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#### CITY OF CAMBRIDGE

#### Community Development Department

# **Affordable Housing Trust**

October 22, 2020, 4:00 p.m.

To participate in this meeting hosted on the Zoom video meeting platform, please register using this <u>link</u> in advance of the meeting.

https://cambridgema.zoom.us/webinar/register/WN\_N5mYFfxaRSyjmxIdjKFkKg

#### **AGENDA**

- Review of Meeting Minutes
- Update from the Community Development Department
- <u>Design Guidelines for Affordable Housing Overlay</u>: CDD developed design guidelines in conjunction with the recently adopted Affordable Housing Overlay (AHO) zoning and will begin to use in reviewing AHO developments requesting funding from the Trust
- Adjournment

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# CAMBRIDGE AFFORDABLE HOUSING TRUST MEETING MINUTES Sept. 24, 2020 at 4:00 p.m.

#### Conducted virtually via Zoom

Trustees Present via Zoom: Louis DePasquale, Chair; Peter Daly, Florrie Darwin, Elaine DeRosa, Gwen Noyes,

Susan Schlesinger, Jim Stockard, Elaine Thorne

Trustees Absent: Bill Tibbs

Staff Present via Zoom: Iram Farooq, Asst. City Manager for CDD; Chris Cotter, Housing Director; Cassie

Arnaud, Housing Planner; Anna Dolmatch, Housing Planner; Janet Haines, Associate Housing Planner; Lisa Peterson, Deputy City Manager; Emily Salomon,

Associate Housing Planner;

Others Present via Zoom: Dennis Carlone, Elizabeth Case, Dennis Friedler, Kyohei Fujita, Lisa Jacobson,

Andrew Larsen, Ann Lurie, Maureen McNamara, Veena Mohan, Judith Morse, John Nesby, Cody Thornton, Catherine Tutter, Jarvis Tyner, Paul Vermouth

The acting chair, Florrie Darwin, called the meeting to order at 4:02 p.m. prior to the Chair joining the meeting. Chis Cotter explained that this meeting of the Affordable Housing Trust would be held virtually pursuant to the temporary emergency orders currently in place, and that all votes would be taken by roll call, and that there would be no public comment. Mr. Cotter then coordinated to confirm that each participant was audible to each of the other Trust members.

The Chair, City Manager DePasquale joined the meeting at 4:06 p.m.

#### **MEETING MINUTES**

Upon a motion moved and seconded, it was voted unanimously by roll call to approve the minutes for the meeting of Thursday, August 6, 2020.

#### **UPDATE FROM CDD**

**Community Preservation Act (CPA):** The annual CPA appropriation was approved by the City Council which accepted the recommendation of the CPA Committee to continue the allocation of 80% of CPA funding to affordable housing, brining approximately \$12 million to the Trust in FY21. This sum, combined with \$15 million committed in the City's FY21 budget doubles the annual funding to the Trust over FY19 funding.

**Affordable Housing Overlay (AHO):** At the last City Council meeting, the AHO was moved on to a second reading and could be ordained at the next Council meeting (Oct. 5, 2020). If passed, this will create new opportunities for new affordable housing development.

**HomeBridge**: There are seven approved buyers seeking units with some homes are coming under agreement. Inventory is limited, but approved buyers continue to look for units to purchase. To date, 68

units have been purchased by first-time homebuyers through HomeBridge and the city's prior financial assistance programs.

**Homeownership Resale Pool:** In response to COVID-19, city staff are adapting the typical process to show new units to prospective buyers in the Resale waiting pool, such as virtual open houses. There are 11 units in progress.

**Finch Cambridge:** This project is now in the final stage of development. Residents began moving in over the Summer. Due to the pandemic, HRI has been unable to showcase the property to the public but is working with the City to provide a video tour/virtual walk-through of the building. There were approximately 2,600 applicants for the 98-units, and applications are still being submitted for the property's waitlist.

Frost Terrace: Construction is underway again and proceeding after pandemic-related delays.

**Vail Court:** Litigation continues with no news to report as the case continues.

**SquirrelWood**: Construction was delayed due to the pandemic but is underway again and nearing completion. The project is on schedule to be completed in early 2021, with units coming online in the next few months.

**2072** Mass Ave.: Capstone/Hope have put together design and development plans for the site and are holding first community meeting on September 27, 2020. Their goal is to secure permitting and financing to allow construction to begin in 2022.

**Fresh Pond Apartments:** City staff are working to complete the preservation of this expiring use property. Two-thirds of the property was preserved earlier this year through a new Section 8 contract with HUD. Staff are actively working with the owner and HUD on finalizing the terms of new use agreement and plans to preserve the remaining third of the units. Staff are working with the owner as they hope to soon provide more detailed updates to residents in a way which is consistent with COVID-19 safety measures regarding group gatherings.

**Rindge Commons**: Just A Start was approved for a comprehensive permit at the August 23, 2020 Board of Zoning Appeal (BZA) meeting for this two-phased mixed-use project. The first phase of construction will be a mixed-use building which will include both affordable rental housing as well as non-residential space to house JAS's workforce training programs and City-supported early childhood education classrooms.

**52 New Street:** Just A Start is beginning to plan for the development of their New Street site, including the community and permitting processes, with a goal to secure permitting and financing to begin construction in 2022.

**Housing Stabilization Program (HSP)**: The City continues to offer emergency housing assistance to residents through the Housing Stabilization Program which provides funds to income-eligible residents to help with partial rental payments. HSP assists households paying more than 40% of their income on rent and is supported with Community Preservation Act (CPA) and HUD CDBG funds. The program recently increased assistance offered from 2 to 4 months.

#### Other Updates/General Discussion

Trust members and staff discussed implications of the Commonwealth's eviction moratorium expiring in in mid-October 2020. The Federal eviction moratorium, while in place does not offer as much protection. There will be a need to assist owners with mortgage delinquencies and to continue to share resources with renters on assistance available to them, including the Housing Stabilization Program.

Jim Stockard joined the meeting at 4:19 p.m.

#### **Request from Park View Cooperative Corporation**

Last month, Trust members asked staff to recommend terms and conditions for an increase of \$1,533,368 in financial assistance to the Park View Cooperative to make significant building repairs. An August 2020 memo outlined possible terms and conditions across four areas: monthly carrying charges to preserve long-term affordability of the cooperative, shareholder selection, share transfer appreciation, and monitoring and oversight. Based on this staff prepared terms and conditions the Trust might consider when making a funding commitment.

Cooperative members expressed concerns about the city's terms and conditions and suggested that they may not be workable for them. This has been a self-managed, self-governed cooperative for over 30 years and Cooperative members relayed to staff that they were especially concerned with city monitoring and oversight and having an active role in shareholder selection. Other concerns include increasing carrying charges on an annual basis to cover operating expenses. Park View residents have traditionally budgeted based on building expenses and implementing a regular annual increase of carrying charges would be a different approach.

Trust members discussed City oversight in other affordable housing projects, which is standard when the Trust commits funds or there are other public funds involved. Trust members noted that although the cooperative is different in terms of ownership structure, it should not be different as far as how the Trust supports other affordable housing projects. They reiterated that their involvement in the Park View Cooperative is to ensure the Cooperative has the tools in place to be affordable in perpetuity and to ensure that there are adequate reserves for future building repairs or capital improvements.

