



PUD-KS URBAN DESIGN FRAMEWORK



Cambridge Community Development Department

WORKING DRAFT 11/9/2015

1. INTRODUCTION

The PUD-KS District is a unique area in the heart of Kendall Square. It is part of an area that was assembled and cleared for use by the Federal government in the 1960s. The Federal government retained ownership over much of the land, which has been home to the U.S. Department of Transportation's Volpe National Transportation Systems Center for over 45 years. However, the area has otherwise remained largely underdeveloped, while Kendall Square as a whole has evolved into a major regional and worldwide center for companies and institutions at the forefront of science and technology.

The Kendall Square (K2) portion of the city's "K2C2" Planning Study, conducted in 2011-2012, established a vision that would support the continued growth of the Kendall Square innovation economy while shaping the area into a more dynamic realm with more housing, improved public spaces and greater activity at the street level.

The K2 Study led to a new zoning proposal for the PUD-KS district, which is supplemented by this Urban Design Framework. The objective is to enable and guide the future reshaping of this unique area in accordance with the city's overall vision for Kendall Square.

PURPOSE

The PUD-KS Urban Design Framework (UDF) builds on numerous plans and initiatives, primarily the K2 Study and Design Guidelines (2013) and the *Connect Kendall Square* Framework Plan (2015), which was developed after the completion of the K2 Study through a competition process held by the City.

The purpose of the UDF is to visually represent the City's and the community's key goals and aspirations for the site. The UDF provides a set of recommendations focused on addressing a range of key physical planning and urban design opportunities (connections, open space, active uses, and built form). The UDF also links the broad goals found in the K2 Study to specific

physical planning and urban design recommendations for the Volpe site.

Like the city's urban design guidelines for various parts of the city, the UDF is a guiding document that is meant to inform the city's review process for development proposals. It provides for flexibility by identifying key principles, concepts and ideas. A development proposal may suggest alternative design approaches in order to fulfill the objectives that are described and illustrated in the UDF.

The PUD-KS UDF is intended to provide guidance to Applicants in preparation of Special Permit applications, and to be used by the Planning Board in their review of such applications.



2. VISION AND KEY PRINCIPLES

VISION

An overarching vision expressing the desired future for Kendall Square was established through the K2 Planning Process:

A dynamic public realm connecting diverse choices for living, working, learning, and playing to inspire continued success of Cambridge’s sustainable, globally-significant innovation community

The PUD-KS district represents a significant redevelopment opportunity with the greatest potential for change of any area within Kendall Square. Therefore, the following vision statement has emerged from discussions with City Council, the Planning Board and the community about the PUD-KS district in particular.

An accessible, diverse and unique place that integrates the PUD-KS district seamlessly into the surrounding urban fabric of Kendall Square and the Eastern Cambridge neighborhoods, and the community. A place that is defined by high quality sustainable architecture, urban design and open space with an enduring sense of place that celebrates Kendall Square’s spirit of innovation and creativity.

KEY PRINCIPLES

In developing the zoning proposal and urban design guidelines for the PUD-KS district, several key principles also developed as primary goals for the site.

1. *Providing a mix of commercial and residential uses, with particular emphasis on housing and ground-floor retail, to encourage activity throughout the day and evening.*
2. *Incorporating a diversity of housing typologies and dwelling sizes that are appealing and accessible to a variety of residents.*
3. *Breaking up large blocks to increase permeability and create a fine-grained network of connections that seamlessly integrates the PUD district with the surrounding urban fabric of Kendall Square and the nearby neighborhoods.*
4. *Creating an integrated network of high-quality streets and open spaces, including significant space for public gathering and recreation that encourages and fosters a sense of community, civic engagement, social interaction, economic development and environmental sustainability.*
5. *Providing a strong street edge on major public streets, including Broadway and Third Street, to create a memorable “Main Street” experience.*
6. *Sensitively managing the height and bulk of new buildings to mitigate impacts on surrounding uses and public space.*
7. *Enhancing the architectural diversity of the district to harness the spirit of innovation and creativity in Kendall Square.*
8. *Promoting environmental sustainability in building and site design.*

3. URBAN DESIGN FRAMEWORK

The PUD-KS UDF articulates the key urban design and physical planning recommendations for the site through a series of conceptual diagrams and images.

When considering the preferred urban design outcomes for the site, several key elements need to be addressed, including: connections, open space, ground floor uses, built form and housing for families. The following sub-sections summarize the key recommendations that make up each of these elements.

The UDF as described in the following diagrams and images is just one possible way of achieving the vision and key principles identified earlier. Broadly, the recommendations seek to establish a framework for a series of interconnected streets, pedestrian and bicyclist connections, and open spaces, which will help shape future built form, create legibility and identity, and contribute to the vitality of and sense of community in Kendall Square.

