

The University of British Columbia

Vancouver Campus Plan

PART 3 DESIGN GUIDELINES



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

UBC VANCOUVER CAMPUS PLAN

Part ① Campus Plan Synopsis

Part ② Campus Plan

Part ③ Design Guidelines

To obtain copies of *Part 1 Campus Plan Synopsis* and *Part 2 Campus Plan* please contact Campus and Community Planning or visit our website at www.planning.ubc.ca.

ADOPTED | JUNE 2010

The UBC Board of Governors formally adopted *The UBC Vancouver Campus Plan* in accordance with powers conferred on the Board by the University Act. *The UBC Vancouver Campus Plan* is a part of the body of Governance Requirements established by the Board for the management, administration and control of the University's real property, buildings and structures, as defined in the Board of Governors' Policy 92 (Land Use and Permitting).

The official name of this document is *The UBC Vancouver Campus Plan*. For brevity, it will be referred to as *The Campus Plan*.

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1 INTRODUCTION

1.1

DESIGN GUIDELINES OVERVIEW

These guidelines are for the use of:

- Consultants as a guide to design of building, landscape, and surface infrastructure projects within *The Campus Plan* areas of UBC's Vancouver campus;
- Staff undertaking in-house project design, or reviewing capital projects in the pre-application and permit application process;
- Project sponsors; and
- Members of the broader UBC community who are interested in understanding the long-term character objectives for the Vancouver campus.

1 Introduction

This section describes how to use the guidelines and explains their underlying design rationale and objectives.

2 Campus-Wide Design Guidelines

This section provides a listing of campus-wide design guidelines that are applicable to all projects regardless of their location on campus.

3 Supplementary Guidelines for Character Districts & Hubs

This section identifies additional guidelines unique to the various character districts on campus. Each project design must respond to the guidelines for the character district(s) in which it is located.

4 Maps

This section provides a complete set of all reference Maps and Tables related to guideline application across the institutional campus lands.

At its discretion, Campus and Community Planning may provide a more detailed site Design Brief for some sites. Pre-application discussions between project sponsors and Campus and Community Planning are required as soon as project designers are engaged or feasibility studies begun, in order to confirm a shared understanding of all guidelines applicable to their project. Project designers shall contact Campus and Community Planning for information regarding project review and approval processes.

Variations and relaxations to the *Design Guidelines* for particular projects may be considered where justified, and resolved during the conceptual design and development permit process.

Multidisciplinary design teams for each project are expected to work collaboratively, such as through an integrated design process, from project inception through to project approval, to ensure all component systems work in harmony toward the functional, sustainability, and character objectives of the campus.

Over time there will be a need to amend this document to reflect revised policy and updated specifications. Endorsed future changes of this nature will be organized into an **Appendix 1 Revisions** once needed. Project sponsors and consultants shall always check with Campus and Community Planning to confirm they have an up-to-date version.

Project designers will find recommended standards for building interiors, indoor furnishings, and infrastructure not otherwise addressed by these guidelines, under separate cover in the *UBC Technical Guidelines*.

1.2 DESIGN RATIONALE

The character objectives of *The Campus Plan* are to rediscover and accentuate UBC's unique sense of place and the natural west coast beauty on the Vancouver campus, to improve the cohesiveness of buildings and landscapes, and to ensure the campus reflects the quality and stature of a globally significant University.

The *Design Guidelines* have been developed as a toolkit to help coach, coordinate, and regulate project design throughout campus, to deliver those character improvements over the next 20 years.

The guidelines are grounded in an understanding of existing campus design strengths. They repair and accentuate the following existing campus design organizing systems to allow the unique beauty, original order, coherence, and distinctive setting of the campus to shine through:

- Four signature landscape character typologies and districts on campus are identified, namely, the *Forest* setting, the *Campus Core* setting, and the more recent *Contemporary* and the *Athletic* districts. These character districts are to be enriched with new landscape planting and building positioning guidelines that respect the authentic differences in these districts.
- The distinctive grid and hierarchy of corridors that has historically imposed legibility and order on the campus, is to be respected and strengthened through control of new building locations, main entry orientation, building height and massing, setbacks and build-to lines. This grid also features spectacular views at the end of its malls due to the founding alignment of Main Mall atop the topographical ridge of campus.
- The hierarchy of academic commons spaces where social and academic interaction unfolds on varying scales across campus, is identified and

1 Introduction

1.1 Design Guidelines Overview

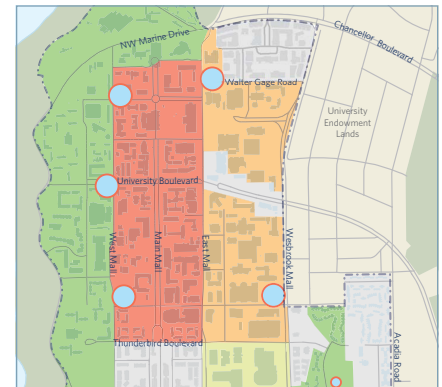
1.2 Design Rationale

2 Campus-Wide Design Guidelines

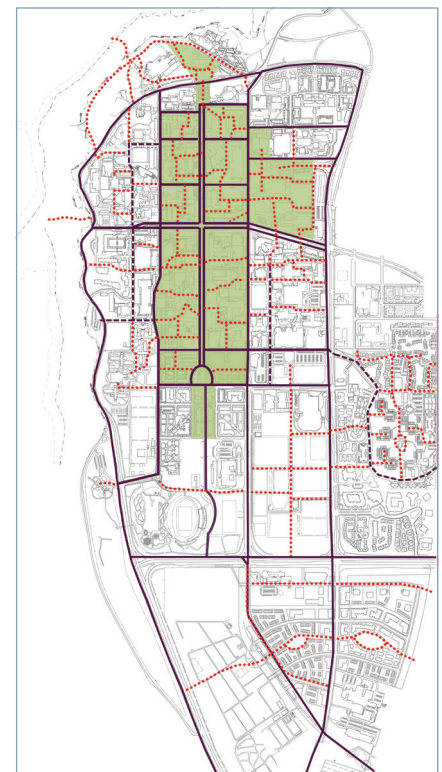
3 Supplementary Guidelines for Character Districts & Hubs

4 Maps & Tables

5 Appendices



Character Districts **Map 3-1, Page 59**



1.2 Hierarchy of Corridors.



Open Space and Commons Network
Map 3-8, Page 66



1.2 Arrival routes through the forest.



2.1.a All projects to integrate sustainable best practices in design.

improved through guidelines that deliver supporting building façades, open spaces and links, definition of weather protected routes, improved lighting specifications, and door locations that support the indoor-outdoor relationship important to the west coast character.

- The gateway arrival experience is recognized and supported through enhanced architectural treatment of signature building sites, hubs, and appropriate new lighting level enhancements.

In addition to the frameworks above, the *Design Guidelines* bring new layers of design thinking that improve consistency and coherence on campus where it is lacking, and address future growth, contemporary university life, new technology, and current values. The new design layers include:

- Commitment to a unifying palette of architectural and landscape materials, furnishings specifications and lighting design standards that will bring cohesion and consistent quality, while still accommodating sympathetic variations within authentic character districts. The new standards also address contemporary academic values, technical needs, enhanced accessibility, and sustainability values.
- Character guidance for new mixed-use academic and student residence Hubs in the campus core, each of which needs to be a welcoming oasis, well-linked to the rest of campus, with a unique character reflective of the academic disciplines that feed into it, yet integrated well with the overall cohesive UBC character.

More background discussion and description of the various landscape typologies, corridors and commons hierarchies, and gateway and arrival systems, is available in the *UBC Vancouver Campus Public Realm Plan*.

2 CAMPUS-WIDE DESIGN GUIDELINES

Design Guidelines in this section apply to all projects on campus within *The Campus Plan* subject area. Project designers must also refer to [Section 3 Character District & Hubs](#) for the additional layer of guidelines unique to each of those districts.

2.1 SUSTAINABILITY

- Social, Economic and Environmental Considerations** — All projects must be designed to integrate sustainable best practices in design including:
 - An emphasis on social sustainability to bring students, staff, faculty, local neighbourhood residents, and visitors together for academic, recreational, cultural and leisure activities.
 - Consideration of economic sustainability through use of design and material selection strategies that promote cost-effective, durable, and low maintenance buildings and public realm improvements.

- iii. Environmental sustainability through energy and water demand management, rainwater management; respect for the forested setting for habitat and recreation; encouragement of horticultural diversity and low water-use landscaping; health and well being; and showcasing of learning, research, and demonstration projects.
- b. All projects must develop specific sustainable design strategies and targets based on goals identified in individual project design briefs.
- c. **Leadership in Energy and Environmental Design (LEED)** — All building projects, including major renovations, on institutional campus lands must be designed to achieve LEED® Gold certification or equivalent certification. In addition, some LEED credits are mandatory for projects at UBC, see the [UBC LEED Implementation Guide](#).
- d. **Sustainability Best Practice Building Design** — To maximize the environmental sustainability and construction and operating cost efficiencies, all projects are to follow *Sustainability Best Practice Building Design Guidelines* itemized in [Section 2.3.10](#) of this document.
- e. **Living Lab Sustainability Opportunities** — As part of UBC's Living Lab objectives, all new buildings, additions, and significant renovations will be encouraged to embrace innovation and managed experimentation in their design and construction.
- f. **UBC Climate Action Plan** — All projects will follow supplementary technical sustainability design criteria identified in the *UBC Climate Action Plan*, as amended from time to time.
- g. **Stormwater Management** — All projects are to follow the stormwater guidelines below:
 - i. Where possible, public amenity will be combined with surface (ponds, swales, rain gardens) and rooftop (green roof, re-use system) stormwater facilities such that multiple benefits are realized, including potable water or energy savings, and stormwater volume reduction or flow control.
 - ii. Stormwater may be directed to the deep aquifer at all locations on campus.
 - iii. Passive infiltration to the upper aquifer is permitted only in those locations east of Main Mall Greenway and south of Crescent Road.
- h. **Water Management**
 - i. All new buildings are to be designed to work with existing fire flow capacity. System upgrades shall only be considered as the last alternative.
 - ii. Developments are to collect and use rainwater and stormwater where possible for appropriate uses such as irrigation or other non-potable uses.
 - iii. Developments are to minimize the consumption of potable water by eliminating its use where and when it is not necessary, and by maximizing efficiencies in its distribution and use.
 - iv. Developments shall minimize domestic, institutional, and industrial wastewater transported off site by reducing volume, reusing or treating on-site.
 - v. All new buildings are to be designed to follow and support UBC's waste

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2.4 Open Space

2.5 Surface Infrastructure

2.6 Site Furnishings

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2.1.a.iii Use projects to showcase sustainability research.



2.1.d Maximize sustainability and cost efficiencies through a collaborative design process.



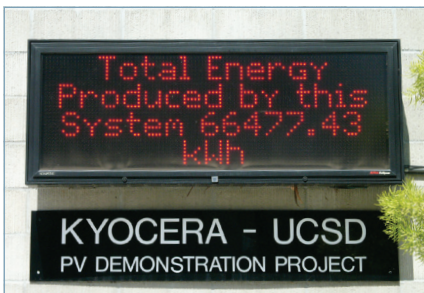
2.1.e As part of UBC's Living Lab embrace innovation to advance sustainability.



2.1.g Consider strategies to clean stormwater run off.



2.1.h.ii Stormwater infiltration encouraged in identified locations.



2.1.k Display features to highlight building performance for passersby.

management objectives and infrastructure.

- i. All new buildings are to be designed to follow and support UBC's waste management objectives and infrastructure.
- j. All new buildings shall provide performance monitoring (metering) infrastructure for the following systems:
 - i. Water
 - ii. Electric: to allow discrete monitoring of lighting, plug loads and mechanical systems
 - iii. Thermal
- k. All new building performance monitoring equipment shall be compatible with UBC's data collection system and building design shall include display features for building occupants and passersby to show building performance.

2.2

UNIVERSAL ACCESSIBILITY

The University is committed over time to providing dignified, welcoming, and effective access to people of all ability levels, to all parts of the campus and buildings where people are expected to engage in university life. In addition to meeting the accessibility provisions in the BC Building Code, all new building project designs must address:

- a. The 7 *Universal Design Principles* outlined in [Appendix 3](#).
- b. Accessibility standards for buildings, integrated throughout other sections of these guidelines. These include finished grade elevations, provision of dignified and universally accessible main entries, multiple entry options, and directional signage regarding accessible entries.
- c. Exterior pathway accessibility standards, integrated within other sections of these guidelines. These include measures to support an interconnected and accessible exterior public realm network, provision of project connections to the larger public realm network (not just the parking lot), suitable surface treatment of pedestrian routes, covered rest areas, visual and wayfinding support features, parking and drop-off facilities, and pathway gradient guidelines.
- d. A simple collection of interior design fit-out adaptations to avoid common unintentional impediments to accessibility, as outlined in [Appendix 4](#). These include considerations such as provision of sufficient manoeuvring space at doors, more universally usable door handle designs, countertop heights, stair nosing details, and other accessory considerations.

2.3 ARCHITECTURE

2.3.1 — Positioning, Massing, and Setbacks

New development presents an opportunity to frame the outdoor public spaces as memorable ‘outdoor rooms’ and to make the campus structure of corridors and commons coherent and legible to the campus community. Site selection and approval must be determined through the Siting Protocol in *Part 2 of The Campus Plan*. The guidelines below describe more detailed positioning, massing, and setbacks for new buildings within a given site.

- a. **Building Alignment** — The orientation of building footprints is to align with the campus road grid.
- b. **Build-To Lines** — The bulk (80% minimum) of each new building front façade must be positioned at the corresponding build-to line on [Map 3-2 Build-to and Setback Lines](#). Only a minor portion of the building (10% maximum) can vary from the setback line if in the form of an upper storey cantilever. The precise location of the build-to lines may be determined in alignment with the forward plane of the anchoring reference buildings also identified on [Map 3-2](#).
- c. **Building Setback Lines** — Setbacks are required in parts of the Forested Edge District to support the desired siting qualities of the area and on certain sloped sites, such as the east side of West Mall, to negotiate and express the uphill relationship to the street.

90% of each new building façade must be sited either at or further back from the setback lines on [Map 3-2](#). The precise location of the setback lines is to be in alignment with the forward plane of the reference buildings identified on the map.
- d. **Green Edge Setbacks** — Natural treed buffers will generally be left undisturbed within the green setbacks indicated on [Map 3-2](#).
- e. **Upper Storey Setbacks** — An exception to provisions b) and c) above is where a new building is substantially taller than other neighbour buildings along the corridor. In these cases, the upper storeys shall be set back so the building’s ‘street wall’ mass is generally in keeping with the predominant height of the desired street wall.
- f. **Building Massing** — The siting and massing of new buildings are to strengthen the definition of the adjacent open space, with particular regards to the campus corridors and commons. Each building and outdoor open space are to have a reciprocal relationship where each supports and enhances the other. The open space is to be a “positive” room rather than “negative” void.
- g. **Secondary Massing** — Large buildings designs are to provide secondary massing moves that step down their perceived scale and reflect their interior organization and functions.

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Build-to and Setback Lines [Map 3-2, Page 60](#)



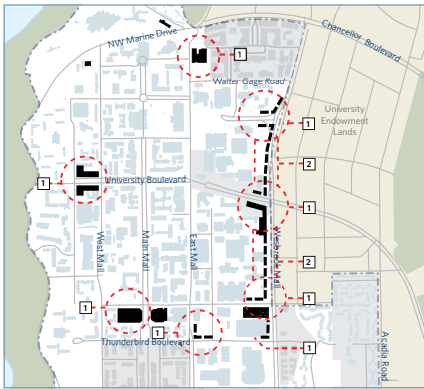
2.3.1.e When a building is substantially taller than its neighbours step back the upper floors.



2.3.1.g Large buildings to provide secondary massing moves.



2.3.1.i Buildings to respond to pedestrian routes.



Signature Building Sites [Map 3-3, Page 61](#)



2.3.2.a.ii Buildings that frame a gateway shall work as a pair to form a portal.

- h. **Building Hierarchy** — Buildings are to contribute to the overall legibility of campus by expressing their role in the hierarchy of buildings. Generally, important buildings such as libraries, museums, theatres, and other public and campus-wide serving buildings are to be visually prominent against a background of academic and residence structures.
- i. **Respect Pedestrian Routes** — The siting and layout of new buildings must respect significant pedestrian pathway routes across the site either by not building over the route, or by providing 24 hour breezeway passage through their ground-floor layouts and designs. Such passage is to be minimum 10 m wide and well lit after dark. The significant pathway routes are identified in *Part 2 of The Campus Plan* on *Map 2-7*.

2.3.2 — Signature Building Sites

Certain sites serve critical place-making roles on campus, with potential to strengthen the overall campus character and legibility due to their prominent positions marking a gateway, a boundary, or other important campus outdoor places. Buildings and structures on these sites must mark the site as a welcoming entry point into the campus for pedestrians, cyclists, and vehicles, and achieve an architectural design excellence appropriate to a globally significant University.

Buildings and structures identified on [Map 3-3 Signature Building Sites](#) are to meet the following guidelines, according to type:

- a. **Type 1 Signature Buildings** — Buildings and structures at these gateway locations are to:
 - i. Mark the entry into the campus or into a sub district of the campus.
 - ii. Work design and massing together with that of a building on the opposite side of the entry route in order to frame the 'portal' noting that heights taller than surrounding context buildings can be an appropriate way to achieve this objective.
 - iii. 'Hold' the corner of the site if the building is located on a corner site.
- b. **Type 2 Signature Buildings** — The Westbrook Mall threshold between Student Union Boulevard and Thunderbird Road functions as a primary edge of the academic campus with a series of major and minor gateways into the campus at intersections with east-west pathways, driveways, and road. Buildings along this important front door edge will:
 - i. Create a street wall at the build-to line that blends narrow building frontages with breaks for landscaped courtyards and landscapes around east-west pathway routes,
 - ii. Strongly express the academic, teaching, learning and research within and be highly transparent,
 - iii. Work as an ensemble with the collection of corner and mid block buildings fronting Westbrook.
- c. **Type 3 Signature Structure** — Gateway marker structures at the corners of the UBC Athletics Commons and Botanical Gardens are to announce athletics and botanical research respectively with unique structure and

landscape designs that typify their respective activities. Night lighting will play a critical role in this expression.

- d. **Type 4 Signature Structure** — When the financial opportunity occurs through a donor contribution or other means, the exterior of the Thunderbird Parkade shall be laminated with an architectural treatment in keeping with its gateway location. This might include a veneer of decorative panels that illuminate at night using solar power.

2.3.3 — View Corridors

Elevated on the Point Grey peninsula, UBC has historically enjoyed spectacular views over the Strait of Georgia and coastal mountains. Both Main Mall and University Boulevard benefit from views in both directions due to their position along the topographical ridge of the campus. The north end of Main Mall, including Flagpole Plaza and the Rose Garden, comprise a series of terraces that open up to increasingly more panoramic views as a viewer moves northward. Special views of the mountains and over the water exist at a limited number of locations on campus. All these views are particularly important for connecting the community's experience of being on campus with the dramatic natural context.

- a. The footprint of new projects must not intrude into a Type 1 view corridor identified on [Map 3-4 View Corridors](#).
- b. New buildings on permitted building sites in Type 2 view corridors as identified on [Map 3-4 View Corridors](#) and summarized below, are to be limited in height to not intrude into the elevated view out to the mountains and north shore:
 - i. Ocean view corridor from Flagpole Plaza, and
 - ii. Sites north of NW Marine Drive at the end of East and West Malls.
- c. New buildings and significant renovation projects shall include upper level public lounges that provide access to views above the tree line.

2.3.4 — Building Heights

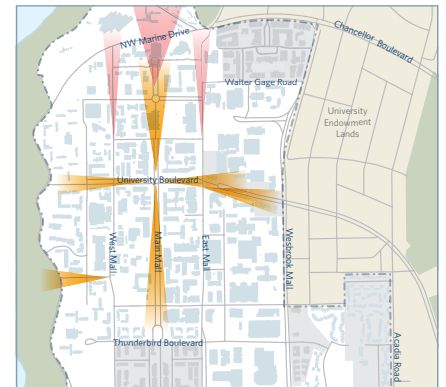
Increased height must be embraced and well-managed in order to achieve a future campus that does not sprawl, that enjoys increased walkability and sociability, and that fully accommodates the anticipated and desired university housing and academic facility needs over the long-term. The following guidelines enable taller buildings in a choreographed distribution that works with the massing, academic growth, social intensity, and character objectives of *The Campus Plan*.

- a. All building projects are to respect the maximum heights indicated for different areas of campus as illustrated on [Map 3-5 Maximum Building Heights](#).

Buildings may be up to 53 m in height anywhere on campus, but generally speaking:



2.3.3 Maintain and enhance views to highlight dramatic natural context of the campus.



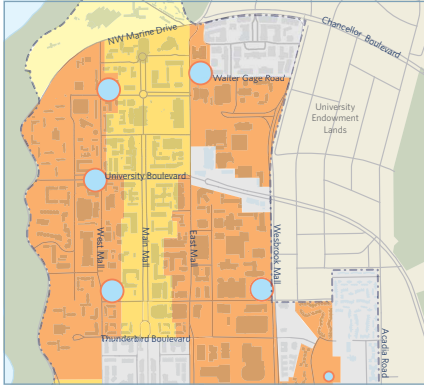
View Corridors [Map 3-4, Page 62](#)



2.3.3.b Building heights are limited to preserve ocean view from Flagpole Plaza.



2.3.3.c New projects shall include upper level public lounges with views.