Staff explained that there isn't precedent for this scenario because this is the first type of funding request to the Trust from a limited equity cooperative. City involvement with other cooperatives varies but the primary role has been to approve the transfer of cooperative shares to new residents. The approach contemplated here would create a more significant role for the Trust or staff in working with the coop to ensure the Trust's investment in the building and ongoing affordability fulfilled its public purpose.

Trust members want to ensure that ongoing discussions about funding terms and conditions do not impede the Cooperative's ability to get a new heating system before the winter. They encourage further dialogue with Park View Cooperative to gain clarity on their specific concerns about the City's role and find a way to make it work. They reiterated their commitment to assisting the Cooperative and

suggested calling a special meeting if that were helpful to revisit the request and discuss further possible funding terms and conditions.

#### **Project Ideas Raised during the Community Preservation Act Allocation Process**

The Community Preservation Act (CPA) Committee heard public comment for the allocation of FY21 funds. Public comments were submitted online and during virtual hearings. Staff shared ideas for affordable housing that were submitted as part of that process. Staff shared material describing how "tiny houses" might be built to house homeless individuals.

CDD staff are working with the Department of Human Services Programs (DHSP) to develop housing ideas for individuals coming out of homelessness. This could be through set-asides in existing buildings or working with different providers to build new housing.

Another idea raised by a committee member was about a looking to see if there was a way to work with MIT to asses if MIT-owned property around Chestnut Street might be considered for building affordable housing.

#### **ADJOURNMENT**

Meeting adjourned at 5:09 pm upon a motion moved and seconded, with absent, by roll call of **eight** in favor and **one** absent. The next meeting is scheduled for October 22, 2020.

#### Materials:

- Meeting Minutes from the Trust's August 6, 2020 meeting
- Project update: Status of Active Commitments
- Memorandum: Park View Cooperative Funding Request
- Park View Cooperative Response Letter to Community Development Department: August 20, 2020
- September 22, 2020 Email to Community Development Dept: Park View Cooperative Topics for Final Round of Negotiation
- September 23, 2020 Email to Community Development Dept: Park View Cooperative Negotiation Update for the Affordable Housing Trust
- Community Preservation Act Project Requests & Comments

#### **Cambridge Affordable Housing Trust**

#### **Status of Active Commitments**

#### October 22, 2020

	Active Projects	Sponsor	Rental Units	Ownership Units	Status	Total Cost	Trust Commitment	Loan Amount Per Unit	Trust Approval Date	
1.	HomeBridge program	CDD	currently approved buyers: 6	15	68 scattered site units purchased by first time buyers to-date. 6 approved buyers, 3 units under agreement.	N/A	\$15,200,000	1-br: 40% sale 2-br: 45% sale 3-br: 50% sale	May 2011	
2.	Homeownership Resale Program	CDD	currently active units:	17	Re-purchase, rehab and re-sale of affordable homeownership units to new homebuyers.	N/A	\$5,500,000		December 2011	
3.	671-675 Concord Ave	HRI	98		Construction complete. Residents began to move into new units in July.	\$58,228,753	\$23,803,176	\$242,890	March 2016	
4.	Frost Terrace 1971 Mass Ave	Capstone Hope	40		Construction underway, after temporary shutdown due to covid-19.	\$27,219,486	\$10,785,358	\$269,634	March 2016 and December 2018	
5.	Vail Court (139 Bishop Allen)	TBD	TBD	TBD	Trust and City hosted public meeting in 2017 to hear from the community on affordable housing needs and ideas for the redevelopment of Vail Court. Additonal public meetings will be scheduled but are currently on hold pending the legal action taken by former owner.	TBD	TBD	TBD	N/A	
6.	Squirrelwood (multiple addresses, corner of Broadway and Market)	JAS	23		Construction underway, after temporary shutdown due to covid-19.	\$9,505,726 (new units only)	\$4,115,457	\$178,933	January 2018 and December 2018	
7.	2072 Mass Ave	Capstone Hope	TBD	TBD	Capstone/Hope purchased site in April 2018. First community meeting held on Tuesday 9/28/20. Project will be seeking a comprehensive permit; team is beginning the permitting process and will be applying for state funding in the upcoming application round with the goal of securing permitting and financing in order to begin construction in ~2022.	TBD	\$3,800,000	TBD	February 2018	
8.	52 New St	JAS	TBD	TBD	JAS purchased the site in early 2020 and will begin a community process later this year with a goal of securing permitting and financing in time to begin construction in ~2022. JAS anticipates permitting the project through the recently adopted Affordable Housing Overlay and will be seeking state funding in the upcoming application round.	TBD	\$9,800,000	TBD	October 2019	
9.	Park View Coop	Park View Coop		12	Reviewing new request from coop for additional funds needed to fully fund rehab given increased costs	TBD	\$1,394,000	\$116,167	March 2019	
10.	Fresh Pond Apartments	Schochet	504		In March 2020, the Trust committed funding for the preservation of Fresh Pond Apartments. This commitment will be combined with \$15 million in City funding which was appropriated by the Council to the Trust for Fresh Pond Apartments. Together, these funds will be used to buy down 50 years of affordabilty and to capitalize a rent phase-in reserve to transition current tenants to the new affordable program. Tenant update meeting scheduled for November 4, 2020.	TBD	TBD	TBD	March 2020	

11.	Rindge Commons - Phase 1	24	In June 2020, the Trust approved funding for the first phase of Rindge Commons. Following PB hearing in early August, BZA voted to approve a comprehensive permit for the project on August 23, 2020. JAS is in the process of securing the necessary financing to begin construction of Phase 1; will be applying for state funding in the upcoming application round.	TBD	\$4,250,000	\$177,083	June 2020
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**Total Units** 

733

#### **Cambridge Affordable Housing Trust**

#### Status of Active Inclusionary Housing Developments

	Approved Active Projects	Developer	Status	Rental Units	Ownership Units	Applicable zoning
1.	305 Webster Ave.	305 Webster Ave. Condominiums L	Covenant Recorded 8/11/17. New developer. Completion expected late 2020.		4	Ordinance prior to revision
2.	Mass & Main (multiple addresses,Mass Ave. & Columbia St.)	Twining	Covenant Recorded 11/24/17. Construction complete. Tenant Selection underway.	58		Zoning provisions for Mass & Main
3.	249 Third Street	Equity	Covenant Recorded 12/22/17. Complete. Tenant selection underway.	12		Ordinance prior to revision
4.	Tempo (203 & 205 Concord Tpk. (formerly Lane &Games)	Criterion	Covenant Recorded 3/16/18. One building complete and tenant selection underway. Construction complete on second building Oct. 2020.	44		Revised ordinance at 15% sf requirement
5.	St. James (1991 & 2013 Mass. Ave.)	Oak Tree	Converting to ownership. Completion expected late 2020.	5		Ordinance prior to revision
6.	77 New Street	Abodez	Covenant Recorded 9/14/16. Under Construction.	11		Ordinance prior to revision
7.	95 Fawcett Street	Ed Doherty	Covenant Recorded 12/29/2016. Under Construction		5	Ordinance prior to revision
8.	Alexandria - 50 Rogers Street	Alexandria	Covenant Recorded 6/4/19. Expecting completion late fall 2020	44		Zoning for Alexandria PUD
9.	Charles & Hurley Streets	Urban Spaces	Covenant recorded 8/6/19. Building Permit issued 9-3-19(Charles Street) and 12-23-19 (Hurley Street) Under Construction.	16		Ordinance prior to revision
10.	50 Cambridgepark Drive	Hanover	Covenant recorded 8/6/19. Building Permit issued 12-5-19. Under Construction	55		Revised ordinance at 20% sf requirement
11.	165 Main Street	Mitimco	IHP Covenant recorded 12/17/19. Building Permit issued 12-20-19. Under Construction	63		Zoning for MIT
12.	95-99 Elmwood	95-99 Realty	Covenant recorded. Building Permit issued 7-2-20		4	Ordinance prior to revision
13.	Cambridge Crossing, Building I	DivcoWest	Covenant recorded; Building Permit issued 8-24-20 Under construction.	54		Ordinance prior to revision
			Under Development:	362	13	
			Completed Units:	<u>761</u>	<u>202</u>	

