



CITY OF CAMBRIDGE

Community Development Department

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To: Planning Board

From: CDD Staff

SANDRA CLARKE
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Date: April 14, 2022

Re: **PB #315 – 250 Binney Street & 290 Binney Street Design Review**

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The Special Permit for Major Amendment #2 of the Mixed-Use Development: Kendall Center (MXD) was granted by the Planning Board on December 14, 2021. At that time, the Planning Board's review was based on an initial submission of plans and graphics dated [July 1, 2021](#) and a [Response to Comments](#) document dated November 5, 2021.

The Special Permit authorizes the development of up to 800,000 square feet of new commercial development within the District. The approved Infill Development Concept Plan (IDCP) illustrates two, approximately 250' commercial buildings along Binney Street called "Commercial Building C" (290 Binney Street) and "Commercial Building D" (250 Binney Street), each consisting of approximately 400,000 gross square feet. The Permittee has submitted an application for design review and approval of 250 and 290 Binney Street. The Publicly Beneficial Open Space located on a particular building site is included in design review.

Planning Board Action

The Planning Board's review of the building and landscape design is guided by the conditions of the special permit, which references the design standards specified in the draft Interim Development Concept Plan (IDCP) Design Guidelines (2021), the Kendall Square Design Guidelines (the "K2 Design Guidelines", 2013), and the Volpe Working Group Planning & Design Principles dated July 20, 2017 (the "Volpe Guidelines").

Review Process

Since December 2021, City staff met with the Permittee and project architect to review the proposed building design. The Permittee also held a joint review session with representatives of CDD, Planning Board, CRA Board, and CRA staff on Wednesday, February 23. The proposed building and landscape designs reflect some of the suggestions made in these preliminary discussions. The site's zoning and special permit include provisions regarding the bicycle valet system, active uses, and green roofs.

Bicycle Valet Layout

As a condition of the Special Permit, the Permittee will provide a 24/7 complimentary bicycle valet to serve the bicycle parking needs of the tenants and employees of 135 Broadway, and 250 and 290 Binney Street. The approved bike valet system will first occupy the ground floor of 290 Binney Street, fronting an open space in the center of the block - the "Center Plaza" - and then ultimately transition into the ground floor of 250 Binney Street. Up to 400 bicycles will be accommodated in 290 Binney Street; after relocation to 250 Binney Street the total capacity of the bicycle valet facility will increase to 610 spaces.

Section 6.3 of the design review submission details an overall bike valet strategy and provides ground floor plans illustrating potential layouts of the bike valet areas. Prior to the commencement of valet operations, the Permittee is required to submit a Bicycle Valet Operations Plan which will detail, among other items, a plan illustrating the proposed location of pick-up/drop-off zones and a schematic illustrating how users will access the proposed valet premises (both interim and permanent) from 135 Broadway, 250 Binney, 290 Binney, and site, as applicable. Such a plan will be reviewed and approved by CDD and TP+T staff.

Active Uses

The ground floors of 250 and 290 Binney Street along the Center Plaza frontage are labeled “Bike Valet/Active Use”. Section 6.1 of the design review submissions describe a vision for retail and active use in both buildings. The application notes that between the two buildings, approximately 10,000 square feet of active uses will be located on the ground floor. Potential uses of the space include “...bike parking, restaurants (including fast casual dining options), entertainment/sporting venues and/or bars, consumer service retail and dry goods, bike-related retail and services...as well as collaboration spaces such as art galleries that double as coffee shops.”

Bicycle parking is not typically considered an “Active Use,” although the bicycle valet service could generate a different type of activity than a standard bicycle parking facility. Because this type of facility is unprecedented in Cambridge, its contribution to ground-story activation is uncertain. Bicycle-related retail services, along with the other retail, food service, entertainment, and cultural activities described above, would more typically be characterized as Active Uses.

The proposed Bike Valet will ultimately move to the ground floor of 250 Binney Street, and 290 Binney Street’s rear ground story fronting Center Plaza will consist entirely of “Active Use”.

1. Additional information related to the range of Active Uses to be expected after the completion of the first building and later the second building, whether they will be single or multi-tenant spaces, and other considerations may be helpful in better understanding the relationship this space will ultimately have with the Center Plaza.