Maximum Building Heights **Map 3-5, Page 63**

- i. The buildings in the campus core shall be up to 28 metres in height, with those storeys over 18 m setback from the base.
 - ii. Tallest buildings will be concentrated in the hubs and redeveloped Acadia area.
 - iii. Buildings along the west edge of campus, west of Lower Mall, will consider visual effects related to Wreck Beach.
- b. In the interest of using land sustainably and respecting its value all new buildings are to be 3 storeys above finished grade in the North Campus area north of NW Marine Drive, 3 storeys or taller in the South Campus Research area south of Westbrook Place, and 4 stories or taller in the campus core, contemporary and forest districts. Permitted exceptions would be:
- i. In those View Corridors areas identified in **Section 2.3.3.b**, or
 - ii. For compelling design reasons supported by Campus and Community Planning.



2.3.5 Use the full depth and massing of the building to achieve the desired architectural expression.



2.3.5.b.i Design the landscape and building as a single composition.



2.3.5.b.ii New buildings to learn from past architectural forms on campus.

2.3.5 — Architectural Expression

The design and expression of each new building and addition plays an important role in achieving *The Campus Plan* character objectives to express 'university', reinforce the unique sense of place, showcase academic research and activities, and animate and bring vitality to the campus. The full depth and massing of each new building from its interior back walls, to the outermost solar shades are to be employed in a creative and harmonious way to achieve these objectives.

- a. **Express University** — New buildings and additions need to express 'university' by incorporating the complex and often conflicting notions of permanence, innovation, pre-eminence, university and user identity, sustainability, human warmth and wit.
- b. **Reinforce Sense of Place** — Design of new buildings and additions must draw from, and reinforce, the unique 'sense of place' and West Coast beauty at UBC's Vancouver campus:
 - i. **Cohesive Landscape and Building Composition** — The landscape and building shall be programmed, conceived, and designed as a single composition. All projects are to provide strong physical and visual indoor-outdoor connections between lobbies, social spaces, indoor circulation routes, and outdoor commons.
 - ii. **Historic References to Architectural Form** — New campus buildings are to be sympathetic to past architectural forms on UBC's Vancouver campus, particularly the emphasis on horizontal elongated proportions and rectilinear geometry.
 - iii. **Light and Transparent** — New campus buildings are to be light and transparent, in contrast to the heavier, more severe appearance of some of the existing buildings.
 - iv. **Founding Beaux Arts Framework and Forest Context** — Future building design must respect the geometries and landscape typologies that have brought an enduringly legible structure, coherence, and dignity to the campus.

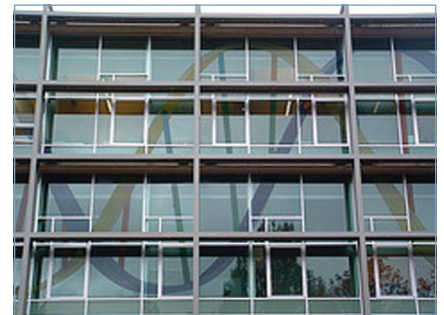
- v. **Supplementary Design Considerations of Character Districts** — All projects are also to address the supplementary guidelines of the character district in which they are located. These include a more detailed range of materials and colours, secondary and accent materials to bring depth and vitality to the architecture (see [Section 3](#)).
 - vi. **Primary Materials** — In [Section 3](#), simple and dignified palettes for the dominant cladding materials have been established to build visual cohesion on campus:
 - » White brick for the Campus Core District and similar light coloured materials for the Contemporary District to reference the finer examples of international style architecture on campus
 - » Natural materials such as medium brown brick, wood and natural coloured metals in the Forested Edge District to complement the surrounding native and west coast inspired landscape
 - » Transparent and vibrant materials for façades of buildings facing main corridors in the Athletics District and grey metal cladding for secondary façades.
 - vii. **Required Common Materials** — Every project is to include wood, aluminum (or zinc) and natural concrete as part of their material palette as an aspect that threads all UBC architecture together.
 - viii. **Secondary Materials** — In addition to the primary and required common materials, each Character District includes a broader range of other secondary and accent materials that may be employed to bring depth and vitality to the architecture.
 - ix. **Wood** — Wood forms part of the exterior materials palette for some districts, and its use is also encouraged for the structure and interior of all buildings for reasons of sustainability, acoustic and visual comfort, and connection with the university's forest setting.
 - x. **Relation to Neighbouring Buildings** — New buildings shall be designed to work together with neighbours, so that the composition of the groups of buildings is as well considered as the composition of the buildings itself.
 - xi. **Façade Hierarchies** — The designs of individual building façades shall respond to the hierarchical importance of the commons, corridors, and pathways onto which they face, while also ensuring sufficient continuity amongst façades for the building to read as a single composition.
- c. Architecture must showcase research and academia:
- i. **Academic Symbolism** — Designers are to seek opportunities to embody in the architecture, the activities and culture of the academic community within.
 - ii. **Academic Displays** — Academic displays are to be integrated into the architecture, and be visible from adjoining public outdoor spaces where possible.
 - iii. **Interactive Features** — To raise public consciousness regarding natural cycles and the science of sustainability, designers are encouraged to incorporate interactive and educational elements as part of building operational systems.
 - iv. **Sustainability Features** — Sustainability systems and features such as solar shading and stormwater management are to be integral parts of the architecture rather than 'add on components'.



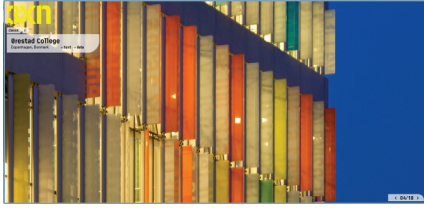
2.3.5.b.iii New buildings are to be light and transparent.



2.3.5.b.v Every project is to include wood, aluminum (or zinc) and natural concrete as part of their material palette.



2.3.5.c.i Seek opportunities to express the culture of the academic community within.



2.3.5.c.iv *Design sustainability features as integral to the architectural expression.*



2.3.5.d.i *Make activities of the university visible.*



2.3.5.d.iv *Provide richness through selective use of coloured glass.*



2.3.5.d.vi *Use bold warm interior colours to accentuate interior activities.*

d. Architecture must animate and bring vitality to the campus:

- i. **Visible Interiors** — New buildings are to be designed to make activities of the University both apparent and accessible from the outside, and avoid overly opaque, internalized, and 'protective' structures without compromising building energy performance.
- ii. **Location of Social Programming** — Animating uses within any building program are to be located on the ground floor along exterior commons and corridors. Such spaces may include lobbies and lounges, student cafeterias, student-faculty discussion pits, informal learning spaces, university-wide lecture theatres and exhibit space.
- iii. **Dominant Glazing** — All glazing on new buildings shall be clear coloured and highly transparent, except where a special case is approved for security or research reasons. Opaque glazing will be located away from public outdoor spaces.
- iv. **Coloured Feature Glazing** — Lightly coloured or tinted glazing may be considered by Campus and Community Planning on a case by case basis, including considered and very selective use of coloured glass with a focus on soft tones of blues, greens, and yellows.
- v. **Blank Exterior Walls Discouraged** — Extensive lengths of windowless blank walls adjacent to open spaces must be avoided.
- vi. **Interior Treatment to Animate Exterior** — Bold warm colours are to be used on interior walls visible to the outdoors for stairwells, entrances and other animated spaces to accentuate interior activities, reinforce legibility of entries and exits, and to animate adjacent exterior spaces at night.
- vii. **Window Security** — Where security is a concern, tempered glass is a preferred security measure. As a last resort, security bars consistent with the specifications in [Section 2.6.12](#) of these guidelines.

2.3.6 — Ground Floor Elevation

- a. **Finished Floor Elevation** — The finished floor of new buildings are to be established at, or up to 0.9 metres above, the grade of the most important open space on to which it fronts.
- b. **Finished Floor Elevation on Sloped Sites** — The building and its circulation design on sites with significant slopes must gracefully transition the grade change to support enhanced accessibility and to use it to the advantage of the building program and vitality of the adjoining open spaces.

2.3.7 — Building Entry Location

- a. **Building Entry Locations** — An inviting entrance shall be provided for each corridor, street, commons, and major pathway that a building faces.
- b. **Legibility from a Distance** — Entries shall be legible from a distance, with visual prominence of each entry reflecting the hierarchy of the exterior corridor space it serves.
- c. **Primary Entry Location** — The main 'front' door is to address the most prominent corridor or street.

- d. **Dignified and Welcoming Universal Access** — All new buildings designs are to include a dignified and welcoming universal access at the main door that does not segregate users based on physical abilities. Main entrances that incorporate major flights of stairs are discouraged.
- e. **Multiple Entry Options** — An accessible entrance shall be provided on at least two and preferably more sides of the building. Directional signs confirming accessible entries, ramps, and elevators shall be provided at any non-accessible entry.

2.3.8 — Stairs

Stairs are to be carefully located and designed to assist in wayfinding and so they become an inviting means of vertical circulation.

- a. **Locations** — Stairs are best located directly on principal paths of travel and at the perimeter of buildings so that they have ample natural light and are readily seen from exterior circulation paths.
- b. **Transparency** — Transparency and interaction between stairways and indoor gathering spaces must be maximized.
- c. **Scale** — Stairs shall be generous in size and aesthetically pleasing.
- d. **Backdrop Legibility** — Stairs shall be highlighted with use of bold warm colours on back walls where visible from the exterior through windows. This colour lit up at night will accentuate the stairs in the building and assist in way-finding and animation of the public realm.
- e. **View Access** — Stairs shall be used to access and highlight interesting views, such as prospects into nature or special indoor areas.

2.3.9 — Rain Protection

Given the amount of inclement weather during the academic year, a network of weather protected walking routes criss-crossing campus is an important objective for a pedestrian-priority campus.

- a. **Canopies** — Canopies are required on all new buildings fronting academic commons and pedestrian routes, consistent with [Map 3-6 Rain Protection Routes & Priority Public Realm Accessibility Upgrades](#). Canopies must be at least 3 m in depth across the length of those building façades.
- b. **Entries** — All projects are to provide weather protection at major and minor building entries.
- c. **Refuge** — All new and renovation projects fronting the steeply sloped sections of east/west pedestrian routes between West and Main Mall are to provide generous flat areas with rain protection as a place of rest refuge for persons with disabilities making their way up the steep slopes.
- d. **Canopy Design** — Canopies are to be designed as integral elements of the buildings' architecture, and lit at a pedestrian scale.
- e. **Canopy Drainage** — Canopies are to drain into controlled stormwater systems.



2.3.6.b Design Buildings to gracefully transition grade changes.



2.3.7.a Provide inviting entrances for each corridor, street, commons and major pathway.



2.3.8.b Locate stairs on principal paths of travel and at the building perimeter.



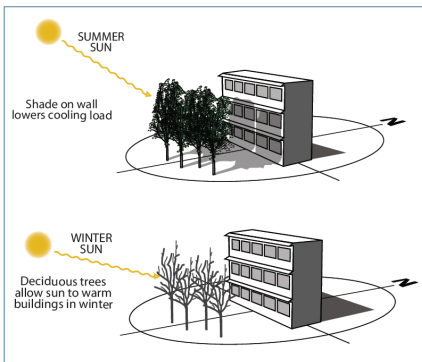
2.3.9.a Buildings fronting a commons or pedestrian routes to provide continuous rain protection along façade.



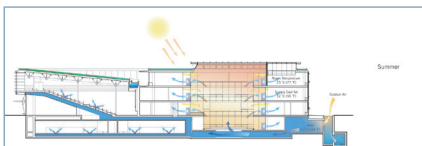
2.3.9.b Provide rain protection at all entrances.



2.3.9.e Designers are encouraged to artfully feature the movement of rain water.



2.3.10.a Landscape strategies for passive solar heating and daylighting control.



2.3.10.a.iii Strategies for natural ventilation.

Designers are encouraged to artfully feature the movement of water as it makes its course down the building and into and across the landscape.

- f. **Canopy Maintenance** — Canopies are to be designed for ease of cleaning and maintenance, noting some canopies (particularly glass) can become unsightly if allowed to collect leaves, grow moss or algae.

2.3.10 — Sustainability Best Practice in Building Design

The following sustainable building guidelines do not encompass all the design considerations and features necessary to meet UBC's LEED Gold requirements (see [Section 2.1.c](#)). However, they are singled out here as those items to be considered early in the design process in order to improve energy performance and building comfort in the most cost effective way.

- a. **Passive Design** — Passive design strategies have significant potential to decrease energy use in buildings and to improve users' comfort. An integrated design process is critical to ensure that the passive design strategies are considered at the appropriate time and in the appropriate sequence and combination.
 - i. Buildings are to be designed with a high performance envelope that is air tight, minimizes thermal bridging and provides a high level of thermal comfort for inhabitants (through minimizing temperature difference between internal surfaces and space temperature settings).
 - ii. Buildings are to be designed to harness solar radiation and to take advantage of internal heat loads. Buildings with a well insulated envelope shall be oriented to maximize solar gain in winter and to minimize solar gain in summer in order to benefit from passive heating strategies.
 - iii. Buildings are to be designed to use the surrounding naturally occurring air flow patterns to facilitate passive ventilation. Buildings shall be shaped and designed to maximize the effectiveness of these flows in providing fresh air to building occupants.
 - iv. Buildings are to be designed to maximize passive cooling strategies by preventing unwanted solar gain with shading, storing heat in thermal mass and using passive outdoor cool air for passive ventilation.
 - v. Buildings are to optimize daylight and views for occupants. While recognizing the positive effects of connecting occupants to the outdoors and providing daylight; projects shall balance this objective with controlling unwanted solar gain and glare and maximizing envelope performance.
- b. **Orientation** — Considering and appropriately responding to orientation is a fundamental and very effective way to provide comfortable, low energy buildings.
 - i. Buildings are to consider the appropriate glazing response according to façade orientation. East and west elevations shall minimize un-shaded windows, particularly the west elevation which contributes to significant undesirable afternoon and evening solar gain.
 - ii. Buildings with extensive glazing on any given façade are to consider strategies such as high performance glazing, shading devices or buffer spaces to improve thermal comfort and to reduce energy use associated with glazing.

- iii. Projects are to design solar shading according to each façade orientation since the sun movement varies significantly depending on orientation.

c. **Shape and Massing** — Building shape and massing can significantly affect energy requirements of buildings. Massing optimization can improve performance, often without increasing capital costs.

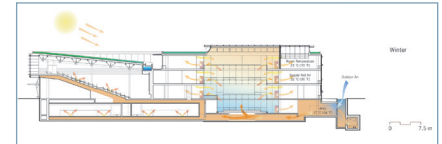
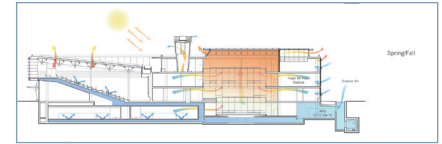
- i. Buildings are to aim at decreasing their envelope area. Compact buildings have smaller envelopes and will perform significantly better due to their decreased envelope to volume ratio.
- ii. The benefit of providing compact buildings has to be balanced with urban design objectives and other passive design strategies such as the need for daylight. Compact buildings can be designed with light wells and atriums to facilitate natural ventilation, day-lighting and passive cooling.
- iii. Residential buildings, which have a heating dominant load in this climate, are to be as compact as possible to maximize energy efficiency.

d. **Space Planning** — Matching program requirements with appropriate orientation, massing, and other passive design strategies can reduce energy use and increase or at least maintain thermal comfort.

- i. Projects are to locate building functions and public realm outdoor spaces where their particular thermal requirements can be met without active building systems.
- ii. Projects are to locate spaces with wider comfort ranges or that are heating dominant in the more difficult orientations such as south and west. Program areas with large internal gains shall be located on the north orientation to minimize cooling.
- iii. In challenging thermal comfort situations, projects are to incorporate buffer spaces to better match the space's thermal conditions to the building or site area. Projects can still incorporate passive design strategies even where the orientation is not optimal.

e. **Windows and Glazing** — Windows provide necessary views, daylight and often ventilation, but are the weakest thermal elements in the building envelope. Careful consideration of the location, size and performance of windows can significantly improve thermal comfort and reduce energy use in buildings.

- i. Residential projects are to have a low-e double-pane window assembly for cool climate with external shading elements for solar shading in summer.
- ii. Institutional and commercial buildings with internal heat gains are to incorporate a double pane window with a low shading coefficient and a low-e coating.
- iii. To conserve energy, windows and associated exterior solar shading are to let in the solar gain in the winter and block it in the summer. Overall each project shall minimize the heat loss due to the poor thermal performance of windows.
- iv. Projects are to incorporate, whenever feasible, operable windows for natural ventilation. Other ventilation strategies to aid natural ventilation such as internal layout, building size, stack effect and orientation to prevailing winds shall also be considered.



2.3.10.a.iii Strategies for natural ventilation.

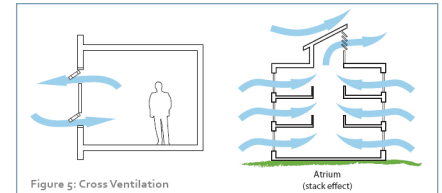


Figure 5: Cross Ventilation

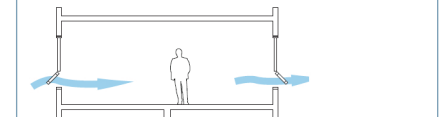


Figure 6: Stack Effect through an Atrium

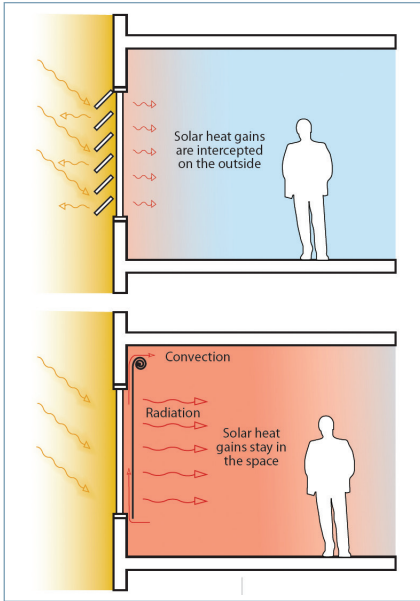
2.3.10.a.iii Shape and design buildings to facilitate passive ventilation.



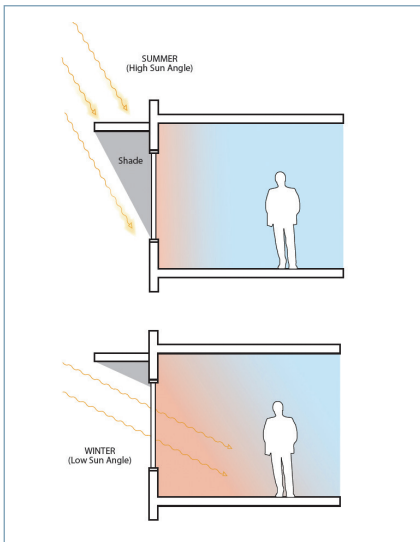
2.3.10.b.ii Buildings with extensive south exposure to consider strategies such as high performance glazing, shading devices or buffer spaces.



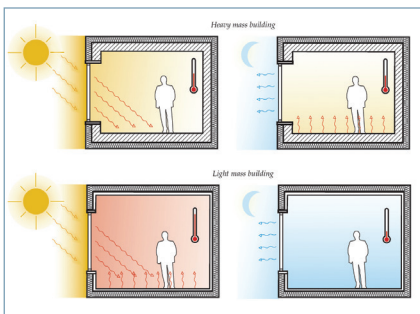
2.3.10.b.iii Maximize passive cooling through solar shading.



2.3.10.f Exterior shading elements (above) are more effective than interior ones (below).



2.3.10.f.i Aim to allow solar gain in the winter and block it in the summer (summer and winter performance of a horizontal overhang).



2.3.10.g Design to absorb and slowly release solar gains (effects of heavy (top) versus light (bottom) mass building).

- f. **Thermal Mass** — Heavy and dense building materials such as stone, concrete and masonry units have high thermal mass and, therefore, the capability of absorbing, holding, and gradually releasing thermal energy.
 - i. Buildings are to use internal thermal mass to absorb solar gains and other internal loads and therefore reduce the need for active heating systems.
 - ii. Buildings with thermal mass construction are to expose the internal thermal mass to passive cool night ventilation in order to reduce the building's cooling demand.
- g. **Durability, Resource Efficiency and Waste Management** — Projects' durability, materials sourcing and waste management shall be incorporated into project design to reduce the detrimental impacts of material use on the campus' built environment.
 - i. Projects are to prioritize durability by designing buildings and procuring products that maximize lifecycle and can be reused or recycled.
 - ii. Projects are to reduce waste generation by using re-usable, modular, long-lasting, or recyclable materials.
 - iii. Projects are to use products and materials that have the lowest life cycle impact. Priority shall be given to products and materials made of:
 - » Recycled content to reduce embodied energy
 - » Rapidly renewable materials to protect natural resources
 - » Responsibly produced and manufactured materials to reduce the environmental burden of new products
 - » Regional materials to reduce the adverse effects of transportation and to support local economies
 - » Recyclable materials that can be returned to the manufacturing process after disassembly
 - » Durable materials to minimize need for new resources and their operation and maintenance expenditures in the building's lifetime.
- h. **Environmental Quality** — Projects are to consider the impacts of their design on the campus community. Specifically, projects are to consider how air quality, lighting levels, noise, and thermal comfort benefit students, staff, faculty, and visitors.
 - i. Projects are to ensure a healthy, steady, and adequate flow of fresh air in order to enhance the users' sense of comfort and well-being. Projects shall consider location of air exhaust and intake in relation to air quality, natural ventilation, and energy use.
 - ii. Projects are to take into consideration the acoustic characteristics of public realm spaces such as commons and corridors as well as the interior acoustic conditions of buildings. This ensures that public realm spaces and buildings can perform to their intended purpose without resource intensive modifications. Furthermore, environments can be designed to enhance the acoustic quality of the surrounding environment.
 - iii. Projects are to minimize the use of materials that use or generate harmful substances.

2.4

OPEN SPACE

The open space network throughout campus is important to the university's beauty, identity, and function. It shall be well-designed, beautifully planted, safe, and rejuvenating with ample seating, sunlight, and shelter for the UBC community's daily use.