DESIGN GUIDELINES

K2 STUDY DESIGN GUIDELINES

Design Guidelines for the Kendall Square area, which includes the PUD-KS District, were prepared during the K2 Study process to inform property owners, business owners, developers, and the general public about the desired form and character of development in Kendall Square. These guidelines articulate the design and site planning goals for Kendall Square, and measures to achieve these goals. The guidelines aim to:

- *Create a positive mixed-use district where tall buildings with large floor plates can be good neighbors to public spaces, smaller existing*

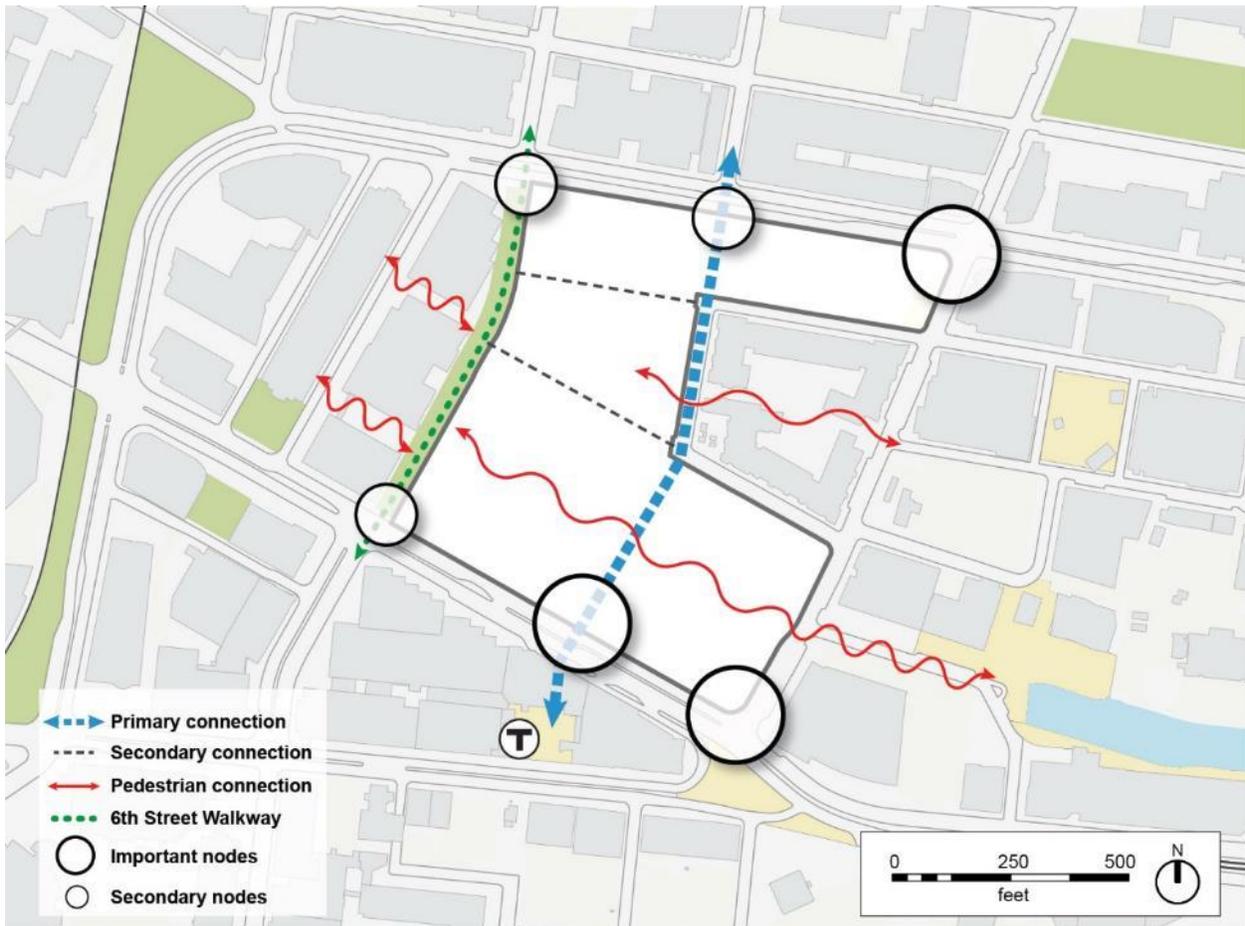
buildings, and adjacent residential neighborhoods.

- *Create high-quality public environments, and ensure development contributes to the character and vitality of the surrounding community.*
- *Sensitively manage the impacts of bulk and height and animate the major streets and public spaces through encouraging active ground floor.*

SITE-SPECIFIC DESIGN GUIDELINES

Following further study, and with direction from the Planning Board, the need to provide additional guidance specific to the PUD-KS district was recognized. This approach acknowledges the unique potential of the PUD-KS district and its prime location in the heart of Kendall Square. The site-specific design guidelines provide further guidance in the Planning Board's review of a PUD master plan, as well as site planning and design matters pertaining to open space and circulation, and housing for families.

CONNECTIONS



The Connections conceptual diagram shows the desired level of connectivity through the PUD-KS site. Building on the ideas of the *Connect Kendall Square* Framework Plan, the UDF seeks to establish a legible circulation network and a fine urban grain. The main organizing feature is the extension of surrounding streets and connections into the site. The extension through the site of Fifth Street, as the primary connector, and Broad Canal Way as a connector to the vitality of the Charles River waterfront, as well as the enhancement of the Sixth Street Walkway, are key strategic moves that future Development Proposals should consider.

Provision of different types of connections (shared streets, multi-modal streets, bike lanes, mid-block connections, alleys etc.), which balance transportation and mobility, placemaking, and sustainability, is recommended. Through this approach, the desired character and quality of connections through the site can be established, which will help strengthen the identity and legibility of the district, and create a variety of experiences.

