

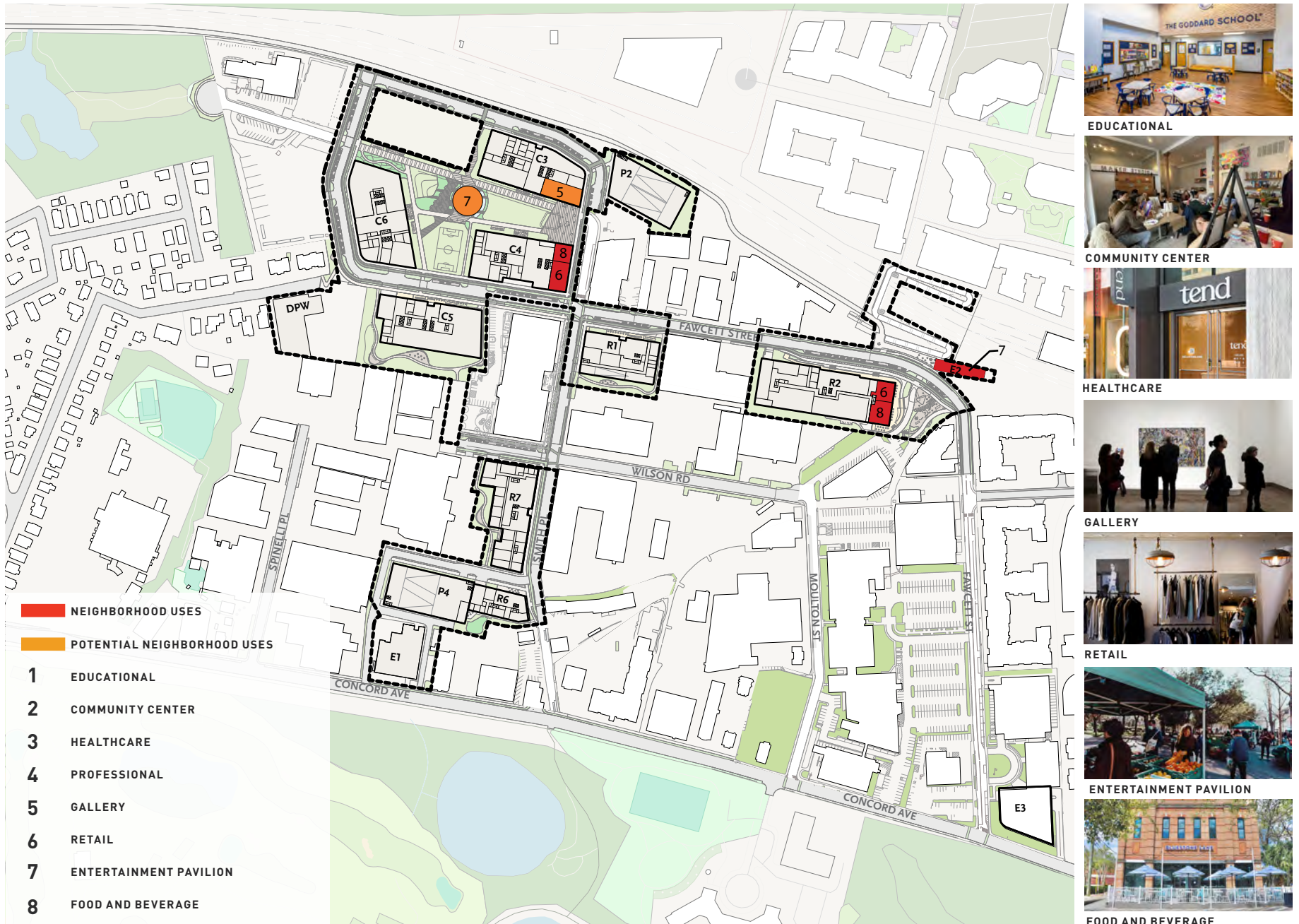


Figure 1H.1c: Preliminary Phasing Plan - Phase 1 With Merchandising

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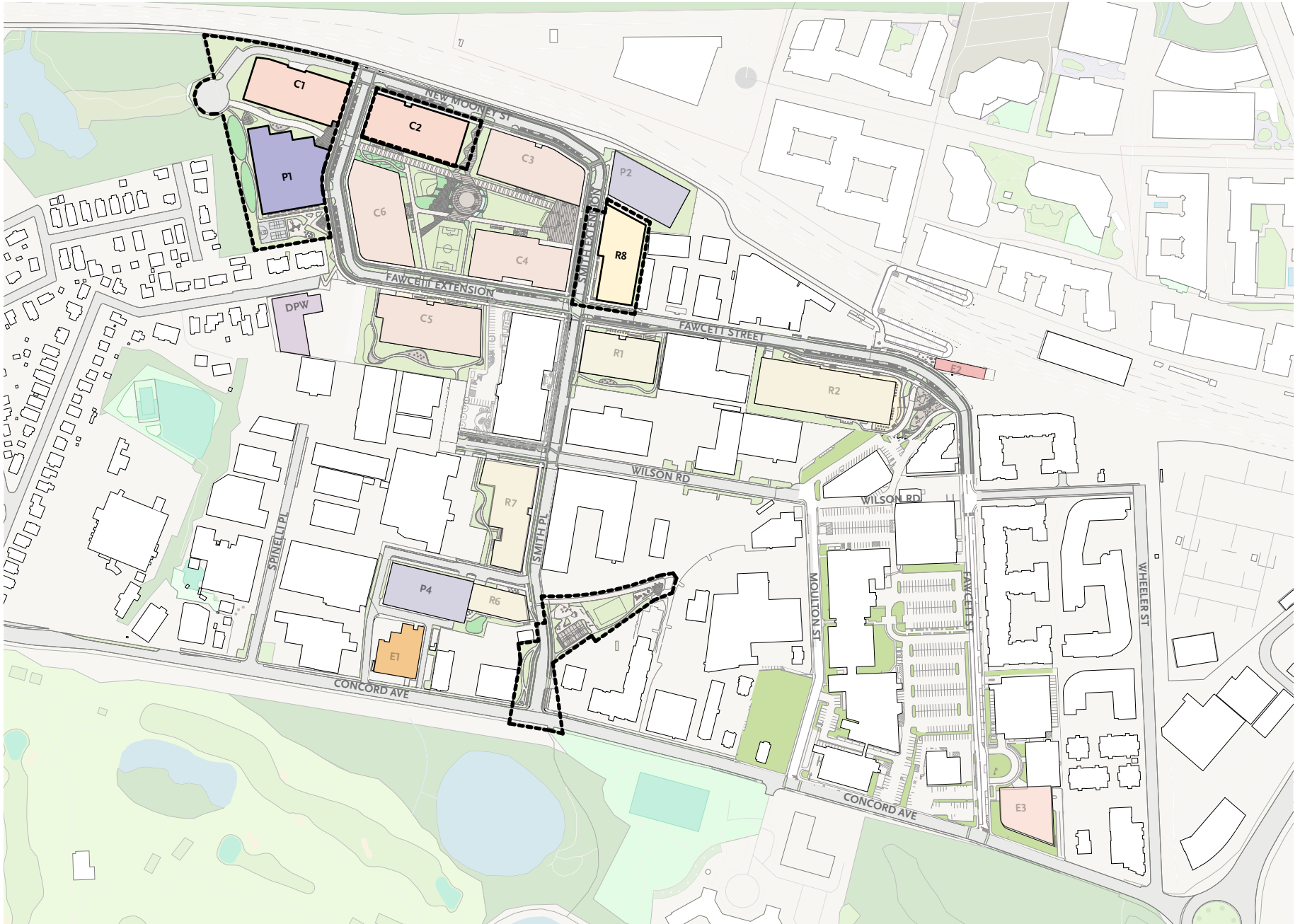


Figure 1H.2A: Preliminary Phasing Plan - Phase 2A

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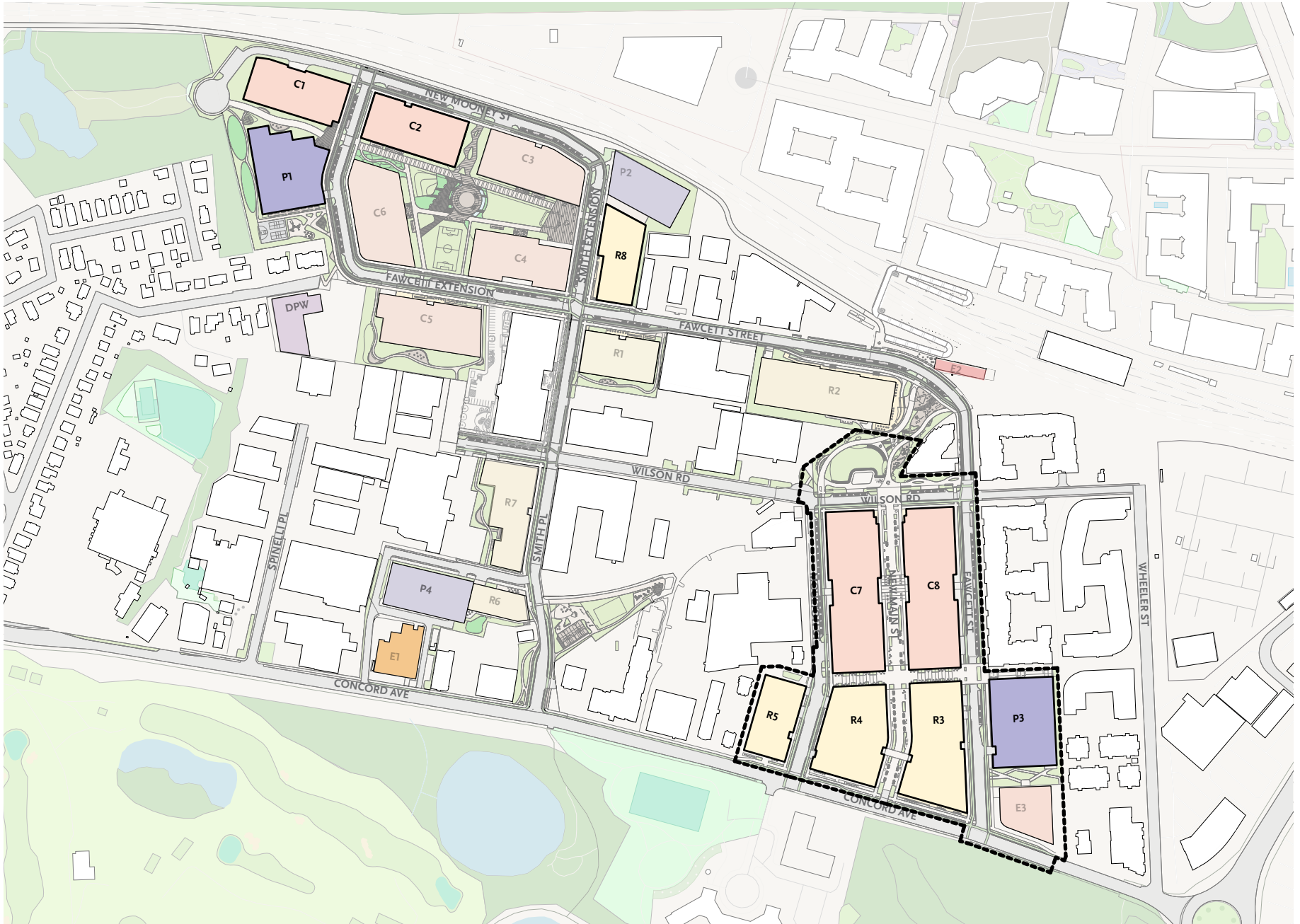


Figure 1H.2B: Preliminary Phasing Plan - Phase 2B

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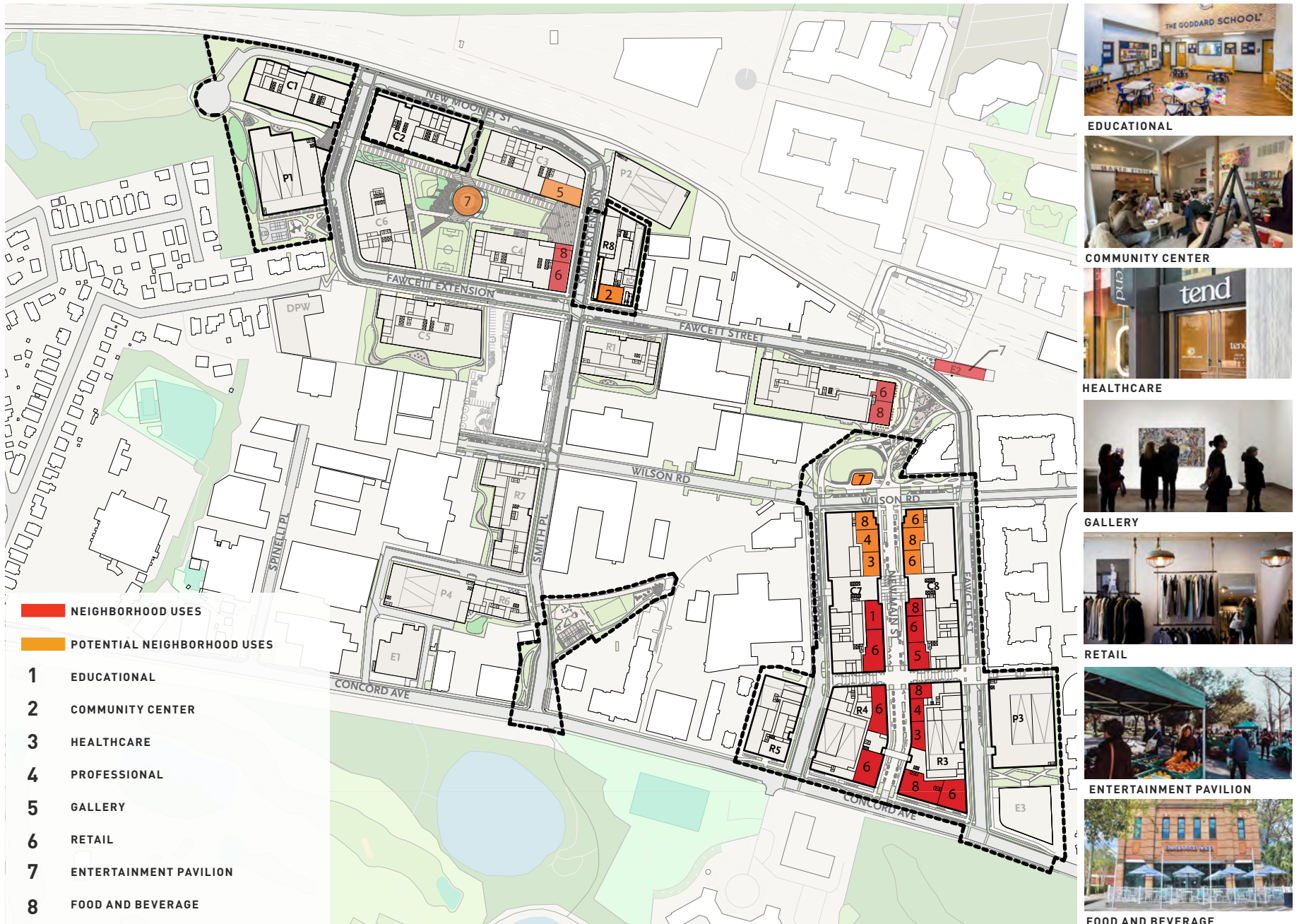


Figure 1H.2c: Preliminary Phasing Plan - Phase 2 With Merchandising

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1.12 Sustainability Plan

The Project sets a new standard in sustainable urban development through a holistic approach that integrates zero-fossil-fuel development, energy and water efficiency, community planning, the greening of the public realm, and connective multi-modal transportation. This initiative will showcase the Applicant's commitment to sustainability by pursuing efficient and strategic solutions that address environmental challenges on both local and regional levels.

