8. SUSTAINABILITY PLAN

8.0 INTRODUCTION

This section presents the Project's overall approach to sustainability and addresses the specific areas of the topic, per Article 14.74. Additionally, in accordance with Article 22.20 of the Ordinance, this section demonstrates how the Project Components of the Concept Plan are being designed to achieve a Version 4 Leadership in Energy and Environmental Design (LEED®) Gold level or better.

CHAPTER UPDATES

The following section summarizes minor refinements to this Chapter since the Approved Concept Plan. There have been no significant changes to the Project's sustainability approach since the Approved Concept Plan.

Preliminary Energy and Greenhouse Gas Study: The preliminary energy analysis and GHG study have been updated to reflect the as-built conditions associated with Commercial Building A at 145 Broadway, and the proposed conditions associated with Commercial Building B at 325 Main Street.

8.1 APPROACH TO SUSTAINABILITY

Sustainable principles are integral to the Project's design. Viewed through a land use planning lens, the sustainability approach includes repurposing previously developed land rather than building on untouched land, as well as locating new development within a high density urban area with excellent access to public transportation, pedestrian circulation systems and a robust bicycle network. New commercial and residential space will be located on previously developed sites, a portion of which will be constructed above an existing garage. By reusing existing sites, the Project will achieve energy savings associated with lower embodied energy and reduced Greenhouse Gas (GHG) emissions through the construction process.

As a Transit Oriented Development (TOD), the Project will integrate into the existing public transportation and mode share infrastructure to further reduce traffic and indirect air emissions, including mobile source GHG emissions. TOD is environmentally, economically, and socially sustainable; it promotes greater mobility, walking and biking, healthy lifestyles; value for property owners, businesses, local governments, transit authorities and residents. A recent study by the Center for Transit-Oriented Development shows that TOD produces approximately 43 percent less emissions than conventional suburban development.

The Project will promote the design and construction of high-performance, green buildings through an integrated design approach where all project disciplines are engaged early and throughout the design process in order to meet sustainability goals. The Project's design will prioritize sustainability as a core strategic imperative and will implement state-of-the-art high performance green building technologies, construction, and operating procedures. Sustainability planning with an integrated design team during conceptual design will establish a pathway to Gold-level certification under the Version 4 Leadership in Energy and Environmental Design (LEED®) Green Building Rating System. The project design teams will use iterative energy modeling and life cycle analysis to consider the long-term value of sustainable property investment decisions.

The integrated design approach will address best practices in energy and emissions, water management, reduced urban heat island effect (cool roofs), energy use monitoring and rooftop mechanical equipment noise mitigation, as set forth in Article 14.74. The Applicant is looking beyond these zoning requirements by addressing climate change preparedness, implementing sustainable tenant guidelines, and considering the health and wellness of its future occupants and users through the potential use of the WELL Building Standard® (WELL) design and operation principles.

Furthermore, the Applicant will work with its design teams to evaluate and incorporate, where feasible and reasonable, strategies that support the Cambridge Net Zero Action Plan.

8.2 ENERGY CONSERVATION APPROACH

Buildings are significant consumers of energy and building mechanical and electrical systems are the chief consumers within any building. The Project Components will be designed to be energy-efficient, green buildings, and renewable energy strategies will continue to be evaluated as the design evolves and will be included in each Project Component's design review submission. As previously referenced, the Applicant proposes that for each square foot of solar-ready rooftop provided, a square foot of occupiable green roof be permitted as exempt GFA (a 1:1 ratio). Renewable energy credits can also be purchased on a building-by-building basis to support off-site renewable energy production and offset non-renewable electricity use on site.

8.2.1 REGULATORY CONTEXT

All Project Components will meet the current MA Stretch Energy Code requirement to achieve at least a 10 percent overall reduction in annual energy use compared to a baseline. The current Stretch Energy Code requires that the Project show at least 10 percent overall reduction in energy used as compared to the IECC2015/ASHRAE 90.1-2013 code compliant baseline model.

In accordance with Article 22.20, all new project buildings will also meet the LEEDv4 minimum building performance requirement of a two percent improvement in energy cost for core and shell projects and a five percent improvement in energy cost for residential new construction projects when compared to a baseline building performance as calculated using the rating method in Appendix G of ANSI/ASHREA/IESNA Standard 90.1-2010

8.2.2 DESIGN STAGE - REDUCE ENERGY DEMAND

Success in reducing energy demand from these systems follows a four-step approach. This basic approach will be followed for each Project Component.

- Step 1 - Reduce Demand: Challenge assumptions to right size equipment, reduce plug and lighting loads, and improve the building shell.
- Step 2 - Harvest Site Energy: Orient the building to maximize passive solar and daylighting opportunities. Harvest waste energy on site through heat recovery and other means.
- Step 3 - Maximize Efficiency: Beyond simply reducing loads, use efficient equipment to maximize benefit.
- Step 4 - Efficient Operations and Maintenance: Building commissioning, training of staff, and ongoing preventative maintenance, combined with monitoring of on-going performance will be implemented to ensure energy efficiency gains are realized.

8.2.3 DESIGN STAGE – SET ENERGY TARGETS AND MODEL

These energy conservation targets are met by the selection of efficient building systems, equipment, and a lighting power density that is below code. Additionally, an improved building envelope design is required. The design teams will develop whole building energy models to demonstrate the expected energy performance of each designed building.

A variety of Energy Conservation Measures (ECM) will continue to be evaluated as design progresses. ECM's to be considered include, but are not limited to, the following:

- High-performance mechanical systems, including chilled beams in office and laboratory spaces.
- High-performance building envelope
- Reduced window-to-wall ratio
- Reduced lighting power density
- Building orientation and window locations shall be suited for improved energy efficiency
- Cogeneration
- Rooftop Solar PV
- Energy Star appliances and equipment
- Occupancy and daylight sensors and controls
- Demand Response / Peak Load Reduction / Smart Grid Compatibility

A preliminary energy analysis and GHG study was completed for each Project Component. The summary of findings is represented in the Preliminary Energy Analysis and Greenhouse Gas Study shown on the opposite page.

COMMERCIAL BUILDING A - 145 BROADWAY

Based on as-built design strategies, the estimated energy use reduction for the building is approximately 12.1 percent, which equates to a 11.1 percent reduction (248 tons per year) in stationary source CO2 emissions when compared to the Base Case. Key energy savings features include improved glazing properties, improved roof and wall insulation, improved lighting power densities, variable volume condensing water pump, a high efficiency DW heater, and a high efficiency gas boiler, chiller beam system.

