

North Island Hospitals

Design Guidelines

1 DESIGN PRINCIPLES

The North Island Hospitals Project (Project) is to be designed according to the Design Guidelines. These guidelines reflect the following 10 key design principles.

1) *Healing Environment*

The Project should provide a healing and wellness environment for patients and their families. The environment should be welcoming for the community of users and provide non clinical spaces to relax and de-stress. All design aspects of creating a healing environment should be considered including, colour, light, views to nature, positive distractions, art, music and ability to participate in alternative activities.

The Project should provide an environment where employees, physicians and others can work together collaboratively in promoting health and wellness. The facilities should use technology to improve cost effectiveness, integrate services, and achieve better health outcomes. Workplaces should be designed to support innovative and collaborative methods of working, help incorporate the Authority's new and emerging technologies, respond to diverse work styles (such as hoteling and job-sharing), and optimize flexibility and space utilization.

2) *Evidence Based Design*

In undertaking the design of the Facility, Evidence Based Design methodologies should be applied to achieve the Project's Design Objectives. "Evidence Based Design" or "EBD" means that decisions about the design of the Facility will be based on credible research, information derived from comparable projects, and information about Authority operations, in order to achieve the best possible outcomes. The goal of EBD is to deliver measurable improvements, for example in the Authority's patient and workflow outcomes, productivity, economic performance, and customer satisfaction.

3) *LEAN approach to service delivery flows*

The design of the Facilities should facilitate the delivery of efficient and effective workflow and processes and eliminate waste, within both clinical and non-clinical service delivery processes. Wherever appropriate, standardization to reduce errors and improve quality of service delivery should be applied.

4) *Elder and Patient Friendly*

The Project should be designed to create elder friendly, patient centred facilities that will support excellence and innovation in the delivery of safe, quality healthcare. The facilities should meet the needs of patients, visitors, employees, physicians, volunteers, learners, researchers and teachers now and into the future.

5) Consistency of Design

The Project should be as similar as is possible in the planning and design of systems, services, functional relationships, acknowledging differences with respect to the relative sizes of the facilities and the differing site constraints.

6) Use of Wood

As contemplated by the *Wood First Act* (British Columbia), the Project must incorporate wood products into the design of the Facilities to the extent that the use of wood products is permissible under the B.C. Building Code.

7) Sustainability

The Project must be designed to achieve LEED Gold Certification. The design and construction of the Facilities should use design methods, building materials, operational practices, energy and life cycle considerations that promote environmental quality, protect health and indoor environmental quality, and provide social benefits and economic vitality throughout the construction and operating periods.

8) Efficient Use of Resources

The Project design should give priority to efficient use of resources, and consider efficiencies and innovations that may be possible through integration of systems within the Campuses to minimize operational costs for the Authority in relation to utilities and carbon taxes.

9) Alternative Sources of Energy

The Project design should consider alternative sources of energy, explore opportunities for recovering waste heat, and consider the development of biomass cogeneration.

10) Carbon Neutrality

The Project design should apply a total systems approach to minimize energy consumption and incorporate energy consumption management techniques that are targeted to stabilize and optimize energy flows and achieve Carbon Neutrality.

2 VIEWS

The intent is to maintain views wherever possible; public offsite views as well as on-site views should be carefully considered in the site design of every development.

- a) Views to existing vistas (primary viewscapes) shall be encouraged through view corridors, the terracing of building forms where possible, and the creation of public spaces.
- b) Siting of buildings should accommodate, wherever possible, “near views” of public spaces, natural and landscaped areas both on and off site, as well as special views, such as the Discovery Passage in Campbell River and nature views in Comox Valley.

- c) Minimize the local environmental effects of new development, in particular blocking views and creating unwanted sun shadows.

3 PUBLIC REALM AND PEDESTRIAN AMENITY

The intent is to create a high-quality, vibrant, and pedestrian friendly public realm.

Sunlight Penetration

- a) The heights, massing, and siting of new buildings should not detract from the availability of sunlight to the exterior space, open spaces, and pedestrian streets.
- b) On semi-private open spaces, both at-grade and above, should maximize sunlight penetration/ exposure.