DESIGN OBJECTIVE

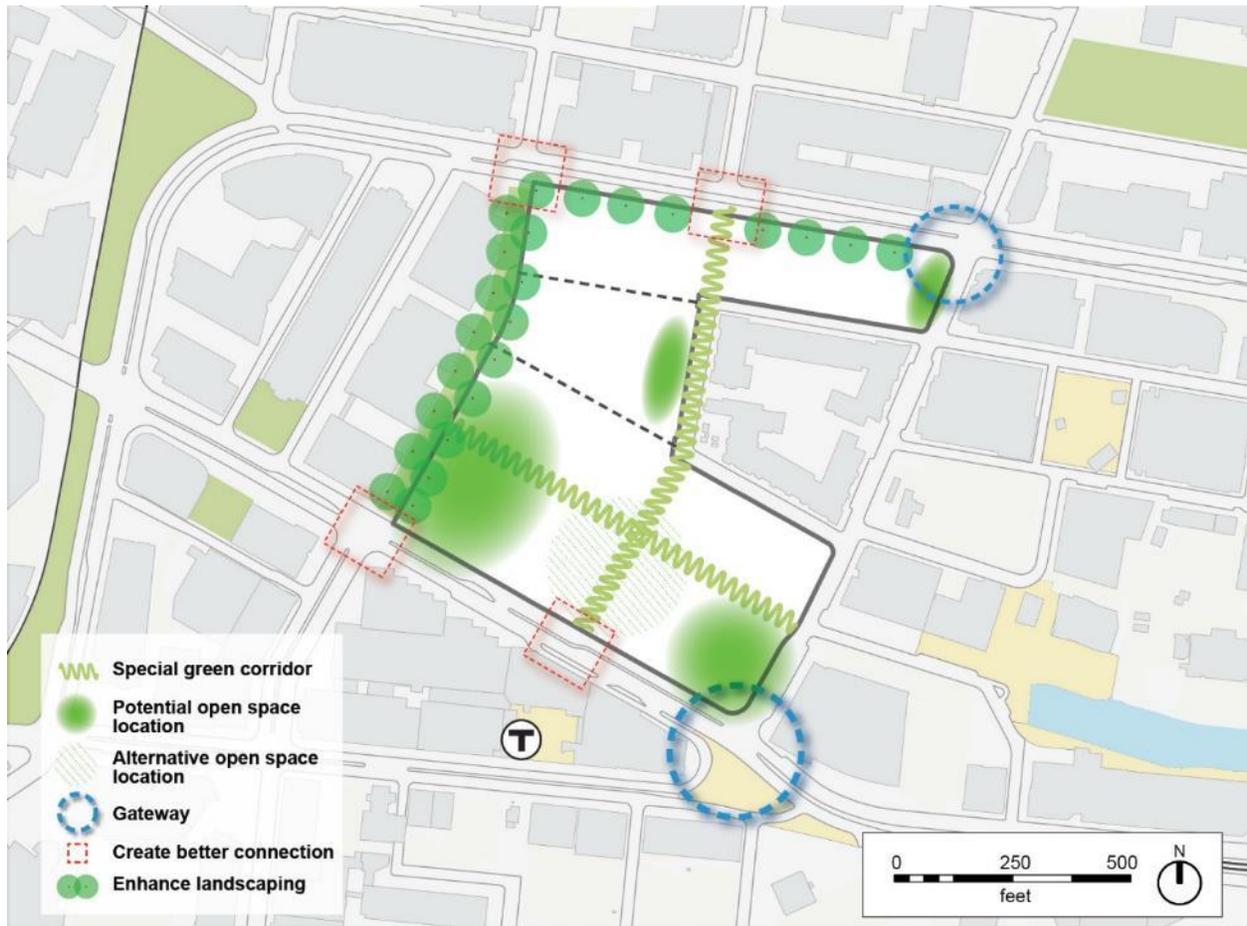
- Create a highly legible and integrated movement network that connects into every kind of route in order to encourage walking and cycling throughout the district.

GUIDELINES

1. Ensure that site planning and design provides for good connections and movement options through the district, and more broadly contributes to the accessibility, connectivity and permeability of the neighborhood.
2. Extend the network of surrounding streets and connections into the site.
3. Extend Fifth Street through the site as the primary connection and investigate use as a slow street with controlled vehicle access.
4. Create an east-west connection that links the Sixth Street Walkway and Broad Canal. The extension of Broad Canal Way should prioritize pedestrian access, creating a safe and inviting space for people to gather, play and socialize
5. Enhance the Loughrey Walkway (connecting Sixth Street to Ames Street).
6. Create a hierarchy of diverse streets and connections with different pedestrian experiences, functions and levels of importance that will help shape the future design of buildings and open spaces. Examples include shared streets, multi-modal streets, mid-block connections, alleys, etc.
7. Ensure high quality pedestrian connectivity between all uses in the PUD-KS district.
8. Encourage mid-block connections through buildings and permeable ground floors that encourage the passage of pedestrians through the building and break-up long building frontages.
9. Design all streets to prioritize pedestrians and cyclists.



OPEN SPACE



The Open Space conceptual diagram is based on many of the principles and ideas of the *Connect Kendall Square* Framework Plan, which recognizes “significant opportunities to create a sequence of new public realm open spaces” through redevelopment of the area. It also encapsulates many of the community’s desires for lively gathering spaces, and more naturalistic, passive parks that provide for both respite from and variety within the urban environment.

The concept envisions a network of open space areas organized along the extension of Fifth Street and/or Broad Canal Way through the site. Several potential locations with positive open

space attributes have been identified and should be further explored through the PUD review process. The corner of Broadway and Third Street is the most prominent focal point on the site – a gateway location to mark a key corner. This opportunity should be emphasized through architecture and open space. The possibility of a public plaza/square should be considered to create a community focus, with potential to host community events and other activities.

While the potential open spaces vary in size and character, this does not preclude the possibility of one larger open space being provided on the site following detailed development planning.