Green Roofs

Major Amendment #2 to PB-315 included the granting of a special permit for a reduction in required green roof area for 250 Binney, 290 Binney, and 135 Broadway, with the specific amount of reduction established at the time of design review. Section 4.1.12 of the design review submissions include a roof plan illustrating conformance with the Green Roofs Ordinance.

For 250 Binney Street, of the 44,690 square feet of roof area, the Permittee claims approximately 88% of the roof area as exempted space under Section 22.35.a of the Zoning Ordinance, consisting of a combination of un-enclosed mechanical equipment space and façade maintenance catwalks. 4,440 square feet of roof area are shown as “Green Roof or PV Area”, but no additional details or schematics are provided to illustrate. For 290 Binney Street, approximately 86% of the roof area is noted as exempted space, with the same combination of items; and 4,800 square feet of roof area is shown as “Green Roof or PV Area” without additional details. For a non-residential building, the minimum requirement must be met with Green Roof Area or Biosolar Green Roof Area, which would combine solar panels with planted area. The requirement cannot be met only with Solar Energy Systems.

2. Further discussion with Inspectional Services and CDD staff should occur to ensure all the claimed exemption areas do in fact qualify under the provisions of the Ordinance. It will also be

necessary to review the proposed Green Roof Area in greater detail to determine if it meets the minimum design requirements for Green Roof Area.

MXD Urban Design Objectives and Guidelines

The objectives and guidelines most relevant to the review of the building are:

Overall

- Create a complementary mix of uses that contribute to Kendall Square’s evolution as a 24/7 Live Work and Play neighborhood.
- Create permeability with pedestrian and bicycle connections through the site blocks within the district especially those routes that strengthen ground floor active use and retail.
- Provide access to outdoor and indoor public spaces that allow people to enjoy them throughout day and evening.
- Enhance connections between existing open space and public and private pedestrian and bicycle infrastructure.
- Design and build in a sustainable and resilient fashion.
- Create buildings of appropriate scale, mass, height, form and texture for their site context on its parcel, the block, and in relation to the width of the street or adjacent open space, with the goal of optimizing light, air and view for all both inside and outside the buildings.
- Building and open space design enhances and embraces that life in a dense urban setting happens vertically by including public and private open spaces such as balconies, terraces and rooftop decks.

Ground Floor Uses

- Lobbies for office, research and residential uses are discouraged from occupying extensive ground floor frontage.
- Retail and services should serve local communities as well as people who work in the area. Ground floors should help create space at the sidewalk level to allow for interaction between activities on the ground floor of the buildings and the public sidewalk.
- Buildings should be directly engaging to the public and create a well-defined streetwall to help frame Kendall Square’s streets and public spaces.
- Design ground floor facades of building to reduce the distinction between exterior and interior space to extend the effective public realm indoors and reveal indoor activity on the street.
- Prioritize small-scale spaces with a range of uses at the ground-floor edges of buildings, particularly along major public routes and open spaces.
- Where retail is not provided, ground floor spaces should be designed to accommodate retail in the future.

Streetscapes & Pathways

- Streets shall be designed to allow for separated circulation paths for pedestrian, bicycles and automobiles to minimize conflict and ensure safety.
- Lighting shall be provided consistent with city standards that balances concerns between light pollution, safety, and the creation of a compelling evening streetscape, outdoor patio, retail, and open space environment.
- Street furnishing shall be included consistent with City Standards to allow for points of gathering, rest, and for public transit uses.

- Design streets and spaces to maximize comfort and safety for people walking, bicycling, and driving.
- Loading and service areas should be located and designed to support the walkability of the area and minimize dead zones, particularly away from major public streets and pedestrian corridors wherever possible.

Connectors

- In general, connectors over public ways are not encouraged in the heart of Kendall Square to avoid internalizing activity that is needed to achieve the essential goal of a more animated square.
 - All connectors should be recessed from public spaces and made highly transparent.
 - Corridors that allow connections between multiple tenants/uses in different buildings are not encouraged in order to ensure that the streets and ground plane remain active.
 - In instances where multiple connectors are provided, they should be placed so as to create architectural interest and to allow a reasonable amount of light to reach the ground.

