

CAMPUS DESIGN GUIDELINES

November 2014



THOMPSON RIVERS
UNIVERSITY



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Context

1 CONTEXT

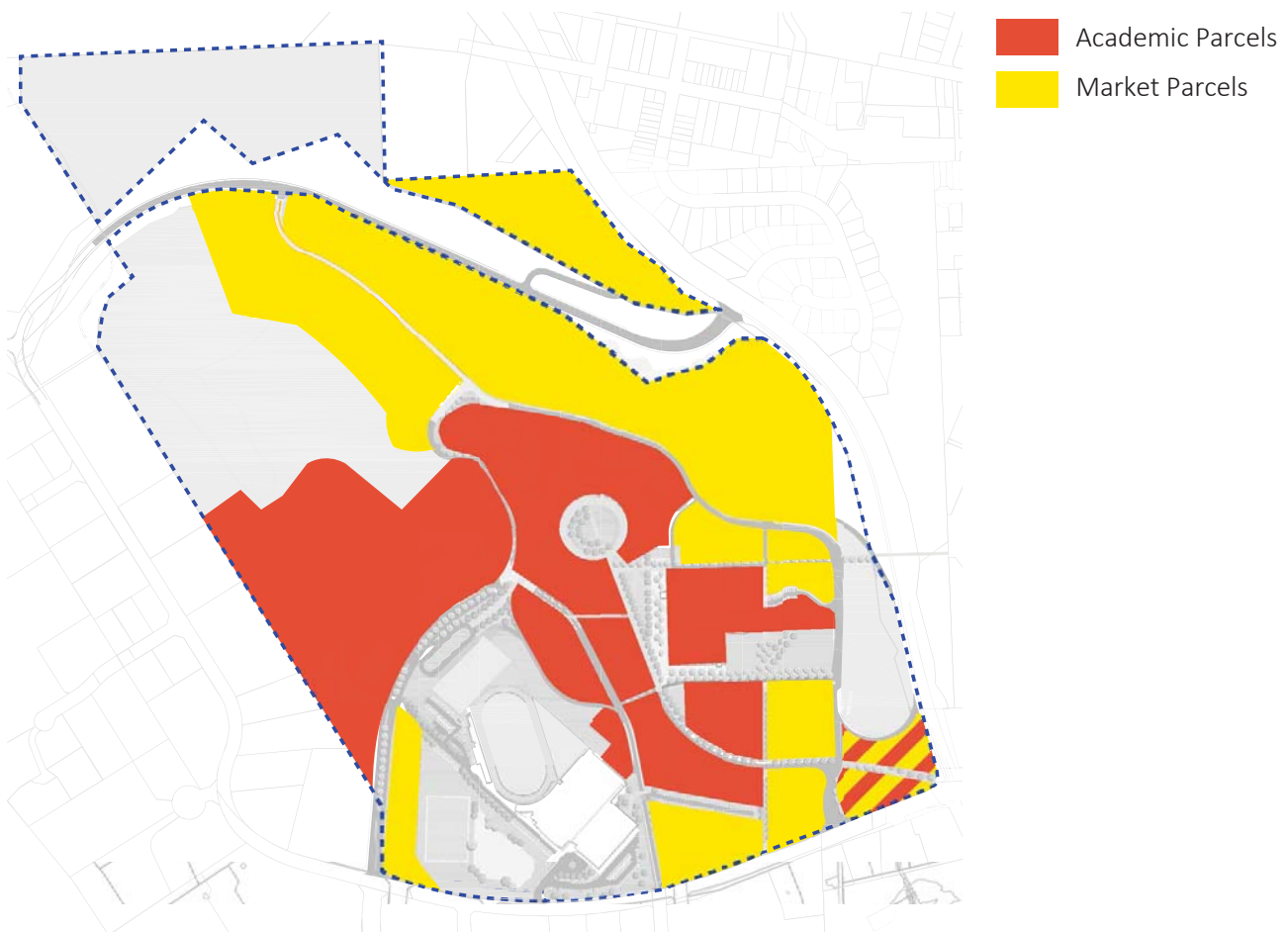
1.1 INTRODUCTION

This document provides the guidelines for all future development of institutional (academic) and non-institutional (market) development on the Thompson Rivers University campus. Over the next 60 years, the numbers of students attending TRU will grow from 10,000 Full Time Equivalents (FTE) towards 13,000 FTE. Market development opportunities to build residential units for non-academic users as well as office and commercial opportunities on campus will further increase the current campus population. The purpose of this document is to provide a framework for new facilities and renovation projects, and guide this growth and development of the campus within the unified vision and the principles established by the Thompson Rivers University Master Plan 2014 (approved February 2014). The map below indicate the areas for future development for both academic and market parcels, as identified in the Campus Master Plan.

While this document strives for consistency for future development, there is a level of interpretation and flexibility built in. These guidelines will be administered and evaluated by the TRU Design Review Panel.

If the guidelines, or part thereof, cannot be fulfilled during the design process, the proponent should provide reason(s) why such guidelines are not met. Any deviations from the design guidelines will need to be accepted by the Design Review Panel. These guidelines apply to all developments unless broken down into specific market or academic guidelines.

Future Development Parcels for Academic and Market Development



1.2 RELATIONSHIP TO CITY POLICY

The guidelines are intended to be read in conjunction with the local codes, policies and regulations, and in no circumstance are they considered a replacement. The codes and regulations represent the minimum acceptable standard. Where the technical design requirements differ from the building codes and other applicable codes and standards, the more stringent of the codes shall be applied.

This document draws from and references a number of key documents, including the:

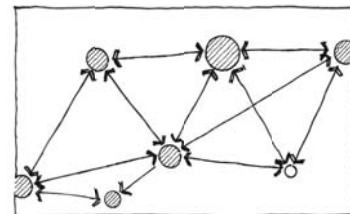
- City of Kamloops, McGill Corridor Development Permit Guidelines, 2013
- City of Kamloops, McGill Corridor / Southgate Project Concept Plan, 2001
- City of Kamloops, Multiple Family Development Permit Areas, 2013
- City of Kamloops, Zoning Bylaw Division 29, RM-2 (Multiple Family – Medium Density), 2014
- City of Kamloops, Zoning Bylaw Division 14, P-8 (Post-Secondary Education), 2014
- City of Kamloops, Zoning Bylaw Division 52, Off-Street Parking, 2014
- City of Kamloops, Sign Regulations, 2012
- Ministry of Education, BC Energy Efficient Buildings Strategy, 2008
- KAMPLAN, 2004
- Sustainable Kamloops Plan, 2010

1.3 GUIDING PRINCIPLES

During the Thompson Rivers University Master Plan process in 2013, a vision for campus development was identified. To achieve this vision, four overarching principles for the physical development of the campus were identified: Connectivity, Activity, Identity and Sustainability.

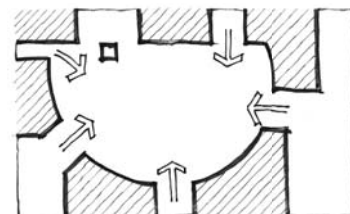
CONNECTIVITY

The primary vision of the TRU Master Plan is to create a campus that is cohesive, walkable and pedestrian focused. In order to provide this, the overall campus development and parcels are connected with a hierarchy of green networks that move people throughout the campus effectively, efficiently and safely. Connectivity is prioritized at this macro level as well as the scale of the streetscape where the ground plane of buildings meet and connect with the open space networks.



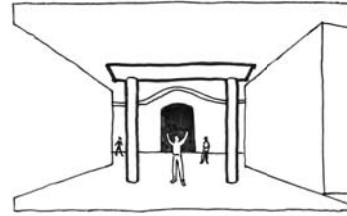
ACTIVITY

TRU will be a vibrant mixed-use campus community. To create campus life and vibrancy, it is important that the campus supports various desired activities on campus through a mix of open spaces, diverse housing types, and appropriate commercial tenants.



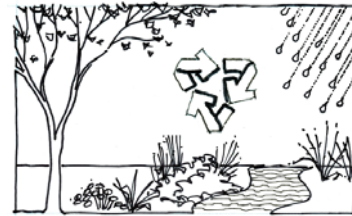
IDENTITY

Another element of the vision for the TRU master plan is to create an identity for the campus and make TRU a destination institution. Campus identity is also physically established through the character of the campus as it relates to the look and feel of the campus (through the creation of iconic land marks, buildings, gateways, and nodes).



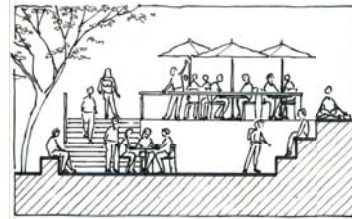
SUSTAINABILITY

TRU is striving to create a high quality campus environment that demonstrates their commitment to sustainability at all levels, as outlined in the Campus Strategic Sustainability Plan. The physical campus environment is a mirror that should reflect TRU's leadership and innovation in sustainability. New development act as a catalyst, set the bar for sustainability performance, and offer opportunities for applied learning and piloting of sustainability strategies.



COMMUNITY

TRU will be designed as a comprehensive community. It will provide diverse housing options, integrated academics, community and commercial spaces and a densified core for a diverse range of demographics to call home.





District Guidelines

2 DISTRICT GUIDELINES

2.1 LAND USE

There are five primary land use designations in the Thompson Rivers University Master Plan: Institutional, Mixed Use Academic, Mixed Use Market, Multi-family Residential and Outdoor Research Space.

Institutional

This designation is for institutional buildings that directly serve the academic function and operations of the university. Primary uses are to house functions such as academic offices, teaching, research laboratory and office, student housing and student amenity spaces such as libraries, meeting/study rooms, or recreation.

Mixed Use Academic

Contain ground oriented commercial retail space with the range of academic uses above, particularly student housing and student amenity spaces.

Outdoor Research Space

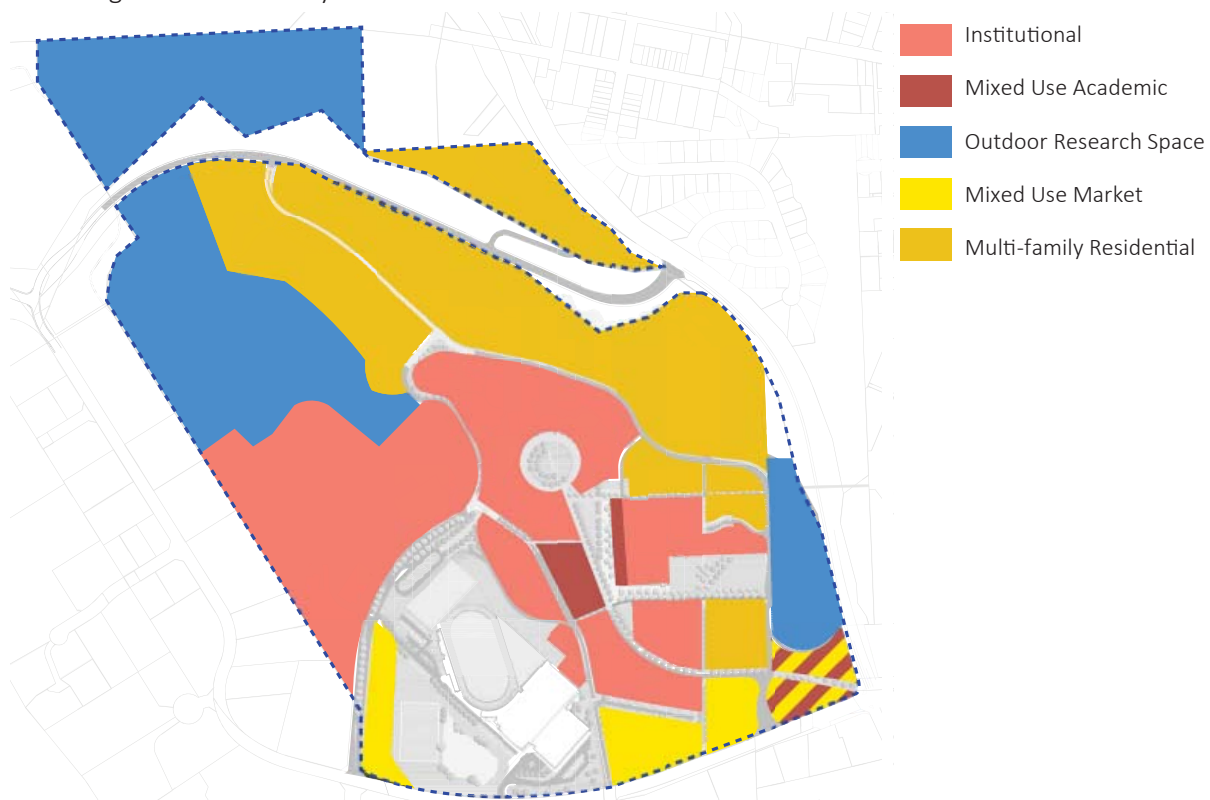
Preserved natural areas on campus that functions as an outdoor laboratory for academic programs.