This Section summarizes the Applicant's engagement and commitment to sustainability through the planning, design, construction, and operational phases of the Project. This Section includes the following:

- Summary of key highlights of the certified Green Building Report (**Appendix B**); and
- Article 22.20 of the CZO compliance.

An expanded summary of additional sustainability performance analysis and strategies studied during the planning phase has been included in **Appendix B**.

1.12.1 Summary of Key Highlights of the Green Building Report

Zero Fossil Fuel Development

The Project is designed for high energy efficiency and long-term operational decarbonization. All residential and commercial buildings will be fully electric, with no on-site fossil fuel use except for emergency generators. This all-electric approach aligns with the City's Building Energy Use Disclosure Ordinance ("BEUDO") and supports the regional shift toward a low-carbon grid. As Massachusetts continues to bring renewable generation online, the Project's building systems will be positioned to leverage this grid decarbonization. The proposed energy strategy reflects this commitment to net zero operational carbon over time. Additionally, the Project will incorporate low embodied carbon design strategies and the Project targets a ten (10) percent reduction in commercial buildings' embodied carbon. The Project will study material quantity and selections optimization to reduce embodied carbon.

Regenerative Community Planning

The Project is built around regenerative design principles, with the goal of fostering a healthy, inclusive, and resilient community. Public amenities, open spaces, and active ground floor uses are integrated to encourage social interaction and support

local businesses. Streetscapes and plazas are designed for thermal comfort, walkability, and accessibility, promoting physical activity and community wellness. Material selections prioritize occupant health and transparency. These strategies work together to support a vibrant, people-centered district that enhances ecological and social value.

Greening the Public Realm

Nature is central to the proposed public realm design. The Project includes over 800,000 SF of green space and the planting of 1,000 new trees. These spaces are designed for both ecological function and public enjoyment—providing habitat, shade, and thermal relief, while enhancing the pedestrian experience. Native and climate-adapted plantings, tree canopy coverage, and integrated green infrastructure help reduce the urban heat island effect and create inviting, livable outdoor spaces for all.

Innovative Connective Transit

The proposed transportation strategy promotes low-carbon, multimodal mobility aligned with the City's goals. Key components include robust TDM programs and the Proposed Bridge, a new pedestrian and bicycle bridge linking the site to the Alewife MBTA train station. The Development Parcel layout breaks down superblocks to improve connectivity, permeability, and walkability. Future-proofing strategies will allow the Development Parcel

to evolve with emerging transportation technologies while maintaining strong connections to the surrounding neighborhood.

Water Efficiency & Stormwater Management

Reducing potable water use and managing stormwater on-site are key priorities of the Project. Buildings will feature high efficiency fixtures, lab-specific low flow systems, and optimized cooling towers to minimize indoor water demand. Outdoor irrigation will be minimized or eliminated through smart controls, non-potable water sources like rainwater harvesting, and low-water landscaping. Indigenous and drought-tolerant vegetation further reduces demand. Water submetering across systems will enable performance tracking and optimization.

Climate Resilient Design

The Project incorporates flood resilience and climate-adaptive design from the outset. Portions of buildings containing occupiable space (as defined in the State Building Code) will be elevated above the projected 100-year flood level, except as permitted under the State Building Code and except as provided in **Volume I, Section 3.8**. Each Phase will include site-level stormwater mitigation, and backup power systems will be in place for critical functions. Stormwater strategies will meet local DPW standards by reducing post-construction runoff from the 2070 25-year storm to the pre-construction 2-year level

and cutting phosphorus loads by at least 65%, per DEP/US Environmental Protection Agency (“EPA”) guidelines.

Urban Heat Island

To address rising urban temperatures, the Project incorporates high-reflectance roofs and paving, as well as well-insulated, shaded building facades. The existing site, a former industrial zone dominated by impervious surfaces, will be transformed through extensive landscaping and shading. These interventions are projected to reduce local ambient temperatures by approximately 3 to 5 degrees Fahrenheit, creating a more comfortable and resilient environment.

Benchmarking to Measure Performance

Each building in the proposed development will be designed to meet at least LEED Gold certification under LEED v5 (where applicable), making the Project one of the largest LEED-certified initiatives in the region. Certification will be pursued on a parcel-by-parcel basis, using the most current LEED version at the time of submission. Residential buildings may alternatively meet Article 22 requirements through Phius certification. The Applicant also tracks operational sustainability through GRESB, its portfolio-wide benchmarking platform, reinforcing its long-term commitment to transparency and performance.

1.12.2 Summary of Article 22 Requirements

The proposed Project will meet the Article 22 Green Building requirements, and each individual development within the Project will submit for additional review at the Design Review stage, Building Permit stage, and Certificate of Occupancy stage. Further detail on proposed strategies to comply with Green Building zoning requirements can be found in the Applicant’s certified Green Building Report, attached as Appendix B to this Application. Green Building Rating Programs.

The Project is designed to achieve LEED Gold certification for all commercial and lab buildings under LEED v5, aligning with the sustainability requirements outlined in Article 22 of the CZO. Residential buildings may pursue LEED for New Construction, LEED for Multifamily Midrise (currently only LEED v4 available), or alternatively comply through the Phius certification pathway to support high-performance, energy-efficient housing. Each Parcel will submit individually for certification based on the applicable program version at the time of design, ensuring third-party-verified green building performance.

Green Commissioning

The Applicant will engage a qualified Green Commissioning Authority to oversee and verify the performance of mechanical, electrical, plumbing, and renewable energy systems in accordance with Section 22.25 of the CZO. The Commissioning Authority will complete all required tasks, including submittal reviews, operator training verification, seasonal testing, and post-occupancy performance evaluation, while providing direct reports to the Applicant. Where applicable, the Project will comply with enhanced commissioning standards as defined by LEED or Phius to ensure long-term operational efficiency and occupant comfort.

Verification

The Applicant will designate a qualified Green Building Professional, credentialed in the applicable rating system (such as LEED AP or Certified Passive House Consultant), to guide and verify sustainability compliance throughout design and development. This professional will utilize an approved Energy Simulation Tool to demonstrate performance aligned with the selected Green Building Rating Program and submit credentials and modeling tools to CDD during the administrative review process. For new developments pursuing Passive House certification, a certified Passive House rater/verifier will conduct required on-site quality assurance testing to ensure compliance with program standards.

Net Zero Narrative

The Net Zero narrative is included within the certified Green Building Report (**Appendix B**) and demonstrates that the Project is designed to align with the City's Net Zero Action Plan through an all-electric building strategy that eliminates on-site fossil fuel use (except for emergency generators) and supports long-term operational decarbonization. Energy use intensity will be minimized through high-performance building envelopes, efficient systems such as exhaust-source heat pumps, and advanced thermal energy network strategies. Renewable energy will be integrated where feasible, including rooftop and canopy solar photovoltaics ("PV"), while future-ready infrastructure ensures that the Project can adapt as the regional power grid decarbonizes.

Green Roofs

The Project will meet the requirements of Article 22 of the CZO by incorporating Functional Green Roofs (as defined in the CZO) where feasible. Where rooftop mechanical equipment limits green roof installation, especially on lab buildings, high-albedo white roofs and solar-ready infrastructure will be used to comply with Cool Roof requirements. In cases where full green roof coverage is not achievable, the Applicant requests issuance of a Special Permit to permit such green roof area reduction, in accordance with the provisions

of Section 22.35.3 of the CZO. In connection therewith, the Applicant will make a contribution to the Cambridge Affordable Housing Trust.

Flood Resilience Requirements

The Project will embrace climate resilient strategies including elevating critical equipment and residential units above flood elevation, incorporating stormwater mitigation strategies, and providing standby power for critical equipment. The Applicant will continue to evaluate feasibility of strategies for enhanced resilience.

The Development Parcel is vulnerable to increasing flood elevations, increasing heat for the overall site and buildings, and potential for grid disruptions. To evaluate the potential for future flood risk, the Project team studied the projected extent of future flooding in the region utilizing the Cambridge Flood Viewer Tool (2022, Figure 21). The tool assesses 10% and 1% Probability LTFE (10%-LTFE and 1%-LTFE) based on 2070 projections of annual flood risk. The analysis shows that 10%-LTFE does not reach the Development Parcel, which makes the Project naturally meet the minimum City requirement.

As depicted in **Figures 11.1-7**, certain areas of buildings that are not designed or intended for extended use by people are situated below the 10%-LTFE, and the Applicant has requested a Special Permit pursuant to Section 22.84.3, to allow for modification from the requirements of Section 22.84.1, to allow for such areas to be located below the 10%-LTFE. All of the proposed buildings comply with the requirements of Section 22.84.1, as it relates to all habitable spaces and critical equipment being located above the 1%-LTFE. Refer to **Volume I, Section 3.8** and **Section 1.13** below for additional information regarding flood resiliency.

Green Factor Requirements

The Project will meet the Green Factor requirements and has demonstrated Cool Score performance exceeding the minimum threshold through several key strategies. These include the use of high solar reflectance index ("SRI") roofing materials, the planting of approximately 1,000 new trees representing a 400% increase in tree cover and the creation of roughly 800,000 SF of new community green space, which reflects a fourteenfold increase over existing conditions.

At the Infrastructure PUD Special Permit stage, the Project has measured the Development Parcel as a whole, and in future phases the Cool Score will be recalculated during review of each Parcel project.

1.12.3 Section 20.1100 Requirements

In compliance with Article 20.1100.8.5.5.3(k) and Section 22.20 of the CZO, the Applicant has prepared this Sustainability Plan to describe how the Project will meet applicable sustainability requirements, minimize greenhouse gas (“GHG”) emissions, and align with the goals of the City’s Net Zero Action Plan. The Project is fully committed to a comprehensive all-electric development strategy across both laboratory and residential buildings to eliminate on-site fossil fuel use, with the exception of emergency generators. In alignment with Section 22.20 of the CZO, all new buildings will target at least LEED Gold certification or Phius+ for residential parcels. The Project will fully comply with the BEUDO and Fossil Fuel-Free (FFF) requirements, supporting the City’s transition toward carbon neutrality.

To achieve high energy performance, the Project’s design incorporates multiple energy efficiency improvement measures, including enhanced building envelope performance, efficient HVAC systems, exhaust-source heat pumps, and on-site renewable energy generation potential through solar PVs. A feasibility assessment for PV installations has been completed, confirming that rooftop PV will be implemented where structurally and spatially viable, supplemented by solar canopies over parking areas. Although building-integrated photovoltaics (“BIPV”) were found not feasible at this time due to cost and efficiency constraints, the Applicant will periodically re-evaluate such technologies as market conditions and performance improve.

In addition, the Project has evaluated opportunities for geothermal and thermal energy networks to further improve energy efficiency and reduce emissions. The Development Parcel is not near any existing district steam networks; however, on-site heating plants can be designed more efficiently than new district steam networks for the Project. During the planning process, the Project team investigated feasibility of district connections for a thermal loop, sharing heat between commercial and residential buildings. With current land holdings, limitations in connection opportunities and viable open space for potential geothermal wells pose challenges for pursuit within the existing Project (further detail on preliminary district energy studies, including subdistricts studied, can be found in the Applicant’s certified Green Building Report (**Appendix B**)). Instead, the Project team continues to collaborate with the City on understanding the feasibility of connecting to an ambient loop or geothermal-based thermal energy network invested, constructed and operated by Eversource, with further engagement and exploration needed by Eversource. The Applicant is open to collaborating with the City and

Eversource on potential district-scale or shared geothermal energy solutions and is supportive of zoning relief that would enable such shared systems and advance long-term emissions reductions. The Project team has prepared preliminary energy modeling outputs and architectural shapefiles to support further Eversource exploration of a wider application of district energy systems in this region of Cambridge.

All new buildings will comply with BEUDO monitoring and reporting requirements. Advanced sub-metering will be installed for mechanical systems, laboratories, and residential units to track and manage energy and water consumption in real time. Data will support continuous optimization of building operations and ongoing compliance with the City's Net Zero Action Plan performance objectives.

The Applicant has evaluated both building-scale and district-scale energy and water infrastructure solutions and recognizes that district-scale systems can deliver higher overall performance and carbon reductions when program diversity is leveraged. The Applicant remains committed to collaborating with the City, Eversource, and other local property owners to explore participation in shared thermal networks or ambient loop systems serving the broader Alewife District. This cooperative approach aligns with the Net Zero Action Plan's district energy recommendations and demonstrates

the Applicant's commitment to supporting long-term, district-wide emissions reductions and sustainable energy resiliency.

In accordance with Section 22.35 (Cool Roof Requirements) of the CZO, all new buildings will incorporate high SRI materials, Functional Green Roofs where feasible, and solar-ready roofs to facilitate renewable energy installation. Where mechanical systems limit green roof installation, such as in laboratory buildings, the Applicant requests issuance of a Special Permit to permit such green roof area reduction, in accordance with the provisions of Section 22.35.3 of the CZO; in connection therewith, the Applicant will make a contribution to the Cambridge Affordable Housing Trust. Additionally, tree planting and porous paving across the Development Parcel will mitigate the urban heat island effect and enhance pedestrian comfort and environmental performance.