	Active Pipeline Projects	Developer	Status	Rental Units	Ownership Units	Applicable zoning	
1.	605 Concord Ave.	Abodez Acorn	Covenant recorded; pending building permit	7		Revised ordinance at 15% sf requirement	
2.	212 Hampshire Street (Ryles)	212 Hampshire LLC, Binoj Pradhan	Covenant in signature process.	1		BZA requirement of affordable unit	
3.	3-5 Linnean	Willow Land Corp.	Covenant signed; pending building permit	1		Zoning for basement overlay	
4.	55 Wheeler Street	Toll Brothers	IHP plan under review	99		Revised ordinance at 20% sf requirement	
5.	1043-1059 Cambridge St.	418 Real Estate	IHP plan under review		3	Revised ordinance at 20% sf requirement	

1123

215

1338

All Units:

6.	270 Thorndike St. Court House	Leggat/McCall	Housing plan under review. Applying for Building permit by early November 2020.	48		All units are affordable
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# **IRAM FAROOQ**Assistant City Manager for Community Development

# SANDRA CLARKE

Deputy Director Chief of Administration

KHALIL MOGASSABI Deputy Director Chief of Planning

#### CITY OF CAMBRIDGE

#### Community Development Department

To: Cambridge Affordable Housing Trust

From: Chris Cotter, Housing Director

Date: October 22, 2020

Re: Design Guidelines for Affordable Housing Overlay

The attached document, *Design Guidelines for Affordable Housing Overlay*, was developed by CDD in conjunction with the recently adopted Affordable Housing Overlay (AHO) zoning amendment.

The guidelines are intended to inform AHO developers of the City's various urban design objectives and to guide the non-binding AHO design review process by CDD staff and the Planning Board. The guidelines outline a range of recommended approaches to elements such as site layout, building massing, façade treatments, landscape and open space, and other architectural details.

These AHO guidelines supplement the required design standards such as setbacks, height, and open space which all AHO developments must meet, as outlined in the zoning ordinance.

With the adoption of the AHO, we wanted to provide the final AHO design guidelines to the Trust for reference. We will use the guidelines as we review AHO development opportunities with affordable housing builders.

344 Broadway Cambridge, MA 02139 Voice: 617 349-4600 Fax: 617 349-4669 TTY: 617 349-4621

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# DESIGN GUIDELINES FOR AFFORDABLE HOUSING OVERLAY

28 JULY 2020

CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT

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# INTRODUCTION

The affordable housing design guidelines have been prepared to complement the provisions of the Affordable Housing Zoning Overlay. They articulate the City's goals with regard to the form and character desirable for affordable housing developed under the AHO.

In several of the city's zoning districts, the AHO allows buildings in which all residential units are made permanently affordable to be built at a scale larger and taller than other buildings allowed by the district's base zoning. However, it is expected that affordable housing projects will be designed in a way that is compatible with their existing neighborhood contexts.

The guidelines in this document provide a shared framework to guide the discussion among the many parties that are involved with an affordable housing development. They are meant to help affordable housing developers prioritize design elements in the context of limited financial capacity as compared to market-rate residential development. They are not meant to be applied as individual requirements, but as a structured set of guiding principles and recommendations to inform the design process.

The guidelines are intended to promote affordable housing developments that benefit their residents, are good neighbors, and serve the quality of life in Cambridge.

INTRODUCTION 5

## 1. PURPOSE

The Affordable Housing Zoning Overlay is a city-wide effort and its zoning requirements apply to all land use districts: residential, office, business and industrial. These design guidelines complement the zoning requirements with a focus on the built form of new affordable housing development in residential neighborhoods, and along business and commercial streets.

Residential neighborhoods and business and commercial streets vary in architectural character, form, scale, and density; and accordingly, the guidelines are intended to respond to and enhance the distinguishing characteristics of each.

The affordable housing design guidelines are meant to:

- 1.1 Create context-sensitive 100% affordable housing developments that enhance their neighborhoods and the public realm.
- 1.2 Create new affordable housing developments that incorporate urban design best practices and strive for design excellence, including integrating green infrastructure and green building design
- 1.3 Provide guidance for new construction, rehabilitation, and addition to existing buildings.
- 1.4 Provide affordable housing developers, property owners, the Planning Board, neighbors, City staff, and the Affordable Housing Trust with a framework to guide the advisory design review process for affordable housing development under the Affordable Housing Overlay.

## 2. OBJECTIVES AND PRINCIPLES

The following design objectives are intended to inform the design of Affordable Housing Overlay Projects and to guide the Planning Board's non-binding review and report. The goal of these guidelines is to promote new affordable housing buildings that reinforce the city's existing sense of place by reflecting and enhancing the patterns and textures of its public realm and built fabric, contribute to the city's streets and other public open spaces, are sensitive and compatible with the character of existing neighborhoods, and respect the privacy and quality of life of the residents of abutting properties.

Affordable Housing Developments will:

- 2.1 Respond to their contexts, reinforcing and enhancing their existing shared and unique architectural and urban design character. Begin the design and development process with an analysis of the architectural, landscape, and urban design qualities of the street as a component of the city's public realm. Affordable housing developments in established and mature neighborhoods with a fairly consistent architectural character and urban form are expected to reflect such qualities in their design. On streets with diverse architectural scales, massing, siting, and character, or where that character is evolving, more flexibility in built form may be appropriate.
- 2.2 Contribute to Cambridge as a visually rich, beautiful, and safe pedestrian environment through their architectural, site, and landscape design. Design front yards to reinforce the street as civic space that connects individual buildings as members of a community. Arrange site features such as driveways, vehicular and bicycle parking areas, service areas, and mechanical and electrical systems to minimally impact the public realm and neighbors.

INTRODUCTION 7

- 2.3 Provide a sense of comfort by making new buildings and additions inviting and compatible with their neighbors. Regardless of style, contribute to a sense of a rich architectural community by the arrangement, rhythm, and scale of architectural elements including structural bays, the location and depth of windows, projecting bay windows, entrances, roof shapes, dormers, and the detailed assemblage of materials. Configure building massing and facades, including the location of windows, with sensitivity to the privacy of existing residential neighbors and their need for light and air.
- 2.4 Use construction materials that are compatible in scale, texture, and color with those of the surrounding context.
- 2.5 Incorporate architectural details and subtle embellishments to relate to human dimensions and scale. Incorporate elements such as string courses, lintels, sills, and trim to create a sense of scale and compatibility with neighboring buildings.
- 2.6 Organize building facades into base, middle, and top. Reflect the varied scales of the urban environment those of the pedestrian, the dwelling unit, the building as a whole, and its street in massing and facade design. Contribute detail and interest to the pedestrian streetscape at the ground floor level, frame the street as a coherent public space by the design of middle floors, and provide elements such as sloped roofs, gables, dormers, and setbacks on top floors to engage the sky and create visually engaging rooflines.