This section provides overview context and guidelines for various types of open space including ceremonial routes, pathways, and commons (including courtyards). Planting criteria are also outlined. Conceptual designs for each of the major Commons and Corridors capital projects are provided in a separate document entitled the *UBC Vancouver Public Realm Plan*.

2.4.1 — Academic Commons

Academic Commons or courtyards of varying scales are provided throughout campus and are to be reminiscent of traditional academic quadrangles that offer some greenery, quiet respite, and options for academic event programming. All new building projects must work together to support, shape, and nourish these academic commons and their effective interconnections to the other open spaces in the network:

- a. **Open Space Network** — New buildings and additions shall not encroach upon the open space network identified on [Map 3-8 Open Space and Commons Network](#).
- b. **Large Academic Commons** — The footprints of new buildings and additions are to accommodate and reinforce the significant Commons identified on [Map 3-8](#).
- c. **Local Commons** — Each academic discipline or co-located group shall have a readily accessible nearby commons.
- d. **Student Residence Commons** — One commons must also be accommodated and maintained in each student residential community.
- e. **Program Activity Range** — The primary outdoor commons are to be designed to facilitate a wide variety of outdoor activities. Design features might include: places for art, temporary exhibits, banners, walls for showing movies, places for barbeques and outdoor cooking, places for student demonstration projects, and other facilities that might emerge from consultations with faculty and students in the development of specific project programs. (See *Part 2 Section 7.3* for more information on outdoor public art).
- f. **Variety of Gathering Scales** — Each commons must be designed to accommodate a range of groups and individuals through the appropriate selection and organization of seating opportunities.

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2.4.1 Landscape providing backdrop for the art.



2.4.1 Academic commons to integrate landscape and offer quiet respite.



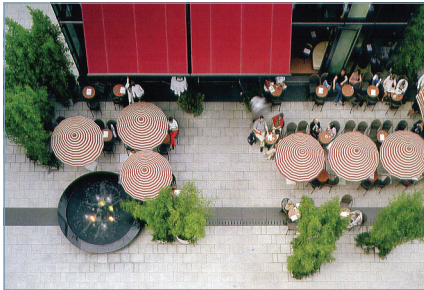
2.4.1.e Academic commons are to be designed to facilitate a wide variety of uses and outdoor activities.



2.4.1.f Design commons with a range of groups and individual seating opportunities.



2.4.1.g Where food services form part of the program, they shall be located to provide strong visual oversight of the commons.



2.4.2 Hubs will serve as neighbourhood living rooms.



Street Trees [Map 3-9, Page 67](#)

g. **Food Service Adjacency** — Where food services form part of the building program they shall be located so they are physically connected to, and provide strong visual oversight of, the outdoor commons.

h. **Water, Electrical Service** — Each commons must be provided with necessary water, electrical and other services to allow for the various outdoor programs to function as envisioned.

2.4.2 — Hub Commons

Hubs are local mixed-use centres distributed around campus that accommodate significant student housing, plus academic support services open to all faculty, students and staff. These hubs will function as neighbourhood ‘living rooms’ for the daytime community of surrounding academic disciplines as well as for the students who reside there. The open space associated with each hub will be informal and busier than the academic commons due to the mixed-use daily program that hubs will include. Hub Commons are to address the campus-wide landscape design guidelines of this section, as well as the additional guidelines to be found in [Section 3 Supplementary Guidelines for Character Districts and Hubs](#).

2.4.3 — Planting Guidelines

Landscape projects present an opportunity to introduce visual cohesiveness and a sense of place on the campus. The following guidelines use planting palettes, simple design approach, spacing, and alignment to contribute to campus cohesion at a campus-wide level, to enrich special character districts at a smaller scale, and to reinforce the strength and legibility of important corridors and large commons at the campus grid level.

All landscape projects on campus will address the following guidelines:

- a. **Street Trees** — Street tree planting for all primary and secondary streets must be consistent with [Map 3-9 Street Trees](#). These choreographed selections will, over time, bring beauty and coherence to the campus while still allowing a wide range of seasonal colour, scale, and biodiversity. Gateways, special places and routes are accentuated. Consistency along significant spines enhances character place-making and way-finding on campus.
- b. **Signature Plant Palettes** — All projects will include the following signature species in their landscape plans as a means of unifying the campus landscape:
 - i. **Rhododendrons sp.** — Rhododendrons are to be incorporated within some part of the project area. Consideration must be given to specific cultural requirements of the selected species, variety, or cultivar.
 - ii. **Taxus sp. (Yew)** — Yew are to be incorporated within some part of the project area—particularly around building entries. Yew hedging shall generally be in the form of linear hedging except in the Forest District where they may be informal in nature. Designers shall take into consideration the adjacent site landscape design and hedge configurations.

Hedges are to be maintained at a height of approximately 900 – 1000 mm.

- c. **Winter Interest** — Plant selection shall give careful consideration to characteristics during the regular academic session. Fall colour, branching pattern, bark texture and colour, flowering period and colour, fragrance, evergreen over deciduous and leaf out time in spring enhance the campus experience during the winter months.
- d. **Character Districts & Hubs** — All projects will refer to [Section 3 Character Districts & Hubs](#) for supplementary planting design guidelines particular to that area.
- e. **Green Setbacks** — New building and additions projects must respect natural treed buffer setbacks where specified on [Map 3-2 Build-to-Lines & Setback Lines](#).
- f. **Simplicity of Scale** — At the campus wide level, all new and replacement plantings are to be designed with an institutional scale characterized by simple palettes of plants arranged in broad layers of massed plantings.
- g. **Irrigation** — With the exception of naturalized forest areas, automatic irrigation systems shall be provided. Irrigation of lawn areas is not required where low use anticipated.
- h. **Discouraged Plants** — Use of the following trees and shrubs is discouraged. Case-specific exceptions may be considered subject to approval by Campus and Community Planning.
- i. **Lawn Areas** — Avoid creation of convoluted lawn areas punctuated with obstacles that make servicing with riding mowers impossible.
- j. **Hedges** — Select plants that will grow to the desired height and maintain a natural informal appearance without a need for trimming and ongoing maintenance. Hedge plantings requiring regular shearing to maintain height or shape shall be avoided.
- k. **Mass Planting** — Select plants that are resistant to partial or complete failure due to pests or disease. Select plants that suppress weed growth and are visually tolerant of irregularities resulting from presence of weeds or infrequent attention. Consider maintenance when establishing the scale of planting.
- l. **Extent of Planting** — Give careful consideration to the need for planting areas and avoid where possible to reduce maintenance.
- m. **Planting of Slopes** — Whether lawn, groundcover or shrubs — careful consideration must be given to gradients, adjacent surface materials and slopes, ease of maintenance, and safety of grounds staff.



2.4.3.b.i All projects to incorporate groupings of Rhododendrons as a background landscape component.



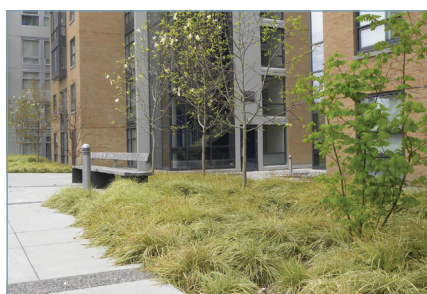
2.4.3.b.ii All projects will use Yew Hedges.



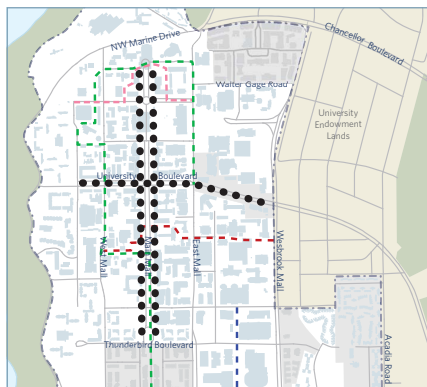
2.4.3.b.ii Hedges are to be maintained at a height of approximately 900-1000 mm.



2.4.3.e The campus landscaping is to have a simple institutional scale.



2.4.3.e All plantings to be designed in simple broad layers of massed plantings.



Special Treatment Pedestrian Routes
Map 3-7, Page 65

DISCOURAGED TREES

BOTANICAL NAME	COMMON NAME	NOTES
Aesculus hippocastanum	Horse Chestnut	
Betula papyrifera	Paper Birch	
Betula pendula	Weeping Birch	
Cornus nutalii	Native Dogwood	Eddie's White Wonder cultivar ok
Crataegus sp.	Hawthorn	
Liquidambar	Sweet Gum	Infill ok
Malus sp.	Crabapple	Blight resistant varieties ok
Platanus acerifolia	Sycamore	
Prunus	Flowering Cherries	Acceptable in selective areas
Quercus palustris	Pin Oak	Infill ok
Quercus rubra	Red Oak	Infill ok
Tsuga heterophylla	Western Hemlock	In decline on campus

DISCOURAGED SHRUBS AND GROUNDCOVERS

BOTANICAL NAME	COMMON NAME	NOTES
Arctostaphylos uva ursi	Kinnikinnick	No large masses, 2 – 3' strips ok
Berberis sp. (armed varieties)	Barberry	
Chaenomeles sp.	Flowering Quince	
Cotoneaster (groundcover)	Cotoneaster	No large mass planting
Erica sp.	Heather	Small quantities ok
Genista lydia	Lydia Broom	Small quantities ok
Hedera helix	English Ivy	
Hypericum	St. John's Wort	Small quantities ok
Ilex aquifolium	European Holly	
Juniper chinensis	Chinese Juniper	
Kerria japonica	Japanese Kerria	
Mahonia aquifolium	Oregon Grape Holly	Small quantities ok
Pieris japonica	Japanese Andromeda	Mold resistant varieties ok
Potentilla	Shrubby Cinquefoil	
Prunus lauro. 'Zabeliana'	Zabel Laurel	'Otto Luyken' preferred
Pyracantha	Firethorn	
Stranvaesia davidiana	Chinese Stranvaesia	
Syringa vulgaris and cultivars	Common Lilac	Other species ok
Viburnum rhytidophyllum	Leatherleaf Viburnum	

No plants identified by The Greater Vancouver Invasive Plant Council (GVIPC) will be used. See www.gvipc.ca/most_wanted.php

2.4.4 — Ceremonial Routes

Map 3-7 *Special Treatment Pedestrian Routes* identifies the primary ceremonial routes on campus that can support special events, processions, and commemorations.

- a. **Furnishings** — All new projects flanking ceremonial routes will contribute furnishings to the adjacent public realm including lighting and banner arms along the length of the building façade.
- b. **Lighting** — Lighting of the ceremonial routes and knowledge walks will be consistent with required lighting intensity and specifications (see [Section 2.5.2](#)).
- c. **Banners** — Banner arms will be provided on light poles along the main ceremonial routes of Main Mall and University Boulevard.

Banner design on the ceremonial routes will be consistent with specifications listed in [Section 2.6.10](#). Generally, three types of banners are used on campus: events and or conventions, seasonal banners and permanent university signature banners.

2.4.5 — Pedestrian Routes/Pathways and Knowledge Walks

All exterior circulation routes on a project site or in the public realm will meet the following minimum design standards:

- a. **Width**
 - i. Walkways shall be at least 1.8 m in width free of obstructions including furniture, trees, planters, and other vertical elements such as poles and fire hydrants.
 - ii. On streets where the existing sidewalks or walkways are greater than 1.8 m in width, or where clearance requires a wider sidewalk, new walkways shall match the larger precedent width.
- b. **Site Specific Location**
 - i. On streets where the existing sidewalk is not the standard distance from the curb, Campus and Community Planning shall determine the location of any new sidewalk or sidewalk replacement, based on the need for street trees and the desire to maintain existing campus character.
 - ii. Walkways shall follow the natural path of travel.
 - iii. Where walkways are adjacent to buildings or roads, they shall parallel these structures.
- c. **Utility Access Facility Locations** — Hand holes, vaults, and other utility access points shall be located out of the walking surface area. Where this is not possible or desirable, subject to Campus and Community Planning approval, these access points must match the level of the sidewalk and be coated with a non-slip surface.
- d. **Surface Treatment** — All new exterior pathways and upgrades to existing routes are to be paved as set out in the Paving guidelines in [Section 2.5.1](#).
- e. **Accessible Connections to Public Realm**
 - i. **Connections to Public Realm Network** — All new building projects are to include universal access connections from that building and site to the nearest adjoining public realm network link at site edges—not just to designated parking stalls.

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2.4.5.a.i Walkways shall be at least 1.8m in width and free of obstructions.

- ii. **Shoreline Edge Cues** — Where pedestrian paths cross large open areas (such as: bus loops, plazas or parking lots) edging curbs, kick plates, bollards, or a row of shrubs along the path are encouraged to demarcate the way for people with visual disabilities.

- f. **Lighting Levels** — Lighting is to be safe for night time walking, and sufficient to allow people to read environmental cues. Intensity and contrast levels shall allow easy recognition of key elements such as stair nosing, handrails, and signs. Refer to [Section 2.5.2](#) for required lighting intensity and contrast levels on routes throughout campus.

g. **Pathway Gradients**

- i. **Slopes** — Accessible pathway slopes shall not exceed 1:12 (8.3%). Switchbacks and level landings may be necessary to reduce the maximum gradient on a pathway. Preferred slopes are 5% or less.
- ii. **Cross Slopes** — An acceptable cross slope is 1:50 (2%). For a limited length of 2 m a cross slope up to 1:20 (5%) is acceptable.
- iii. **East-west Grade Change Transition** — Buildings occupying sites with significant grade change shall incorporate 24 hour publicly accessible interior and exterior east-west pedestrian routes to facilitate east-west movements across campus including, most notably, the grade change between West Mall and Main Mall.



2.4.5.h.i Slopes over 1:16 require handrail.

h. **Landings and Rest Areas**

- i. Exterior pedestrian routes along building edges are to provide covered rest areas at approximately 150 m intervals.
- ii. The length of any single ramp segment of an accessible pathway is to be coordinated with its gradient so that for every vertical climb of 75 cm there is a level landing to give the user a brief respite. e.g.
 - » 1:12 (8%) slope requires a landing every 9 m,
 - » 1:16 (6%) slope requires a landing every 12 m.
 - » Long continuous 1:20 (5%) slopes with no landings, are not permitted.
- iii. Whenever the slope on an accessible path changes direction a level landing is necessary to maintain wheelchair control.

i. **Handrails**

- i. Pathways with slopes less than 1:20 do not require a handrail.
- ii. A slope up to 1:16 requires one handrail.
- iii. Slopes between 1:16 and 1:12 require 2 handrails.

- j. **Intersection Treatment** — Where a pedestrian path intersects with a road, the landing is to be marked with a tactile warning pad. A 600mm (24") long tactile warning surface shall be embedded into the entire width of a curb ramp or pedestrian crossing area. The tactile warning surface shall be comprised of vitrified polymer composite (VPC) tiles. Color: pearl white. Manufactured by Armor-Tile/Engineered Plastics. Phone (800) 682-2525.

- k. **Knowledge Walks** — All new projects flanking one of the Knowledge Walks identified on the [Map 3-7 Special Treatment Pedestrian Routes](#) will contribute



2.4.5.k Adjacent developments to contribute an interpretive display to Knowledge Walks.

a related interpretive display, planting, or art installation to animate and strengthen the theme of these walks. The routing of these walks may meander, and grow over time.

- i. **Arboretum Walk** — this route links the Botanical Gardens to the heart of campus, with other places of horticultural interest along its route, including remnants of the old campus arboretum. Over time, it is to be planted with interesting species and interpreted with signage about interesting plants along the route.
- ii. **Arts Walk** — this route celebrates the various arts and is located in the precinct of campus where fine and liberal arts faculties are concentrated. It is intended to showcase public art and provide venues for temporary art installations and outdoor performances, and to connect with performing and visual arts facilities on campus.
- iii. **Science Walk** — this route celebrates the science faculties. It builds on the underlying themes of Sustainability Street and links the Centre for Integrated Research and Sustainability, the Ocean Sciences and Earth Systems and Sciences Building, and the Beatty Biodiversity Building, each of which will have interpretive information integrated into their associated outdoor spaces.
- iv. **Athletes Walk** — the promenade through playfields and nearby athletic buildings is noted as an opportunity to celebrate athletic persons and achievements at UBC.

2.4.6 — Tree Protection Guidelines

- a. **Tree Retention** — Existing healthy trees over 10 cm caliper (diameter at breast height) on a project site shall be retained in any new proposal where possible, or conserved through relocation on campus.
- b. **Arborist Advice** — Detailed recommendations for retention and protection during construction must be obtained from a certified arborist, to the satisfaction of Campus and Community Planning.
- c. **Special Trees** — Every reasonable effort shall be made to protect the following special trees in particular:
 - » Oaks on Main Mall
 - » Cherries along Lower Mall, West Mall
 - » Elms along University Blvd between East Mall and Main Mall
 - » Elms along Agricultural road between East Mall and Main Mall
 - » Ponderosa Pine in front of the Ponderosa Buildings
 - » Newton Apple trees in roundabout in South Campus
 - » The Arbutus Tree to the west of the Landscape Architectural Annex
 - » First Class tree at the north end of Geography Building
 - » Giant Sequoia aligned with Rodney Graham artwork
 - » Class and commemorative trees (Locations of all new trees to be approved by Campus and Community Planning)
- d. **Fencing** — During construction, tree protection fencing is required around all trees identified for retention in the review process by Campus and Community Planning in order to protect their root zones and branches

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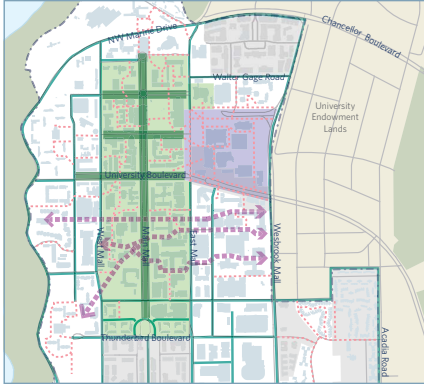
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Paving Plan **Map 3-10, Page 68**

from construction related damage. No vehicular access or material storage is permitted within the fence lines. Design standards for the fencing are as follows:

- i. **Configuration** — Tree protection fencing is to be installed at a radius around the subject tree equivalent to the greater of the following two options:
 - » the drip line of the tree canopy
 - » a radius equal to 1 m per 8 cm of trunk diameter measure at 300 mm for trees of less than 15 cm trunk diameter (for example, a tree with a 40 cm trunk diameter will require a 5 m radius of protection fence).
- ii. **Materials** — Tree protection shall be composed of wood post and frame fencing with snow fencing or mesh around it. Posts are to be driven into the ground to a depth of at least 600 mm at no more than 3 m on centre.
- iii. **Height** — Tree protection fencing is to be 1.8 m high.

2.5

SURFACE INFRASTRUCTURE

2.5.1 — Paving

Campus paving will serve as a strong unifying element in the campus landscape. It also improves legibility of the campus circulation hierarchy. The paving hierarchy respects the general organizational grid of campus corridors, but at a closer scale, it differentiates between the central pedestrian and cyclist friendly core (including its internal corridors and pathways), and the shared streets and vehicular streets beyond. The paving treatment cues pedestrians to recognize the safe pedestrian areas of campus.

All new building, public realm, and infrastructure projects must employ paving patterns and materials in their landscape plans, consistent with the paving treatment zones indicated on **Map 3-10 Paving Plan** and the associated treatment and materials summarized below:

- a. **Campus Core (Type 1)** — The campus core is a pedestrian (and cycle) only zone defined by the historic road framework of the campus. Main Mall, University Boulevard, Memorial Road, and Agricultural Road are its anchoring spines, and these routes are given the highest level paving treatment.

The Type 1 paving palette comprises:

- i. Sandblasted concrete pavers;
- ii. Sizes to be institutional in scale ranging from 8" x 16" to 24" x 16";
- iii. Paving units to be 100 mm thick;
- iv. Pattern of installation to be random suggesting the appearance of stone;
- v. Colour to include three tones of grey to achieve the appearance of stone. Secondary pathways that cut across these primary corridors are highlighted in a darker set of tones utilizing the same palette.



2.5.1.a Type 1: Campus Core paving.



2.5.1.b Type 2: Campus Core paving.



2.5.1.b Type 2: Campus Core paving.

- b. **Campus Core (Type 2)** — With the exception of instances of Campus Core (Type 1) paving and Pedestrian Pathways (Type 4) paving, all other paving in the campus core, whether pedestrian paths, shared lanes or perimeter sidewalks, is to be as follows:
- Natural grey concrete with light broom finish. Brush strokes to be perpendicular to primary direction of travel. Brush strokes to be consistent and parallel with joints and edges.
 - With tooled or saw cut joints forming rectangles approximately 450 mm x 900 mm or 600 mm x 1200 mm or 900 mm x 1800 mm with the narrow side aligned with the primary direction of travel. Broom away trowel lines or “window frames.” The finer grid of joints will help to distinguish this zone from areas outside of the campus core.
 - Banding or framing with unit pavers, charcoal coloured concrete or basalt stone, may be included to add interest and pedestrian scale to the paving surface, subject to the following criteria:
 - » unit pavers to be charcoal coloured Double Holland concrete pavers
 - » laid out to achieve a large scale institutional character
 - » large rectilinear patterns aligned with the campus grid
 - » minimum separation of 1800 mm between bands
- c. **University Boulevard Precinct (Type 3)** — As the social centre and main gateway to campus, paving in this area will be distinguished by a more vibrant and less formal unit paver treatment than that of the campus core spines, as follows:
- Type 3 paving along the south side University Boulevard will reflect rhythmic bands of varying widths of natural grey concrete unit pavers with periodic bands of 100 mm wide natural basalt stone pavers.
 - The specifications of the existing prototype pattern are to be followed throughout the University Boulevard precinct except for large paving expanses where the paving pattern may be substituted with a compatible but simplified pattern to reduce construction cost and to indicate a distinct or special place. All such deviations to the standard require the approval of and are at the discretion of Campus and Community Planning.
- d. **Pedestrian Paths (Type 4)** — All diagonal/informal pathways and all non-sidewalk pathways in the Forest Setting District shall be designed and constructed as follows:
- Material to be asphalt; Double Holland charcoal coloured unit pavers may be considered as a substitute material if they are used for the full length of the path.
 - Walkways are to follow the desire lines of people crossing the campus.
 - Minor pathways in forested areas may be surfaced in gravel when use is limited and where paved alternative routes are available for universal access.
- e. **Special Paving (Type 5)** — Local Commons, hub plazas, and other special places may have a special paving treatment, provided it is designed as follows:

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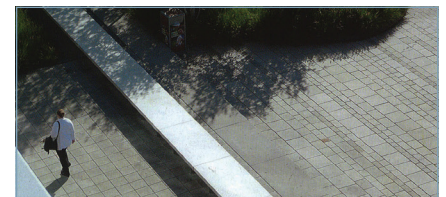
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2.5.1.c Type 3: University Boulevard precinct paving.



