadway.
- 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.
- The street level at Community Center Park may be operable to connect interior uses with the park.

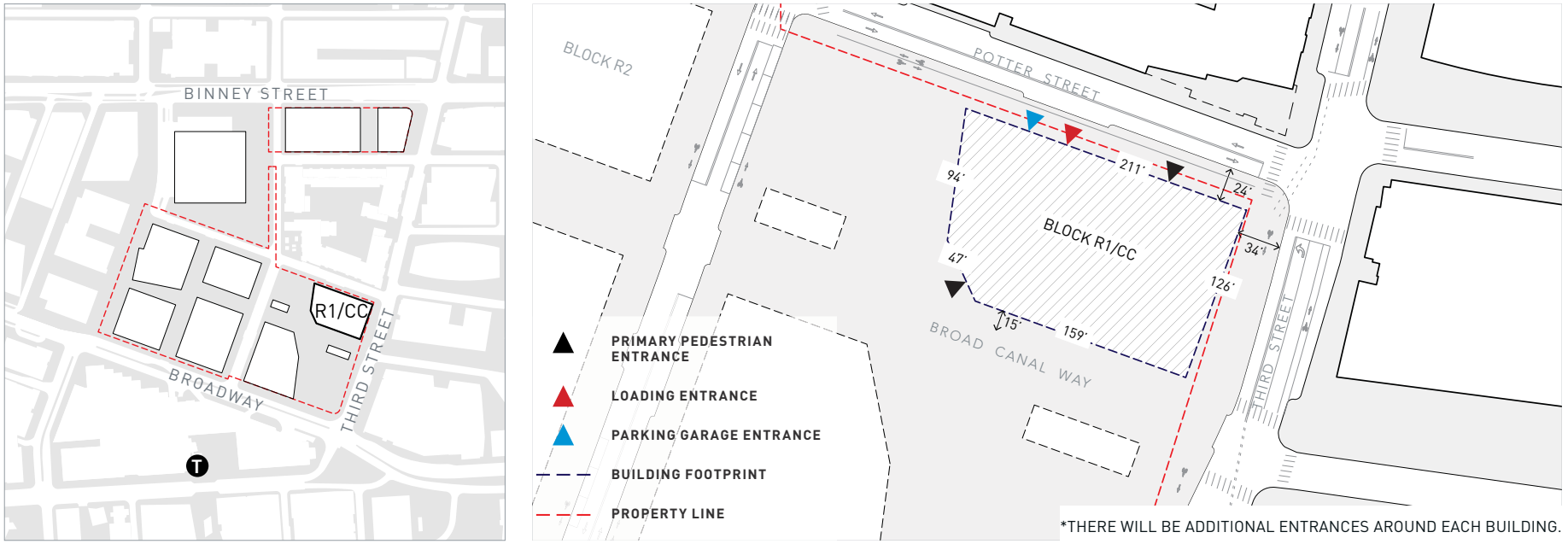
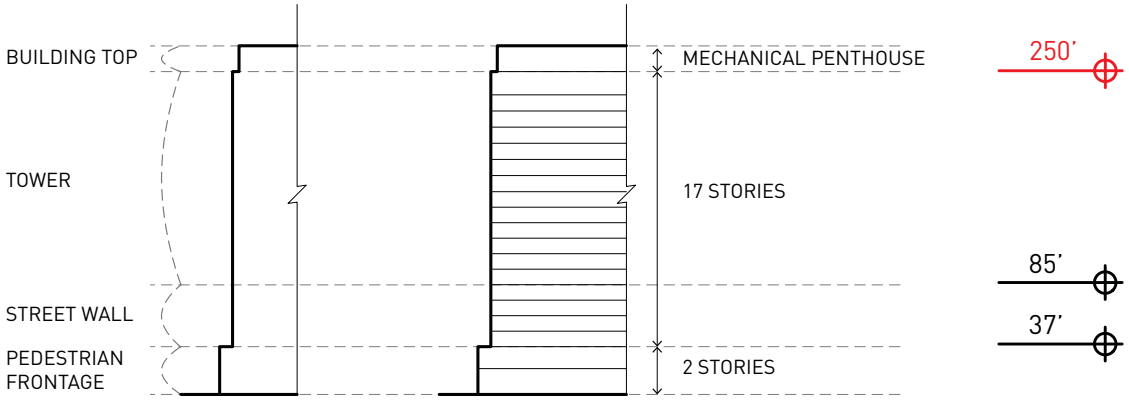
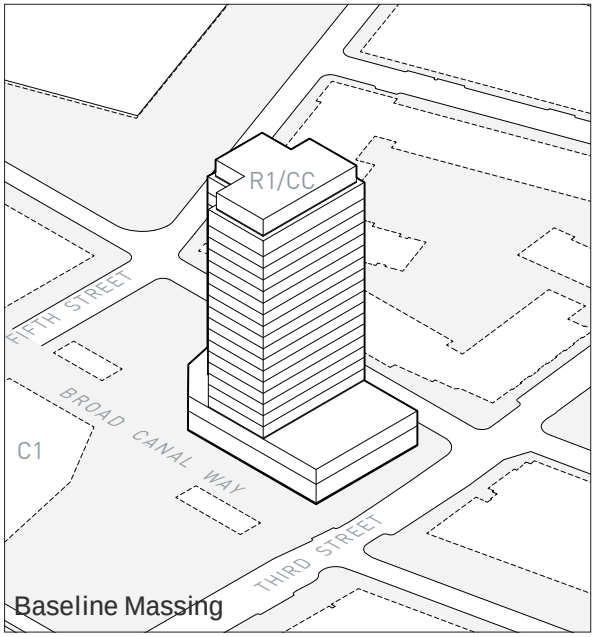
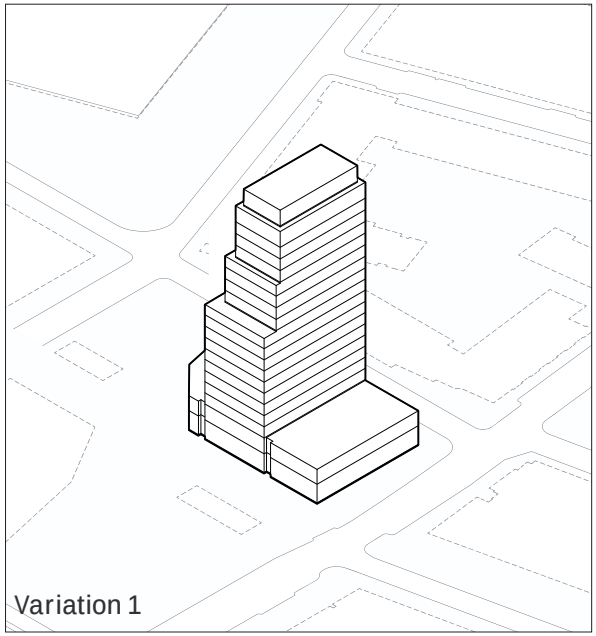
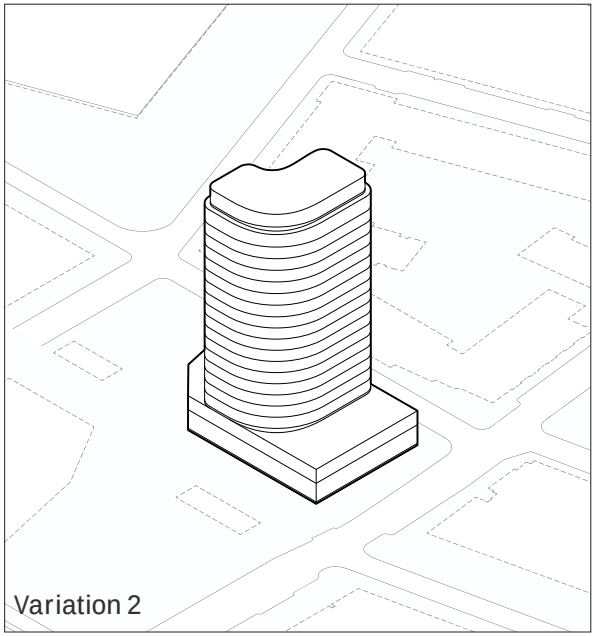


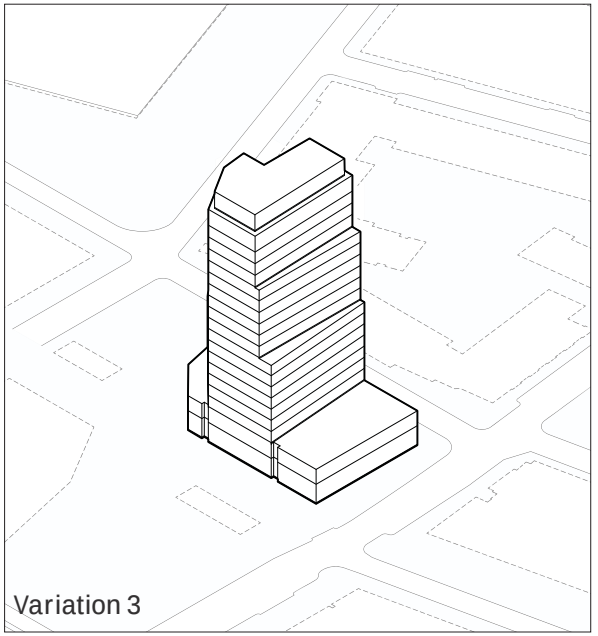
Figure L7: Block Guidelines - R1/CC


BUILDING TOP
TOWER
STREET WALL
PEDESTRIAN FRONTAGE
MECHANICAL PENTHOUSE
17 STORIES
2 STORIES
250'
85'
37'