Weather Protection

Rain and Sun Protection

- a) Weather protection must be implemented where common entries to buildings front a sidewalk or open space.
- b) The design must also ensure good day lighting to protected areas through their proportion of height to depths, and special measures, such as glass roof panels.
- c) Weather protection, considered to be permanent structures, may not extend into public street rights-of-way.

Wind Protection

- a) New developments must seek to protect pedestrians at building entrances and high activity pedestrian areas from the negative effects of the prevailing south easterly wind.
- b) Sites, buildings, and associated landscaped areas should be designed to minimize wind induced by buildings, and its impact on both the public and private realms.
- c) Areas of calm and wind mitigating measures should be provided to enhance enjoyment of the outdoors and to extend the seasonal duration of outdoor activities such as convalescing or socializing.

Placement of Services

- a) Public seating, and other furnishings should be provided to take best advantage of views, sun, shade, and informal day-to-day meeting places for people.
- b) Provide utility wires underground and conceal related equipment so as to not impact the appearance or use of the pedestrian realm.

4 LANDSCAPING

The intent is to reinforce and enhance an image of the Cities of Courtenay and Campbell River through preservation of mature vegetation and through inclusion of abundant landscaping in all developments.

Tree Preservation

- a) Trees and mature vegetation that will be retained must be protected during construction to the drip line. Trees and vegetation that will be retained must be surrounded by a snow fence or other similar material.
- b) To reinforce the image of a well-established landscape, retention and incorporation of mature trees and landscaping into the development site is encouraged. Where this is not possible, trees should be relocated. Whenever a major tree is removed, the replacement ratio is 2:1 in Campbell River and 2:1 in Courtenay in the interface zone only.
 - a. The Courtenay interface zone is the landscaped border between the North Island College, the Queneesh School and the hospital site.
- c) Replacement trees should be specimen trees and must have a minimum calliper of 15cm (5.9 in.) in diameter at breast height (dbh).
- d) If retaining existing trees and woodlot/hedgerow vegetation, should provide tree wells and/or creative grading of the ground away from vegetation. Where tree wells are to be constructed, the wells must be a minimum distance of 1.5 times the distance from the trunk of the tree to the drip line.
- e) No excavation, storage of materials, parking, preloading, or filling shall occur within the drip-line of the trees being preserved.

Open Space

- a) Should maximize the amount of landscaped areas on a site and minimize the amount of impervious surfaces to increase the natural absorption of storm water. Developments should strive to achieve 25% of the site as soft landscaping, including plant materials.
- b) Where possible, the landscape should provide for or enhance wildlife habitat. Include species that will attract birds, which in turn enhance both biodiversity and create pleasant soundscapes.
- c) A diversity of tree species is encouraged to increase the survival ratio of new landscaping. Avoid tree species which would have difficulty surviving or be difficult to maintain in urban areas.
- d) Trees should be clustered to create more intimate areas for people to gather without compromising site safety.
- e) Public seating should be provided where walkways intersect public streets and areas of high activity.
- f) In general, plaza spaces and forecourts should consist of these elements: a widened hard surface, light standards, fixed benches and/or other seating, a distinct pattern, form or change in colour of paving, accent planting, bicycle racks in close proximity, garbage receptacles, areas for future public art.
 - i. For the Campbell River site, existing wood sculptures must be incorporated into the site's landscaping plan.

5 CIRCULATION AND PARKING

The intent is to provide safe and efficient circulation for automobiles without compromising the pedestrian environment or the liveability of developments.

Access

- a) Where driveway crossings are required, must use measures to ensure that the crossings do not endanger pedestrians or the mobility impaired. The driveway crossings should not limit the provision of street trees, landscaping, or furnishings in appropriate locations.
- b) Service entrances should be integrated into the hospital design to limit the impact of these elements on building appearance.

Parking

- a) Development should minimize the visual impact of parking lots and structures.