RESIDENTIAL BUILDINGS NORTH AND SOUTH (BLUE GARAGE)

Based on preliminary design strategies being considered, the estimated energy use reduction for Residential buildings is 24.1 percent, which equates to a 15.5 percent reduction (319.1 tons per year) in stationary source CO2 emissions when compared to the Base Case. Key energy savings features include improved glazing properties, improved roof and wall insulation, improved lighting power densities, high efficiency heat pumps, high efficiency ventilation systems, and a high efficiency gas boiler.

COMMERCIAL BUILDING B - 325 MAIN STREET

Based on preliminary design strategies being considered, the estimated energy use reduction for the new commercial building is approximately 14.0 percent, which equates to a 14.4 percent (272 tons per year) reduction in stationary source CO2 emissions when compared to the Base Case. Key energy savings features include improved glazing properties, interior lighting power density reduction, high-efficiency Active Chilled Beam system, High-efficiency gas-fired condensing boilers, variable volume hot water and chilled water pumping systems, and high-efficiency centrifugal chillers.

8.2.4 OPERATIONS STAGE BUILDING COMMISSIONING

In addition, building commissioning will be conducted prior to and during occupancy to ensure the building systems are operating efficiently and as designed. Tenant green building guidelines will engage and educate building users and influence occupant behavior toward more energy (water and material) efficient practices.

8.2.5 OPERATIONS STAGE ENERGY TRACKING AND MONITORING

The Applicant has a robust internal program for tracking building energy use over time, using Energy Star Portfolio Manager and other tools. In addition, the Applicant has committed to reducing average building EUI by 15 percent ,and is currently a strong supporter of the City's Building Energy Use Disclosure Ordinance.

The Applicant will implement a Measurement and Verification (M&V) plan that will utilize the base building energy management system to monitor operation of equipment or systems that are not already directly metered for electric or gas use. Core and shell projects will include a centrally monitored electronic metering network in the base building design that is capable of being expanded to accommodate and document the future tenant sub-metering.

In compliance with the Cambridge Building Energy Use Disclosure Ordinance, Chapter 8.67 of the Municipal Code, the Applicant will report energy use.

8.2.6 ON-SITE CLEAN/RENEWABLE ENERGY GENERATION

The Project Components will be constructed to be solar-ready, including designing the roof structure to support the weight and wind loads associated with solar energy collectors as well as providing space to accommodate associated infrastructure, including conduit to the roof and space in the electrical room for an inverter. Each building will be individually analyzed for solar opportunities as the design develops. In addition, innovative strategies such as solar roadways will be considered.

Small-scale co-generation systems will also be considered to provide domestic hot water and a portion of the electricity for the residential buildings

8.2.7 DISTRICT-WIDE ENERGY CONSERVATION

The City secured major grant funding to support the development of a Kendall Square EcoDistrict and to initiate a study of district energy opportunities. This Project as part of the KSURP is deeply involved in both of these initiatives. The EcoDistrict will provide a framework for the utilities, the City, and the developers to work together to right size projects and infrastructure, with a goal of minimizing energy usage, water usage, and GHG generation.

The Kendall Square EcoDistrict would provide opportunities for combined heat and power and shared generation, provided projects are co-located that can utilize the heat and power generated. The Kendall Square EcoDistrict is intended to incorporate renewable energy generation and should promote combined/ cooperative development with shared information about project needs and contributions.

TABLE 8-1 PRELIMINARY ENERGY ANALYSIS AND GREENHOUSE GAS STUDY

	ENERGY CONSUMPTION (MMBTU/YR)			CO_2 EMISSIONS (TONS/YR)		
PROJECT COMPONENT	**BASE CASE**	**DESIGN CASE**	**PERCENT SAVINGS**	**BASE CASE**	**DESIGN CASE**	**PERCENT REDUCTION**
COMMERCIAL BUILDING A – 145 BROADWAY	23,019[1]	20,244	12.1%	2,222	1,974	11.1%
RESIDENTIAL BUILDINGS (NORTH AND SOUTH) – 135 BROADWAY	25,883	19,643	24.1%	2,053.6	1,734.5	15.5%
COMMERCIAL BUILDING B – 325 MAIN STREET	22,167[1]	19,060	14.0%	1,888	1,616	14.4%

Tons/yr = short tons per year

1. Because the building design has progressed and has been updated, the base case has also been updated to reflect the most recent building code to ASHRAE 90.1 2013. Therefore, this shows a lower energy and GHG savings than the Approved Concept Plan because Commercial Building A and Commercial Building B are now being compared to the ASHRAE 90.1 2013 standards.
2. The Residential Buildings have not changed, and therefore the base code was also not updated and still reflects the information presented in the Approved Concept Plan: ASHRAE 90.1 2007.

8.3 WATER CONSERVATION

The Project will reduce overall potable water use and reduce wastewater generation compared to a conventional development through installation of low-flow plumbing fixtures and high-efficiency irrigation systems. All Project Components are currently targeting a minimum 30% water use reduction compared to conventional plumbing fixtures (per Energy Policy Act of 1992 fixture performance requirements).

The landscape design will incorporate native and adaptive vegetation and the design of the irrigation system will target, at minimum, a 50% reduction in potable water use when compared to a mid-summer baseline through the use of high-efficiency irrigation systems with controllers and moisture sensors. Non-potable water use strategies, such as rainwater reuse will be considered for irrigation. In addition, the landscape design will consist mostly of local, drought resistant species to minimize or eliminate the need for irrigation over the lifetime of the Project. Landscape areas will be designed to hold as much rainwater as practicable. The Applicant is also considering the use of rainwater capture for irrigation and the incorporation of green roofs and rainwater harvesting tanks for each individual building design.

Each Project Component will largely maintain the existing site drainage, replacing existing impervious rooftop and hardscape in kind on-site. The Project will be required to mitigate stormwater runoff to comply with City and MassDEP standards. Stormwater infrastructure will be designed and installed for each Project Component to reduce the runoff discharge rate and improve the quality of the runoff to the City's stormwater system and the Charles River basin.

8.4 RECYCLING AND SOLID WASTE MANAGEMENT

Recycling and reuse programs will be developed and implemented by all construction contractors to reduce the amount of waste that is sent to landfill throughout construction. Prior to the start of construction, the construction management team will prepare and submit a Construction Waste Management plan which will be implemented on site. By keeping the Blue Garage overwhelmingly intact, a significant amount of construction waste associated with demolition and new construction to rebuild a garage structure is eliminated by the Project. A minimum of 75% of C&D waste will be diverted, as required by Massachusetts' law.

Storage of collected recyclables will be accommodated on the ground floor of the new buildings in a designated recycling area. A contracted waste management company will collect the recyclables on a regular basis. It is anticipated that approximately 100% of paper, corrugated cardboard, glass, plastic and metal would be recycled during operations. The Tenant Design and Construction Guidelines (discussed further below in Section 8.8) will include strategies to reduce waste through recycling and reuse programs.