1.12.4 Efficiency, Electrification and Path to Net Zero Carbon

1.12.4.1 GHG Emissions Summary and Energy Strategy Overview

All new buildings will be designed as all-electric to align with the City's net-zero carbon goals under BEUDO. The Project includes approximately 2.63 million SF of lab/office space and 1.98 million SF of residential, with an anticipated total energy

consumption of approximately 109,350 MWh/year and estimated annual GHG emissions of 26,600 metric tons CO₂e at full build-out. This equates to approximately 6.2 kg CO₂e/sf/year across the development.

1.12.4.2 Energy Efficiency Strategies

Energy efficiency is addressed through a comprehensive approach at both the building and district levels.

Commercial buildings in the Project will be designed to achieve high energy performance through a combination of passive and active strategies. Targeted envelope improvements include R-20 rated walls and low U-value glazing to minimize heat transfer and improve insulation. HVAC systems will incorporate advanced technologies such as air-source and exhaust-source heat pumps, dedicated outdoor air systems (DOAS), and energy recovery systems to maximize efficiency. Additional features include demand-controlled ventilation and smart lab exhaust controls to optimize air exchange based on occupancy and need, while passive design strategies will further reduce heating and cooling loads, contributing to overall energy savings and operational efficiency.

Residential buildings will be designed to meet Passive House standards, prioritizing

energy efficiency, occupant comfort, and thermal resilience. They will feature R-40 wall assemblies and ultra-low air infiltration to significantly reduce heating and cooling needs. Mechanical systems will include high-efficiency heat pumps, energy recovery ventilators (ERVs), and heat pump water heaters, all working together to minimize energy consumption. The optimized building envelope is specifically designed to lower peak energy demand and enhance resilience to extreme temperature fluctuations.

1.12.4.3 GHG Emissions Reductions

The Project's "Stretch Goal" energy strategy potentially reduces operational carbon by 13% on Day 1, equating to approximately 3,532 metric tons CO₂e/year in avoided emissions comparable to removing 824 internal combustion vehicles from the road annually. Additional emissions savings are expected over time as ISO-NE grid emissions factors improve, further lowering site-based emissions without physical system changes.

1.12.4.4 District Systems

The Applicant is actively coordinating with Eversource and the City to explore utility-scale district thermal solutions that could support not just the Development Parcel, but also the broader Alewife District.

1.12.4.5 Renewable Energy Integration

Renewable energy integration is a key component of the Project, with on-site rooftop PV systems planned where feasible. Additional renewable generation can be achieved through parking canopy PV installations, which also contribute to reducing urban heat island effects. While BIPVs were studied, they were deemed currently unviable due to low efficiency and high costs, though they may be reconsidered as technology advances.

The Applicant will pursue off-site renewable energy procurement, at minimum included MA Class 1 Renewable Energy Certificates (RECs), and potentially including Power Purchase Agreements (PPAs) or Virtual PPAs, to support the remainder of its carbon neutrality goal and comply with BEUDO requirements.

For more information, refer to the certified Green Building Report and the Net Zero Narrative included in **Appendix B**.



Figure 11.1: LTFE - Site Plan
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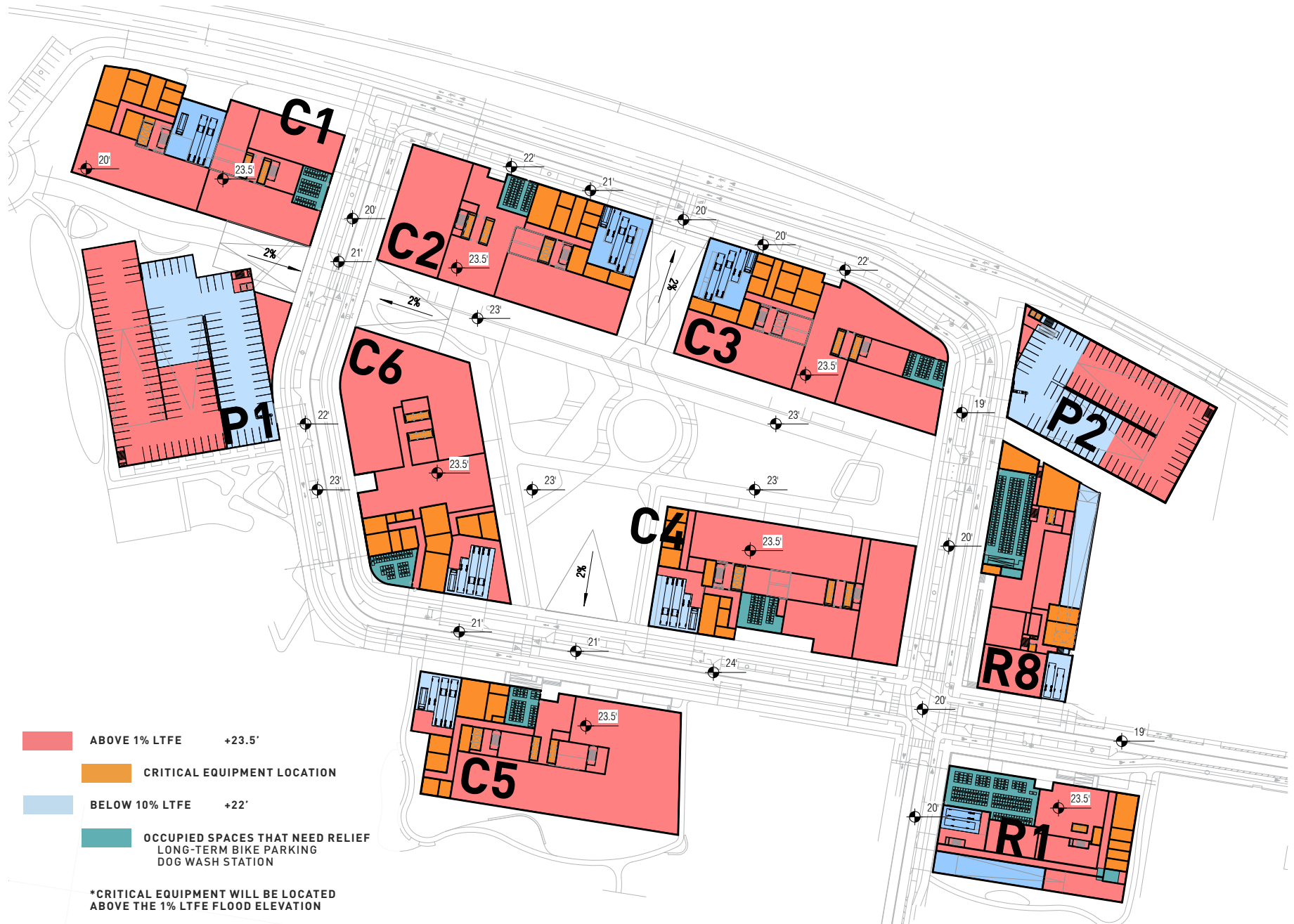


Figure 11.2: LTFE - New Mooney Street

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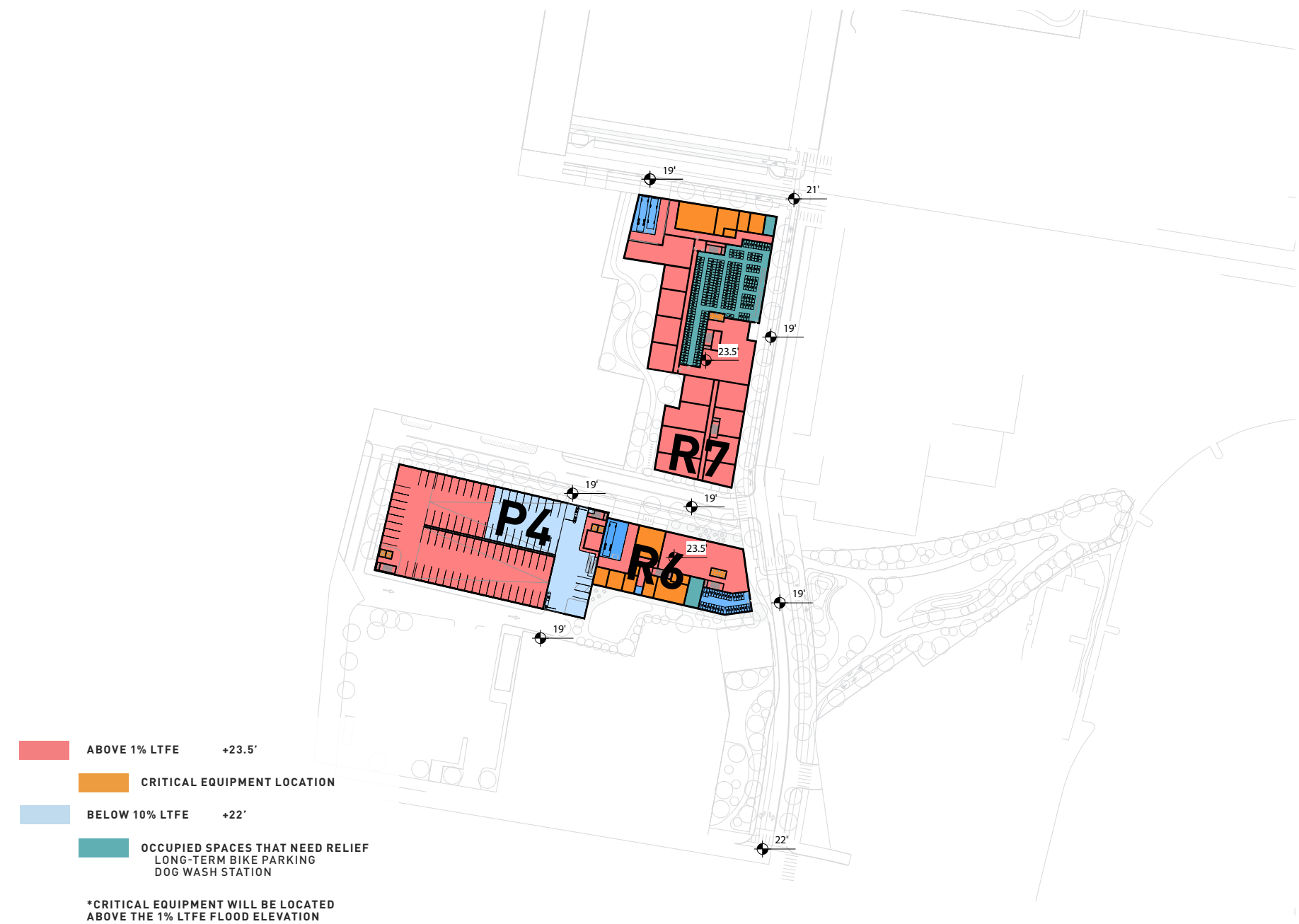


Figure 11.3: LTFE - Smith Place

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Figure 11.4: LTFE - New Main Street
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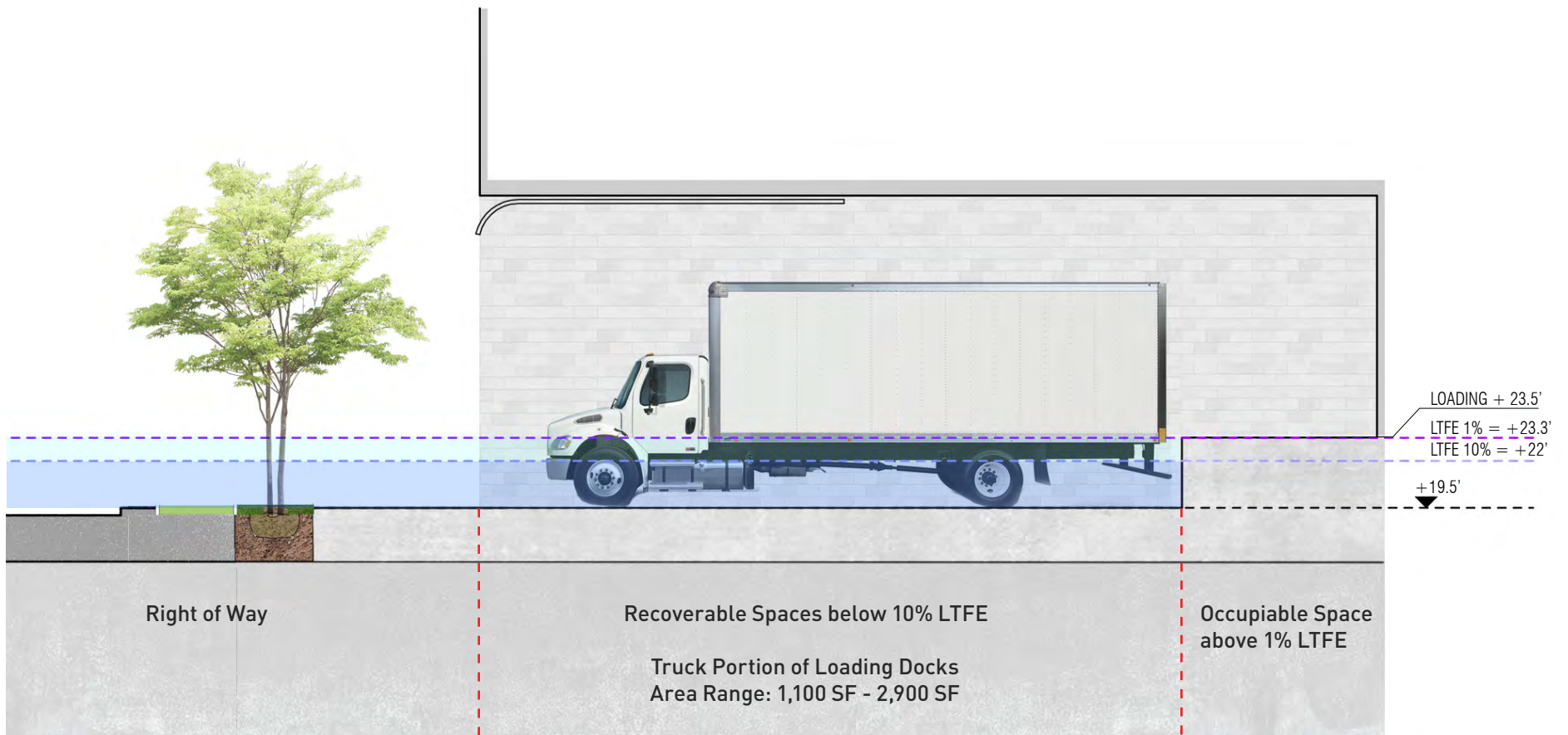


