Volpe Site Design Guidelines (2017) [SUMMARIZED]

Objective	Indicators
The network of streets, paths, squares, parks, and other open spaces should organize the site's buildings and circulation, and connect the site to the surrounding districts.	 Provide streets, squares, and parks in a variety of sizes and characters. Include at least one significant park. Create an arrangement of urban blocks. Blocks should generally be small. Reinforce the spatial coherence of Third Street and Broadway and expand the pedestrian-based retail of these streets. Extend the alignments of Broad Canal Way, Fifth Street, and Potter Street through the site.
Open spaces should be legible, beautiful, and memorable places, visually and programmatically rich, and usable and occupiable by the public.	 Building massing and facades should frame streets, parks, and squares as legible spaces. Building massing and facades should reinforce a sense of entry and arrival by emphasizing the contrast in scale between larger spaces and the streets that approach them. Establish Build-To Lines to delineate the borders of blocks and create continuity in the alignment of building facades.
The site's open spaces should be welcoming and engaging places for public and private use and connection.	 Private development bordering publicly accessible open space and thoroughfares should present inviting elevations and imagery, with special attention at the ground plane and lower floors. The outdoor public realm should connect with indoor public spaces. Public open spaces should incorporate broad open areas of grass or pavement, suitable for a wide range of uses. The contrast between flexible open areas and the more articulate and specialized areas of planting, seating, low walls, and trellises, pavilions etc. that frame them should emphasize the room-like quality of parks and squares, accommodate individuals and groups large and small, and offer a variety of ways of being in the space. Works of art and their settings should work together harmoniously to humanize public space and buildings.
The site should include a significant park and should offer a connection to nature and provide opportunities for a range of activities.	 Parks should feel welcoming and public, they should be bordered by public streets or active public uses. They are not to be designed as the semi-private front yards of adjoining commercial or residential buildings. Park design should bring together various elements – such as trees, grass, gardens, playfields, flexible open areas, water features, pavilions, loggias, and paved areas – to accommodate a wide range of uses and enhance visual and functional relationships with adjoining streets, open spaces, and buildings. Play areas should be located near residential buildings where possible.

	 Park edges should be defined by elements that reinforce a sense of place, such as allées of street trees, bordering paths, other plantings and landscape elements. In addition to broad open grassy areas, parks should incorporate intimately scaled spaces.
Parks should provide environmental benefits.	Parks should provide habitat for native species, reduce the urban heat island effect, provide cooling, and absorb stormwater.
The site's squares and plazas should be predominately pedestrian, enlivened by outdoor dining, temporary markets, outdoor events and performances, and by the retail and community functions in the ground floors of the buildings that frame them.	 Where appropriate, squares and plazas should incorporate planting, benches, water features, public art, appropriately scaled outdoor seating areas for restaurants, bars, cafes, and the general public, and areas appropriate for temporary retail such as carts, trucks, stands, and tents. Landscape design should complement the sense of spatial enclosure provided by the buildings that frame the squares by incorporating bordering shade trees or other landscape elements. Vehicular traffic along or through squares, where it occurs, should be slow.
New streets should be located to connect with existing streets and open spaces, extending the pedestrian, bicycle, and, where appropriate, vehicular paths of the surrounding districts through the site.	 Façade-to-façade dimensions should be no wider than necessary. Sidewalks should be wide enough to be safe and inviting, and to accommodate street trees, pedestrian circulation, street furniture, and outdoor seating for restaurants where appropriate. On-street parking should be parallel. Service/loading areas should be below grade and vehicular access to them should be discreet and out of sight. Travel lanes and curb cuts should be no wider than necessary. Curb cuts should minimize impacts on the public realm, particularly on Binney Street, Broadway, and Third Street. Vehicular turnarounds and large drop-off facilities are discouraged. Drop-off/pick-up zones for ride-hailing services should be well thought-out. Bicycle facilities should be designed and located to provide safe travel for pedestrians and cyclists. Vehicular traffic within the site should be slow, controlled by traffic calming measures such as raised crosswalks, woonerfs, etc. Street lighting should be provided by relatively low fixtures at frequent intervals. Reinforce the public space of the street with aligned and continuous curb-side street trees. Streets should be enlivened by the ground floor program of the buildings that border them. Retail and/or community spaces should be continuous on primary building frontages wherever possible.