R1/CC
FIFTH STREET
BROAD CANAL WAY
C1
THIRD STREET
Baseline Massing


Variation 1


Variation 2

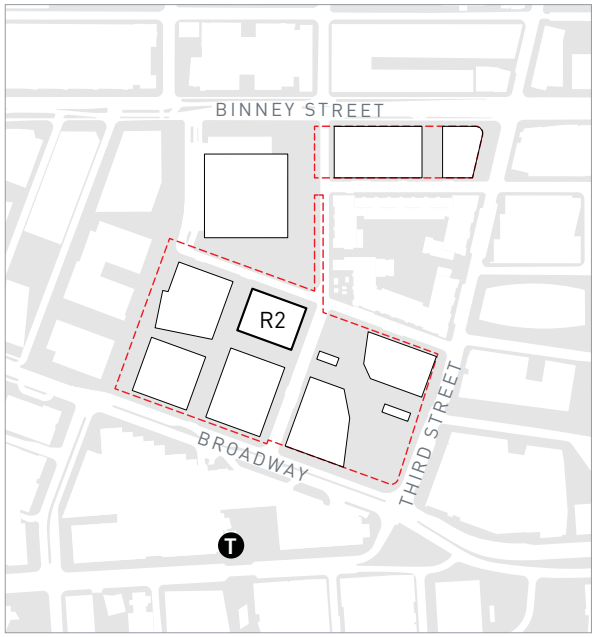

Variation 3

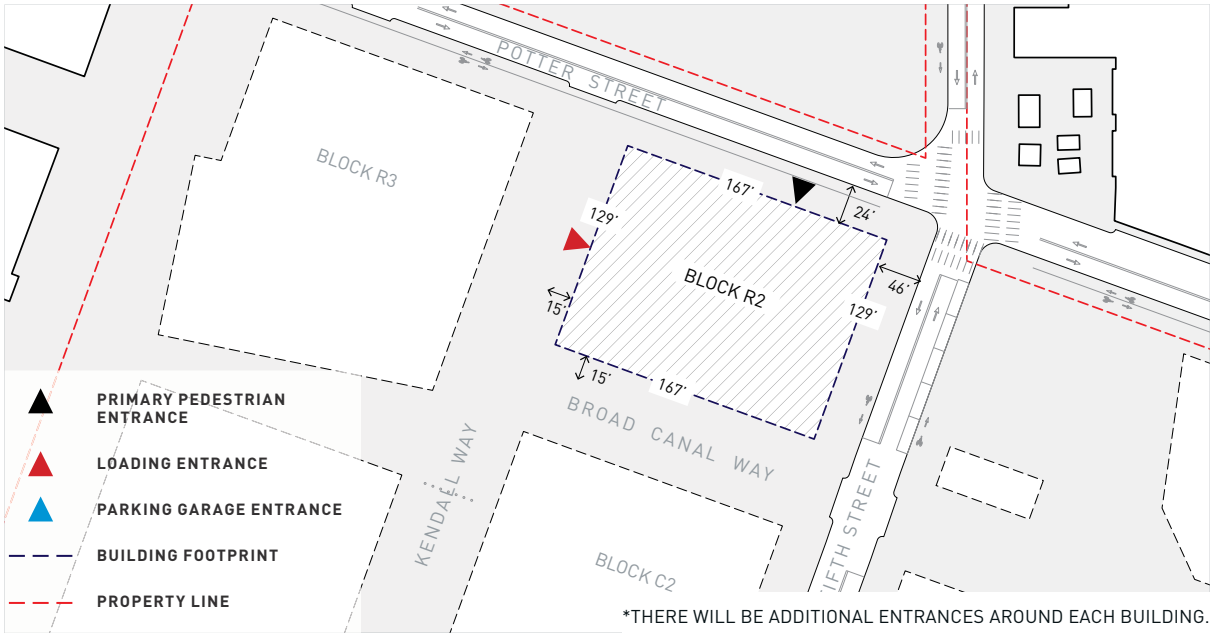
Block R2

Approximate GFA	**:**	**275,000 - 325,000 SF**
Maximum height	**:**	**250FT (and with conditions up to 500FT)**
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.

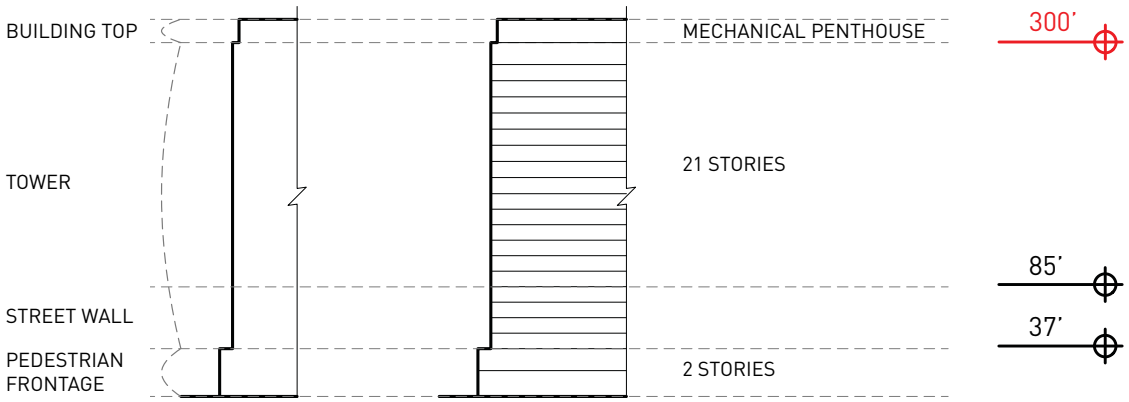
- The relationship between Buildings R2, C2 and R3 will be carefully studied. Consider tower setbacks from the streetwall along Broad Canal Way and Kendall Way to maintain distance from adjacent towers to maximize daylight and views.
- The design should recognize that R2 abuts Fifth Street and the public open space in front of the Community Center.
- 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.

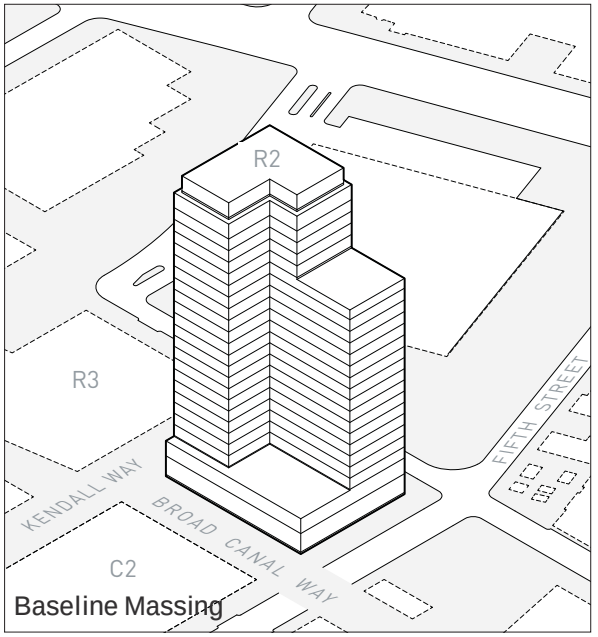


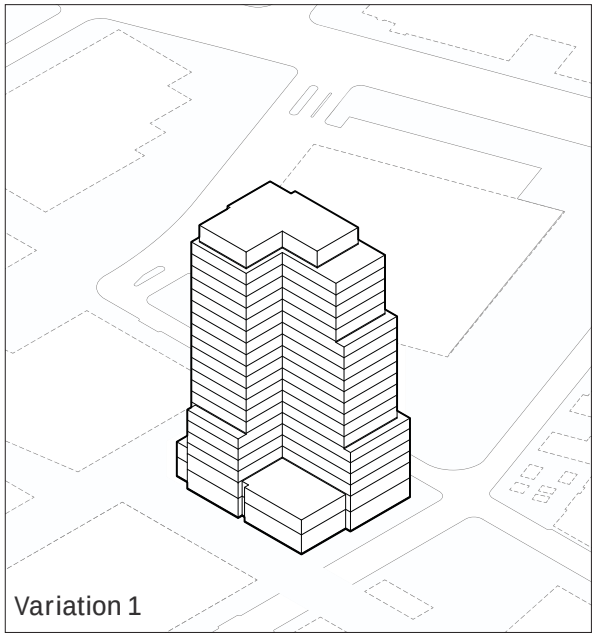


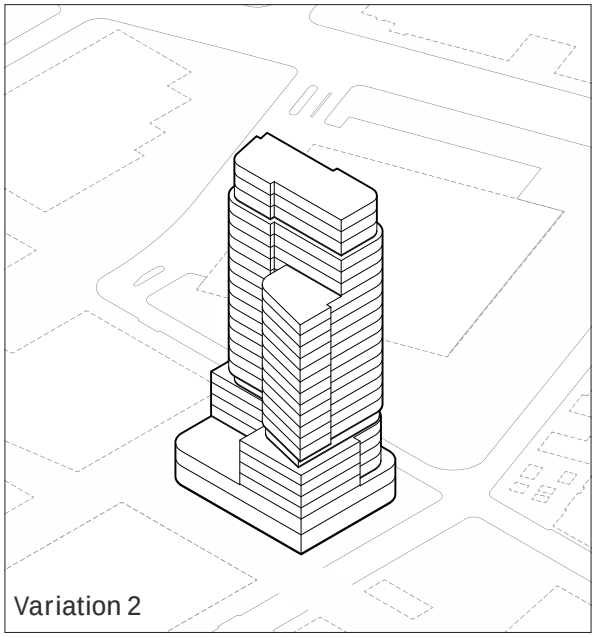
*THERE WILL BE ADDITIONAL ENTRANCES AROUND EACH BUILDING.

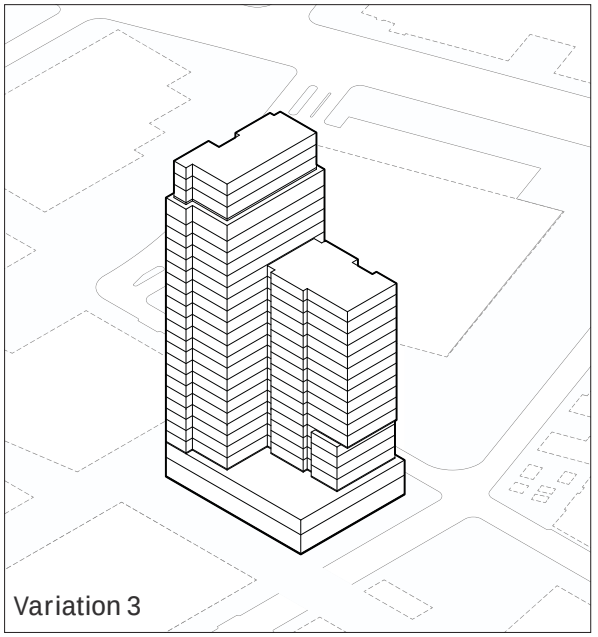
Figure L8: Block Guidelines - R2


BUILDING TOP
MECHANICAL PENTHOUSE
300'
TOWER
21 STORIES
85'
STREET WALL
37'
PEDESTRIAN
FRONTAGE
2 STORIES


R2
R3
C2
KENDALL WAY
BROAD CANAL WAY
FIFTH STREET
Baseline Massing


Variation 1


Variation 2


Variation 3

Block R3

Approximate GFA	**:**	**400,000 - 450,000 SF**
Maximum height	**:**	**250FT (and with conditions up to 500FT)**
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 Loughrey Walkway to the south.

- The relationship between Buildings R3, C3 and R2 will be carefully studied. Consider tower setbacks 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 Loughrey 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.