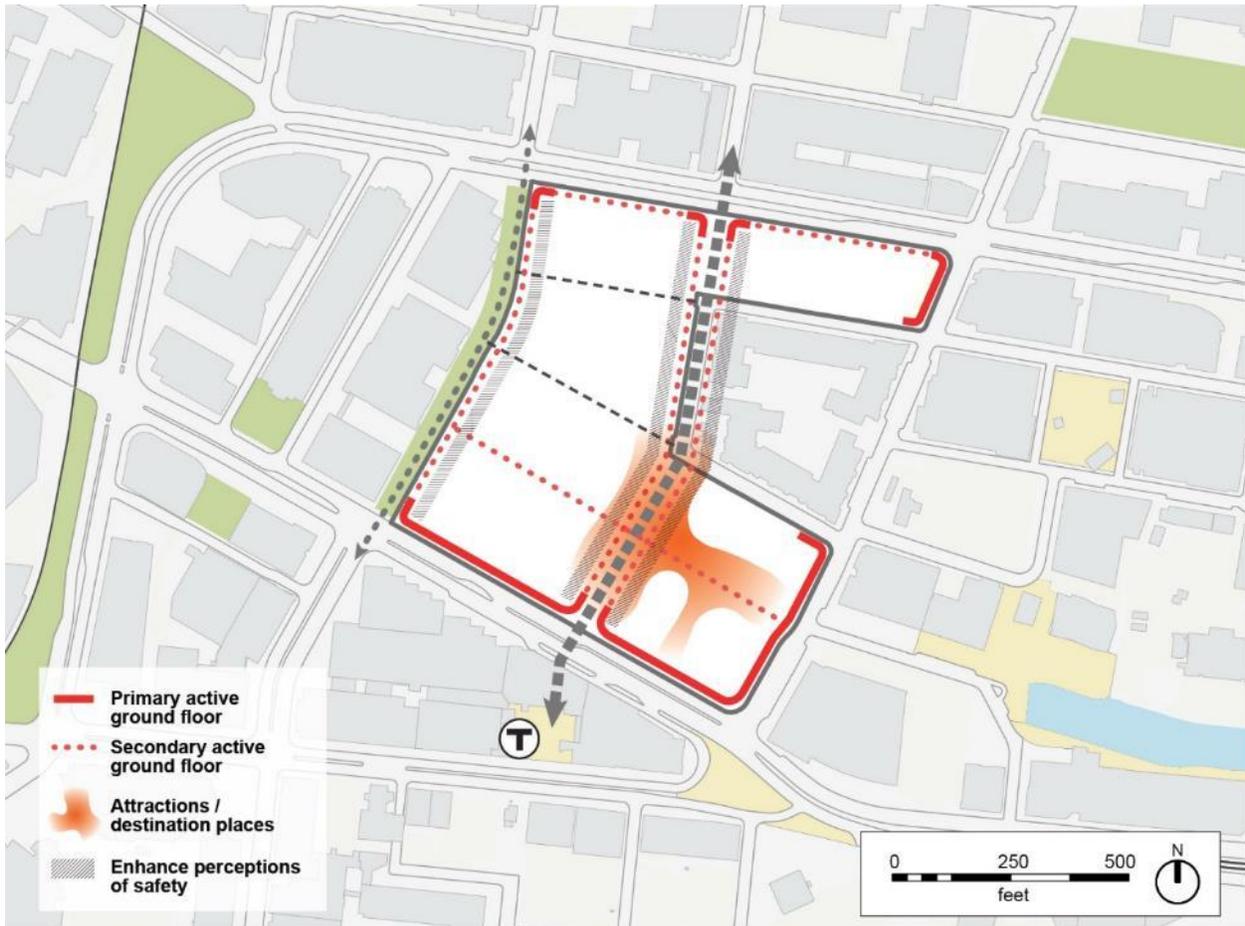
DESIGN OBJECTIVES:

- Create a cohesive network of high-quality open spaces and places that are well-connected and provide opportunities for people to relax, play and meet.

GUIDELINES

1. The open space network should be contiguous, helping to create a connected assemblage of outdoor and indoor places.
2. Ensure that the design and configuration of open space creates significant visual and physical connections through the site, including to Broad Canal and Point Park. Provide opportunities for views out of the site and access to sunlight and greenery for building inhabitants.
3. Support wayfinding by locating open space areas at strategic points in the movement network, such as important connections and intersections, e.g. the extension of Fifth Street and Broad Canal Way.
4. Strengthen the role of Loughrey Walkway as an 'active green spine' linking Kendall Square to the Eastern Cambridge neighborhoods. Ensure a pleasant and inviting pedestrian and cycling link is maintained.
5. Create a significant public gathering space or public park. The park must have dimensions large enough to encourage civic participation and community events, and be either located central to the site or at an important gateway to the site (e.g., the corner of Broadway and Third Street, which may serve as a potential gateway and focal point).
6. Create green corridors by providing canopy trees and stormwater management features, such as bioswales.
7. Create additional smaller open spaces that can help to connect the central gathering space with the broader open space network of Kendall Square.
8. Investigate opportunities for providing active play spaces, including playgrounds, water features, informal sports and game spaces, and indoor play and recreation spaces.
9. Locate public open space with good solar access (especially in shoulder months, and during the winter), protected from wind, accommodating tree plantings and directly accessible from streets.
10. Ensure open spaces have active and defined edges, which are framed by buildings.
11. Connect any rooftop open space to adjacent interior space, with direct access from public spaces, and with visual connections to sidewalks and other buildings.
12. Consider ways to design open space to enhance the identity and character of Kendall Square with wayfinding initiatives, public art and sculpture, interactive installations, etc.
13. Design and program open spaces to be flexible, and to promote robust activity and social life throughout the day and evening, on weekends and throughout the year.
14. Incorporate stormwater treatment / management strategies and environmental sustainability into the design of open space areas.
15. Identify strategies for how future public and private open spaces will be integrated into the open space network, and ensure that privately-owned spaces accessible to the public are clearly legible as such, and are welcoming to the public.
16. In the case of a development plan including a government-owned facility and open space, encourage positive relationships between that facility and adjacent streets, open spaces and active public uses, especially where the facility includes active-use spaces that are open to the public.