Built Form & Massing

- Use building mass to establish street corners, urban thresholds or create landmarks.
- Design buildings to minimize monolithic massing and break down the scale of large buildings.
- Design buildings to help create streetwalls, where appropriate, to help frame the sidewalks, plazas, and other public spaces in Kendall Square.
- Generally, buildings should have a clearly expressed base, middle, and top.
- Setback approximately two-thirds of the building façade above 85 feet from the principal façade by a depth of about 15 feet.
- Tall buildings should be articulated to avoid a monolithic appearance, and should emphasize slender, vertically-oriented proportions.
- Create a variety of forms and rhythm, appropriate to urban context and street width.
- Create interesting and varied rooflines identifiable from the ground and at a distance.
- Visually connect outdoor public realm with indoor public spaces.
- Create or support appropriate contextual datum lines to limit sense of height at street level.
- Encourage building forms and site planning that relate to the surrounding context. New buildings should create sensitive transitions to neighboring uses, especially to existing residential buildings, historical structures, and public parks.
- Use recessed or projected entryways, canopies, awnings, etc., to enhance pedestrian experience, and provide weather protection to the sidewalk.
- Balconies, whether projecting from the typical plan of the exterior façade or recessed into it, will be utilized to lend scale and variety to the massing and contribute to the language of residential typology.
- Buildings over 200 feet tall should be designed with particular attention to the architectural character of the top of the building, which will be visible from significant public spaces and from some distance. Tall buildings could potentially enhance the identity of Kendall Square by defining edges or serving as landmarks.
- The design of rooftops, including mechanical equipment and cellular installations, should be conceived as integral to the rest of the architecture of the building. The tops of buildings should be designed in recognition of their potential to symbolize the building or district.

- Building massing and envelope details should respond to distinctions between primary front facades and secondary facades and to differences in solar orientation.
- Careful articulation of large commercial buildings is critical to enable the buildings to relate to the scales of the city, the neighborhood, and the pedestrian.
- Commercial Building Materials & Façade:
 - Provide high transparency at the ground floor to emphasize activity within the building
 - Provide sliding walls/raising doors to provide openness and permeability at the ground level and other retail/active use levels
 - Maximize transparency at upper stories while considering solar heat gain, energy performance, and interior daylighting
 - Use variation in glazing types, frame depths and scale of horizontal and vertical expressions to heighten visual interest
 - Consider using reveals, recesses, and cantilevers to break down the proportions of large facades
 - Introduce solid wall cladding, where appropriate, to embed the scale of occupants and interior spaces on the elevations in addition to allowing for complementary materials to the urban context.
 - Solid wall cladding should incorporate a mix of color and texture, depth, create shadows and incorporate middle scaling elements.

Urban Design Comments

Summary of Main Points

The project's contributions to Kendall Square as an internationally significant center of scientific research and a thriving district of Cambridge are greatly appreciated, as is construction of the underground electrical substation and the Center Plaza.

Staff encourages an approach to building massing that would establish stronger relationships between the proposed buildings and nearby existing buildings, and that would help frame the Center Plaza and Binney Street as legible volumetric spaces. Staff encourages approaches to ground floor façade design, plan layout, and programmatic uses that create an engaging pedestrian-oriented environment. More specifically:

1. Avoid massing that leans over the Center Plaza.
2. Reduce the number of tilted facades in other locations; locate them as positive responses to particular adjoining conditions.
3. Reduce the sense of monolithic massing.
4. Encourage massing and façade design that creates relationships with adjoining spaces and nearby buildings, reduce the sense of 250 and 290 Binney Street as a pair of buildings that are independent from their surroundings.
5. Provide setbacks on Binney Street and facing the Center Plaza at roughly the heights of existing mid-rise buildings in the area to create a streetwall zone.
6. Further develop the balconies at the north and south facades, including giving the facades a stronger vertical emphasis.
7. Create more engaging and more differentiated first/second floor facades.
8. Reduce the size of the lobbies in plan and make them double height.
9. Provide ground floor active uses facing Binney Street (or design the buildings to accommodate active uses in the future), and better delineate the range of active uses fronting Center Plaza.

10. Adjust building and landscape plans to create strong connections between the lobbies and Binney Street.
11. Minimize exterior architectural lighting.
12. Control light trespass from interior spaces.
13. Provide additional trees along East Plaza Drive.
14. Reduce the amount of pavement around the buildings.
15. Provide better accommodations for pedestrians on both sides of East Plaza Drive.
16. Provide more clarity on the appearance, layout, and use of the Bike Valet areas.
17. Provide more clarity on the locations and dimensions of short-term bike parking and Bluebike stations.