8.5 REDUCE HEAT ISLAND EFFECT

Over the design life of the Project, climate change is expected to significantly increase the duration and frequency of heat waves. The anticipated change in average temperatures is exacerbated by the development density of Cambridge, which results in urban heat island effect. In an effort to mitigate urban heat island effect, the Applicant is considering a number of site and building design strategies, including light colored roof materials, light colored hardscape materials, landscaped areas, and green roofs.

8.5.1 SITE DESIGN

Site landscaping will be designed with tree canopy cover, low-level plantings, discontinuous impervious covers, reflective materials and permeable pavements in an effort to reduce the capture of energy from sunlight while promoting evaporation and plant transpiration. This design approach will not only reduce the increased heat associated with heat island effect but will provide for a more comfortable pedestrian environment.

8.5.2 BUILDING DESIGN

To further reduce the heat island effect and mitigate storm water runoff, the Applicant is exploring the use of green roof cover, where feasible. Vegetation and shading structures will also be employed to shade buildings and outdoor spaces, where possible. The roof membrane on all Project Components will be a high albedo roof product with a minimum Solar Reflectance Index (SRI) value of 78, covering a minimum of 75 percent of the total roof area, excluding any green roof areas. All Project Components include covered parking in garage structures, greatly reducing the uncovered and impervious surface area needed for the Project's required parking. In conjunction with the development of the Residential Project Components, the uncovered area on the top level of the Blue Garage will be upgraded to include light-colored materials and landscaping, where feasible.

8.6 RESILIENCY IN BUILDING DESIGN

The Applicant has studied the vulnerability of the infill development sites for the potential of precipitation-based inland flooding events. Potential building design resiliency measures being considered include limiting basement areas, and other improvements that may mitigate potential flooding. Additionally, ground floor finish elevations for all Project Components will be raised to the greatest extent possible to reduce the risk of internal flooding. Flood-resilient materials will be specified for first floor uses, where practicable.

Since the Residential Buildings are proposed to be constructed primarily over the existing Blue Garage structure, ground floor exposure to the effects of extreme weather events, such as flooding is greatly minimized. Other flood prevention techniques could include: sealed wall penetrations for cable and electrical lines; watertight door barriers; septic line backflow prevention valves, sump pumps, and discharge pumps—all of which could be connected to auxiliary external generator connections or resilient backup power. In addition, the Project is anticipated to include green roofs/roof gardens and roofing membranes with high SRI to reduce the volume of storm water runoff and reduce solar heat gain/minimize air conditioning loads, respectively. Additionally, high-performance curtain wall is being considered to maximize views and daylighting of interior spaces, thus reducing overall lighting loads and associated internal heat gains, which has a direct impact on the space cooling load. As the climate change analysis shows, the rising temperature increases the space cooling demand in the Cambridge climate; therefore, any strategy that can reduce the space cooling demand is considered an adaptive strategy for climate change.

The Project's climate change mitigation includes the incorporation of several ECMs to reduce GHG emissions associated with energy use beyond what is required by Code. (Refer to Appendix D for further details on such measures.) Some of these measures can also be considered adaptive design approaches to mitigate the potential impacts of climate change on the Project. These GHG emissions mitigation and climate change adaptation measures are considered mutually re-enforcing and, therefore, cannot be considered in isolation. As an example, the window area in the Residential Project Components will be designed at an appropriate ratio to reduce energy use while still providing enough daylight and opening area for natural ventilation. This is an adaptive strategy in response to potential future increases in mean temperature. Other climate change adaptive strategies considered will include improved envelope insulation and high-performance glazing in response to increasing temperatures. The design team will continue to investigate the feasibility of renewable energy sources and highly energy-efficient technologies, such as solar PV, wind, and co-generation. As climate change is not limited only to temperature increase, but may also include flooding, intensified downpours, and/or hail events, the design team will continue to consider ways in which the architectural elements selected for the Project can reduce the vulnerability to these extreme events.

OTHER POTENTIAL RESILIENCY MEASURES

On-site renewable energy, a district energy network, and combined heat and power (CHP) systems also provide opportunities for added resiliency during periods of power loss during storms. While the KSURP area is served by underground utility power lines and gas mains, and as such, is not normally effected by storms that disrupt power or gas transmissions, according to DOER, the Kendall Square CHP district plant has been registered by the ISO-NE as a black start generation asset that can operate in island mode to provide both electricity to the Cambridge grid and thermal energy to the KSURP area in the event of a grid outage.

On-site CHP, or solar PV, generally will operate in phase with the incoming utility power, and needs incoming power to synchronize phase delivery. In “island mode”, generators and CHP systems can be made to operate independently of the grid and self-synchronize power phasing with on-site solar. However, this approach is normally used in large-scale shelter locations only, when long-term operation may be needed to protect a group of people.

In most cases, the proposed commercial buildings will shut down and send occupants home in storm-related power failure scenarios. Any generators provided will most likely be optional standby generators that are sized to maintain server room or process operations only. In the case of the residential components, the generators provided will be for life-safety uses only (stairway pressurization, egress elevators, fire pump, etc.) and cannot by Code be used for ordinary ongoing operations in a building. The capacity provided by solar PV, even if the available space is maximized, will not be more than 10 percent of the power needed by the building, and cannot provide all power needed for normal operations. A CHP system could be used to provide limited ongoing operation, but the economics of such a system when compared to the likelihood of repeated power outages in the Kendall Square area would not be favorable. Storm response actions and resiliency measures will be incorporated into leasing agreements or tenant guidelines, including guidance related to tenant fit-out of commercial space, particularly those located on the lower floors.

8.7 HEALTH AND WELLNESS

Human health and wellness is addressed in the Project through design, operations, and occupant behavior. Within each Project Component, special attention will be given to address human health and comfort during construction and once the building is occupied. This will be accomplished by implementing pollutant reduction strategies, using non-toxic materials, providing fresh air to occupants, installing individual lighting and heating controls, and by providing natural daylight and views to outdoor green spaces. Tenant Design and Construction Guidelines will include comfort related requirements such as installing CO2 sensors in all regularly occupied spaces.

The Applicant is also exploring the use of principles of the WELL Building Standard, which place human health and wellness at the center of design and can encourage and educate future tenants on healthy living practices. Active design principles, encouraging physical and social activity, will be employed where possible. The Project’s master site and individual building sites will be vibrant spaces where people can safely walk, bike, use transit, and access open spaces. Individual buildings will be designed wherever possible to include visible, attractive and well-lit stairs, communal services such as break areas and copy services, and a variety of public gathering spaces and individual relaxation spaces. Ground level outdoor spaces will be easily accessible to both building occupants and visitors alike.