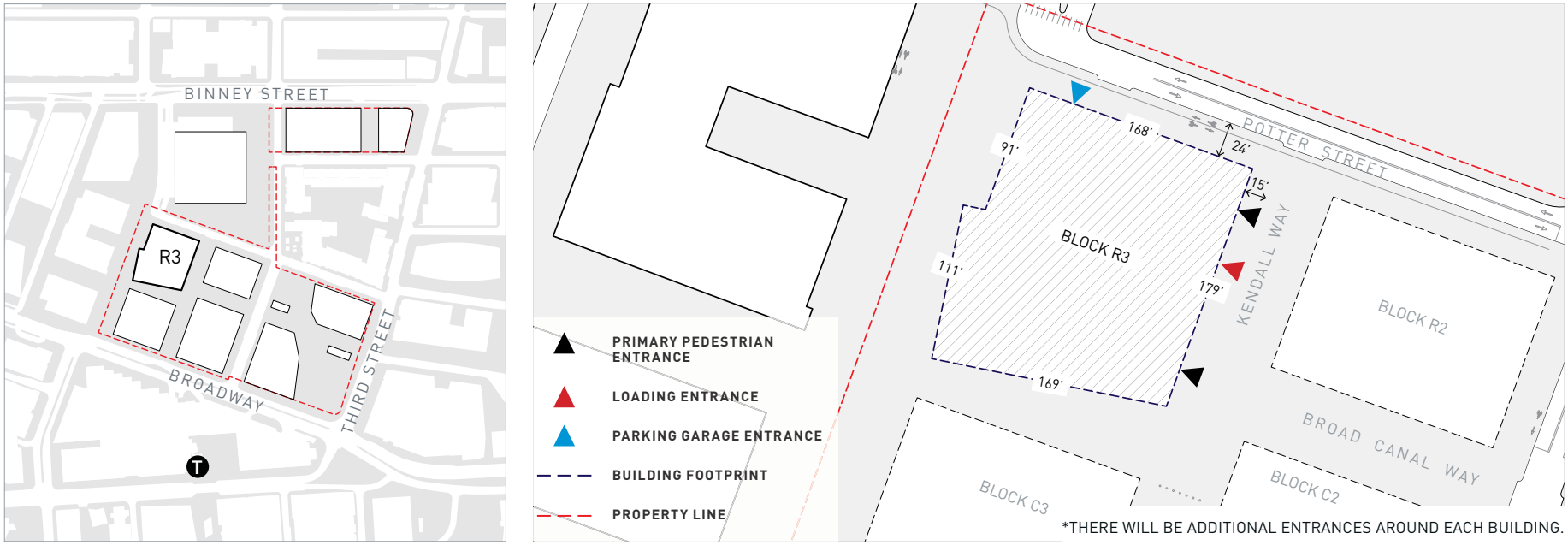
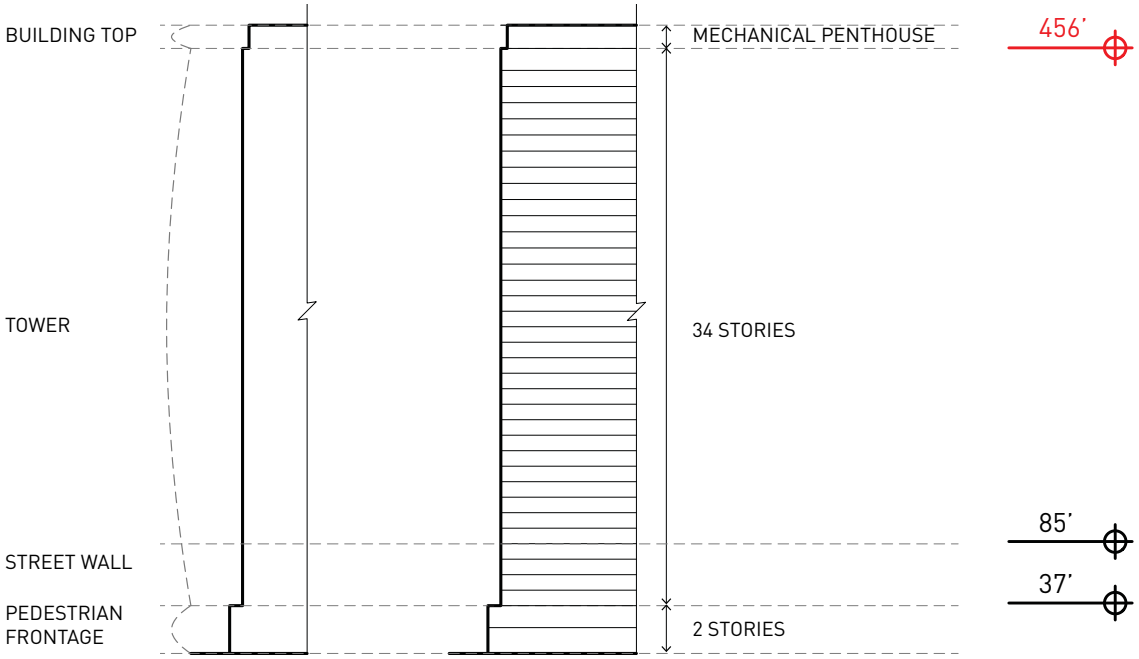
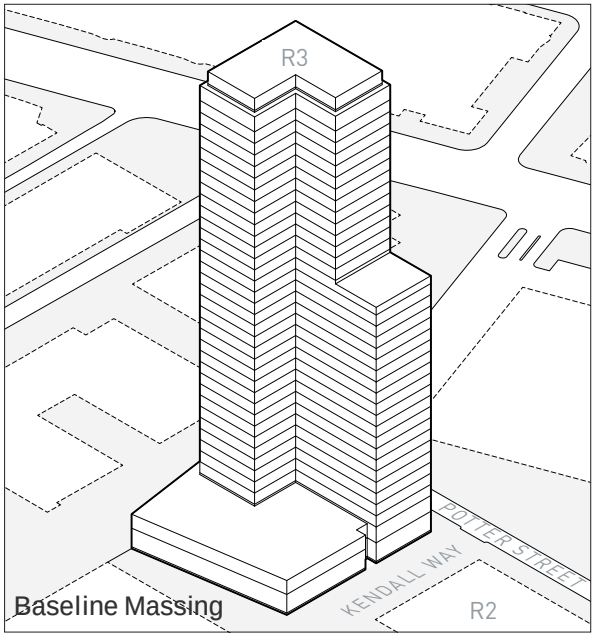
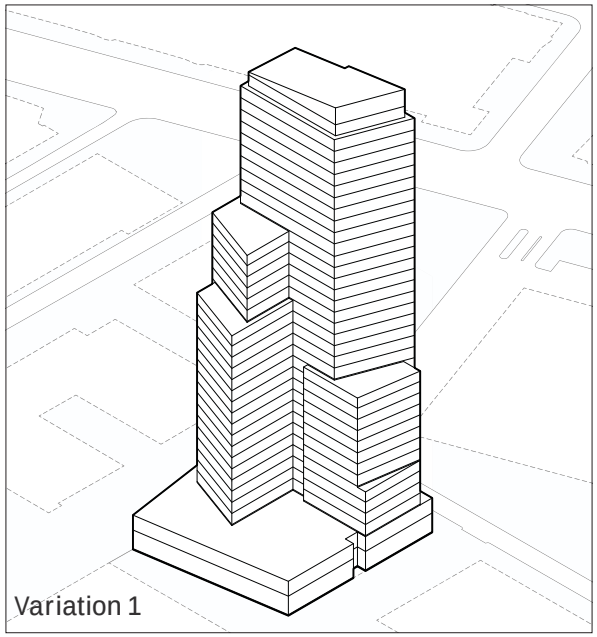
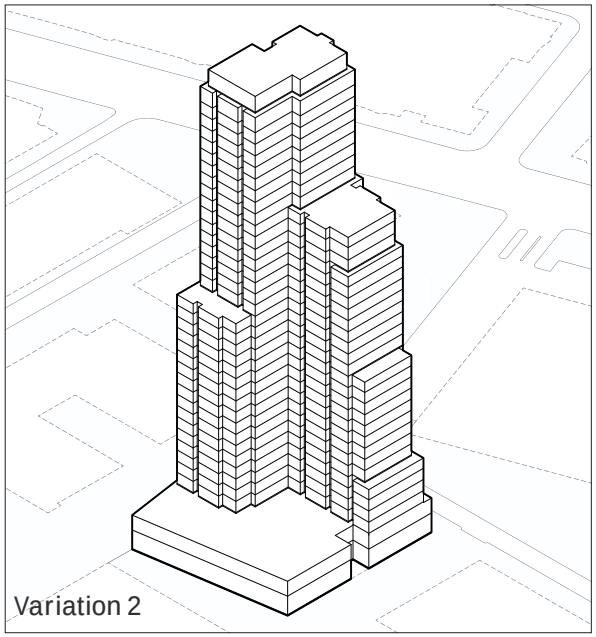


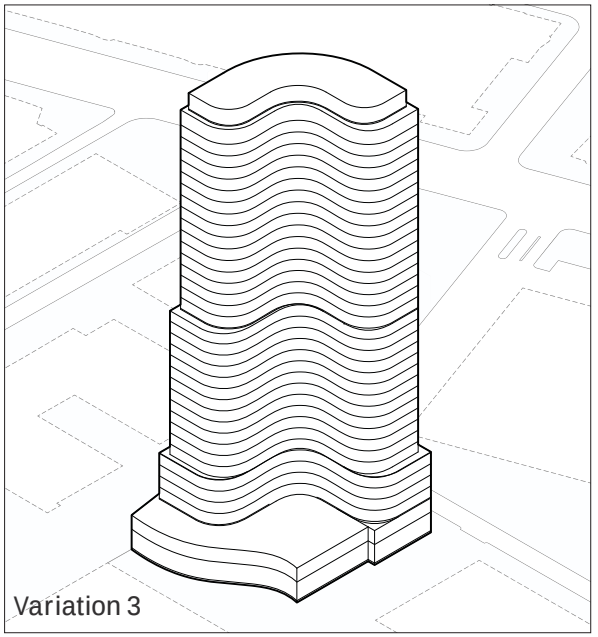
Figure L9: Block Guidelines - R3


BUILDING TOP
MECHANICAL PENTHOUSE
456'
TOWER
34 STORIES
85'
STREET WALL
37'
PEDESTRIAN
FRONTAGE
2 STORIES


R3
POTTER STREET
KENDALL WAY
R2
Baseline Massing


Variation 1


Variation 2

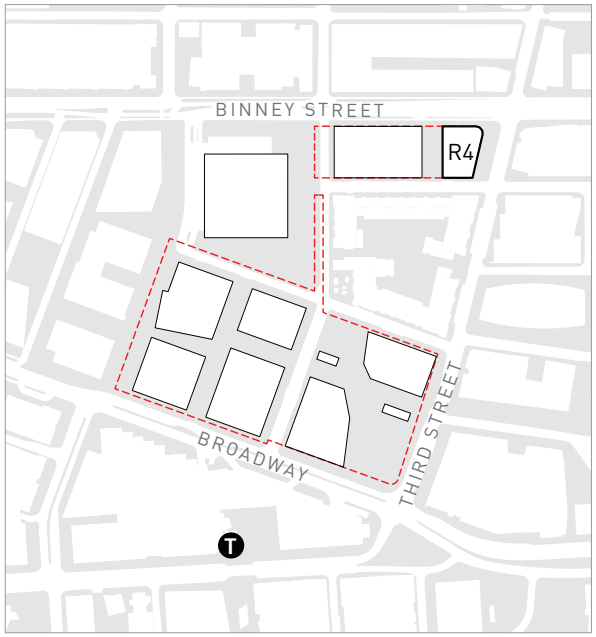

Variation 3

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 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 pocket park to the west. Consider tower setbacks 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.