ACTIVE GROUND FLOORS



One of the key aims of the K2 Study is to continue to transform Kendall Square into an ever more animated and fruitful center for living, working, and playing. The Active Ground Floors conceptual diagram seeks to clarify where ground floor active uses should be prioritized. While it would be ideal to have active uses fronting all connections and open spaces, it may not be practically viable, so it is helpful to prioritize where activity is most needed and where certain uses will be the most viable. As such, primary active streets are identified, then secondary active streets. In addition, the diagram identifies preferred locations where destination type activities and uses should be encouraged in order to draw people into and through the site.

There is strong interest in a range of retail uses, community and civic spaces that would help the PUD-KS district become part of the neighborhood and draw more interest from the community at large. The following activities were identified as the most desired:

- Grocery store, pharmacy and convenience goods
- More diverse restaurants, including family restaurants, and short-order or takeout food
- Uses serving families with children, including affordable child care, indoor play and recreation
- Workforce training space
- Cultural spaces such as performance spaces, museums and galleries

DESIGN OBJECTIVE

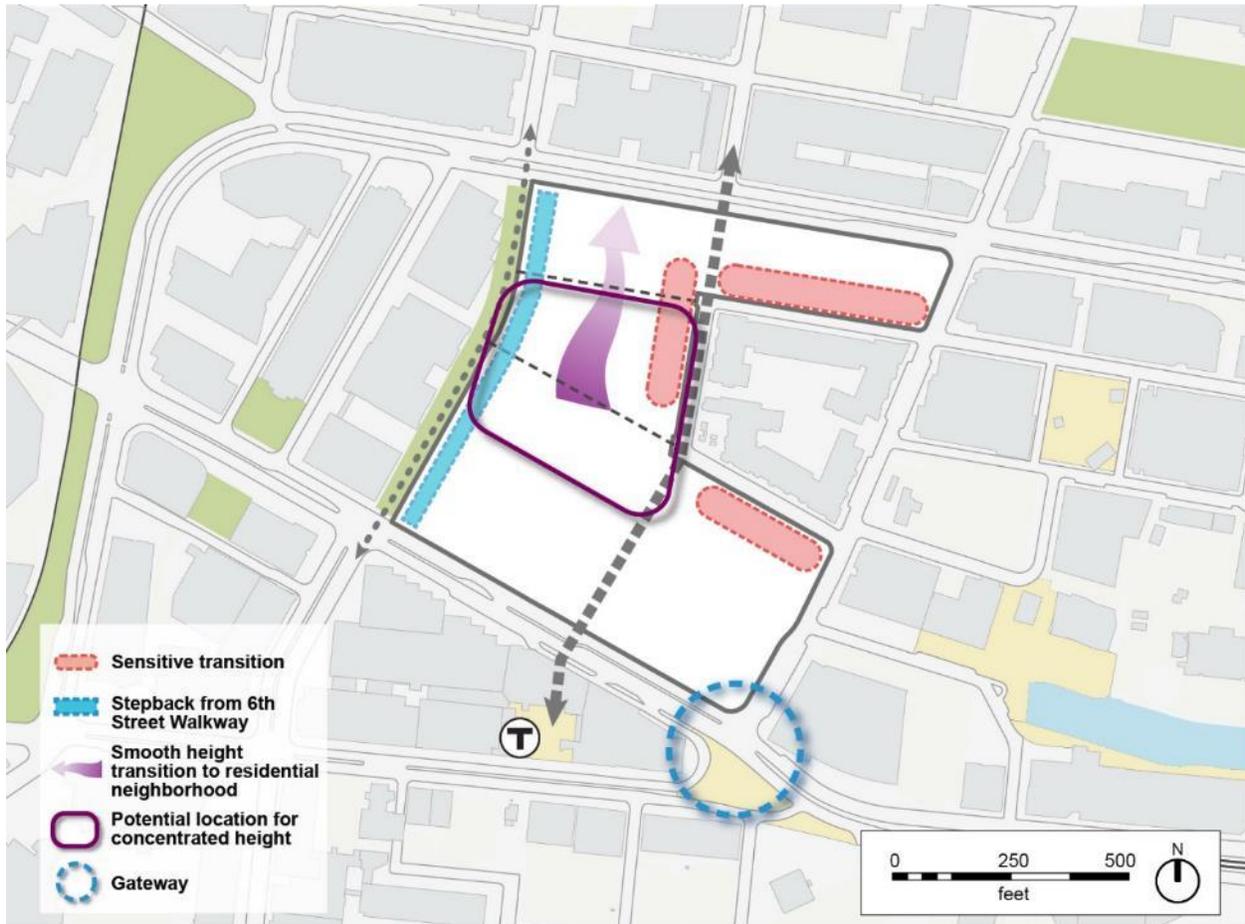
- Provide active ground floors that animate streets and open spaces, and add to the vitality of Kendall Square, while meeting the community's needs.

