Building Design Guidelines

7

7.1 Building Design Guidelines

The following guidelines provide general design direction for all campus development, including buildings, associated landscapes and parking facilities. Site specific direction and detailed development parameters for all development sites are provided in Chapter 9, Precinct Plans. The intent of these guidelines is to ensure the creation of high quality, durable buildings and landscaping that respond to the campus setting and reinforce a cohesive pattern of campus growth. An overarching goal is to create safe, attractive, interesting and comfortable spaces, both indoors and outdoors, by maintaining high standards of architecture, landscape and urban design, and construction.

7.1.1 Architectural Expression

1. Queen's historic buildings and signature green spaces are a fundamental part of the campus experience. New development should support the established architectural tradition of the campus while incorporating contemporary building techniques and sustainable practices. In other words, new buildings (both infill and new development) should be informed by, and respect, existing heritage buildings but not attempt to replicate them. This can be achieved through the use of consistent building elements and materials as well as appropriate, contextual building massing.

✓ The massing of new development should respond to neighbouring historic buildings to maintain a coherent design language and maintain pedestrian movement patterns. (Goodes Hall, Queen's University)

✓ Additions to historic buildings can respond to the original architecture without mimicking it, through the use of complementary materials and contextually-driven massing. (Princeton University)

7.1.2 Building Orientation and Massing

1. The placement, massing and uses of buildings shall work together to frame and animate streets, pathways and open spaces and shall reinforce the spatial structure of the campus. New buildings should have setbacks from streets and key pedestrian pathways that are consistent with those of neighbouring buildings.

2. The location and orientation of buildings shall consider integration with existing and future development on surrounding development parcels. Consideration shall be given to pedestrian connectivity, views, utility efficiencies, and opportunities for shared open space, other amenities and servicing facilities.

3. Long buildings and those with large floor-plates shall be designed to provide visual interest and break up the building massing to reduce the perceived size of the building. Exterior walls should be articulated and varied through stepbacks, varied facades and changes in material. .

4. Stepped building heights and/or articulated roof lines, particularly for larger buildings, should be considered to provide variation in massing.

5. Buildings shall be designed with high quality, durable and visually distinctive materials, as exemplified by many of the existing buildings on campus.

6. New buildings generally shall respect the low-rise and mid-rise scale and general character of development on the campus. The precinct plans identify high profile development sites, which may depart from the established campus character.

7. Consistent with the university's image of accessibility and openness, and to contribute to safety, there should be a high degree of transparency on the ground floors of buildings. Upper floors should be well fenestrated. Blank, opaque facades should be avoided, particularly at ground level and adjacent to streets, open spaces and pathways.

✗ Botterell Hall contains uniform exterior treatments that results in visual monotony and unclear building entrances.

✓ The School of Medicine uses varied materials to "break up" the building and make entrances clear and visible.

✗ Jeffery Hall's raised and sunken entry points obscure entrances from pedestrians and are in-accessible to those with mobility restraints.

✓ Ontario Hall contains a clear and weather protected entrance.

8. Building entrances shall be highly visible and directly accessible for pedestrians, and should be at grade to minimize the need for ramps. Primary entrances shall be located on the primary building frontage on a street or pedestrian pathway. Entrances should be designed as a focal point for the building frontage through the use of varying heights, changes in material, signage and other means.

9. Weather protection in the form of canopies or other appropriate means shall be provided at and around primary pedestrian entrances and in transit waiting areas. They shall also be considered for amenity areas adjacent to buildings and over outdoor connections between a primary building and associated structures.

10. Exterior spaces and the landscaping associated with a building should contribute to the campus's green character, soften and complement the appearance of the building, enhance adjacent streetscapes and pathways, and buffer private spaces from the public realm.

11. Exterior lighting, signage and walkway surfaces should be designed to incorporate the needs of those with mobility and visual constraints.

12. The site planning, landscaping and architecture of buildings shall consider opportunities to incorporate public art, including Indigenous art. This may take the form of temporary installations by Queen's students, staff, faculty, or professional artists. Installations shall be integrated with their settings to reinforce the spatial structure and character of the campus.

13. The design and retrofit of all buildings, existing and proposed, should comply with Queen's Accessibility Guidelines.

7.1.3 Building Facades and Materials

1. New developments should:

- Be designed with high quality, visually distinctive materials that have proven durability in similar climates. On Main Campus, Limestone should be considered as a cladding material for all or portions of building facades.

- Be constructed with glazing that is of high performance and without tinting, particularly when enclosing public spaces.

- Use materials that are subdued or complementary to the existing structure; they should preserve and not transform the existing building's character.

- Be clad in a co-ordinated manner, with special attention paid at service enclosures and back facing facades to ensure design consistency.

✓ The use of transparent materials at grade level provides natural surveillance of open spaces and pedestrian walkways (McMaster University, Hamilton, Ontario).

