FORM & CHARACTER DEVELOPMENT PERMIT AREA GUIDELINES

DISTRICT OF MACKENZIE

SEPTEMBER 2023

SEPTEMBER 26, 2023
WORKING DRAFT

MACKENZIE
BRITISH COLUMBIA

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PREPARED BY

BAREFOOT
PLANNING+DESIGN

1. INTRODUCTION

1.1. REGULATION

In accordance with Section 488 (1) of the Local Government Act, the Form and Character DPA has been designated for the following purposes:

a. Establish objectives to guide the protection of the natural environment, its ecosystems and biological diversity.

b. Establish objectives to guide the form and character of intensive Residential, Commercial, Industrial, and Institutional development.

c. Establish objectives to promote energy conservation.

1.2. SCOPE AND COVERAGE

Unless exempted (see Sections 1.5 Exemptions), a development permit addressing design guidelines must be approved for all properties that are currently, or become, zoned for multiple-unit residential, commercial, industrial, or zoned for institutional or comprehensive development containing multiple-unit residential, commercial or industrial uses, as shown on Map 1 before:

- Construction of, addition to, or alteration of a building or structure.

Issuance of a general development permit for the site layout of a comprehensive or phased development project does not absolve applicants from the requirement for subsequent development permit(s) to address the form and character of individual buildings.

1.3. OBJECTIVES

In support of Mackenzie's OCP and Downtown Action Plan, these Guidelines are intended to achieve the following overarching objectives:

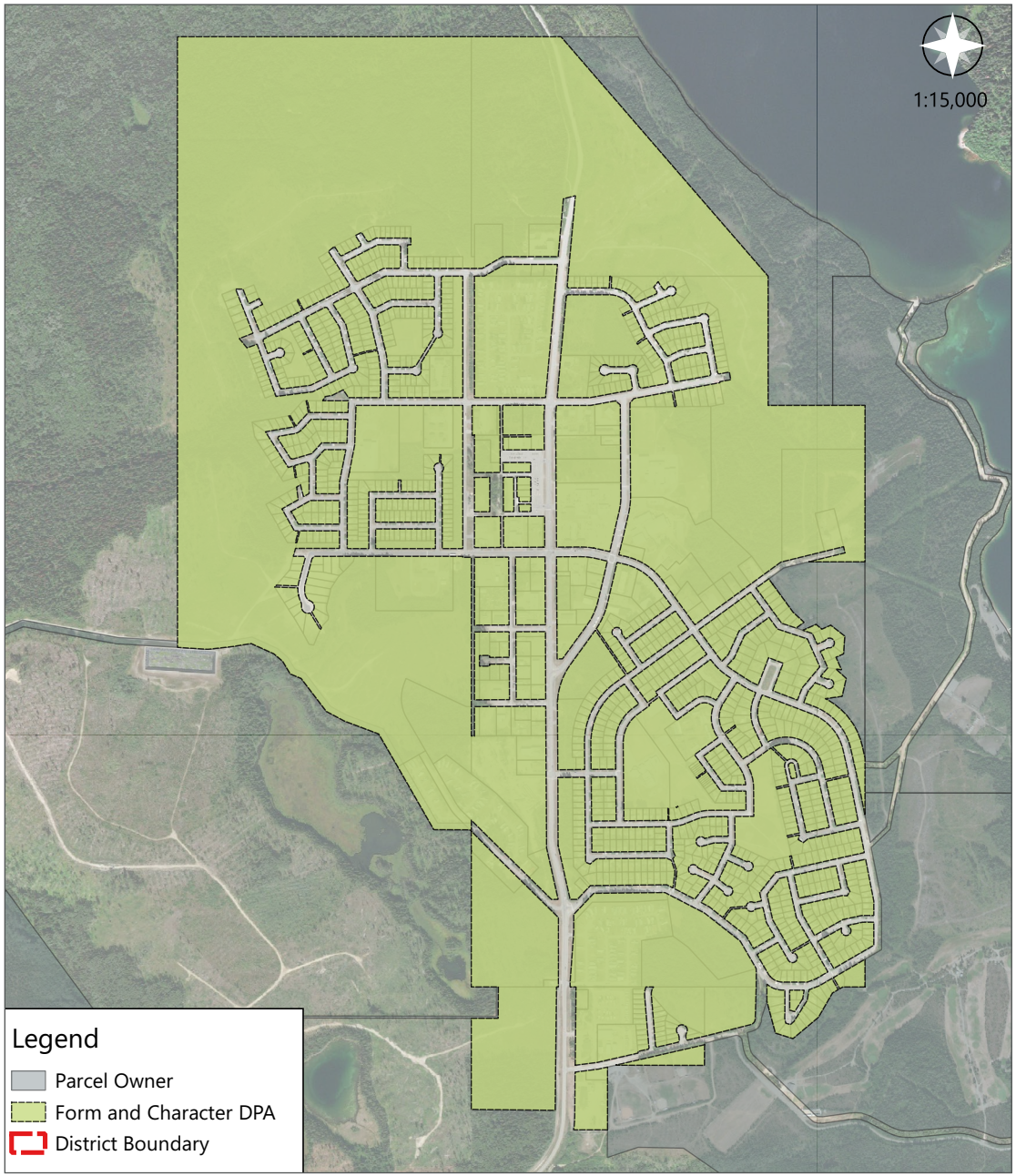
- Communicate the design expectations for residential, commercial, industrial, institutional, and mixed-use projects.
- Facilitate the fair and consistent application of design objectives.
- Foster design excellence and sustainability throughout the District by encouraging consistently high-quality, contextual, and attractive development.

Incorporating these Guidelines into a project's design will encourage the creation of contextual and compatible architecture, high-quality pedestrian realms, and sustainable and resilient design, and will contribute to placemaking and design excellence in Mackenzie.

1.4. EXEMPTIONS

A Form and Character Permit will not be required for:

- An addition or alteration to an existing principal building which will not be visible from an existing or future: adjacent public road right-of-way, adjacent park, adjacent residential, or adjacent agricultural zoned property, provided that the proposal requires no variance(s) from the Zoning Bylaw, and further, requires no approval from the appropriate provincial ministry or agency.
- An addition or alteration to an existing principal building provided that the works:
  - » Do not negatively impact the overall form and character of the building;
  - » Do not impact the existing landscape or access provisions;
  - » Do not require approvals from the appropriate provincial ministry or agency; and,
  - » Do not exceed a total value of $25,000 for materials and labour.
- Replacement, alteration or addition to a building such as new siding, roofing doors, building trim, awnings, and/or windows where it does not negatively impact the overall form and character of the building and would not impact the existing landscape or access provisions; or
- Interior renovations.
- Replacement of a building that has been destroyed by natural causes, in cases where the replacement building is identical to the original in both form and character.
- Construction, addition or alteration to not exceed 30 sq. m. (323 sq ft) for a single-storey accessory structure (4.5 m in height) is proposed and where no variance(s) of the Zoning Bylaw is required.
- Construction, addition or alteration to not exceed 45 sq. m. (484 sq ft) for a single-storey accessory structure (4.5m in height) where the building is non-habitable space and where no variance(s) of the Zoning Bylaw is required.



MAP 1: DEVELOPMENT PERMIT AREAS

1.5. ORGANIZATION

The design guidelines outlined in this document provide design guidance that is broadly applicable to all areas of Mackenzie. The Guidelines are organized in the following way (see diagram to the right):

- The Core Design Principles (Section 2) apply to all projects and provide the overarching principles for supporting creativity, innovation, and design excellence in Mackenzie.
- The General Guidelines (Section 3) apply to all residential and mixed-use projects and provide key guidelines to support the Core Design Principles.
  - » The typology-specific guidelines for residential and mixed-use typologies apply to relevant projects (e.g., Ground-oriented Housing in Section 4) and provide more detailed form and character guidance for those typologies.
- The typology-specific guidelines for Commercial Retail, and Industrial & Service Commercial, and institutional projects apply to relevant projects and provide key and detailed design guidance – no general guidelines apply.

1.6. ORGANIZATION OF THE GUIDELINES DOCUMENT

GUIDELINE STRUCTURE

The guidelines are structured similarly in all typologies sections to enhance usability. Key design objectives are presented as intent statements at the beginning of each section. Each intent statement is followed by a series of guidelines that can be used to achieve the intent. Each section includes:

- A Guideline Topic subheading (e.g., Site Design and Planning).
- A design intent statement that states the goal of the guidelines.
- The Guidelines, which outline strategies for achieving the Design Intent.
- Supportive illustrations and photos that demonstrate Guideline concepts.

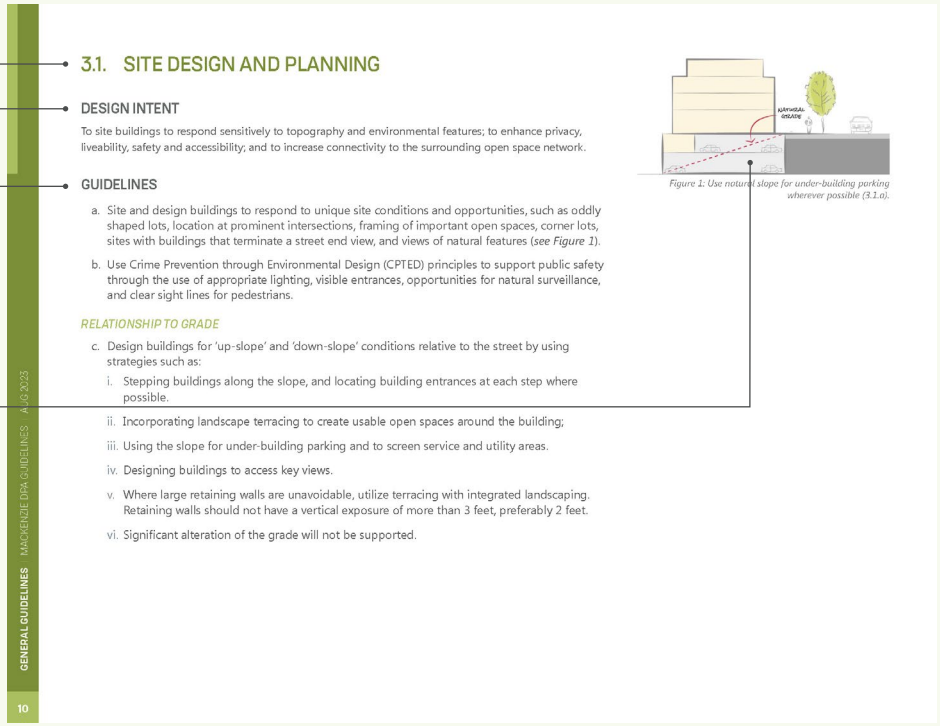
SAMPLE GUIDELINE STRUCTURE

Guideline Topic

Design Intent
What is to be achieved.

Guidelines
Strategies for achieving the design intent.

Illustrations and Precedent Photos
To illustrate strategies for achieving the design intent.