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8.8 SUSTAINABLE TENANT GUIDELINES

Tenant Design and Construction Guidelines will be provided to office and retail tenants as a guide to use when fitting out their spaces. The intent of these guidelines is to educate tenants about implementing sustainable design and construction features in their tenant improvement build-out as well as adopting green building practices that support the overall sustainability goals of the Project. The guidelines will also communicate the sustainable and resource-efficient features incorporated into the base building(s) and provide specific suggested sustainable strategies enabling tenants to coordinate their leased space design and construction with the rest of the building systems.

In summary, the guidelines may include the following information:

- Descriptions of sustainable design, construction and operations features of the proposed building(s), including resource conservation goals and features for tenant fit-out spaces (e.g., low-flow plumbing fixtures, sub-metered systems, lighting controls) as well as building certifications (i.e., LEED certification).
- Encourage tenant commitments for meeting various energy and water conservation goals.
- Descriptions of current regulatory requirements that pertain to leasable spaces.
- Strategies for energy efficiency, such as those for HVAC equipment recommendations, lighting and lighting controls, and low-flow, high-efficiency plumbing fixture recommendations.
- Information on the various high-performance building rating systems, such as EPA's ENERGY STAR and LEED for Commercial Interiors (CI) as well as information on how the design of the base building(s) can contribute towards these certifications.
- Waste reduction goals and recycling facilities/programs.
- Information on green cleaning guidelines and policies.
- Information regarding project-wide features that aim to encourage alternative transportation and TDM measures.
- Information on how to train and inform maintenance staff and employees on operations related to sustainable design features and systems.

8.9 OTHER DISTRICT-WIDE SUSTAINABLE STRATEGIES

Following the EcoDistrict model, in addition to district-wide energy and water management strategies and transportation efforts, other innovative, scalable solutions such as composting and urban farming will be considered. A composting program, as a strategy to reduce waste and ultimately reduce GHG emissions at landfills, will be studied as an additional measure to the existing waste management and recycling programs that are already included in the district. Composting can be addressed on a building-by-building basis and large-scale collection can be implemented district-wide. In addition to the network of farmers markets, a local urban farming initiative will be considered to engage community members in building a healthier and more locally based food system. Sites for urban garden plots could be identified in the district for businesses and community members who want to grow their own food.

8.10 LEED CREDIT NARRATIVE

Refer to the Sustainability Support Documentation in Appendix D for individual Project Component reports.

9. PHASING PLAN

9.0 INTRODUCTION

CHAPTER UPDATES

The following section summarizes minor refinements to this Chapter since the Approved Concept Plan.

Phase 2: This chapter has been updated to reflect the proposed shift of approved commercial GFA associated with Commercial Building B from 250 Binney Street, to 325 Main Street.

9.1 PHASING PLAN

The evolution of the Project is expected to occur over three major phases consisting of the following generally described components:

- Phase 1 (Commercial Building A) The commercial space and associated ground floor retail or active use at 145 Broadway
- Phase 2 (Residential Building South) The residential space on the south side of the existing Blue Garage consisting of both rental apartments and home ownership units
- Phase 2 (Commercial Building B) The commercial space and associated ground floor retail or active use at 325 Main Street
- Phase 3 (Residential Building North) The residential space on the north side of the existing Blue Garage consisting of either rental apartments or home ownership units.

The specific timing of each of the phases depends upon the duration required for permitting, the leasing conditions within the Cambridge sub-market and the construction logistics associated with staging and the demolition of portions of the Blue Garage.

Since the Original Concept Plan was approved in 2017, the Applicant has commenced construction of the commercial space and ground floor retail associated with the Commercial Building A (Phase I) at 145 Broadway, which is anticipated to be complete in Q4 2019. 145 Broadway will stand as Akamai's new global headquarters, and provide 8,700 GFA of ground floor retail space, In conjunction with Commercial Building A, the Applicant will deliver enhancements to the 6th Street Connector that are slated to open in Q3 2018, planned enhancements to the East/ West connector to the west of the West Service Drive to be delivered by Q4 in 2019, and enhancements to approximately 60,496 GFA of Innovation Space to be located at 255 Main Street and delivered by Q4 2019.

As of the date of this submission, market conditions allow for the immediate commencement of the Commercial Component of Phase II, as soon as a special permit is received for the Concept Plan Amendment, and the associated approval of the Design Review Submission for Commercial Building B. The Applicant remains committed to complying with the requirements of 14.32.1 of the Zoning Ordinance that requires the commencement of construction of at least 200,000 square feet of residential preceding occupancy of any commercial development that exceeds 375,000 of Infill GFA.

Table 9-1 summarizes the approximate GFA and program by phase along with the public benefits associated with each phase of development.

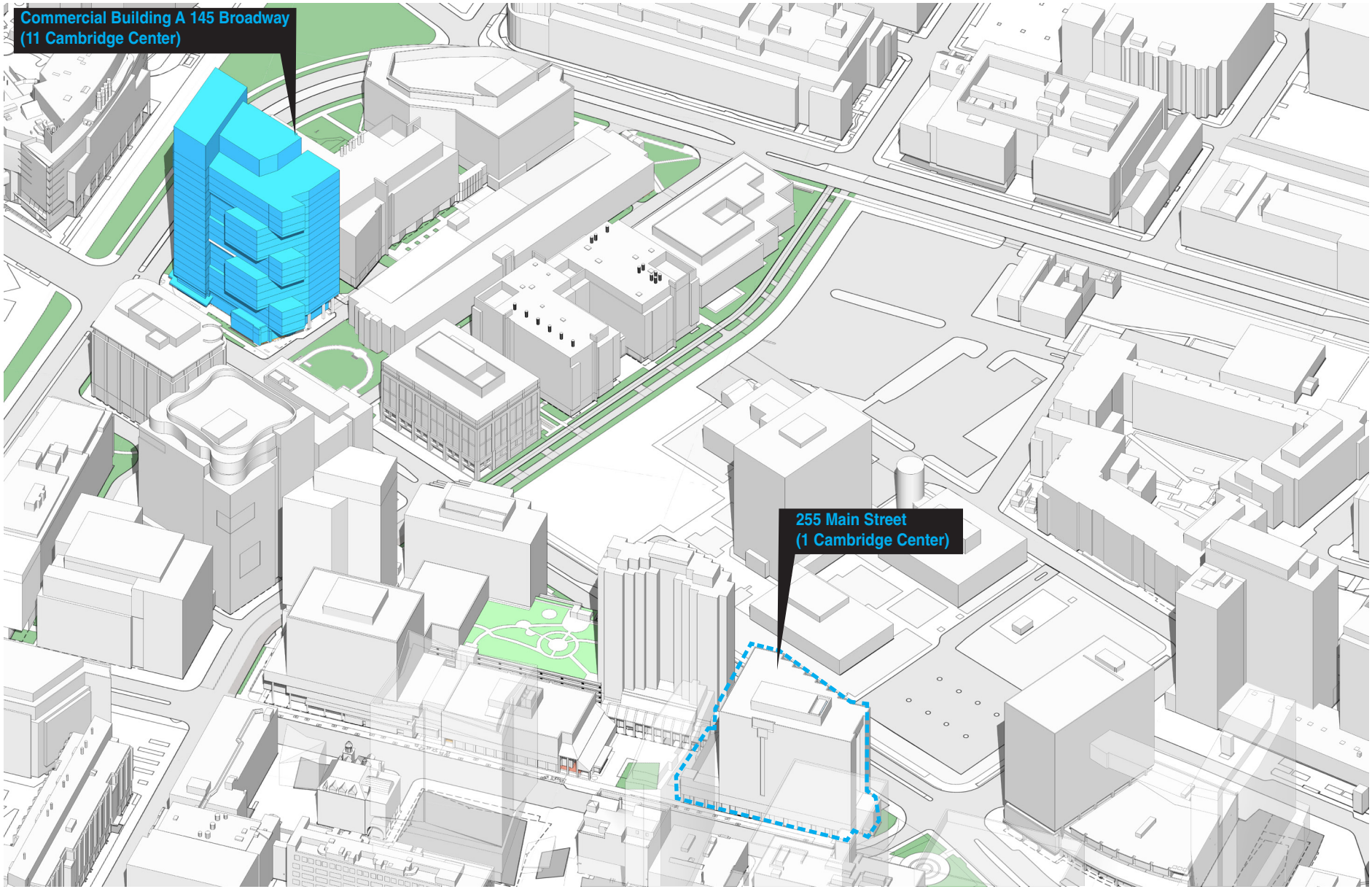
The combination of new active ground floor uses, the redesign of key existing public spaces along with adjustments and refinements to other parts of the public realm will significantly improve the connectivity, as well as the experience of the public realm between Broadway and Binney Street and along Main Street in proximity to Kendall Plaza in the MXD.