Parking Structures

- a) Multi-level parking structures must not front public streets at grade; for the purposes of these design guidelines, the NIC East Access Road is considered a public street.
- b) Where possible, structured parking should be located to the rear of the site or beneath buildings.
- c) At the entry of structured parking, the parking control equipment must be located a sufficient distance from the public street to prevent parking queues extending onto the street.
- d) At the exit of structured parking, a minimum distance of two car lengths must be provided between an exit gate and the street edge to accommodate cars waiting to enter the traffic stream.
- e) On non-street-fronting facades, walls of parking structures should be enhanced by a landscape buffer or special façade.
- f) Unfinished ceilings, lights, pipes, etc. must not be visible from a public street or public street sidewalk.
- g) Interior site lighting levels (natural or artificial) should be inviting
 - i. Lighting placement must be planned to make sure there is sufficient quantity light for pedestrians and other users of the hospital.
 - ii. Must use light quality to enhance safety for pedestrians and minimize light spill to adjacent properties.
- h) City of Courtenay requirement: where possible, all lighting should be in compliance with the Dark Skies policy.
- i) Pedestrian routes within and to/from parking facilities must be clearly delineated and logical in terms of directness.
- j) In situations with little or no surface parking, the ground-level parking areas in a parking structure must have sufficient height clearance to accommodate most light trucks and passenger vans.
- k) Large expanses of blank concrete walls are discouraged and opportunities to introduce relevant treatment, such as art reliefs, are encouraged to create texture and visual interest in the pedestrian realm.
- l) Noise attenuation must be provided on parking structure walls within 200 metres from residential developments.

Surface Parking

- a) Surface parking must be screened by landscaping.

- b) Where surface parking is provided behind buildings, it must be screened from adjacent properties with landscape planting or trellis strips.
- c) Trees must be planted at a minimum ratio of one tree for every four parking stalls.
- d) In cases where surface parking is situated between a building and the adjacent public street:
 - i. Must provide a minimum of 1 tree for every 2 parking spaces situated on-site between the building setback line and the adjacent public street.
 - ii. Must provide special paving and landscaping measures to further identify and enhance the pedestrian movement.
 - iii. The primary pedestrian systems, public open space, walkways and entrances to the facility must be universally accessible to the physically challenged and be elder friendly.
- e) Surface parking must contribute to the continuity of the street landscaping edge without compromising the safety and security of the public inside the lot and on the public street.
- f) Parking lots must be partitioned into smaller visitor friendly lots defined at the boundaries by drive aisles, sidewalks, trees, and landscaping.
- g) Multiple surface parking lots must provide a direct pedestrian pathway system through the parking area to provide convenient and safe pedestrian access between building entrances, parked cars, and sidewalks of adjoining streets.
- h) The pathway system should incorporate landscaping with trees and benches, lighting, and distinct paving where appropriate. It must also be wide enough for wheelchairs / scooters and should include a tactile strip for the visually impaired crossing points.
- i) Where pedestrians must cross service roads or access roads to reach parking areas, crosswalks must be clearly designated by such means as pavement markings and signs.
- j) Must provide curb-cuts or curb let-downs in appropriate locations to facilitate convenient and direct access from the parking space(s) to the building(s) for people with disabilities. Pedestrian movement must be designed to avoid any obstruction by parked vehicles.
- k) Should minimize the surface area of blacktop parking by using alternate treatments and by complementing the asphalt with a variety of paving materials.
- l) Should consider the use of shallow concrete gutters or swales with rolled edges between parking spaces and driving aisles as an alternative treatment for surface drainage.
- m) For the Comox Valley Site, parking layout and access must be in accordance with or better than the 'ICBC Road Sense Safety Design Guidelines for Parking Facilities'.

Bicycle Parking

- a) Secured, long-term bicycle parking for employees must be provided. Bicycle storage areas integrated into parking structures should be located close to building access points.
- b) Bicycle parking facilities must be at-grade, have uniform lighting, be safe, and secure.
- c) Unsecured, short-term bicycle parking must be provided in the form of bicycle racks located within 15m (49.2 ft.) of a principal building entry.
 - i. Bicycle parking must be situated in well-lit locations, clearly visible from principal building entries and/or public roads.
 - ii. Bicycle racks must be made of sturdy, theft-resistant material, securely anchored to the floor or ground.
 - iii. Bicycle racks must be designed to support the bicycle frame, not the wheels, and allow both the frame and the front wheel to be locked to the rack with a U-style lock.