Figure 11.5: LTFE - Typical Building Sections - Loading Dock

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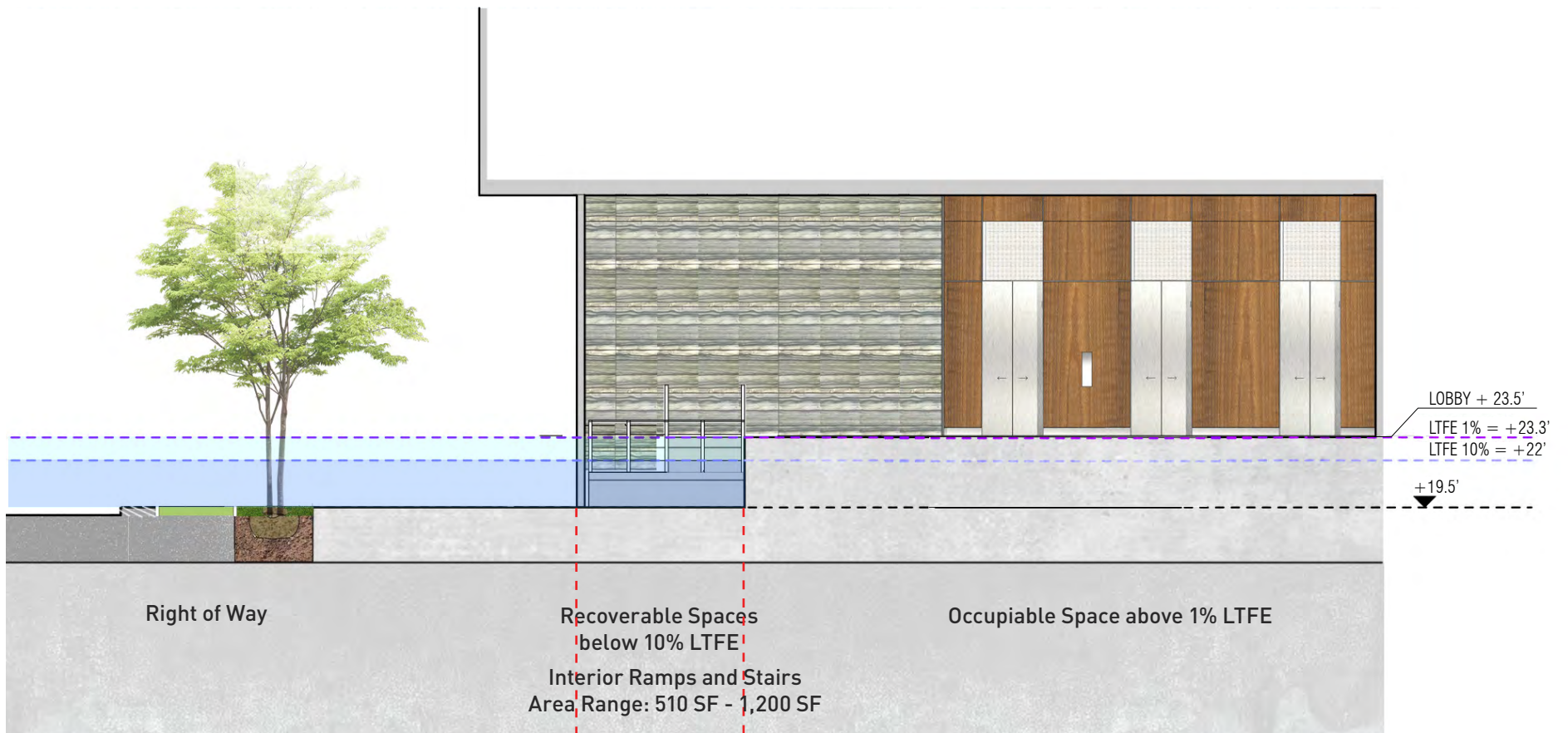


Figure 11.6: LTFE - Typical Building Sections - Main Lobby

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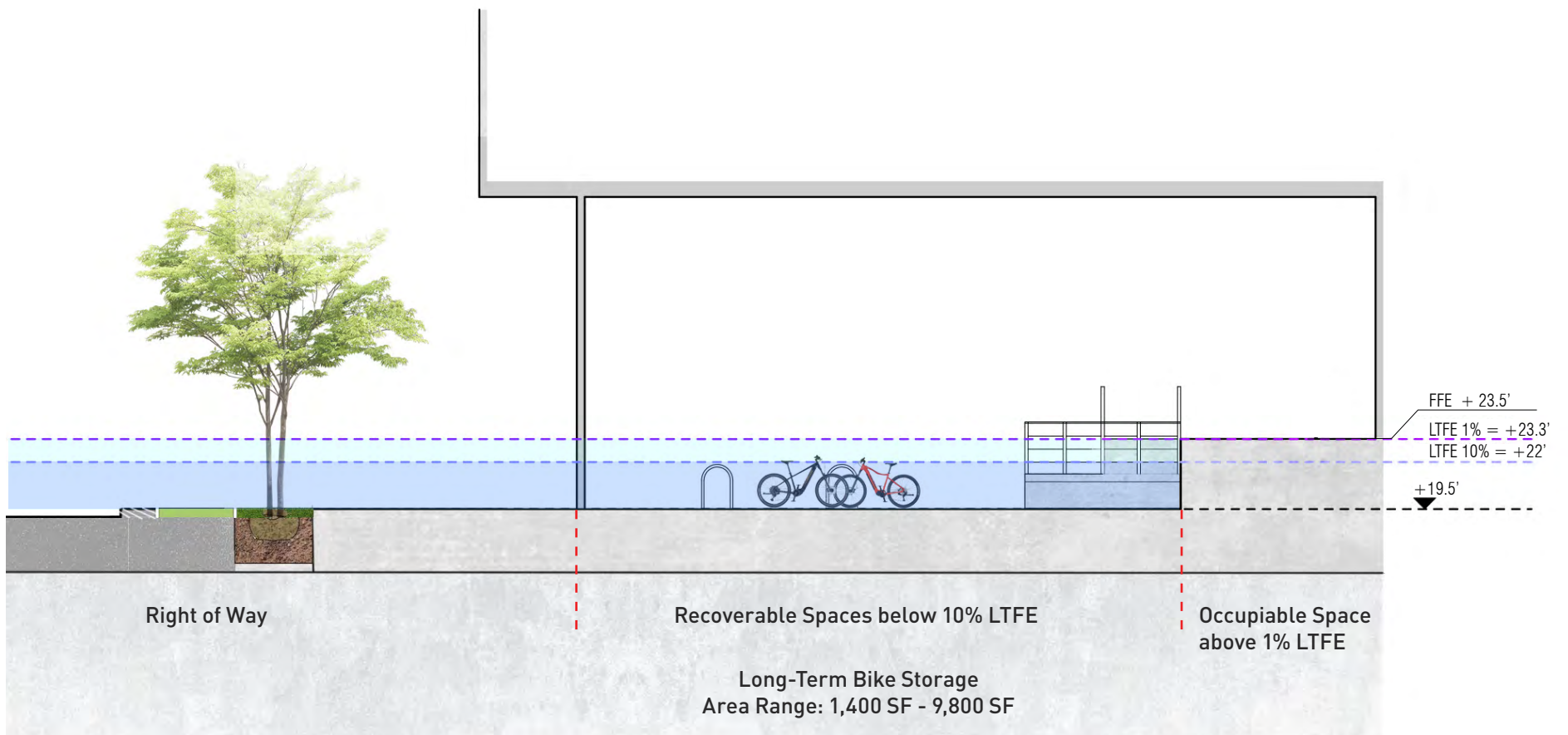


Figure 11.7: LTFE - Typical Building Sections - Bike Storage

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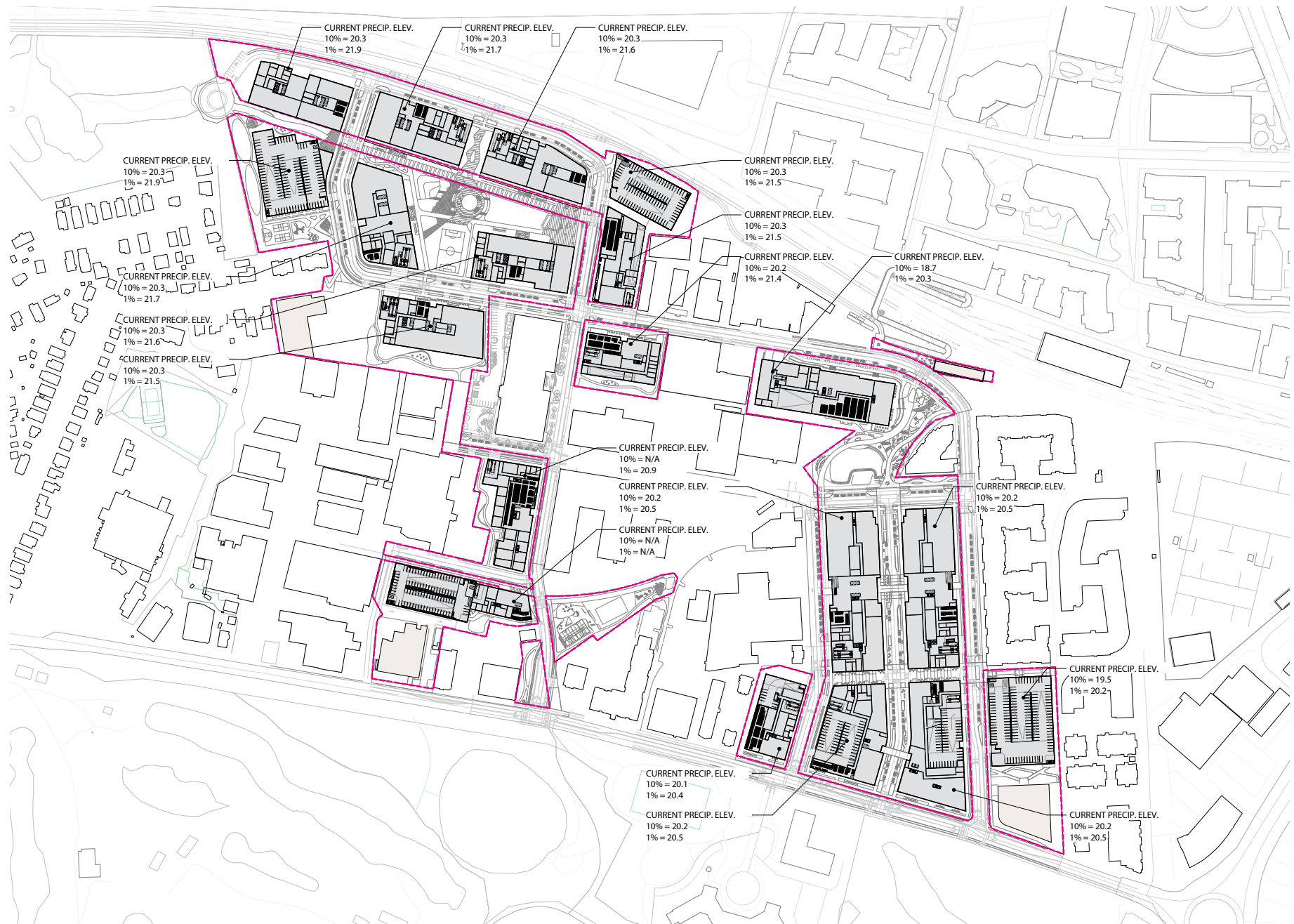


Figure 11.8: FloodViewer 2025 Precipitation Elevations

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1.13 Resilience Plan

1.13.1 Flood Resilience Standards (Section 22.80) and Green Factor Standard (Section 22.90) Compliance

As described above in **Section 1.12.2**, the Project incorporates comprehensive climate resilience and sustainability strategies to address future flood, heat, and energy risks while exceeding the City's Green Factor requirements. Critical equipment and residential units will be elevated above projected flood elevations, stormwater mitigation measures and standby power will be provided, and resilience strategies will continue to be refined as design advances. Flood risk analysis using the Cambridge Flood Viewer Tool (2022) confirms that the 10%-LTFE does not reach the Development Parcel, meeting City flood resilience standards. In alignment with Green Factor requirements, the Project achieves a Cool Score above the minimum threshold through high-SRI roofing, the planting of approximately 1,000 new trees (a 400% increase in tree cover), and the creation of about 800,000 SF of new community green space—representing a fourteenfold increase over existing conditions. The Development Parcel's overall Cool Score will be recalculated for each Parcel during future Phases.

1.13.2 Resilience Objectives (Section 19.38) Compliance

As noted above in **Section 1.12.1**, portions of the buildings containing occupiable spaces (as defined in the State Building Code) will be protected from the 1% LTFE (elevation +23.3 feet) by being located at elevation +23.5 feet or higher, except as permitted under the State Building Code and except as provided in **Volume I, Section 3.8**. Other spaces, such as vestibules, lobbies and entryways, will be designed to be recoverable from flood events per compliance with Section 22.84.2. The top of elevator pits will be located at elevation +23.5 feet or higher. Critical infrastructure and occupiable portions of each building will be elevated above the LTFE, except as provided in **Volume I, Section 3.8**. Refer to **Volume I, Section 3.8** and **Section 1.12.2** above for additional information regarding flood resiliency.

1.13.3 Strategies to Promote Resilience

The Project will embrace climate resilient strategies including elevating critical equipment and residential units above flood elevation, incorporating stormwater mitigation strategies, and providing standby power for critical equipment. The Applicant will continue to evaluate feasibility of strategies for enhanced resilience.

The Development Parcel is vulnerable to increasing flood elevations, increasing heat for the overall site and buildings, and potential for grid disruptions. To evaluate the potential for future flood risk, the Project team studied the projected extent of future flooding in the region utilizing the Cambridge Flood Viewer Tool (2022, Figure 21). The tool assesses 10% and 1% Probability LTFE (10%-LTFE and 1%-LTFE) based on 2070 projections of annual flood risk. The analysis shows that 10%-LTFE does not reach the Development Parcel, which makes the Project naturally meet the minimum City requirement.