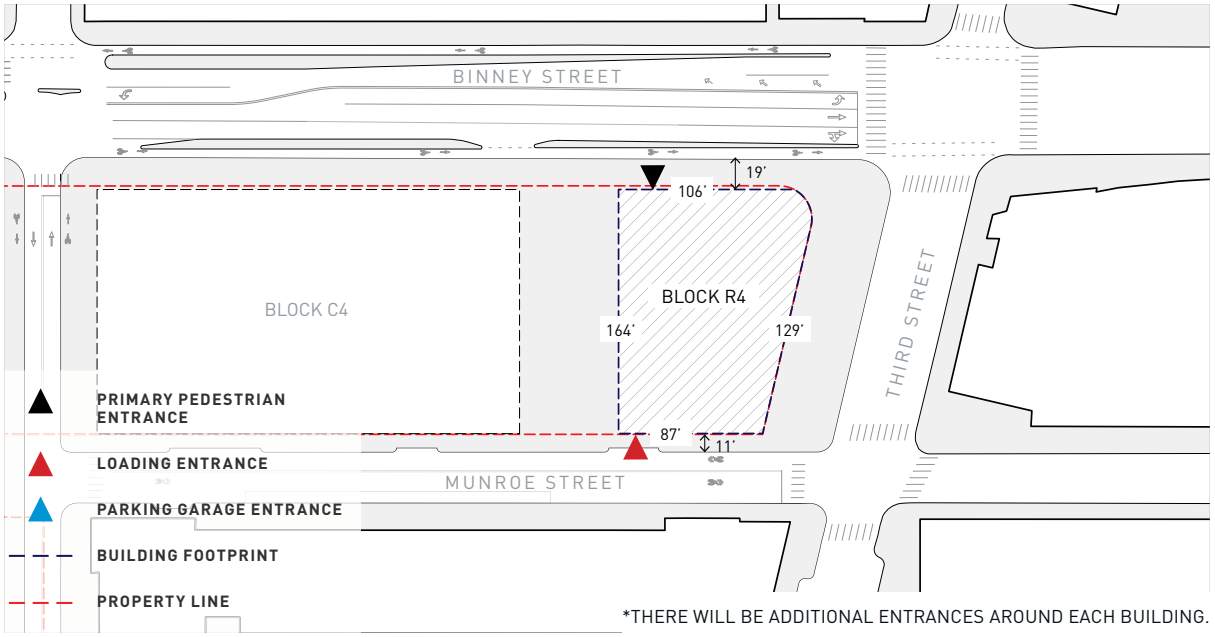
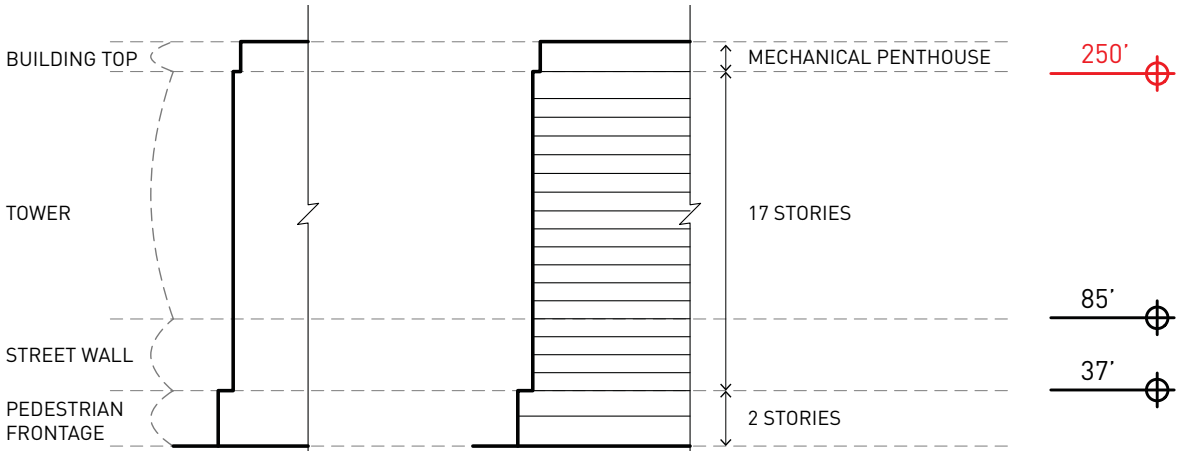
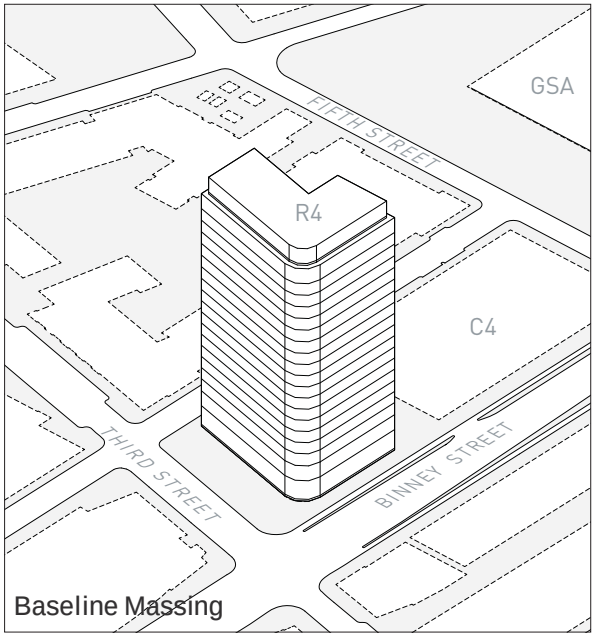
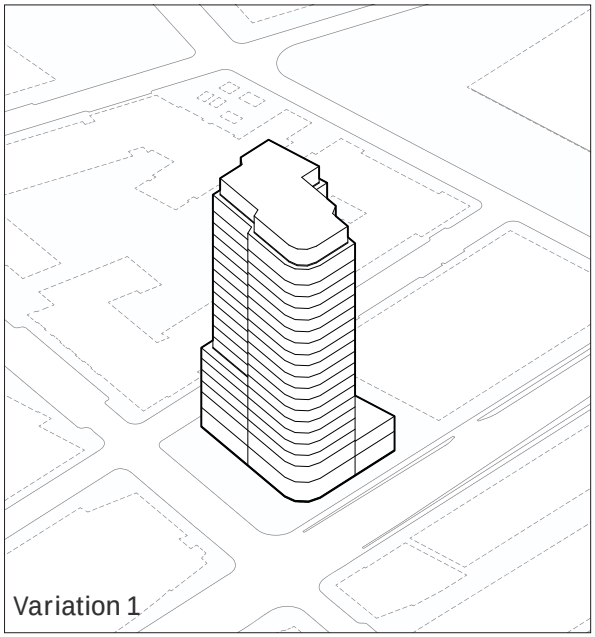
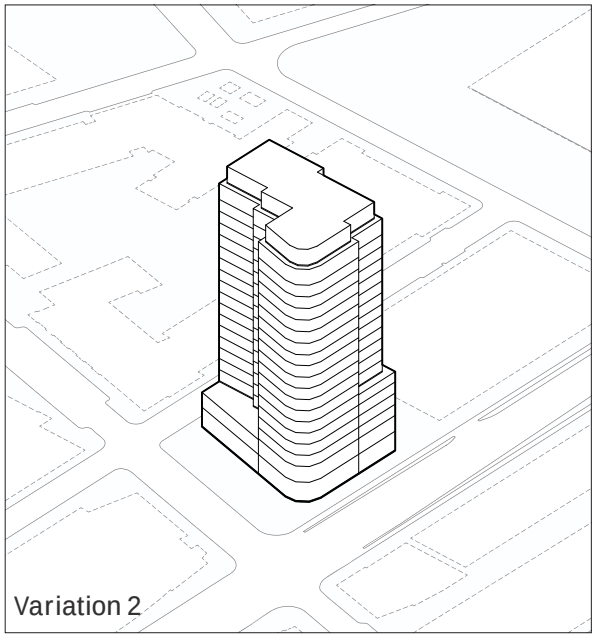


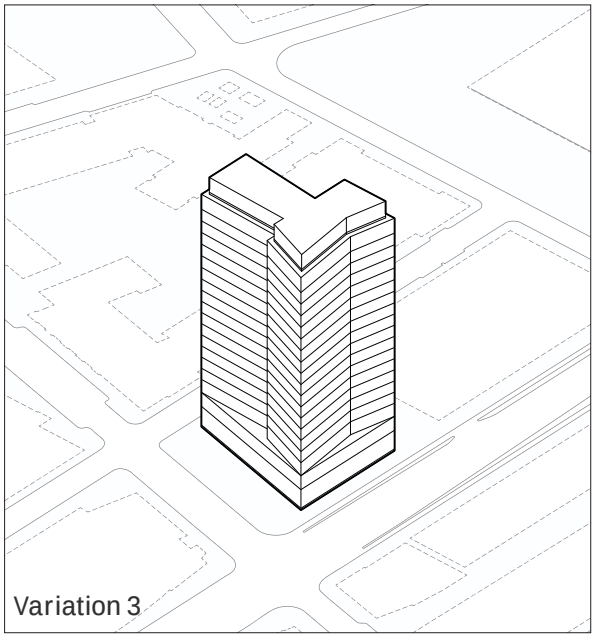
Figure L10: Block Guidelines - R4


BUILDING TOP
TOWER
STREET WALL
PEDESTRIAN FRONTAGE
MECHANICAL PENTHOUSE
17 STORIES
2 STORIES
250'
85'
37'


GSA
FIFTH STREET
R4
C4
THIRD STREET
BINNEY STREET
Baseline Massing


Variation 1


Variation 2


Variation 3

Block C1

Approximate GFA	**:**	**400,000 - 450,000 SF**
Maximum height	**:**	**250FT (and with conditions up to 300FT)**
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 will be 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 to the west. Consider tower setbacks from the streetwall along these edges to enhance those open spaces.
- The pedestrian frontage and streetwall are to engage Broad Canal Way and are important elements in the retail continuity of the street.