ANTICIPATED PHASING PLAN WITH PUBLIC BENEFITS				
	PHASE 1	**PHASE 2**		**PHASE 3**
	COMMERCIAL BLDG. A (145 BROADWAY)	COMMERCIAL BLDG. B (325 MAIN STREET)	RESIDENTIAL SOUTH BLDG. (BLUE GARAGE)	RESIDENTIAL NORTH BLDG. (BLUE GARAGE)
COMMERCIAL GFA	441,614	385,423	0	0
RESIDENTIAL GFA	0	0	350,000	70,000
ACTIVE USE/RETAIL GFA	8,700	0	0	1,300
EXISTING GFA	(78,636)	(117,201)	0	0
NET NEW GFA	**362,978**	**268,222**	**350,000**	**71,300**
OPEN SPACE IMPROVEMENTS	6TH STREET CONNECTOR E/W CONNECTOR (W)	KENDALL PLAZA / KENDALL SQUARE ROOF GARDEN CONNECTOR	BROADWAY PARK & E/W CONNECTOR (E)	BINNEY PARK
INNOVATION SPACE AT 255 MAIN	60,496	44,704	0	0
VEHICLE PARKING	350[1]	0[1]	(215)[1]	0[1]
LONG-TERM BIKE PARKING	131	108	372	74
SHORT-TERM BIKE PARKING	32	47	35	8
MARKET RATE HOUSING	0	0	266,666 GFA	53,334 GFA
AFFORDABLE HOUSING	0	0	66,667 GFA	13,333 GFA
MIDDLE INCOME HOUSING	0	0	16,667 GFA	3,333 GFA

TABLE 9-1 GROSS FLOOR AREA

1. The Project will deliver up to 413 new vehicle parking spaces within the vicinity of the Project. The Applicant is proposing to accommodate these spaces across Commercial Building A and the existing Green, Yellow and Blue Garages in order to compensate for the loss of spaces in the Blue Garage due to construction of Residential Buildings North and South. Commercial Building A is currently being constructed with 350 parking spaces and as part of this update the Proponent is seeking approval to add 107 spaces (457 total spaces) to this garage through more efficient self-parking striping and provision of managed/valet parking spaces. The Blue Garage will lose approximately 215 spaces, the Green Garage will gain back approximately 20 spaces lost due to the construction of the 88 Ames Residential Building, and the Yellow garage will gain approximately 151 spaces through more efficient self-parking and the provision of managed/valet parking spaces, for a net addition of 413 spaces. Refer to Section 5.5 and Appendix B for details on the Project's parking demand analysis and management approach.