- 2.7 **Incorporate common spaces to foster a sense of community.**Depending on the size of the development, these may include sheltered entry porches, lobbies, meeting rooms, courtyards, and roof decks.
- 2.8 Harmonize new buildings and additions in appearance and scale with historically significant buildings. Incorporate architectural embellishments such as sloped roofs or upper floor stepbacks to mitigate bulk and height.
- 2.9 Contribute to Cambridge as an energy efficient and resilient community. Design developments with the causes and effects of climate change in mind, including greenhouse gas emissions, flooding, and extreme heat.

INTRODUCTION 9

## 3. ADDRESSING NEIGHBORHOOD CONTEXT

Respond to the urban, architectural, and landscape character of the neighborhoods surrounding new affordable housing projects.

The design of new affordable housing developments will begin with an analysis of the existing immediate contexts and the broader character of their neighborhoods, taking into consideration parameters including:

- The characteristics of the public realm
- The street and pedestrian network
- The surrounding land uses and building types
- Landscape design
- Building siting
- Building scale and massing
- Architectural language
- Architectural details
- The colors and textures of building materials
- Other aspects of form that contribute to neighborhood character

For projects sited in evolving areas, the analysis will demonstrate an understanding of the City's goals for the district's urban form.

# SITE DESIGN

Thoughtful building placement, orientation, setbacks, green open space, landscaping, circulation, pedestrian access, and parking layout are critical elements to creating a desirable setting for housing projects, to creating a good fit with existing nearby buildings, and to contributing to the City's public realm.

- 1. Response to Context
- 2. Open Space and Landscape Design
- 3. Circulation
- 4. Parking
- 5. Utilities and Services
- 6. Outdoor Lighting
- 7. Public Art

SITE DESIGN 11

## 1. RESPONSE TO CONTEXT

#### **OBJECTIVE**

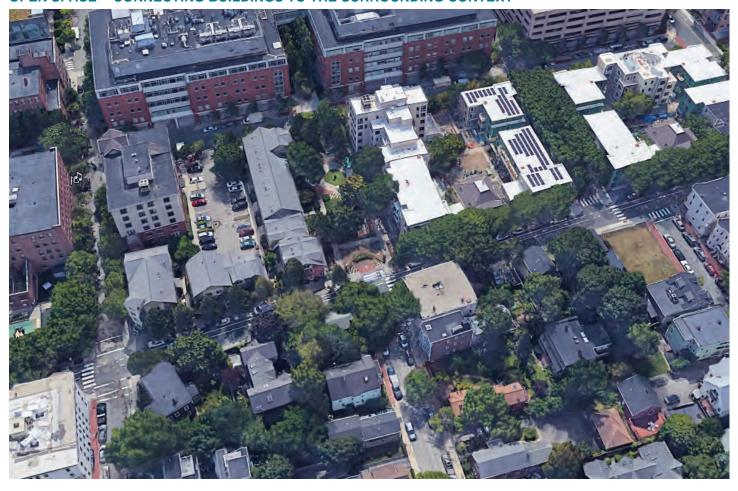
Design project site layouts to harmonize with the neighborhood context, including the surrounding urban patterns of streets and blocks, building setbacks, travel paths, and open spaces. In existing neighborhoods with established patterns of development, responsive and context-sensitive site design will help preserve the character of the built environment. In evolving areas of the city, forward looking new developments should help achieve the city's goals for urban character.

#### **GUIDELINES**

- 1.1 Locate and orient new buildings so that their front yard setbacks relate to those of neighboring and adjacent buildings to the maximum extent possible.
- 1.2 Locate open space in relation to adjacent yards, residential units, and public spaces that would benefit from natural light and views.
- 1.3 Where site dimensions allow, consider creating entry courtyards, internal courtyards, and semi-enclosed courtyards open to the block interior.
- 1.4 Locate pedestrian and bicycle paths, vehicular routes; parking areas; and utility/service areas in response to neighboring buildings.
- 1.5 In large developments, consider creating through-block pedestrian or vehicular connections.

- 1.6 Place buildings and design their landscapes to minimize impacts on nearby existing buildings, to respect the privacy of neighbors, and to maintain their access to natural light and air.
- 1.7 In siting new buildings, consider public views to adjacent landmark buildings, public open spaces, public art areas, or other features of significant visual interest.
- 1.8 In existing well-developed areas, where urban patterns are relatively uniform and stable, match the prevailing pattern of front yard setbacks, building orientations, and the location of entrances as much as possible. Variation may be desirable, however, at certain locations, such as the corners of blocks.
- 1.9 In areas where the patterns of development are stable but more diverse, site buildings in relation to neighbors with the aim of creating a more coherent streetscape while meeting other citywide objectives articulated in these guidelines.
- 1.10 In evolving areas of the city, locate new buildings and site elements to support the planned patterns of development.
- 1.11 In commercial districts, site new buildings to maintain the continuity of existing retail frontage while allowing for comfortable sidewalk width and creating opportunities for activation such as outdoor seating.
- 1.12 Locate and design parking, trash storage, and mechanical equipment to minimize their impacts on abutting residences and the public.

OPEN SPACE - CONNECTING BUILDINGS TO THE SURROUNDING CONTEXT







SITE DESIGN 28 July 2020 13

## 2. OPEN SPACE AND LANDSCAPE DESIGN

#### **OBJECTIVE**

Design open space to enhance the lives of residents and the broader community by offering aesthetic and environmental benefits through the inclusion of vegetation, trees, elements to provide shade. Offer useful amenities to residents, provide opportunities to minimize the impact of the new development neighbors' privacy and quality of life, and contribute to the beauty of the city's streets, sidewalks, and open space.

#### **GUIDELINES**

- 2.1 Provide a range of types of open spaces as appropriate to the site, context, and building form: yards, entry courtyards, interior courtyards, porches, loggias, balconies, roof terraces, and upper-level decks.
- 2.2 Provide opportunities for enjoyment of nature, such as gathering places and play spaces for residents.
- 2.3 Provide seating to foster social connection. Consider locations at building entrances, courtyards, and along paths connecting different areas of the site.

#### **OPEN SPACES: ACCOMMODATING DIVERSE USES**











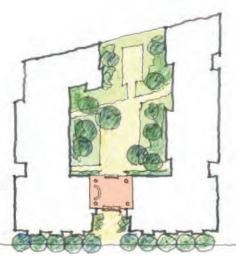
28 July 2020

- 2.4 Consider summer shading and winter solar access.
- 2.5 Design open spaces to contribute positively to the public realm, maximizing vegetation—particularly canopy trees—to shade and enrich streets and other public open spaces.
- 2.6 In dense residential neighborhoods, design front yards to frame the street and sidewalk as civic spaces and to enhance the privacy of building interiors. Consider organizing front yard landscape elements—low walls, low planting or hedges, fences, trees, ground cover, foundation planting, etc.—as a series of layers parallel to
- the sidewalk to frame civic space and delineate thresholds of privacy as one moves from the sidewalk to the building entrance.
- 2.7 Where possible in dense residential neighborhoods and on corridors, provide landscaped forecourts and inner courtyards to create transitional space between the public street and the building lobby, to provide light and air to unit interiors, and to enrich the site with plantings.