Introduction

As parts of the redevelopment of the MXD Blue Garage site, 250 and 290 Binney Street will contribute to the transformation of Kendall Square, adding office and lab space to serve the district's growing research community, facilitating the construction of an underground electrical substation to serve the area's growing demand for electrical power, and providing a new "Center Plaza" on the site of the existing Blue Garage. At roughly 320 feet tall (including mechanical penthouses) the buildings are similar in height to recent and proposed buildings in the area, including in the adjoining Volpe site. Both buildings face Binney Street. 290 Binney Street, at the north end of the Center Plaza will be constructed at the same time as the MXD project's residential building at 135 Broadway. 250 Binney Street, at the northeast corner of the MXD site, will follow. The Center Plaza will be completed as the last phase of the project.

In the initial IDCP submission (dated July 1, 2021), 250 and 290 Binney Street were sited close together, separated by a narrow East Plaza Drive, and filled out most of their trapezoidal and polygonal sites. The supplemental November 1, 2021 package includes this version and also depicts an alternative in which 250 Binney's west side is rotated parallel to the Sixth Street Walkway, and the corners of both buildings are chamfered at slight angles. This alternative version presents advantages in terms of the character of the open space between the buildings, widening it sufficiently to address concerns that in the earlier scheme the two buildings created a sense of excessive bulk, yet still pinching the space between them sufficiently to create a threshold of entry from Binney Street toward the Center Plaza. It is developed in the current "Design Review Resubmission" packages, dated March 15, 2022.

In addition to the Design Guidelines incorporated in the Second Amendment (July 1, 2021), the Kendall Square Design Guidelines (the "K2 Guidelines", 2013) apply to the MXD site, and the Volpe Site Design Guidelines (2017) for the adjoining parcel convey additional information regarding the city's intentions for urban form in the area. These documents stress the importance of the site's contribution to the city's public realm: the creation of active, legible, and memorable urban spaces – streets, parks, and squares – by the harmonious collaboration of architectural form and landscape design, with the goal to not only serve the needs of residents and workers for use, comfort, an enjoyment, but also for a sense of place. The two buildings are similar in many ways. Rather than repeat comments, the following discussion is organized by topic, with reference to the individual buildings where appropriate.

Architectural Massing

250 and 290 Binney Street have similar designs: their heights match; they use the same exterior materials; their facades run continuously from the third floor levels to the building tops; their east and

west facades are vertical, but their north and south ends lean either toward or away from the adjoining open spaces; these tilted end facades are expressed as a stack of horizontally bookshelf-like balconies, most of them three floors in height; both have chamfered corners that give their east and west sides a convex shape and contribute to a monolithic prismatic effect.

The south façade of 290 Binney is tilted outward over the Center Plaza, looming over it. Other facades tilt toward or away from the adjoining streets and open spaces, reinforcing the sense that the buildings are independent from their contexts.

1. To help frame the Center Plaza as significant public space, consideration should be given to addressing the Center Plaza with a vertical facade, stepped back at approximately 85 feet as recommended by the K2 guidelines.
2. Consideration should be given to minimizing the use of tilted facades elsewhere on the two buildings, and to locating them judiciously in response to particular aspects of the adjoining buildings or spaces.

The buildings are conceived as a pair, sharing a massing concept and façade systems, and largely independent from the other buildings around them. They give an impression of conducting a conversation between each other, a conversation from which the other nearby buildings are excluded.

3. To more strongly integrate 250 and 290 Binney with other buildings both in and around the MXD development, consideration could be given to making the two buildings more different from each other in height, materials, and/or massing, and more responsive to the unique aspects of their individual sites.
4. As part of a stronger response to heights of the existing buildings both in the MXD site and on the opposite side of Binney Street, consideration should be given to introducing a distinct streetwall-height zone on the street-facing facades, as recommended by the K2 and Volpe Design Guidelines.

Despite their somewhat irregular geometries, the buildings read as monolithic masses. The two buildings are prismatic solids, undifferentiated from their third-floor levels to their tops.