6 BUILDING SCALE AND FORM

The intent is to ensure that buildings are appropriate to their context and contribute to the overall quality of the streetscape.

Form of Development

- a) Street-fronting development should create an edge to the street to help define streets and public spaces.
- b) Setbacks as identified in zoning regulations should be designed as extensions of the public realm.
- c) Where a building exceeds 15.2m (50 ft.) in height, the building facade projecting above the lower-level street wall must be recessed a minimum of 2m (6.6 ft.). Buildings should be designed to avoid blank walls, particularly on the first two storeys of a building that face a street or pedestrian pathway. Entrances and windows should be facing streets and pedestrian pathways wherever possible. Building mass, variation of the facade, textured surfaces, architectural detailing, or graphics and colours should be used to reduce the impact of any solid wall.
- d) Facade treatments that are inviting to pedestrians and avoid the impersonal look typically associated with the use of large expanses of glass, mirrored surfaces, and blank walls should be provided. Where it does not interfere with staff privacy and patient confidentiality, materials on the ground floor should be used that do not impede visual connection between the interior of the building and the street.
- e) Large facades should be broken down into smaller elements to create visual interest, address human scale, and pedestrian experience.

Corner Sites

- a) Corner sites should be designed to bring visual prominence to the corner and to provide an edge to the intersection.
- b) Buildings should be located at or close to the corner, to provide a built-form definition to the street.
- c) When buildings are not located at the corner, the building(s) should define the open space which is part of the corner; and a landscaped area with special features appropriate to the context e.g. flag poles, ornamental trees, seating area, "decorative" paving, architectural structures such as pergolas, etc., should be provided.

Entrances

- a) Where appropriate, entrances should animate internal site roads/ streets or exterior public streets and reinforce a scale and rhythm to the street complementary to pedestrian activities, street tree planting, and landscaping.

Roofs

- a) Roof-top mechanical equipment must be concealed either within the upper floor mechanical penthouse or within screened structures on the roof and, consistent in form, material, and detailing with building;
 - i. The mechanical and electrical equipment (i.e. generators) shall be provided with noise attenuation.

- b) Lower-level roofs should typically be either sloped (20° minimum) or developed as usable, landscaped open space e.g. terraces or roof-decks.

Noise Mitigation

- a) Locate building ventilation systems to minimize noise and exhaust in pedestrian areas, and outdoor spaces. These systems shall be provided with noise attenuation screening if they are located facing and within 200metres of residential areas.
- b) Noise mitigation strategies will be applied to areas where objectionable noise is being generated such as refuse, recycling, loading, and service areas.

7 SAFETY AND SECURITY

The intent is to minimize opportunities for crime and to promote a sense of security through the design of the built environment.

Defensible Space

- a) Public space should be distinguished from private spaces. Symbolic barriers should be designed through building siting and design; landscape, e.g. changes in paving, vegetation, or grade; and/or architectural features, e.g. low wall, bollards, raised planters, rather than by continuous solid fences or walls.
- b) Designed spaces within the development should encourage people to congregate by including such features as fountains, or seating.

Visibility

- a) Opportunities for people to easily view what is happening around them during the course of everyday activities should be included in the exterior design.
- b) Landscapes and circulation routes must be designed to allow clear, unobstructed views of surrounding areas for safety surveillance. Entrapment spots must be eliminated and barriers incorporated that permit visual access without loss of privacy, such as glazing in lobby doors and stairs-wells. "Eyes on the street" should be encouraged using windows, doors, and activity generators such as seating;
- c) Common facilities and/or areas must be grouped, so that each facility or area will be automatically monitored by the constant presence of users of other facilities or areas.
- d) Windows and doors should remain visible from the street and are not hidden by vegetation, etc.
- e) To ensure safety and security, sightlines must be provided through any cluster of tall growing vegetation by keeping all under storey to a maximum of 1.2m (3.9 ft.) in height.

Safety Measures for Parking Areas

- a) Exits and interior spaces within any below or above grade parking structures must be planned to ensure maximum visibility within the parking area. Avoid hidden spaces or alcoves. Glass enclosed stairwells, elevators, and "open" ramping systems should be used to enhance visibility and aesthetics.