Mixed Use Market

This designation is for retail, market housing and offices. Hotel accommodation is strictly limited by regulations set out by the City of Kamloops P-8 Zoning.

Multi-family Residential

This designation will accommodate multiple dwelling including town homes, mid-rise (4-6 stories) and residential towers (7-12 stories). Although the focus is multi-residential, neighbourhood oriented mixed-use is encouraged as a secondary use.

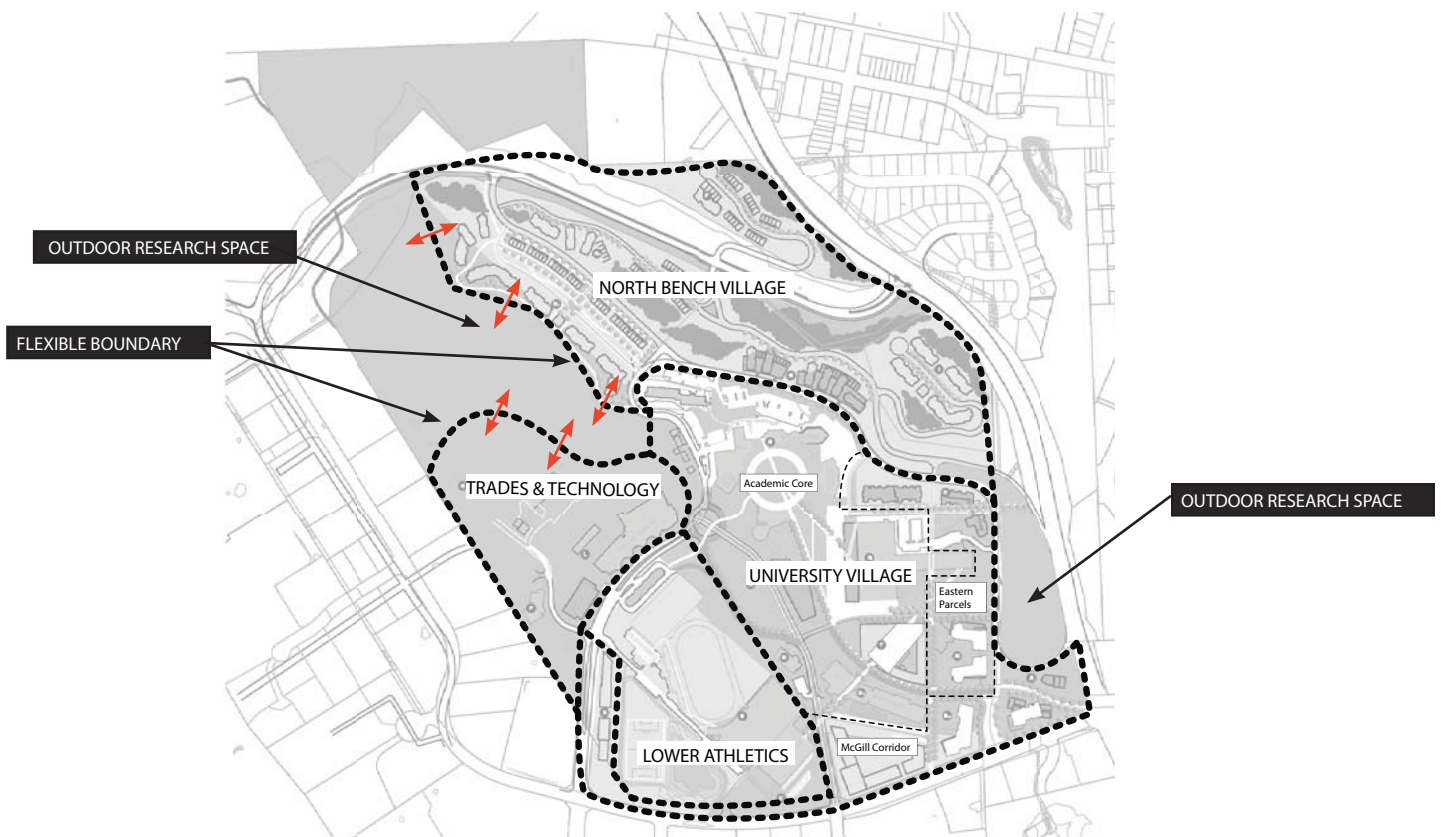


2.2 DISTRICTS

TRU campus districts have been identified on the map below. Buildings and spaces within these districts share common themes beyond land use and have a unified vision. There are four primary districts on campus:

- North Bench Village,
- University Village,
- Trades and Technology, and
- Lower Athletics.

The University Village includes the following sub-areas: Academic Core, the Eastern Parcels and the McGill Corridor. The Academic Core houses the majority of TRU's academic buildings and is home to the new Campus Heart which acts as an extension to the existing Campus Commons. The guidelines in the following sections support the vision of each district by creating unity between buildings, visual continuity and a sense of place and identity. It establishes key planning principles of building and public realm in order to create campus accord.



2.3 UNIVERSITY VILLAGE

The University Village district includes three sub-areas: the Academic Core, Eastern Parcels and the McGill Corridor.

2.3.1 Academic Core

The Academic Core incorporates the Campus Heart (including the existing Campus Commons), Old Main, and Sciences. The key guidelines for further development in this area are:

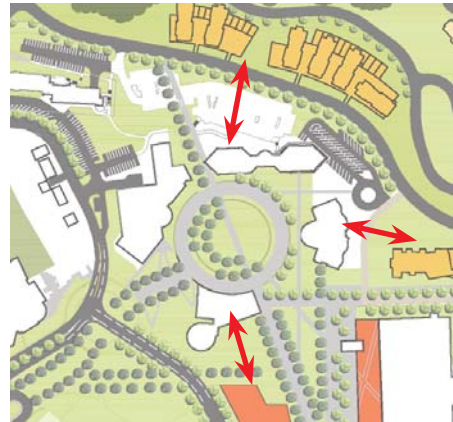
- a) **Prioritize the Campus Heart** - New academic development on campus should locate in the campus heart. Future academic built-out is dependent on FTE growth, current facility utilization and the life-cycle of existing buildings. Due to existing low utilization rates for campus facilities there is little need for significant building area for academic in the immediate future. As the build out for new academic buildings will likely lag behind the pace for market development, consolidating all new academic buildings into the centre core will assist the University to more quickly gain the academic density needed to realize a successful campus heart.
- b) **Vibrant Academic Core** - Academic buildings act as the core of the University and should maximize opportunities to create a vibrant, social, cross-disciplinary and intellectual environment to support teaching, learning and scholarship. Development in the core should promote pedestrian inviting and friendly places. The mix of uses in this district has been loosely defined to allow flexibility to accommodate future university objectives and requirements.
- c) **Connectivity** - Academic development within the Academic Core will support the public realm and relate directly to networks, open spaces and buildings adjacent and nearby. Creating a sense of permeability and connection between and amongst buildings and streetscape are critical in creating the pedestrian friendly character of this sub-area. Main entries and front facades will face directly upon these open space networks.
- d) **Old Main Facade** - A new face to the West facade of Old Main will support connectivity to adjacent buildings and open space. This expansion should consider transparency, connectivity and the human scale in its design.











e) Signature Building - As a major place-making district on campus, buildings facing the campus heart open space are encouraged to act as overall campus identity icons. These buildings will serve as markers of the campus heart and should have a strong pedestrian focus. Buildings are encouraged to showcase leading edge sustainable design practices, to be designed with the Kamloops environment in mind, and have an overall contemporary nature consistent with the key principles. A design standard of international prominence and excellence should be considered.

f) Vibrant Tenant Mix- The tenant mix should support a vibrant atmosphere and encourage activity during both daytime and evening year round. Tenants should be compatible with the overall university community, for example: cafes with outdoor patios that spill into the outdoors and engage the street wall, academic related retail such as the university bookstore, green grocers and farmer's markets, yoga studios or hair salons. Multi-tenant spaces are encouraged. Large, free standing and single purpose tenant buildings are not permitted.

g) Presence Along University Drive North and Adjacent Buildings - New buildings and any future expansion to existing institutional buildings along the north side of the Campus Commons are encouraged to create a pedestrian friendly building front along University Drive North as well as building access from the north to create better physical and visual connections between the residential communities along the North Bench and the academic campus. New buildings and extensions in this area should not turn their back to adjacent campus buildings or University Drive North in general.



LEGEND

	NODE		FRONTING / ENTRIES		VIEW CORRIDORS
	AMENITY		PUBLIC OPEN SPACE		CONNECTION
	LANDMARK		PEDESTRIAN NETWORK		

2.3.2 McGill Corridor

The McGill Corridor is a specialized zone within the University Village District. The guidelines set forth in this section shall not be counter with the planning of the McGill Corridor at the City of Kamloops.

- a) **Connectivity**- Development in the McGill Corridor sub-area should have a strong relationship with adjacent public open spaces and front upon these networks to promote walkability and an urban front. Developments should not locate loading zones or parking entryways upon these fronts as it will disrupt the pedestrian experience. Frontage and transparency at the ground level should be maximized.
- b) **Nodes / Landmark**- Nodes and/or landmarks should be strategically located where major confluences of networks come together or at gateways and entries. In Parcel A, the framework for development indicates the ideal location for placement of landmarks (typically public art work) and the location where nodes could be developed.
- c) **Model Development** - Development in the McGill Corridor sub-area should act as a catalyst and model for future developments along the McGill Corridor, as set out by the City of Kamloops McGill Corridor/ Southgate Project Concept Plan and Development Permit Guidelines.
- d) **Commercial Base** - Developments in the McGill Corridor should have a commercial oriented base at street level. Retail is a priority.
- e) **Vibrant Tenant Mix** - The tenant mix is encouraged to support a vibrant atmosphere year round. Tenants should be compatible with the overall university community. Multi-tenant spaces are encouraged.
- f) **Lively Gateway to Academic Campus** - The Southeast parcel (A) along Summit and McGill has a multiple use designation and will combine both market and academic uses. This parcel acts as the front face of TRU, presents the university identity, and will serve as a lively pedestrian gateway to campus. While appealing to the pedestrian scale, it will also act as a landmark to the wider community.
- g) **Residential** - Residential uses, except lobbies and entry ways, should be located above ground level. Residential towers and mid-rises are encouraged to front on the McGill Corridor.

Parcel A - Framework for development

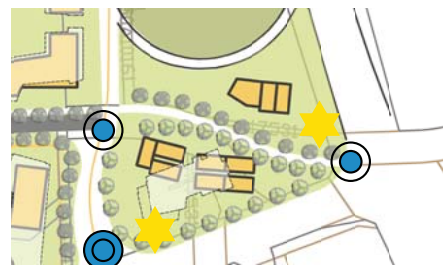
Connectivity



Frontage



Nodes and Landmarks



2.3.3 Eastern Parcels

The Eastern Parcels is a specialized sub-area within the University Village District. It differs from the McGill Corridor in that developments in these parcels do not have a commercial base. There are two parcels in this zone and they are located on either side of the Old Main extension on the East side of the TRU campus.