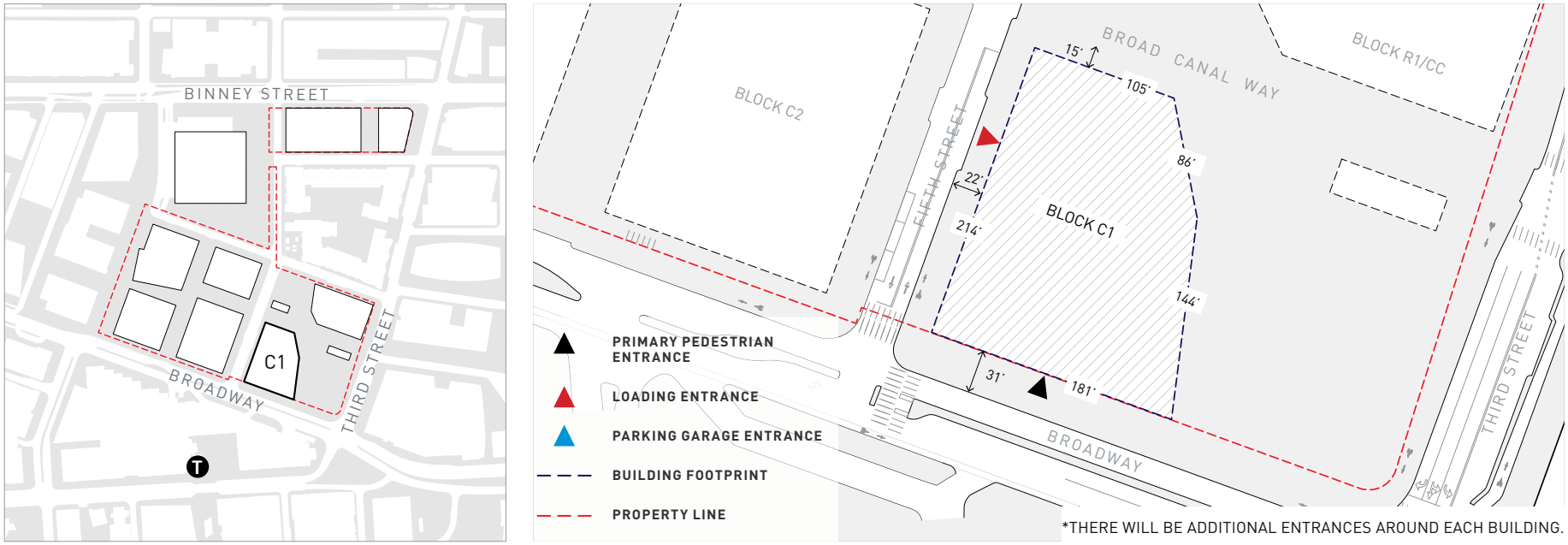
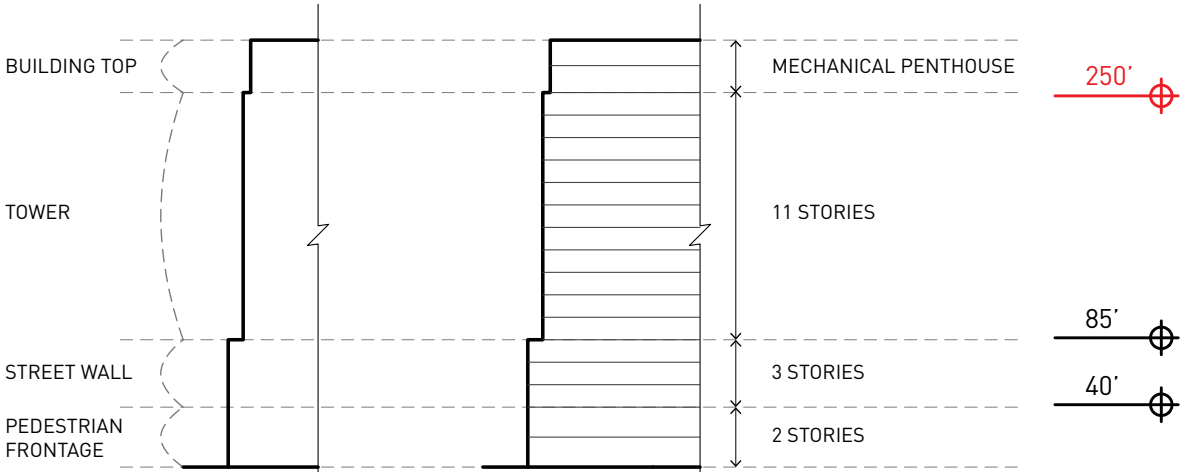
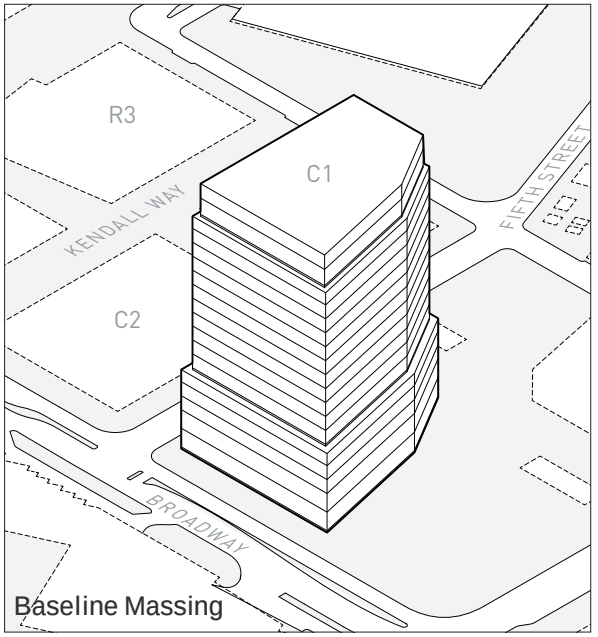
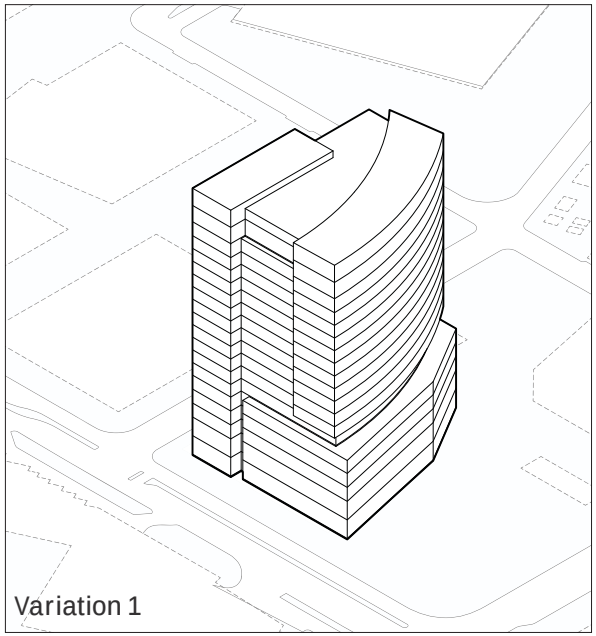
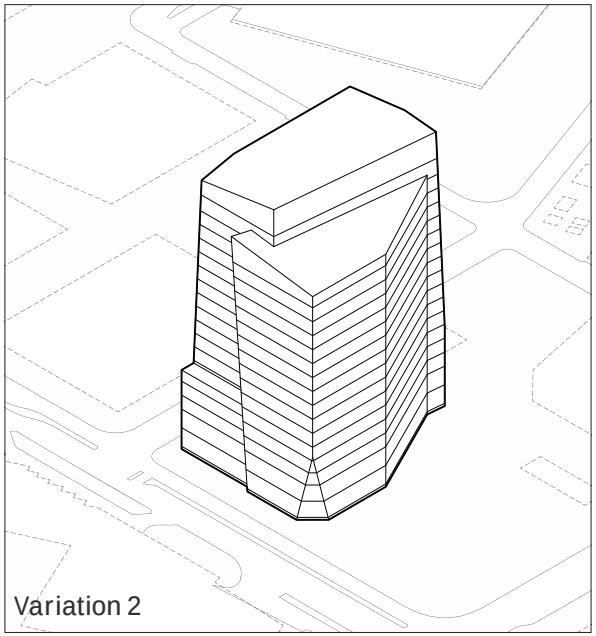


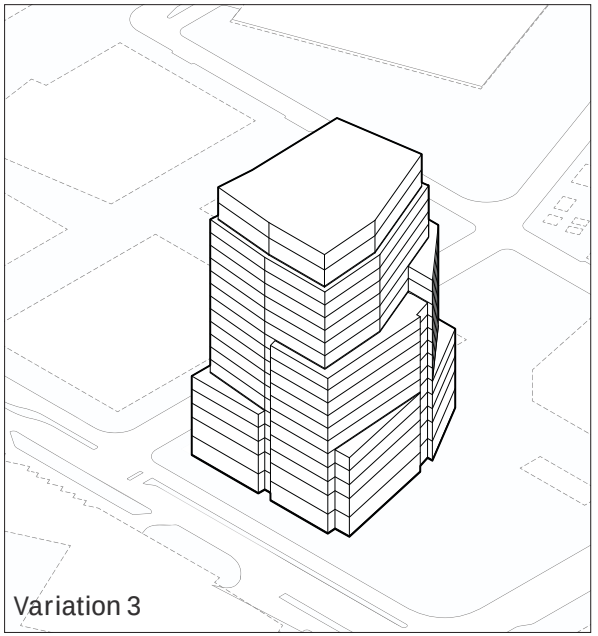
Figure L11: Block Guidelines - C1


BUILDING TOP
TOWER
STREET WALL
PEDESTRIAN FRONTAGE
MECHANICAL PENTHOUSE
11 STORIES
3 STORIES
2 STORIES
250'
85'
40'


R3
C1
C2
KENDALL WAY
FIFTH STREET
BROADWAY
Baseline Massing


Variation 1


Variation 2


Variation 3

Block C2

Approximate GFA	**:**	**500,000 - 550,000 SF**
Maximum height	**:**	**250FT (and with conditions up to 300FT)**
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 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 Fifth Street - 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.