2.5.1.c Type 3: University Boulevard precinct paving.



2.5.1.d Type 4: Pedestrian Paths paving.



2.5.1.e Type 5: paving for local commons and special places.



2.5.1.f Type 6: Campus standard.



2.5.1.h Maintain major pathway paving across roads.



2.5.1.j If tooled joints are used the “frame” is to be broomed away.

- i. With an institutional scale characterized by a simple material palette and large rectilinear patterns aligned with the campus grid.
- ii. Special paving materials such as natural or fabricated stone, coloured concrete, concrete unit pavers, brick, and exposed aggregate may be considered as a means to highlight entrances and special places on a limited basis. In these cases, a natural integration or transition to the standard type of campus paving shall seamlessly integrate the presence of these materials.

There may be rare occasions when a special paving treatment is justified in places other than local commons. On Sustainability Street, for example, the meandering route and special values it is seeking to express warrant a unique paving design.

All paving designs and material palettes for Local Commons and other Special Places are to be resolved during concept design in discussion with Campus and Community Planning.

- f. **Campus Standard (Type 6)** — All perimeter sidewalks, shared lanes and major pedestrian paths outside the campus core and University Boulevard precinct are to be as follows:

- i. Natural grey concrete with light broom finish. Brush strokes to be perpendicular to primary direction of travel. Brush strokes to be consistent and parallel with joints and edges.
- ii. Tooled or saw-cut joints.
- iii. Joints to form 450 x 900 mm grid with wide dimension perpendicular to direction of travel. On sidewalks wider than 180 mm the grid size may be increased to double this size. At intersections, jointing to match width of sidewalks.
- iv. Broom away trowel lines or “window frames”.
- v. Unit pavers, charcoal coloured concrete or basalt stone may be used as a secondary material to add interest and pedestrian scale to large areas of paving.

- g. **Vehicular Roads** — All vehicular roads are to be paved with asphalt.

Other campus-wide paving guidelines include:

- h. **Intersection Treatment** — Pedestrian corridors and major pathways that intersect vehicular roads are to maintain their paving treatment and elevation level with the sidewalk as they traverse the road beds or service access and driveways, in order to convey pedestrian priority.
- i. **Transitions** — The transition from ‘campus paving’ to ‘project paving’ or ‘local commons paving’ shall be graceful.
- j. **Finish** — All cast-in-place concrete paving is to have a light broom finish. Paving joints shall be saw cut or tooled. In the case of tooled joints, the “frame” is to be broomed away.
- k. **Cross Slopes** — All new paving surfaces to provide a minimum cross slope of 0.5% and a maximum of 2%. The only exceptions are limited stretches of a maximum length of 2 m. (See gradient guidelines specific to pathways and ramps in [Section 2.4.5](#)).

- I. **Repairs** — Where paving is repaired, it must be done to match the material and pattern of existing paving. Where this is not possible or desirable, install standard paving for zone.

2.5.2 — Lighting

The university has increasingly become a place where people study, work, live, and need to circulate safely at all hours of the day and night. *The Campus Plan* contains an updated lighting strategy to improve lighting across campus consistent with contemporary university needs.

The lighting guidelines collectively work together to accentuate gateways, reinforce the hierarchy of all corridors and commons, accentuate special places, connect all residential areas safely to the campus core facilities, appropriately light all building entries and circulation, and accentuate the campus character, beauty and sense of place, all within the highest standards of sustainability.

The core lighting design guidelines applicable to all projects on campus are outlined below. Lighting designs for all projects are to be prepared by a registered professional lighting engineer. As part of the permit application, projects are to submit confirmation of how their project addresses these guidelines. Details on the principles, standards, and techniques underlying these guidelines are available in the *UBC Vancouver Campus Lighting Strategy*.

- a. **Fixture Design** — Where free-standing light pole fixtures are needed, they are to be selected from the fixture palette at the end of this section, as amended from time to time. Projects may also integrate lighting design into the architecture, landscape, and site furnishings.

The combined package of integrated and pole fixture lighting for each project is to be coordinated as a composition to achieve the illuminance, luminance, contrast, sustainability, and performance criteria standards listed below.

- b. **Illuminance** — The lux values and uniformity ratios for building entries, building edges, pathways, courtyards, and feature area subzones, are listed in [Table 1 Illuminance Hierarchy](#) (See [Maps](#) section). Project lighting engineers are to refer to the *Circulation Lighting Zones* [Map 3-11](#), *Node Lighting Zones* [Map 3-12](#), and the *Building Exterior Lighting Zones* [Map 3-13](#) respectively, to determine the combination of colour-coded lighting categories applicable to their site.

Sample Case Study Plans are also provided in the *UBC Lighting Strategy Report*, to illustrate examples of how the different categories and related lux levels can work together on a single site.

- c. **Luminance Contrast Ratio** — Lighting Design for each project is to respect the targeted luminance contrast ratio between the site and the surrounding area 15 m beyond, as specified in *Table 2*, below.



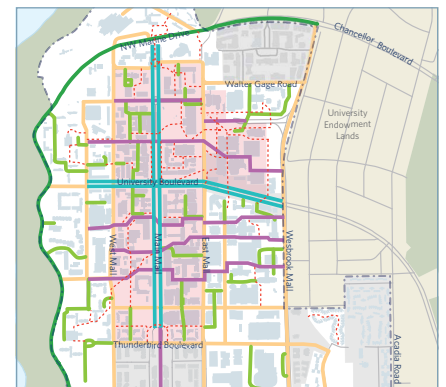
2.5.2 Lighting to perform a number of objectives including providing beauty and a sense of place.



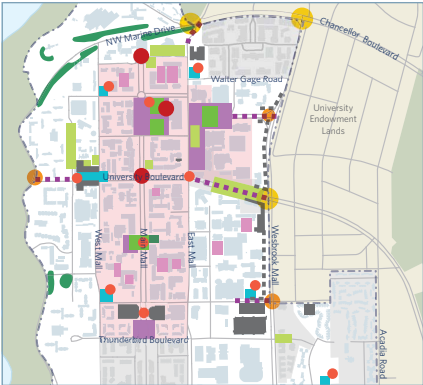
2.5.2.a Example of well-integrated lighting design at Beaty Biodiversity Building.



2.5.2.b Lux values and uniformity ratios vary by space type and their relative hierarchy classification.



Circulation Lighting Zones [Map 3-11, Page 69](#)



Node Lighting Zones [Map 3-12, Page 70](#)



2.5.2.e Feature nodes to exhibit special lighting treatment, such as colour.



2.5.2.e Special lighting treatment will be introduced at key nodes to enrich the campus landscape.



2.5.2.h.i Free standing light fixture for roads and corridors (New Westminster Globe).

TABLE 2
LUMINANCE CONTRAST RATIO

LUMINANCE HIERARCHY (for luminous façades, led graphic displays and luminous signage)	LUMINANCE CONTRAST RATIO (considering all other lighting design criteria are consistent)
Prominent	20 – 30:1
Legible	10 – 19.9:1
Active ambient	5 – 9.9:1
Low-level ambient	1 – 4.9:1

- d. **Sustainability** — Lighting is to follow sustainable best practices by using lighting solutions that limit night pollution, limit the disposal of harmful waste, integrate ease of maintenance, durability and reliability, and that anticipate and can respond to future technology improvements where possible. All new pole mounted lights over 15 feet height will be ‘Full cut-off’ to limit any sky illumination.

The lighting system will minimize lighting impacts of: light trespass, light pollution, and glare consistent with standards.
- e. **Special Lighting Nodes and Icons** — Special lighting feature nodes will be introduced over time where shown on [Map 3-12](#), and lit to standards listed in [Table 1 Illuminance Hierarchy](#) (see [Maps](#) section). These include a range of strong iconic feature opportunities at Flagpole Plaza, the clock tower, and the future Main Mall and University Boulevard intersection, to smaller scale artworks and icons to enrich the campus landscape. More detail will be provided in the *UBC Vancouver Campus Public Realm Plan*.
- f. **Specialty Corridors** — A special unifying feature is to be developed as part of the future lighting design down Main Mall to visibly link North Campus and South Campus.
- g. **Ceremonial Route Circuitry** — Over time, the electrical circuitry for all lights on Main Mall and University Boulevard shall be disengaged from neighbouring buildings, and linked into one self-contained light management system, to enable programmable distinctive lighting treatment for the campus core district and connector into South Campus.
- h. **Freestanding Light Fixture Palette** — Free-standing light pole fixtures within any project boundaries are to be selected from the fixture palette below, as amended from time to time:

i. Roads

Street light fixtures along roads are to be the New Westminster Globe Series subject to specifications below, and are to be modified to meet LEED dark-sky standards and the luminaire optical performance criteria as outlined in guideline [2.5.2.j](#) including:

- » the use of an internal cap for dark sky compliance, and;
- » a new refractor for improved optical design.

New Westminster Globe Series**Roadway Light Standard****Luminaire—NW 201 20" Globe New Westminster Series**

Source: 90 watts LED Light Engine

Colour Temp: LED Lamps 4000 Kelvin

Optical System: LE3 Type 3 Distribution

Globe Finish: PCC Polycarbonate Pond Finish

Bottle Neck Pole: 8 inch lower section, 4 inch pole shaft

Pole Height: 15 ft

Bolt Circle: 12 ½" with ¾" anchor bolts

Complete Part Number: NW201-90W49LED4K-LE3-120-SM8N-15ft-UBC Grey

Supplier: Metrolume Lighting System Inc.

Phone: 604-626-4711

www.metrolume.ca/index.html**Pedestrian Light Standard (Sidewalk beside roads)****Luminaire—NWS 16" New Westminster Series**

Source: 65 watt LED Light Engine

Colour Temp: LED Lamps 4000° Kelvin

Optical System: LE2 Type 2 distribution

Globe Finish: PCC Polycarbonate Pond Finish

Bottle Neck Pole: 6 inch lower section, 4 inch pole shaft

Pole Height: 12 ft

Bolt Circle: 10 ½" with ¾" anchor bolts Complete Part Number:

NWS-65W49LED4K-LE2-120-SM6N-12ft-UBC Grey

Supplier: Metrolume Lighting System Inc.

Phone: 604-626-4711

www.metrolume.ca/index.html**ii. Pedestrian Areas**» **Retrofitted New Westminster Luminaire**

The upgraded New Westminster globe luminaire will be used only in cases of repair or replacement to pre-existing globe light installations in the pedestrian zone on campus.

» **Saturn 2 Cutoff by Se'lux**

The Saturn 2 Cut-off luminaire by Se'lux is the standard light pole fixture to be used wherever new lights are required in the pedestrian zone, that are not replacement or repair of existing light series.

» **Pole type S35; Base Type: S35**

All free standing light fixtures on campus, regardless of type are to be painted: RAL 7043 gray or equivalent.

» **Standard Catalogue Illuminated Bollard**

Use of light bollards is strongly discouraged and will only be permitted with prior approval from Campus and Community Planning. When permitted the following catalogue specification is to be used:

Manufacturer: Rebelle Architectural Lighting

Model: Sentry 2868 Series

Material: Steel tube housing

Luminaire: Metal halide, 100 watt, ED-17 medium lamp

Cat. No. 2868-100H

Mounting: On concrete base only

Preset anchor bolts or Hilti-type quick set bolts

Finish: UBC Grey (General Paints #GP 422-7 or

International Standard #RAL 7043)

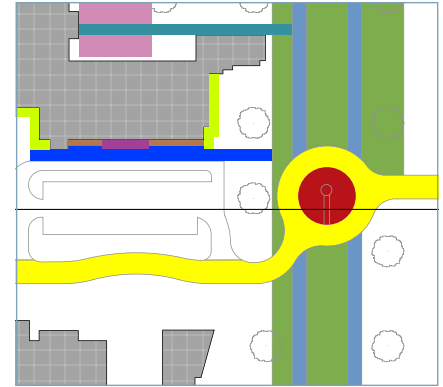
Height: 42"

Diameter: 8"

Suppliers that can provide models consistent with this specification include:

Inter-Lite Sales

Phone: 604-942-2232

www.inter-lite.com

Circulation Lighting Zones Map 3-13, Page 71



2.5.2.h.ii Standard freestanding light fixture for pedestrian areas—Selux Saturn 2 Cutoff.



2.5.2.h.ii Standard illuminated bollard.

- iii. **Ceremonial Routes—Free Standing Light Fixture Specifications**
A custom lighting overview design and fixture specifications are to be undertaken for University Boulevard and Main Mall ceremonial routes.
- i. **Life Cycle Cost** — Additions to the light fixture palette may be considered by Campus and Community Planning over time, and will be evaluated for the life cycle cost including initial product and installation costs, lamp and ballast replacement cycle and cost, repair and replacements of fixture components, energy use, cost, and urban design considerations.
- j. **Performance Criteria** — All new freestanding pole lights introduced on campus are to meet the following minimum performance criteria.

PERFORMANCE CRITERIA	MINIMUM STANDARD
Lighting System Efficiency	75% efficiency or higher
Lamp Efficacy	60 lumens per watt or higher
Lamp Life	Rated average 14,000 hours minimum; 20,000 hours preferred.
Colour Temperature	White lamps 3000K – 4200 K, for white light
Lamp Colour Rendering Index	80 or higher
Durability	System and components to meet national and electric codes, IP 65 waterproof, rated for outdoor use, and higher thermal dissipation properties
Ease of Maintenance	Samples to be submitted to Campus + Community Planning for confirmation of lamp access
Luminaire Optical Design	<p>To incorporate optical shielding to limit view to direct lamp images, outdoor luminaire optical design shall meet the luminaire classification system (LCS) of three composite (BUG) ratings of Backlight, Uplight, and Glare (<10% to front light very high (FVH), <10% to backlight very high (BVH), and 0% uplight high (UH).</p> <p>All new pole mounted lights over 15 feet height are to meet LEED cut-off standards of the LZ3 lighting Zone to address dark sky light pollution concerns.</p>

- k. **Signs** — Back lit signage is not permitted on campus. Lit signage is permitted in select circumstances where public cultural destinations have night time programming and way-finding needs. Lighting proposals for these signs must address the lighting intensity guidelines, and the sign guidelines in [Section 2.6.6](#).

2.5.3 — Loading Bays, Service Facilities

- a. **Shared Loading** — Only one shared loading bay facility (may contain more than one bay) and service access shall serve all tenants in each hub or

building. The location and scale of the service facility is to be designed at the precinct planning stage.

- b. **Service Access** — Access routes to service and loading areas are to respect the pedestrian zones.
- c. **Main Mall Service Address** — The building addresses on Main Mall for service access shall be located at the rear or sides of Main Mall buildings to discourage the use of Main Mall by service and delivery vehicles.
- d. **Interface with Commons** — Service lanes are to be designed to support the commons when not in service use.

2.5.4 — Vehicular Parking

- a. **No Surface Parking** — No faculty, staff, visitor or public surface parking (except handicap parking) is to be provided in association with new institutional projects. Parking needs are intended to be met in the ring of parkades on campus or, in unique cases, underground parking. (See Map 2-5 in Part 2 of *The Campus Plan*).

The façade of any new parkade or future laminations in front of existing parkades along primary or secondary corridors shall provide visual interest and facilities that contribute to the streetscape.

- b. **Universal Access** — New buildings are to provide accessible parking spaces to BC Building Code standards either on-site or within 100 m of the building.
- c. **Pedestrian Access into Parkades** — Parkades will be designed with multiple pedestrian entrances, and elevator access to all floors.
- d. **Lighting** — Parkades will be safely lit from dusk until dawn.
- e. **Drop-off Entry Locations** — New projects will be designed to accommodate dignified, convenient, and proximate access from campus shuttle drop-off locations, also respecting the pedestrian zone.

2.5.5 — Bicycle Parking

All new buildings, expansions, or significant renovations are to provide on-site bicycle parking spaces in accordance with the following guidelines.

- a. **Storage Type** — Two types of bicycle parking facilities are to be provided for each project.
 - i. **Long Term** — Parking in institutional, office and commercial space is intended for use by building inhabitants. In housing areas, long term parking is intended to serve residents of the building and may consist of attended facilities, bike racks in an enclosed and lockable room, indoor or outdoor bicycle lockers, or restricted-access parking facilities. Design of Long-Term parking shall give consideration to access with a bicycle (i.e. minimal grade changes, barriers to entry; doors, stairs, etc), security considerations and the use of bicycle racks that will minimize space requirements. For example, by incorporating two-tiered parking or vertical storage solutions.

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2.5.5 Provide bicycle rack with rain protection.

- ii. **Short Term** — Parking is intended to serve staff, faculty, students and visitors to the campus. Short-Term bicycle parking serves the needs of people travelling on campus as well as those who not have or do not desire access to Long-Term facilities. Short-Term parking will consist of bicycle racks, as specified in [Section 2.6.3](#) — surface mounted on concrete, with natural surveillance in an accessible and visible outdoor location, protected from weather, (min. 25% under cover), within close proximity of the building entrance.
- b. **Capacity** — Each building is to provide sufficient Long Term and Short Term bicycle parking capacity to address the ratios provided for each land-use.

Mixed-use areas such as hubs or facilities such as the Student Union Building shall determine the cumulative requirements based on the proportion of uses within the project.

- i. **Student Housing** — Including all forms of non-family student residential housing: dormitories, single and shared rooms, apartments, townhouses and shared fraternity dwellings.
 - » Long-term: Covered storage facilities required for 25% or more of building residents.
 - » Short-term: 0.25 spaces per bed.
 - ii. **Institutional** — Including, academic and research space, libraries, sporting and recreational centres, hub community facilities, day-cares, auditoriums and arenas:
 - » Long-term: 0.4–0.8 spaces per 100 m² of gross floor area.
 - » Short-term: 4 spaces per 100 m² of gross floor area.
 - iii. **Office** — Including any UBC or third party campus building accommodating faculty, research professional, or administrative offices:
 - » Long-term: 0.4–0.8 spaces per 100 m² of gross floor area.
 - » Short-term: 0.6 spaces per 10 students on a maximum attendance period.
 - iv. **Commercial** — Including, retail stores, personal service shops, restaurants, and specialty food services.
 - » Long-term: 1 space per 750 m² of gross floor area.
 - » Short-term: 1 spaces per 750 m² of gross floor area, but in no case less than 4 bicycle parking spaces per establishment.
 - v. **Faculty/Staff and Student Family Residential** — Including town housing, stacked town housing, apartment housing and other multi-unit housing:
 - » Long-term: 0.75–1.5 spaces per dwelling unit, depending on context.
 - » Short-term: 0.2 spaces per dwelling unit.
- c. **Perpendicular Bicycle Rack Dimensions**
- i. Inverted U racks mounted on concrete in a row shall be placed on a minimum of 600 mm centers and a maximum of 762 mm centers. This allows enough room for two bicycles to be secured to each rack.
 - ii. Parking stand area depth shall be a minimum of 2.0 m.

d. Bicycle Parking Lot Widths

- i. A bicycle parking lot is an area where more than one rack is installed and aisles separate the racks. The aisle is measured from tip to tip of bike tires parked at the racks. The minimum width of aisles is 1830 mm.
- ii. The minimum distance from a wall to either side of a bicycle racks is 610 mm.

e. Exterior Rack Locations

- i. Bicycle racks will be surface mounted on a concrete pad, at a convenient, weather protected, well-lit location that can be easily accessed by visitors, and seen by occupants of the building. Mounting hardware shall be made as flush as possible with the base of the rack and shall include a security bolt to prevent the rack from being removed without specialized tools. At the discretion of Transportation Planning, bicycle rack installation may be embedded into concrete, rather than surface mounted.
- ii. Placement of racks must not interfere with emergency access routes, pedestrian routes, fire connection points or hydrants and must allow for barrier-free access to the building.
- iii. 25% of all short-term bicycle racks will be under cover.

f. Bicycle Rack Specification — Exterior bicycle rack design specification and supplier information is provided in [Section 2.6.3](#).

g. Mounting Surface — All racks will be mounted on a concrete surface.

h. Electrical Outlets — All long-term bicycle parking facilities with capacity for 30 bicycles or more (excluding bicycle lockers) shall provide dedicated electrical outlets appropriate for charging electric assist bicycles at 5% of the Long-Term requirements, with a minimum of at least one electrical outlet.

i. Locker Dimensions — All lockers included as part of end-of-trip facilities must be full length.

2.5.6 — End-of-Trip Facilities

- a. **End-of-Trip Facilities** — The number and type of end-of-trip facilities required for each gender in new developments is outlined in the table below, and is dependent upon the number of Long-Term bike parking spaces required for the project. End-of-Trip facilities are not intended to serve residents of Housing Areas, and shall be calculated based on the Long-Term bike parking requirements for Institutional, Office and Commercial uses only.
- b. **Locker Dimensions** — All lockers included as part of End-of-Trip Facilities will have ventilated doors, include clothing hooks inside the locker and have minimum dimensions of 12" l x 12" w x 36" h. When located in an open air facility lockers will be made from plastic to avoid corrosion. Lockers may be stacked 2 high.
- c. **Design Features** — Ventilation, passive airflow and sources of heat shall all be considered when designing End-of-Trip Facilities. Opportunities to

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2.6.1.a Integrate standard site furnishings into the designs to create an institutional character.