- a) **Connectivity**- Development in the Eastern Parcels should have a strong relationship with adjacent public open spaces and front upon these networks to promote walkability and an urban front. Any building or townhome should front upon these public open spaces and should not have back yards, loading zones or parking entries upon these facades.
- b) **Nodes / Landmark**- Nodes and/or landmarks should be strategically located where major confluences of networks come together or at gateways and entries. In Parcel E, shown to the side, the framework for development indicates the ideal location where a node could be developed.
- c) **Housing Types** - This district is for residential. Consideration must be given to the close proximity of residential development to large scale institutional buildings. The change in scale mustn't be drastic between the market and academic parcel scale and as a result standalone townhome groupings with drive ups are not well suited in this district and a denser urban typology such as mid-rises (4-6 stories) and towers (7-12 stories) are more appropriate. The minimum height in the Eastern Parcels is 4 storeys. Regardless of typology, front doors to units at grade are encouraged.
- d) **University Focused Residential** - Given the proximity to the academic campus, residential development in this sub-area should cater to the campus community. Rental dwellings are encouraged.
- e) **Buffer** - Due to the close proximity to institutional buildings, either a program that can act as a buffer (such as office, if approvals are received from the City of Kamloops) or an architectural solution (e.g.: screening or vegetation) should be considered.

Parcel E - Framework for development

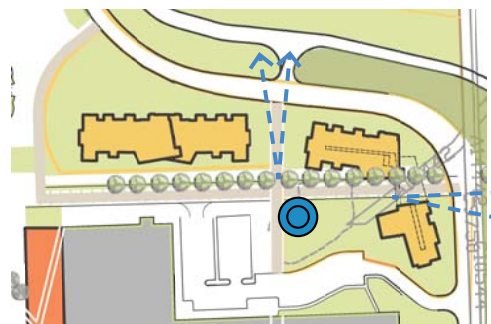
Connectivity











Frontage



Nodes and Views



LEGEND

	NODE		FRONTING / ENTRIES		VIEW CORRIDORS
	AMENITY		PUBLIC OPEN SPACE		CONNECTION
	LANDMARK		PEDESTRIAN NETWORK		

2.4 TRADES AND TECHNOLOGY

The Trades and Technology District bridges the Outdoor Research Space, Lower Athletics and the Academic Core.

- a) **Connections** - The interface towards the Ring Road, Outdoor Research Space and the Bus Loop should encourage porosity and encourage connections to and from this district. This district should be developed as an integral part of the campus.
- b) **Research Laboratory** - Future growth for Trades and Technology related research and development space should be centralized here.
- c) **Flexibility of Spaces** - Future buildings should be flexible to accommodate changes in both the research priorities of TRU as well as changes to the Trades and Technology curriculum.



2.5 NORTH BENCH VILLAGE

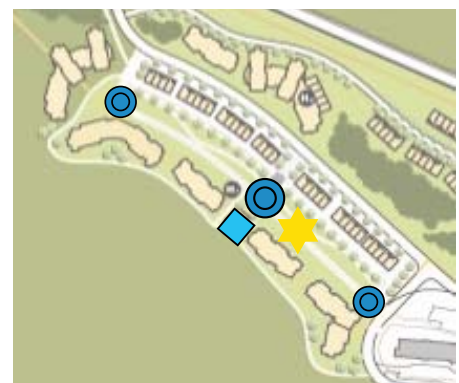
The North Bench is a multi-family community located along the lower slopes of campus north of the Ring Road. The topography in this district varies significantly and every parcel is unique as a result. These parcels have sweeping views of the mountains to the North.

- a) **Connectivity** - Development in the North Bench Village should have a strong relationship with adjacent public open spaces and front upon these networks to promote walkability and an urban front. Any building or townhome should front upon these public open spaces and should not have back yards, loading zones or parking entries upon these facades. To support the vision for a connected campus, pedestrian and visual permeability across University Drive North and Hillside Drive North should be created.
- b) **Nodes / Amenity / Landmark** - The residential parcels to the North will be created as complete communities. An amenity / community buildings to support this should be centrally located within each of the North Bench Village parcels. Examples of amenity spaces include social or meeting spaces. It is encouraged that such spaces are prominently located and connected to adjacent public open spaces and networks.
- c) **Sustainable Communities** - The North Bench Village will be a community that promotes walkability, social opportunities, diversity of population and sustainable development. It will be a village that welcomes and is home to people of all ages from young families to seniors.

Parcel H - Indicative Design
Connectivity and Frontages



Nodes, Amenity and Landmarks











- d) **Housing Typology** - A variety of housing types are encouraged, in particular lower scale multi-family typologies such as town homes and mid-rises (4-6 stories). Single family residential is not allowed.
- e) **Complimentary Design Standards** - All residential developments must compliment the overall architectural expression and design standards of the academic parcels to the south.
- f) **Diversity of Housing Options** - The dwelling units within this district are encouraged to have a diversity of housing options and include rental options for TRU students and staff.

2.6 LOWER ATHLETICS

The Lower Athletics District focuses on recreational and sports facilities. The Tournament Capital Centre, a partnership between the City of Kamloops and TRU, is located on this site. Guidelines have not been identified for this district.



LEGEND		
	NODE	 FRONTING / ENTRIES
	AMENITY	 PUBLIC OPEN SPACE
	LANDMARK	 PEDESTRIAN NETWORK
		 VIEW CORRIDORS
		 CONNECTION



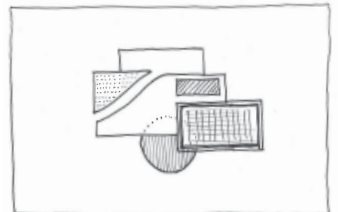
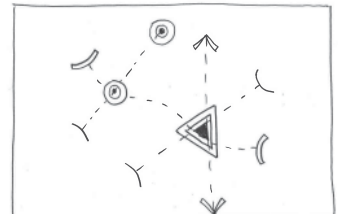
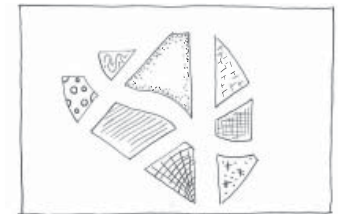
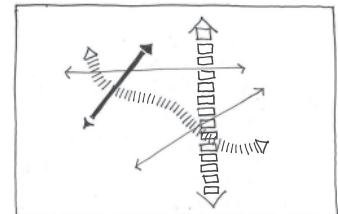
Public Realm Guidelines

3 PUBLIC REALM GUIDELINES

The public realm is comprised of a series of networks, open spaces, gateways and nodes. They represent a complex public realm system that will create campus connectivity and enhance wayfinding

KEY PRINCIPLES:

- Connectivity on campus is important to link students, faculty and ideas. A strong public realm is well connected through a series of well laid out **networks**.
- Enhancing activity on campus relies on a variety of open spaces to give students places to study, play, and rest. Increasing student life and vibrancy on campus is strongly supported by a variety of **open spaces**.
- TRU's goal of enhancing its identity, will be greatly supported by the public realm through the identification and development of **gateways and nodes** around the campus.
- Developing the public realm with regionally appropriate, durable and environmentally sound **landscape elements and materials** will ensure more sustainable campus development over time.



3.1 CAMPUS WIDE GUIDELINES

3.1.1 Local Bylaws and Industry Standards

All landscaping at Thompson Rivers University must meet or exceed the requirements set out in the BCLNA Standards and the City of Kamloops Landscape Guidelines.

3.1.2 Site Disturbance

All development on site should limit disturbance to existing vegetation. The retention of existing trees is strongly encouraged. This is particularly important in the Outdoor Research Space on campus.



3.1.3 Safety

As the campus incorporates more residential and retail uses, it will increase the “after-hours” presence on campus. It is important that people feel safe moving around campus at all times, but especially at night.

- a) Provide adequate lighting for all pedestrian spaces (see 3.8.8).
- b) Install emergency call stations at key nodes.
- c) Design of pedestrian corridors and open spaces should abide by “eyes on the street” principles by Jane Jacobs, as well as meet Crime Prevention Through Environmental Design (CPTED) principles.



3.1.4 Designing for the Seasons

Design the public realm with the seasons in mind to allow for year-round enjoyment.

- a) **Winter Proof** - All landscape elements and materials should be designed and selected to withstand cold climates. Designs of open spaces should be suitable for a winter climate including designs the incorporation of areas for snow removal and piling.
- b) **Sun and Shade** – Public spaces should provide areas of summer shading where people can relax on hot days, as well as areas exposed to the winter sun. The use of deciduous trees can be used to achieve seasonal sun/shade benefits.
- c) **Canopy Above** - Create a canopy along circulation networks for weather protection and a sense of security. Use suitable tree species that have a high crown understory to allow for comfortable pedestrian passage underneath.
- d) **Wind Protection** - Design of pedestrian corridors should use planting and other elements to provide protection against cold winds during winter seasons.
- e) **Seasonal Plant Materials** – Create a diverse plant palette with a variety of plants that “announce” the seasons and provide seasonal interest / display, such as blossoms in spring, fall colours, textured branches in winter, flowers, etc.



3.1.5 Views and Sightlines

Consider campus view corridors to surrounding landscapes, as well as internal sightlines (such as the view to a landmark or along a movement corridor) in the design and placement of landscaping. Place trees and vegetation carefully to respect these visual corridors and use landscaping to enhance or frame views.



3.1.6 Consistent Character of Kamloops

The public realm should respond to the local physical, social and cultural history of the Kamloops region. Designs that mimic styles from a different place and era are discouraged.



3.1.7 Aesthetic Landscapes

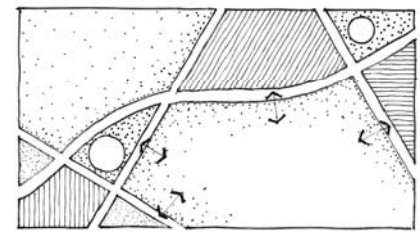
- a) **Softening Edges** - Street-facing elevations of buildings, structures, walls, fences etc. should have planting at the base / foundation to “soften” hard edges where they meet the ground plane.
- b) **Layering** - Use plant “layering” using low growing perennials/ shrubs at the edge of paved areas, with progressively larger shrubs behind and trees placed towards the back of the planting area.



3.2 OPEN SPACES

3.2.1 Connectivity

All open spaces on campus should have a strong connection to a pedestrian network. Direct access to building entries through open space should be ensured through thoughtful layout and design



3.2.2 Define Open Spaces:

Use landscape elements and vegetation to define outdoor spaces and create edges.

3.2.3 Diversity of Seating Spaces

A diversity of outdoor seating spaces should be provided that invite people to spend time outdoors in ways that meet their needs.

- a) **Social Gatherings** - Seating areas should be designed to promote social and extended “hang-outs” that are flexible for student use. Open spaces next to dining facilities should have adequate outdoor tables and chairs.
- b) **Outdoor Learning** - Open spaces should have a variety of elements such as seating berms or unique furniture that provide spaces for classrooms of students to gather and sit, while a professor or tutor has a place to stand and be visible to students. Berming grassed areas is encouraged to allow more comfortable seating on lawn areas, give vertical dimension to the space and to tie in with the character of the natural berming landscapes seen around campus currently at TRU.
- c) **Semi-Private Social Gatherings** - Open spaces should include designated areas with smaller clusters of seating surrounded by landscape elements to create more privacy than open areas.
- d) **Private Seating** - Designs of open spaces should include private seating areas to allow for individuals to sit in solitude. They should allow for peaceful resting have their backs protected and not exposed but with views in front to support people watching.



3.3 PEDESTRIAN NETWORKS

3.3.1 Sidewalks and Paths

Sidewalks and paths should have a hard walking surface at least 2m wide. Adjacent to buildings or streets, these sidewalks or paths should be set back at least 2m from adjacent structures or roadways.

3.3.2 Pedestrian and Vehicular Interaction

Pedestrian corridors should be designed to limit interactions with vehicular traffic. Where there are conflicts between vehicular, cycling and pedestrian traffic, pedestrian traffic should take priority, followed by cycling. Raised pedestrian crossings and other strategies should be used at street crossings. Along Mews Streets where pedestrians and vehicles share the circulation space, careful attention will be given to providing a pedestrian-friendly corridor that creates the feeling of a walkway rather than a street.