#### COURTYARDS: INTEGRAL COMPONENTS OF THE URBAN PATTERN







COURTYARDS:
CELEBRATING THE BUILDING ENTRANCE





FRONT YARDS: CONTRIBUTING TO THE PUBLIC REALM





SITE DESIGN 15

- 2.8 Consider the location, dimension, and orientation of open spaces to best promote healthy trees and other vegetation.
- 2.9 Minimize the urban heat island effect by preserving existing mature canopy trees wherever possible and by planting new ones to shade buildings, open spaces, and paved surfaces.
- 2.10 Follow the recommendations of the Department of Public Works and the City's Urban Forest Master Plan for species, planting standards, and care.

#### **COURTYARDS - PLACES OF CONNECTION**





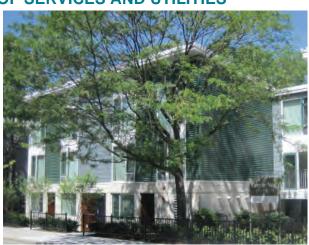




- **2.11** Select species for low plantings and ground cover that are appropriate for urban conditions.
- 2.12 Minimize paved surfaces. Use permeable surfaces wherever possible for pedestrian pathways, parking areas, and other paved outdoor spaces.
- 2.13 Use landscaping to screen surface parking and vehicular driveways from residential units and open spaces on and adjoining the site.
- **2.14** Screen loading and trash areas, meters, mechanical units, and utility equipment with plantings or other appropriate landscape elements.

### SHADE, PERMEABLE SURFACES, AND SCREENING OF SERVICES AND UTILITIES











SITE DESIGN 17

## 3. CIRCULATION

#### **OBJECTIVE**

Promote non-motorized mobility by prioritizing pedestrian-friendly and bike-accessible site design.

#### **GUIDELINES**

- 3.1 Create direct, functional, and beautiful paths for pedestrians and bicycles from the public sidewalk to building entrances. Pedestrian access to the building and site should be clearly articulated and accessible to people of all levels of ability, and should take precedence over other mobility modes.
- **3.2** For large buildings, incorporate multiple entrances wherever possible.
- 3.3 Locate building entrances wherever possible to address public streets.
- 3.4 Consider elevating residential first floors above sidewalk level to enhance privacy, consistent with accessibility needs and requirements.

- 3.5 On corner lots with non-residential street level activities such as retail, consider locating entrances to ground floor functions at building corners.
- 3.6 Establish pedestrian path widths and select their materials in accord with their uses and locations on the site.
- 3.7 Provide bicycle access to the site and building that is clearly legible, convenient, and reasonably direct. Locate short-term bicycle parking for visitors where it is visible and convenient to main building entrances. Locate long-term bicycle parking for residents in secure and screened locations.
- 3.8 Create vehicular access and circulation routes that are distinct from paths of pedestrian travel.
- **3.9** Minimize the number and widths of curb cuts and driveways.
- **3.10** Locate curb cuts on secondary streets where possible.

#### PRIORITIZING THE PEDESTRIAN ENVIRONMENT



#### **CELEBRATING BUILDING ENTRANCES**



## 4. PARKING

#### **OBJECTIVE**

Minimize the impact of parking and driveways on residents, neighbors, and the general public.

#### **GUIDELINES**

- 4.1 Where possible, separate ground floor structured parking and/or bicycle storage from the street with residential units, common areas, retail, or other populated ground floor uses.
- **4.2** Develop the layout of parking and driveways to avoid conflicts with pedestrian and bicycle movement.

- 4.3 Minimize the site area dedicated to driveways and parking and maximize its distance from neighboring properties.
- **4.4** Use green walls, hedges, art work, metal stencils, fences, louvers, sun shading elements, or other means to visually screen parked cars.
- **4.5** Shade parking lots with canopy trees or by other means where possible.
- **4.6** Utilize permeable pavement where possible.

#### SHADING DRIVEWAYS AND PARKING AREAS AND SCREENING THEM FROM VIEW











SITE DESIGN 19

## 5. UTILITIES AND SERVICES

#### **OBJECTIVE**

Minimize the visual, acoustical, and environmental impacts of essential utilities and services on neighbors and on the public realm.

#### **GUIDELINES**

- 5.1 Locate utility functions such as gas, electric, and water meters, transformers, switchgear, and fire safety equipment where they will be least visible from the street. Where possible, conceal them within the building or in side or rear yard setbacks. They should be planned for early in the design process to minimize their impacts.
- 5.2 Locate mechanical elements such as HVAC units, condensing units, ventilation outlets, mechanical exhausts, louvers, and similar objects to minimize their visibility from the public realm and from neighboring sites and buildings. Screen these elements with plantings, fences or other materials that complement the site design and the building's architecture.

- 5.3 Avoid locating air conditioning condensing units on the ground. They should be located on roofs wherever possible.
- 5.4 Locate roof mounted air conditioning equipment, and mechanical penthouses away from roof edges and/or provide parapets with adequate height to screen them from adjacent properties and public areas.
- 5.5 Reduce the noise impact of rooftop mechanical equipment with sound damping materials and screens and proper acoustic and sound isolation methods.
- 5.6 Screen trash and recycling areas with landscaping and/or fencing and ensure that noise and odor-generating functions are fully enclosed.

# SCREENING OF TRASH AND ELECTRICAL EQUIPMENT AS AN INTEGRAL COMPONENT OF LANDSCAPE DESIGN



## 6. OUTDOOR LIGHTING

#### **OBJECTIVE**

Provide lighting for safety and functionality while minimizing energy use, light pollution, and other negative impacts on neighbors, the public realm, and the larger environment,

#### **GUIDELINES**

- 6.1 Use lighting only for safety and functional purposes such as providing wayfinding along access/egress routes, allowing open spaces to be usable in the evening, illuminating signage, or subtly accentuating key architectural elements of a building.
- **6.2** Outdoor lighting should provide a level of safety for residents while avoiding glare, light pollution, and light trespass onto adjacent properties.

- 6.3 Provide lighting that is fully shielded, downlit, has a warm color temperature, and is at or below typical neighborhood light levels.
- 6.4 To further reduce light pollution, consider the provisions of Cambridge's draft Outdoor Lighting Ordinance.
- **6.5** Select lighting fixtures that minimize energy consumption.
- **6.6** Employ timers, automatic dimming, motion sensors or other mechanisms to avoid excessive lighting, including in tuck-under parking.
- 6.7 Consider using photovoltaic panels to power lighting.

#### LIGHTING: DESIGNED AND LOCATED TO ADDRESS FUNCTIONALITY, SAFETY, AND AESTHETICS





SITE DESIGN 21

# 7. PUBLIC ART

#### **OBJECTIVE**

Enrich the visual environment and strengthen the sense of place by incorporating art.

#### **GUIDELINES**

7.1 Incorporate public art as an integral component of the development's architectural and landscape design. 7.2 Where possible, integrate arts related uses such as artists' galleries, arts displays, or artists studios on the ground level of affordable housing developments that are located on business and commercial streets.

#### **PUBLIC ART**











# **BUILDING DESIGN**

Design buildings to contribute to the neighborhood context. Whether in areas of the city that are in transition or in older established neighborhoods, affordable housing development should strive for design excellence and be sensitive to the character of the neighborhood. Compatible building massing, form, scale, color, materials, and architectural details are critical in creating buildings that fit within existing neighborhoods.