5. In response to the guidelines' recommendation to avoid a monolithic appearance, consideration should be given to creating more articulate massing and facades, including an expression of streetwall height as noted above.

Facades

Towers

The north and south ends of both buildings are designed as stacks of three-floor-high recessed balconies. Each balcony is visually expressed as running the full width of its façade, but is infilled at either its eastern or western end with a vertical zone of curtainwall enclosed interior space. The wide proportions of the balconies and the projection of their floor edges give a horizontal grain to the north and south facades.

6. In response to the guidelines' theme of emphasizing vertical proportions, the enclosed spaces could be given vertical continuity from one balcony level to the next, rather than separating them by the projecting floor edges.
7. To give the balconies greater visual interest, features linking the balconies vertically, such as openings through the balcony floors, could be considered.

8. To create interaction between interior spaces and the balconies themselves and to enhance their sense of scale, elements such as subsidiary balconies overlooking them from the adjoining interior spaces could be included at their second and third floor levels.
9. Consideration could be given to designing the balconies to accommodate plantings.
10. To help block wind, and create more visual variety, the introduction of sliding panels at the outer edge of the balconies could be considered.

The soffits of the balconies will be a significant element of the design, including their soffit color, material, joint patterns or other articulations, and relationships to the curtainwall and the ceilings of adjoining interior spaces.

11. Alternatives to the proposed panelized system should be considered, such as a joint-free surface, a larger scaled joint pattern, and a geometrical relationship between the joint pattern and the mullion spacing.

The long outward facing east and west facades of the buildings have two different façade treatments. A vertical zone of balconies articulates the zone where the two façade types meet, adding visual interest and a finer grained sense of scale. By picking up on the planes of the north facades of neighboring buildings to the east and west these, balconies help connect the proposed buildings with their contexts. The wider portions of the curtainwall fenestration on the outward facing east and west facades of the two buildings have an applied pattern of projecting mullions that continue up the heights of the buildings, angled at the spandrels to create an overall diagonal effect.

12. If they are meant to provide significant sunshading, consideration should be given to increasing their depths.

Ground floors

The first and second floor facades are slightly recessed back from the plane of the facades above. Two façade types are provided: opaque for the considerable amount of windowless mechanical and back-of-house space, and glazed at the lobbies and the Bike Valet/ Active Use spaces. The lobbies and the programmed interior spaces have only muted façade expressions on Binney Street and other open spaces adjoining the buildings.

13. Consideration should be given to creating a more visually engaging pedestrian experience through the introduction of more ground-level façade types, articulations, and materials; the use of large operable windows at active use spaces; pedestrian-scaled dimensions, transparency, projecting canopies, lighting, and the expression of double height spaces, etc.
14. Further consideration should be given to the locations of entrances to the Valet Bike / Active Use spaces relative to near-term and long-term uses in these areas and the adjoining open spaces.

Despite the combined effect of the buildings' recessed first and second floor facades, the lobbies of both buildings are single-height spaces. They occupy the full widths of the Binney Street frontages. Their entries are understated and face the East Plaza Drive rather than Binney Street.

15. Consideration should be given to designing the lobbies as double-height spaces, expressed on the facades.
16. Consideration should be given to reducing their widths, so as to provide space for sidewalk-facing, active programming.
17. Consideration should be given to providing entrances to building lobbies and active use spaces directly from Binney Street's public sidewalk.

Due to the considerable amount of back-of-house space on the ground floors (loading areas, mechanical space, etc.), large portions of the ground floor facades are opaque. These are given a fairly anonymous panel cladding of terracotta or metal panels, similar to those used at the upper floors of the building.

18. To help draw people from Binney Street to the Center Plaza, consideration should be given to creating more engaging facades by giving solid wall areas more articulated and varied patterns, incorporating art and decorative lighting, and the use of different materials than on the upper floors.

Building Tops

The upper edges of the facades of both buildings are slightly sloped in opposite directions. The facades of the mechanical floors at the tops of the buildings appear to match the appearance of the occupied floor facades below.

19. Consideration could be given to creating a more varied roofline, and to doing more to modulate the building's façade expression in response to the presence of the three floor mechanical spaces at the building's tops.