3.1. SITE DESIGN AND PLANNING

DESIGN INTENT

To site buildings to respond sensitively to topography and environmental features; to enhance privacy, liveability, safety and accessibility; and to increase connectivity to the surrounding open space network.

GUIDELINES

a. Site and design buildings to respond to unique site conditions and opportunities, such as oddly shaped lots, location at prominent intersections, framing of important open spaces, corner lots, sites with buildings that terminate a street end view, and views of natural features (*see Figure 1*).

b. Use Crime Prevention through Environmental Design (CPTED) principles to support public safety through the use of appropriate lighting, visible entrances, opportunities for natural surveillance, and clear sight lines for pedestrians.

RELATIONSHIP TO GRADE

c. Design buildings for 'up-slope' and 'down-slope' conditions relative to the street by using strategies such as:

i. Stepping buildings along the slope, and locating building entrances at each step where possible.

ii. Incorporating landscape terracing to create usable open spaces around the building;

iii. Using the slope for under-building parking and to screen service and utility areas.

iv. Designing buildings to access key views.

v. Where large retaining walls are unavoidable, utilize terracing with integrated landscaping. Retaining walls should not have a vertical exposure of more than 3 feet, preferably 2 feet.

vi. Significant alteration of the grade will not be supported.

Figure 1: Use natural slope for under-building parking wherever possible (3.1.a).

GENERAL GUIDELINES MACKENZIE DPA GUIDELINES AUG 2023

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2. CORE DESIGN PRINCIPLES

The Core Design Principles below are applicable to all development projects and are the foundation for supporting sustainable design excellence in Mackenzie.

Urban design is the comprehensive and multi-scaled design of suburbs, towns, and cities. From the macro scale (e.g., urban structure, land use, infrastructure) to the micro-scale (e.g., architectural character, landscaping, lighting), good urban design is primarily determined by the relationship between the public and private realms and by the sensitive integration of new development and the existing community and environmental context. Pedestrian-oriented and human-scaled streets, buildings, and public spaces are essential elements to the making of a functional, aesthetic, and vibrant place.

The Core Design Principles on the next page are applicable to all development projects.

2.1. CREATE GREAT STREETS AND PUBLIC SPACES

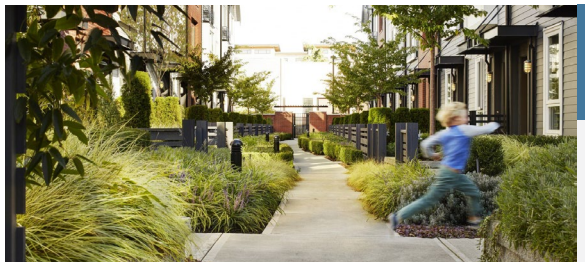
Development should define and activate streets and public spaces to support their flexibility of use and encourage pedestrian activity and social interaction.

2.2. DESIGN BUILDINGS TO THE HUMAN SCALE

Buildings and site features should be designed to the human scale – optimized to be used by people and oriented toward pedestrian activity.

2.3. USE PLACEMAKING TO STRENGTHEN MACKENZIE'S IDENTITY

Development should contribute to a local area and sense of place by considering neighbourhood context and character, linkages, and future land uses at each scale of design – from site layout to landscaping to building details.



2.4. CELEBRATE THE NATURAL ENVIRONMENT IN THE BUILT ENVIRONMENT

Development should respond to natural surroundings and utilize opportunities to improve ecological function by retaining on-site trees, growing the urban forest, implementing green infrastructure, and creating and connecting existing green spaces.

2.5. EMBRACE WINTER IN THE DESIGN OF BUILDINGS AND OPEN SPACES

Developments should consider Mackenzie's winter context, making the most of opportunities to stay outdoors by capturing the sun's warmth, providing protection from the wind, and making Mackenzie more accessible, safe and enjoyable year-round.

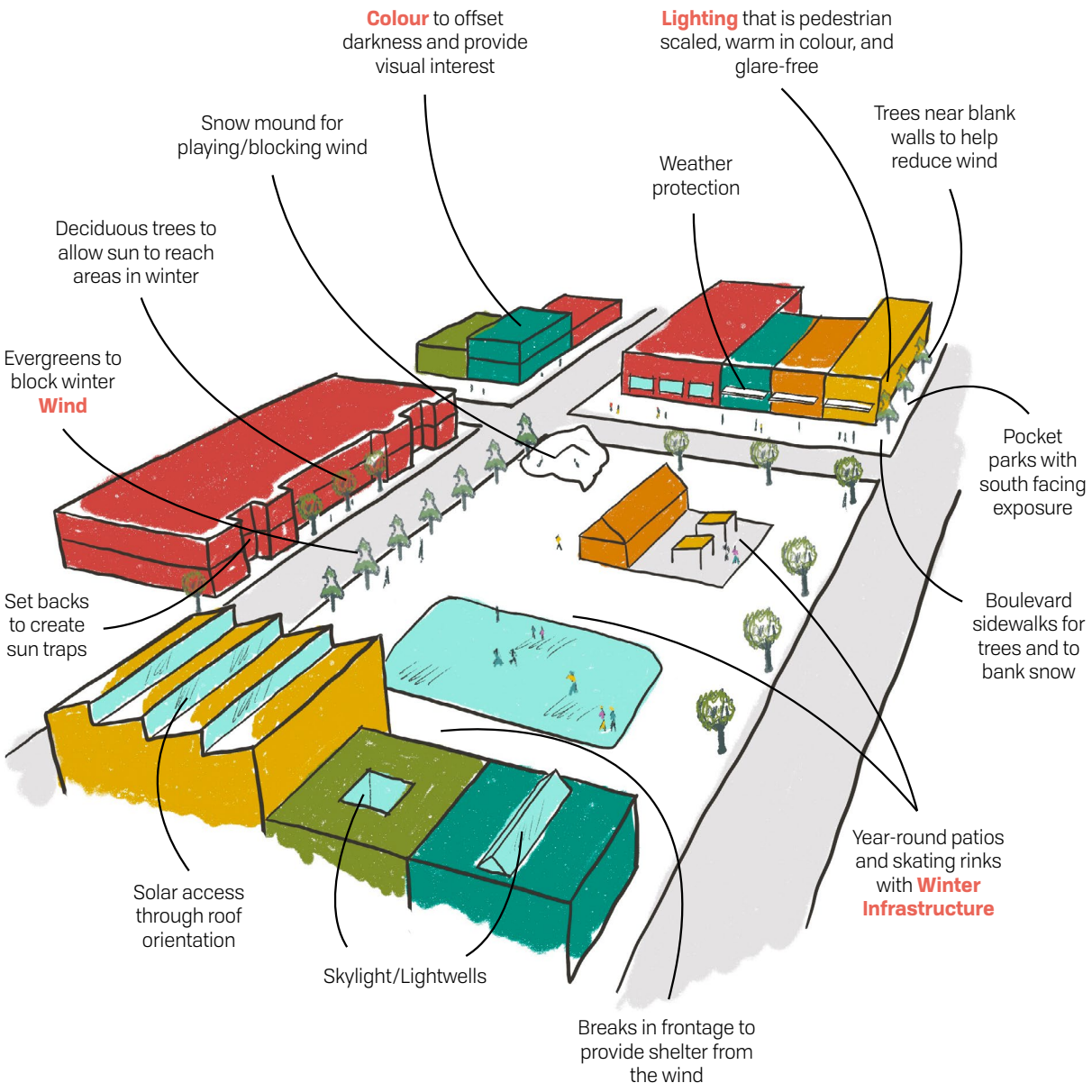
2.6. WINTER DESIGN PRINCIPLES

Winter is a core part of Mackenzie's identity and needs to be fully considered as Mackenzie grows and changes. Northern urban design needs to fully consider the winter context, making the most of opportunities to stay outdoors by capturing the sun's warmth, providing protection from the wind, and making the District more accessible, safe and enjoyable year-round.

Throughout the guidelines, winter design considerations have been incorporated as a means to provide guidance and inspiration for future design and development decisions in Mackenzie. The guidelines are intended to facilitate winter urban design best practices in order to transform Mackenzie into a thriving, year-round community. The guidelines follow from the Winter Design Principles which identify key design solutions in the private and public realms that support a positive quality of life for Mackenzie residents.

The winter design guidelines are comprehensive. For the sake of simplicity, however, the five main principles of winter city design are:

1. Incorporate design strategies to block wind, particularly prevailing winds and downdrafts.
2. Maximize exposure to sunshine through orientation and design.
3. Use colour to enliven the winterscape.
4. Create visual interest with light, while being mindful of intensity, spread, contrast and colour.
5. Design and provide infrastructure that supports desired winter life and improves comfort and access in cold weather.



3. GENERAL GUIDELINES

The General Guidelines capture the key design strategies and elements that should be addressed in all new residential and mixed-use projects in the District. They are premised on achieving the Core Design Principles in Section 2 and establishing the basis for the more detailed typology-specific Guidelines in Sections 4 and 5.

3.1. SITE DESIGN AND PLANNING

DESIGN INTENT

To site buildings to respond sensitively to topography and environmental features; to enhance privacy, liveability, safety and accessibility; and to increase connectivity to the surrounding open space network.

GUIDELINES

a. Site and design buildings to respond to unique site conditions and opportunities, such as oddly shaped lots, location at prominent intersections, framing of important open spaces, corner lots, sites with buildings that terminate a street end view, and views of natural features (*see Figure 1*).

b. Use Crime Prevention through Environmental Design (CPTED) principles to support public safety through the use of appropriate lighting, visible entrances, opportunities for natural surveillance, and clear sight lines for pedestrians.

RELATIONSHIP TO GRADE

c. Design buildings for 'up-slope' and 'down-slope' conditions relative to the street by using strategies such as:

   i. Stepping buildings along the slope, and locating building entrances at each step where possible.

   ii. Incorporating landscape terracing to create usable open spaces around the building;

   iii. Using the slope for under-building parking and to screen service and utility areas.

   iv. Designing buildings to access key views.

   v. Where large retaining walls are unavoidable, utilize terracing with integrated landscaping. Retaining walls should not have a vertical exposure of more than 3 feet, preferably 2 feet.

   vi. Significant alteration of the grade will not be supported.

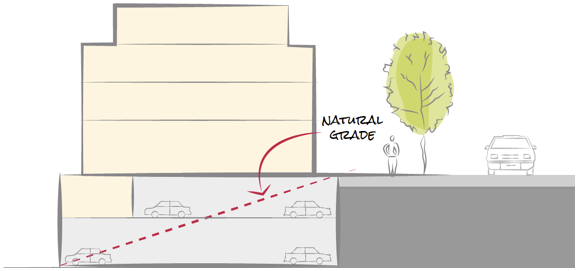


Figure 1: Use natural slope for under-building parking wherever possible (3.1.a).