- b) Adequate and appropriate lighting must be provided to enhance security. Avoid "dark distant corners" in parking areas. Pedestrian entrances to buildings and designated pedestrian routes must be highlighted with additional secondary lighting fixtures.
- c) Electronic security devices and monitoring systems should be considered, as a supplement to natural surveillance opportunities to increase safety in parking structures and parking areas.
- d) Walls and ceilings of parking structures must be painted white to enhance or reflect light. The design and operation of parking facilities, both surface and multi-level, should create convenient and safe usage.
- e) Employee parking must not be located in visually remote areas of parking lots, behind blank walls, or within service or loading areas.

Lighting

- a) Effective architectural lighting of buildings, open spaces, streets, parking areas/structures, and pedestrian circulation routes should be provided for the purpose of discouraging crime, preventing accidents and accenting architectural features or detailing.
- b) Lighting must be located and designed to ensure that all areas are well lit - avoid glare and reduce shadows.
- c) In isolated areas, good lighting and public telephones must be provided to enable people to call for assistance.
- d) Open spaces, pedestrian and vehicular circulation routes, parking lots, and building entries should be lit to provide security, safety, and convenient access without producing glare into adjacent properties and sensitive uses.
 - i. Lighting along pedestrian pathways should be at a scale appropriate for pedestrians while providing optimum visibility.
- e) Entry ways and doors must be illuminated. Light levels must provide for a comfortable transition between neighbouring locations.
- f) Vandal-resistant light fixtures must be provided that are easy to maintain and operate.

8 REFUSE, RECYCLING, AND SERVICE AREAS

- a) Refuse/recycling areas, shipping, loading or utility areas, satellite dishes, and other similar structures, such as outdoor vents, mechanical equipment, or transformers must be screened as much as possible out of view from streets.
- b) Garbage and recycling bins must be easily accessible, and contained within roofed/walled enclosures, or screened from public view.
- c) The designs of the enclosure of outdoor refuse/recycling areas and the screening of other areas should be coordinated with, and complement the overall design of the development.

9 UNIVERSAL DESIGN PRINCIPLES

The intent is to ensure that the design of a development enables all people, including people with disabilities, to have full and unrestricted access to every part of the facility.

Site Circulation

- a) All parking spaces allocated for people with disabilities should be located as close as possible to the main entrance to a building.
- b) Access for the mobility impaired (including people with baby strollers) must be provided via at least one path of travel, with a minimum clear width of 1.5m (4.9 ft.) to the major portion of any open space, any building lobby accessible to the open space, and any use that may be present on, or adjacent to, open space.
- c) All pedestrian routes must be fully accessible to the disabled community.
- d) Pedestrian pathways should also include, wherever possible, a linear textured band of roughened surface for the visually impaired to follow. The band should be appropriately located towards the middle of a pathway and should be designed to avoid potential conflicts with seating areas or plant materials at edges of walkways.
- e) Building and site design features which segregate circulation/ areas/ uses for people with disabilities from typical public usage should be discouraged, except where required due to reasons of safety or significant space limitations. For example, ramps are discouraged in favour of more gentle grade changes and alternate design approaches;
- f) Minor walkways must have positive drainage to shed rain water quickly and minimum width of 1.5m (5ft.).
- g) Major walkways should allow for two people walking side by side and someone passing.

Site Design

- a) Site designs should seek to integrate features that accommodate persons of varying ability levels.
- b) Seating in public areas must be:
 - Ergonomically designed for a variety of people;
 - Designed to allow a wheelchair to sit alongside fixed seating or, where tables are provided, to allow a wheelchair to pull up to each table;
 - Minimum of 5% of all seating in public areas to be provided with backrests; and
 - Designed to shed rain water.

10 ADJACENT USES

The intent is to accommodate and encourage development while minimizing the impacts of new developments on adjacent land uses and on the overall environment of the City.

- a) Design development should mitigate the impact of traffic, noise, lighting, and other environmental conditions on adjacent residential areas.
- b) Interior sidewalls, created as a result of construction/redevelopment phasing, should be designed to complement the overall appearance of development, and should not appear temporary or unfinished.