✓ Transparent building materials at grade level provide animation and safety for adjacent pedestrian pathways (Princeton University, Princeton, New Jersey)

7.1.4 Building Interiors

1. Building design should encourage natural surveillance of outdoor spaces ("eyes on the street"). Communal spaces within a building should be adjacent to and visible from the public realm of the campus.

2. Larger academic buildings should be organized around an indoor pedestrian network that includes spacious indoor pedestrian "streets" flanked with communal uses or reception areas. The indoor network should be linked to the larger campus pedestrian network and provide public access through the building, wherever possible.

3. Generally, buildings should be organized so that study, communal and classroom functions heavily used by students are on the floors linked by or close to the primary indoor circulation network. Restricted departmental uses, private offices and private labs should generally be located on upper floors.

4. Parking and servicing, storage uses, and other uses that do not require daylight should be located below grade, where possible, to minimize the mass of the building and optimize its relationship to the public realm.

✓ The alignment and design of internal hallways can integrate larger-scale new development with the existing outdoor pedestrian network. (Goodes Hall, Queen's University)

✓ Communal and study spaces are located at street level with a direct spatial connection outside. (Stauffer Library, Queen's University)

7.1.5 Sustainability

1. New buildings should be designed to minimize their environmental impacts and contribute to the overall sustainability of the campus. To this end, the University will consider applying high standards for sustainability, such as LEED™, to new development proposals.

2. Buildings should be designed for flexibility, adaptability and longevity to ensure they continue to support the University's evolving mission.

3. Significant new buildings should be designed to support sustainable roofs, such as 'green' or 'white' roofs. Roofs can also be designed to accommodate small-scale green energy infrastructure, such as photovoltaic or solar hot water, where appropriate.

4. Wherever possible, HVAC systems should be integrated with the campus energy distribution system and central energy plant.

5. New buildings should be designed to reduce stormwater impacts, and could incorporate rainwater capture and/or contribute to re-use systems.

✓ New development featuring a green roof (Vancouver Island University, Cowichan Campus)

✓ Landscape Design using porous paving materials and sloped grading can reduce the impact of stormwater. (Princeton University, Princeton, New Jersey)

7.1.6 Servicing and Utilities

1. Service access will be situated and designed to reduce the impact of the vehicles and activities while providing safe and convenient access. Specific locations and routes for loading are identified in the Precinct Plans. Loading and servicing facilities should be screened from view through landscaping or other means. Where possible and appropriate, loading could be located below grade to reduce visual impacts and minimize disruption to the building facade.

2. Parking and service entrances to buildings shall be located away from building frontages and screened from view to minimize physical and visual disruptions. Garbage, recycling, gas storage and other similar uses should be located in loading areas and screened from view.

3. Mechanical equipment and other building systems will be designed to minimize its visual impact and protect the design integrity of the building. Mechanical equipment should be located below-grade, where possible. If located on the roof, it should be screened and/or enclosed to minimize noise and visual impacts.

4. Visual impacts from substations, transformers, telecommunication boxes and other similar equipment should be minimized by locating them in buildings, wherever possible. Where exterior to a building, they should be integrated into the landscape design.

✓ Servicing routes should be designed to reduce interference with pedestrian safety, through the incorporation of clear pedestrian routes in the form of sidewalks or pavers (Princeton University, Princeton, New Jersey)

✓ Loading and servicing areas can be screened from view through landscaping or other means (Princeton University, Princeton, New Jersey).

7.1.7 Parking

1. Surface parking areas shall incorporate high quality landscape design that:

    - Breaks up large parking areas into smaller lots;
    - Screens parking areas from public views from streets and key pedestrian pathways while maintaining safety;
    - Includes generous tree planting around and within parking areas, to mitigate visual impacts and provide shade that reduces heat island effects;
    - Considers opportunities for porous pavement materials, bio-swales and other innovative stormwater management techniques; and
    - Ensures the provision of safe, convenient, accessible and highly landscaped pedestrian travel routes to and through surface parking areas.

2. Above-grade parking structures shall be designed to minimize adverse impacts on the campus environment. They should be integrated with, and located behind, other uses and buildings, particularly along key campus streets and pathways. At a minimum, parking structures should have active uses at grade along their frontages. The potential to accommodate a portion of structured parking below grade shall be considered.

3. Driveways and access points for surface parking lots, structured parking facilities, pick-up and drop-off areas, and building servicing facilities should be carefully designed to minimize visual impacts and reduce the potential for pedestrian and vehicular conflicts.

✓ A tree-lined surface parking lot screens parking from view and provides safe pedestrian travel routes (Cornell University, Ithaca, NY)

✓ Generous tree plantings integrated with pedestrian routes, can provide shade and screen parking from view (Princeton University, Princeton, New Jersey).