CONNECTIVITY

d. Design internal circulation patterns (streets, sidewalks, pathways) to be integrated with and connected to the existing and planned future public street, bicycle and/or pedestrian network (*see Figure 2*).

e. Incorporate easy-to-maintain traffic calming features, such as on-street parking bays and curb extensions, textured materials, and crosswalks.

f. Apply universal accessibility principles to primary building entries, sidewalks, plazas, mid-block connections, lanes, and courtyards through the appropriate selection of materials, stairs, and ramps as necessary, and the provision of wayfinding and lighting elements.

WINTER DESIGN

g. Consider weather patterns and seasonal conditions when designing streets, buildings and open spaces, so that, for example, prevailing winds are impeded, public open spaces are sheltered by surrounding development, and solar access is maximized.

h. Design the street network and pedestrian routes to support small blocks and/or mid-block pathways and crossings, offering multiple route choices and quality street frontages.

i. Design developments that are compact, fine-grained (e.g. small blocks, narrow frontages, frequent storefronts), with uses that are street-oriented, to create a more invited public realm.

j. Consider opportunities for mid-block connections with shops and services along the ground floor, to provide shelter and protection from the weather.

k. Plan for smaller snow storage areas with solar access, rather than one large shaded area, as the snow will melt faster.

l. Balance the need for local snow storage with other considerations, such as walkability, aesthetics and parking.

m. Consider site drainage plans should account for the run-off during freeze-thaw cycles.

n. Ensure grading directs snowmelt towards roadways, and away from building entries and pedestrian zones, to avoid slippery conditions during freeze-thaw cycles

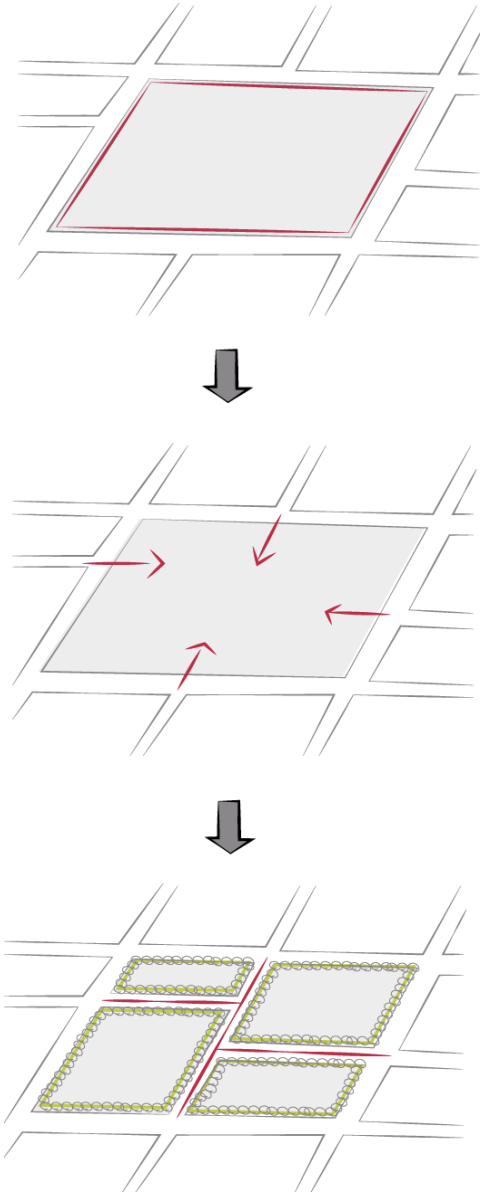


Figure 2: Design internal circulation patterns (streets, sidewalks, pathways) to be integrated with and connected to the existing and planned future public street, bicycle and/or pedestrian network (3.1.d)

3.2. RELATIONSHIP TO THE STREET

DESIGN INTENT

To site and design buildings to positively frame and activate streets and public open spaces.

GUIDELINES

a. Orient primary building facades and entries to the fronting street or open space to create street edge definition and activity.

b. On corner sites, orient building facades and entries to both fronting streets.

c. Minimize the distance between the building and the sidewalk and establish a consistent street wall along street frontages to create street definition and a sense of enclosure (*see Figure 3*).

d. Locate and design windows, balconies, and street-level uses to create active frontages and 'eyes on the street', with additional glazing and articulation on primary building facades.

e. Ensure main building entries are clearly visible with direct sight lines from the fronting street.

f. Avoid blank, windowless walls along streets or other public open spaces.

WINTER DESIGN

g. Locate major glazing areas and transitional indoor and outdoor spaces, including patios and porches, on the south-facing side of the building to benefit from the penetration of heat and sunlight.

   i. Consider adding sun shades to balance winter warming, summer shading and daylighting potential.

h. Determine suitable building setbacks and variations in building frontages to enhance the pedestrian experience.

   i. Use setbacks to create sun traps and shelters from the wind.

   ii. Reflected or radiated heat from surfaces within sun traps can provide year-round spaces for restaurant patios and retail.

i. Provide a seamless-grade transition between commercial entrances and the sidewalk while incorporating barrier-free design principles and consideration for changing seasonal conditions, such as snow or ice accumulation.

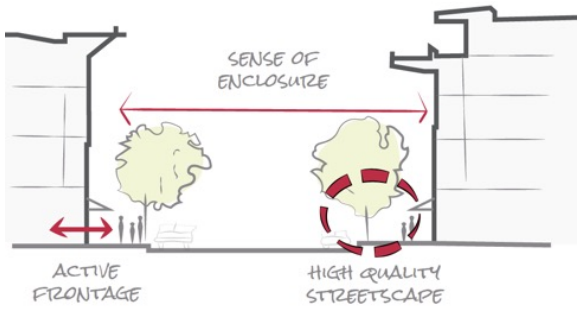


Figure 3: A sense of enclosure, transparent and active shop fronts, and high quality streetscape design are the key ingredients for great streets (3.1.c)

3.3. SCALE AND MASSING

DESIGN INTENT

To ensure buildings contribute positively to the neighbourhood context and provide a sensitive transition in scale to existing and future buildings, parks, and open spaces.

GUIDELINES

a. Provide a transition in building height from taller to shorter buildings both within and adjacent to the site with consideration for future land use direction (*see Figure 4*).

b. Minimize the perceived mass of large buildings by incorporating visual breaks in facades.

c. Step back to the upper storeys of buildings and arrange the massing and siting of buildings to:

   i. Minimize shadowing on adjacent buildings as well as public and open spaces such as sidewalks, plazas, and courtyards.

   ii. Maximize sunlight onto outdoor spaces of ground floor units.

WINTER DESIGN

d. Consider solar access in the placement of buildings and outdoor spaces.

   i. Building massing and siting should create minimum shade onto open spaces that are, or could be, used in the wintertime.

e. Accommodate taller structures on the north side of streets to avoid excess shadow-casting over sidewalks, patios and outdoor spaces.

f. Determine optimal site orientation and massing to reduce wind speeds at the street level.

   i. Vary building heights along a block length to reduce ground-level wind speeds.

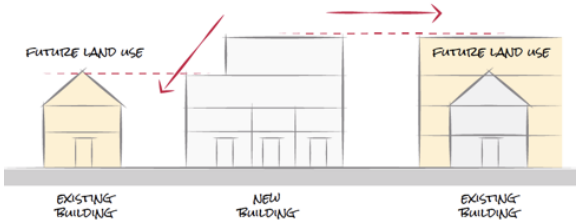


Figure 4: While considering future land use, stepping down building height can provide a sensitive transition in scale to adjacent buildings (3.3.a)

3.4. BUILDING ARTICULATION, FEATURES, AND MATERIALS

DESIGN INTENT

To enhance liveability, visual interest, identity, and sense of place through building form, architectural composition and materials.

GUIDELINES

a. Express a unified architectural concept that incorporates variation in facade treatments, while considering the impact of massing and articulation on energy performance (see section 3.8 High-Performance Buildings). Strategies for achieving this include:

   i. Articulating facades by stepping back or extending forward a portion of the facade to create a series of intervals or breaks.

   ii. Repeating window patterns on each step-back and extension interval.

   iii. Providing a porch, patio, deck, covered entry, balcony and/or bay window for each interval.

   iv. Changing the roof line by alternating dormers, stepped roofs, gables, or other roof elements to reinforce each interval (*see Figure 5*).

b. Incorporate a range of architectural features and details into building facades to create human scale and visual interest.

c. Design buildings to ensure that adjacent residential properties have sufficient visual privacy (e.g. by locating windows and balconies to minimize overlook and direct sight lines into adjacent units), as well as protection from light trespass and noise.

d. Design buildings such that their form and architectural character reflect the building's internal function and use.

Figure 5: Changing roof lines to reinforce intervals (3.4.a.iv)

MATERIALS

e. Incorporate high-quality, natural building materials such as wood, stone, and masonry into building facades and reflect Mackenzie's history as an industrial town (*see Figure 6*).

f. Where possible, utilize materials that relate to and harmonize with the colours and tones of the natural landscape.

g. Where possible, utilize low embodied carbon building materials (see section 3.8 High-Performance Buildings).

h. Design building surfaces to help reduce wind speed by incorporating balconies, softened corners, tapered/stepped-back facades, and even porosity, openings and irregularities into a building's exterior.

i. Use contrasting or saturated colour palettes on building facades to highlight pedestrian-scaled building massing and entrances, and to improve the visual interest of streets.

   i. Consider incorporating dense materials, such as brick and stone, to absorb and retain heat.

j. Design facades to sensitively reflect light onto streets, north-facing neighbouring buildings, and/or into open spaces (e.g., lighter colours on south-facing walls can passively reflect light).

Figure 6: Incorporate high-quality building materials to enforce Mackenzie's history (3.4.f)

WEATHER PROTECTION

k. Provide continuous weather protection along building frontages wherever possible, including ramps and stairs (e.g., canopies and arcades provide protection from the wind as well as falling snow and ice).

l. Incorporate barrier-free design principles and consider changing seasonal conditions, such as snow or ice accumulation.

   i. Cover and protect ramps and stairs from ice and snow to ensure safe movement for all pedestrians, including those who use wheelchairs, walkers, canes and strollers. Consider heating options, where appropriate.

   ii. Incorporate barrier-free transition areas, arctic entries, vestibule enclosures and grate drains at building entrances for patrons to shed snow prior to entering the building.

SIGNAGE

m. Limit signage in number, location, and size to reduce visual clutter and make individual signs easier to see.

n. Provide visible signage identifying building addresses at all entrances.

o. Design building signage to promote building identity and wayfinding.

   i. Illuminate signage after sunset and dim as the sky becomes dark.

   ii. Use clear fonts and contrasting colours to increase visibility and interest.

WINTER DESIGN

ROOF

p. Design roofs to prevent falling ice, snow, and discharge of roof leaders onto entrances and sidewalks.

q. Design light wells and roof orientation to increase solar access to building interiors and covered outdoor spaces.

r. Consider metal roofing as a durable cold-weather material (*see Figure 7*).

   i. Consider the roof slope when snow shedding occurs. Snow guards help prevent snow and ice from overloading gutters and suddenly releasing from the roof.