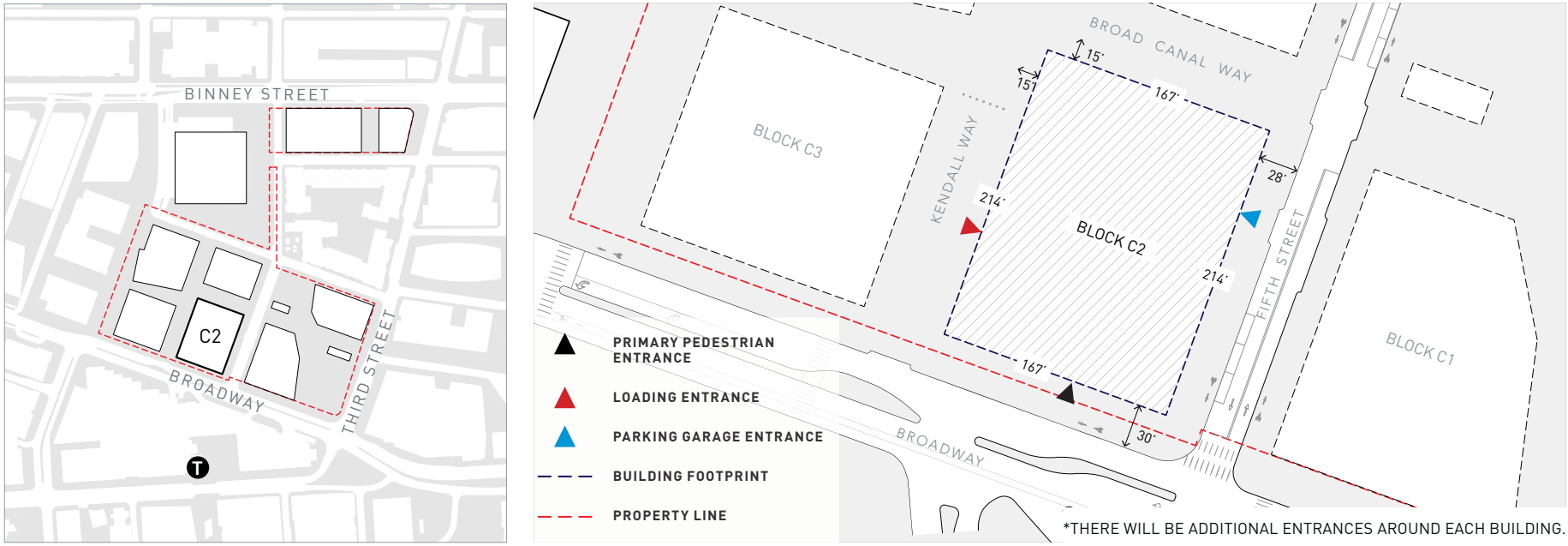
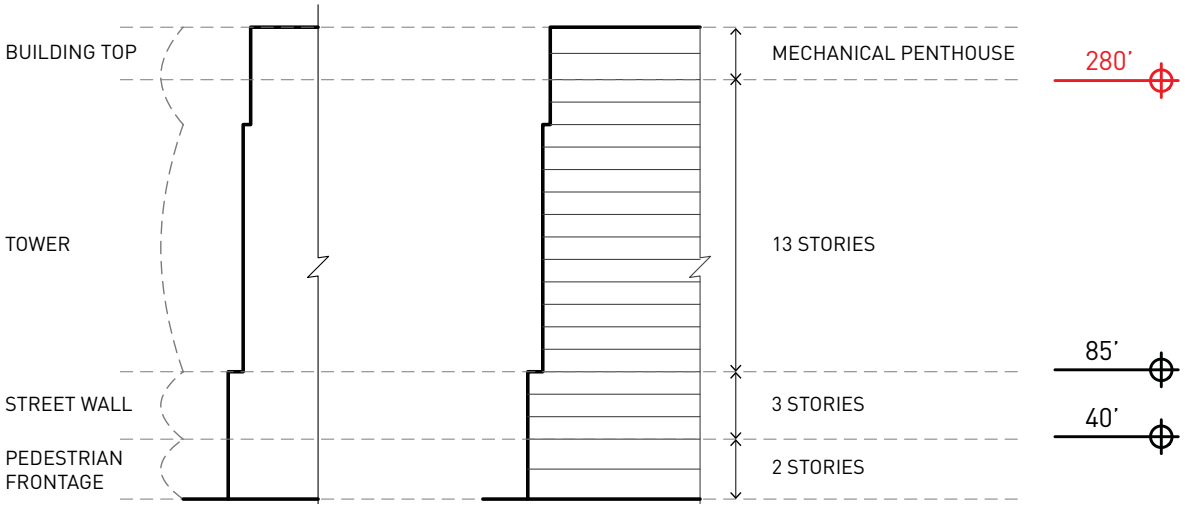
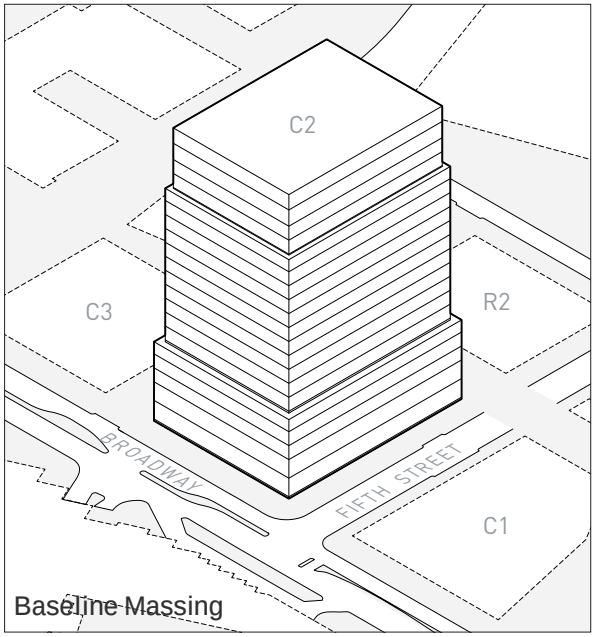
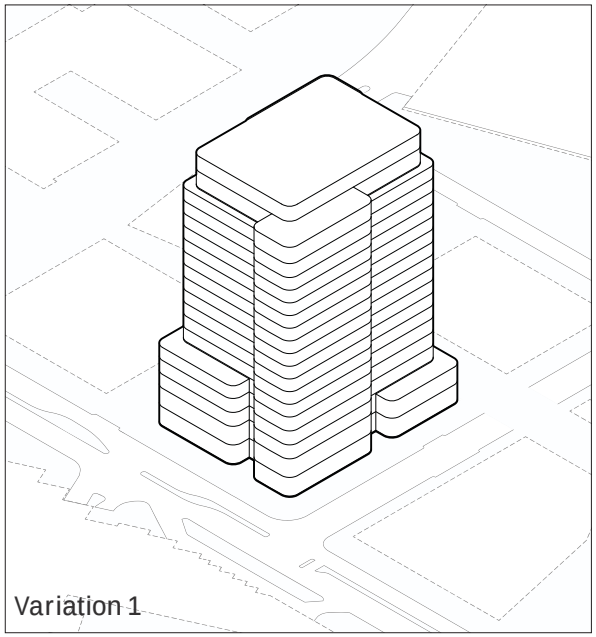
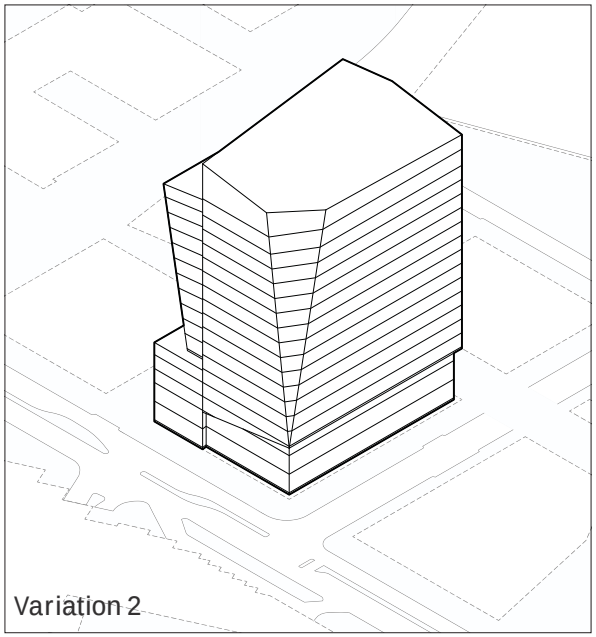


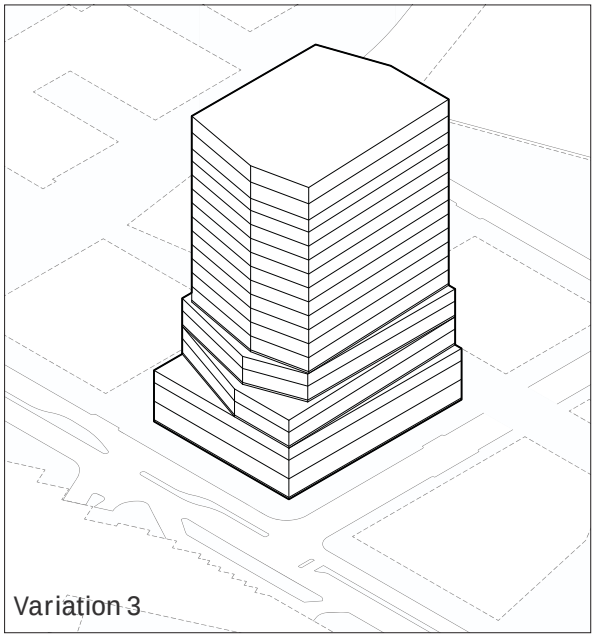
Figure L12: Block Guidelines - C2


BUILDING TOP
TOWER
STREET WALL
PEDESTRIAN FRONTAGE
MECHANICAL PENTHOUSE
13 STORIES
3 STORIES
2 STORIES
280'
85'
40'


C2
C3
R2
C1
BROADWAY
FIFTH STREET
Baseline Massing


Variation 1


Variation 2

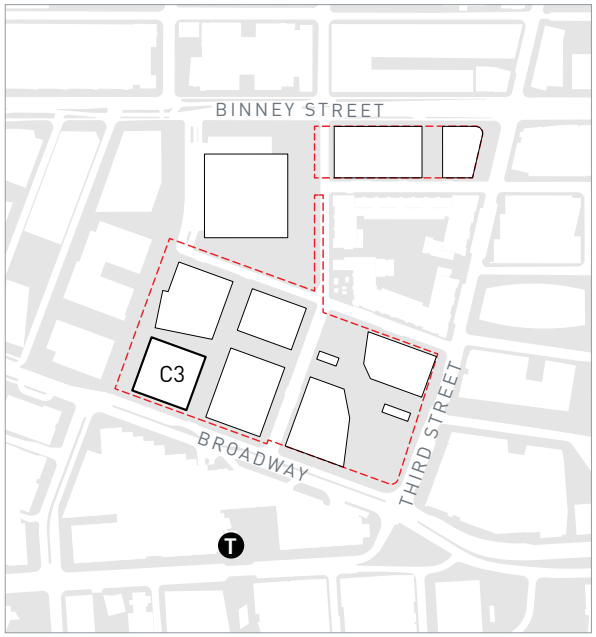

Variation 3

Block C3

Approximate GFA	**:**	**450,000 - 500,000 SF**
Maximum height	**:**	**250FT (and with conditions up to 300FT)**
Use	**:**	**Technical Office and Retail**

Block C3 is a commercial building parcel bounded by Kendall Way to the east, the covered passage to Loughrey 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 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 passage. The design is to enhance the active street experience and inviting nature of those open spaces. Consider tower setbacks 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 should accommodate a publicly accessible passage to Sixth Street Park.