GUIDELINES

1. Provide a strong street edge on major public streets, including Broadway and Third Street.
2. Prioritize the activation of the extended Fifth Street as a major connection from the Kendall Square T station to the East Cambridge neighborhood.
3. Along Binney Street, focus active uses on important corners with Third, Fifth and Sixth Streets.
4. Concentrate key uses that could serve as destination places or community attractions along the extension of Fifth Street and Broad Canal Way.
5. Create two-sided commercial streets where possible for economic viability.
6. Ensure connections are lined with active frontages, and integrated into Kendall Square's urban layout and structure.
7. Consider various design and siting measures to enhance the feeling of safety along the Sixth Street Walkway and the future extension of Fifth Street.
8. Ground floor retail uses should be distinct, diverse, and animated with spaces designed to accommodate a variety of retailers with a range of unit sizes and rental/ ownership costs.
9. Retail uses and services that are not currently provided in the neighborhood (grocery store, pharmacy, diverse restaurants) are encouraged.
10. Utilities should be located underground, or off primary and secondary connections, to maximize the continuous active frontage.



BUILT FORM



The PUD-KS zoning requirements provide flexibility in the arrangement of buildings and height in order to produce better designed buildings and open spaces. The PUD development review process provides an opportunity to explore options for development as part of an overall master plan that fits within the site and context. As such, the Built Form conceptual diagram identifies areas and interfaces that will require careful and sensitive consideration in the development review process.

The PUD-KS objectives and guidelines for Built Form are intended to complement the Kendall Square Design Guidelines, which provide additional detail on the desired built form characteristics of new buildings.

DESIGN OBJECTIVE

- Building massing and location should be responsive to site conditions and should establish a high quality and amenable public realm.

GUIDELINES

1. Consider sensitive transitions to the existing low-scale buildings on Third Street when designing the site plan and individual buildings.
2. Step back from the existing Sixth Street Walkway to provide a comfortable and spacious walking/bicycling experience.
3. Provide smooth height transitions to the residential neighborhoods to minimize the impact of tall buildings.
4. Pay special attention to the corner of Broadway and Third Street, which may become an important gateway. Consider views from Point Park to create a welcoming entrance to the site.
5. Consider height and massing options that will minimize or mitigate overshadowing and uncomfortable wind impacts on public streets and open spaces.

In assessing whether a taller building should be approved as a “distinctive architectural landmark,” the following matters should be considered:

1. Whether a very high standard of architectural design excellence, materials and detailing appropriate to the building type and location is achieved. This includes consideration of:
 - Site and building organization, relationship to other buildings, massing, scale, proportion, rhythm, unity and expression, architectural ambition, architectural language, and aesthetics.
2. Whether the form and external appearance of the building will improve the quality and amenity of the public realm.
3. Whether the building exhibits innovative technologies and sustainable design principles, and is designed to be flexible and adaptable over time.
4. Whether adverse impacts on the microclimate (including shadows, wind and heat island effects) have been mitigated.
5. Whether the building makes a positive contribution to the Cambridge skyline and important views.

HOUSING FOR FAMILIES

Residential development, including housing that meets the needs of families, is a high priority for the City and the community. The intent of these design objectives and guidelines is to address some of the key livability issues relating to the siting and design of housing for families with children in the PUD-KS district.

DESIGN OBJECTIVES

- Locate family units in portions of the building or site that overlook common outdoor play areas, and are closest to community services and recreational amenities.
- Ensure that the size and layout of units meet the needs of families with children.

GUIDELINES

1. Provide easy access to appropriately located, and designed outdoor open space.
2. Design family units to maximize the potential for adults to supervise children at play through visual and direct physical connections.
3. Consider providing indoor play areas that are easily accessible to family units.
4. Three bedroom family units should consist of one master bedroom and two smaller bedrooms.
5. Consider private outdoor open space adjacent to units.
6. Provide sufficient storage within the unit or within easy access of the unit. Storage spaces should be to accommodate household items such as strollers, large toys, etc.



CONCEPTUAL AERIAL VIEWS

The following conceptual diagrams and images are for general illustrative purposes only. The renderings describe one of many massing scenarios possible under the provisions of the PUD-KS District, UDF and K2 Design Guidelines. The images and building forms do not represent particular architectural or open space designs.

- PUD-KS commercial buildings
- PUD-KS residential buildings
- PUD-KS Possible Volpe building
- MXD Rezoning proposal and approved Ames St housing
- MIT Special Permit Application



Potential location for community gathering / cultural space with seamless connections to plaza