The Applicant is designing all buildings within the Development Parcel to be elevated above the 1%-LTFE to achieve an even higher level of resiliency. In that way, all buildings will be protected such that flood waters generally cannot penetrate occupied and critical areas. **Figure 11.1** shows a typical approach to raising buildings above the anticipated flood plain. **Figures 11.2, 11.3, and 11.4** illustrate LTFE cross-sections for New Mooney Street, Smith Place and the New Main Street site (the location of future Buildings R3, R4, R5, C7 and C8), and **Figures 11.5, 11.6, 11.7** illustrate LTFE cross-sections for typical building sections (loading dock, main lobby and bike storage).

In addition to the human-made stormwater management systems (gray infrastructure), green infrastructure such as bioswales and green roofs, will be used where possible to manage stormwater on-site. The design team will evaluate surface flows through the open space to maximize the runoff capture potential for peak rain events seen recently with short, high volume rain events. The primary design goal is to capture stormwater and rainwater on-site and avoid shedding water on the neighboring streets.

1.13.3.1 Heat Risk Resilience

Residential buildings will be designed to adapt to the warming climate and potential disruptions in standard operations. Operable windows combined with improved insulation in building envelopes enhance occupant comfort in the event of power outages. By designing resilient envelopes to minimize the impact of temperature swings on residences, these buildings will be occupiable and resilient. The passive resilience strategies will produce co-benefits with other environmental benefits, such as reducing energy demand and greenhouse gas emissions.

1.13.3.2 Operational Resilience Strategies

The Project will meet City requirements for climate risk resiliency by integrating the following strategies:

- Providing information to building occupants about flood risk at initial occupancy;
- Creating protocols for alerting occupants when an extreme flood or heat event is likely;
- Crafting response plans for maintaining occupant safety if occupants need to shelter in place temporarily, which may include measures to maintain emergency access/egress and to help occupants maintain access to water, food, medications, and means of communication;

- Recovery plans for restoring habitability of spaces that may be damaged during an extreme weather event; and
- Participation in coordinated areawide programs and resources to promote social resilience.

The Development Parcel is not located in the Flood Plain Overlay District based on the current FEMA mapping, dated July 6, 2025. FloodViewer 2025 precipitation elevations are depicted in **Figure 11.8**.

The Project is designed in full alignment with the City's comprehensive climate resilience goals, including the flood resilience requirements outlined in Section 22.80 of the CZO, except as noted in **Volume I, Section 3.8**, and **Section 1.12.2** above. In accordance with these standards, where finished floors are below the LTFE, the Project incorporates permanent or passively deployable flood barriers designed to prevent water intrusion, thereby ensuring the critical equipment and occupiable spaces (except as provided in **Volume I, Section 3.8**) remain fully protected. Portions of buildings containing occupiable space (as defined in the State Building Code) will be elevated above the projected 100-year flood level, except as permitted under the State Building Code and except as provided in **Volume I, Section 3.8**. To achieve this, the Project employs a multifaceted approach, including strategic site elevation, passive

flood protection measures, raised walkways, and seamless internal transitions that support both access and adaptability.

The Project will utilize sustainable landscape design throughout the open spaces and open space network by integrating ecological principles to create environments that are both environmentally responsible and resilient. This approach emphasizes the use of native and adaptive plants, water conservation strategies such as rain gardens and permeable surfaces, and the reduction of chemical inputs. When possible, the open spaces will utilize elements, site furnishings and plant materials which have low embodied carbon metrics. In urban settings such as this, sustainable design also enhances biodiversity, improves stormwater management, and creates healthier, more resilient public areas for communities. By prioritizing long-term environmental health and climate adaptation, the proposed sustainable open space design approach will support local ecosystems while providing attractive, functional spaces for recreation and social interaction.

In addition to meeting flood resilience standards, except as noted in **Volume I, Section 3.8, Section 1.12.2** above and this Section, the Project will comply with the City's Green Factor requirements and the Green Building standards set forth in Section 22.20. The Project is targeting a minimum of LEED Gold certification for all new buildings, as well as LEED Master Site certification, underscoring its commitment to sustainable design and long-term environmental stewardship.

1.14 Transportation Plan

1.14.1 Transportation Impact Study (TIS) (Section 19.20)

In compliance with Section 19.24(2) of the CZO, the Applicant submitted a TIS and received certification by the City's DOT on January 20, 2026. Refer to **Appendix A** for the certified TIS. The TIS includes evaluation of shared parking, impacts on roadway network as well as public transportation and relationships to future regional bike and transit networks. The TIS includes trip generation projections for vehicles, walk/bike trips, and transit (Red Line and buses), as summarized in **Exhibit 1** below.

Exhibit 1: Trip Generation and Mode Share Assumptions (Certified TIS)

TRIP GENERATION	Morning Peak Hour		Evening Peak Hour
Vehicle (<i>Net-New</i>)	1,538		1,583
Transit	883		945
Walk	299		347
Bicycle	224		226
Micromobility	17		18
Telecommuting	953		926
MODE SPLIT (Share of Person Trips)	Residential Use	Technical Office/ General Office Use	Retail/Neighborhood Use
SOV	31.8%	40.0%	30.0%
HOV	4.7%	4.4%	7.2%
Transit	29.2%	17.8%	28.9%
Walk	8.5%	6.3%	25.1%
Bike	3.8%	6.3%	6.4%
Micromobility	0.5%	0.4%	0.5%

1.14.2 Shared Parking Study

The concept of shared parking recognizes that peak activity for different land uses occurs at various times of the day. Instead of building parking to support each individual land use's peak demand, enough parking would be supplied to support the entire Development Parcel's peak parking demand, assuming that each land use will draw from a common parking supply. Shared parking leverages the peaking characteristics of its land uses, taking advantage of parking demand synergies. Due to parking demand issues, the shared parking concept is often viewed as most applicable to large mixed-use

developments that have a large physically sharable parking supply, which can serve multiple users rather than one individual building with a limited parking supply.

The Applicant is committed in supporting the City's goal of lowering single occupant vehicle ("SOV") trips to/from the Cambridge area, by promoting alternative transportation mobility options in the neighborhood (Red Line train, MBTA buses, TMA shuttle bus, cycling and walking) and implementing shared parking.

A shared parking analysis was completed as part of the certified TIS, to understand the Project's ability to share new parking spaces and possibly reduce the overall number of physical spaces built.

Through ongoing discussions with City staff, the Applicant has updated its parking demand assumptions and has proposed a more flexible, phased approach to parking supply. The updated parking analysis supports a proposed parking supply of approximately 4,477 spaces, with the opportunity to reduce supply to approximately 4,040 spaces over time as leases turn over, land uses transition, and shared parking strategies are implemented. If future parking utilization monitoring supports a further reduction in the General Office parking ratio for applicable future office development, the total parking supply could be reduced further to approximately 3,788 spaces. The framework also maintains flexibility to provide up to approximately 51 additional on-street spaces on private roadways as street design and curbside uses are further refined based on additional coordination with City staff. The proposed supply is intended to satisfy the peak (noon time) shared parking demand for the Project. See **Volume I, Section 3.3** for additional details on the Applicant's shared parking study.

The proposed supply was determined by reviewing parking demand models (density, observation/PTDM utilization and zoning maximum calculations) and aligning a shared parking methodology to limit the number of physical parking spaces to be built. The shared parking calculation is lower than the zoning calculation total of 4,897 spaces, the density calculation total of 5,218 spaces and the observation/PTDM calculation total of 4,974 spaces.

The certified TIS (**Appendix A**) includes additional information regarding the evaluated parking models—the proposed parking supply in relationship to these models, including a comparison to unshared and shared demand supply.

Public Transit Impacts

The transit analysis includes a review of existing Red Line and bus services and an assessment of the passenger crowding impacts of introducing Project-generated transit trips (riders) and future transit activity. The analysis considers typical weekday conditions and use.

The Project's transit riders could be expected to use the MBTA bus routes 74 and 78 (which operate along Concord Avenue), the MBTA Red Line at Alewife Station, and to a lesser extent, bus routes 62, 67, and 76 (the existing Route 350 will not serve the Alewife area under Bus Network Redesign implementation).

Ridership data (typical weekday passenger activity) was obtained from the MBTA's Open Data Portal and through MassDOT's Office of Performance Management and Innovation (OPMI).

Bus Services Capacity Analysis

Under current service levels, Route 74 inbound, which serves the Project via Concord Avenue, could experience passenger crowding with the addition of Project-generated transit riders. However, with Bus Network Redesign Project, by 2029 the MBTA is anticipated to add peak period service to this route, which should alleviate the crowding condition. All other routes serving the Project area are expected to remain below the MBTA's passenger crowding threshold with the addition of Project-generated transit riders and with potential increases to ridership from other projects.

Section 11 of the certified TIS (Appendix A of this Application) contains the complete results of this analysis.

Red Line Capacity Analysis

The average peak passenger demand on the Red Line is expected to remain below the maximum policy capacity with the addition of Project-generated riders, even under current service operating levels. These results are presented next and depicted in **Figure 10.d.1 of the certified TIS (Appendix A** of this Application). Complete results are included

in Transit Analysis, **Tables A.8 and A.9** of the certified TIS (included in **Appendix A** of this Application).

A commuter rail ridership assessment was not required, and therefore, was not included in the certified TIS (**Appendix A**). However, the Applicant, in coordination with the MBTA, may undertake additional study scope to include in forthcoming MEPA and/or other state filings.

1.14.3 Relationship to Future Alternative Transportation Modes

An essential component of the Project is the Proposed Bridge—a new pedestrian and bicycle crossing over the MBTA commuter rail tracks designed to enhance access to the existing MBTA Alewife Red Line train station, as described in **Volume I, Section 2.2.1**.

This long-anticipated connection will link the Quad and the Alewife Triangle, significantly improving access to the major public transit hub to the north. The Proposed Bridge is currently planned to accommodate both pedestrians and cyclists.

The final design and placement of the Proposed Bridge are subject to approval by the MBTA and other relevant local agencies. Notably, the proposed location is not intended to preclude any future MBTA right-of-way work or commuter rail expansion projects.

1.14.4 Transportation Demand Management Plan

The Applicant is committed to minimizing auto travel and encouraging alternative travel modes. The Applicant will support a program of proactive TDM actions to reduce SOV automobile trips, support carpooling, and encourage the use of transit, biking, and walking. The Applicant will work with tenants of the new buildings to join the Alewife Transportation Management Association and implement effective TDM strategies that are incorporated in a PTDM Plan, as approved by the City's PTDM Officer.

The following is a list of applicable TDM programs that the Applicant is committing to as part of their PTDM applicable for commercial land uses:

- On-Site Transportation Coordinator
- Marketing and Promotion
 - » New/relocating employee information packets
 - » Transportation Fairs/Events
 - » Tenant job notices provided to the Cambridge Office of Workforce Development
 - » Market Alewife TMA shuttle bus schedule and services
 - » TMA promotional events and support service
- Alewife Transportation Management Association (TMA) Membership
- Alewife TMA Shuttle Service
 - » Contribute funding to study TMA shuttle route improvements at each Phase of development
 - » Fare free shuttle service open to the public
- Emergency Ride Home Programs, via membership in the TMA
- Parking
 - » Carpool incentive program, and subsidy to employees who carpool
 - » Ride matching
 - » Preferential carpool/vanpool spaces (approx. 5% of employee spaces) located in preferential locations near elevators. And clearly marked with signage
 - » Charge market rate for parking
 - » Parking supply management
 - » EV charging infrastructure (EV charging equipment will be installed for 25 percent of parking stalls in P1, P2, P3, and P4 on Day 1. Conduit will be installed for the remaining 75 percent of parking stalls on Day 1 to support future EV charging installation. Space will also be reserved for future electrical equipment. Wiring, panels, and

electrical service for these stalls will not be provided on Day 1).

- MBTA pass subsidies
- Pre-tax deduction programs
- Bicycle
 - » Bicycle parking facilities, short and long-term in conformance with City's Bicycle Parking Guidelines and elevators leading to bicycle parking will be appropriately sized
 - » Access to lockers, showers and changing rooms
 - » Bike Repair Program/"Fix-it" station
 - » Electrical outlets in bike rooms for charging e-bikes, e-scooters, or other small electric mobility devices
 - » Bluebikes Gold-Level membership
 - » Funding for at least six (6) Bluebikes stations, each will include at least 19-docks and at least half of the stations will be electrified, where feasible, for a total of 150-docks
- Pedestrian
 - » Pedestrian pathways and streetscape
 - » Lighting for pedestrian pathways
 - » Enhanced pedestrian connections
- Flexible work schedules and telecommuting
- Tenant participation in PTDM monitoring surveys

Similarly, the residential land uses will have the following TDM measures and programs available:

- Zipcar: Make available up to 2 carsharing spaces for a vehicle sharing company (such as Zipcar). As demand dictates additional carsharing vehicles may be added over time
- Transit: Offer each adult member of each household (up to 2) upon move-in a Charlie Card valued at the cost of 100% bus/subway pass (subject to fare increases) for 2 consecutive months. This benefit will end after 2 months for the household and begins anew upon unit turnover
- Bluebikes: Offer each adult member of each household (up to 2) upon move-in a 1-year Gold-Level Bluebikes membership. This benefit will end after one year for the household and begins anew upon unit turnover.
- Bike Tools: Provide air pumps and other bike tools in the bicycle storage room
- TMA Membership: Join the Alewife TMA
- Shuttle Access: Provide access to Alewife Shuttle bus, or similar, until the Proposed Bridge over the railroad is constructed
- Parking Charge: Charge parking separately from the residential rent, in order to remind tenants how much they pay for parking

- EV charging infrastructure: 20 percent of parking stalls (10 percent EV installed Day 1 and 10 percent EV-ready spaces on Day 1.)
- Transit Screen: Install a real-time multimodal transportation display screen in the lobby of each building to help people decide which mode to choose for each trip (transit, carsharing, vehicle, Bluebikes bikeshare, etc.)
- Coordinator:
 - » Designate a transportation coordinator (“TC”) for the site to manage the TDM program. The TC will also oversee the marketing and promotion of transportation options to all Project residents via email and telephone. Email and phone information for the TC will be posted in the transportation information center.
 - » The TC will compile and distribute up-to-date information explaining all transportation options to all new residents as part of their New Resident Packet (some items are available for purchase from the Community Development Department). The packets will contain information on both the range of options available to any programs to support the use of these options.