2.6.1.b.i Locate furnishings to not interfere with pedestrian flows, entries and sightlines.



2.6.2.c Moveable tables are encouraged where food services provide oversight to an open space.



2.6.2.e Some weather protected seating is required.

utilize waste heat, radiant floor heating or exhaust air to dry apparel shall be considered. Hooks, towel racks and other places to dry apparel shall be provided in high quantity to accommodate winter cycling conditions. A bench for changing shall be provided.

MINIMUM NUMBER FOR EACH GENDER

REQUIRED # OF CLASS 1 BICYCLE PARKING SPACES	WATER CLOSETS	WASH BASINS	SHOWERS	LOCKERS*
0-3	0	0	0	
4-29	1	1	1	
30-64	2	1	2	
65-94	3	2	3	
95-129	4	2	4	
130-159	5	3	5	
160-194	6	3	6	
Over 194	6 + 1 for each additional 30 bicycle parking spaces	3 + 1 for each additional 30 bicycle parking spaces	6 + 1 for each additional 30 bicycle parking spaces	Lockers must be provided equal to 50% of the parking capacity

2.6 SITE FURNISHINGS

Site furnishings and design standards are derived from a common design language, material palette, and family of components in order to help create campus cohesion, and the desired institutional character. Other suppliers than those listed may be used as long as the furnishing standards are respected.

2.6.1 — General

- a. **Standardized Furnishings Design** — Exterior furnishing elements are to be designed or purchased consistent with standards specified under the respective furnishing subsections 2.6.1 through 2.6.10.
- b. **Furnishing Location**
 - i. Placements of site furnishings are to be designed to minimize interference with pedestrian flow, entries, and sightlines.
 - ii. Avoid the creation of sitting areas near or adjacent to noisy mechanical equipment.
 - iii. Seating shall be clustered more intensively along active movement routes and generally oriented to permit views of the people moving by.
- c. **Flag Poles** — Miscellaneous elements such as flag poles are to be considered on a case by case basis with the goal of campus cohesiveness.
- d. **Mounting** — All site furnishings are to be mounted on secure permanent concrete surface.

- e. **Newspaper Boxes** — Newspaper or other media boxes will only be permitted in locations approved by Campus and Community Planning.

2.6.2 — Seating and Tables

LOCATION AND GROUPINGS

- a. **Ample Seating/Tables** — All new projects are to provide ample surfaces and elements appropriate for use as outside seating, tables, eating and work areas within their commons or outdoor gathering space.

Where a food service provides overlook on an open space, outdoor moveable chairs and tables are strongly encouraged.
- b. **Electrical Requirements** — An appropriate number of power outlets are to be provided at permanent seating installations and at tables to ensure users to utilize electronic devices.
- c. **Variety** — A variety of permanent seating, learning and orientation opportunities are to be created for individuals, couples, and small groups.
- d. **Location** — Seating is to be concentrated in hospitable micro-climates and south-facing orientation, and to take advantage of fair weather days during the fall, winter, and spring period.
- e. **Sheltered** — Some seating is to be provided near building entries and under weather protective elements for use in poor weather.
- f. **Seating**
 - i. **Standard Bench Design** — All seating and benches are encouraged to be built-in-place as landscape elements as follows:
 - Minimum Length of 1.8 m (6') long
 - Material Size: 1 x 3's on edge
 - Material: Resysta
 - Colour: FVG-C14 Siam sealed with Resysta 2k sealer
 - Spacing between slats: 30 mm
 - Spacers: At spaces sufficient to avoid warping
 - Seating surfaces may be mounted on a clear coated concrete base or cantilevered off a vertical surface
 - Fastening and anti-skate hardware: Galvanized or stainless steel
 - Design subject to approval by Campus and Community Planning
 - ii. **Standard Catalogue Bench** — Where built-in-place benches are not appropriate, the following catalogue bench is to be used:
 - Landscape Forms Model: Neoliviano bench with back and arms
 - Length: 175 m (69")
 - Height: 79 cm (31")
 - Depth: 68 cm (27")
 - Frame: Cast aluminum
 - Back and seat: Jarrah wood
 - Mounting: Surface
 - Frame Finish: Polyester powder coat finish baked at high temperature sufficient to produce a mar-resistant finish
 - Frame Colour: UBC grey (GP 3979A or RAL 7043)

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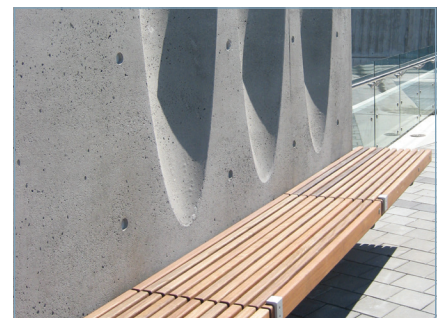
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2.6.2.f.i Standard bench specification: concrete base (top), cantilevered (middle), and with back rest (bottom).



2.6.2.f.ii Standard catalogue bench (Francis Andrew Model—Centennial Series).



2.6.2.g.i Standard built-in-place table.



2.6.2.g.ii Standard catalogue table (to be modified in length or installed in pairs).

Wood species: The specified timber shall be Forest Stewardship Council (FSC) Canada Certified, dimensionally stable, fungus resistant and of hardness equivalent to Ipe

Dimensions: 1.8 m (6') length

Suppliers identified to date that may provide models consistent with this specification include:

Landscape Forms

Phone: (800) 521-2546

www.landscapeforms.com

g. Tables

i. Standard Table Design — All tables are encouraged to be built-in-place landscape elements as follows:

Minimum length of 1.8 m (6') long

Table surfaces to be 1 x 3's on edge

Material: Resysta

Colour: FVG – C14 Siam sealed with Resysta 2k sealer

Spacers: At spaces sufficient to avoid warping

Fastening Hardware: Galvanized or stainless steel

Wood species: The specified timber shall be Forest Stewardship Council (FSC) Canada Certified including chain-of-custody certificate number, dimensionally stable, fungus resistant and of hardness equivalent to Ipe

Have 30 mm spacing between slats

Design subject to approval by Campus and Community Planning

ii. Standard Catalogue Table and Bench — Where built- in-place tables are not appropriate, the following catalogue table and bench are to be used:

Table Specifications:

Equiparc Model: EP2990-IPE

Length: 180 cm (71")

Height: 76 cm (30")

Depth: 218 cm (86")

Frame: Steel

Finish: Hot dipped galvanized and polyester powder-coated

Slats: 2 x 3 and 2 x 6

Material: Ipe wood

Mounting: Surface

Suppliers identified to date that may provide models consistent with this specification include:

Equiparc

Phone (800) 363-9264

www.equiparc.com

Bench Specifications:

Equiparc Model: EP1991-IPE

Length: 150 cm (59")

Height: 45 cm (17-3/4")

Depth: 56 cm (22")

Frame: Steel

Finish: Hot dipped galvanized and polyester powder-coated

Slats: 2 x 3

Material: Ipe wood

Mounting: Surface

Suppliers identified to date that may provide models consistent with this specification include:

Equiparc

Phone (800) 363-9264

www.equiparc.com

2.6.3 — Bicycle Racks

- a. **Exterior Bicycle Rack Design** — Exterior bicycle racks are to meet the specifications below.

Model: SU20-E-G(or SS)-CB

Material: 2" Schedule 40 Steel Pipe with flat horizontal cross bar

Height: 36 inches overall

Width: 24"

Mounting: Surface mount on concrete using " x 5" anchors with security bolt. Optional mounting at discretion of Campus + Community Planning: embedded into concrete with 10 inches below grade and 36 inches above.

Finish: Hot-Dipped Galvanized or Stainless Steel
Suppliers identified to date that may provide models consistent with this specification include:

Urban Racks

Phone: 1-888-717-8881

www.urbanracks.com

2.6.4 — Recycling and Waste Receptacles

- a. **Locations** — At the design concept stage, prior to permit approval, appropriate location of all recycling and waste receptacle and bin storage areas will be confirmed at the rear of buildings.
- i. Location of all recycling and large trash bin storage areas will be shared with neighbouring developments wherever possible.
 - ii. Smaller recycling receptacles are to be stored inside buildings, not outside.
- b. **Scale and Layout** — Scale and layout of all recycling and trash receptacle storage areas will be compact and functional, and will limit the movement of containers and bins across important pedestrian movement routes. The following will be taken into consideration:
- i. The scale and schedule of pick-up vehicles and their operational needs,
 - ii. Pedestrian circulation patterns,
 - iii. Neighbouring building entry locations.
- c. **Screening** — All building trash storage areas and bins must be screened and enclosed. See design specifications in [Section 2.6.5](#).
- d. **Waste Receptacle design specifications Type 1** — The specification for small public realm waste receptacles (site furnishings) is as follows:

Francis Andrew Model: Carriage Lane Series 31-1M5 with removable lid

Frame Finish: Undercoat with zinc-rich primer. Polyester powder coat finish baked at high temperature sufficient to produce a mar-resistant finish

Frame Colour: UBC grey (GP 3979A or RAL 7043)

Dimensions: 1.3 m (40 ½") height including lid

Suppliers identified to date that may provide models consistent with this specification include:

Francis Andrew Site Furnishings Ltd.

Phone: 1-800-565-6579

www.francesandrew.com/index.html

The specification for large trash storage bins for pick-up areas behind buildings is consistent with that specified in the *UBC Technical Guidelines*.

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2.6.3 Standard exterior bicycle rack.



2.6.4.d Type 1: Standard freestanding recycling and waste receptacles.



2.6.4.e Type 2: Standard integrated recycling and waste receptacles.

- e. **Recycling Receptacle design specifications Type 2** — As an alternative to the Type 1 waste and recycling receptacles, the following type is encouraged subject to final clearance by Campus and Community Planning and Building Operations for reasons of operational testing and compatibility:

NI Products: Cité 3-stream Outdoor Recycling Centre

Frame Finish: 16 gauge galvanized steel receptacles enclosed with 16 gauge stainless steel. Lids are galvanized steel sheeting powder painted dependant on the material to recover

Frame material: stainless steel

Dimensions: 183 x 36 x 107 cm high (72" x 14" x 42" high)

Suppliers that may provide models consistent with this specification include:

NI Products

Phone: 1-800-694-1216

www.ni-corporation.com

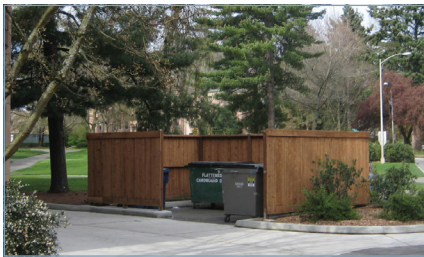
Custom design recycling receptacles may be considered by Campus and Community Planning with comparable performance specifications for a specific major project.

2.6.5 — Screening and Fencing

Standardized screening for secure bicycle parking facilities and concealing unsightly clutter associated with garbage and recycling bins will contribute to visual cohesion on campus.



2.6.5.a All waste and recycling enclosures to have a door or gate.



2.6.5.a.ii Screening Type 1: for Forest Edge District (top), and Screening Type 2 (bottom) for other districts.

- a. **Screened Enclosures to Mask Clutter** — All mechanical equipment, material storage, waste and recycling facilities visible from service lanes and the public realm are to be screened with enclosures:

- That include a roof and a door or gate for moving bins in and out.
- New Project Screen Design** — For new buildings and major renew projects, the enclosure is to be custom-designed and integrated into the building architecture.
- Retrofit Screen Design** — Where the enclosure cannot be integrated with the architecture of an existing building, the following screening will be used:

Screening Type 1 (Forest Edge District)

Wood board on post and beam frame.

Screening Type 2 (Campus Core, Contemporary and Athletic Districts)

Unfinished galvanized steel or carbon steel where primed and painted with 40% opening consisting of ¼" diameter opening and with " on centre spacing, thickness 16 gage.

Suppliers that can provide fencing consistent with this specification include:

Western Canadian Screen Ltd.

Phone: 604-520-3073

Fax: 604-522-5949

- b. **Screened Enclosures for Secure Bicycle Parking** — Campus and Community Planning may approve open screening from the following two types for enclosures where a security barrier and visibility are required (e.g. secure bike parking):

Screening Type 3

Rectangular metal bar grate ½" x 6" or perforated carbon steel screen

Screening Type 4

Opening size 1½" x 8" high

Double horizontal ¼" bars

Single vertical ¼" bars

Colour: dipped galvanized

Suppliers that can provide fencing consistent with this specification include:

Accurate Screen Ltd.

Phone: 604-888-6006 or 1-877-687-3488

Fax: 604-888-6012

www accuratescreen.ca

b. Fencing Location — Fencing is discouraged except where required:

- i. In the Athletics District to contain stray balls
- ii. Around storage or mechanical areas for security

c. Fencing in the Athletics District is to be 1" diamond-pattern chain link with all parts and supports vinyl-coated black. Height not to exceed what is required for the intended sport.

Suppliers that can provide fencing consistent with this specification include:

Progressive Fence

Phone: 604-530-8255

d. Custom Fencing — Where fencing is demonstrated as necessary, custom fencing may be considered by Campus and Community Planning subject to compatibility with surrounding architecture and landscape.

2.6.6 — Signs

a. UBC Sign Standards & Guidelines — All signage on campus must be consistent with the requirements of the *UBC Sign Standards & Guidelines* policy as amended from time to time.

b. Commercial Signage — In addition to the above, the following commercial signage regulations will apply:

- i. The location, scale, design, and content of any commercial signage on institutional lands on campus are to address these guidelines.
- ii. All commercial signs are to be located at the ground storey level.
- iii. Commercial signs are to be pedestrian-scaled.
- iv. Fascia sign designs are to be compatible with building materials for the applicable character district.
- v. Commercial signs applied to windows are permitted (excluding 3rd party commercial message content), but no internal neon, flashing or moving copy attached to windows.

2.6.7 — Tree Grates

a. Standard Root Protection Treatment — Where protection is required over tree root zones i.e. sidewalks or paved areas paving over tree pits will be used, comprised of 100 x 200 mm basalt cobbles with rough split surface.

b. Custom Tree Grates — Custom tree grates may also be considered as a form of art in the landscape. Designs will be subject to Campus and Community Planning approval.



2.6.5.a.iii Screening Type 3 (top), and Screening Type 4 (bottom).



2.6.5.a.iv Open screening permitted where visibility is required.



2.6.5.c Black chain link fencing (Athletics District only).



2.6.6 New projects to furnish standard UBC sign.



2.6.7.a Standard tree grate.



2.6.8.a Standard drinking fountain.



2.6.9 Standard stationary bollard.

2.6.8 — Drinking Fountains

- a. **Standard Drinking Fountain** — Projects will use the standard UBC drinking fountain which is low maintenance, designed for wheelchair accessibility and tolerance of heavy use:

Manufacturer: Haws

Model: Model 3380G (galvanized) or 3380 (powdercoat)

Material: Heavy-duty 11 gauge fabricated galvanized steel

Finish: Galvanized

Colour: Natural (galvanized) or UBC grey (General Paints #GP 422-7 or International Standard #RAL 7043)

Suppliers that can provide models consistent with this specification include:

R.G. Dobbin Sales Ltd.

Phone: 1-905-264-5465

www.dobbinsales.com

- b. **Custom Drinking Fountains** — Campus and Community Planning may consider a custom design with comparable performance criteria for a specific major project, where it is integrated with the architecture or a form of art.

2.6.9 — Bollards

- a. **Stationary Catalogue Non-illuminated Stationary Bollard** — The following specification is to be used where free-standing bollards are required. (See the Lighting section [2.5.2.h.ii](#) for Illuminated Bollard Standard.)

Manufacturer: Frances Andrew Site Furnishings Ltd.

Model: Series 32 SB32-P1-UBC Small Radius

Material: Steel tube housing

Mounting: 6" schedule 40 steel pipe, in-ground 24" deep on concrete base only

Finish: UBC Grey (General Paints #GP 422-7 or International Standard #RAL 7043)

Height: 36"

Diameter: 6"

Suppliers identified to date that may provide models consistent with this specification include:

Frances Andrew Site Furnishings Ltd.

Phone: (800) 565-6579

www.francesandrew.com

- b. **Standard Catalogue Collapsible Bollard** — The following specification is to be used where freestanding removable bollards are required.

Manufacturer: MaxiForce

Model: MaxiForce Collapsible Bollard with wrench operated hinge

Material: Steel tube housing

Mounting: Complete with 8" deep footing

Finish: Power coated UBC Grey (General Paints #GP 422-7 or International Standard #RAL 7043)

Height: 81 cm (32")

Width: 150 cm x 75 cm (6" x 3")

Suppliers identified to date that may provide models consistent with this specification include:

MaxiForce Traffic Control Bollards

Phone: (410) 552-9888

www.maxiforcebollards.com

2.6.10 — Banners

Banners are a celebratory and ceremonial accessory used on campus along ceremonial routes and for special events. Permitted banner types and installation standards are itemized below.

- a. **Banner Types** — Three types of banners permitted on campus are: events and or convention banners, seasonal banners, and permanent university signature banners.

b. **Banner Fabrication Standards:**

Material: Blockout mesh

Dimensions: Field verify

Finishing: 4" sleeves top and bottom, grommets top and bottom inside edge, sides cut to size

Suppliers identified to date that may provide models consistent with this specification include:

International Flag & Banner/The Flag Shop

Phone: 604-736-8161

www.flagshop.com

- c. **Standard Banner Areas** — Light poles along Main Mall and University Boulevard are to have banner arms consistent with the following specifications:

Lumec Banner Arms BAS/BAD designed to fit a round pole, using central tubing inserted through two opposite 35 mm (1 1/8") holes

The aluminum banner arm 27 mm (1 1/8") with two end of arm decorative casting

Banner width to be verified in field

The lowest Banner arms, or the lowest point of the hanging banner, must be at least 2.44 m (8 feet) from the ground

Suppliers identified to date for banner arms consistent with this specification include:

Metrolume Lighting

Phone: 604-626-4711

2.6.11 — Transit Shuttle Shelters and Information Kiosks

A standard shelter will be designed for the UBC campus if there is a need to provide weather protection over waiting areas at future transit shuttle stops or information displays.

2.6.12 — Landscape Edging

Conditions where there is a transition between aggregate, and lawn or planting areas, shall be separated by landscape edging fabricated from heavy-duty commercial grade aluminum. Minimum 3/8" thick. Semi-rigid, L-shaped aluminum maintenance strips specifically designed to make straight runs and gentle curves bordering buildings, fences, and maintenance areas. Other models will be considered as necessary to the specific context. Landscape edging exceeding the functionality, durability and aesthetic quality of this material will be considered by Campus and Community Planning as requested.

Suppliers identified to date that may provide models consistent with this specification include:

Permaloc Sustainable Edging Solutions

Phone: (800) 356-9660

www.permaloc.com

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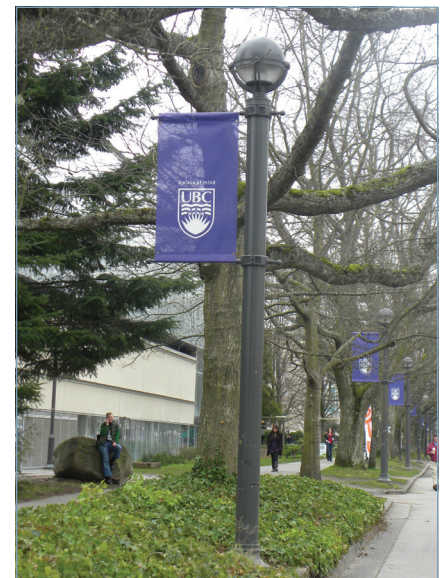
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2.6.10 Standard banner.



Character Districts [Map 3-1, Page 59](#)



3.1.1.a Adaptive reuse of a heritage resource.



3.1.1.b Buchanan Complex is an example of UBC's International Style tradition.

2.6.13 — Window Security

Where there is concern of intrusion into a facility through ground level windows, tempered or laminated glass is the preferred security measure. As a last resort, security bars design to blend into the background may be used provided they are consistent with this specifications.

- Where windows are visible from the public pathways, bars shall be installed horizontally and on the inside to avoid inside users feeling they are behind prison bars.
- Bars to be round in section and minimum dimension necessary to span the opening and resist bending.
- Colour of bars to match a dull colour of the immediate surrounding such as the window casing or window surround.

3 SUPPLEMENTARY GUIDELINES FOR CHARACTER DISTRICTS AND HUBS

Project designers must refer to [Map 3-1 Character Districts](#) to locate the relevant character district or hub in which their project falls, then refer to the applicable sub sections below for supplementary guidelines specific to that area.

3.1 CAMPUS CORE DISTRICT

The campus core as outlined on [Map 3-1 Character Districts](#) is characterized by a mix of Collegiate Gothic academic buildings in stone (granite), stucco, and concrete interspersed among Arts and Crafts and West Coast Regional style architecture. The district retains remnants of the strong and clear structure established in the original 1914 master plan with its Beaux-Arts inspired symmetry and formality. These elements provide a legible hierarchy of corridors, open spaces, and originating buildings that are fundamental to the district's traditional academic character.

The following supplementary guidelines apply to the campus core in addition to the campus-wide architectural guidelines in [Section 2](#).

3.1.1 — Campus Core Architecture

- Retain and Repair Buildings with Heritage Value** — Buildings identified in *The Campus Plan Part 2* as having cultural value shall be retained, repaired, and rehabilitated where practical.
 - Renovations and additions shall be respectful of original materials, colour palettes, and heritage standards.