MATERIALS AND COLOUR

s. Use high-quality materials that will withstand the freeze-thaw cycle and conserve energy.

t. Assess areas where snow and ice can accumulate on facade surfaces and incorporate design features to minimize heat loss and the build-up of snow.

u. Select paving materials that are durable enough to withstand the harsh impacts of winter snow management and the corrosive effects of salt, as well as freeze-thaw cycles, while still being safe, slip-proof and easy to maintain.

   i. Apply colour and pattern variation or material to add visual interest and indicate circulation for pedestrians

Figure 7: Consider metal roofing as a durable cold-weather material (3.4.r).

BUILDING ENTRIES

v. Incorporate snow removal and storage considerations in the design of building entries (*see Figure 8*).

w. Incorporate a grade separation between the sidewalk and residential units to avoid impacts from snow melt.

x. Incorporate simple technologies for access to industrial and larger commercial buildings, such as bay door controls, air curtains and dock seals to prevent heat loss in winter.

LIGHTING

y. Provide decorative, pedestrian-scaled lighting that focuses illumination towards the ground to reduce light pollution and consider fully shielded fixtures to eliminate glare.

z. Integrate fixtures into building facades for temporary or permanent specialty lighting, such as seasonal or creative lighting.

   i. Design building lighting to enhance visibility, aesthetics and safety for building users and pedestrians.

   ii. Lighting choices should minimize glare, uplighting, and light trespass, while still enhancing architectural details.

aa. Include electrical outlets in tree wells and street lamp posts to allow for additional seasonal feature lighting, such as tree wrapping.

   i. Consider controls to dim or turn off decorative and street lighting during off-peak times.

Figure 8 Incorporate snow removal and storage considerations in the design of building entries (3.4.v).

3.5. SITE SERVICING, ACCESS, AND PARKING

DESIGN INTENT

To ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on the comfort, safety, and attractiveness of the public realm.

GUIDELINES

SITE SERVICING

a. Locate 'back-of-house' uses (such as loading, garbage collection, utilities, and parking access) away from public view and not in conflict with public circulation patterns.

b. Ensure utility areas and pad-mounted transformers are clearly identified at the development permit stage and are located to not unnecessarily impact public open spaces or pedestrian pathways.

c. Integrate mechanical equipment, vents, and service areas (e.g. for the collection of garbage or recycling) with the building design, and screen these areas with high-quality, durable finishes compatible with the architectural treatment of the building.

d. Locate mechanical equipment, such as the outdoor components of heat pumps and air conditioners, vents, and service areas to minimize impacts on adjacent residential buildings by avoiding proximity to windows, doors, and usable outdoor spaces.

e. Integrate gas and electrical metres, utility cabinets, as well as other mechanical or service apparatus, into building and site design to mitigate noise and view impacts.

f. Screen gas and electrical meters and utility cabinets located on building frontages from public view.

VEHICLE PARKING

g. Avoid locating off-street parking between the front facade of a building and the fronting public street (*see Figure 10*).

h. In general, accommodate off-street parking in one of the following ways, in order of preference

   i. Underground.

   ii. Parking in a half-storey (where it is able to be accommodated to not negatively impact the street frontage).

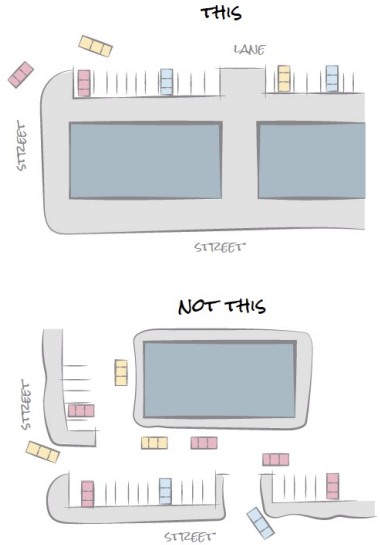


Figure 10. Avoid locating off-street parking between the front facade of a building and the fronting public street (3.5.g).

iii. Garages or at-grade parking integrated into the building (located at the rear of the building).

iv. Surface parking at the rear, with access from the secondary street wherever possible.

i. Avoid parking structures that are partially above grade and result in blank walls along street frontages.

j. In cases where publicly visible parking is unavoidable, screen parking using strategies such as (*see Figure 11*):

i. Landscaping and tree planting space.

ii. Trellises.

iii. Grillwork with climbing vines.

iv. Other attractive screening with some visual permeability.

v. Incorporating a buffer or setback from the public to adjacent neighbourhoods.

k. Provide clear lines of site at access points to parking, site servicing, and utility areas to enable casual surveillance and safety.

l. Consolidate driveway and laneway access points to minimize curb cuts and impacts on the pedestrian realm or common open spaces.

m. Minimize negative impacts of parking ramps and entrances through treatments such as enclosure, screening, high-quality finishes, sensitive lighting, and landscaping.

Figure 11: When provided at grade, screen or enclose parking to minimize view and impact on the public realm (3.5.j).

BICYCLE PARKING

n. Provide bicycle parking at accessible locations on-site, including:

i. Covered short-term parking in well-lit and highly visible locations, such as near primary building entrances (*see Figure 12*).

ii. Secure long-term parking within the building, vehicular parking area, no lower than the first level of vehicular parking area.

o. For additional guidance related to bicycle parking, see the BC Active Transportation Design Guide (BCATDG).

Figure 12: Covered short-term parking near primary building entrance (3.5.n).

WINTER DESIGN

p. Provide a landmark feature at the main entrance of parking lots to help guide drivers and pedestrians, especially when the ground is covered in snow.

q. Design parking lots to facilitate snow removal and maneuverability of equipment and fleet vehicles.

   i. Where possible, divide large parking lots into smaller areas, separated by planted islands (*see Figure 13*).

r. Designate space in parking lots for on-site snow storage in areas that maximize sunlight and melting, while being mindful of drainage considerations.

s. Reduce automobile lane widths where possible as narrow lanes result in less road surface to clear and extended sidewalks with shared-use paths accommodate a variety of active transportation modes.

   i. Consider how reallocation of space or roadway redesign would best accommodate all modes safely in all weather conditions.

   ii. Ensure the needs of municipal maintenance, operation and emergency vehicles are met.

t. Provide mid-block crossings with curb extensions on long blocks to reduce the distances pedestrians must travel to reach their destinations.

   i. Curb extensions that minimize pedestrian crossing distances are recommended where curbside parking lanes exist.

Figure 13: Where possible, divide large parking lots into smaller areas, separated by planted islands (3.5.q).

3.6. LANDSCAPE DESIGN AND PUBLIC REALM

DESIGN INTENT

To ensure the design of streets and open spaces creates visual interest, comfort and safety for pedestrians, and positively contributes to urban ecology, habitat, and stormwater management.

GUIDELINES

LANDSCAPE PLANNING

a. Locate and design underground parkades, infrastructure, and other services to maximize soil volumes for in-ground plantings.

b. Design attractive, engaging, and functional on-site open spaces with high-quality, durable, and contemporary materials, colours, lighting, furniture, and signage (*see Figure 14*).

c. Create multi-functional landscape elements wherever possible, such as planting areas that also capture and filter stormwater or landscape features that users can interact with.

d. Site trees, shrubs, and other landscaping appropriately to maintain sight lines and ensure that, at maturity, landscaping does not encroach on circulation routes.

e. Use landscaping as a privacy buffer and define private, semi-private, common/shared, and public outdoor areas.

f. Ensure site planning and design achieve favourable microclimate outcomes through strategies such as:

   i. Locating outdoor spaces to maximize sunlight throughout the year.

   ii. Using materials and colours that minimize heat absorption.

   iii. Planting both evergreen and deciduous trees to provide a balance of shading in the summer and solar access in the winter.

   iv. Using building mass, trees, and planting to buffer wind.

Figure 14: Design attractive, engaging, and functional on-site open spaces with high quality materials (3.6.b).

LANDSCAPE MATERIALS

g. Use landscaping materials that soften development and enhance the public realm (*see Figure 15*).

h. Plant native and/or drought-tolerant trees and plants suitable for the local climate (see Winter Design below for more considerations).

   i. Select trees for long-term durability, climate and soil suitability, and compatibility with the site's specific urban and climatic conditions.

i. Select materials and furnishings that reduce maintenance requirements and use materials and site furnishings that are sustainably sourced, re-purposed, local, or 100% recycled (see Winter Design below for more information).

Figure 15: Use landscaping materials that soften development and enhance the public realm (3.6.g).

STORMWATER MANAGEMENT & WATER USAGE

j. Design sites and landscapes to maintain pre-development flows through capture, infiltration, and filtration strategies, such as the use of rain gardens, swales, and permeable surfacing.

k. Design sites to minimize water use for irrigation by using strategies such as:

   i. Planting drought-tolerant tree and plant species that are resilient to future climate projections and that maximize ecosystem services.

   ii. Designing planting areas and tree pits to passively capture rainwater and stormwater run-off.

l. Design parking areas to maximize rainwater infiltration through the use of permeable materials such as paving blocks, permeable concrete, driveway planting strips, and rain gardens.

FOREST

m. Site buildings to protect mature trees, significant vegetation, rock outcrops, and ecological features.

n. Plant new street trees along public rights of way and ensure adequate soil volumes to optimize tree health while maximizing the tree canopy (see Winter Design below for more information).

o. Consider species that provide high ecological and urban habitat values (e.g., for pollinators).

LIGHTING AND WAYFINDING

p. Use exterior lighting to complement the building and landscape design, while:
   i. Minimizing light trespass onto adjacent properties.
   ii. Using full cut-off lighting fixtures to minimize light pollution.
   iii. Maintaining lighting levels necessary for safety and visibility.

q. Employ on-site wayfinding strategies that create attractive and appropriate signage for pedestrians, cyclists, and motorists using a 'family' of similar elements.

r. Provide pedestrian lighting and direct pathways between parking lots and connect paths to the main entrances of buildings (*see Figure 16*).

PUBLIC ART

s. Where applicable, integrate public art on-site to generate interest and activity and reflect the unique natural, Indigenous, industrial, or settler history of Mackenzie.

t. Provide adequate building setbacks and space to accommodate the pedestrian view and experience of public art installations.

u. Site artwork at key pedestrian spaces such as courtyards, mid-block connections, lanes, and plazas.

Figure 16: Provide pedestrian lighting to main building entrances (3.6.r).