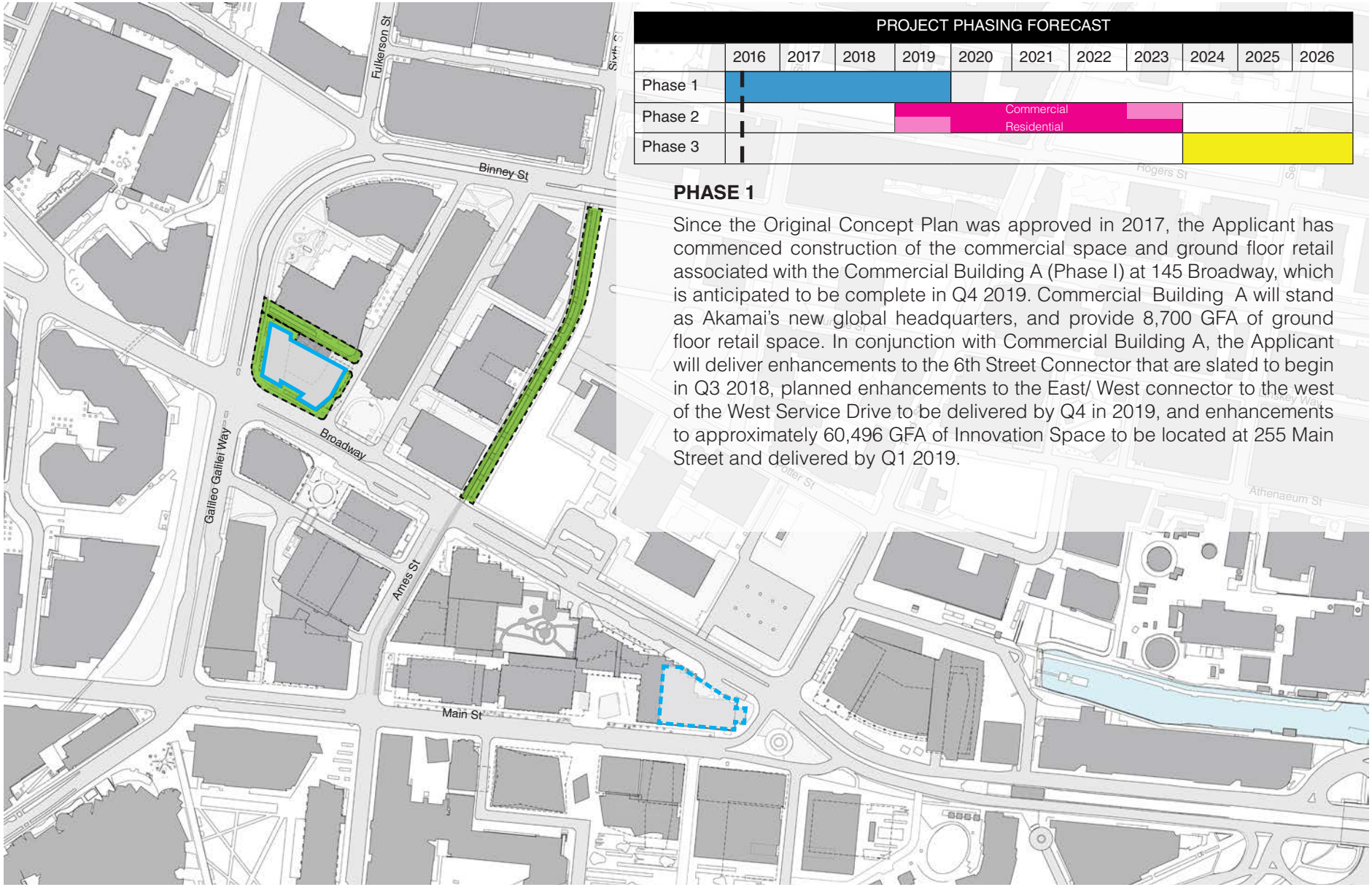
PHASE 1



EXISTING CONDITIONS

PHASE 1

FIGURE 9.2



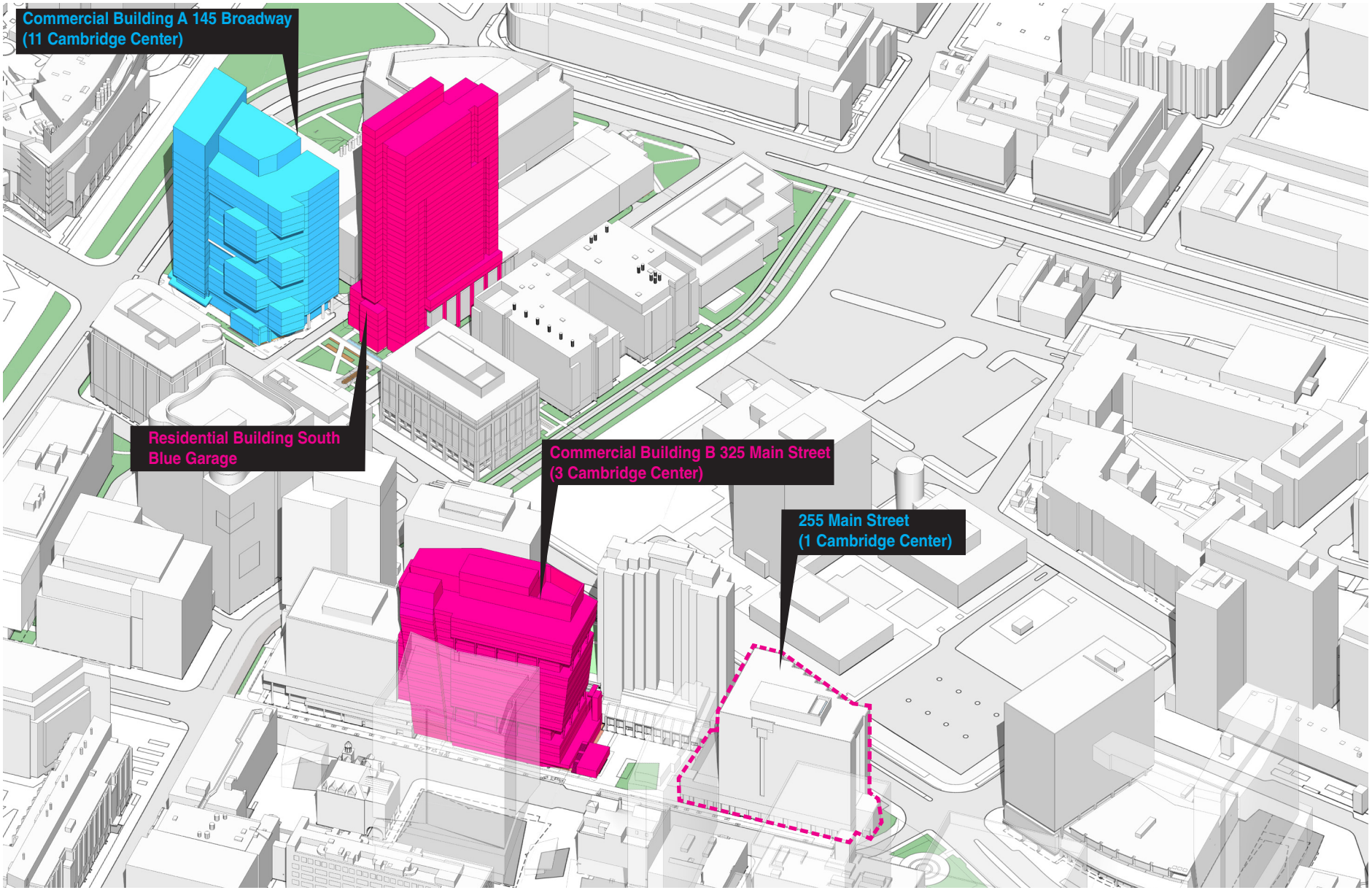
PROJECT PHASING FORECAST											
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Phase 1											
Phase 2					Commercial / Residential						
Phase 3											

PHASE 1

Since the Original Concept Plan was approved in 2017, the Applicant has commenced construction of the commercial space and ground floor retail associated with the Commercial Building A (Phase I) at 145 Broadway, which is anticipated to be complete in Q4 2019. Commercial Building A will stand as Akamai's new global headquarters, and provide 8,700 GFA of ground floor retail space. In conjunction with Commercial Building A, the Applicant will deliver enhancements to the 6th Street Connector that are slated to begin in Q3 2018, planned enhancements to the East/ West connector to the west of the West Service Drive to be delivered by Q4 in 2019, and enhancements to approximately 60,496 GFA of Innovation Space to be located at 255 Main Street and delivered by Q1 2019.