Glass

Different types of glass are proposed for the ground floors and tower floors. The ground floor glass has good Visible Light Transmittance (VLT) and Visible Light Reflectance (VLR) values. The values of the tower glass are poor; they are more reflective and less transparent than the glass of other recently constructed large buildings in Cambridge.

20. Consideration should be given to using a more transparent and less reflective glass in the towers.

The glass curtainwalls of the buildings' side facades extend to enclose one end of each balcony.

21. To minimize hazards to birds, "bird-friendly" glass should be specified at these locations.

The building's facades are heavily glazed and will be prominent from numerous residential locations in Cambridge.

22. Given the visibility of the buildings from residential areas of Cambridge, and to the project's own residential building, consideration could be given to controlling light trespass from interior spaces, including by means such as light timers and blackout shades.

Exterior Lighting

The application illustrates an extensive exterior lighting scheme, with vertical strips running the heights of the buildings, illuminated soffits at the north and south facing balconies, glowing three-floor-high mechanical spaces at the tops of the north and south facades, and ground floor lighting. A "light curfew" will be established, turning off façade lighting and dimming other lights.

23. To reduce the building's dark sky impacts, its nighttime visibility from Cambridge's residential neighborhoods, and its interference with bird migration, consideration should be given to going beyond the light curfew: eliminating exterior lighting above the building's first and second floors, or at least avoiding its use entirely during peak migration periods.

At the ground floors, the drawings indicate "interior lighting to active ground plane".

24. As a considerable portion of the buildings' east and west sides are designed as opaque walls, pedestrian-scaled exterior lighting may be appropriate in these areas.

Signage

Retail signage is limited to the first and second floors. Building signage zones are indicated from the third through sixth floor levels, a zone about 50 feet tall; and at the tops of the buildings, a zone approximately 60 feet tall.

25. The buildings will be prominent on the Cambridge skyline, especially from residential East Cambridge. As with the proposed lighting scheme, care should be taken with the size and orientation of signs, particularly illuminated ones, to respect the residential areas of Cambridge and address broader environmental concerns.

Ground Floor Plan and Uses

The lobbies of both buildings are very large; extending across the full widths of the Binney Street frontages and 40 to 50 feet deep into their plans. They are single-height spaces, with ceilings at approximately 12 feet. They are without significant direct connections to Binney Street: their main entrances face each other across East Plaza Drive; only small secondary doors without vestibules (possibly emergency exit doors) face Binney Street.

26. Consideration should be given to either reducing the sizes of the lobbies to make room for separate active uses that would be entered directly from Binney Street, or to accommodating public active uses within the lobbies.
27. Consideration should be given to reorienting the lobbies to address and connect to Binney Street as the primary frontage.
28. Consideration should be given to providing space for non-retail active uses at the north ends of the ground floors (such as community “living rooms” or other publicly accessible spaces), or to subsidizing rents for retail tenants.
29. Consideration should be given to including public art in the ground floors.

As wide single-height spaces, the lobbies appear very low.

30. To create a more engaging sense of scale and entry experience, consideration should be given to making them double height spaces.

A “Bike Valet/Active Use” space is provided at the south ends of both ground floors. It will initially be located in 290 Binney street. When 250 Binney is constructed it will move there and be replaced with an active use.

31. Consideration should be given to incorporating an active use within the valet bike space, such as a bicycle shop or repair shop, or if space permits, a separate active use.
32. Consideration could be given to creating an internal connection from 290 Binney's lobby to its active use space.

The east and west sides of the ground floors accommodate a significant amount of mechanical and back-of- house space, plus their loading docks and garage entry ramps, precluding active use spaces along the East and West Plaza Drives, and the Sixth Street Walkway. Both of the ground floor “Active use / Bike Valet” spaces are further separated from the adjoining outdoor space on their west by a narrow “Mechanical/Storage” zone.

33. Consideration could be given to how the details of the Bicycle Valet system ultimately inform design decisions of the building’s ground floor (e.g., proposed locations of doors and accommodation of active uses on the ground floor).

34. Consideration should be given to opening up their west façades to connect to the West Plaza Drive adjoining 290 Binney Street and to the “stepped sun lawn” area adjoining 250 Binney Street.