	 On retail streets, the pedestrian scaled zone should extend from the curb to the facade of the building, and in some cases into the building. This zone could be defined by such elements as shade trees, street furniture, outdoor dining, canopies, recessed ground floor entrances, display windows, and loggias. On residential streets, the pedestrian scaled zone should transition between the public and private realms with the use of shade trees, sidewalks, stoops, porches, trellises, and/or small fenced yards. Outdoor seating areas for cafes and restaurants, bicycle parking racks, street furniture, etc., should be arranged as a compact linear zone, to leave a clear pedestrian travel zone.
Emphasize universal access.	 Provide comparable facilities for all people regardless of their ability to climb steps. Provide facilities serving people of all ages. Provide wayfinding signage throughout the site, and create direct accessible connections, to make mobility among destinations more convenient and efficient. Streetscape elements should not conflict with accessible parking.
Design and locate loading/servicing areas and parking to support the quality of the pedestrian experience.	 Entrances to parking facilities and service areas should be coordinated with and not negatively impact adjacent development. Vehicle entries should be screened from public open space corridors, and integrated into the building forms. Avoid creating loading servicing areas exceeding two bays or 30 feet wide. Loading bays should be provided with architectural doors that complement the overall facade. Where possible, consolidate and coordinate off-street loading areas and service roads serving multiple buildings. Occupied ground level spaces with windows should occur between loading/ servicing areas wherever possible. Locate parking primarily below grade. Consider linking service to multiple buildings with shared underground routes.
The landscape design of the new Federal Volpe Building's site should be as seamlessly continuous with the landscape design of the rest of the site as possible while providing required security for the building.	 Maximize public access and permeability of the Volpe Building's site. The design of vegetation, paving, lighting, and furniture should be coordinated across the overall site.
Open spaces, and the buildings that frame them, should minimize undesirable environmental impacts.	 Minimize building shadows on open spaces. Maximize solar access, while satisfying needs for pedestrian circulation and building organization.

Architectural form should define urban space. It should enhance the quality and amenity of the public realm and sense of place, create	 Consider impacts of reflective solar glare on streets, public open spaces, and pedestrian areas. Minimize negative wind impacts on streets and public spaces. Provide additional vegetative cover, improve stormwater infiltration, and reduce urban heat island effects. Both atgrade and rooftop vegetation should be considered. Special consideration should be given to preservation of existing large trees, including relocation of healthy trees. Design, select, locate, and acoustically screen equipment to protect neighbors from noise. Minimize light pollution emitted by buildings, especially those with late-night uses. Rooftop lighting should be avoided except where necessary. Kitchen exhausts for food service uses should not negatively impact the ground level pedestrian experience. Mechanical/utility rooms are not appropriate along major streets and should be located on secondary streets. There should be no exterior transformers or electrical switchgear. Create a rich and varied, humanly scaled buildings with a continuous ground level pedestrian realm. Create strong streetwalls to frame streets, parks, squares, and plazas. Mitigate building bulk to minimize adverse impacts on the
legible and meaningful public places, and reinforce Kendall Square's existing and proposed street and open space patterns.	 microclimate, including shadows, wind, and urban heat island effects. Make positive contributions to the Cambridge skyline and important views. Establish consistency in facade design and massing to create a strong urban pattern. Look for opportunities to enrich that pattern by breaking or modulating it: respond to elements of adjoining building, spatial axes, views, significant corners, etc., or to elements of the building's own structure or program.
The site's buildings should reinforce the site's varied urban conditions.	Differentiate massing and materials, color, fenestration, bay patterns, etc. on the different facades of buildings in response to the varied types and character of streets and other open spaces adjoining them.
The site's buildings should respond to a wide range of scales: intimate pedestrian, intermediate streetscape, and long-distance skyline views, and to the scale and use of existing neighboring buildings.	 Incorporate elements such as upper floor step-backs, or sensitively incorporate similar materials, and the architectural rhythm, bay size, and scale of nearby structures into the new structures. Break down building massing to prevent a monolithic appearance and promote a human-scaled presence. Depending on their heights, buildings should consist of up to four different, but integrated zones: The Pedestrian Frontage Zone: the building's ground floor, and often its second floor, accommodating pedestrian focused retail and community program.