3.4 GATEWAYS AND NODES

3.4.1 Gateways

Gateways should be enhanced with public realm features to help signify the arrival experience for people entering campus by all modes of transport and to assist them with way-finding. These elements should be of consistent character to ensure a coherent identity upon arrival. TRU signage should be prominently displayed and public access for all modes should be maintained at gateways. The gateway at McGill Road and Summit Drive should incorporate a prominent landmark, art, or water feature.



3.4.2 Nodes

Nodes on a campus are important points of interest that help to mark new districts and provide wayfinding and direction across the campus. Nodes can be created through interesting designs of open spaces and incorporate special features such as public art to create landmarks that identify and associate a space within its greater context.



3.5 DISTRICTS

3.5.1 Campus Heart

The Campus Heart is the primary social gathering space on campus. It is also the space where movement corridors intersect and where different land uses and users overlap. Careful attention should be placed on the design of the public realm within the Campus Heart so that it provides a vibrant experience while minimizing conflicts between the needs of the various users of this space.



3.5.2 Outdoor Research Spaces

The public realm in Outdoor Research Spaces should consist of landscapes natural to the Thompson Valley and be natural or "rugged" in character. Trees and planting in these areas should form naturalized groupings. Formal plant and tree placement in these areas are discouraged. The paving materials should be permeable and gravel or mulch is preferred.



3.6 SUPPLEMENTARY MULTI-FAMILY RESIDENTIAL GUIDELINES

This section outlines guidelines for multi-family residential development on campus with outdoor areas.

3.6.1 Private Outdoor Spaces

Ground floor private open space is encouraged for all at-grade units, and such spaces should be large enough to accommodate patio furniture and gardening. These spaces should be designed to provide privacy through appropriate design and screening. Planting should be of an appropriate for the scale of the residential yard.



3.6.2 Fencing and Privacy

Fences and screening should be used to delineate spaces and create privacy for residential units while keeping CPTED in mind.

a) Front-yard fencing - where required, should be no more than 1m in height and should provide frequent access into the property to create pedestrian permeability. Where front yard fencing is not critical to privacy of the residential unit, transparent, or semi-transparent fencing alternatives is preferred.



b) Side-yard fencing - where required, should be no more than 1 m high unless they are stepped up with the topography. Where developments have units with windows or outdoor patios facing a side yard, privacy should be enhanced through the use of fences or vegetation screens with a maximum height of 1m.



3.6.3 Communal Outdoor Spaces

Communal outdoor areas such as gardens, courtyards, and playgrounds should be provided. All outdoor amenity areas should be useable and located in highly visible areas. They should incorporate seating areas and other features to foster social interaction and a sense of community. Such amenity areas should be oriented to receive the maximum sunlight possible, using canopies or overhangs to provide shade from sun, rain or relief from snow, as necessary.



3.7 LANDSCAPE ELEMENTS AND MATERIALS

3.7.1 Relationship to Architecture

Design of landscape elements should relate to the style, materials and colours of adjacent architecture and carry a consistent design language and identity.



3.7.2 Complimentary, Modern and Natural Materials

Landscape materials that are complimentary to the local context, contemporary of its time and reflects its surroundings are encouraged.

3.7.3 Families of Materials

Although one united character and identity will act as the overarching theme tying together the campus, there will be distinctions and variations amongst the various spaces to create richness in experience and to assist in wayfinding. The following provides guidance on the style and finish of various finishes and accessories including paving, lighting, planting, bollards, seating, trash receptacles, bicycle racks, and planters.

- a) Districts** - Materials should read as “families” within each district. Lighting, furnishings, signage, paving and materials should have a consistent palette, look and feel within each district and contribute to an overall character and “theme” for each space. In the Campus Heart elements should contribute to the vibrant, unique and fun aesthetic of the space.
- b) Networks** - There should be a continuous use of elements and patterns to create a flow and connective identity down the various circulation networks. A consistent design language of form, layout and the selection of elements/materials chosen (including furnishing, paving, trees and planting) should be carried through the entire length of the pedestrian corridor.

3.7.4 Quality, Durability and Low-Maintenance

A sense of permanence, through the use of quality and durable materials that weather well, is encouraged. All landscape elements and materials should require as little maintenance as possible, especially in outlying areas of the campus. Materials and designs should be vandal proof and resistant to damage and graffiti.



3.7.5 Public Art and Special Features

Nodes, gateways and key gathering places on campus should have at least one piece of public art, landmark, or similar special feature. These features should be used to create land marks and support nodes for around the campus. The Campus Heart in particular should have a prominent feature that celebrates the vibrancy and importance of this space. At gateways and along circulation corridors, these features should be used aid in visual way-finding and establish an identity for the campus. These features should reflect the aboriginal culture and symbolism of the Kamloops area.



3.7.6 Signage

Signage is a crucial element of campus navigation and character. Consider the following:

- a) **City of Kamloops Sign Regulations** - Bylaw requirements must be met
- b) **Way-finding Signs** - Signage should be provided at every intersection of any circulation network to support overall way-finding and navigation. These signs should reflect the unique character of the district and the aboriginal culture and symbolism of the Kamloops area.
- c) **Building Signs** - Building names and addresses should be clearly visible. It should reflect the architectural character of the development and not be visually obtrusive or present a cluttered image. Entry signs should be placed at or below eye level and be integrated with landscaping or other features.
- d) **Commercial Signs** - Commercial signage that identifies the business should be located above the storefront façade. Signs should not obscure the transparency of the storefront. The following types of signs should not be used: back-light sign boxes, billboards, revolving signs, inflatable devices, roof signs or, sandwich boards and other sidewalk signs.
- e) **Gateway Signage** – TRU signage should be prominent at all gateways and should not be obscured or cluttered with commercial signage.
- f) **Interpretive Signs** - Interpretive signage is encouraged to educate students on the sustainability features of the public realm and landscape.



3.7.7 Furnishings

- a) **Bollards** - Bollards should be used wherever there is an interface between pedestrian areas and vehicular areas that is not otherwise separated by a curb or a raised planting bed as part of the design. Bollards should be used to protect building entries or areas with continuous windows, as well as structures and other important infrastructure
- b) **Benches** - Benches in each open space or network can have a variety of shapes, but there should be at least 30% or more benches with side arm rests and backs. Benches should be placed along movement corridors at frequent intervals for adequate resting of users and bench design should have pull-outs deep enough so that someone sitting does not interfere with movement along the corridor.
- c) **Waste Stations** - Waste collection furnishings should be provided along movement corridors and within gather spaces. The design of receptacles should be consistent with the overall design language of the TRU zero waste management stations.
- d) **Bicycle Racks** – Bicycle racks should be placed at all key entrances nodes and intersections of pedestrian corridors around the campus. Bicycle racks should suit the overall character and quality of the open spaces and networks within the district. Bicycle racks should be able to lock and user-friendly. For example, Cora bike racks are suitable racks for multiple bike parking.



3.7.8 Lighting

Exterior lighting is required to provide safe, illuminated passage for night use. It should further be integrated as a design feature, and not just as a safety element, to support the aesthetic identity of place and usability of the open spaces at all times of the day. Consider the following:

- a) **Types** - Lighting for the public realm should be designed considering three scales of experience. The campus scale, the streetscape scale and the pedestrian scale. Lighting fixtures should respond to be selected to respond to these scales and provide life and vibrancy to the campus.
- b) **Placement** - Fixtures should be placed so that light patterns intersect at 2m above ground.
- c) **Light Pollution** - All light fixtures should to be “night-sky” compliant with cut-off levels to reduce light pollution.
- d) **Coloured Lighting** - Consider using coloured lighting in the Campus Heart and along key circulation networks. This can help promote identify and way-finding.
- e) **Intensity** - The intensity of exterior lighting should follow the Illuminating Engineers Society of North America standards.
- f) **Efficiency** - Outdoor lighting design should be consistent with the 3 rules for energy efficient lighting: light only the area required; use the most efficient, proven cost effective lighting technologies (such as LED); and use controls to manage lighting requirements (such as daylight sensors).



3.7.9 Paving

The paving design for open spaces and networks across campus should consider the following guidelines.

- a) **Linear Patterns** - Along movement corridors, paving should have a linear layout to visually promote travel down the pedestrian corridor.
- b) **Responsive Patterns** - Paving patterns should be broken up to respond to a change in function of an open space or network and to accommodate change in furnishing layout or design, entrances to buildings, intersections with sidewalks, and other design influences.
- c) **Size of Paving Area** - Large areas of the same paving, more than 50m² at a time, are discouraged. Parking surfaces are excluded.
- d) **Paving Materials** - In the Campus Heart, along campus mews, and in key campus nodes, a higher quality of paving materials should be considered; suitable paving to be considered include concrete unit pavers, natural stone, and CIP concrete.



3.7.10 Fencing and Screening Materials

Standard residential wood picket fences are discouraged. The placement of chain link fences should consider the surrounding context and should be limited to areas that are not visible to pedestrian networks, visible from the street and fronts of buildings. Low-maintenance planting (such as hedging) is preferred, or a combination of “hard” and “soft” materials to create interest.



3.7.11 Planting

- a) **Lawn Areas** - No grassed areas should be smaller than 10 m² to avoid higher maintenance lawn areas.
- b) **Planting Swaths** - Use large swaths of planting to limit maintenance and create more unity across the campus.



Plants should be selected with sustainability in mind.

- c) **Native Plants** - Plant material should be native to the Kamloops region as much as possible or otherwise tolerant to the local climate.
- d) **Pest Management** - Herbicide and pesticide use is not supported and Integrated Pest Management principles should be considered in the design and selection of plantings.
- e) **Drought Tolerant** - Plants should be drought-tolerant, using xeriscaping, and synergistic groupings of plant species (for example, using trees to provide shade for plants to reduce dry out).
- f) **Energy Use** - Locate planting to improve the energy efficiency of buildings (such as consideration for shading and solar exposure of buildings).
- g) **Messy Trees** - Limit the use of trees that drop a lot of fruits and cause maintenance issues or safety issues for pedestrians/cyclists.
- h) **Street Trees** - Street trees are encouraged in all boulevard areas with low growing plants for visibility. Street tree spacing should be no less than 10 m. Use continuous planting trench to allow for greater soil volume which will increase the potential root health of the tree. Use suitable street tree species that have a high crown understory to allow for comfortable pedestrian passage underneath (multi-stemmed trees for street trees are discouraged).





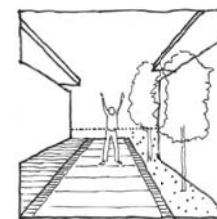
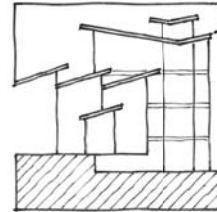
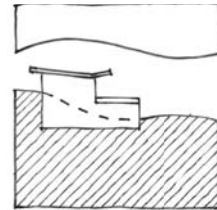
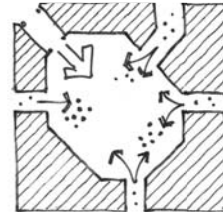
Building Guidelines

4 BUILDING GUIDELINES

This section considers planning and architectural controls at the building and parcel level. The intent is to provide a design framework upon which the TRU campus can develop a sense of place and identity through the built form.

KEY PRINCIPLES:

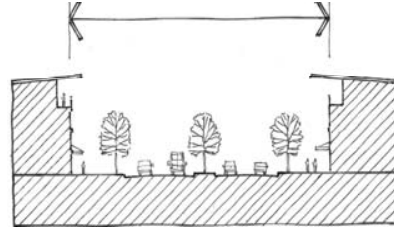
- Vibrant mixed-use community that is inviting and encourages pedestrian engagement.
- Buildings respond to the natural surroundings of Kamloops and are built to be of the time and locale in a contemporary nature.
- Diverse and sustainable housing forms that provide multiple housing typologies that accommodate a diverse range of demographics.
- Engaging streetscapes and defined ground planes that activate and responds to pedestrians, environment and context.



4.1 SETBACKS

4.1.1 Setbacks

Setbacks shall conform to the City of Kamloops Zoning Bylaw. Street enclosure should be considered where buildings meet the street in order to achieve a continuous street wall enclosure that guides pedestrian movement and supports the framing of public networks and places.