1.15 Environmental Comfort Plan

The Project has been thoughtfully designed to minimize adverse impacts on environmental comfort, particularly related to wind and shadow, ensuring that public spaces remain welcoming and usable throughout the year. Building massing and orientation, including step-backs on upper floors, reduce the extent and duration of shadows on key open spaces, such as Mooney Green and Gateway Park, preserving daylight access and creating a balance of sun and shade across seasons. At the same time, strategic placement of trees, plantings, and building setbacks helps mitigate wind conditions, softening gusts and reducing cold drafts at the pedestrian level. Collectively, the integration of landscaping, step-backs, and human-scaled design ensures that plazas, streets, and green spaces, including signature destinations like Bend Park and Mooney Green, are protected from excessive shadowing and wind, supporting vibrant, safe, and enjoyable environments for community life.

1.15.1 Noise

The Project will fully comply with DEP’s noise policy (310 CMR 7.10), the City’s Noise Control Ordinance (Chapter 8.16), and Section 19.24(7) of the CZO. Baseline ambient noise levels

will be measured during Design Review to establish site-specific limits, ensuring that operational noise from buildings remains within regulatory thresholds. Qualified acoustic consultants will guide noise mitigation strategies, including careful mechanical equipment selection, acoustic enclosures, sound barriers, and attenuation devices to minimize potential impacts. Mechanical systems will be located within enclosed rooftop penthouses or dedicated service rooms to further reduce external noise. Service and loading operations will occur entirely within enclosed, off-street docks accessed through designated truck routes, minimizing disturbance to nearby streets and publicly accessible spaces. Construction-related noise will be temporary and managed in accordance with City regulations, with the loudest activities restricted to daytime hours and supplemented by additional mitigation measures developed in coordination with the City. Collectively, these strategies ensure that both construction and long-term operational noise impacts are effectively controlled, protecting the surrounding community from undue disturbance. A more detailed narrative on noise mitigation is included in **Volume II, Section 2.4** (Article 19 Requirements).

1.15.2 Lighting

The Project will provide street and sidewalk lighting in compliance with the City requirements. All public street lighting will be reviewed and approved by the City's Pole and Conduit Commission, DPW and CDD.

A thoughtful lighting design approach is proposed for this mixed-use Project, which contains a variety of publicly beneficial open spaces, such as parks, pedestrian streetscapes, and plazas, balances functionality, safety, and visual aesthetics. Layered lighting will create distinct atmospheres for different spaces—soft, ambient lighting in some spaces, while brighter, uniform lighting improves safety along pedestrian pathways/streetscapes. In plazas, dynamic and programmable lighting can highlight key features, support community events, and foster a vibrant nighttime identity. Energy-efficient LED fixtures and smart controls reduce energy consumption and light pollution (dark sky), aligning with sustainability goals. The design also considers accessibility, ensuring adequate illumination for people of all ages and abilities. By integrating technology and aesthetics, the lighting design will support all activities and create inviting public spaces day and night.

1.15.3 Pedestrian Wind

The firm RWDI conducted a pedestrian wind comfort assessment for the Project. The study evaluated existing and future wind conditions using wind tunnel testing, regional climate data, and the RWDI Pedestrian Wind Criteria for comfort and safety. Recommendations were developed to address areas of predicted discomfort. Refer to **Appendix E** for the full wind study methodology and results.

1.15.3.1 Methodology

RWDI performed scale-model wind tunnel testing of the Development Parcel and its surroundings, using a 1:400 model. The model incorporated existing and proposed building configurations and was tested under seasonal wind conditions (summer and winter). Wind speeds were compared against the RWDI Pedestrian Wind Criteria:

- Sitting: <6 mph
(calm/light breezes, outdoor seating)
- Standing: <8 mph
(entrances, bus stops, waiting areas)
- Strolling: <10 mph
(window shopping, plazas)
- Walking: <12 mph
(sidewalks, active pedestrian use)
- Uncomfortable: >12 mph
(mitigation typically required)

- Safety Criterion: Gust speeds >56 mph
(rare, may affect balance)

These benchmarks were applied to both existing and proposed scenarios to evaluate pedestrian comfort.

1.15.3.2 Existing Wind Conditions

Under existing site conditions, wind speeds are predicted to be comfortable for sitting, standing, or strolling in summer, and generally comfortable for standing, strolling, or walking in winter. All tested locations were found to meet the wind safety criterion, with no excessive gusts recorded. Overall, the Development Parcel currently experiences benign conditions suitable for its intended pedestrian uses. Refer to **Appendix E** for an illustration of the existing pedestrian wind conditions in summer and winter.

1.15.3.3 Future Wind Conditions

With the introduction of taller, closely spaced buildings, wind activity is expected to increase due to downwashing, corner acceleration, and channeling effects. Most areas will remain comfortable for strolling in summer and walking in winter, meeting safety standards. Refer to **Appendix E** for an illustration of the proposed pedestrian wind conditions in summer and winter.

Localized uncomfortable conditions are predicted at the following locations (building references below correspond to labeling in **Appendix E**):

- Around Building P1 in summer; and
- Between Buildings P1 and P2, along Fawcett Street near Buildings P5, P6, P16, and P20, and between Buildings P9 and P21 in winter, where channeling intensifies winds.

All grade-level areas are expected to meet wind safety criteria, but targeted mitigation is recommended to improve pedestrian comfort.

1.15.3.4 Proposed Wind Mitigation

To improve pedestrian comfort, the Project can incorporate both large-scale and localized wind control measures. At the building scale, articulated corners, step-backs on westerly façades, podiums, and tower setbacks will be considered to disrupt downwashing flows and reduce ground-level impacts. In certain areas, arcades or colonnades may also provide sheltered alternatives for pedestrians near building edges.

At the pedestrian scale, canopies, trellises, wind screens, and strategic landscaping can be applied near entrances, corners, and along sidewalks to diffuse or deflect accelerated winds. Wind screens of at least six feet in height with partial

porosity, combined with street trees and wind-tolerant plantings, can enhance comfort across seasons, particularly in winter months when shelter is most needed. Together, these measures will ensure safe, comfortable, and resilient conditions for walking, standing, and sitting throughout the Development Parcel.

1.15.4 Shadow

The shadow study results for existing and proposed conditions are presented in **Figures 1K.5** through **1K.22**. The incremental shadows produced are consistent with the existing urban shadow pattern, and they are not expected to have any significant effect on pedestrian use or enjoyment at or around the Development Parcel. A summary of the shadow analysis results for each representative period is provided below.

1.15.4.1 Spring/Fall Equinox (March 21 and September 21)

As shown on **Figures 1K.8, 1K.9, and 1K.10**, at 9AM on March 21, the proposed buildings would create shadow over the adjacent streets and sidewalks. By 12PM, the shadow would move north over the Development Parcel and adjacent areas, including rooftops and portions of nearby streets. At 3PM, the net new shadow would continue moving east over adjacent parcels and some of the surface parking.

1.15.4.2 Summer Solstice (June 21)

Shadows are generally shorter during the summer months. As shown on **Figures 1K.14, 1K.15, and 1K.16**, at 9AM, only a small portion of the net new shadows of the Project would cast over part of the surrounding streets and public sidewalks. By 12PM, the net new shadows remain mostly on-site, with minimal impact on adjacent areas. By 3PM, the net new shadow extends onto nearby surface parking and rooftops.

1.15.4.3 Winter Solstice (December 21)

Shadows are generally longest during the winter months. As shown on **Figures 1K.20, 1K.21, and 1K.22**, at 9AM significant shadows extend from the tall structures towards the north and northwest. These shadows fall across multiple adjacent blocks, potentially impacting residential areas and open spaces by reducing direct sunlight exposure in the early morning. At 12PM, the shadows recede slightly and shift towards the northeast. The shadows cover portions of the surrounding urban fabric, including potential building facades and public pathways. By 3PM, the shadows once again lengthen considerably and extend predominantly towards the east and southeast. They cast over residential buildings and potentially commercial areas, particularly impacting lower floors and street-level spaces as the afternoon progresses.

1.15.5 Urban Heat Island Effect

Urban heat island effects will be mitigated through an integrated landscape and architectural approach. The Project will feature lush, shaded, and publicly accessible landscapes that are designed to improve outdoor thermal comfort, support biodiversity, and bring nature into the urban daily experience to reflect heat and mitigate urban heat island effects in accordance with the Alewife Design Guidelines requirements. In alignment with urban heat island mitigation objectives, the Project will utilize a combination of tree canopy coverage, vegetated ground surfaces, and high-albedo materials across the Development Parcel.

The existing conditions characterized by extensive asphalt paving and minimal vegetation due to its industrial and light manufacturing history present an opportunity for transformation. The Project will significantly increase vegetation coverage and employ light-colored paving materials with high Solar Reflectance Index values to reduce surface and ambient temperatures.

To further mitigate the urban heat island effect, all rooftops will be evaluated for their capacity to support high reflectance materials, green roofs, or PV systems, in accordance with applicable Section 22.30 (Green Roofs) of the CZO requirements, including Section 22.35.2, and sustainability requirements.

A study will be conducted during the building design phase to determine the optimal allocation of green roofs for stormwater and thermal regulation and mechanical systems, prioritizing cooling performance and overall sustainability outcomes.

Vegetated outdoor spaces, including canopy trees, will be integrated to reduce urban heat gain and improve pedestrian thermal comfort. Heightened tree canopy, vegetation coverage, shading devices and strategic building placement will reduce direct solar exposure at the ground level, enhancing comfort and meeting climate resiliency goals.

By increasing planted areas, adding trees, vegetation, and light colored surfaces across the Quad, the Project takes a proactive approach to improving urban heat island effects. A comparison of the urban heat island effect between the existing and future condition shows a meaningful reduction in average air temperature across the Development Parcel at a peak summer condition. Utilizing microclimate simulation software, an average temperature reduction on the Development Parcel of 2.2 degrees Fahrenheit is realized as a result of the introduction of additional green space and the redevelopment of paved hardscape and low-rise industrial buildings with the Project. In areas that have been modified from paved hardscape to greenspace, the reductions are approximately 4 to 5 degrees Fahrenheit.



Pedestrian Wind Comfort Conditions Existing Configuration Summer (May to October, 6:00 to 23:00) Alewife Masterplan - Cambridge, MA	True North 	Drawn by: ALJM Figure: 1A Approx. Scale: 1"=250' Date Revised: July 23, 2025	
	Project #2506863		
	Date Revised: July 23, 2025		

Figure 1K.1: Pedestrian Wind Comfort Conditions - Existing (Summer)