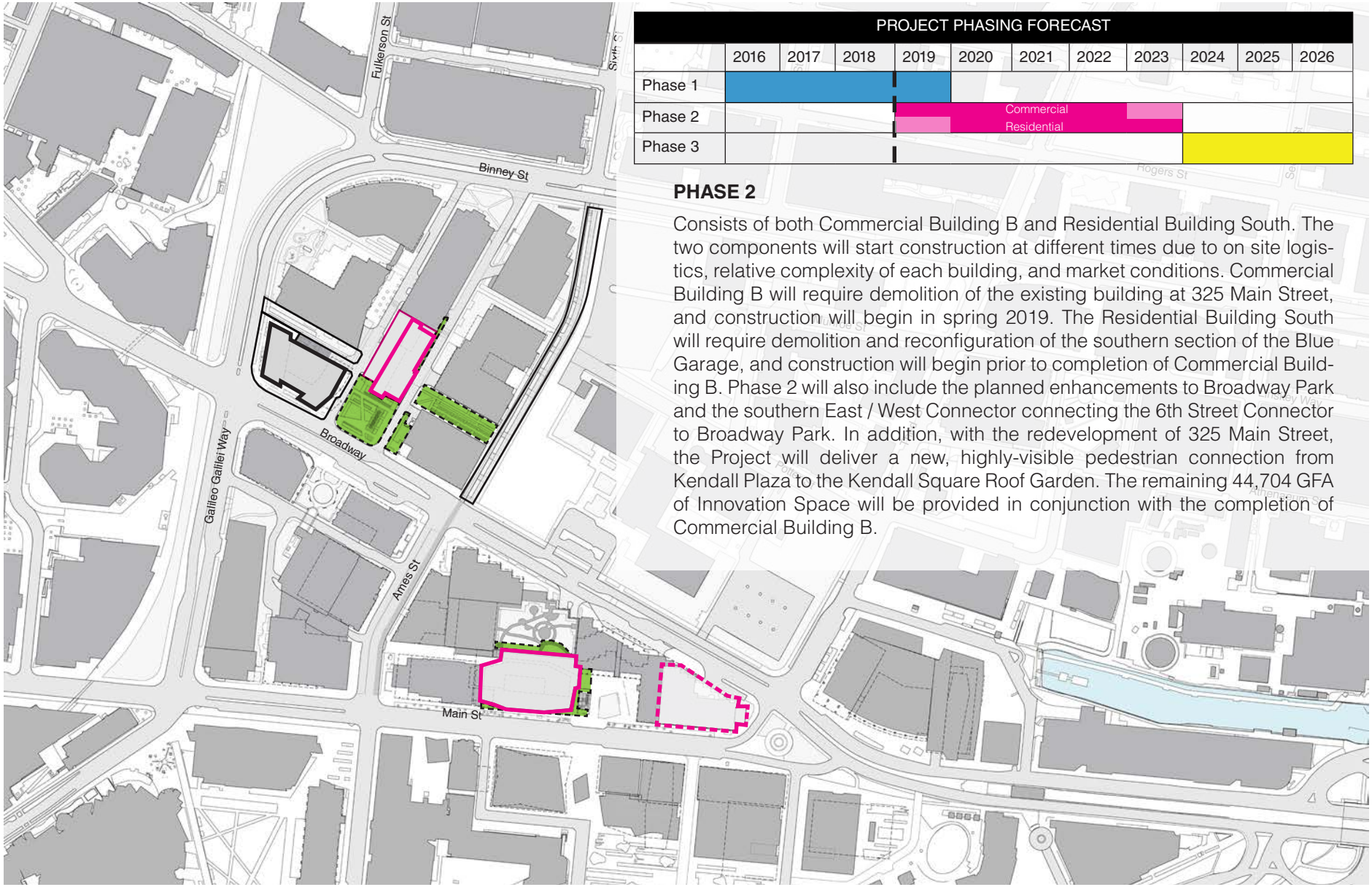
PHASE 1

PHASE 2


Commercial Building A 145 Broadway
(11 Cambridge Center)
Residential Building South
Blue Garage
Commercial Building B 325 Main Street
(3 Cambridge Center)
255 Main Street
(1 Cambridge Center)