Example of a centrally located picturesque park



Example of an open space corridor with taller buildings in backdrop



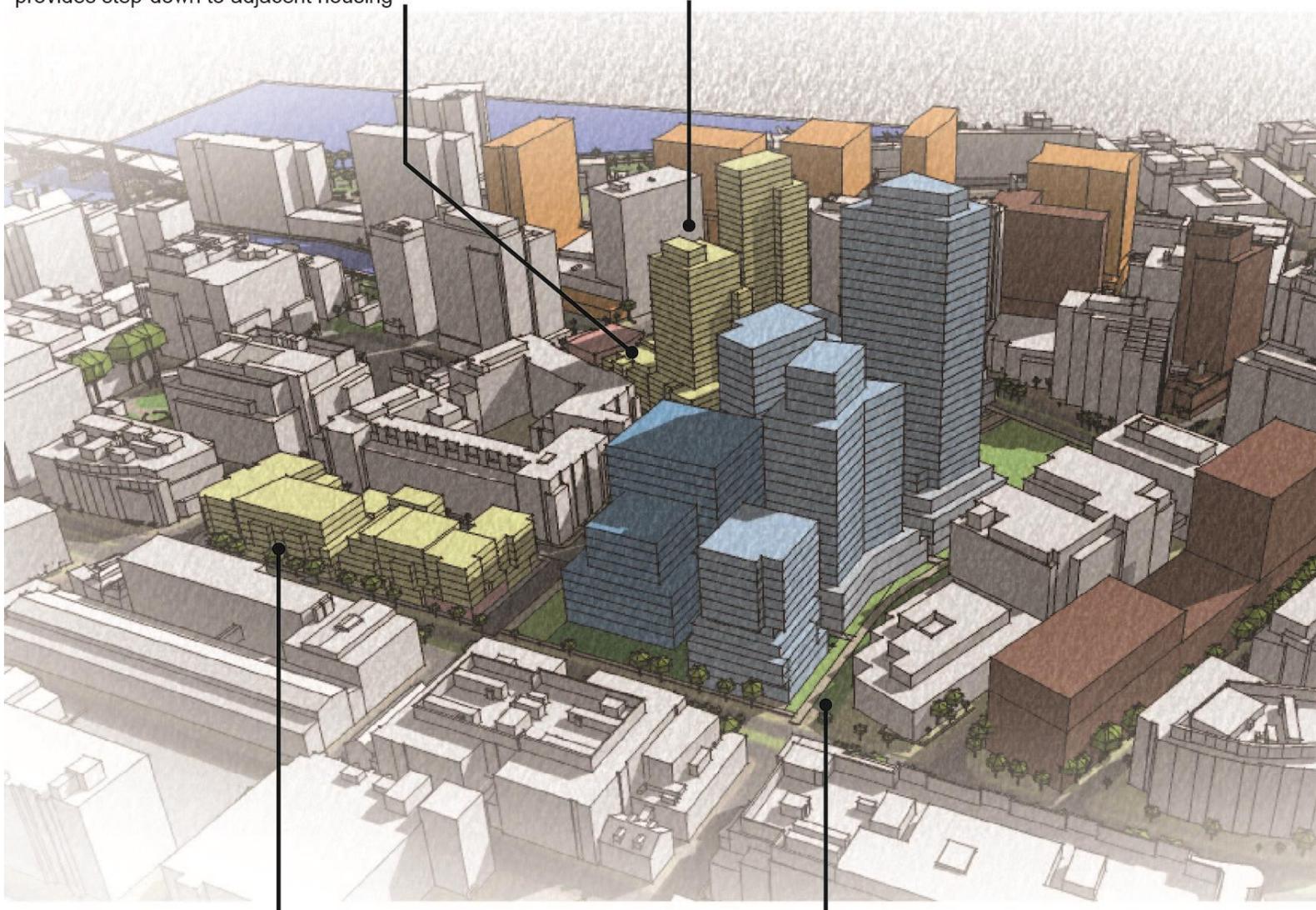
Example of a lively urban plaza with strong built form



Example of low to mid rise multi-family housing overlooking open space, also provides step-down to adjacent housing