Healthpeak PUD Master Plan | Cambridge, MA

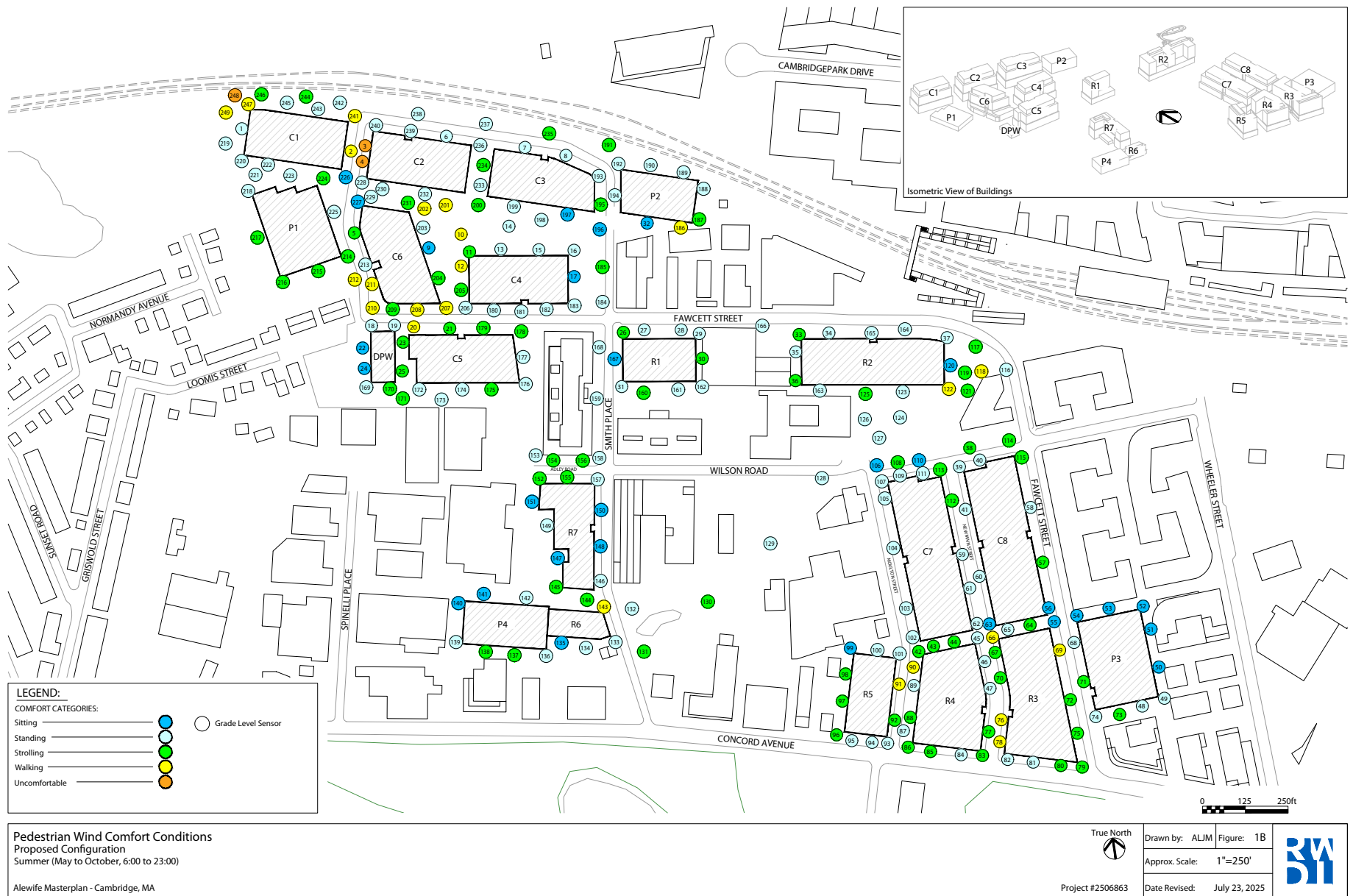
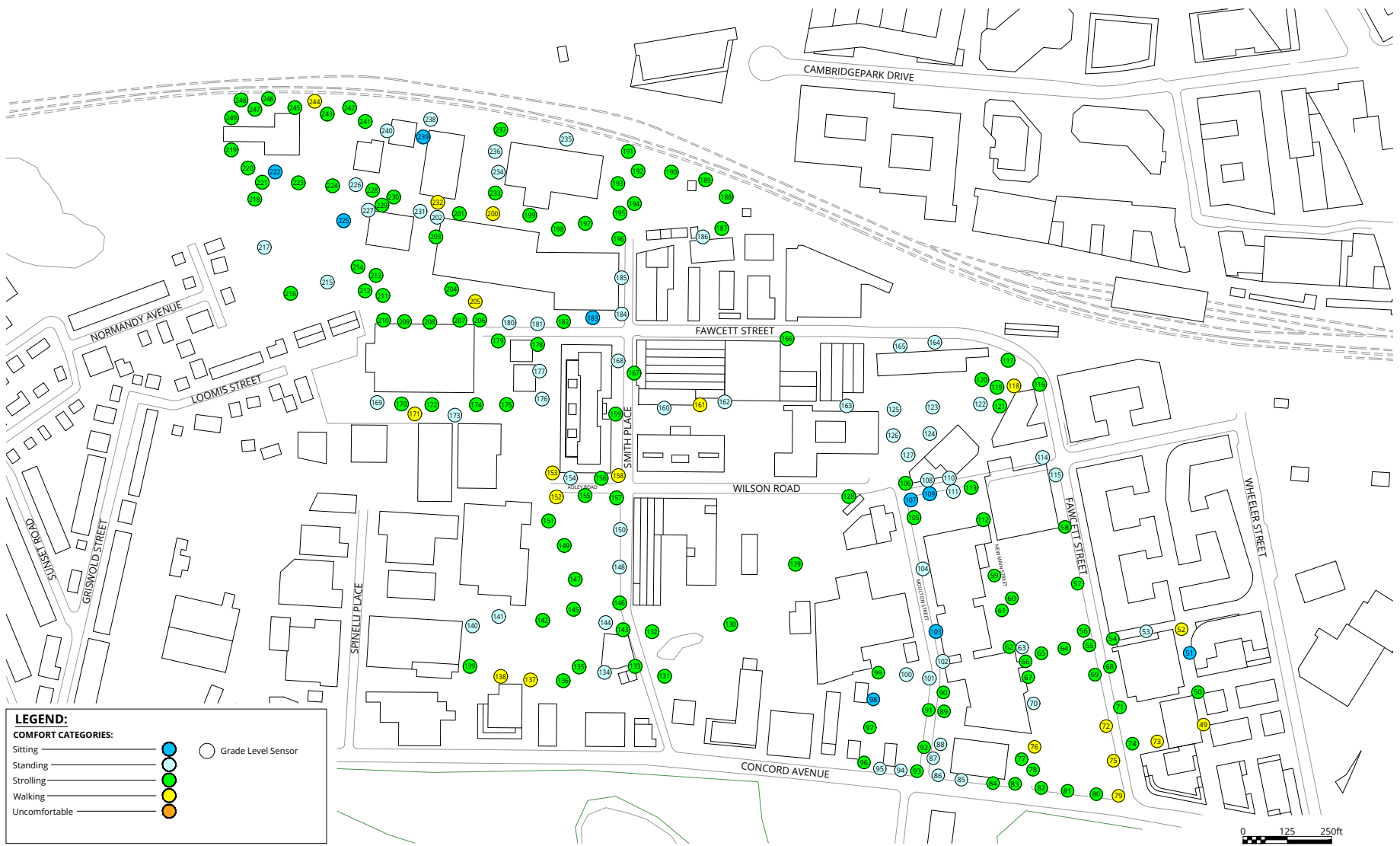


Figure 1K.2: Pedestrian Wind Comfort Conditions - Proposed (Summer)

Healthpeak PUD Master Plan | Cambridge, MA



Pedestrian Wind Comfort Conditions Existing Configuration Winter (November to April, 6:00 to 23:00) Alewife Masterplan - Cambridge, MA	True North 	Drawn by: ALJM Project #2506863	Figure: 2A Approx. Scale: 1"=250' Date Revised: July 23, 2025	
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Figure 1K.3: Pedestrian Wind Comfort Conditions - Existing (Winter)

Healthpeak PUD Master Plan | Cambridge, MA

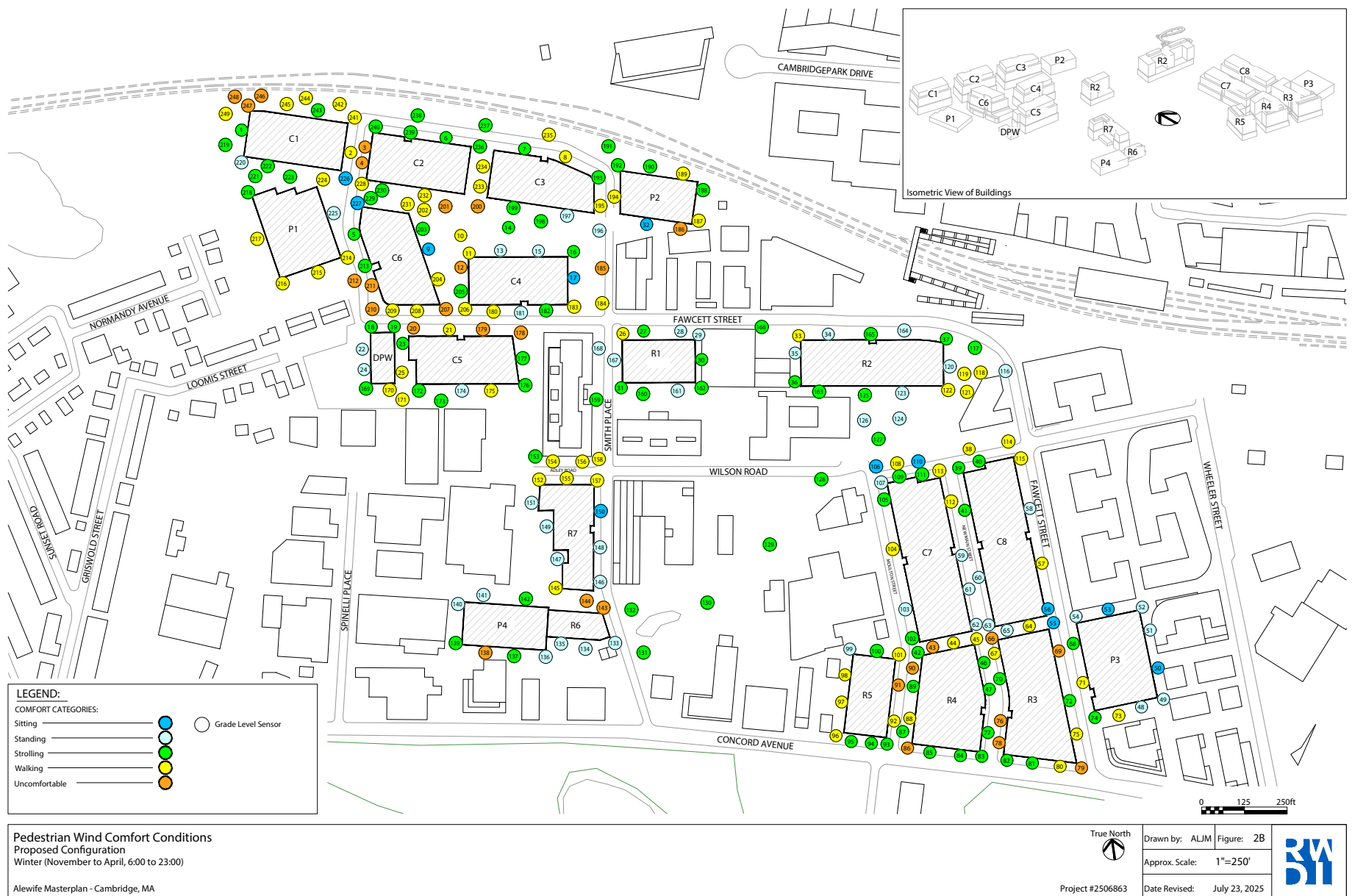


Figure 1K.4: Pedestrian Wind Comfort Conditions - Proposed (Winter)