PHASE 2

FIGURE 9.3

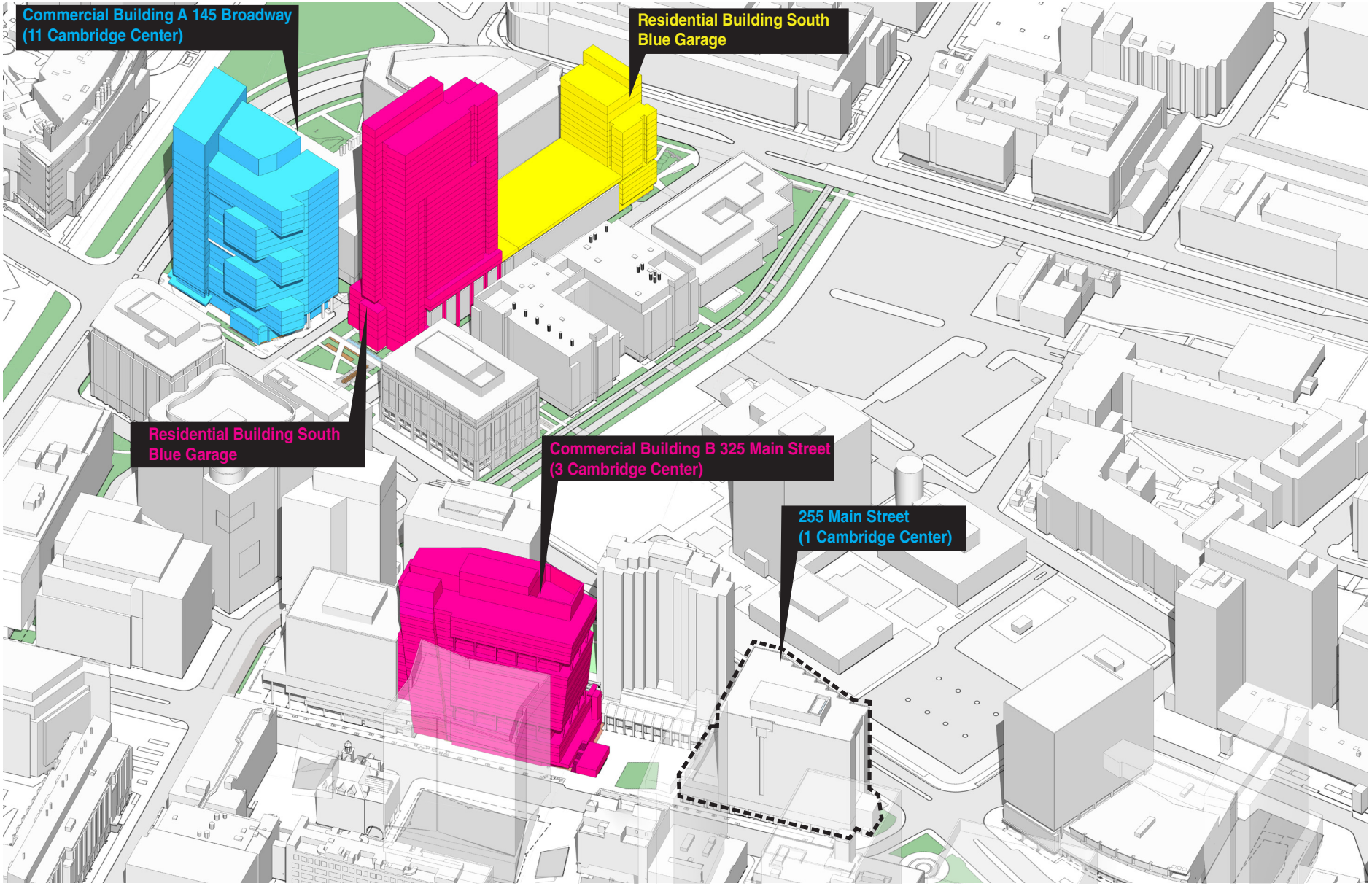


PROJECT PHASING FORECAST											
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Phase 1											
Phase 2					Commercial / Residential						
Phase 3											

PHASE 2

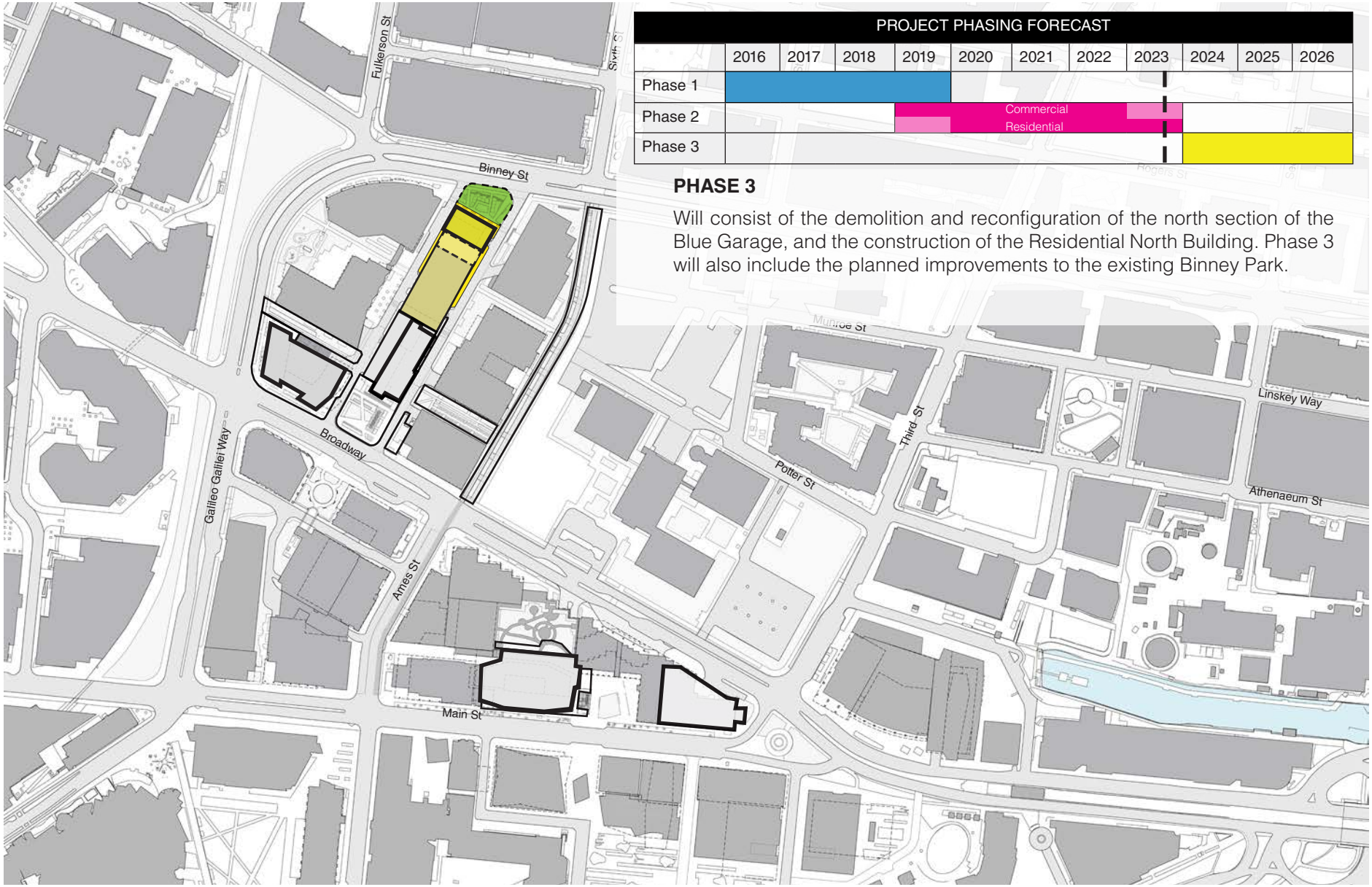
Consists of both Commercial Building B and Residential Building South. The two components will start construction at different times due to on site logistics, relative complexity of each building, and market conditions. Commercial Building B will require demolition of the existing building at 325 Main Street, and construction will begin in spring 2019. The Residential Building South will require demolition and reconfiguration of the southern section of the Blue Garage, and construction will begin prior to completion of Commercial Building B. Phase 2 will also include the planned enhancements to Broadway Park and the southern East / West Connector connecting the 6th Street Connector to Broadway Park. In addition, with the redevelopment of 325 Main Street, the Project will deliver a new, highly-visible pedestrian connection from Kendall Plaza to the Kendall Square Roof Garden. The remaining 44,704 GFA of Innovation Space will be provided in conjunction with the completion of Commercial Building B.

PHASE 3


Commercial Building A 145 Broadway
(11 Cambridge Center)
Residential Building South
Blue Garage
Residential Building South
Blue Garage
Commercial Building B 325 Main Street
(3 Cambridge Center)
255 Main Street
(1 Cambridge Center)

PHASE 3

FIGURE 9.3



PROJECT PHASING FORECAST											
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Phase 1											
Phase 2					Commercial / Residential						
Phase 3											

PHASE 3

Will consist of the demolition and reconfiguration of the north section of the Blue Garage, and the construction of the Residential North Building. Phase 3 will also include the planned improvements to the existing Binney Park.