The Pedestrian Frontage zone should create a welcoming pedestrian environment by maximizing retail and community functions to directly engage pedestrians, and by minimizing detrimental impacts on the pedestrian experience.	 The Streetwall: the building's lower 3 to 8 floors above the pedestrian zone The Tower: the floors above the streetwall, generally repetitive vertically and accommodating much of the building's floor area. The Building Top: the expressive element on the skyline, accommodating building mechanical systems and potentially other programmatic elements. Building frontages devoted to banks, trust companies, or similar financial institutions should be limited to approximately 25 feet. Larger floor areas can be devoted to these uses when fronted with other active retail uses. Commercial and residential lobbies should consist of no more than 25 feet of frontage. Accommodate the access needs of all users and incorporate 'visitability' measures where possible. Where retail is not provided as part of original construction, ground floor spaces on major public streets should be designed to accommodate future retail. If programmatically feasible, residential buildings should incorporate multiple unit entrances to activate the street. Residential buildings should attempt to accommodate active ground floor uses. On streets with existing rowhouses and individual entries, include row house units on the lower levels of new multifamily buildings to create a rhythm of entrances and create a residential feel. In parts of the street level facade that do not include residential units (e.g. common rooms and lobbies), incorporate 40 to 60 percent transparent with direct views between sidewalk and interior building spaces to expand the apparent width of public space at ground level.
Provide shelter and visual interest at the pedestrian scale, and emphasize the horizontal continuity of the public realm. Reduce the distinction	 Reduce the scale of the pedestrian frontage zone by varying the facade with features such as angled display windows, recessed entrances, awnings, changes in mullion patterns, incorporation of operable windows, use of varied materials for solid walls, etc. Distinguish the pedestrian frontage zone from the streetwall and tower zones above. Provide a high percentage of glazing, different materials or colors, and more detailed development of solid wall surface. Ground floors should have ample floor-to-floor height, greater than that of the building's typical floors. Ground floor facades should allow flexibility to accommodate changing uses.
between exterior and interior space at the ground level to extend the effective public	Retail/restaurant/first-floor tenant spaces should preferably be at the same level as the adjoining sidewalk or publicly accessible open space.

realm indoors and to reveal Building facades should maximize the visibility of ground indoor activity to the street. floors containing retail, restaurant, and limited office space. Transparency is most important in the portion of the facade between about 2 feet to about 10 feet above the sidewalk level. Incorporate 60 to 75 percent transparent glazing in ground level facades along Broadway, Binney Street, Third Street, and major public streets within the site, and as much transparent glazing as possible in ground level facades along secondary streets within the site. Locate storage rooms, toilets, restaurant kitchens, and other back-of-house facilities to maximize visibility and transparency. Window and door glazing should have a high degree of light transmittance and should have low reflectivity. Low iron glass is preferred. Incorporate large operable doors/windows in street-side restaurant dining rooms. Where appropriate, retail awnings should be provided to offer an active, vital marketplace image, while at the same time protecting pedestrians during inclement weather. Avoid creating blank walls exceeding 20 feet in length. Building streetwalls should Emphasize the scale and room-like character of urban space create beautiful and by aligning building facades with each other, by step-backs of memorable room-like urban building mass above the streetwall, and by incorporating cornice lines that complement existing buildings on the same places by spatially defining the width and perceptual height of block or neighboring blocks unless specified otherwise in a streets and other open spaces. PUD/Special Permit conditions by the Planning Board. Setbacks and cornice lines should relate to each other but can vary, where appropriate, to allow for overall urban design emphasis/richness. Permissible streetwall exceptions, subject to design review, include, but are not limited to, bay windows, entrance canopies, and at-grade open space amenities. Streetwall facades should use rhythmic patterns, carefully considered bay dimensions, detail, proportion, color, materials, and other architectural elements to create a coherent and visually rich pedestrian experience. Portions of facades may be differentiated to capitalize on significant visual axes, emphasize significant corners, express changes in interior program, or articulate primary building entrances. Streetwall facades should differentiate between primary streets and open spaces, and secondary streets by such means as differing levels of articulation and relief and changes of material or scale. Streetwalls should be warm and inviting and should include a variety of materials. Building towers should enhance Articulate tall buildings to avoid a monolithic appearance, the quality and amenity of the and emphasize slender, vertically-oriented proportions.