Connectors

The previous versions of the designs showed three possible upper-level bridge connectors between the two buildings and also two connectors extending south from 250 Binney. The current application shows only the latter. Their purpose and the likelihood that they will be needed are unclear; nor is it clear whether they are intended to bridge to the existing building in this location, or to a potential future building. If constructed they would have a significant impact on the east/west pedestrian area between East Plaza Drive and the Sixth Street Walkway.

35. Their design, dimensions, likelihood of construction, and visual impact on the pedestrian zone that they cross over should be further evaluated.

Site Design / Landscape

The IDCP, K2, and Volpe Design Guidelines discuss the design of streets, parks, squares, and plazas as fundamental components of the public realm, emphasizing the collaborative role of buildings and landscape in framing and defining public urban space, providing human comfort, and reinforcing the connectivity of pedestrian and vehicular routes.

The buildings are separated from Binney Street by a zone of low plantings that runs most of the length of their frontages.

36. Consideration should be given to orienting and locating primary building entrances on the Binney Street sidewalk, and to interrupting the planting zone accordingly.

While the major portions of the East and West Plaza Drives will be designed and constructed with the project’s Center Plaza (which will be reviewed at a future date), the portions of the Drives adjoining the site may set a precedent for their design. In addition, the project’s scope includes changes to the Binney Street sidewalk and will meet the ALTA project’s changes to the Street.

37. Staff recommends collaboration on aspects of their design, including dimensions, materials, planting, design of bicycle lanes, curbs and curb cuts, curb radii, crosswalks, loading zone, pavement treatments, markings, materials, locations of compactors and tank storage areas, widths of drop-offs and of drives, etc. to be more consistent with city standards and to minimize conflicts between pedestrians, vehicles, and bicycles.

At 250 Binney, the continuity of the pedestrian sidewalk on the east side of the East Plaza Drive is interrupted by the drives to the loading dock and the parking garage. A grade level driveway crossing appears to be provided.

38. Consideration should be given to continuing the sidewalk across the drives.

At 250 Binney, the enlarged Loading and Access plans show two “Compactor & Tank Staging” areas, next to the loading dock. These are not shown on the landscape site plans.

39. More information on the need for and appearance of these features should be provided. They should be concealed inside the building if possible.

At 290 Binney, the very narrow pedestrian sidewalk on the west side of the East Plaza Drive is interrupted by the drives to the building’s loading dock and the parking garage; no pedestrian crossing is provided. While the overall site plan shows the trucks at the loading docks projecting out into what

would otherwise be the pedestrian sidewalk zone, on the enlarged Loading and Access plans the specified trucks fit entirely within the depth of the loading dock bays.

40. Consideration should be given to widening the sidewalk along the west side of the Drive, and to continuing it across the drives.

Between the two buildings, the East Plaza Drive widens to serve the loading docks of both buildings and the entrances/exits of their linked underground parking garages. Note that the East and West Drives are depicted differently in different parts of the application: as continuously paved with stone pavers that match the Center Plaza and the site's internal sidewalks the on the overall site plans, and with vehicular concrete pavers on more detailed drawings.

41. Given the amount of vehicular traffic to and from the underground garage and both buildings' loading docks, the signal that the vehicular pavement will give to pedestrians seems appropriate.

Two vehicular dropoff spaces are shown on each side of East Plaza Drive, for an overall curb-to-curb width of about 32 feet.

42. The curb-to-curb width in this location could be reduced.

The existing trees within the construction boundary will be removed and few new trees are shown.

43. Additional trees should be provided where not precluded by underground conditions. In particular, a continuous allée of canopy trees, similar to that of the Sixth Street Walkway, would help moderate the impact of 290 Binney's loading dock and garage drives on pedestrians and strengthen East Plaza Drive as a connection between Binney Street and the Center Plaza.
44. The top of the parking garage should be designed to provide sufficient soil depth for substantial trees between the two buildings.
45. Species selection should take the shadows cast by the buildings into account.

Staff understands that street trees shown in 290 Binney's frontage may be precluded by the routing of underground duct banks exiting the Eversource Substation.

46. Care should be taken to provide trees in this area if at all possible.

Most of the ground plane within the construction boundary for the two buildings that is not occupied by the buildings is paved.

47. To reduce the urban heat island effect, consideration should be given to providing more green planted areas.
48. A wider variety of low planting species than is shown in the application should be considered.