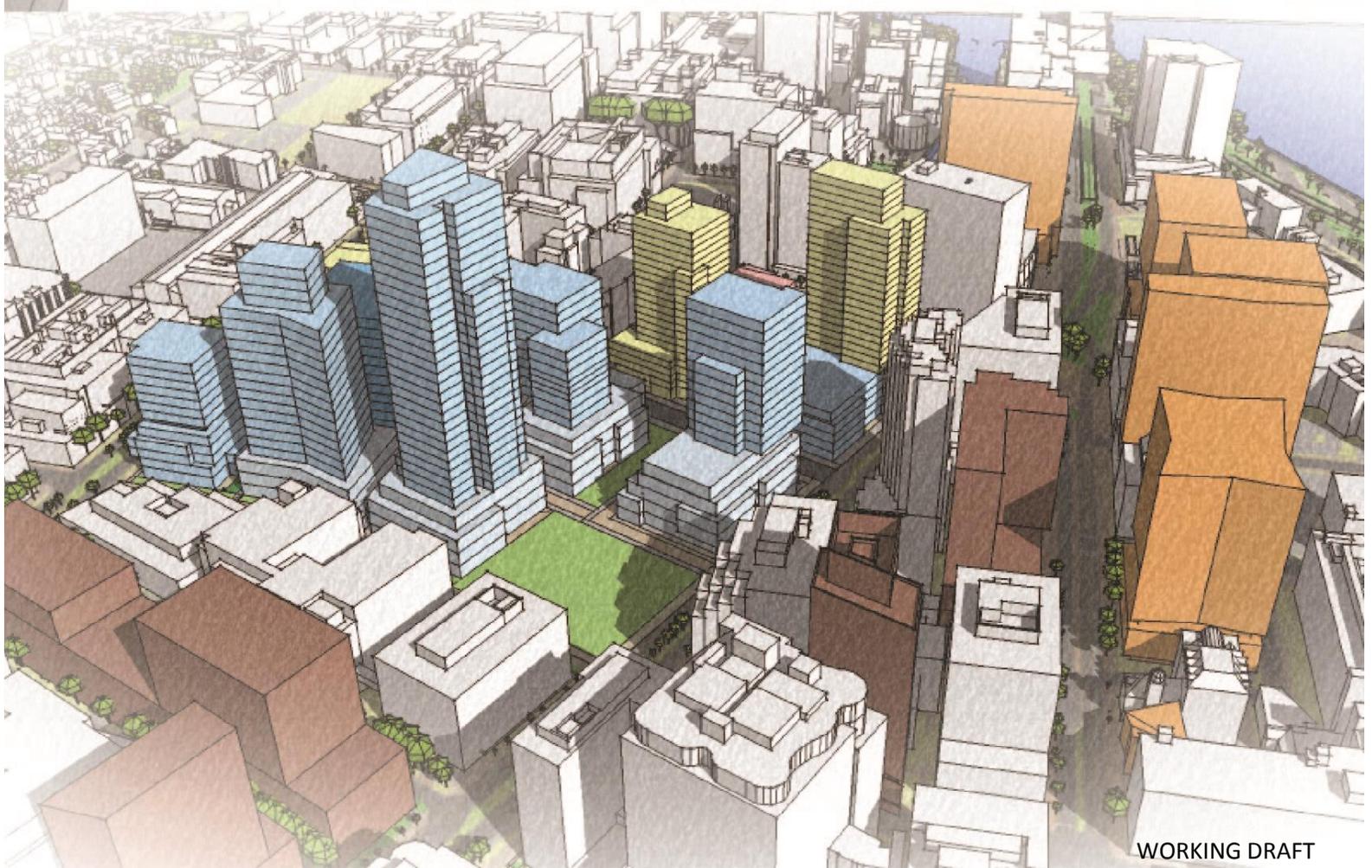
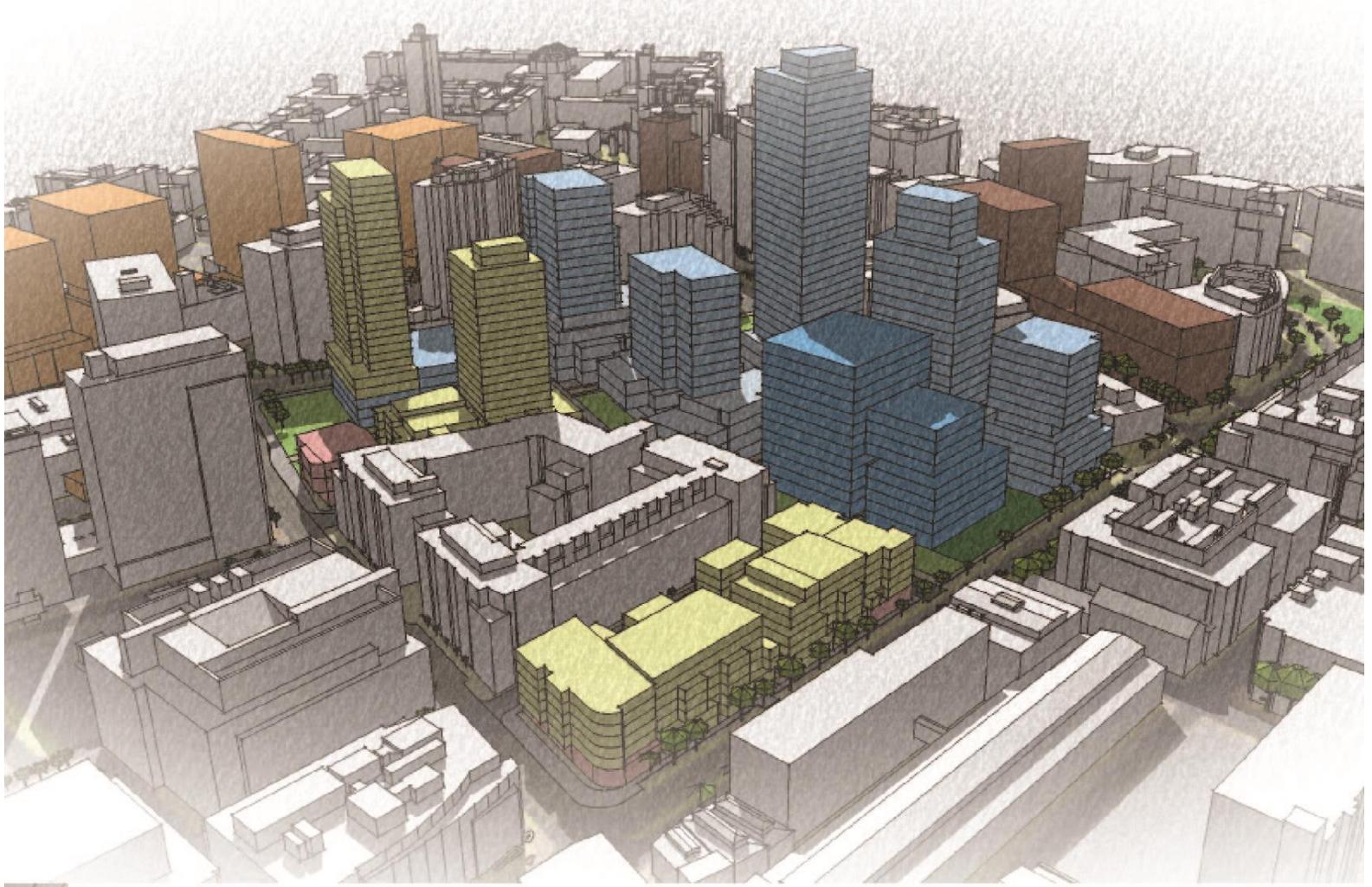
Example of a podium/tower residential building



Housing with front stoops and gardens



Enhance 6th Street connector as an "active green spine"



WORKING DRAFT