WINTER DESIGN

v. Account for snow removal and storage in the design of streetscapes and open spaces.
   i. Where appropriate, consider the use of moveable planters for trees and other landscaping that protects plantings from salting and snow clearing.
   ii. Select appropriate landscaping for snow-storage areas. Grassed or landscaped areas that are used for snow storage are subject to damage and poor growth due to compaction and pollutants, and possibly poor drainage.
   iii. Consider the flexible use of parking lanes for snow storage.

w. Provide comfortable, protected and, preferably, south-facing areas for outdoor seating and dining. These areas could include overhead protection, decorative boxes with coniferous plants, and architectural and snow walls (*see Figure 17*).
   i. Consider ease of snow-clearing maintenance, particularly for benches. (e.g., easier to clear snow from around a bench with a central pedestal than from around a traditional bench with four legs).
   ii. Select materials that are durable, comfortable and aesthetically pleasing (e..g, metal can get very cold or hot, and neither extreme is particularly comfortable)
   iii. Provide a variety of styles of both fixed and flexible street furniture to improve comfort.
   iv. Incorporate windscreens, lighting, gas fire pits and other heating features to improve comfort in seating and dining areas.

x. Provide landscaped and permeable surface areas on or near roadways to provide a natural filter for snowmelt and heavy rainfall, reducing pressure on the drainage and water network.

y. Use the natural topography and playground elements to create winter activity for the community (e.g., slopes and hills for tobogganing, flat fields for snow furrows, snow sculptures and fort buildings, and pathways for running and sliding between garden beds)

z. Select plant species that offer attractive or useful winter characteristics such as colour, fruit or tolerance to salt.
   i. Choose native or non-invasive species that will create interesting landscapes year-round, including tall grasses and hardy greens.
   ii. Trees that have colourful bark or retain their fruit in winter will attract winter birds and add additional colour and texture.

Figure 17: Provide comfortable and protected outdoor seating and dining (3.6.w).

3.7. ACCESSIBLE DESIGN

DESIGN INTENT

To encourage a high standard of accessibility in site, building and landscape design to be more inclusive of all users.

GUIDELINES

a. When provided, access ramps, exterior lifts, and related elements should be visually integrated with the overall building design and site plan so as to not appear disjointed from the building facade.

b. Use firm, slip-resistant, and even circulation surfaces and facilitate continuous and uninterrupted travel.

c. Vertical disruptions along pedestrian routes should be avoided for ease of use by people with wheeled mobility devices, strollers, and bicycles.

d. Ensure exterior accessible paths of travel:

   i. In general, have a minimum clear width of 1.8 m, to allow room for mobility devices and service animals going both ways along a path, while accounting for use.

   ii. Have a minimum headroom clearance of 2.1 m, to ensure paths are free of obstacles overhead that mobility canes cannot detect.

   iii. Have firm, stable, and slip-resistant surfaces that canes, crutches, or the

   iv. Be free of stairs or other barriers to mobility aids.

e. Gratings or grills should be located on one side of accessible paths of travel.

f. Benches, bike racks, bins and other furnishings should be located to one side of accessible entryways and pathways (*see Figure 18*).

g. Primary entrances should be accessible and provide basic protection from the weather and include doors and vestibules that are usable autonomously by persons with varying disabilities.

h. Outdoor common spaces (e.g. areas for seating, gardening, etc.) should be generally accessible for people with varying levels of ability and mobility and protected from the elements.

i. Where stairs are located at the elevator lobby and at the end of corridors, design stairs to be visible, open and larger than the minimum to encourage walking.

j. Where exit stairs and lobbies have exterior walls, incorporate windows for daylighting.

Figure 18: Benches and bike racks should be located to one side of accessible pathways (3.7.f).

3.8. HIGH-PERFORMANCE BUILDINGS

Energy Step Code and Building Form and Character

The BC Energy Step Code is a performance-based standard for new construction that sets specific energy thresholds to be met while allowing building designers to identify how best to meet these thresholds for a given project.

While lower levels of the Energy Step Code can generally be achieved by making modest improvements to building design, achieving compliance with the highest requirements requires that the building be designed from the start with energy performance as a priority objective, and this may result in some implications with regard to building form and character. **The guidelines in this section are meant to provide guidance and flexibility so that designers are able to achieve high-performance design alongside urban design best practices.**

For more details on designing buildings to meet Energy Step Code performance requirements, including mechanical design, air tightness strategies, envelope details and other strategies that do not impact form and character, please see BC Housing's *BC Energy Step Code Design Guide*.

Figure 19: An example of a high-performance townhouse with a simplified building form to minimize building envelope heat loss, while also achieving many form and character objectives.

DESIGN INTENT

To design buildings to reduce energy demand and maximize occupant health and comfort, while ensuring visual interest.

GUIDELINES

SIMPLIFIED MASSING

a. Consider the impact of massing and articulation on energy performance, including consideration for strategies such as:

   i. Designing buildings with a pure form, simplified massing and fewer complex junctions to minimize building envelope heat loss; and

   ii. Using articulation strategies for the building facade that are able to be done outside of the building thermal envelope.

b. Use simple shifts in massing and changes in exterior colours and textures to articulate facades.

c. For larger buildings, consider targeting an overall window-to-wall ratio (WWR) of 40% to reduce heat gain and loss through the building envelope by increasing the area of insulated walls. Additional considerations include:

   i. Higher WWR ratios can be accommodated at grade to promote at-grade transparency while accommodating the 40% WWR in the building overall.

   ii. Lower WWR ratios can be accommodated on north-facing facades to account for lower solar gain potential.

SITE PLANNING AND ORIENTATION

d. Orient buildings to maximize solar access to adjacent streets and public spaces, while also considering optimizing for solar orientation to improve energy performance and occupant comfort.

e. Use appropriately designed exterior shading devices to block unwanted solar gains in warmer months while welcoming solar gains from lower winter sunlight. Additional considerations include:

   i. Their use should be prioritized on southern elevations.

   ii. Shading is not necessary on north-facing facades.

   iii. Vertical fins are a good strategy to use for blocking incoming summer sun on western elevations.

HIGH-PERFORMANCE BUILDING ENVELOPE

f. Use insulating materials and/or thermally broken building products to reduce building heat loss from thermal bridges such as concrete balconies and beams that run from the building's interior to the exterior.

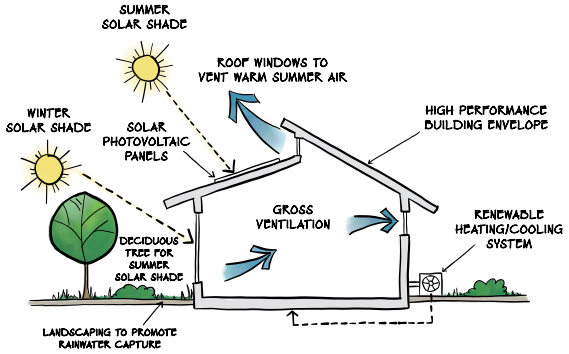


Figure 20: Concept diagram illustrating several high-performance design strategies, including passive cooling strategies.

4. GROUND-ORIENTED HOUSING GUIDELINES

The term "Ground-oriented Housing" in the District refers to intensive residential units, such as duplexes, triplexes, townhouses, row housing and small apartments, that are built near or adjacent to existing single-family homes, low-rise residential, and mixed-use development. This type of housing is characterized by shared side walls with neighbouring units and ground-oriented access to streets and open spaces.

4.1. SITE DESIGN AND PLANNING

DESIGN INTENT

To site buildings to respond sensitively to topography and environmental features; to enhance privacy, livability, safety and accessibility; and to increase connectivity to the surrounding open space network.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

CONNECTIVITY

a. Provide pedestrian pathways on-site to connect (*see Figure 21*):
   i. Primary unit entrances to public sidewalks and open spaces.
   ii. Visitor parking areas to building entrances.
   iii. From the site to adjacent pedestrian/trail/cycling networks (where applicable).
   iv. Public sidewalks and open spaces to secondary building or storage entries (e.g., to garage door entries for bicycle storage, where applicable).

b. When pedestrian through-connections are provided on-site, frame them with an active edge – with entrances and windows facing the path or lane.

c. Large mature trees and environmentally sensitive areas located on the street fronting perimeter of sites should be retained through strategic site planning and alternative construction methods.

FACING DISTANCES AND SETBACKS

d. Locate and design buildings to maintain access to sunlight, and reduce overlook between buildings and neighbouring properties.

e. Separate facing buildings on site a minimum of 10-12 m to provide ample spatial separation and access to sunlight.

Figure 21: Provide pedestrian pathways on-site to connect to public sidewalks (4.1.a).

4.2. RELATIONSHIP TO THE STREET

DESIGN INTENT

To site and design buildings to positively frame and activate streets and public open spaces, while providing a clearly defined public-private transition zone.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Design primary unit entrances to provide:
   i. A clearly visible front door directly accessible from a public street or publicly accessible pathway via a walkway, porch and/or stoop.
   ii. Architectural entrance features such as stoops, porches, shared landings, patios, recessed entries, and canopies.
   iii. A sense of transition from the public to the private realm by utilizing strategies such as changes in grade, decorative railings, and planters.
   iv. Locate semi-private outdoor areas along the street frontage to activate the street and provide 'eyes on the street' (*see Figure 22*).

b. Set back residential buildings on the ground floor between 4-6 m from the property line to create a semi-private entry or transition zone to individual units and to allow for an elevated front entryway or raised patio.
   i. A maximum 1.2 m height (e.g., 5-6 steps) is desired for front entryways.

c. In the case of shared landings that provide access to multiple units, avoid having more than two doors in a row facing outward.

d. For buildings oriented perpendicularly to the street, ensure a strong relationship to the street with the end unit by using strategies such as:
   i. Having a primary entry directly accessible from the fronting street.
   ii. Placing windows to address the street.
   iii. Creating a front yard condition adjacent to the fronting street through, for example, landscaping and/or plantings along an entry path.

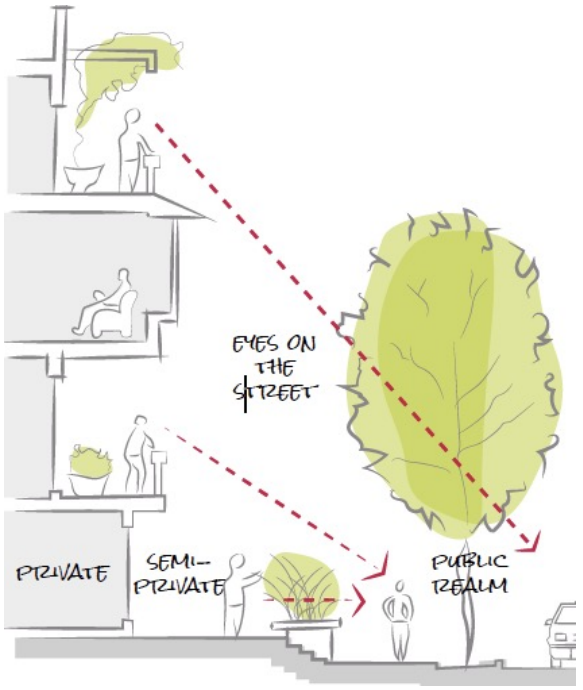


Figure 22: Locate and design windows, balconies, and street level uses to create active frontages and 'eyes on the street' (4.2.a.iv).