- ii. New additions shall be compatible in character, but readily recognized as contemporary architectural interventions.
- b. **Style Precedents** — Future development shall take its inspiration from several International style modernist buildings on campus and their key design characteristic and tenets, such as:
 - i. Light coloured and plain cladding,
 - ii. Highly penetrable ground planes, sculptural expression within a rectilinear composition,
 - iii. Breaking down of scale such as window walls in expressed structural frames, and
 - iv. Strong interplay of building and landscape.
- c. **Block Pattern** — The campus pattern of blocks and courtyards are to be reinforced.
- d. **Simple Rectilinear Massing** — Simple, rectilinear plan forms and massing consistent with campus grid and modernist precedents shall apply to façades fronting on major corridors.
- e. **Horizontal Massing** — Horizontal massing and expression shall predominate. In order to emphasize this desired horizontality, upper storeys shall be set back above the third or fourth floor.
- f. **Foundation Areas** — Any new foundations or paved surfaces must respect the root zones of the rows of mature trees that were planted in response to the historical road layout of the campus. The mature trees are key resources to be protected.
- g. **Main Mall Architectural Cornice Line** — Buildings on Main Mall shall feature a horizontal cornice line or demarcation that responds to adjacent, permanent buildings.
- h. **Main Mall Height Considerations**
 - i. The two libraries facing each other across Library Plaza shall remain the tallest buildings along Main Mall. Their place at the top of the building hierarchy is further reinforced by larger than typical building setbacks.
 - ii. New buildings on Main Mall are preferred no taller than 28 m in height, with the massing of the forward portion of the building fronting Main Mall to be limited to 18 meters in height in order to keep the building within scale of the height of the red oaks on this corridor.
Upper stories of buildings above the 18 m height level shall be set back a minimum of 5 meters from their fronting façade.
- i. **West Mall — Additional Height Considerations**
 - i. New buildings on academic sites on West Mall will be predominantly 5 to 7 storeys except where they are within hubs.
 - ii. Buildings within hubs along West Mall may be taller, ranging from 5 to 18 storey buildings on 4 storey podium bases.

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3.1.1.b.iv Strong interplay of building and Landscape.

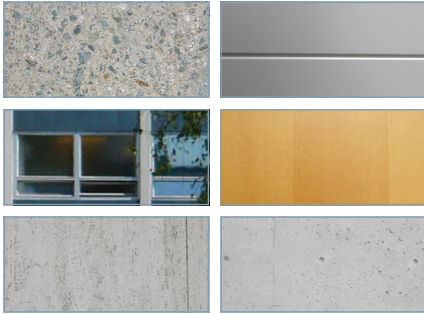


3.1.1.h.i The two libraries facing each other across Library Commons shall remain the most prominent buildings along Main Mall.

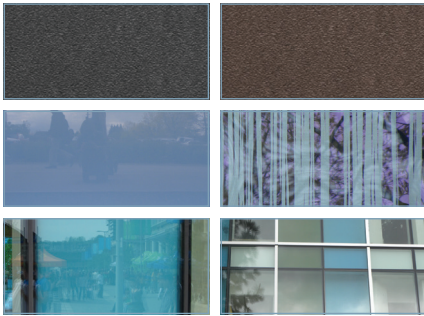
3.1.2 Campus Core material palette.



Primary Materials.



Secondary Materials.



Accent materials.



Architectural precedents for the campus core.

3.1.2 — Campus Core Materials Palette

To strengthen campus legibility and historical character, buildings constructed in the campus core are to respect and build on the campus' legacy of international style buildings. Primary materials associated with this movement include light coloured brick, cast-in-place concrete and significant glazing. Secondary layers of material and detailing are important opportunities to introduce additional colour and vitality. Therefore:

- a. **Primary Materials** — The primary cladding material or 'fields' for façades fronting primary and secondary corridors shall be white brick.
- b. **Required Secondary Materials** — To help build cohesion across the campus architecture, all projects to use each of the following as accent materials somewhere on the building exterior:
 - » soft wood
 - » aluminum (or zinc) metal
 - » natural coloured concrete
- c. **Additional Secondary Materials** — The following are additional accent materials supported in this district:
 - » terra cotta or fibrous cementous composite materials (both are limited to white or light coloured finishes)
 - » white brick
 - » prefinished metal and glass panels in clear or soft blue, green, grey or brown colours
 - » limited amounts of cast-in-place concrete painted white
 - » wood and/or metal fittings and screens
 - » dark miscellaneous metal and/or window framing
 - » honed, polished, flamed, or cleft cut granite
 - » patterned glass (ceramic frit, silk screened etc.)
- d. **Stucco** — Existing stucco finishes shall be natural gray or painted in intrinsic stucco colours of earthy greys or browns that appear warm in overcast conditions. Building trim and detailing shall be complementary and add contrast and vitality to the building expression.

3.1.3 — Campus Core Landscape

- a. **Reinforce Axis** — Landscape planting selection and design must reinforce the formal and axial layout of pedestrian and vehicular corridors.
- b. **Hedges** — Hedges are to be used as design elements to define corridors, paths, and open spaces where suited to the programming of these spaces.
- c. **Supplementary Plant Species** — In addition to the requirement to incorporate Rhododendrons and Taxus hedging in every landscape plan, use of the following species is encouraged:

BOTANICAL NAME	COMMON NAME
Abelia	Abelia
Buxus sp.	Boxwood
Euonymus	Euonymus
Ilex crenata	Japanese Holly
Ligustrum sp.	Privet
Osmanthus sp.	Osmanthus
Prunus sp.	Laurel
Rosa sp.	Rose

d. **Landscape Trees** — Landscape trees species (those other than street trees) shall be selected based on the following criteria:

- i. Large shade trees shall be used in commons areas to strengthen the experience of a classic campus vernacular of open lawns and historic trees.
- ii. As part of the campus tradition of horticultural diversity, unusual trees can be used if planted in conditions that will allow them to prosper and reach their mature growth potential.

3.2 FOREST EDGE DISTRICT

The Vancouver campus was originally created as clearing in a forest. Today, much of UBC’s sense of place and natural west coast beauty is associated with the campus edges and adjoining iconic forest setting.

3.2.1 — Forest Edge District Architecture

- a. **Building Form** — Architectural form for new buildings in this district of campus is to be shaped by considering tree protection, aspect, referencing the campus grid, and providing appropriate edges to adjacent corridors and commons.
- b. **Accomodate Forest Remnants** — The siting of buildings is to strive to protect viable remnants of mature forest in buffer strips to adjacent development and within internal courtyards.

In the Acadia and South Campus sub-districts, this tree retention guideline will be applied less onerously in order to accommodate the necessary higher densities in the Acadia area and the industrial scale research buildings of south campus.

- c. **Reference Road Grid** — Buildings are to be sited with reference to the dominant rectilinear road grid of the campus rather than adjacent sometimes curvilinear road alignments, such as Marine Drive. The application of the grid even in the informality of the forest connects these buildings into the overall campus character.

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3.1.3.d Large shade trees over lawn.



3.1.3.d Provide formality through layering and framing.

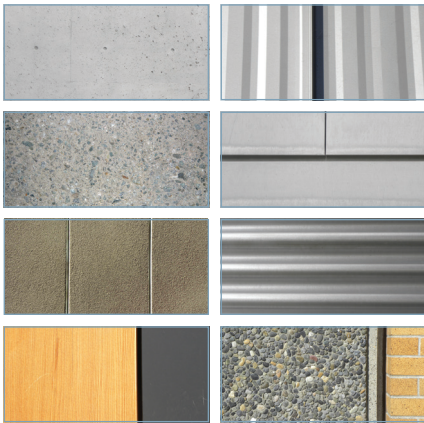


3.2.1.a Siting shall strive to protect remnants of forest.

3.2.2 Forested Edge material palette.



Primary Materials.



Secondary Materials.



Architectural precedents for the Forested Edge District.

- d. Infill student residential buildings on the west side of campus within this district are to be 6–10 storeys minimum. Buildings within the Acadia area will typically be taller.
- e. Projects fronting Chancellor Boulevard & Marine Drive are to:
 - i. Vary their positioning from the minimum setback line in response to the curving road alignment and the informality of the forest character.
 - ii. Buildings shall be sited in reference to a tree survey that establishes locations and viability of each tree.

3.2.2 — Forest Edge District Materials Palette

The objective is to complement the natural west coast forest setting by using simple materials possessing natural, unpainted finishes with warm earth tone colours.

- a. **Warm Colours** — All materials, with the exception of aluminum, concrete and galvanized metal, to be warm brown earth tones to reference the forest setting and to convey an inviting and hospitable character.
- b. **Primary Cladding Materials** — Primary cladding materials or ‘fields’ for façades are to be selected from the following:
 - » ‘institutional’ scale applications of soft wood
 - » clear anodized aluminum or galvanized metal panels
 - » terra cotta panels
 - » galvanized metal panels
 - » stone
 - » colour dyed concrete
- c. **Required Secondary Materials** — To help build cohesion across the campus architecture, all projects to use each of the following as accent materials somewhere on the building exterior:
 - » soft wood
 - » aluminum (or zinc) metal
 - » natural coloured concrete
- d. **Additional Secondary Materials** — The following are additional accent materials supported in this district:
 - » composite panels (e.g. stone aggregate or Hardi Panel)

3.2.3 — Forest Edge District Landscape

The landscape design objectives in this district are to protect existing trees where possible through careful building and infrastructure placement, and to reinforce the forested character with new infill planting.

- a. **Curving Roads** — While buildings are to be arranged at right angles to the campus grid, roads and paths are encouraged to curve and meander with an informal character, soft shoulders that merge into the forest, and gravel or asphalt surfaces.

- b. **Organic Plaza Shapes** — Plazas and hard surfaced landscape features are to avoid rigid square and circular geometries. Asymmetrical and organic shapes are encouraged.
- c. **Coniferous Landscape Trees** — Most new landscape trees (i.e. not street trees) in this district are to be coniferous in order to build on the character of the natural forest and to enhance stormwater management. Species are to include: Western Red Cedar, Douglas Fir, Western Hemlock, Red Alder, Big Leaf Maple, Pacific Dogwood, Vine Maple, Garry Oak, and Arbutus.
- d. **Informal Arrangements** — To integrate with the character of the forest setting, landscape trees are to be planted in informal and naturalized arrangements.
- e. **Supplementary Plant Species** — In addition to the requirement to incorporate mass plantings of Rhododendrons and Taxus hedging in every landscape plan, use of the following species among others is encouraged:

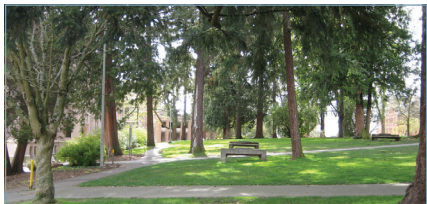
SUPPLEMENTARY PLANT SPECIES

BOTANICAL NAME	COMMON NAME
Ribes sanguineum	Flowering Currant
Mahonia aquifolium	Oregon Grape Holly
Gaultheria shallon	Salal
Polystichum munitum	Sword Fern
Rhododendron sp.	Rhododendron
Symphoricarpos sp.	Coralberry
Vaccinium sp.	Huckleberry
Varieties	Ferns

- f. **Native Understory** — Any other understory plants proposed are to be native or native-like and require very low maintenance.



3.2.3 Forest Edge planting character examples.



3.2.3 Forest Edge planting character examples.

3.3
CONTEMPORARY DISTRICT

The future design vision for this area is to project optimism through architecture that is more open, transparent, and exuberant particularly in expressing UBC’s leading edge research, technology, and sustainability pursuits. New architecture will be required to strengthen the campus character by building on the design tenets of UBC’s successful and iconic early modernist buildings.

Guidelines in this district are similar to, but more liberal than, guidelines for the campus core.

3.3.1 — Contemporary District Architecture

- a. **Style Precedents** — Building design shall take inspiration from UBC’s Vancouver Campus early International Style architecture, including the



3.3.1 Buildings shall take inspiration from UBC’s early modernist architecture.



3.3.1 Designs to project optimism through open, transparent architecture.

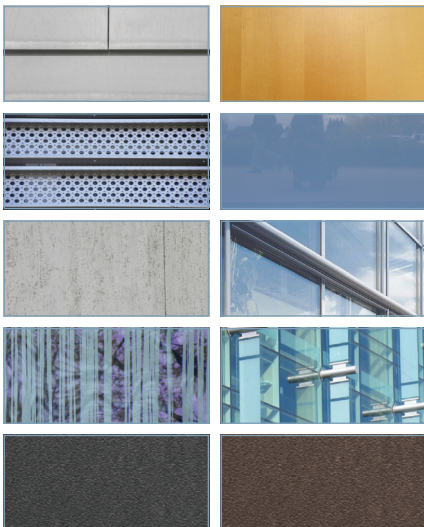


3.3.2 Precedent image for Contemporary District.

3.3.2 Contemporary District palette.



Primary Materials.



Architectural precedents for the Contemporary District.

use of light coloured masonry cladding, inviting/penetrable ground plains, plain sculptural end walls, panelling, structural frames, and the interplay of building and landscape.

- b. **Alignment to Grid** — Buildings and public realm design elements shall respond to the campus grid for the alignment of street-fronting façades and key public realm features (e.g. plazas, stairs, seating walls).
- c. **Pavilion Forms** — Form and massing shall continue the pattern of intermittent 'pavilion' forms in a landscape setting.
- d. **Horizontal Emphasis** — Architectural form and character shall express a dominant horizontal form. Each façade shall vary as necessary to address the functional relationships of its adjacent public realm corridor and/or commons and its aspect with regard to passive solar gain and other energy-efficiency considerations.
- e. **Minimum Height** — Minimum five to eight storey building heights will typically apply.

3.3.2 — Contemporary District Materials Palette

The Contemporary palette is intended to project a sense of lightness and optimism. It is a broader interpretation of the palette of materials proposed for the campus core and is characterized by a sense of lightness and transparency in contrast to the heavier, more severe appearance of some of the existing buildings.

- a. **Contemporary Attitude and Colour** — Contemporary modernist design is encouraged to demonstrate innovation, research, and sustainability. Colour of materials is to be white or light coloured.
- b. **Primary Materials** — Primary cladding material or 'field' for façades is to be selected from the following:
 - » prefinished metal panels
 - » glass (with or without white ceramic frit)
 - » terra cotta (material, not colour)
 - » porcelain enamel
 - » brick
- c. **Required Secondary Materials** — To help build cohesion across the campus architecture, all projects to use each of the following as accent materials somewhere on the building exterior:
 - » soft wood
 - » aluminum (or zinc) metal
 - » natural coloured concrete
- d. **Additional Secondary Materials** — The following are additional accent materials supported in this district:
 - » white brick
 - » honed, polished, flamed, or cleft cut gray granite
 - » prefinished metal

- » dark miscellaneous metal and/or window framing
- » glass panels, clear coated or in shades of muted blue, green or brown
- » patterned glass (ceramic frit, silk screened etc.)

3.3.3 — Contemporary District Landscape

In addition to the campus-wide planting design guidelines (Section 2.4.3) and street tree specifications, the following plant guidelines shall apply for landscape projects in the Contemporary District:

- a. **Supplementary Plantings** — In addition to the requirement to incorporate mass plantings of Rhododendrons and Taxus hedging in every landscape plan, use of the following species among others is encouraged:

BOTANICAL NAME	COMMON NAME
Ceanothus sp.	California Lilac
Choisya ternata	Mexican Mock Orange
Cornus sp.	Red-Twig Dogwood
Cotinus sp.	Smokebush
Fothergilla sp.	Fothergilla
Nandina sp.	Heavenly Bamboo
Viburnum sp.	Viburnum

- b. **Edging** — Planting areas are to be bound by hard surfaces (curbs, sidewalks and paths). Alternatively, a minimum 3m wide band of lawn may serve as a foreground to planting areas.

3.4
ATHLETICS DISTRICT

This district is defined by a majestically scaled expanse of lawn and athletics commons. Even when not occupied, the landscape features and exterior designs of sports facilities shall convey athleticism and inspire pride in UBC’s athletic leadership and achievements.

- a. **Siting** — New indoor sports facilities shall continue to be sited and clustered at the north end of the Commons preserving as much green open space as possible with full sun access, with exception of a possible new field house that could be sited more centrally.
- b. **Pedestrian Visibility** — Pedestrian safety and interest shall be maximized where possible by preserving and augmenting views into and across the commons.

3.4.1 — Athletics District Architecture

Athletic buildings shall be massed as sculptural pavilions set in the open landscape of the surrounding athletic fields. Their expressions shall inspire pride and provoke pedestrian interest in the activities within the facilities.

- 1 Introduction
- 2 Campus-Wide Design Guidelines
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 - 3.1 Campus Core District
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3.3.2 The palette of materials is intended to project a sense of lightness and optimism reflective of the district’s gateway role.



3.3.3 Contemporary District Landscape.



3.4.1.a The architecture shall inspire pride and provoke interest in the activity.



3.4.1.f Windows offering views into activity areas shall be provided.

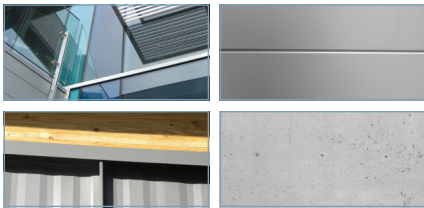


3.4.1.a Athletic buildings shall be massed as sculptural pavilions set in the open landscape of the surrounding fields.

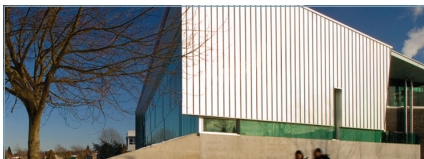
3.4.2 Athletic District palette.



Primary Façade Materials.



Secondary Façade Materials.



Architectural precedents for the Athletics District.

- a. **Architectural Composition** — Given the often large and highly repetitive nature of athletics buildings, their massing, cladding and detailing shall be carefully designed and combined together to achieve an aesthetically pleasing composition.
- b. **Form** — Where possible, the nature of the sport being housed shall be conveyed on the outside form of the structure.
- c. **Details** — Secondary elements such as rain gutters, rain protection, entrances, viewing windows and signage shall be ‘played-up’ as architectural treatments that both enrich the building composition and bring human scale and interest.
- d. **Rain Protection** — Substantive areas of weather protection shall be integrated in the overall building design, especially where buildings accommodate crowds at events.
- e. **Windows** — Windows offering views into activity areas shall be provided, particularly along building façades that parallel exterior circulation paths.
- f. **Animate Thunderbird Boulevard** — Buildings fronting Thunderbird Boulevard east of East Mall, shall allow the energy of the interior athletic activities to animate the street.

3.4.2 — Athletics District Materials Palette

- a. **Primary Materials** — The cladding of façades fronting street corridors and major pathways is to be transparent to reveal interior activities. Alternatively, materials and graphics that express the dynamism of athletic activities can be considered.
- b. **Required Secondary Materials** — To help build cohesion across the campus architecture, all projects to use each of the following as accent materials somewhere on the building exterior:
 - » soft wood
 - » aluminum (or zinc) metal
 - » natural coloured concrete
- c. **Additional Secondary Materials** — The following materials are supported in this district as accent materials on secondary facades:
 - » warm dark coloured grey metal
 - » warm dark coloured hardi-board
- d. **Materials Not Permitted** — Less durable materials such as vinyl fabrics are not permitted.

3.4.3 — Athletics District Landscape

In addition to the general campus-wide planting guidelines of [Section 2.4.3](#), the following landscape guidelines apply in this district.

- a. **Formality** — Landscape designs shall reinforce the formality of the commons, by aligning fields, paths, site furnishings, fencing, and sports equipment infrastructure with the campus grid.
- b. **Shade Trees** — Regularly spaced shade trees shall be planted along street corridors and major pathways to emphasize the orderly organization of sports fields and buildings within the Athletics district.
- c. **Plant Height** — For visibility and safety, plantings around fields that naturally grow higher than 600 mm (except trees) shall be avoided.
- d. In addition to the requirement to incorporate Rhododendrons and Taxus hedging in every landscape plan, mass plantings of the following species may be used:

BOTANICAL NAME	COMMON NAME
Euonymus	Euonymus
Prunus sp.	Laurel
Rosa sp.	Rose
Viburnum sp.	Viburnum

- e. **Orientation** — Sports fields shall be laid out to maximize visual porosity by orienting their long surfaces in the east/west direction.
- f. **Lighting** — Outdoor lighting will be designed to avoid trespass into surrounding residential areas.

3.5 HUBS

Hubs are local mixed-use centers distributed around campus that accommodate significant student housing capacity, plus academic support services open to all faculty, students and staff. These hubs will function as neighbourhood ‘living rooms’ for the daytime community of the surrounding academic disciplines as well as for the students who reside there.

Hub programming is to include a wide range of compatible uses, and medium to high density floor space, in order to satisfy *The Campus Plan* objectives. New buildings and open spaces in hubs are subject to the general campus-wide and character district design guidelines, plus the supplementary guidelines below.

3.5.1 — Hubs Architecture

- a. **Activity Program** — In addition to the required number of upper year student beds, hubs are to supply a mix of academic support and convenience program elements open to the broader university community that include but are not limited to:
 - » student-bookable meeting rooms
 - » bike lock-up and end-of-trip facilities

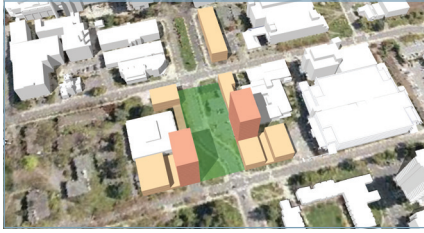
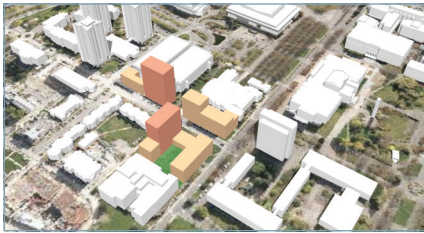
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3.4.3 Athletic District landscape.