public realm and sense of a cohesive place by their form and appearance. They should minimize their sense of bulk, and to maintain vertical emphasis and continuity.	Changes in plane, material, fenestration pattern, color, etc. may be used to break up the bulk of building towers. Consider: • Emphasizing corners using taller elements such as towers, turrets, and bays. • Using at least two distinct finish materials and colors on each building. • Variation in forms to present different profiles to different vantage points, if appropriate. • Orient slab towers to minimize their sense of bulk on the site, or design tall buildings as point towers.
Building tops should contribute to the district's profile on the skyline and should be designed as expressive architectural elements that appropriately celebrate the building's union with the sky.	 Chimneys, water towers, mechanical equipment, elevator bulkheads, skylights, and other necessary features appurtenant to structures, should be designed in a coordinated, distinctive architectural manner in concert with the upper floors of the building and properly screened. Penthouse design and materials should be of equivalent quality to the rest of the building and enhance the overall building design. Mechanical penthouses and other projections should be architecturally integrated within the overall form and individual elevations of the building. They should enhance, not detract from, the overall building appearance and balance. Rooftop mechanical vents and exhaust shafts may be designed to stand out as machinery, in which case they should be carefully arranged to create a pleasing visual image and rhythm.
Building massing should give spatial definition to the site's streets and squares, and increase the compatibility of tall buildings with existing nearby buildings.	 Pedestrian frontages should align on the build-to line for 80% or more of the facade width, with exceptions for recessed retail or other entrances and shopfronts. Streetwalls throughout the site should generally be compatible with the height of the Third Square Residential Complex. A taller streetwall may be appropriate on Broadway and Third Street and on wide streets. Buildings on Binney Street should have streetwalls compatible in height with the existing residential building on its north side.
Buildings should incorporate a system of setbacks and step-backs, based on the four horizontal façade zones, to minimize cast shadows, loss of sky view, and undesirable wind conditions. Of particular concern are the Sixth Street Walkway, open space in the interior of the site and the open space at the	 50% to 80% of tower frontage should be set back 8 to 10 feet from the streetwall, with greater setbacks provided at open spaces, the Sixth Street Walkway, and the Third Square apartments. On towers greater than 100' in horizontal length, create vertical zones, differentiated by changes in plane of at least 8', and change materials, fenestration pattern, or plane, etc. to mitigate the sense of bulk.