4.3. SCALE AND MASSING

DESIGN INTENT

To ensure buildings contribute positively to the neighbourhood context and provide a sensitive transition in scale to existing and future buildings, parks, and open spaces.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Scale and site buildings to establish a consistent rhythm along the street by, for example, articulating individual units through the integration of recessed entries, balconies, a change in materials and slight projection/recess in the facade (*see Figure 23*).

b. Consider compatible changes in materials and colours to identify housing blocks in large townhouse developments.

c. In larger townhouse developments, limit the number of connected townhouse units to a maximum of 6 units before splitting into multiple buildings.

Figure 23: Scale and site buildings to establish consistent rhythm along the street (4.3.a).

4.4. BUILDING ARTICULATION, FEATURES, AND MATERIALS

DESIGN INTENT

To enhance livability, visual interest, and sense of place through building form, architectural composition, and materials.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Design facades to articulate individual units while reflecting positive attributes of neighbourhood character. Strategies for achieving this include (*see Figure 24*):
   i. Recessing or projecting facades to highlight the identity of individual units.
   ii. Using entrance features, roofline features, or other architectural elements.

b. b. To maximize integration with the existing neighbourhood, design townhouses to:
   i. Incorporate design elements, proportions, and other characteristics found within the neighbourhood.
   ii. Use durable, quality materials similar or complementary to those found within the neighbourhood.

c. To maximize livability, primary living spaces be designed to:
   i. Have access to daylight and natural ventilation.
   ii. Not be located more than 1.2 m below adjacent grade (will not be supported).
   iii. Have operable windows strategically located, at high and low elevations, to maximize natural ventilation.

d. Maintain the privacy of units on site and on adjacent properties by minimizing overlook and direct sight lines from the building using strategies such as:
   i. Off-setting the location of windows in facing walls and locating doors and patios to minimize privacy concerns from direct sight lines.
   ii. Use of clerestory windows.
   iii. Use of landscaping or screening.
   iv. Use of setbacks and articulation of the building.

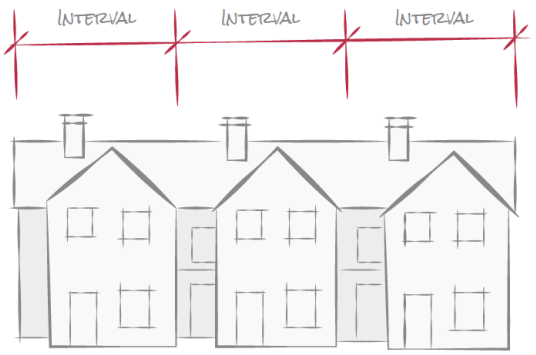


Figure 24: Design facades to articulate individual building entrances (4.4.a).

4.5. SITE SERVICING, ACCESS, AND PARKING

DESIGN INTENT

To ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on the comfort, safety, and attractiveness of streets, sidewalks, and open spaces.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Locate 'back of house' uses (such as loading, garbage collection, utilities) with surface parking, in an enclosed space, away from public view.

PARKING

b. Rear-access garage, not visible from the street, or integrated tuck-under parking is preferred in townhouses (*see Figure 25*).

c. Front garages and driveway parking are acceptable in townhouses facing internal strata roads, with the following considerations:

   i. Architecturally integrate the parking into the building and provide weather protection to building entries.

   ii. Design garage doors to limit visual impact, using strategies such as recessing the garage from the rest of the facade.

d. There should be a minimum of 1 m landscape setback from a shared property line and a driveway.

e. If bike parking is to be provided in individual parking garages, ensure adequate space for both vehicles and bikes.

VEHICLE ACCESS

f. Ensure that vehicle internal circulation is designed to accommodate necessary turning radii and provides logical and safe access and egress.

g. Locate access points to minimize the impact of headlights on building interiors.

h. At points of egress, ensure clear sight lines to adjacent sidewalks and/or roads.

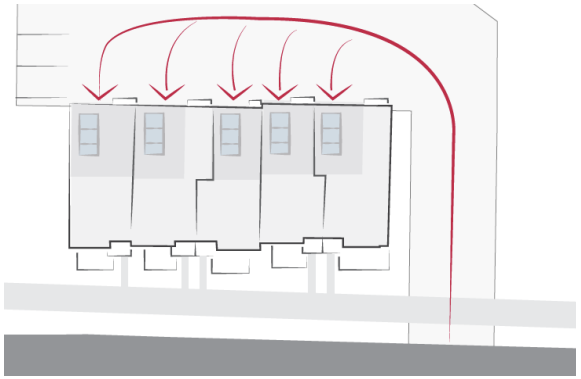


Figure 25: Rear-access garage, not visible from the street, is preferred in townhouses (4.5.b).

4.6. LANDSCAPE DESIGN AND PUBLIC REALM

DESIGN INTENT

To design landscapes and open spaces that provide integrated, flexible, and accessible open space.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Design all units to have easy access to usable private or semi-private outdoor amenity space.

b. Design front yards to include a path from the fronting street to the primary entry, landscaping, and semi-private outdoor amenity space (*see Figure 26*).

c. Design private outdoor amenity spaces to:

   i. Be usable (e.g., have direct access from the unit and be at least 9 m^2).

   ii. Have access to sunlight.

   iii. Have railing and/or fencing to help increase privacy.

   iv. Have landscaped areas to soften the interface with the street or open spaces.

d. Design front patios to:

   i. Provide an entrance to the unit.

   ii. Where adjacent to a public street, be potentially raised (a maximum of 1.2 m) to create a semi-private transition zone.

e. Design rooftop patios to:

   i. Have parapets with railings.

   ii. Minimize direct sight lines into nearby units.

   iii. Have access away from primary facades.

Figure 26: Design front yards to include a path from the fronting street to the primary entry (4.6.b).

f. Provide common outdoor amenity spaces that:

   i. Incorporate landscaping, seating, play space, urban agriculture, and other elements that encourage gathering or recreation.

   ii. Avoid isolated, irregularly shaped areas or areas impacted by parking, mechanical equipment, or servicing areas.

g. Design internal roadways to serve as additional shared space (e.g., vehicle access, pedestrian and bicycle access, open space) using strategies such as:

   i. High-quality pavement materials (e.g., permeable pavers).

   ii. Providing usable spaces for sitting, gathering and playing.

   iii. On-site pedestrian circulation that is distinct, identified through paving pattern, from car circulation.

5. LOW-RISE RESIDENTIAL & MIXED-USE GUIDELINES

Low-rise Residential and mixed-use buildings may become a common building typology in Mackenzie over time. Common design challenges include addressing the street with active uses and ground-oriented units and reducing the bulk and massing of larger buildings. To address these challenges, projects should have a strong relationship to the street with a clear front-to-back orientation and provide vertical and horizontal articulation.

5.1. SITE DESIGN AND PLANNING

DESIGN INTENT

To site buildings to respond sensitively to topography and environmental features; to enhance privacy, livability, safety and accessibility; and to increase connectivity to the surrounding street and open space network.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Site buildings to be parallel to the street and to have a distinct front-to-back orientation to the public street and open spaces and to rear yards, parking, and/or interior courtyards:

   i. Building sides that interface with streets, mid-block connections, and other open spaces (building fronts) should positively frame and activate streets and open spaces and support pedestrian activity.

   ii. Building sides that are located away from open spaces (building backs) should be designed for private/shared outdoor spaces and vehicle access.

CONNECTIVITY

b. Break up large buildings with mid-block connections which should be publicly accessible wherever possible (*see Figure 27*).

c. Ground floors adjacent to mid-block connections should have entrances and windows facing the mid-block connection.

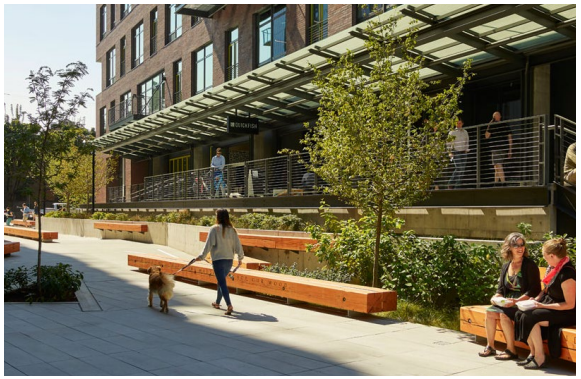


Figure 27: Break up large building with mid-block connections. (5.1.b).

5.2. RELATIONSHIP TO THE STREET

DESIGN INTENT

To site and design buildings to positively frame and activate streets and public open spaces.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Ensure lobbies and main building entries are clearly visible from the fronting street.

b. Avoid blank walls at grade wherever possible by:

   i. Locating enclosed parking garages away from street frontages or public open spaces.

   ii. Using ground-oriented units and entries or glazing to avoid creating dead frontages.

   iii. When unavoidable, screen blank walls with landscaping or incorporate a patio cafe or special materials to make them more visually interesting.

COMMERCIAL AND MIXED-USE BUILDINGS

c. Ensure buildings have a continuous active and transparent retail frontage at grade to provide a visual connection between the public and private realms.

d. Site buildings using a common 'build to' line at or near the front property line so that a continuous street frontage is maintained (*see Figure 28*).

   i. Some variations can be accommodated in ground level setbacks to support pedestrian and retail activity by, for example, incorporating a recessed entryway, small entry plaza, or sidewalk cafe.

e. Incorporate frequent entrances (every 15 m maximum) into commercial street frontages to create punctuation and rhythm along the street, visual interest, and support pedestrian activity.

f. On a sloping site, commercial frontages should step along with the grade. Sunken commercial areas are not supported.

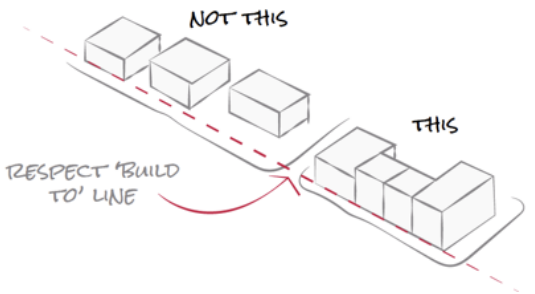


Figure 28: Site buildings to a common 'build to' line at or near the property line (5.2.d).

RESIDENTIAL AND MIXED-USE BUILDINGS

g. Set back residential buildings on the ground floor between 4-6 m from the property line to create a semi-private entry or transition zone to individual units and to allow for an elevated front entryway or raised patio (*see Figure 29*).

   i. A maximum 1.2 m height (e.g., 5-6 steps) is desired for front entryways.

h. Incorporate individual entrances to ground floor units with direct connection to the street or public open spaces.

i. Site and orient buildings so that windows and balconies overlook public streets, parks, walkways, and shared amenity spaces while minimizing views into private residences.

Figure 29: Set back residential buildings on the ground floor between 4-6 m to create a semi-private entry or transition zone (4.2.g).