Armoury Hub Demonstration Massing

*Ponderosa Hub Demonstration Massing**Brock Hub Demonstration Massing*

- » satellite recreation facility for exercise bikes, weight machines or other exercise/recreational alternatives
- » multi-purpose rooms as communal amenity space, suitable for small exercise class, or group activity
- » daycare
- » informal study space and lounge seating
- » a hearth; an intimate and inviting small gathering place
- » café or other food service outlet open to the non-resident public
- » convenience store, print shop, bank machine, safety phone (optional)
- » offices (optional)
- » classrooms (optional)
- » small licensed facility (optional)

- b. **Massing** — Hub buildings are to be considered as a composition of buildings that define public open spaces and offer interesting and engaging edges to these spaces. With the exception of the anticipated towers in each hub, other hub buildings shall be massed to:
 - i. be compatible in scale with the neighbouring buildings,
 - ii. frame and increase the legibility of the corridors and commons they front,
 - iii. allow as much sunlight into adjacent commons, corridors, and pathways as possible.
- c. **Tower Location** — The towers anticipated in each Hub shall be sited and massed to reduce their perceived bulk and minimize their impacts on the surrounding environment by:
 - i. having elongated rectangular floor plates
 - ii. orienting the long façades so they will be least visible from major corridors and commons
 - iii. allow as much sunlight into adjacent commons, corridors, and pathways as possible.
 - iv. to be staggered or separated from each other.
- d. **Ponderosa Hub Towers Location** — In order to frame University Boulevard corridor and common, and achieve the necessary student housing density, two Ponderosa towers shall be designed as an informal pair of towers that together mark the west terminus of the boulevard, and the gateway for visitors arriving from the east.
- e. **Brock Hub** — Student residence towers in the Brock Hub shall be carefully designed and positioned to be discrete in the context of other prominent buildings at this important gateway location as viewed from NW Marine Drive. One tower shall be north of Walter Gage road but separated from the new Law Building, and the other south of Walter Gage Road. Towers shall abut Walter Gage Road to frame it on approach from the east and west, and be set away from East Mall to not compete with the mid-height academic buildings. The tower on the north side of Walter Gage Road shall orient its narrow face toward the north to minimize its visual presence as seen from the NW Marine Drive approach to the campus.

- f. **Height** — Buildings may be significantly taller in hubs in order to achieve student residence and academic space capacity objectives of *The Campus Plan*. Hub buildings may reach 53 m height exclusive of rooftop appurtenances, and will consider visual impact analyses regarding sightlines from Wreck Beach.
- g. **Public Realm Animation** — One objective of the hubs is to create social nodes and to provide passersby with interesting and animated building edges to walk along and to animate adjacent plazas and commons, within the constraints of the available building program. Guidelines to achieve this include:
 - i. The space program for residential buildings are to be organized so that the ground floor is occupied by circulation, social, recreational, and study uses that can be viewed through windows without impacts on individual privacy.
 - ii. Bedrooms and other private rooms are generally to be located on floors above the ground level.
 - iii. Convenience, service, and other publicly accessible uses are to be located adjacent to the more significant and heavily traveled movement routes on site.
- h. **Residential Entry Locations** — Where possible, residential entries shall be located on a local commons or minor corridors, and away from academic related corridors.
 - i. Student residence entries from local commons or residential/academic corridors shall, in contrast, bring a student residential character to the entry area including seating, bulletin boards, and mailboxes.
- i. **Character** — When a Hub spans two character districts:
 - i. The design of residential structures is to strike a balance between its residential program and the surrounding campus design context of academic buildings.
 - ii. Minor streets with wholly residential uses shall take on a residential character that may include individual front doors and stoops and a more diverse and garden-like range of plant materials than is generally intended for the academic parts of campus.
 - iii. Architectural form and character are to express residential uses with articulation of façades related to the interior space program such as opening windows for ventilation, and large windows for shared lounges and study areas.

3.5.2 — Hubs Materials Palette

- a. The material and colour palette of each hub is to be in accordance with the guidelines for the character district in which it is located.

3.5.3 — Hubs Landscape

The open space associated with each hub will be informal and busier in some cases than academic courtyards due to the hubs' mixed-use daily program that might include classrooms, offices, cafes, lounges, restaurants, day cares, small convenience retail, satellite fitness, library, and recreational facilities in addition

1 Introduction

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Life Sciences Hub Demonstration Massing

to being situated on pedestrian travel cross routes to and from significant destinations on campus. Serendipitous exchanges, socializing and mingling amongst the academic community are important to its intellectual health and success, and are to be consciously fostered in hub open space design.

- a. **Landscape Design** — The landscape design approach for each hub shall be in accordance with the campus-wide and character district landscape guidelines. Where hubs straddle two character districts, both landscape palettes may be merged together.
- b. **Minimum Size** — Each Hub identified in *Part 2* must include one centrally located commons of approximately 0.1 to 0.2 ha. The Life Sciences hub commons may be smaller than most others, due to the building program and site size.
- c. **Hub Commons Siting** — The main commons in the Armoury, Brock, and Ponderosa hubs are to be located as part of the east/west corridors that bisect them. These corridors are designated either pedestrian only or shared pedestrian/car corridors.
- d. **Interior Programming Relationship** — Each hub commons is to be located adjacent to the indoor ground floor social, amenity spaces. Where food services form part of the building program they shall be located so they provide oversight to the outdoor commons.
- e. **Western Orientation** — Each hub commons is to be located with a western orientation as much as possible, to allow for afternoon and evening sun to enter and warm the space for the fall, winter, and spring months when classes are in session.
- f. **Outdoor Programming** — Each hub commons shall aim to include:
 - » A signature landscape feature unique to that hub
 - » An ornamental water feature
 - » A seasonal stormwater feature (may be same as above)
 - » A public drinking fountain
 - » Inviting access and wide visibility from the flanking street
 - » Long-term and short-term bicycle racks
 - » Fixed and movable seating and tables in both shade and sun
 - » Seating proximate to and within plain view of shuttle/bus stop on street
 - » High visibility to adjoining interior social and academic spaces
 - » Pedestrian through-routes linking the spaces to academic and residential areas in at least three and preferably four directions.
- g. **Unique Character** — Each hub commons is to be unique to its respective community as a way of furthering community identity and adding diversity to the campus environment.
- h. **Service Circulation Design** — Fire-lanes, busy service lanes, and handicap parking within hubs are to be located in a manner that does not unnecessarily divide, limit, or otherwise weaken the use and character of hub commons and pedestrian circulation.



Orchard Hub Demonstration Massing

MAP

3-1

Character Districts

- Campus Core
- Contemporary
- Forest
- Athletic
- Mixed-use Commons

- UBC Vancouver Campus Boundary
- Vancouver Campus Plan Area
- Institutional Building Footprints
- Neighbourhood Housing/Special Plan Areas (excluded)



0 150 300m

2013-Oct-21

MAP

3-2

Build-to-Lines and Setback Lines

- Build-to-Lines
- Setback Line
- Reference Building or Structure
- 5-15m minimum Green Edge Setbacks

- UBC Vancouver Campus Boundary
- Vancouver Campus Plan Area
- Institutional Building Footprints
- Neighbourhood Housing/Special Plan Areas (excluded)







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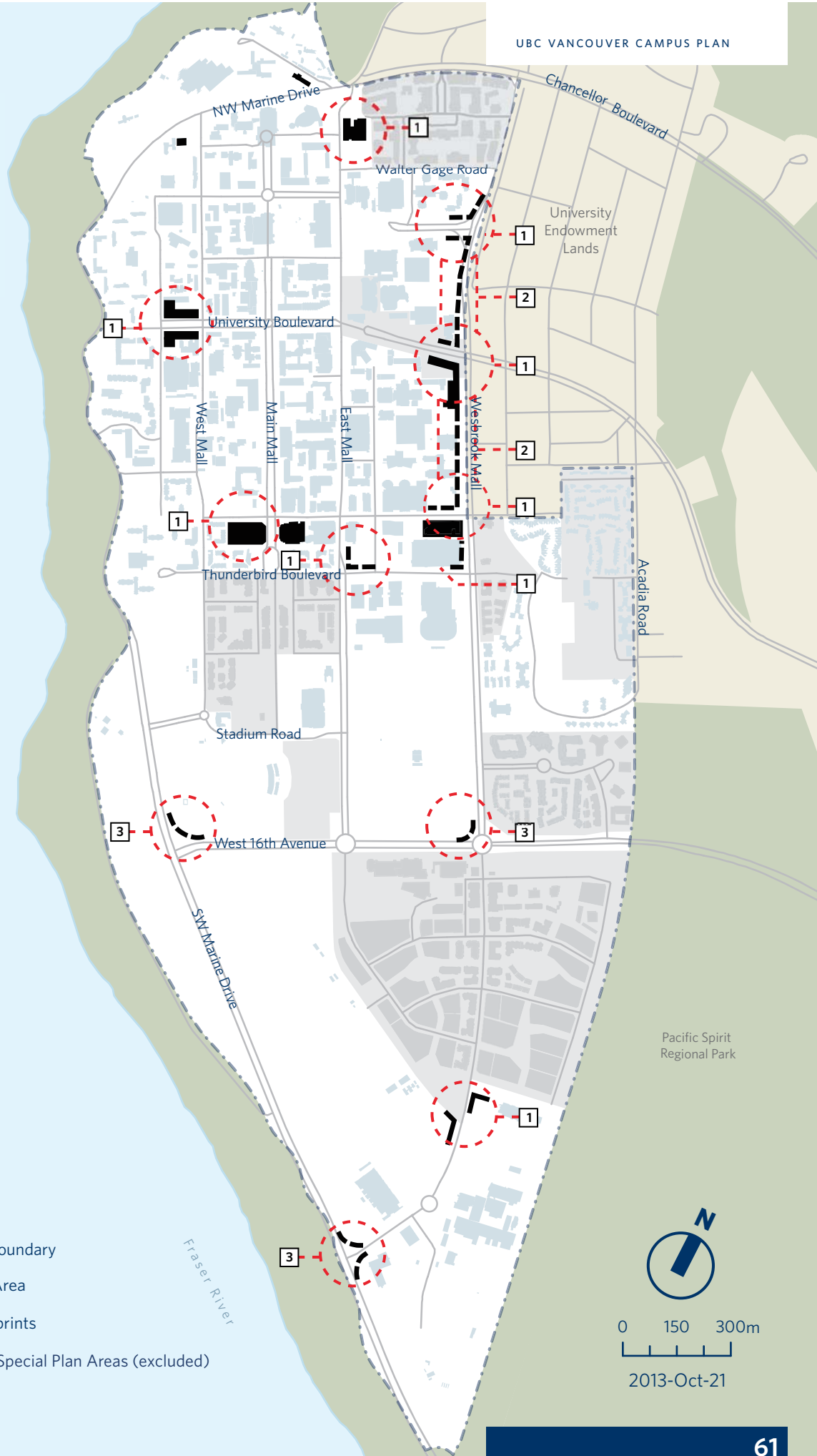
MAP

3-3

Signature Building Sites

-  Placemaker Building or Structure
-  Gateway building
-  Boundary buildings
-  Gateway Structure

-  UBC Vancouver Campus Boundary
-  Vancouver Campus Plan Area
-  Institutional Building Footprints
-  Neighbourhood Housing/Special Plan Areas (excluded)





0 150 300m


2013-Oct-21

MAP

3-4

View Corridors

-  Type 1 - Protected View Corridors
-  Type 2 - Protected View Corridors (no buildings over 3 storeys)

-  UBC Vancouver Campus Boundary
-  Vancouver Campus Plan Area
-  Institutional Building Footprints
-  Neighbourhood Housing/Special Plan Areas (excluded)



0 150 300m

2013-Oct-21

MAP

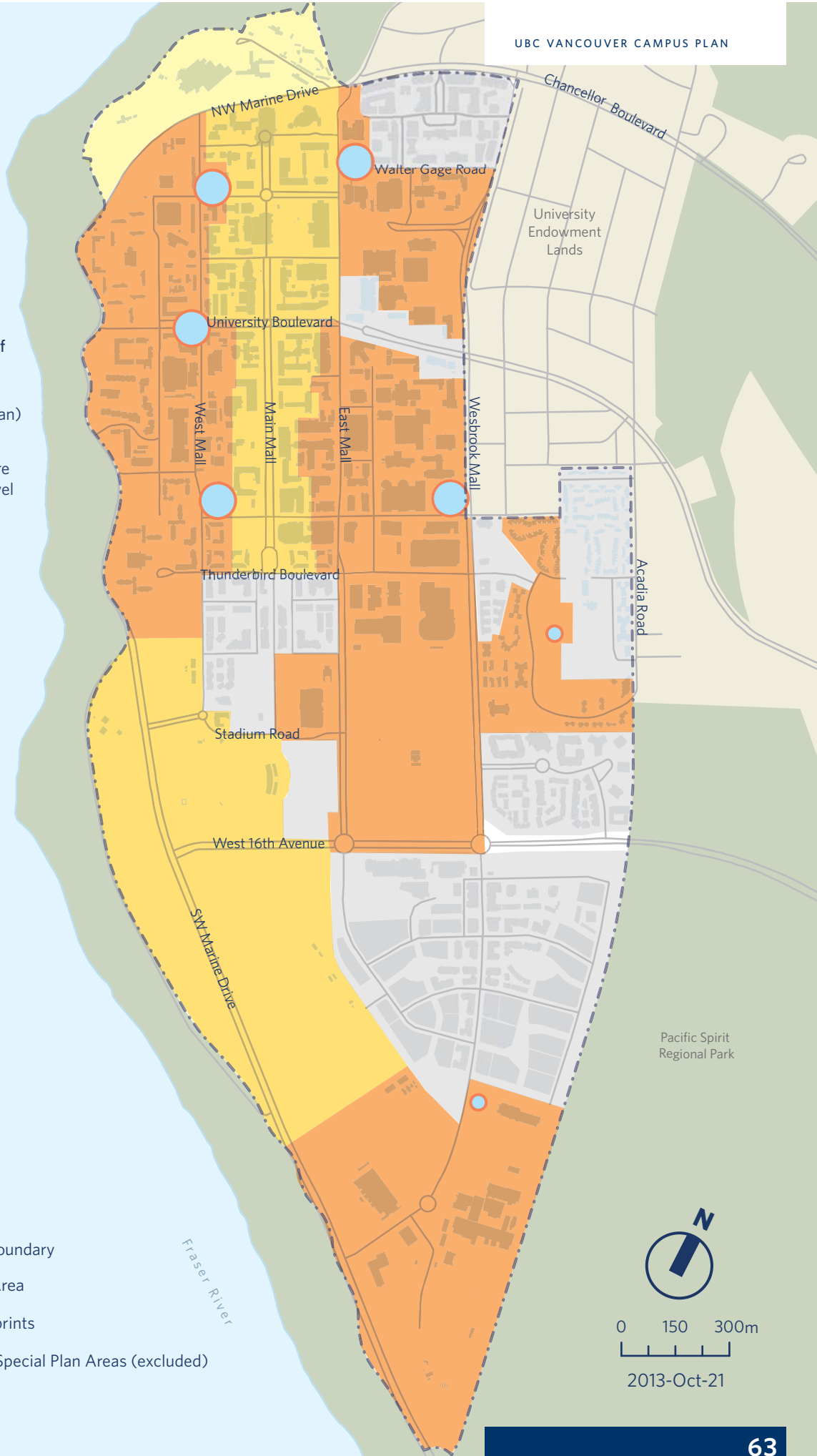
3-5

Maximum Building Heights

Height Maximum Across All Areas of Institutional Campus is 53 m

- 3 storeys maximum (North Campus Neighbourhood Plan)
- Lower buildings preferred
18 m - 28 m in Campus Core
5 m setback above 18 m level
- Moderate + taller buildings preferred:
Tallest buildings to be concentrated in Hubs + Acadia Areas
- Mixed Use Hubs

- UBC Vancouver Campus Boundary
- Vancouver Campus Plan Area
- Institutional Building Footprints
- Neighbourhood Housing/Special Plan Areas (excluded)



0 150 300m

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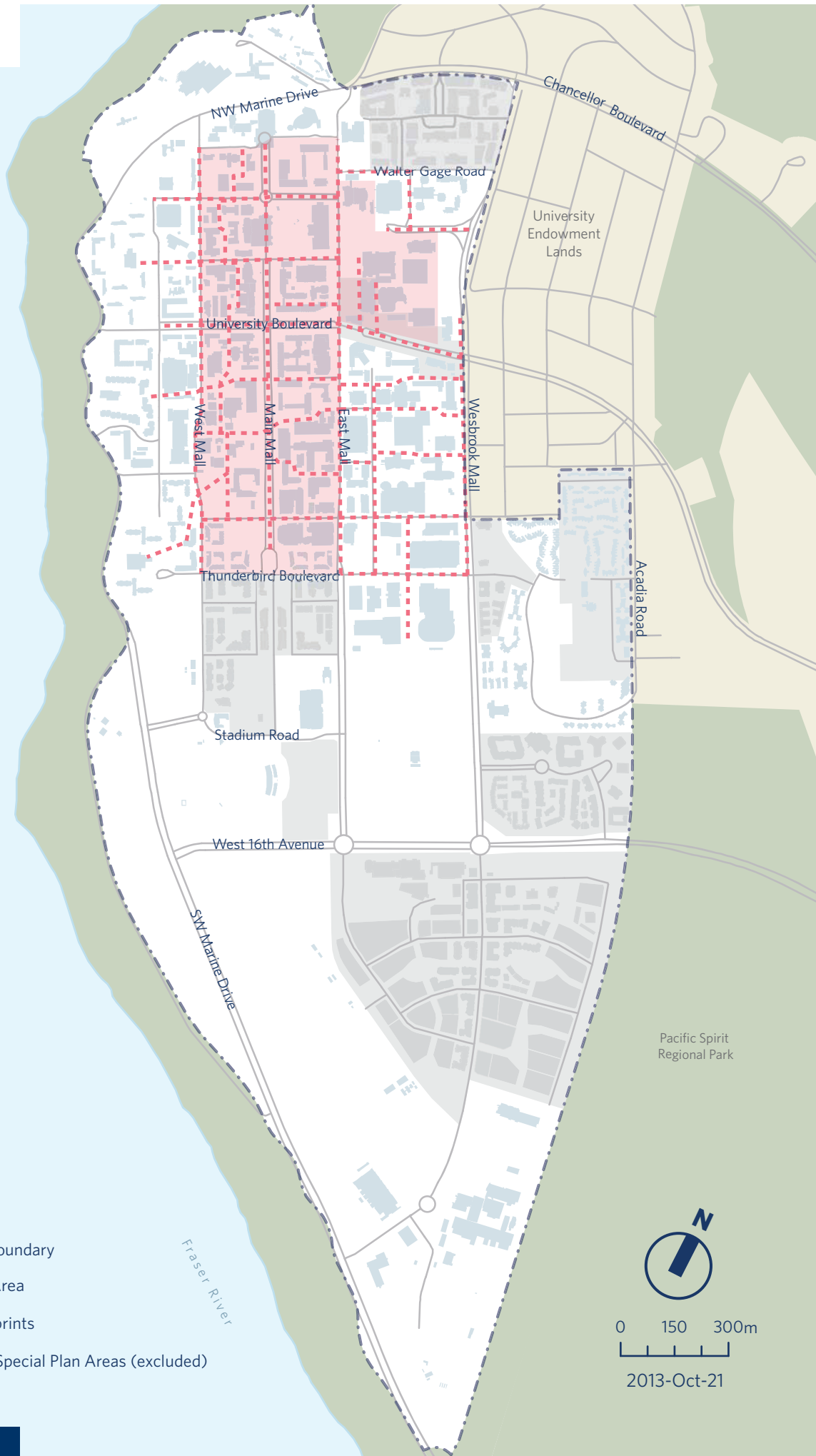
MAP

3-6

Rain Protection Routes and Priority Public Realm Accessibility Upgrades

- Priority routes for rain protection and accessibility
- Pedestrian Priority Zone

- UBC Vancouver Campus Boundary
- Vancouver Campus Plan Area
- Institutional Building Footprints
- Neighbourhood Housing/Special Plan Areas (excluded)



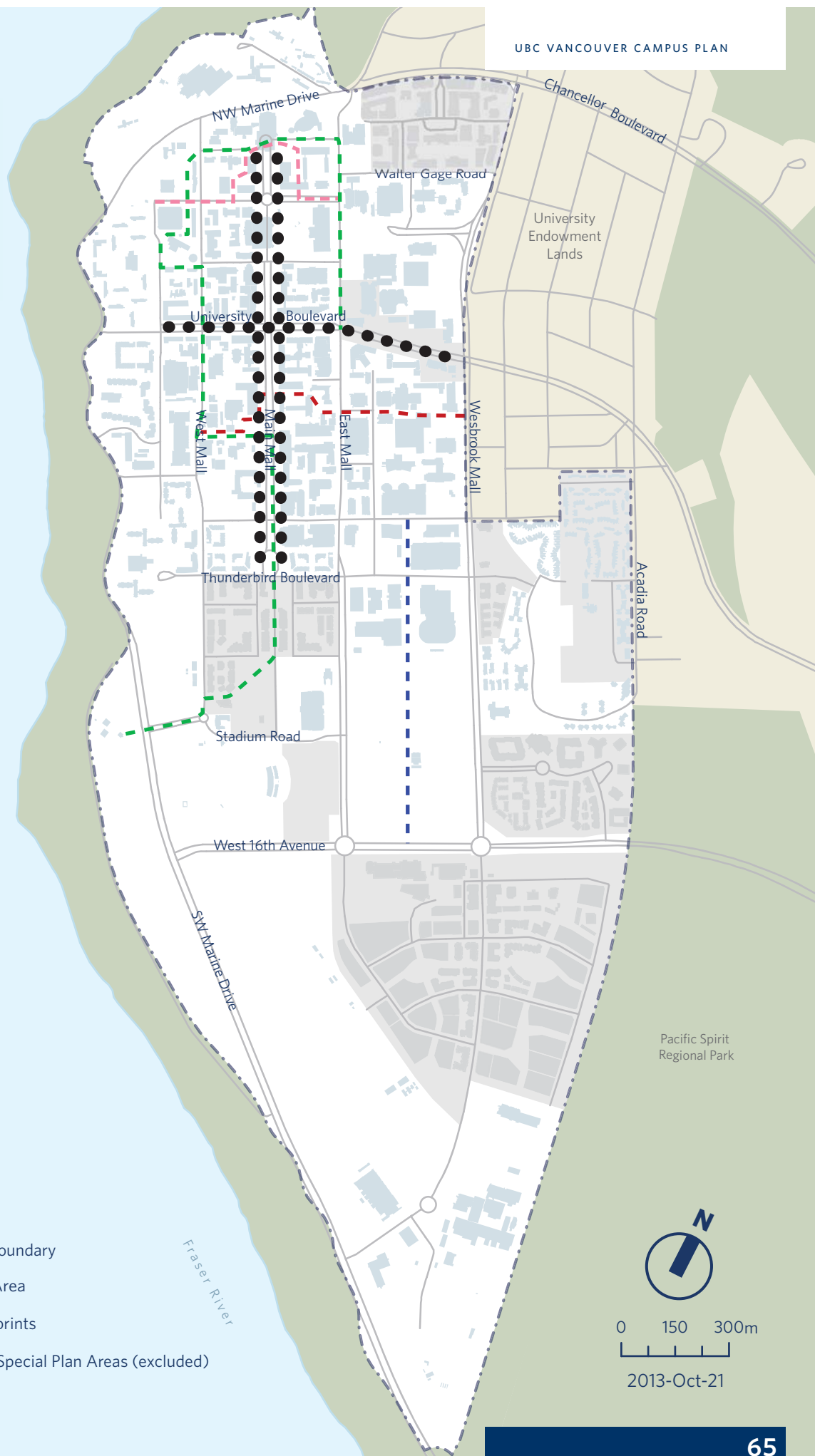
MAP

3-7

Special Treatment Pedestrian Routes

- ● ● Ceremonial Routes
- - - Arboretum Walk
- - - Art Walk
- - - Science Walk
- - - Athletes Walk