intersection of Broadway and Third Street. The height and bulk of buildings should minimize the visual dominance of building towers above a 6-8 story building base and nearby low buildings.	 In some cases, the direct extension of the tower's verticality through the streetwall to the ground plane may enhance the sense of place by creating strong vertical emphasis. Building towers adjacent to the Third Square Residential complex should be stepped back a minimum of 15' from their streetwalls. In addition to stepbacks, reinforce the distinction between the building's streetwall and tower by the use of contrasting strategies of homogeneity and heterogeneity. Vary the design, scale, color, materials, massing, fenestration, etc. across the width of the streetwall or tower as vertical zones. Building Tops that are differentiated in material and design from the facade of the tower or streetwall below should be stepped back a minimum of 5' from the plane of the tower facade. Floorplates of the upper portions of tall buildings should be limited to create slender towers and consideration should be given to stepping back the upper portions of buildings to maximize sunlight bathing public spaces. Adequate separation should be maintained between tall buildings above the streetwall to allow for views of the sky.
Upper-floor connections should be considered only where tenants need large floorplates that would otherwise result in excessive apparent building mass. Connectors should maintain permeability of large floorplate buildings and allow light and views of the sky.	 All connectors should be recessed from public spaces and made highly transparent. Set back connectors within blocks at least 35' from public street façade, and provide ground level public passage at selected locations Set back connectors over promenades or pedestrian walkways at least 35' from the public street façade. Provide approximately two stories or more clearance above ground. Limit the widths of connectors to no more than 20'. Connectors between multiple tenants/uses in different buildings are not encouraged. Connectors over public ways are discouraged and are not allowed across Binney Street, Broadway, or Third Street.
Community spaces should be welcoming and inviting to the public.	 Primary community spaces should be located on or within parks or squares to enhance visibility and pedestrian access, and permit overflow from events. Community spaces should have their own distinct visual identities. Their main entrances should be directly accessible from streets and other public open spaces.
Architectural design should prioritize the definition and enrichment of open space. Of particular importance is the treatment of the ground plane and lower floors of the projects.	 Projects should relate to human dimensions and provide a sense of intimacy. Means include the design and scale of building elements, such as size, rhythm, and depth of windows; materials; cornices; projecting bay windows; expressed structural bays; entry points, signage; etc. Overall form and elevations should be designed to emphasize human scale and presence through the use of properly proportioned features, including but not limited to punched windows, integral balconies, setbacks, passageways, etc.

Buildings bordering the public domain should be rich in architectural details, pay special attention to the ground plane and silhouette. Building materials should be warm and inviting and of high quality, particularly at the lower levels experienced closely by pedestrians. The city encourages the subtle use of warm and inviting color. Material selection should consider sustainability. Embellishments such as masonry string courses, lintels, sills, and trim should be used to soften, refine, and enliven masonry facades through contrasting articulation and cast shadows, and to create a desirable community of buildings. Key locations for articulation are at building entries, corners, building setbacks, top floors, and silhouettes. New residential buildings should provide sheltered and human-scaled balconies. Buildings are encouraged to provide accessible terraces at building setbacks. Masonry openings and fenestration systems should be detailed and articulated to enrich the building's appearance. Operable windows should be used throughout residential and community buildings, and where possible in commercial buildings. Strip windows are discouraged. Highly reflective or colored vision glass is discouraged. Predominantly glass facade buildings are discouraged. Signs should be designed to fit well on the buildings, to be legible but not overpowering, and to complement other elements applied to buildings, such as awnings, canopies, or artwork. The site's buildings should Maximize on-site power generation and consider alternative minimize energy use and the building mechanical systems. embodied energy of their Avoid excessive use of glass, both because of its poor thermal components. performance and its high embodied energy. Incorporate passive design strategies such as building orientation, external shading, operable windows, and other approaches for natural ventilation/cooling. Maximize the thermal performance of building envelopes, such as use of thermal mass, high performance insulation, etc. Design roofs to be "solar ready" and smaller setbacks as accessible terraces. Employ green roofs where possible, otherwise use highalbedo "white roofs". Energy modeling should be incorporated early in the architectural design process to optimize building energy performance. Designers should investigate the possibility of a district energy system.