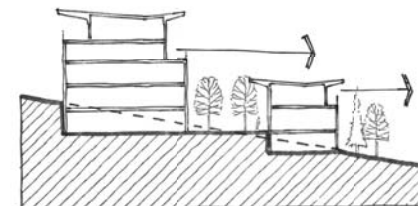
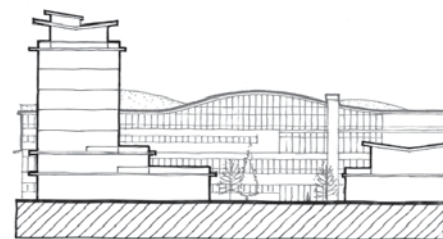
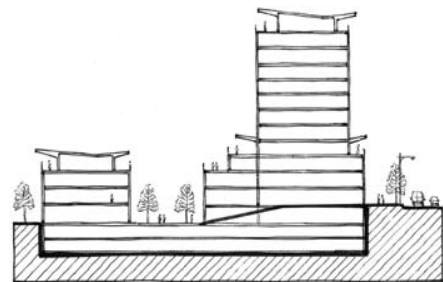
4.2 HEIGHTS

Maximum allowable building height is 12 stories. Any parking levels above existing grade are included in the overall building height. New buildings should not create major height differences in relation to adjacent and nearby buildings. Taller structures should be located along McGill Corridor and building heights should decrease as it transitions towards the north.

4.2.1 Heights in Relation to Building Typologies

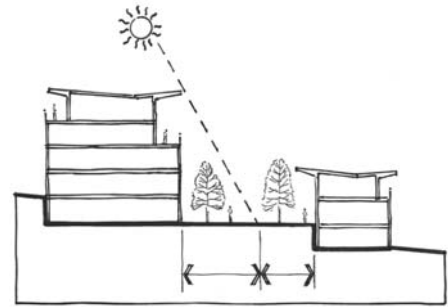
Town homes between two or three storeys, mid-rises between four to six storeys and high-rises between seven and twelve stories are encouraged. Each building's position within a parcel will also dictate the general height parameters.

- a) **McGill Corridor Heights** – buildings in this district will be of higher density than in other areas of the campus and will be between four to twelve stories in height. Lower podiums with a higher tower element are encouraged. Although more height is encouraged to be located along this edge, the footprint of taller buildings should be kept to a reasonable size to not create massive walls along the southern edge of the University.
- b) **Eastern Parcel Heights** – buildings in this district will be between four to six stories. This district transitions between the higher structures along McGill Corridor, the larger institutional buildings such as Old Main and the Science building, and the lower residential districts to the north. New buildings located directly north of the Old Main Extension should respect and maintain views to the north. A higher point tower of up to eight stories upon a lower one or two storey podium may be considered for this site to respect existing views of the Old Main Extension.
- c) **North Bench Village Heights** – to protect views to the north, heights of buildings will be lowest in this district and should be between two to twelve stories. Taller buildings should be located uphill of shorter buildings.



4.2.2 Separation Between Buildings and Shadowing -

Buildings should maintain an appropriate separation from other existing buildings. An appropriate ratio of building height to building separation should be determined by reducing overshadowing of the public realm, overshadowing of adjacent buildings, minimizing solar glare and reflection due to proximity, and maximizing daylighting and privacy.



4.3 MASSING

4.3.1 Breaking down Large Surfaces

Building surfaces of considerable mass should be broken down and large uninterrupted walls avoided. The use of mullions, window pattern, paneling, material changes, visually interesting materials, planar setbacks, exposed structural elements and architectural shading elements may assist in breaking down mass.



4.3.2 Terracing

Buildings should terrace at single floor increments or at double floor increments. Avoid terracing increments beyond two stories as this will create a bulky appearance.



4.3.3 Large Footprints

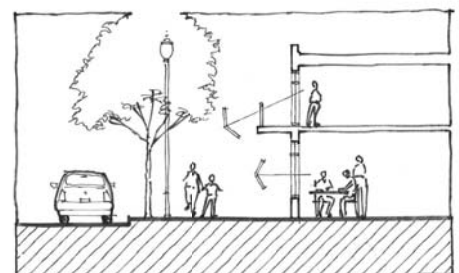
Large footprints that appear bulky and create an unwelcoming wall should be avoided. Articulation of floor plates using indentations and creating opportunities for permeability is encouraged.



4.4 FAÇADE & ENTRIES

4.4.1 Building Relation to Street

Buildings must promote friendly streetscapes. For buildings in the North Bench Village district, all buildings should and have their front entry onto the streets they face. For townhome developments, privacy can be achieved through the use of design elements such as vegetation or front patios.

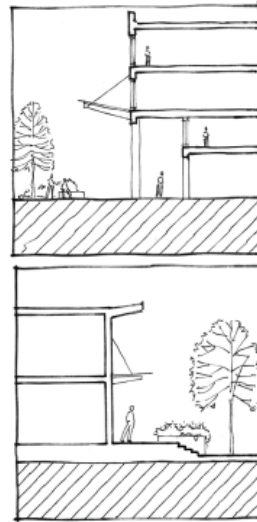


4.4.2 Building Entries and Weather Protection

Weather protection canopies located within the base building element zone is encouraged for an improved pedestrian experience. Weather protection must be provided at all principal entries to buildings to provide a sense of arrival and for better way-finding.

4.4.3 Individual Residential Entries

Maximize individual entry ways for all residential market developments. Town homes should have their own clearly identifiable entries complete with weather protection, stair and gateways that interface with public paths and public areas that in turn connect to the rest of the campus.



4.4.4 Street Wall

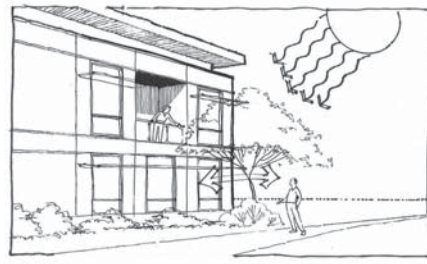
To create a continuous visual datum and pedestrian streetscape experience, buildings are encouraged to create a one storey building base at street level (except for the North Bench Village and Trades and Technology Districts).

The base building should have a finer grain of detail in terms of massing, materials, and other architectural design elements. The intention is to promote permeability and a pedestrian scale.



4.4.5 Daylighting and Glazing

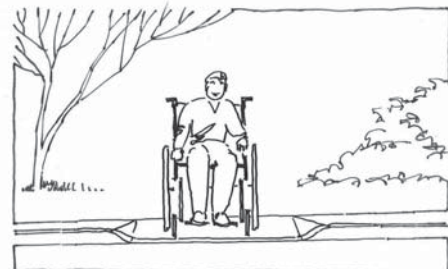
Storeys at grade should have greater degrees of transparency and glazing on walls that face a pedestrian way. Habitable rooms are encouraged to have direct access to sunlight. Buildings should take into account the distinct seasons and consider minimizing solar gain during the summer but allowing sunlight to enter in the winter.



4.5 ACCESSIBILITY

4.5.1 Universal Accessibility

TRU is encouraged to provide access to people of all levels of ability to all buildings on campus. Facility servicing zones such as mechanical rooms are excluded. All new construction must comply with the Building Access Handbook.



4.5.2 Universal Accessibility in Existing Structures

Existing structures and buildings undergoing renovations or expansions should improve access for people of all levels of ability.

4.6 ROOFSCAPES

4.6.1 Roof as a Design Element

Roofscapes should be considered as design elements and be visually interesting from above in higher adjacent buildings or higher terraces of the same building.

4.6.2 Roof Lines

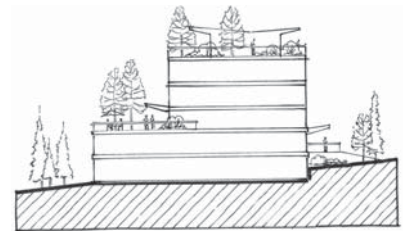
Horizontal roof forms that promote vistas and view lines should be considered over gable and other traditional residential forms.

4.6.3 Roof Top for Living

Consider roof tops for sustainable or recreational and open space uses such as roof top gardens, green roofs, viewing platforms, energy generation, or other amenity type space. Green roofs should use native plantings and grasses.

4.6.4 Roof Equipment

Roof top units should to be screened from view.



4.7 BALCONIES

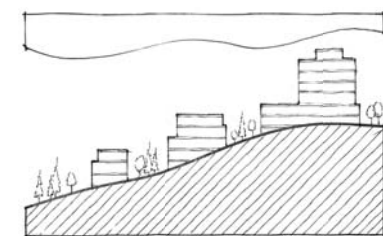
4.7.1 Balconies for Market Development

Balconies should be integral to the overall design of the building and not appear tacked-on to maintain a high design standard.

4.8 BUILDING WITH THE ENVIRONMENT

4.8.1 Topography

Building located on slopes should terrace with the existing topography of the site.



4.8.2 Views

TRU is situated to enjoy spectacular mountain views towards the north and east. These views not only provide visual interest but act as natural campus way-finding. Buildings should orient themselves towards vistas and should be respectful of campus view corridors and the views of adjacent sites. Careful placement of higher portions of a building or terracing buildings with the topography to respect the existing views of neighbouring buildings is encouraged.



4.8.3 Sustainability

Buildings should meet green building requirements as outlined in Section 5.

4.8.4 Geo-exchange

Buildings should consider the use of geo-exchange as a cost effective source of heating, cooling and domestic hot water.

4.8.5 Rainwater Management

Buildings are encouraged to capture and retain rainwater from rooftops.

4.9 ARCHITECTURAL MATERIALS

4.9.1 Families of Buildings

Although all buildings within the TRU campus should read comprehensively, it is of particular interest that structures within the same parcel read as a “family” of buildings and relate in similar massing language and use the same material palette. Buildings should have variation amongst themselves within parcels however, read as an integrated whole..



4.9.2 Complimentary Modern Materials

Architecture should be complimentary to the local context, contemporary of its time and reflect its surroundings.

4.9.3 Quality

A sense of permanence through the use of quality and durable materials that weather well is encouraged. Buildings should not look low quality, generic and out of context with the high quality of design on campus. Architectural expression that appears to mimic styles of a different place or era, and architecture that references historical styles are strongly discouraged.



4.9.4 Human Scale Materials

Building materials that respond to the pedestrian scale are encouraged, especially at the ground plane to promote visual interest at the streetscape.



4.9.5 Primary Materials for Academic Developments

Natural materials that reflect the indigenous geography of the Kamloops region is encouraged. The following materials are preferred material choices:

- a) **Wood** – In line with British Columbia’s Wood First initiative, natural wood products are encouraged as the primary material of choice. The use of wood in the Old Main Extension establishes the new direction and tenor for materiality and design on campus. Exposed glu-lam wood structure, natural wood paneling are preferred. Horizontal timber siding, such as those found in vernacular log cabins are discouraged. Wood materials should be reflective of modern practices in British Columbia.
- b) **Glass** – To promote transparency, lightness, and daylight spaces, glazing is a primary material of choice. Glazing that provides transparency through clear or lightly tinted low-E glass are encouraged. Windows and curtain wall systems should be detailed to create depth in the façade and should not appear flat. Attention to the rhythm and repetition patterns of glazing modules, as well as the use of frit patterns and spandrel panels should be used to break down large surfaces of glazing and create visual interest. Highly reflective, glare producing or dark tinted glazing is not permitted on campus. Vinyl windows should be avoided. The use of glass on the Brown Family House of Learning and the Old Main Extension establishes the precedent for future buildings.
- c) **Fiber Cement Panels** – Panelized fiber cement boards must be of high quality. Attention should be given to board panelization and create an appropriate scale and rhythm that’s aligned with existing neighbouring buildings.
- d) **Metal Panels** – Metal panelized boards must be of high quality to prevent oil-canning. Attention should be given to board panelization to create an appropriate scale and rhythm that is aligned with existing neighbouring buildings and breaks up large masses of wall.