- - - UBC Vancouver Campus Boundary
- Vancouver Campus Plan Area
- Institutional Building Footprints
- Neighbourhood Housing/Special Plan Areas (excluded)



0 150 300m




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MAP

3-8

Open Space and Commons Network

Existing


-  Commons Green Spaces
-  Large Commons
-  Greenways and Green Edges

Future Additions

-  Corridors Network in Campus Core
-  Commons and Plazas
-  Future Greenway

 UBC Vancouver Campus Boundary

 Vancouver Campus Plan Area

 Institutional Building Footprints

 Neighbourhood Housing/Special Plan Areas (excluded)



MAP

3-9

Street Trees

- Apple
- Ash
- Catalpa
- Cercidiphyllum
- Flowering Cherry
- Pink Flowering Horse Chestnut
- Persian Ironwood
- Linden
- Maple
- Sweet Gum
- Flowering Pear
- Flowering Plum
- Pin Oak Bosque
- Red Oak
- Sycamore
- Tulip Tree
- Informal plantings of Cedar, Cypress + Fir
- Reinforce Forest with open meadow character: Douglas Fir, Western Red Cedar, Western Hemlock, Vine Maple







- UBC Vancouver Campus Boundary
- Vancouver Campus Plan Area
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



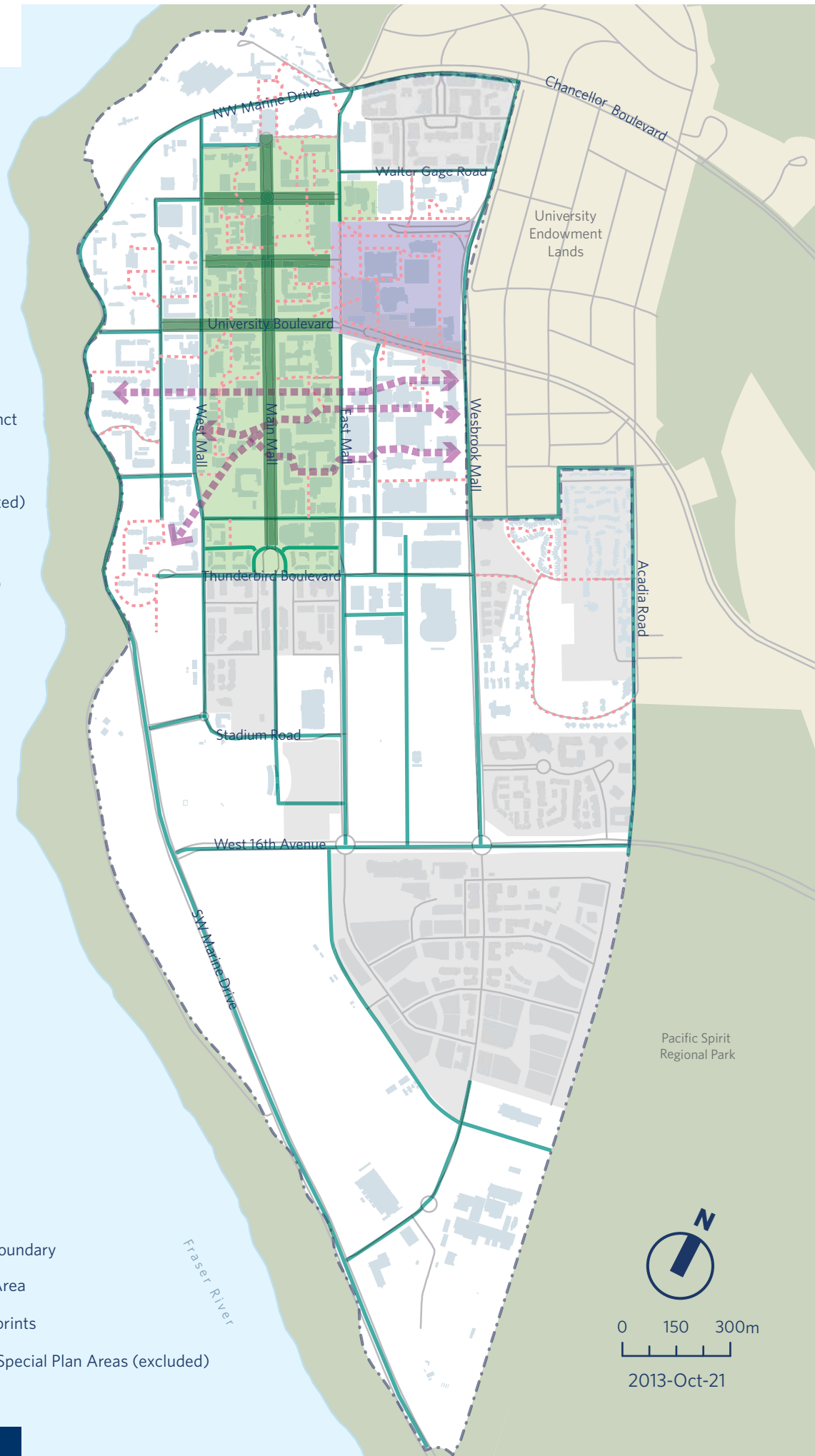
MAP

3-10

Paving Plan

-  Campus Core (Type 1)
-  Campus Core (Type 2)
-  University Boulevard Precinct (Type 3)
-  Pedestrian Paths (Type 4) (future expansion anticipated)
-  Special Paving (Type 5)
-  Campus Standard (Type 6)

-  UBC Vancouver Campus Boundary
-  Vancouver Campus Plan Area
-  Institutional Building Footprints
-  Neighbourhood Housing/Special Plan Areas (excluded)



0 150 300m



2013-Oct-21

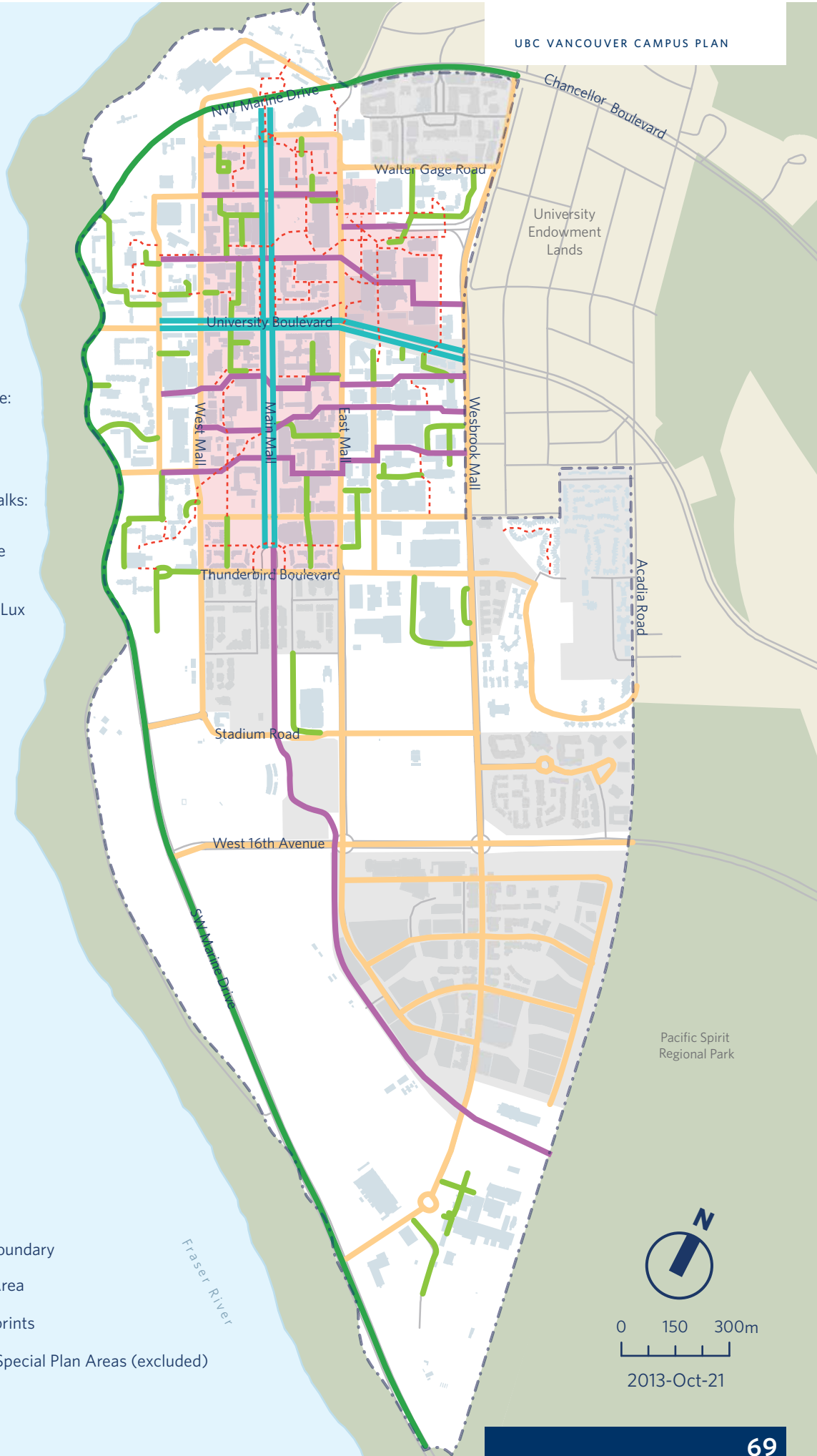
MAP

3-11

Lighting—Circulation

-  Primary Ceremonial Route: 25 Lux
-  Secondary Pedestrian Route: 15 Lux
-  Tertiary Pedestrian Route: 5 Lux
-  Campus Roads with Sidewalks: 6 Lux
-  Shared Pedestrian + Service Lanes: 4 Lux
-  Public Road at Site Edge: 4 Lux
-  Pedestrian Priority Zone

-  UBC Vancouver Campus Boundary
-  Vancouver Campus Plan Area
-  Institutional Building Footprints
-  Neighbourhood Housing/Special Plan Areas (excluded)



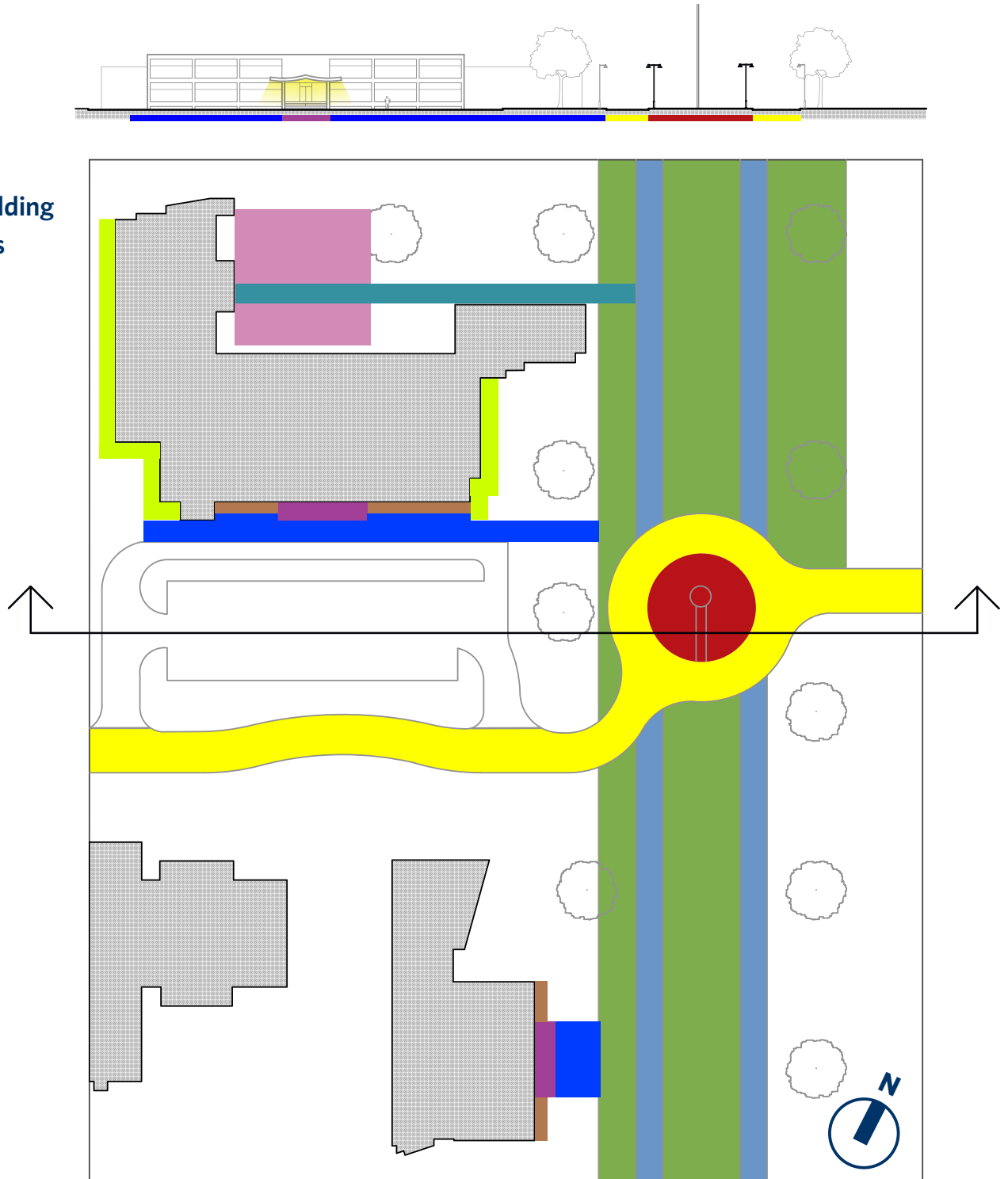
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2013-Oct-21

MAP

3-13

Lighting—Building Exterior Areas





Building Exteriors

	Facade (Campus Core / Modern Campus)	55 Lux
	Building Forecourt	10-30 Lux
	Main Entrance	15 Lux
	Secondary Entrances	10 Lux
	Small Academic Commons	5 Lux
	Exterior Edge	<10 Lux

Illuminance

Nodes






















	Primary Icon	50-100 Lux
	Large Academic Commons: Green Surface	<10 Lux

Circulation

	Primary Ceremonial Route	25 Lux
	Campus Roads With Sidewalks	6 Lux

October 2013

TABLE
1
Illuminance
Hierarchy

UBC SITES		Context	Horizontal Illuminance Lux Average	Uniformity	Vertical Illuminance Lux Average	Prominence
Pedestrian Circulation						
	Primary Ceremonial Routes	High Luminance, Medium Contrast	25	4 :1	10	Prominent
	Secondary Pedestrian Routes	Medium Luminance, Medium Contrast	15	4 :1	5	Legible
	Primary Building Entrances					
	Secondary Building Entrance	High Luminance, Low Contrast	10	4 :1	3	Active Ambient
	Emergency Egress					
	Tertiary Pedestrian Routes	Low Luminance, Low Contrast	5	4 :1	2	Low Level Ambient
		High Luminance, Medium Contrast	20	4 :1		Prominent
		Medium Luminance, Medium Contrast	15	6 :1		Legible
	Campus Roads with Sidewalks	High Luminance, Low Contrast	6	6 :1		Active Ambient
	Roadway at Campus Boundary	Low Luminance, Low Contrast	4	6 :1		Low Level Ambient
	Shared Pedestrian and Service Lanes					
Nodes						
	Primary Icons	High Luminance, Medium Contrast	50-100	4 :1	1/3 Horiz ILL	Prominent
	Entrances					
	Gateways					
	Hub Commons	Medium Luminance, Medium Contrast	30-50	4 :1	1/3 Horiz ILL	Legible
	Large Academic Commons - Plaza Surface	High Luminance, Low Contrast	10-30	4 :1	1/3 Horiz ILL	Active Ambient
	Building Forecourt					
	Decorative Bosque					
	Building Edge	Low Luminance, Low Contrast	< 10	4 :1	1/3 Horiz ILL	Low Level Ambient
	Large Academic Commons - Green Surface					
	Small Academic Commons					
	Accented Forest					
Façades & Monuments						
	Icons and Hubs	Bright Surroundings Dark Surface			110	Prominent
	Campus Core & Modern Campus	Bright Surroundings Light Surface			55	Legible
	Forest Campus	Dark Surroundings Medium Light Surface			35	Active Ambient

APPENDIX 2

UNIVERSAL DESIGN PRINCIPLES

The 7 Universal Design Principles

PRINCIPLE 1 — EQUITABLE USE

Designers shall design spaces to allow the same means of use for all users from the outset, wherever possible, to avoid segregation of users by physical abilities. Sensitive early design can provide all users with equal degrees of service, security, and safety. (E.g. wheelchair accessible shortcuts, level entry access to the main floor buildings).

PRINCIPLE 2 — FLEXIBILITY IN USE

Accessibility features shall be designed to accommodate choice in methods of use. (E.g. accommodate right and left-hand use, a range of user heights and strengths, dual height countertops and drinking fountains).

PRINCIPLE 3 — SIMPLE AND INTUITIVE USE

Accessibility features shall be designed to have minimal complexity. (E.g. arrange information consistent with its importance).

PRINCIPLE 4 — PERCEPTIBLE INFORMATION

Essential information regarding built facilities shall be provided in redundant forms (pictorial, verbal, tactile) allowing different users to perceive the information through different modes. (E.g. Adequate height signs, compatibility with a variety of techniques used by people with sensory limitations).

PRINCIPLE 5 — TOLERANCE FOR ERROR

Accessible features shall be designed to have minimal complexity. (E.g. provide clearance from hazardous finishes, and easy to grasp handles).

PRINCIPLE 6 — LOW PHYSICAL EFFORT

Accessible features shall be designed to require low physical effort to operate. (E.g. users able to maintain neutral body position, and use reasonable force).

PRINCIPLE 7 — SIZE AND SPACE FOR APPROACH AND USE

Accessible features shall be designed with ample size and space for users of various abilities to manoeuvre and operate. (E.g. provide a clear line of sight to important elements for any seated or standing user, put features within reach of any seated or standing user, or accommodate variations in hand and grip size).

APPENDIX 3

INTERIOR DESIGN IMPROVEMENTS TO ADDRESS COMMON ACCESSIBILITY CHALLENGES

a. Door Design

- i. **Manoeuvring Space at Doors** — For doors with closers, manoeuvring space must be provided on the pull side to allow the wheelchair to swing quickly into place as the door is opened. This prevents the door from closing as the chair approaches.
- ii. **Door Knobs** — Lever handles shall be used where possible because they can be used with less finger strength or wrist twisting than knobs require.

b. Interior Fit Out

- i. **Countertops** — Every countertop shall have a section with an alternate 80 cm height & open knee space under. Reception counters, lab benches, self use kitchens, library workstations, copy centres often bar use by someone in a wheelchair.
- ii. **Accessories** — Accessories shall be reachable and usable. Coat hooks, dispensers, vending machines, parking meters, etc.

c. Stairs

- i. **Stair Tops** — Permanent tactile warning pads shall be provided at stair tops.
- ii. **Nosing Contrast** — Stairs are the highest hazard location in a building. Clearly seeing where a tread edge is helps reduce the risk of ripping or falling. All stairs shall have enough visual contrast at nosing.
- iii. **Level Thresholds** — Thresholds shall be a maximum of .6 cm or 1.3 cm if it is bevelled. There are many thresholds that exceed the maximum allowed.

- d. **Single Level Floor Plates** — Split level entrances with elevator access do meet the BC Building Code, but shall be avoided. Split levels create a condition that can divide a group into those who can use a stair and those who cannot, diminishing the campus experiences of a person in a wheelchair.

1 Introduction

2 Campus-Wide Design
Guidelines

3 Supplementary Guidelines for
Character Districts & Hubs

4 Maps & Tables

5 Appendices

Endorsed Design Guidelines
Revisions

Universal Design Principles

Interior Design Improvements to
Address Common Accessibility
Challenges



a place of mind
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