A strip of gravel is proposed along the east side of 250 Binney, though its purpose is unclear.

49. Unless precluded by subsoil conditions, consideration should be given to providing planting instead.

Bicycles

The application is unclear on bicycle circulation within the site, and on the locations of Bluebike stations and short-term bike parking spaces.

50. Larger-scale, fully dimensioned plans and specifics of rack types should be provided. Bicycle circulation and the final locations of Bluebike stations and of short-term spaces should be

reviewed by staff. See above for additional comments regarding the Bicycle Valet Parking system.

Sustainability and Resilience

The buildings are seeking LEED Gold. The applicant intends to comply with the city's 80% required green roof requirements. The applicant is working with staff on embodied carbon/energy. The application does not discuss district energy. Most of the site area not occupied by buildings is paved.

51. For comparisons with other projects, it would be helpful if a "Cool Factor" calculation was provided.
52. To reduce the urban heat island effect, consideration should be given to reducing the amount of paving.

A preliminary Tree Study has been submitted to the DPW for review that includes the entirety of the PUD Buildout. The DPW is working closely with MXD and their Contractor to understand and minimize impacts to street trees and will continue to review on-site tree impacts and mitigation as the design progresses at each of the building sites and the plaza areas.

The DPW is working with the Applicant's Civil Engineer on the Project's plans for Stormwater Mitigation for the full PUD Buildout. The Applicant is requesting some relief from meeting the City Standards related to water quantity mitigation. The DPW is actively working the MXD team and reviewing materials submitted to support the request.

Subsequent to the Second Amendment of the IDCP, Cambridge's map of estimated flood levels (the Flood Viewer <https://www.cambridgema.gov/Services/floodmap>) was updated with higher levels. These were provided to the applicant in advance. The DPW has requested additional information related to how the project will meet the Standards, but generally supports the approach as presented. The DPW will work with the MXD team to ensure that the full buildout of the PUD will meet the Standards related to the Flooding Resiliency.

53. Critical systems of both buildings should be elevated above flood levels, and less critical spaces, such as building lobbies, at lower levels should be designed to recover from flooding.

Mechanical Equipment

Rooftop mechanical equipment will be concealed behind screening.

54. Care should be taken to ensure that mechanical noise is sufficiently mitigated.

Wind

The wind study indicates excessive conditions around and between the two buildings.

55. Consider providing projecting canopies to protect pedestrians from wind downdrafts.
56. Consider providing additional trees along the East and West Drives.

Continuing Review:

The following is a summary of issues that staff recommends should be further studied by the Applicant, either in preparing revised materials if the Planning Board continues the discussion to a future date, or as conditions for ongoing design review by staff if the Board decides to grant design approval:

1. Review of a visual mockup and of all exterior building materials and colors, including joints in the panel systems, details at corners, curtainwall systems, window mullions, glazing, soffits, penthouse screening, roofing system, glass specifications for first floor and upper floors, etc.
2. Review of the design of the north and south balconies.
3. Review of the size and design of the lobbies and their connections to Binney Street.
4. Provisions for retail and other ground floor active uses, and of potential increases in their areas.
5. Design responses to the different 10-year and 100-year flood levels, including construction materials and means to control flooding.
6. Review of any upper-level bridge connectors and their impacts on the spaces below them.
7. Landscape design, including planting, paving, design of bicycle lanes, curbs and curb cuts, curb radii, crosswalks, loading zones, dropoff zones, pavement treatments, crosswalks, markings, materials, locations of compactors and tank storage areas, widths of drives, etc. to be more consistent with city standards and to minimize conflicts between pedestrians, vehicles, and bicycles.
8. Review of an updated tree mitigation and protection study.
9. Coordination of the site plans with truck and vehicular turning movements relative to the proposed site plan.
10. Coordination with staff regarding bicycle routes and the locations, dimensions, clearances, and equipment for Bluebike stations and short-term bicycle spaces (1"=10' scale drawings).
11. Review of the Valet Bicycle Parking system and its layout.
12. Coordination with the ALTA plan's revisions to Binney Street.
13. Green Building review, including embodied energy/carbon and district energy.
14. Review of green roof / PV / Biosolar plan to ensure proposed exemptions qualify under the Green Roofs Ordinance.
15. Collaboration with the Cambridge Arts Council regarding public art.