- 1. Massing
- 2. Facades
- 3. Architectural Details, Materials, Color, and Finishes
- 4. Building Interiors

BUILDING DESIGN 23

## 1. MASSING

#### **OBJECTIVE**

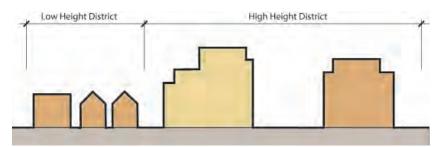
Configure building massing for compatibility with the prevailing or desired pattern of neighboring buildings and open spaces. In established neighborhoods, relate to the existing pattern of streets and other open spaces, and prioritize compatibility with existing buildings. In evolving areas, configure new developments to help realize the City's vision for urban form.

#### **GUIDELINES**

**1.1** Relate new building height, massing, scale, and form to that of existing adjacent buildings.

- 1.2 Incorporate stepbacks to relate to the heights of adjoining buildings and to the scale of the street; and to provide a transition between the height of taller buildings and lower surrounding buildings.
- 1.3 Where a project's site adjoins a district with a different height and scale, as where a site along a commercial corridor adjoins a lower height residential district, adjust building massing to relate to those heights and scales.
- **1.4** Where possible, divide large developments into separate buildings to reduce their scale.

#### RELATING TO THE SCALE OF NEIGHBORING BUILDINGS









- 1.5 Articulate the facades of large buildings into smaller components by means such as vertical recesses or projections from the primary plane of the street facade.
- 1.6 Reduce the visual bulk of taller buildings by using stepbacks, or mansard, gambrel, hipped, or gable roof profiles to enclose habitable upper stories.
- 1.7 In high density areas, such as commercial corridors, frame streets and squares with streetwall facades.
- 1.8 In smaller scaled residential areas, articulate the mass of large buildings to create a sense of scale compatible with smaller scaled neighbors.

#### **BREAKING DOWN THE SCALE OF LARGE BUILDINGS**













**REDUCING THE BULK OF UPPER FLOORS** 





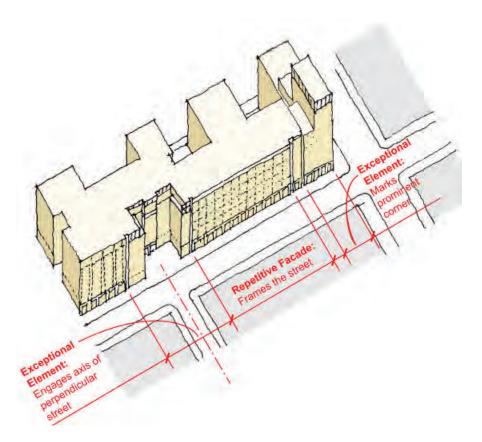


BUILDING DESIGN 25

# 1. MASSING (CONTINUED)

- 1.9 Reinforce the existing or planned pattern of streets and blocks and minimize impacts on neighbors.
- 1.10 Adjust building configuration and massing to maximize access to sunlight, air, and sky views from neighboring buildings and sites, and to maintain privacy.
- 1.11 Where possible, provide courtyard spaces at building fronts or sides to reflect the character of preexisting development and to divide long frontages into smaller scaled facades.
- 1.12 Where appropriate, reinforce important street corners or termini of view corridors with special elements.

#### RESPONDING TO THE CONFIGURATION OF THE PUBLIC REALM



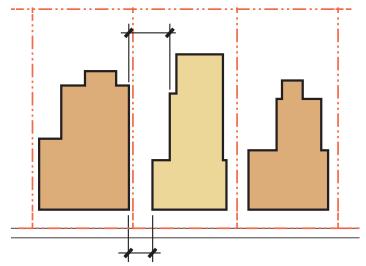
#### **RESPONDING TO SIGNIFICANT CORNERS**



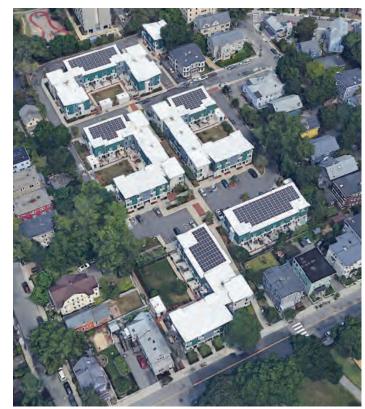
## 1. MASSING (CONTINUED)

- 1.13 Consider both symmetrical and asymmetrical arrangements of building massing to best relate new buildings to their existing neighbors.
- 1.14 For buildings fronting onto more than one street, such as buildings on corner lots, respond to the relative significance of the streets with orientation and massing strategies that reinforce their distinct characters. If possible, incorporate multiple building entries.
- 1.15 Where an existing neighboring residential building is located very close to the lot line, consider adjusting the new building's footprint to create a wider side yard than the minimum required.
- 1.16 Where new buildings are constructed in the rear yards of existing buildings, or on large lots with large setbacks, adjust their massing to reduce impacts on neighboring buildings and yards by careful siting, articulate massing, and by reducing the visual bulk of top floors.

### RESPONDING TO NEIGHBORING BUILDINGS AND PRIVATE OPEN SPACES







## 2. FACADES

### **OBJECTIVES**

Design building facades to enhance and enliven the public realm. In established areas, emphasize compatibility and reinforce the sense of place. In evolving residential and commercial districts of the city, contribute to the transformation of urban form by setting precedents for design excellence.

Where appropriate, incorporate ground level retail spaces and common areas to foster a lively enliven the urban environment.

Provide daylight to interior spaces, avoid excessive energy use, and protect the privacy of the residents of neighboring buildings.

Design facades to relate to the residential

scales and patterns of Cambridge's diverse and historic neighborhoods.

Design street facades to offer a sense of civic presence and human scale, incorporating architectural details to provide visual interest as appropriate to their role in defining public space.

### **GUIDELINES**

- 2.1 Consider Cambridge's architectural history, heritage, culture and regional significance as well as the established pattern of residential neighborhoods and conservation districts.
- 2.2 Relate to architectural styles of the immediate neighborhood context, and the street's urban qualities.









- 2.3 Provide architectural elements such as balconies, bay windows, dormers, roof gardens, and terraces where appropriate.
- 2.4 Enrich facades with changes in plane, projecting bay windows, balconies, and articulated entrances, sun shades, and high quality materials.
- 2.5 Relate to the window-to-wall ratios and the proportion and rhythm of doors and windows prevalent in the district.

- 2.6 Relate to the scale of materials and joint patterns prevalent in the surrounding neighborhood.
- 2.7 Enrich and refine facades with details such as lintels, sills, and other window trim, railings, string courses, cornices, and rake and eave details.
- 2.8 Provide shelter and shade at building entrances.

### **ENRICHING FACADES WITH BAY WINDOWS, CHANGES IN PLANE AND MATERIALS**









**BALCONIES AND PORCHES** 









- 2.9 Where buildings present long facades to the street, give the facade visual interest and create an intermediate sense of scale by incorporating elements such as recesses, projections, balconies, bay windows, porticoes, columns, pilasters, piers, or expressed structural bays.
- 2.10 Consider providing emphasis at the corners of blocks by facade treatment and by providing functional entries to ground floor retail spaces.
- 2.11 Avoid incorporating extravagant or exaggerated building elements or features such as out-ofscale cornices on building parapets.