5.3. SCALE AND MASSING

DESIGN INTENT

To ensure buildings contribute positively to the neighbourhood context and provide a sensitive transition in scale to existing and future buildings, parks, and open spaces.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Residential building facades should have a maximum length of 50 m. A length of 40 m is preferred.

b. Residential buildings should have a maximum depth of 24 m.

c. Buildings with facades over 40 m in length should incorporate a significant horizontal and vertical break in the facade (*see Figure 30*).

   i. For commercial facades, in addition to incorporating frequent entrances, incorporate a significant break at intervals of approximately 35 m.

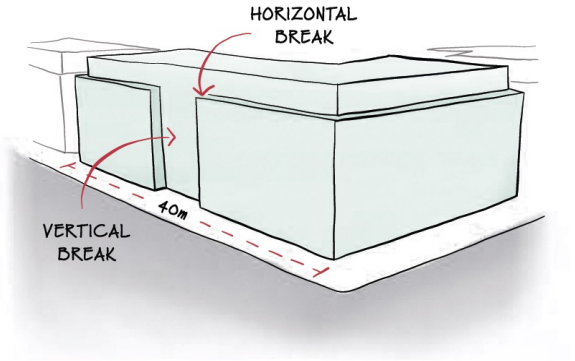


Figure 30: Building over 40 m in length should incorporate significant horizontal and vertical break in the facade (5.3.c).

5.4. BUILDING ARTICULATION, FEATURES, AND MATERIALS

DESIGN INTENT

To enhance livability, visual interest, identity, and sense of place through building form, architectural composition, and materials.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Articulate building facades into intervals that are a maximum of 15 m wide for mixed-use buildings and 20 m wide for residential buildings. Strategies for articulating buildings should consider the potential impacts on energy performance.

b. Proportion the massing by incorporating elements that define a building's base, middle, and top (*see Figure 31*).

c. Use an integrated, consistent range of materials and colours and provide variety by, for example, using accent colours.

d. Select materials and accent colours with consideration for long-term performance and colour fastness.

e. Articulate the facade using design elements that are inherent to the building as opposed to being decorative. For example, create depth in building facades by recessing window frames or partially recessing balconies to allow shadows to add detail and variety as a byproduct of massing.

f. Incorporate distinct architectural treatments for corner sites and highly visible buildings such as varying the roofline, articulating the facade, adding pedestrian space, increasing the number and size of windows, and adding awnings and canopies.

g. Provide continuous weather protection (e.g. awnings, canopies, overhangs, etc.) along all commercial streets and plazas, with particular attention to the following locations:

   i. Primary building entrances.

   ii. Over storefronts and display windows; and

   iii. Any other areas where significant waiting or browsing by people occurs.

Figure 31: Proportion the massing by incorporating elements that define the building's base, middle, and top (5.4.b).

h. Place and locate awnings and canopies to reflect the building's architecture and fenestration pattern.

i. Place awnings and canopies to balance weather protection with daylight penetration. Avoid continuous opaque canopies that run the full length of facades.

j. Manage drainage from awnings in order to prevent snow and rain from dropping onto pedestrians or bike parking.

k. Provide attractive signage on commercial buildings that identify uses and shops clearly but is scaled to the pedestrian rather than the motorist. Exceptions can be made for buildings located on highways and/or major arterials.

l. Avoid the following types of signage:

    i. Internally lit plastic box signs.

    ii. Pylon (stand-alone) signs.

    iii. Rooftop signs.

5.5. SITE SERVICING, ACCESS, AND PARKING

DESIGN INTENT

To ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on the comfort, safety and attractiveness of the public realm.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Integrate 'back of house' uses (such as loading, garbage collection, utilities) into:
   i. Underground parking.
   ii. Another enclosed or fully-screened space (in projects with surface parking).

b. Vehicular access should be:
   i. From a secondary street, where possible, or from the long face of the block (*see Figure 32*).
   ii. Designed in a way that minimizes impacts on pedestrians and the streetscape.
   iii. Designed so there is no more than one curb cut per property.

c. Buildings with ground floor residential may integrate half-storey underground parking to a maximum of 1.2 m above grade, with the following considerations:
   i. Semi-private spaces should be located above to soften the edge and be at a comfortable distance from street activity.

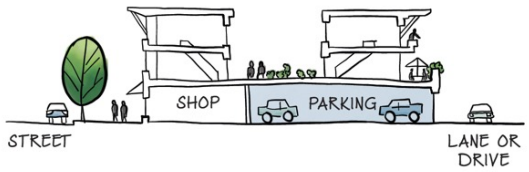


Figure 32: Vehicular access should be from a secondary street where possible (5.5.b.i).

5.6. LANDSCAPE DESIGN AND PUBLICLY-ACCESSIBLE AND PRIVATE OPEN SPACES

DESIGN INTENT

To design landscapes and open spaces to respond to an open space program that relates to its users and provides flexible, accessible open space.

GUIDELINES

In addition to the strategies outlined in the General Guidelines:

a. Integrate publicly accessible private spaces (e.g., private courtyards accessible and available to the public) with public open areas to create seamless, contiguous spaces.

b. Locate semi-private open spaces to maximize sunlight penetration, minimize noise disruptions, and minimize 'overlook' from adjacent units (*see Figure 33*).

c. Design all units to have easy access to usable private or semi-private outdoor amenity space.

GROUND-ORIENTED UNITS

d. Design front yards to include a path from the fronting street to the primary entry, landscaping, and semi-private outdoor amenity space.

e. Design private outdoor amenity spaces to:

   i. Be usable (e.g., have direct access from the unit and be at least 9 m2).

   ii. Have access to sunlight.

   iii. Have railing and/or fencing to help increase privacy.

   iv. Have landscaped areas to soften the interface with the street or open spaces.

f. Design front patios to:

   i. Provide an entrance to the unit.

   ii. Where adjacent to a public street, be potentially raised (a maximum of 1.2 m) to create a semi-private transition zone.

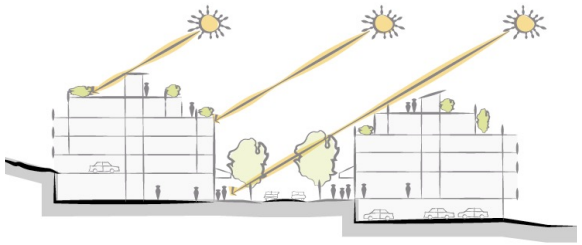


Figure 33: Located semi-private open spaces to maximize sunlight penetration (5.6.b).

g. Design rooftop patios to:
    i. Have parapets with railings.
    ii. Minimize direct sight lines into nearby units.
    iii. Have access away from primary facades.

PUBLIC OUTDOOR AMENITY AREAS

h. Design plazas and urban parks to:
    i. Be located along a street frontage.
    ii. Be animated with active uses at the ground level.
    iii. Be located in sunny, south-facing areas.

i. Design internal courtyards to:
    i. Provide amenities such as play areas, barbecues, urban agriculture, and outdoor seating where appropriate.
    ii. Provide a balance of hardscape and softscape areas to meet the specific needs of surrounding residents and/or users.

j. Design mid-block connections to include active frontages, seating and landscaping.

k. CPTED principles outlined in General Guidelines should be followed in the design of outdoor amenity areas.

COMMON OUTDOOR AMENITY AREAS

l. Provide common outdoor amenity spaces that:
    i. Incorporate landscaping, seating, play space, urban agriculture, and other elements that encourage gathering or recreation (*see Figure 34*).
    ii. Avoid isolated, irregularly shaped areas or areas impacted by parking, mechanical equipment, or servicing areas.

Figure 34: Provide outdoor common spaces that incorporate landscaping and urban agriculture, and other elements that encourage gathering or recreation (5.6.I.i).

ROOFTOP AMENITY SPACES

m. Design shared rooftop amenity spaces to be accessible to residents and to ensure a balance of amenity and privacy by:

   i. Limiting sight lines from overlooking residential units to outdoor amenity space areas through the use of pergolas or covered areas where privacy is desired (*see Figure 35*).

   ii. Controlling sight lines from the outdoor amenity space into adjacent or nearby residential units by using fencing, landscaping, or architectural screening.

n. Reduce the heat island effect by including plants or designing a green roof, with the following considerations:

   i. Secure trees and tall shrubs to the roof deck.

   ii. Ensure soil depths and types are appropriate for proposed plants and ensure drainage is accommodated.

   iii. Opportunities for urban agriculture.

Figure 35: Design shared rooftop amenity spaces that limit sight lines through the use of covered areas (5.6.m.i).

6. COMMERCIAL RETAIL GUIDELINES

Commercial retail developments are often designed for convenient access by motorists with large areas of surface parking separating building entries from public sidewalks. They present many opportunities for improving design and functionality to become more pedestrian-oriented.

6.1. SITE PLANNING AND LANDSCAPING

DESIGN INTENT

To site buildings and utilize landscaping to respond sensitively to topography; to enhance environmental performance; to enhance safety and accessibility; and to increase connectivity to surrounding public sidewalks and paths.

GUIDELINES

a. Provide site furnishings (e.g., seating, bike racks and shelters) at building entrances and amenity areas.

b. Provide landscaping and trees along frontages and in parking areas to soften lot frontages.

c. Locate buildings to ensure good sight lines for vehicular and pedestrian traffic.

d. Provide direct, safe, continuous, and clearly defined pedestrian access from public sidewalks, and parking areas to building entrances (*see Figure 36*).

e. Base new development on an internal circulation pattern that allows logical movement throughout the site and that will accommodate, and not preclude, intensification over time (*see Figure 37*).

LANDSCAPE AND OPEN SPACE

f. Use large canopy trees to define the public realm (e.g., at the sidewalk and property edge facing the street)

g. Distribute trees and landscaping throughout the site in order to:

   i. Define property edges facing the street.

   ii. Define internal roads, pedestrian routes, and open spaces.

   iii. Create pleasant pedestrian conditions

   iv. Screen parking, loading, service, and utility areas

   v. Maximize shade, especially in parking areas

   vi. Manage stormwater on-site.

   vii. Break up large rows of parking by substituting a parking stall with a canopy tree in a planter every 8-10 parking stalls.

Figure 36: Provide direct, safe, continuous, and clearly defined pedestrian access from parking areas to building entrances (6.1.d).

Figure 37: Base new retail, commercial and industrial development on an internal circulation pattern that can easily accommodate redevelopment and future intensification (6.1.e).

h. Provide on-site bio-retention facilities (e.g., bioswales, rain gardens) to collect, store, and filter stormwater from parking areas (*see Figure 38*).

i. Use permeable materials such as paving blocks or permeable concrete in parking areas to maximize rainwater infiltration.

j. Provide separation between vehicular routes (especially truck access/loading) and pedestrian routes on-site to avoid conflict and distinguish pedestrian routes from driving surfaces by using varied paving treatments and/or raising walkways to curb level.

k. Base new development on an internal circulation pattern that allows logical movement throughout the site and that will accommodate, and not preclude, intensification over time.

Figure 38: Provide on-site bio-retention facilities to collect, store, and filter stormwater from parking areas (6.1.h).