4.9.6 Secondary Materials for Academic Developments

- a) **Stone and Brick** – These materials are to be used secondary to the primary material selected for a building.
- b) **Colour Palette** – A colour palette that is complimentary to and highlights the Kamloops landscape is encouraged.
- c) **High Standard** – Buildings should maintain a high design standard and be similar to and/or compliment similar exterior finish materials as found on existing campus buildings such as the Brown Family House of Learning and the Old Main Extension.
- d) **Discouraged Materials** – The use of plastic materials, vinyl siding, vinyl windows, false muntin bars, stamped concrete block and faux natural materials are discouraged. Stucco is an acceptable exterior finish, but should be kept to a minimum



4.9.7 Materials for Market Developments

Although commercial and residential buildings may depart from the preferred list of materials set out in Section 4.9.5, it should respect and compliment the material palette guidelines and maintain a high design standard. Some precedents of good material usage and a high level of design standard for commercial and residential buildings are shown to the side.

- a) **Windows** – Small punch windows should not be the overall strategy; rather windows should have prominence in the overall design elevation and take full advantage of vistas. Windows and curtain wall systems should be detailed to create depth in the façade and should not appear flat. Attention to the rhythm and repetition patterns of glazing modules, as well as the use of frit patterns and spandrel panels should be used to break down large surfaces of glazing and create visual interest. Highly reflective, glare producing or dark tinted glazing is not permitted on campus. Consider energy performance of windows in the overall design.
- b) **Discouraged Materials** – The use of plastic materials, vinyl siding, false muntin bars, and stamped concrete block are discouraged. Wood and metal picket balcony rails and other traditional stylized rails should be avoided. Balcony railings should be of a contemporary nature. Although stucco is an acceptable exterior finish, it should be kept to a minimum and used as a secondary material.



4.10 PARKING, LOADING AND ACCESS

4.10.1 Academic Parking Counts

The number of existing parking stalls will stay fixed. Where surface parking spaces are reduced due to development, alternate parking spaces will need to be identified, until such time that land availability for surface parking necessitates structured parking.

4.10.2 Market Parking Counts

Parking counts for Market Uses shall conform to the City of Kamloops Zoning Bylaw and where possible, in consultation with the City, reduced parking ratios should be encouraged in conjunction with viable transportation alternatives such as preferred parking, bike parking etc.

4.10.3 Structured Parking

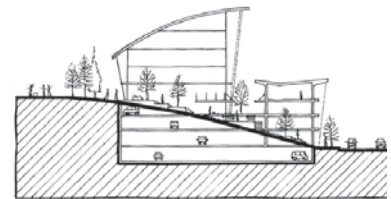
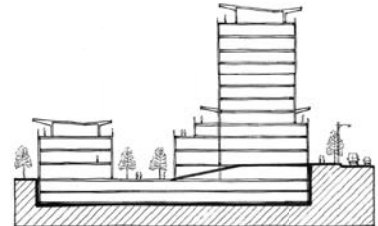
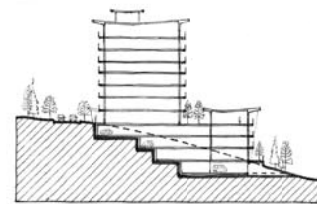
Structured parking should be built to make use of the site's slopes and terrace with the existing grades to minimize cut and fill. Down-slope buildings should be constructed up against the parkade wall. The maximum parkade height should be 6.5m above existing natural grade or 3.5m above new grades. Parkade design specifications must be consistent with Division 52 of the City of Kamloops Zoning Bylaw.

4.10.4 Underground Parking

For all Market Uses, parking (except visitor parking and loading zones) are encouraged to be underground and if applicable, built into the grade as a terraced quasi-underground parkade.

4.10.5 Campus Parkades

A future academic parkade has been identified in the parcel located Northwest of the BC Centre for Open Learning. This parkade will be built into the slope and hidden from view. The parkade roof will be designed such that it will mediate the grade change and act as a pedestrian connection between the Lower Athletics and the Academic Core.



4.10.6 Underground Parking Entry Way

Entries to all underground parking should be concealed to the greatest extent possible using either architectural or landscaping elements.

4.10.7 Preferred Parking Stalls

Preferred parking stalls are encouraged for co-operative and electric cars. Work with the City of Kamloops to determine strategies in reducing parking counts.

4.10.8 Underground Parkade and Surface Parking Safety

Underground parking structures and surface parking should be designed with safety in mind and include appropriate lighting levels and emergency call stations.

4.10.9 Service and Utility Areas

Service, utility and loading docks should be concealed to the greatest extent possible, however high fences should be avoided as this creates large blank walls and landscaping should be incorporated to reduce visual impacts of the screening elements.

4.10.10 Visitor and Accessible Parking

Accessible parking and timed visitor surface parking should be provided on all building parcels. These stalls should be easily accessible and their entry visually apparent.

4.10.11 Surface Parking Design

Avoid large swathes of surface parking lots and consider incorporating landscaping such as rows of trees and planted medians to provide shading and decrease surface runoff.

4.10.12 Bike Parking

Bike parking counts shall conform to the City of Kamloops Zoning Bylaw as a minimum and should be exceeded for academic uses and in areas close to transit stops and campus gateways.



Sustainability Performance Targets

5 SUSTAINABILITY PERFORMANCE TARGETS

In 2014, TRU adopted a comprehensive Campus Strategic Sustainability Plan. This plan sets out TRU's ambitions to demonstrate its commitment to sustainability in a number of theme areas, such as design and construction, campus grounds, transportation, waste, water, etc.

This section outlines specific sustainability performance targets to help TRU move towards its sustainability commitment. These are strongly recommended and TRU expects proponents to make every effort to incorporate these as part of their projects. As part of the review process, proponents should demonstrate their compliance, or justify and propose alternatives where warranted.

5.1 ACADEMIC DEVELOPMENTS

5.1.1 LEED Certification

In keeping with the BC Government's Energy Efficient Buildings Strategy and provincial funding requirements, all new academic buildings at TRU are expected to be LEED Gold certified by the Canada Green Building Council.

- a) **LEED Gold** – Projects should achieve LEED Gold Certification under the LEED Canada for New Construction and Major Renovations 2009 Rating System.
- b) **Energy Performance** – As a reflection of the commitment TRU has made to resource conservation and energy efficiency, projects should achieve 10 points under LEED Energy & Atmosphere Credit 1: Energy Performance (i.e. 30% better than ASHRAE 90.1 2007)
- c) **Solar Energy** – Solar collectors for Domestic Hot Water systems should be included in all buildings. A Solar Photovoltaic system capable of supplying a minimum of 10% of the building energy load should be included in all buildings.
- d) **Energy Metering** – Buildings should include both primary and secondary metering for managing energy consumption. Primary meters should be installed for electric, gas, water, and district energy (if applicable). Meters should be revenue grade and trended in 15 minute intervals. Secondary meters are recommended for mixed use buildings and for large energy consuming devices that represent 10% or more of the total annual consumption of the building. Secondary side meters are recommended to be connected and trended by the Building Management System (BMS).
- e) **Waste Management** – A Construction Waste Management Plan should be provided to ensure a minimum of 90% diversion by weight from the landfill, including provision for waste separation.

5.2 MARKET DEVELOPMENTS

In keeping with TRU's sustainability commitment and image, market developments are expected to demonstrate leadership and continuously raise the bar for development in Kamloops. A set of sustainability performance targets have been established for the market parcels at TRU. These draw on the LEED Rating System, other academic institutions, and specific opportunities identified by TRU through the Campus Sustainability Plan.

The targets are grouped into six priority areas:

- Site Strategies,
- Water Conservation and Efficiency,
- Energy Efficiency,
- Materials and Resource Use,
- Waste Reduction, and
- Indoor Air Quality.

Proponents are expected to meet all of the targets, or otherwise justify why alternatives are warranted.

5.2.1 Site Strategies

Site strategies include reducing the negative impacts of development on the natural environment and generally maintain the natural landscape, vegetation, and environmental attributes of each parcel. Projects should be developed in a manner that reflect the character of the natural landscape at TRU.

Recommended Targets:

- a) Protected Areas** – A site plan should be submitted indicating all protected portions of the site during construction, including protection zones for natural vegetation and habitat.
- b) Stormwater Management** – Peak post-development storm runoff flow should not exceed pre-development flows.

5.2.2 Water Conservation & Efficiency

Reduce the consumption of potable water, and reduce the impact on the regional water supply and treatment system.

Recommended Targets:

- a) **Water Meters** – A spool should be installed in the incoming water main of each building to allow for future installation of water meters.
- b) **Toilets** – All toilets should be either minimum 6L/3L Dual Flush or Low Flush/High Efficiency Toilets (max 4.2 litres per flush).
- c) **Fixtures** – All fixtures should be ultra low-flow: kitchen faucets (maximum 1.75 gpm), bathroom faucets (maximum 1.2 gpm), and shower heads (maximum 1.75 gpm).
- d) **Xeriscaping** – Drought tolerant plants should be used in landscaping and planting beds should be mulched to a 50mm depth to reduce loss of water by evaporation.
- e) **Lawns** – Grass coverage should not exceed a maximum of 50% of the total soft and/or vegetated landscaped area within the property line.
- f) **Irrigation** – Irrigation systems for all non-grass planted surfaces should be high-efficiency (trickle or drip feed) systems only.

5.2.3 Energy Efficiency

Reduce the use of non-renewable fossil fuel resources and decrease the impacts of greenhouse gas emissions.

Recommended Targets:

- a) **ASHRAE / NECB** – All buildings should be designed to meet the BC Building Code (December 2013) as demonstrated by successfully meeting ASHRAE 90.1-2010 or the National Energy Code of Canada for Buildings 2011 (NECB 2011). The appropriate ASHRAE / NECB compliance checklist should be completed to demonstrate that all mandatory requirements are being met. Buildings designed without a common corridor should meet or exceed EnerGuide for New Homes 80.
- b) **Commissioning** – A Commissioning Agent should perform Fundamental Building Systems Commissioning for all mechanical and heating systems and a request for commissioning documentation in all contract documents should be required.
- c) **Energy Star** – Only Energy Star rated dishwashers and refrigerators should be installed, and Energy Star rated front loading horizontal axis washing machines should be installed if included as part of an appliance package or optional appliance package.
- d) **Solar Rough-In** – Conduit should be provided for either a solar photovoltaic system or solar hot water system.
- e) **Utility Consultation** – All building design concepts should be subject to a pre-design energy utilization consultation with BC Hydro and Terasen Gas, or their approved agents (if available at time of preliminary conceptual design).

5.2.4 Materials & Resource Use

Reduce the amount of natural resources consumed in the construction process.

Recommended Targets:

- a) **Wood** – Rental forms or re-use of existing forms should be specified for foundation forms, OR wood should be re-used from waste forms for non-structural elements in building construction, OR FSC Certified plywood should be used for all forms and sheathing.
- b) **Concrete** – Concrete with flyash content greater than 20% should be specified for large footings and vertical concrete that does not require finishing.
- c) **Cabinetry** – Cabinetry material with a minimum 50% recycled content (total combined content of cabinet boxes and doors) should be specified.
- d) **Carpets** – All carpets should meet Carpet and Rug Institute’s Green Label Program.
- e) **Engineered Wood** - In woodframe structures, engineered wood products should be used for beams, joists and headers (e.g. TJI’s finger-jointed studs for non load-bearing walls).
- f) **Steel Studs** – Steel studs with aluminum content should have approximately 30% recycled content.
- g) **Drywall** – Drywall should have a minimum recycled content of 15%.

5.2.5 Waste Reduction

Reduce the waste materials produced in the construction process and during long-term occupancy.

Recommended Targets:

- a) **Construction Waste Management Plan** – A Construction Waste Management Plan should be provided to ensure a minimum of 75% diversion by weight from the landfill, including provision for waste separation.
- b) **Recycling** – A recycling area should be provided in all units with separate bins/drawers for waste separation according to TRU zero waste guidelines.
- c) **Waste Collection Point** – A central collection point for Three Stream Waste Disposal should be provided within buildings according to TRU zero waste guidelines, including additional space for compost when/if available.

5.2.6 Indoor Air Quality

Design and construct buildings with improved indoor air quality. This can be achieved by reducing the source of potentially harmful contaminants through material selection and the provision of adequate ventilation.