#### MODULATING LONG FACADES TO ENRICH THE SENSE OF SCALE





### **EMPHASIZING BUILDING CORNERS**





- **2.12** For buildings on lots with significant side and rear setbacks, consider articulating all four sides of the building.
- 2.13 Use building massing, form, color, and materials, and architectural details to differentiate the building's base, middle, and upper level facades; and add special design emphasis on the ground floor facade.
- 2.14 Enrich public streets with identifiable and functional building entrances. Where possible on residential streets, provide multiple entrances to individual first-floor units.

- 2.15 For large buildings on business and commercial streets, emphasize the distinct character of the ground floor facade, particularly where retail space or community spaces are provided.
- 2.16 Where ground floors accommodate retail space, common spaces, or community spaces, maximize views of interior spaces on public streets by using clear glass in windows and storefronts.

### TRIPARTITE FACADE ORGANIZATION - BASE, MIDDLE, AND TOP







ARTICULATED SIDE AND REAR FACADES
OF BUILDING ON LARGE LOT



- 2.17 Enhance building entrances and spaces around them with features such as stoops, porches, recesses, canopies, awnings, low walls, arcades, landscaping, and seating areas.
- 2.18 On business and commercial corridors, clearly differentiate ground floor facades from those of upper floors. Provide ceiling heights and facades to accommodate retail or other active uses.
- 2.19 Wherever possible, screen parking with programed spaces to enliven the street facades.
- 2.20 Where parking spaces immediately behind the ground floor street facade or facing neighboring properties, screen the parking with architectural elements that provide depth and visual interest, including decorative louvers, green wall or other decorative treatment including art work, grilles or louvers. Avoid using metal wire mesh screening that does not provide depth to the wall.

### **GROUND FLOOR FACADES - RETAIL AND RESIDENTIAL**







GROUND FLOOR FACADES - SCREENING PARKING AND SERVICE FUNCTIONS









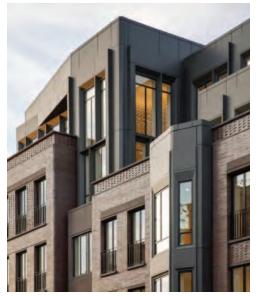
- 2.21 Avoid blank walls on ground floor facades. Where spaces such as utility rooms, fire control centers, etc. require windowless walls, other means of creating visual interest should be provided, including changes in plane, materials, details, and provision for planting.
- 2.22 Give special consideration to the design of top floor facades, particularly in residential neighborhoods, where buildings in Cambridge

- often have intricate massing, roof lines, or parapet walls.
- 2.23 Rooftop terraces and gardens can add visual interest to the tops of buildings and provide needed open space for residents.
- 2.24 Design roofs and top floors as natural extensions of the building massing.

### **BUILDING TOP FLOORS - DORMERS, SETBACKS, TERRACES, AND BALCONIES**













- 2.24 Size and locate fenestration to balance urban design goals and architectural qualities such as transparency and a pedestrian-friendly appearance with building energy performance and neighbors' privacy.
- 2.25 Visually enrich glazed areas with carefully considered mullion and muntin patterns and profiles, operable windows, window trim, and sun-shading devices.

### WINDOW-TO-WALL RATIOS - BALANCING VISUAL TRANSPARENCY AND ENERGY EFFICIENCY



Residential building with active non-residential uses in first floor



Residential building with first-floor dwelling units

# FENESTRATION - ENRICHING THE FACADE WITH MULLION PATTERNS AND THE ARRANGEMENT OF OPENINGS













- 2.26 Use best practices in restoration and maintaining historic structures. Consultation with the Cambridge Historical Commission is recommended, especially for developments in Historic and Neighborhood Conservation Districts.
- 2.27 In renovating or adding to an existing architecturally or historically significant building, or where original materials or components need to be replaced, use traditional building elements with the same architectural features, material
- quality and craftsmanship. If not feasible, substitute with style-neutral high-quality components and materials compatible with the architecture and historic character of the building and district.
- 2.28 Where new units are proposed on an existing lot shared with a historic structure, the new building should, if possible, be detached from the historic structure and distinguish itself as new construction through materials, architectural details, and form.

### **HISTORIC BUILDINGS - RENOVATION AND ADDITION**









# 3. ARCHITECTURAL DETAILS, MATERIALS, COLOR, AND FINISHES

### **OBJECTIVE**

Use materials that are warm, inviting, and compatible with surrounding existing buildings and the neighborhood context. Develop building facades of high-quality, durable materials and with colors, finishes, and textures appropriate to building contexts.

### **GUIDELINES**

- 3.1 While is it not required that materials match those of adjacent buildings, select their general color and scale in response to the neighborhood character.
- 3.2 Use high-quality and durable construction materials with proven records of long life-cycle and low environmental impacts.

### MATERIALS, COLORS, AND DETAILS - RELATING TO NEIGHBORHOOD BUILDINGS

















- 3.3 Natural and durable materials such as brick, concrete masonry, and stone are preferred. Other optional materials include pre-manufactured panels of cementitious, concrete, or composite materials.
- 3.4 Use materials with colors appropriate to the immediate context and that are commonly used in the area. Avoid the use of garish colors that are not relevant to the architectural vocabulary found in the neighborhood context.
- 3.5 Avoid reflective facade materials.
- 3.6 Glass should be transparent, untinted, and have low reflectivity.
- 3.7 For residential units, strive for divided light or multiple pane windows. Avoid plate glass and single light windows.
- **3.8** Consider vegetated facade systems.

### MATERIALS, COLORS, AND DETAILS - RELATING TO NEIGHBORHOOD BUILDINGS



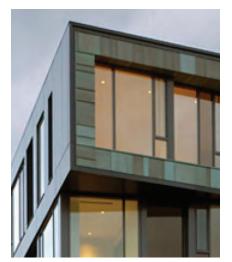














### 4. BUILDING INTERIORS

### **OBJECTIVE**

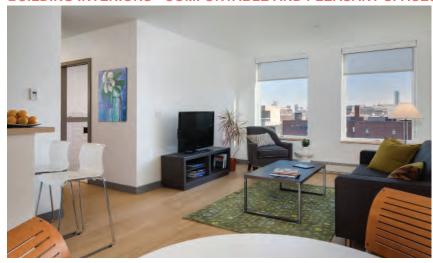
Affordable housing, like all housing, should serve the needs of its residents while contributing to the residential character and sense of neighborhood within the area at large.

### **GUIDELINES**

- 4.1 Provide a mix of unit types and sizes that will support and contribute to the diversity of housing in the neighborhood. The inclusion of a significant number of units that are suitable for families with children is preferred except in special cases where housing will serve populations with different housing needs, such as housing for seniors.
- 4.2 Design interior living spaces to be attractive and comfortable. Include adequate interior living space, common storage, and access to natural light and air. Interior living spaces should be designed to be comfortable. Size bedrooms to accommodate standard bedroom furniture and include access to natural light. Provide ample

- counter space and storage in kitchens. Provide access to laundry facilities in residential units or elsewhere in the development.
- **4.3** Utilize interior finishes and fixtures that are high quality, durable, sustainable, and energy-efficient.
- 4.4 In larger projects, provide interior common spaces for shared amenities, services and facilities such as storage, recreation and gathering space, or in larger buildings areas that can serve residents in the event of extreme weather or power outages. Consider providing amenities that serve the broader community.
- 4.5 Consider providing common spaces at ground level, visually connected to outdoor space, whether on building frontages or addressing the interior of the block.
- **4.6.** Use operable windows for residential units and common spaces to provide passive ventilation and improve indoor air quality.