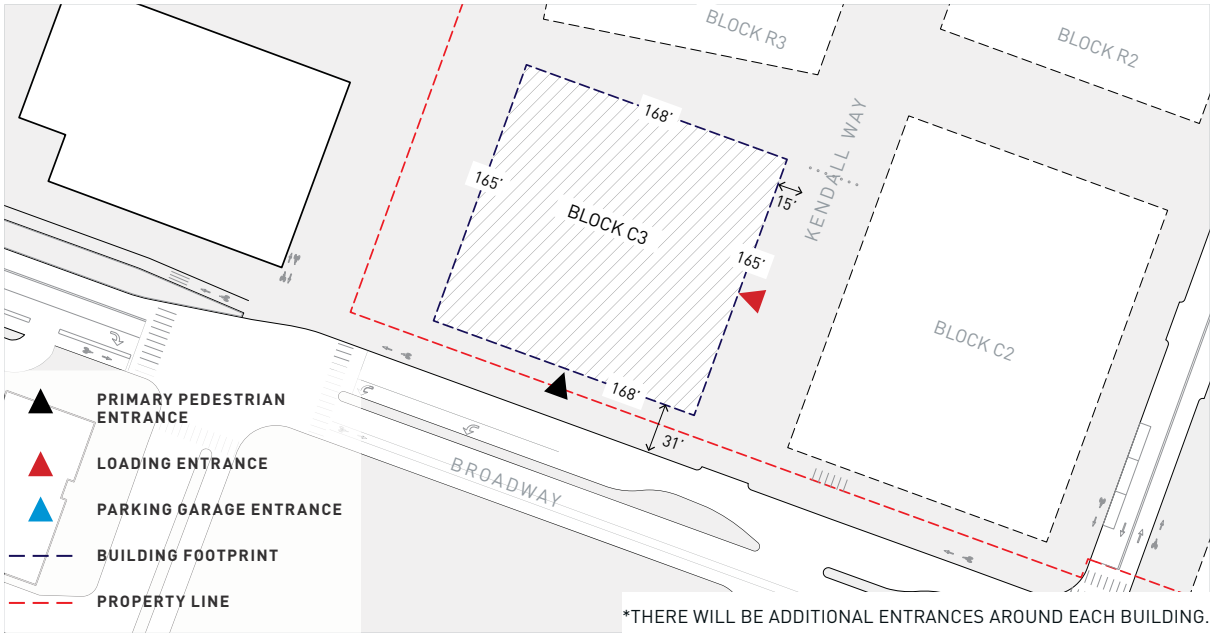
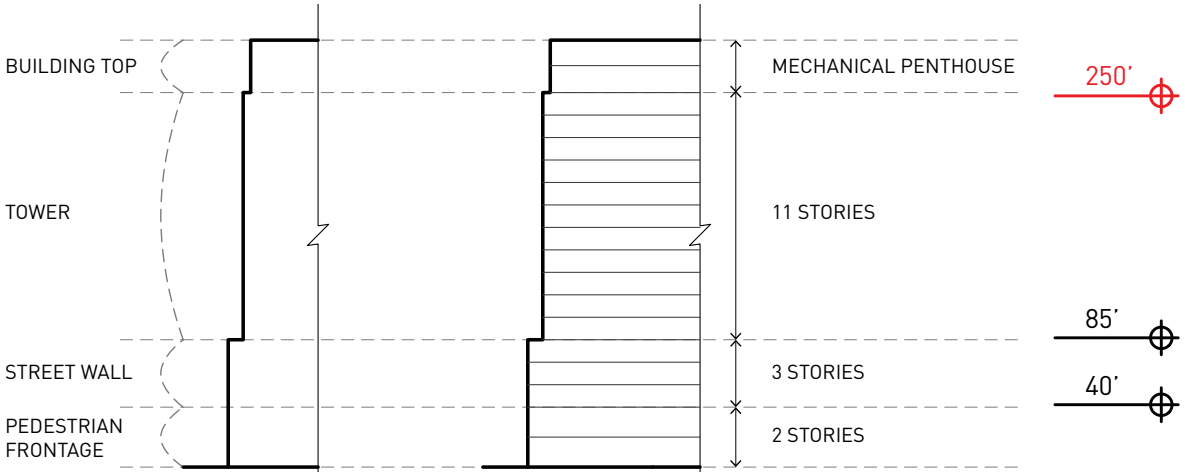
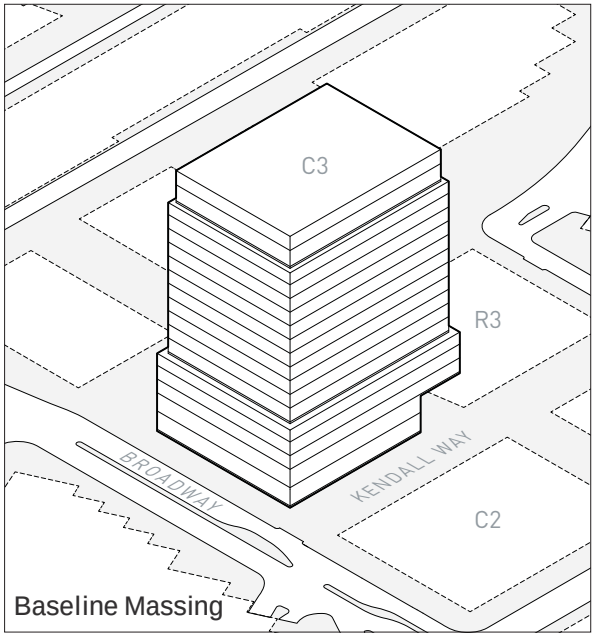
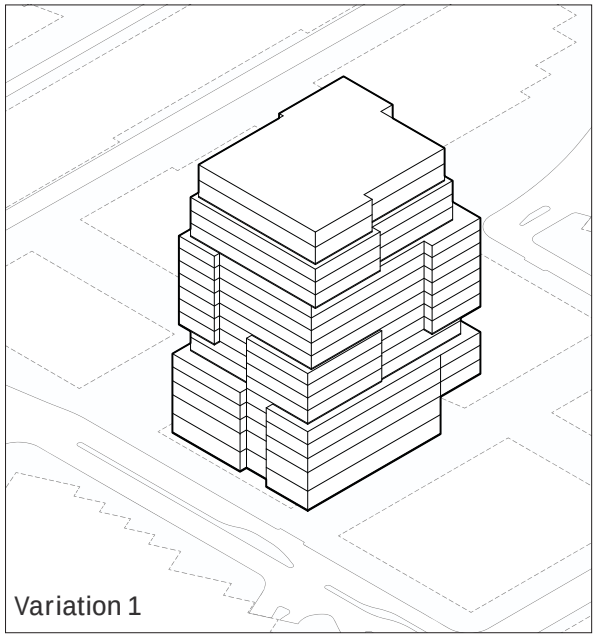
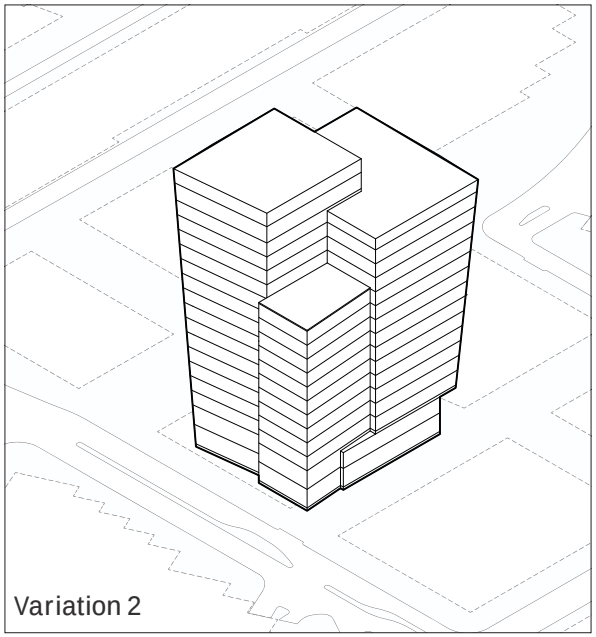


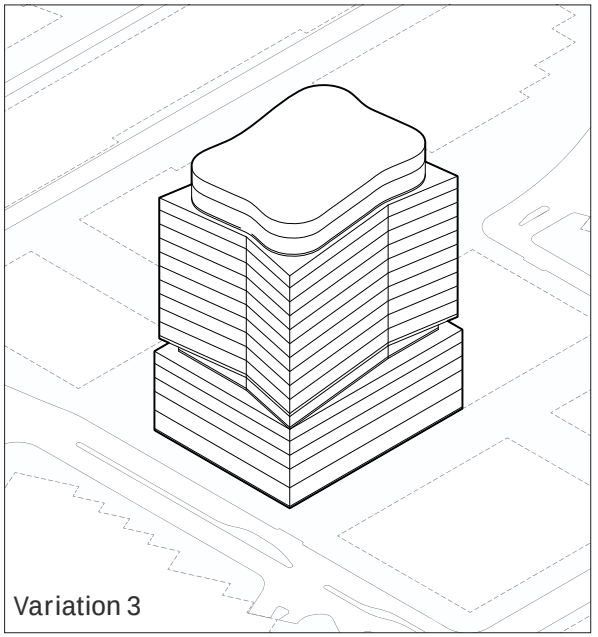
Figure L13: Block Guidelines - C3


BUILDING TOP
TOWER
STREET WALL
PEDESTRIAN FRONTAGE
MECHANICAL PENTHOUSE
11 STORIES
3 STORIES
2 STORIES
250'
85'
40'


C3
R3
C2
BROADWAY
KENDALL WAY
Baseline Massing


Variation 1


Variation 2

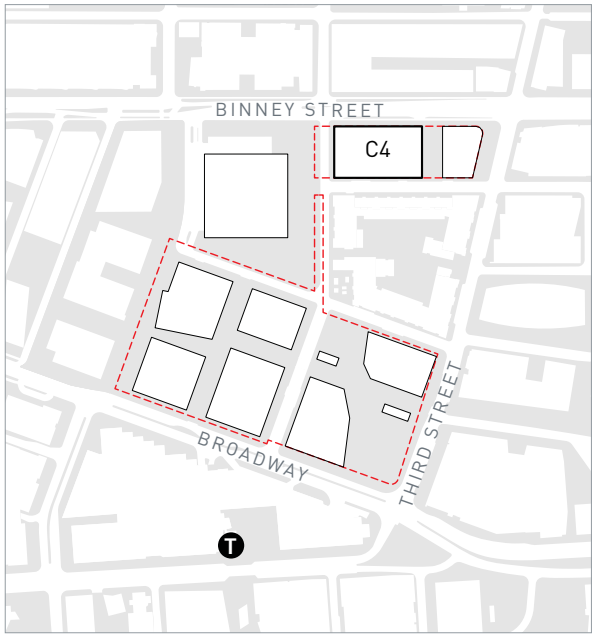

Variation 3

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 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 to the west and a pocket park to the east.
- 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.