Recommended Targets:

- a) **ASHRAE** – The requirements of ASHRAE 62.1999 “Ventilation for Acceptable Indoor Air Quality” should be followed.
- b) **Construction Indoor Air Quality Management Plan** – A Construction Indoor Air Quality Management Plan should be specified, including cleaning interiors, building cavities, ventilation systems and components prior to occupancy; replacing filtration media prior to occupancy; and protecting absorptive construction materials from moisture damage on site.
- c) **Water Based Finishes** – Water based finishes should be used for all cabinetry, paneling, molding and flooring that is finished on site.
- d) **Paints** – All paints should be low in VOC content and should meet or exceed Green Seal Standard GS11.

integrate OL + rest

Create spaces that
programs.

Create Space that is dedicated to
Based Research & community
activities

- large multi-~~purpose~~^{purpose} meeting space
- Research Space for
U/G Students

Design Review Process

6 DESIGN REVIEW PROCESS

To date the design review process for new buildings, renovations and open spaces has been done by the VP-Administration and Finance. With an anticipated 30- 60 year pipeline of new academic and market buildings, a defined design review process will **benefit** TRU by:

- Ensuring all parties, internal and external, are in place to appropriately comment and provide input on projects to ensure their long-term success;
- Ensuring that the vision of the Master Plan, and other crucial TRU plans, are carried forward and embodied in each of the projects to be implemented on both the market and academic development front;
- Providing external expertise and advice on the key design elements of these projects to ensure high-quality, sustainable and iconic design where desired; and
- Providing a clear, efficient and effective process for TRU that reduces risk for private sector developers and for design teams who will come forward to help implement the TRU Master Plan

There are two types of development at TRU, Academic and Market (as defined in Section 1.1). It is important that all development be high quality, and offer a consistent campus experience.

6.1 ACADEMIC DEVELOPMENT

6.1.1 Administering the Process

For academic developments, the developer / proponent is expected to work closely with the TRU Design Review Panel. The purpose of the Design Review Panel is to:

- Assess the proposed project's adherence to the relevant guiding documents, such as the Campus Master Plan, the Campus Strategic Sustainability Plan, the Design Guidelines, etc., and
- Ensure that the TRU community's interests are being met.

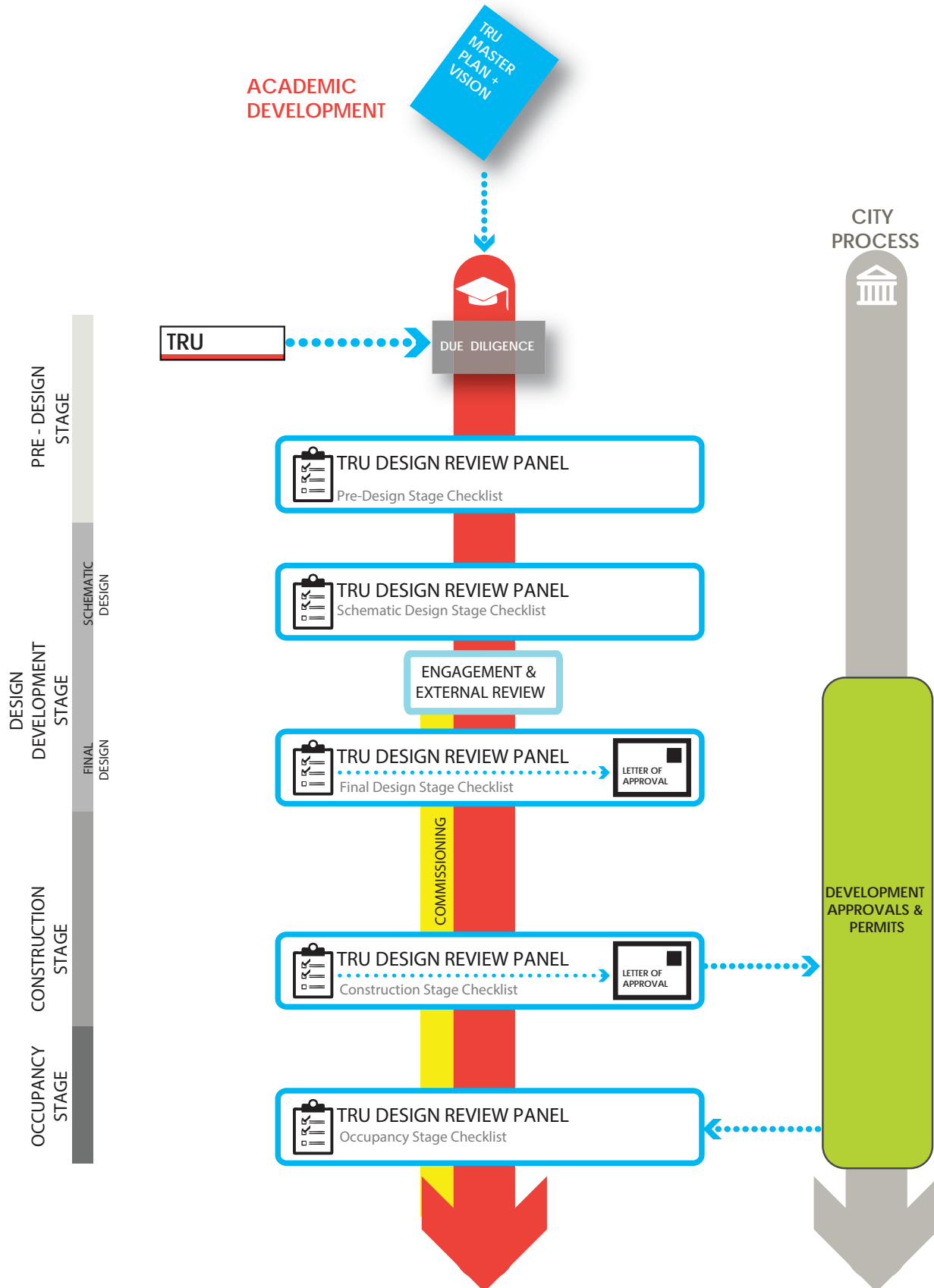
As part of the review process, the Design Review Panel provides recommendations to the VP-Administration and Finance (the Chair), who seeks approval from the TRU Board of Governors. In addition to the Chair, the core Design Review Panel membership should include:

- **Third-party Professionals** - Reputable and well-established individuals across the following areas of expertise - Architecture, Landscape Architecture, Mechanical Engineering, Electrical Engineering, Civil Engineering, Urban Design, Green Buildings / Sustainability, and Commissioning.
- **Staff** - Director Sustainability and Director Facilities.
- **Representatives** - First Nation Community Member, TRU Student, and a faculty representative.

From time to time, and depending on the type of project, the core membership may invite additional designates or members to participate in the particular project.

6.1.2 The Process

The TRU Design Review Process for academic developments are illustrated below. The review process applies to a variety of projects including buildings, open space, and major retrofit/renovations. The processes run in parallel with the City of Kamloops permitting process and align with the four key stages of the development process.



a) Pre-design Stage

Once a project is identified, TRU would conduct their due-diligence and define the parameters of the project. A meeting with the Design Review Panel Chair is recommended at this early pre-design stage to make proponents aware of the process, guidelines, and potential issues to consider. An early meeting with the City of Kamloops is also encouraged to make the City aware of upcoming permit applications. The Design Review Panel will review the proposed development.

b) Design Development Stage

The proponent is expected to submit its package, along with the submission checklist, to the Design Review Panel following the Schematic Design (60% completion) and again at Final Design completion. Following Schematic Design, the proponent should conduct a public open house that allows the TRU community an opportunity to review proposed design solutions and provide input. Engagement with key external stakeholders such as transit operators, utility providers, and City regulators is also needed. Feedback received should be documented and considered in adjusting plans. Subsequent design revisions should be communicated to the Design Review Panel.

The commissioning process starts proactively at this stage. A TRU appointed third-party commissioning professional should work alongside TRU staff and the proponent to ensure that considerations are taken into account at this early stage to ensure the proposed buildings meet occupancy expectations and function as expected.

Upon completion of the design, the proponent should submit the design package to the Design Review Panel. The Design Review Panel will review the proposed development and, upon satisfactory conclusion, make a recommendation to the VP-Administration and Finance who will request that the Board of Governors issue a Letter of Approval that specifies the conditions of approval.

c) Construction Stage

Upon completion of construction drawings, the proponent should submit its construction drawing package, along with the submission checklist, for review to the Design Review Panel, identifying any deviation from the final design stage. The Design Review Panel will make a recommendation to the VP-Administration and Finance who will request that the Board of Governors issue a Letter of Approval that specifies the conditions of approval. This Letter should accompany the proponents' building permit application to the City of Kamloops (as required).

d) Occupancy Stage

Upon completion of construction, the proponent should submit its "as-built" package along with the completed submission checklist.

It is expected that throughout the process, the proponent will keep in communication with the chair of the Design Review Panel on the status and progress of the project's progression.

6.1.3 Submission Information Checklist

At each of the four stages of the process outlined above, the proponent will be asked to submit relevant information to illustrate adherence to the relevant design guidelines and compliance with the sustainability targets. A list of specific submission documentation, at each development stage, is outlined below.

a) Pre-design Stage

Prior to beginning preliminary design work, proponents are encouraged to submit conceptual description of the proposed facility, development, or renovation. Proponents should provide:

- ☐ Provide information about the proponent. Written description of the nature, timing and magnitude of the proposed project.
- ☐ Drawings showing the location and scope of the proposed project, its relationship to the districts, nodes and networks identified in the Guidelines and how the design supports the intention of the Master Plan.
- ☐ Describe or illustrate the anticipated type of land uses mix and initial massing, heights, and dimensions for buildings.
- ☐ Describe or illustrate the access and parking strategy; indicating parking requirements spaces (for cars, bikes and other preferred modes) and approaches to access for loading and servicing, visitors, etc.
- ☐ Describe or illustrate the infrastructure considerations, impacts, and anticipated upgrades and connections.
- ☐ Identification of anticipated design opportunities and challenges, based on review of the key TRU documents and City of Kamloops Bylaws.
- ☐ Identification of all municipal and provincial permits and approvals required.
- ☐ Confirmation and identification of the targeted level of LEED certification.

b) Design Development Stage

Schematic Design (60%)

At the Schematic Design Stage, the submittal should include, but not be limited to:

- ☐ Site plans, building plans, elevations and perspectives as well as written descriptions showing proposed:
 - ☐ Building massing, heights, positioning and setbacks.
 - ☐ Relationship of buildings to the adjacent / surrounding networks and places (shadow studies, elevations at street level, grading concepts, etc.).
 - ☐ Public Realm concept and dimensions of outdoor networks and places.
 - ☐ Location of paving, furnishing, special features (art/water features), etc.
 - ☐ Access and circulation patterns for pedestrians, cars, bikes, etc.
 - ☐ Parking configuration.
 - ☐ Grading concepts.
 - ☐ Utility extensions and connections, such as gas, sewer, water and power
 - ☐ Building elevations and architectural style, building materials, finishes, etc.
- ☐ Documentation showing the LEED credits being pursued along with the anticipated number of points.
- ☐ A strategy for engaging the TRU Community and external agencies during the subsequent stage.
- ☐ A tentative construction schedule.