Healthpeak PUD Master Plan | Cambridge, MA

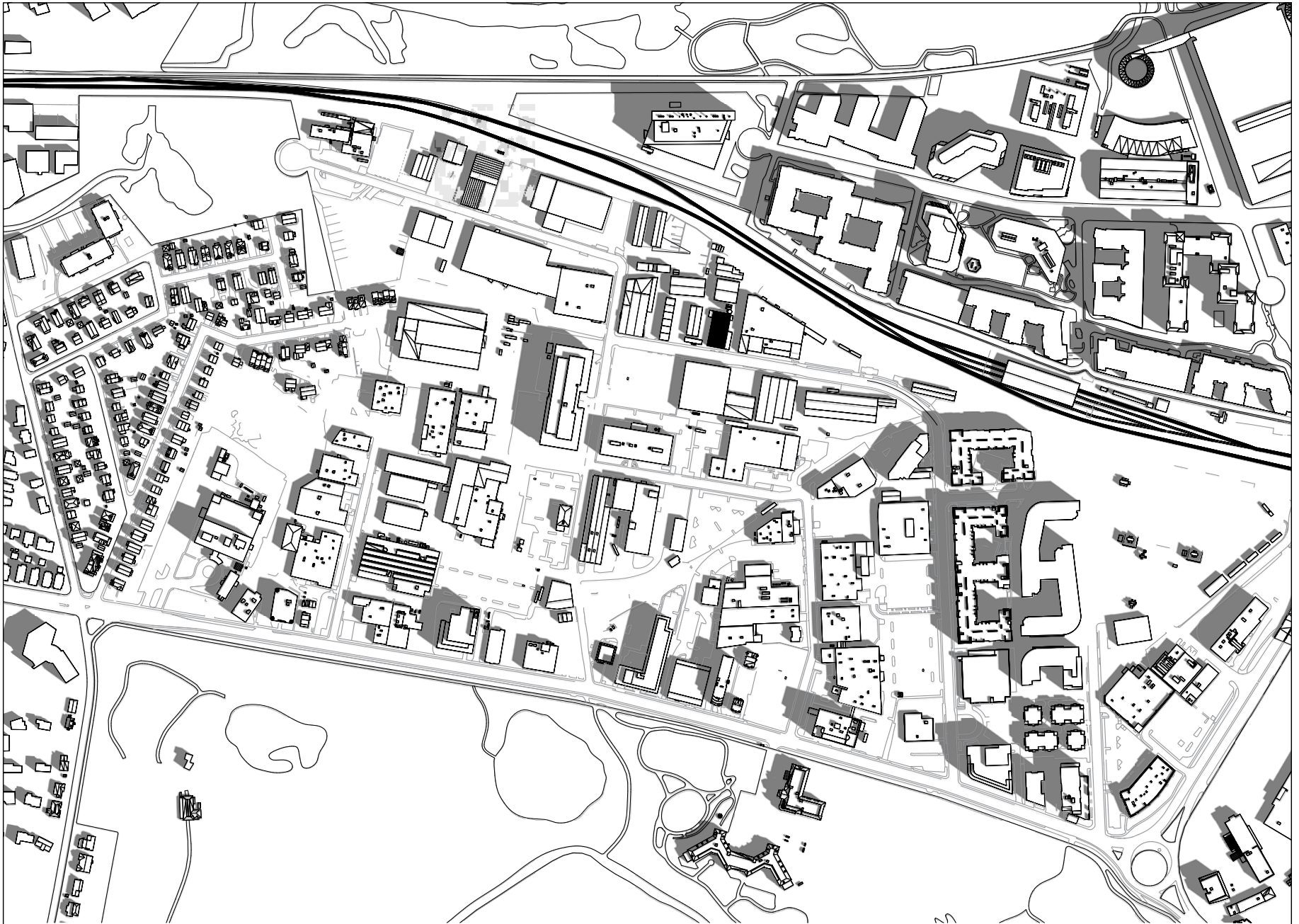


Figure 1K.5: Shadow on Spring / Fall Equinox - Existing 9am

Healthpeak PUD Master Plan | Cambridge, MA



Figure 1K.6: Shadow on Spring / Fall Equinox - Existing 12pm

Healthpeak PUD Master Plan | Cambridge, MA



Figure 1K.7: Shadow on Spring / Fall Equinox - Existing 3pm

Healthpeak PUD Master Plan | Cambridge, MA

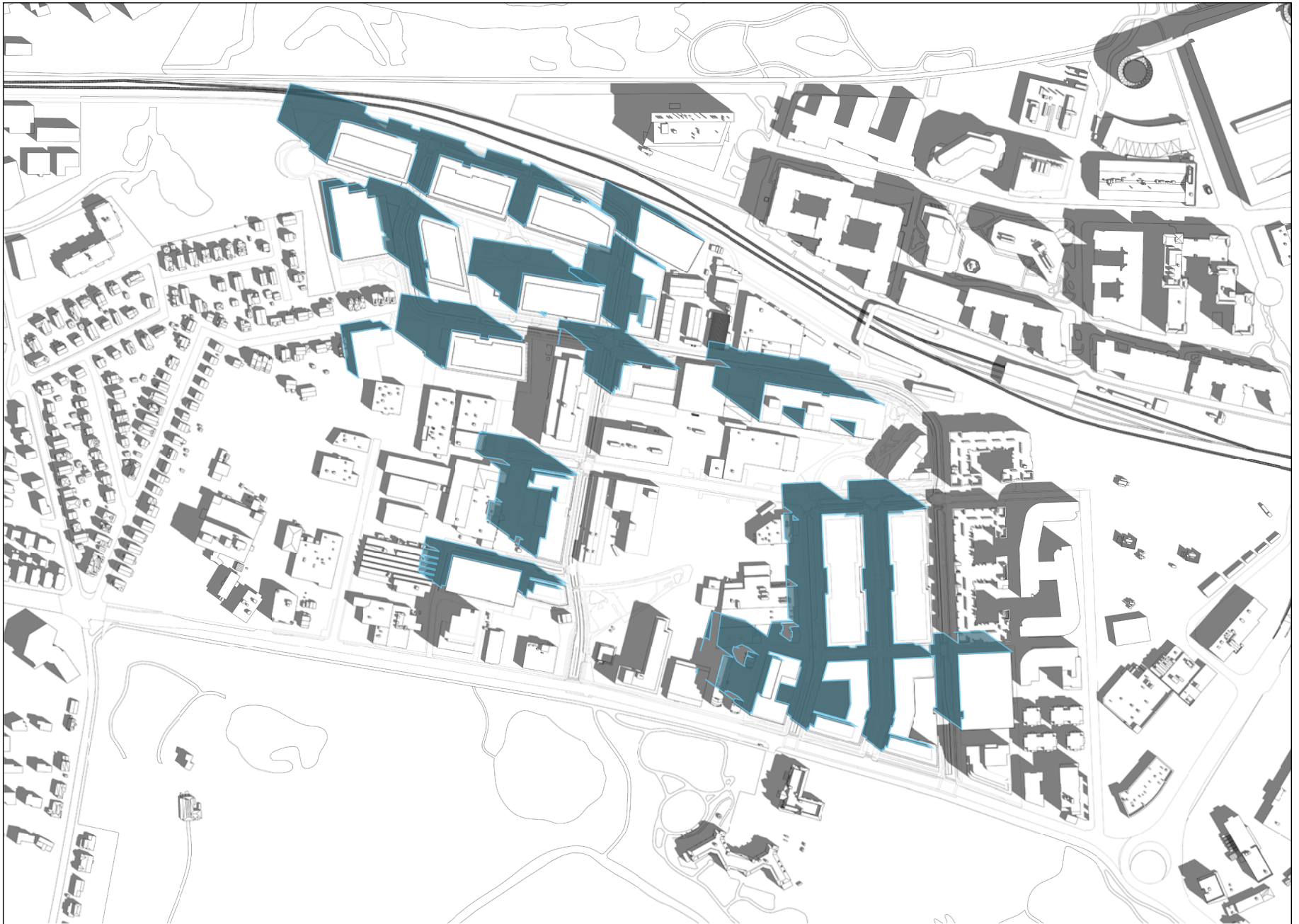


Figure 1K.8: Shadow on Spring / Fall Equinox - Proposed 9am
Healthpeak PUD Master Plan | Cambridge, MA



Figure 1K.9: Shadow on Spring / Fall Equinox - Proposed 12pm

Healthpeak PUD Master Plan | Cambridge, MA



Figure 1K.10: Shadow on Spring / Fall Equinox - Proposed 3pm

Healthpeak PUD Master Plan | Cambridge, MA

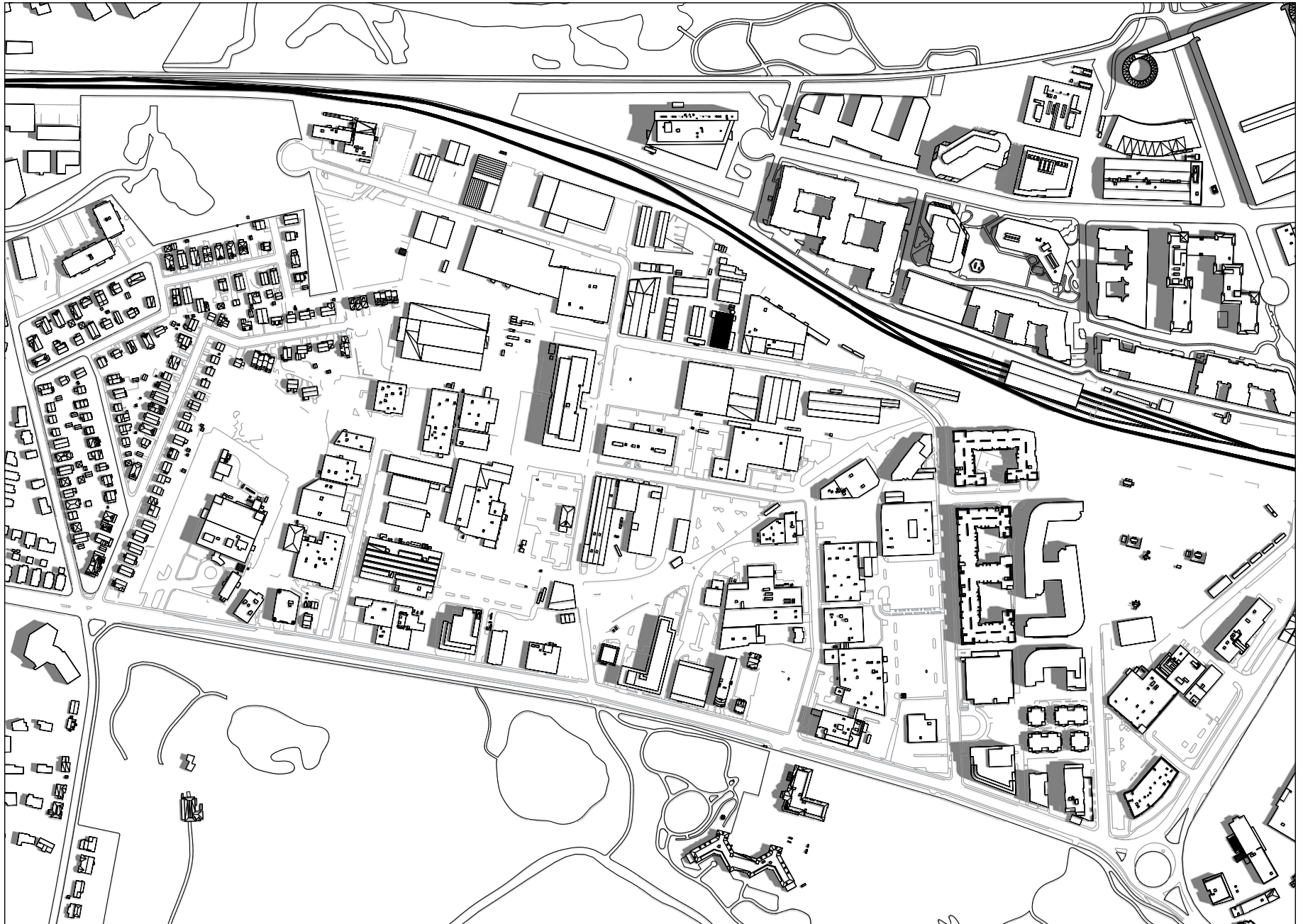


Figure 1K.11: Shadow on Summer Solstice - Existing 9am

Healthpeak PUD Master Plan | Cambridge, MA



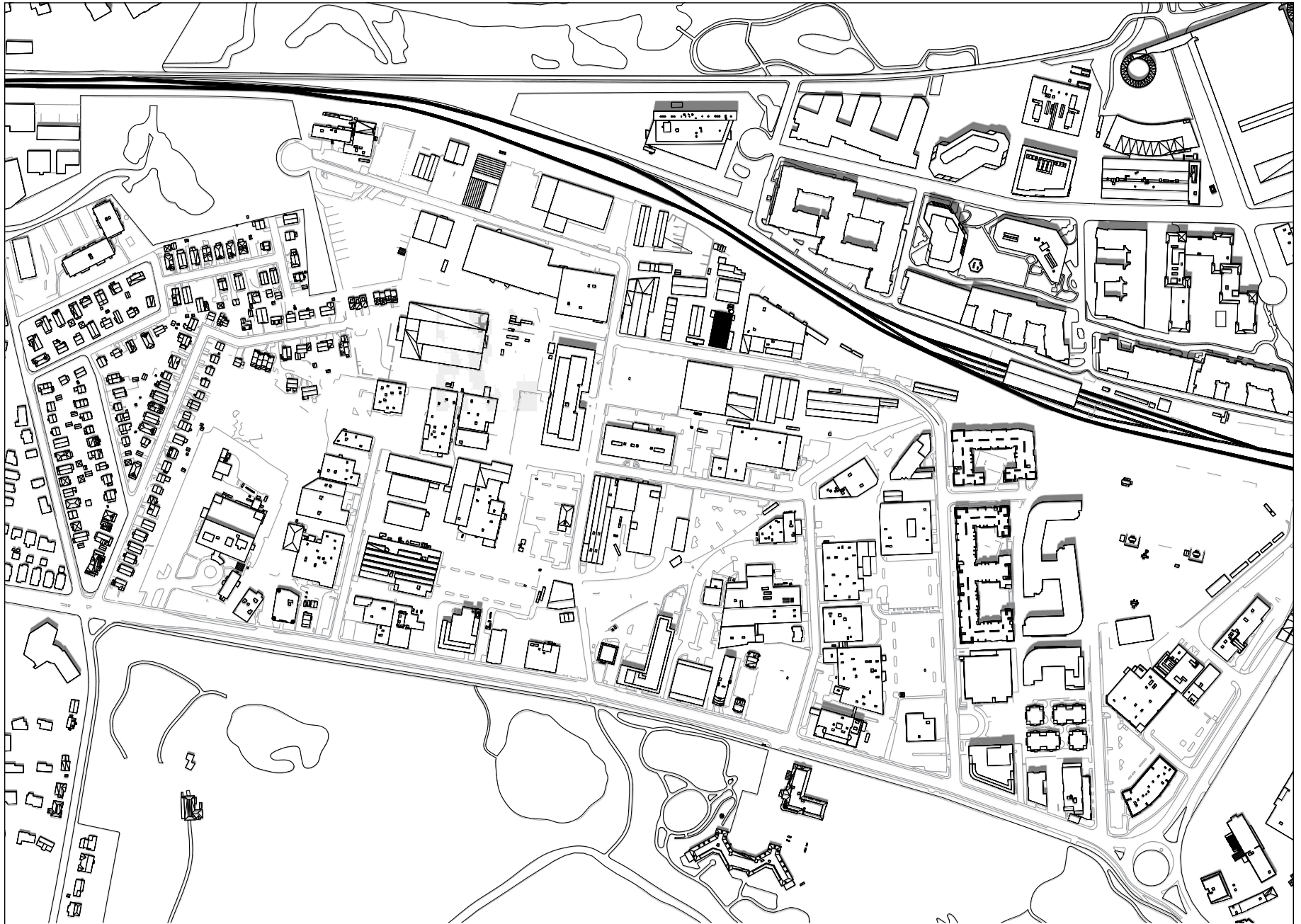


Figure 1K.12: Shadow on Summer Solstice - Existing 12pm

Healthpeak PUD Master Plan | Cambridge, MA



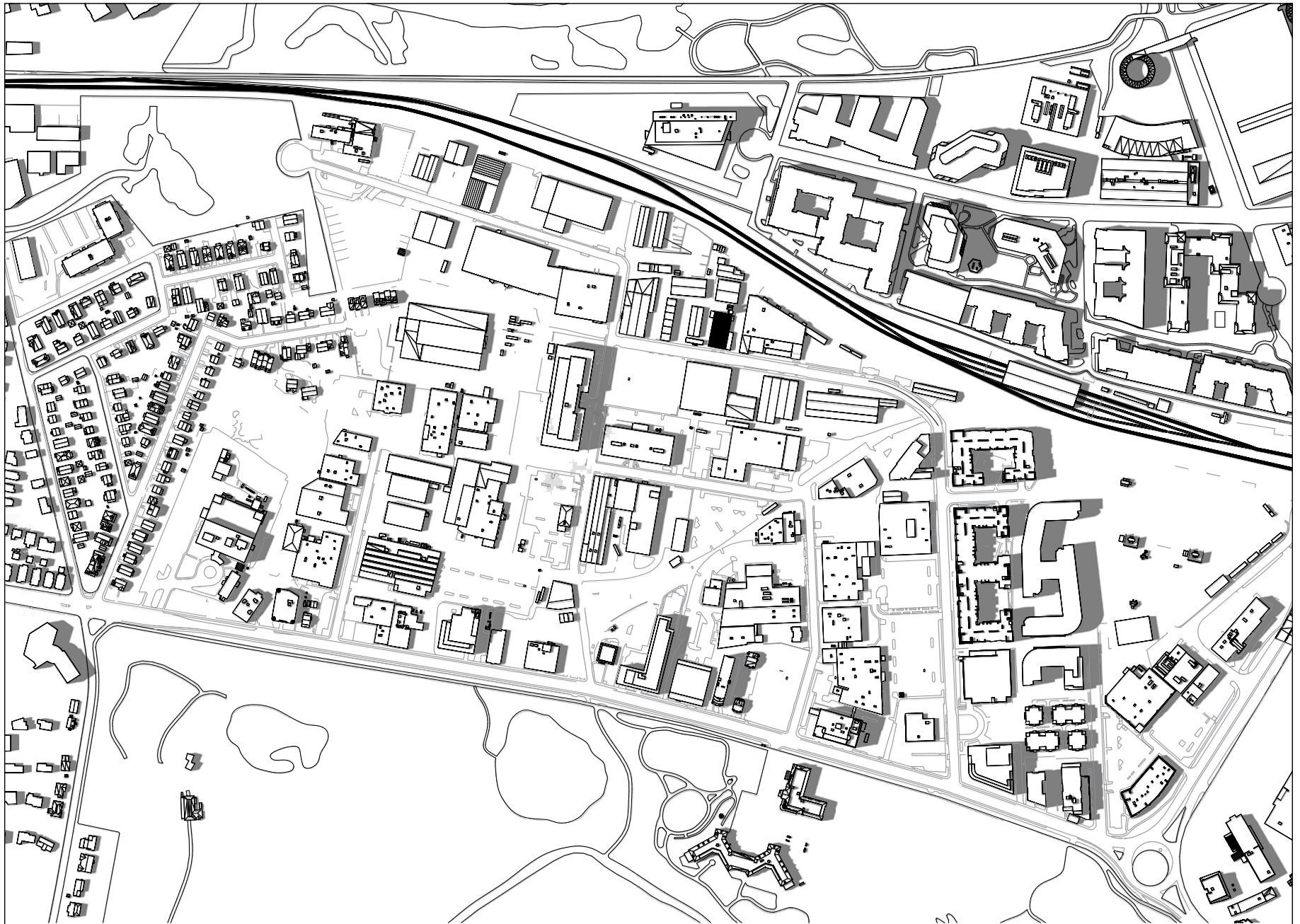


Figure 1K.13: Shadow on Summer Solstice - Existing 3pm

Healthpeak PUD Master Plan | Cambridge, MA