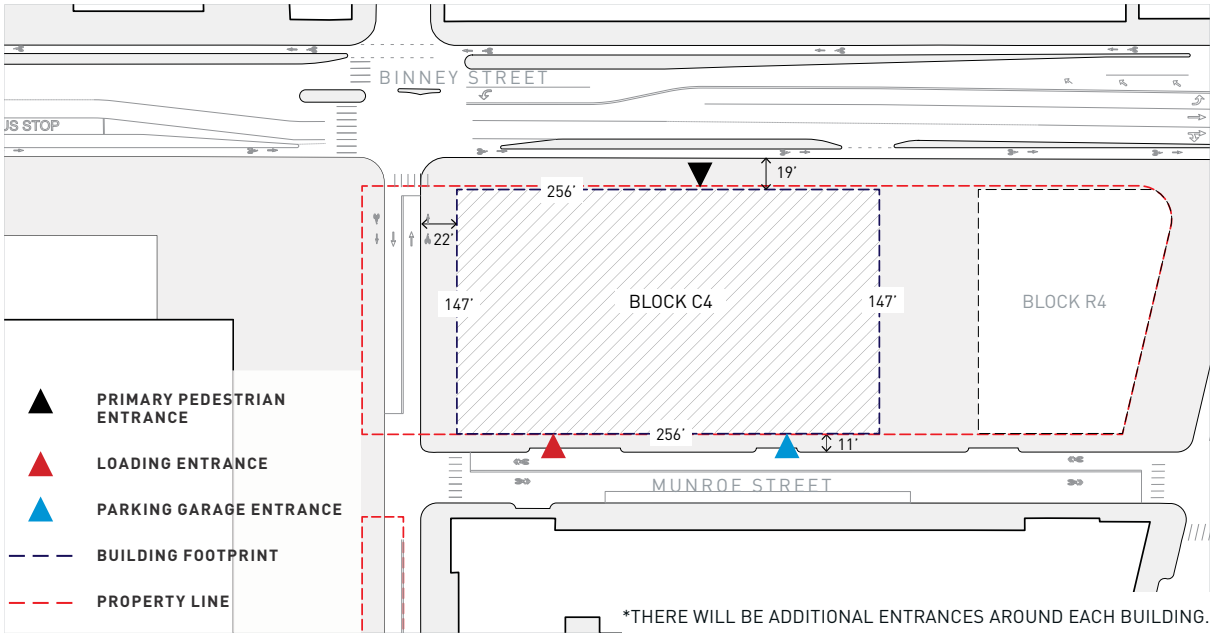
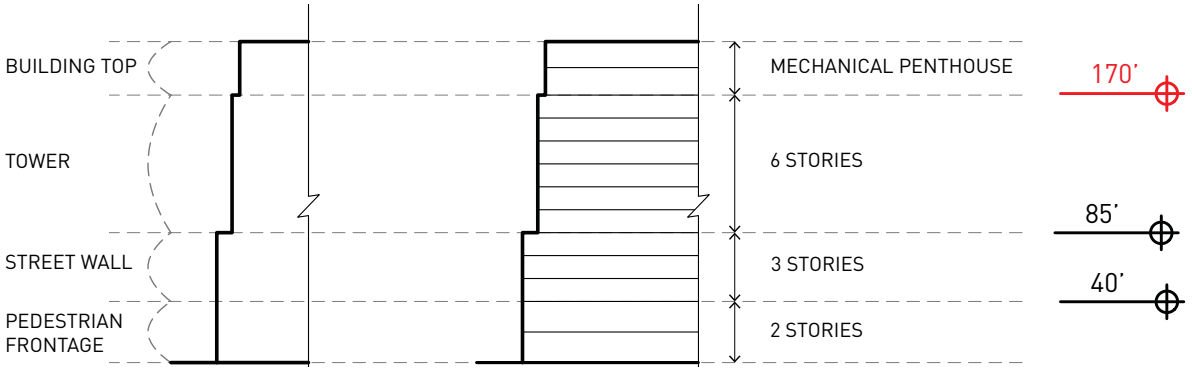
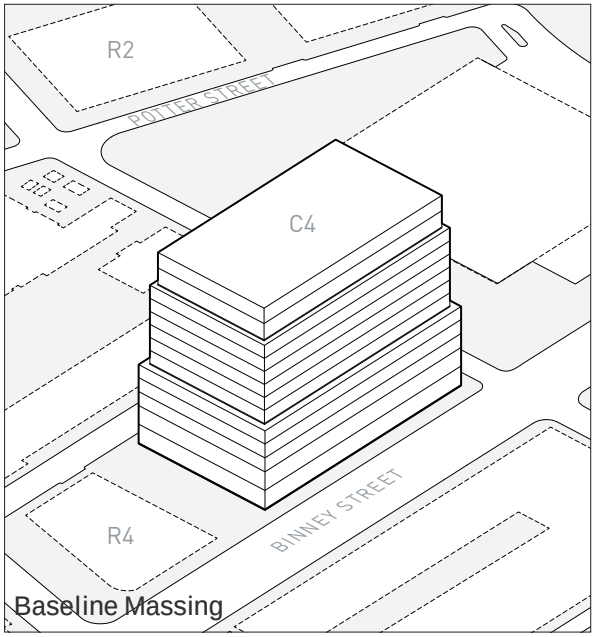
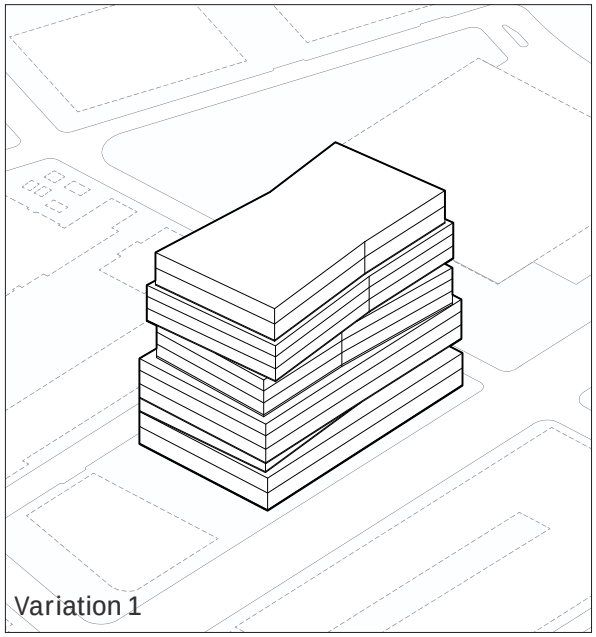
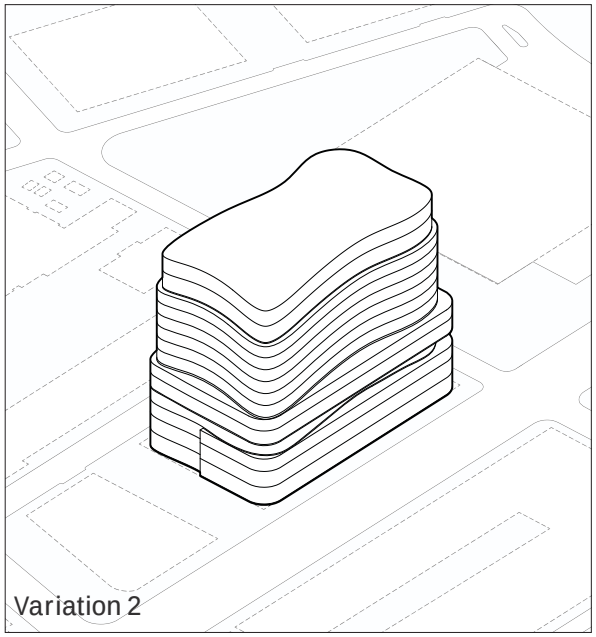


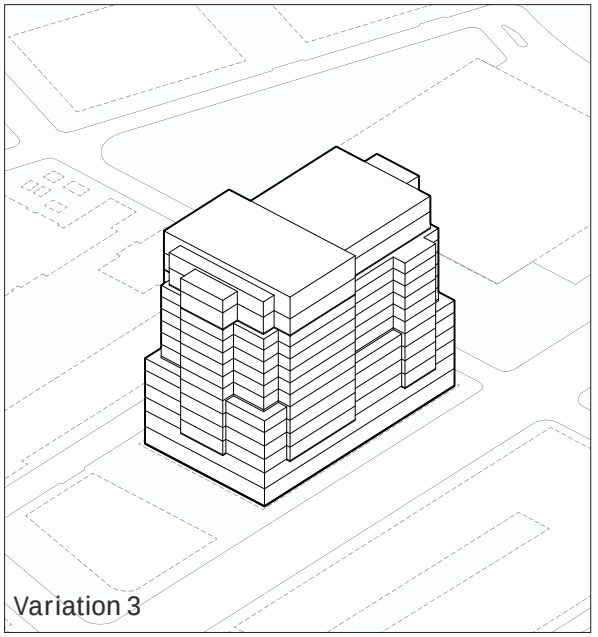
Figure L14: Block Guidelines - C4


BUILDING TOP
TOWER
STREET WALL
PEDESTRIAN FRONTAGE
MECHANICAL PENTHOUSE
6 STORIES
3 STORIES
2 STORIES
170'
85'
40'


R2
POTTER STREET
C4
R4
BINNEY STREET
Baseline Massing


Variation 1


Variation 2


Variation 3

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) 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.