6.2. RELATIONSHIP TO THE STREET

DESIGN INTENT

To site and design buildings to positively frame and, where possible, activate streets and public open spaces.

GUIDELINES

a. Buildings on a corner parcel should orient frontages towards both streets if possible and include distinct architectural features, such as (*see Figure 39*):

   i. Special or decorative canopies.

   ii. Bay windows, balconies, turrets, or articulated roofline features.

   iii. A corner entrance.

b. Avoid blank walls adjacent to the highway, streets, lanes, walkways, parks, or other amenity spaces.

Figure 39: Building on a corner parcel should orient frontages to both streets (6.2.a).

6.3. BUILDING ARTICULATION, FEATURES, AND MATERIALS

DESIGN INTENT

To enhance visual interest, identity, and sense of place through building form, architectural composition, and materials.

GUIDELINES

a. Design the facade of buildings with multiple storefronts so that each is defined through individual signage, entrances, canopies and/or materiality.

b. Create transparent frontages with visual access to the interior of stores or commercial spaces, and avoid the use of (*see Figure 40*):

   i. Materials such as blackout advertising panels.

   ii. Dark and/or reflective glass.

Figure 40: Create transparent frontages with visual access into the interior or stores or commercial spaces (6.3.b).

6.4. SITE SERVICING, ACCESS, AND PARKING

DESIGN INTENT

To ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on pedestrians and neighbouring properties.

GUIDELINES

ACCESS

a. Design site accesses to provide the potential for future shared access with neighbours and to minimize curb cuts.

b. Where practical, link access drives and parking lots of adjacent properties in order to allow for the circulation of vehicles between sites.

PARKING

c. The preferred location for main parking areas is at the rear and/or side of the building. Avoid locating large parking areas between the building and the street.

d. Where parking areas are visible from the street, screen them using strategies such as tree planting, berming, low walls, decorative fencing and/or hedging.

e. Break parking areas into smaller blocks defined by landscaping in order to minimize the amount of paved areas.

f. Provide covered bicycle parking in visible and well-lit locations near building entrances and pedestrian walkways.

STORAGE, SERVICING, UTILITIES, LOADING AND GARBAGE

g. Locate loading, utilities, mechanical equipment and garbage collection areas away from public view by:

   i. Integrating these facilities into the footprint of the building.

   ii. Screening using fencing, walls and/or landscaping (*see Figure 41*).

h. Provide areas for temporary snow storage that do not conflict with site circulation, landscaping and access to utility boxes. For example, by providing access via a lane away from public view.

Figure 41: Screen mechanical equipment and garbage areas using fencing and/or landscaping (6.4.g.ii).

7. INDUSTRIAL & SERVICE COMMERCIAL GUIDELINES

Industrial and service commercial buildings play an important role in the function and economy of Mackenzie and are oriented primarily towards providing convenient and safe access for commercial vehicles. They also present many opportunities to improve design and functionality, including enhancing the pedestrian environment once motorists get out of their vehicles, and are oriented primarily towards providing convenient and safe access for commercial vehicles; improving landscaping in order to mitigate environmental and visual impact of parking areas and buildings; and designing to mitigate negative impacts on neighbouring uses.

7.1. SITE PLANNING AND LANDSCAPING

GUIDELINES

a. Pedestrian pathways should provide clear sight lines and connect the building to outdoor amenity spaces.

b. Consider providing landscaped green roofs to manage runoff, add visual appeal, improve energy efficiency, reduce the heat island effect, and provide amenity value.

7.2. RELATIONSHIP TO THE STREET

GUIDELINES

c. Design primary entries to be clearly visible and accessible from the street.

d. Where possible, design buildings to have frontages with multiple, smaller storefronts, and an elevated level of materials (*see Figure 42*)

e. Site the building's primary facade parallel to the street and close to the minimum setback to establish a defined street edge and create larger common areas away from the street – using the building as a buffer against noise impacts.

   i. Variances should be considered to support this.

f. Include glazing as a major component of street-facing facades.

g. Maintain and enhance street edge definition by preserving or incorporating street trees.

h. Locate the office, reception, or sales component of the building closer to the street than the plant or warehouse component.

i. Do not locate service doors (e.g., an overhead loading door) facing the street.

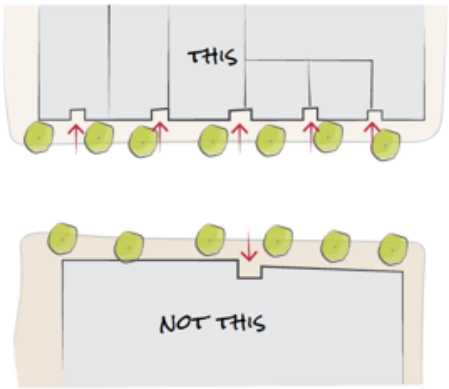


Figure 42: Design buildings to have multiple, smaller storefronts (7.2.d).

7.3. BUILDING ARTICULATION, FEATURES, AND MATERIALS

GUIDELINES

a. Avoid facing unarticulated facades to the street and use projections, recesses, plantings, awnings, colour and texture to reduce the visual size of any unglazed walls.

b. Use different exterior materials to distinguish between the plant/warehouse component of a building from the office/sales component, such as by using an elevated level of materials for the latter (*see Figure 43*).

c. Incorporate simple technologies for access to industrial and larger commercial buildings, such as bay door controls, air curtains and dock seals to prevent heat loss in winter.

CO-EXISTING WITH RESIDENTIAL

d. Building design should mitigate noise impacts by, for example, selecting wall, siding, and window materials that have strong sound insulation/absorption capacity.

e. Design multi-storey buildings (for example, those which mix industrial and commercial or residential uses) to maintain and accommodate industrial uses on the ground floor by providing a first-floor height of 5.5 m.

Figure 43: Use different exterior materials to distinguish between the plant/warehouse components (7.3.b).

7.4. SITE SERVICING, ACCESS, AND PARKING

GUIDELINES

PARKING

a. The preferred location for main parking areas is at the rear and/or side of the building while avoiding large parking areas between the building and the street (*see Figure 44*).

   i. A single loaded row of visitor parking and passenger drop-off areas may be located between the building and the street where necessary.

b. Where parking areas are visible from the street, screen it using strategies such as tree planting, berming, low walls, decorative fencing and/or hedging.

c. Break parking areas into smaller blocks defined by landscaping in order to minimize the amount of paved areas.

STORAGE, LOADING, AND GARBAGE

d. Locate outdoor storage areas within rear yards and/or interior side yards and screened from street view.

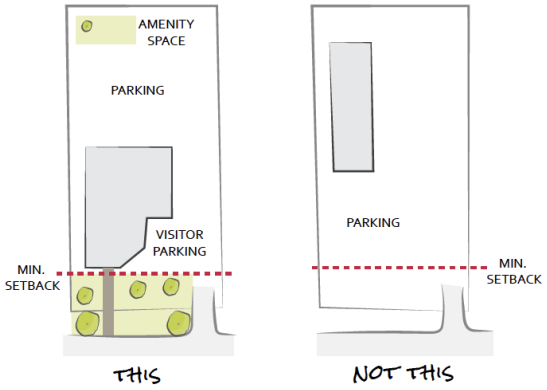


Figure 44: Avoid large parking areas between the building and street (7.4.a).

8. INSTITUTIONAL GUIDELINES

A master planning process is encouraged for institutional development projects to ensure a comprehensive and cohesive design that contributes, connects well to and expands on the existing and/or planned future context; responds sensitively to natural and ecological features; and supports liveability and sustainability, informed by the Design Foundations and General Guidelines of this document.

8.1. GENERAL GUIDELINES

a. Design institutional buildings to respond to the Design Foundations (2.0) and General Guidelines (3.0), while respecting the need for functional (e.g., access or parking) or site-specific design solutions.

b. Key institutional buildings may incorporate landmarks or emblematic design features, such as prominent vertical elements, significant corner treatments, and entry plazas or large extensions of the public realm.

c. In large-scale projects, demonstrate variety in massing and materiality.

d. Design buildings such that their form and architectural character reflect the building's internal function and use (e.g., a school, a hospital, a museum).

9. APPENDIX

9.1. GLOSSARY OF TERMS

Active Uses
Uses that generate many visits, in particular pedestrian visits, over an extended period of the day. Active uses may be shops, cafes, and other social uses.

Active Transportation
Describes all human-powered forms of travel, such as walking, cycling, in-line skating, skateboarding, skiing, canoeing, and more.

Building Envelope (Enclosure)
The elements that make up the outer shell of a building that separate indoor from outdoor spaces. A building's envelope prevents or controls the entry of heat, water, air, noise, and light from entering or leaving.

CPTED (Crime Prevention Through Environmental Design)
Refers to a group of strategies and concepts (including the design of buildings and landscaping) intended to reduce the fear of crime and opportunities to commit crimes.

Eyes on the Street
Casual observation, from the street or from adjacent buildings, provided by people as they go about their daily activities.

Facade Articulation
Design elements, both horizontal and vertical, that help create an interesting and welcoming building elevation. These include building materials, special ground-floor design treatments, facade modulation, corner treatments, building setbacks for upper stories, and facade elements such as window treatments, building entries, and other architectural details.

Facade
The exterior of a building face.

Fenestration
The arrangement of windows and doors on the elevations of a building.

Ground-oriented
Buildings that have direct access to the street or ground level.

Human Scale
Human Scale refers to the use of architectural features, details, and site design elements that are human proportioned and clearly oriented towards pedestrian activity to allow people to feel comfortable using and approaching it.

Private Open Space / Amenity Space
An open area or place that is privately owned and exclusively occupied, usually attached to a private dwelling or unit. Some privately owned open space can be made available for the public to access and use (privately owned public space).

Private Realm
Spaces owned by a private person or group and kept for their exclusive use.

Public Realm
Spaces that are open and freely accessible to everyone, regardless of their economic or social conditions. These spaces can include streets, laneways and roads, parks, public plazas, waterways and foreshores.

Street frontage
Refers to where there is an active visual engagement between those in the street and those on the ground and upper floors of buildings.

Street Wall
The vertical elements of buildings that define the edges of public streets.

Streetscape
The visual elements of a street, including the road, adjoining buildings, sidewalks, street furniture, trees and open spaces, etc, that combine to form the street's character.

Thermal Bridging
The transfer of heat through materials and structures that interrupt the building's continuous insulation layer, causing heat to escape the interior of the building to the outside air. Thermal bridges lower overall building energy efficiency.

Turret
A small tower that projects vertically from the wall of a building.

Universal Accessibility
The ability of all users to safely negotiate spaces and is a key factor in ensuring the usability buildings and the public realm.

WWR (Window to Wall Ratio)
The percentage of a building's facade that is made up of glazing.

MACKENZIE
BRITISH COLUMBIA

FORM & CHARACTER
DEVELOPMENT PERMIT AREA GUIDELINES

DISTRICT OF MACKENZIE

SEPTEMBER 2023