### **BUILDING INTERIORS - COMFORTABLE AND PLEASANT SPACES**





### **COMMON SPACES - CONNECTED TO THE OUTDOORS**







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# SUSTAINABLE DESIGN

Follow the City's overall sustainable development practices in affordable housing developments. Maximize energy efficiency and performance to reduce greenhouse gas emissions and should be resilient to the anticipated effects of climate change.

These guidelines are meant to supplement the City's zoning requirements and other applicable policies, including the Net Zero Action Plan and the Climate Change Preparedness and Resilience Plan.

SUSTAINABLE DESIGN 41

## SUSTAINABLE DESIGN

### **OBJECTIVE**

Achieve resilience measures to the maximum extent possible, including energy efficiency and measures to promote the health and wellness of residents.

### **GUIDELINES**

- 1.1 Use the City's most up-to-date projections for anticipated future flood elevations, including the City's Floodviewer information and dashboard, Seek guidance from the City of Cambridge Department of Public Works (DPW) regarding peak stormwater runoff and on measures to build and protect to the 2070 10% flood level and recover from the 2070 1% flood level.
- 1.2 Avoid locating sensitive uses such as critical building functions, emergency equipment, or residential bedrooms in areas that are at risk of future flooding.
- **1.3** If seeking a Sustainable Building certification, strive for the highest possible credential.
- 1.4 In site design, orientation, and facade arrangement, minimize the demand for heating and cooling by considering the effects of solar gain on different sides of the building. Design interior spaces for passive heating, cooling, and ventilation. This approach is intended to conserve energy while also improving resilience in the event of power outages or other mechanical failures.
- 1.5 Incorporate passive cooling and ventilation with operable windows, including operable upper sashes or transoms.
- 1.6 Incorporate sun shading devices or shutters with positive ventilation, solar screens, canopies, porches, or brise-soleils to shade strongly sunlit facades.

- 1.7 On roofs, exterior walls, and paved surfaces, use materials with high solar reflectivity to minimize heat absorption and localized heat island effect. As an alternative, employ vegetated coverings such as green roofs or green walls.
- 1.8 While trees are preferred, where they are not feasible consider the use of shading devices such as canopies, awnings, or pergolas to provide shade on exterior paved areas and/or to reduce solar heat gain on building facades.
- 1.9 On large projects, consider providing common spaces that are protected from flooding and extreme heat and are suitable as shelter during emergencies.
- 1.10 Employ renewable and low-carbon energy features where feasible, such as solar photovoltaic systems, solar heating systems, or geothermal heating and cooling systems.
- **1.10** Consider operational and embodied energy in material selection.
- 1.12 Select and design building systems and equipment within units to facilitate future conversion to all-renewable energy systems.
- 1.13 Use materials with no volatile organic compound emissions in all walls, floorings, ceilings, furniture, acoustic and thermal insulation, and facades exterior applied products.
- 1.14 Integrate cool roof or green roof systems on building roofs where possible to contribute to strategies for stormwater management and green infrastructure.
- 1.15 Where possible, use and integrate recycled content materials without compromising durability and material quality.

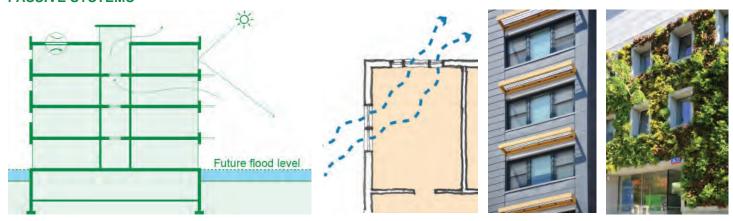
### ROOFTOPS AS OPPORTUNITIES TO ADDRESS STORMWATER AND ENERGY







### **PASSIVE SYSTEMS**



SUSTAINABLE DESIGN 43

## **GLOSSARY**

- Affordable housing: Affordable housing is a reference to dwelling units that are affordable to households earning an income that does not exceed the amounts set forth in the Zoning Ordinance.
- Affordable housing overlay: A modified zoning map and zoning requirements intended to regulate the development of 100% affordable housing referenced in Zoning Ordinance.
- **Architectural details:** Architectural elements or components of a building cladding, fenestration, or building enclosure that express building style and character.
- Architecturally significant: A structure or building that is valued by the community in which the structure or building is located due to physical and symbolic qualities including design, style, character, construction method, architectural details, its architect, or its time period. Architecturally significant buildings or structures may or may not be designated in a historic district.
- Bay expression: The typical module and spacing of structural elements or components that are repetitive on the building facade horizontally and vertically. For example, the vertical planar surface of the facade between two columns or pilasters with repetitive components such as storefront windows or opaque wall expressed on the building facade is a typical bay expression.
- **Bay window:** Projection of a window or a window wall beyond the typical plane of the building facade.
- **Blank wall:** A wall with opaque cladding materials enclosing an interior space with no wall openings or glazing materials.
- **Canopy:** A horizontal element that is structurally supported and providing a roof-like protective surface.

- **Circulation:** The layout of permeable or impermeable surfaces around the site and building including street space, sidewalks for building entrance, exits, access to parking, driveways, and aisles.
- Context: A place or locale such as a neighborhood or a community setting with physical qualities and character-defining features manifested in its built form and natural environment including its buildings, landmarks, parks, street space, and other natural features such as rivers and scenic settings; that is perceived to represent or characterize that place or a locale as distinguished or unique. A building that is contextual or context sensitive is a building that fits well within and respectful of its context.
- Cool Roof: A cool roof is a roofing system that delivers higher solar reflectance (the ability to reflect the visible, infrared and ultraviolet wavelengths of the sun, reducing heat transfer to the building) and higher thermal emittance (the ability to radiate absorbed, or non-reflected solar energy) than standard designed roofing products.
- **Corner lot:** A lot with two frontages on two intersecting streets.
- **Cladding:** The exterior material layer of a building envelope which forms a veneer such as brick, stone, metal, glass, concrete, wood, terracotta, or other composite systems made of such materials.
- Fenestration: The portion of the building envelope consisting of openings within the opaque wall for windows and doors dedicated for vision glass. For the purpose of the guidelines, spandrel glass that is opaque and does not allow light is not considered part of fenestration proportions or calculation.

- **Green Roof:** A green roof is a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems.
- **Green Wall:** A green wall is a wall partially or completely covered with greenery that includes a growing medium, such as soil, water or a substrate.
- **Guidelines:** A set of urban design guiding principles, recommendations, best practices or strategies intended to inform the design phase.
- **Opaque wall:** A wall that does not allow visible light to go through, including spandrel glass, spandrel metal panel, and reflective glass that does not allow for visibility from the outside.
- **Massing:** The perceived three-dimensional aspect of the physical qualities of building including its bulk, height, and scale.
- **Mechanical equipment screen wall:** Is a ground level or rooftop element or structure without a roof used to block from public view building system elements such as mechanical, electrical, plumbing or elevator equipment and machinery.
- **Reflective glass:** A glass used as part of window system or as a spandrel panel that does not allow for visibility from the outside.
- **Penthouse:** An enclosed and unoccupied rooftop structure used to enclose rooftop equipment including mechanical, electrical, plumbing, or elevator equipment and machinery.
- **Vision glass:** Glass that is transparent; it may be clear glass or tinted but provides transparency from the exterior and interior.

GLOSSARY 45

## **ACKNOWLEDGMENTS**

### **IMAGE SOURCES:**

- Cambridge Arts Council
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