Kendall Square Design Guidelines (2013) [SUMMARIZED]

Kendall Square Design Guidelin Objective	Indicators
Create a positive mixed-use district where tall buildings with large floorplates can be good neighbors to public spaces, smaller existing buildings, and adjacent residential neighborhoods.	 Manage the impacts of bulk and height. Animate major streets and public space with active ground floors.
Enhance the quality of public street and park spaces.	 On major public streets, including Main Street, provide a well-defined streetwall to help frame them as public spaces. Provide adequate space along sidewalks of major public streets for outdoor activity associated with active ground level uses. Activate ground floors on edges of parks
Avoid unnecessary environmental impacts.	 Minimize shadows on existing public parks and plazas. Minimize negative wind impacts. Provide vegetative cover, improve stormwater infiltration, and reduce heat island effect. Minimize noise from mechanical equipment.
Locate loading and service to support walkability, away from major public streets and pedestrian corridors.	 Provide loading/servicing bays with architectural doors, designed to complement the overall façade composition. They should be customarily closed. Driveway turnaround and vehicle drip-off facilities are discouraged along public streets.
Street activity should activate the district.	 Locate courtyards and open spaces to maximize sun exposure. Connect the outdoor public realm with indoor public spaces. Design wayfinding and lighting for safety. Accommodate diverse retail and service offerings to serve residents and workers in the neighborhood.
Provide universal access.	 Parks and plazas are to provide activities and facilities serving people of all ages.
Architectural composition should particularly emphasize a distinct identity for the building as well as for Kendall Square.	Methods include use and proportioning of materials, colors and shapes that differ from those of adjacent buildings
Design buildings to help create streetwalls, where appropriate, to help frame the sidewalks, plazas, and other public spaces in Kendall Square.	 Align new facades with existing ones if doing so helps give a sense of spatial cohesiveness to the sidewalks. Allow breaks in the streetwall if needed to help define entryways to buildings. Streetwall design should take into account the need to provide active ground floor uses.
Convey the act and spirit of innovation in Kendall Square through transparency to reveal	Transparent building materials.Media displays.Interactive media.

activity and display visual media.	
Relate to the surrounding context by scale and massing.	 Include setbacks to create transitions to adjacent low scale buildings. Create sensitive transitions to neighbors, especially residential buildings, and public parks. Reduce impact on significant view corridors from public spaces by sensitive site planning and building design.
Minimize monolithic massing and break down the scale of large buildings.	 Express base, middle, and top. Pay particular attention to the bottom 20' of buildings. Maximum length of facades for buildings 85' to 120' tall: 240'x175'
Create a strong street edge and limit the sense of height at the street level.	On major public streets, set back approximately two thirds of the upper volume above 85 feet by approximately 15 feet.
Reflect a rhythm and variation appropriate to the urban context.	 Express bay widths of 25 to 50'. Divide massing with a vertical break for every 100' of façade length
Vary the architecture of individual buildings to create architecturally diverse districts.	 Use variations in height and architectural elements, cornices, shading devices, illumination, etc. to create varied rooflines. Avoid flat facades by articulating bays and balconies, changes in material, fenestration, detailing, etc.
Rooftops should be conceived as integral to the rest of the building's architecture.	 If rooftop mechanical equipment is exposed, it should be carefully arranged. If equipment is screened, the screening should be in the same idiom as the rest of the architecture.
First floors should be actively used.	 On major public streets, approximately 75% of the street frontage should be occupied by retail uses such as café, restaurants, and shops. On secondary streets approximately 75% of the street frontage should be occupied by active uses. Avoid extensive use of frontage by lobbies.
Retail and services should serve local communities as well as people who work in the area.	 Lease space to small, locally owned businesses. Provide diverse types of retail and service stores.
Create space at the sidewalk level to allow for interaction between ground floor uses and the public sidewalk.	 Provide adequate sidewalk widths. Provide small setbacks (5 to 15 feet) for café seating, benches, or small open spaces.
Directly engage the public and create a well-defined streetwall to frame streets and public spaces.	 Setbacks greater than 10' should be provided with caution. Avoid setbacks for ornamental landscaping. Locate primary entrances on public streets and on corners wherever possible.
Design ground floors to reduce the distinction between exterior and interior space to extend the	 Transparent material and interior lighting. Active ground level spaces with strong interactive connections with adjacent public sidewalk.

effective public realm indoors
and reveal indoor activity on
the street.

- Avoid blank walls longer than 20 feet in length.
- Provide awnings and canopies.
- Mechanical/utility rooms should not be located on primary streets.