Final Design (100%)

At the Final Design Stage, the submittal should include, but not be limited to:

- ☐ Site plans at a suitable scale showing:
 - ☐ Existing and proposed grades as well as site drainage.
 - ☐ Site coverage data.
 - ☐ Vehicle circulation, access to roadways and loading areas, and parking data and calculations.
 - ☐ Location of building and auxiliary structures in relation to existing buildings, aprons and service roads.
 - ☐ Landscape plan and plant list with caliper size, species, etc.
 - ☐ Site lighting location, height, intensity and fixture type, etc.
 - ☐ Types and design for paving, furnishing, special features (art/water features), etc. showing colours, materials, including a materials board.
 - ☐ Details on the waste generation and disposal systems.
 - ☐ Underground utility servicing including geothermal, water, sewer, power, gas, communications and storm drainage.
- ☐ Building plans, elevations and sections at a suitable scale showing:
 - ☐ Floor plans and building dimensions.
 - ☐ The arrangement, proportioning and design of windows and doors.
 - ☐ Layout and locations of exterior signs on buildings and property.
 - ☐ Building and roofing material schedule.
 - ☐ Colours and materials, including a materials board.
- ☐ Documentation showing the LEED credits being pursued along with the anticipated number of points.
- ☐ A Commissioning Plan for electrical, mechanical, envelope systems.
- ☐ A summary of the engagement feedback and demonstration of how designs have incorporated key issues.
- ☐ A tentative construction schedule.

c) Construction Stage

The construction documents should strictly follow the design approved in the Final Design submission. The professional responsibility for the content of the construction documents is left to the judgment of the project architects and engineers. The submittal to the Design Review Panel should include, but not be limited to:

- ☐ Written notification to advise the Design Review Panel of any deviations from the Final Design.
- ☐ One set of complete as-built documents is required, dated, marked “as-built” or “record” and stamped and signed by consultant of origin. The as-built documents should be submitted digitally to TRU within two months after completion of construction and will be stored for future reference.

d) Occupancy Stage

Upon completion of the project the following should be submitted to TRU:

- ☐ Provide a declaration by the appropriate professional that the level of LEED performance has been met.
- ☐ A Commissioning Report for electrical, mechanical, envelope systems. Administering the Process.

6.2 MARKET DEVELOPMENT

6.2.1 Administering the Process

For market developments, the developer / proponent is expected to work closely with the TRUCT, who will be reviewing and ensuring that the proposed project adherences to the relevant guiding documents, such as the Campus Master Plan, the Campus Strategic Sustainability Plan, the Design Guidelines, etc. As part of the TRUCT review process, there will be periodic coordination with TRU's VP-Administration and Finance, who will be seeking input from other TRU staff (as needed) and keep the Board abreast of proposed developments.

The TRU Design Review Process for market developments is illustrated below. The review process applies to a variety of projects including buildings, open space, and major retrofit/renovations. The processes run in parallel with the City of Kamloops permitting process and align with the four key stages of the development process:

a) Pre-design Stage

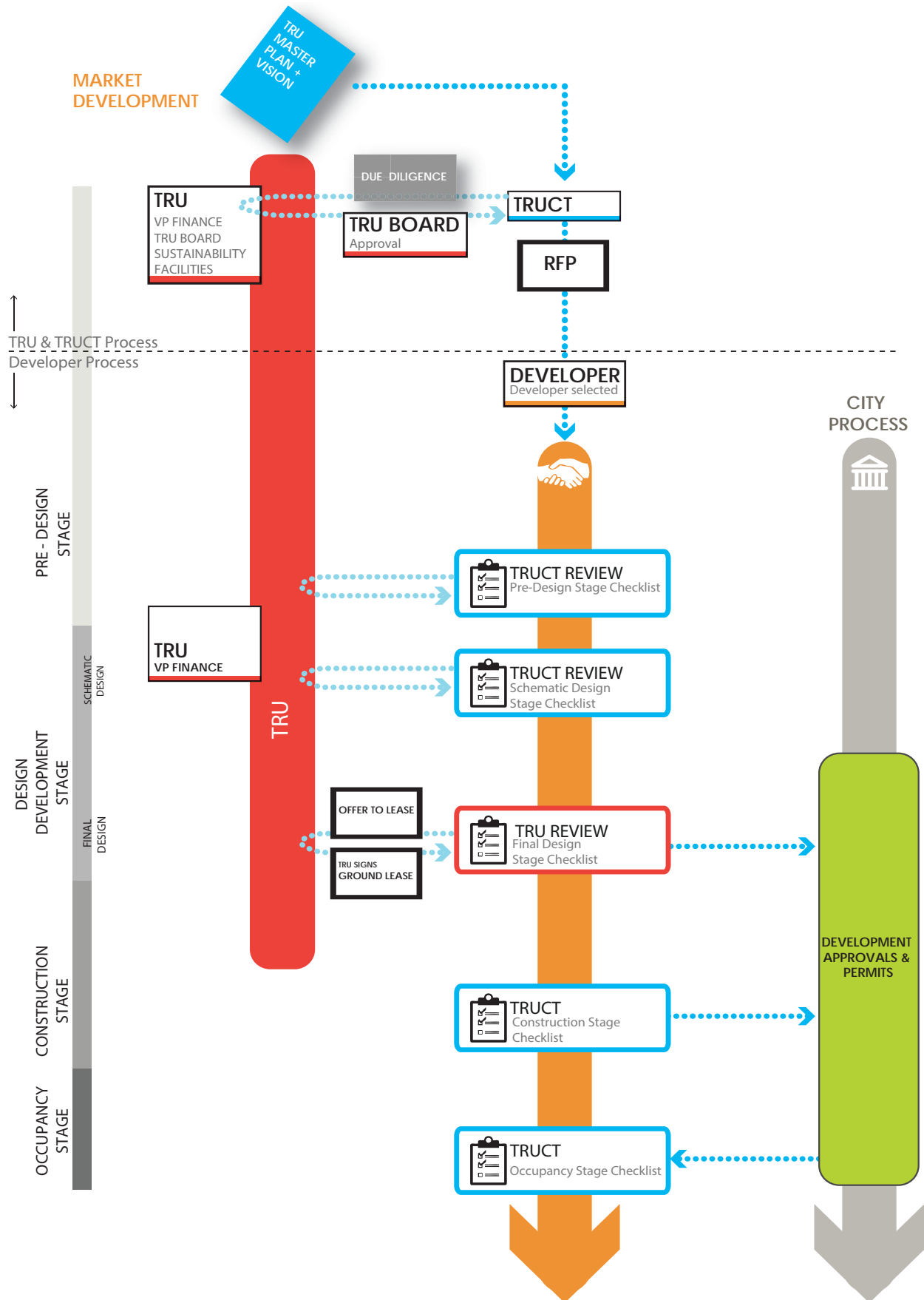
Once a project is identified, the TRUCT would conduct their due-diligence in collaboration with TRU to define the parameters of the project. Once approved by the TRU Board of Governors, the project may go to tender. The tender documentation should make proponents aware of the process, guidelines, sustainability targets, and other potential issues to consider. The successful proponent will submit pre-design documentation to the TRUCT, who will coordinate with the VP-Administration and Finance.

b) Design Development Stage

The proponent is expected to submit its package, along with the submission checklist, to the TRUCT following the Schematic Design (60% completion) and again at Final Design completion. The TRUCT will coordinate with the VP-Administration and Finance. At the final design stage, the VP-Administration and Finance will seek approval from the Board, after which the ground lease may be signed.

c) Construction Stage

Upon completion of construction drawings, the proponent should submit its construction drawing package, along with the submission checklist, for review to the TRUCT, identifying any deviation from the final design stage. The TRUCT will disclose and make information available to TRU.



d) Occupancy Stage

Upon completion of construction, the proponent should submit its “as-built” package along with the completed submission checklist.

It is expected that throughout the process, the proponent will keep in communication with the TRUCT on the status and progress of the project’s progression.

6.2.2 Submission Information Checklist

At each of the four stages of the process outlined above, the proponent will be asked to submit relevant information to illustrate adherence to the relevant design guidelines and compliance with the sustainability targets. A list of specific submission documentation, at each development stage, is outlined below.

a) Pre-design Stage

Prior to beginning preliminary design work, proponents are encouraged to submit conceptual description of the proposed facility, development, or renovation. Proponents should provide:

- ☐ Drawings showing the location and scope of the proposed project, its relationship to the districts, nodes and networks identified in the Guidelines and how the design supports the intention of the Master Plan.
- ☐ Describe or illustrate the anticipated type of land uses mix and initial massing, heights, and dimensions for buildings.
- ☐ Describe or illustrate the access and parking strategy; indicating parking requirements spaces (for cars, bikes and other preferred modes) and approaches to access for loading and servicing, visitors, etc.
- ☐ Describe or illustrate the infrastructure considerations, impacts, and anticipated upgrades and connections.
- ☐ Identification of anticipated design opportunities and challenges, based on review of the key TRU documents and City of Kamloops Bylaws.
- ☐ Identification of all municipal and provincial permits and approvals required.
- ☐ Written acknowledgement of the Sustainability Targets or any additional sustainability features targeted.

b) Design Development Stage

Schematic Design (60%)

At the Schematic Design Stage, the submittal should include, but not be limited to:

- ☐ Site plans, building plans, elevations and perspectives as well as written descriptions showing proposed:
 - ☐ Building massing, heights, positioning and setbacks.
 - ☐ Relationship of buildings to the adjacent / surrounding networks and places (shadow studies, elevations at street level, grading concepts, etc.).

- ☐ Public Realm concept and dimensions of outdoor networks and places.
- ☐ Location of paving, furnishing, special features (art/water features), etc.
- ☐ Access and circulation patterns for pedestrians, cars, bikes, etc.
- ☐ Parking configuration.
- ☐ Grading concepts.
- ☐ Utility extensions and connections, such as gas, sewer, water and power;
- ☐ Building elevations and architectural style, building materials, finishes, etc.
- ☐ A written description of the system, the design or the strategy that is expected to meet each of the Sustainability Performance Targets. In particular provide:
 - ☐ Site Plan and written description of site management strategy for Site Protection, Stormwater Management, and Landscape and Irrigation System Design.
- ☐ A strategy for engaging external agencies during the subsequent stage.
- ☐ A tentative construction schedule.

Final Design (100%)

At the Final Design Stage, the submittal should include, but not be limited to:

- ☐ Site plans at a suitable scale showing:
 - ☐ Existing and proposed grades as well as site drainage.
 - ☐ Site coverage data.
 - ☐ Vehicle circulation, access to roadways and loading areas, and parking data and calculations.
 - ☐ Location of building and auxiliary structures in relation to existing buildings, aprons and service roads.
 - ☐ Landscape plan and plant list with caliper size, species, etc.
 - ☐ Site lighting location, height, intensity and fixture type, etc.
 - ☐ Types and design for paving, furnishing, special features (art/water features), etc. showing colours, materials, including a materials board.
 - ☐ Details on the waste generation and disposal systems.
 - ☐ Underground utility servicing including geothermal, water, sewer, power, gas, communications and storm drainage.
 - ☐ The lease boundaries.
- ☐ Building plans, elevations and sections at a suitable scale showing:
 - ☐ Floor plans and building dimensions.
 - ☐ The arrangement, proportioning and design of windows and doors.
 - ☐ Layout and locations of exterior signs on buildings and property.
 - ☐ Building and roofing material schedule.
 - ☐ Colours and materials, including a materials board.

- ☐ Drawings, plans and cut sheets (where applicable) to demonstrate compliance with each of the Sustainability Performance Targets. In particular, provide:
 - ☐ Revised Site Plan, drawings and description of site management strategy for Site Protection, Stormwater Management, and Landscape and Irrigation System Design.
 - ☐ Drawings or plans to demonstrate Future Water Meter compliance.
 - ☐ Cut sheets and product list demonstrating Water Efficient Toilets & Low Flow Fixtures compliance.
 - ☐ Energy Modeling Report / NECB or ASHRAE Checklist (for Part 3 buildings).
 - ☐ Checklist from the Homeowner Protection Office's "Illustrated Guide for Energy Efficiency Requirements for Houses in British Columbia" (for Part 9 buildings).
 - ☐ Drawings or plans demonstrating Solar rough-ins.
 - ☐ Cut sheets / product lists demonstrating Material Selection compliance.
 - ☐ Drawings or plans demonstrating Recycling Infrastructure compliance.
 - ☐ Construction Waste Management Plan.
 - ☐ Declaration by BC Hydro / Fortis BC that they have been consulted on energy utilization.
- ☐ A Commissioning Plan for electrical, mechanical, envelope systems.
- ☐ A summary of the engagement feedback and demonstration of how designs have incorporated key issues.
- ☐ A tentative construction schedule.

c) Construction Stage

The construction documents should strictly follow the design approved in the Final Design submission. The professional responsibility for the content of the construction documents is left to the judgment of the project architects and engineers. The submittal to the Design Review Panel should include, but not be limited to:

- ☐ Written notification to advise the Design Review Panel of any deviations from the Final Design.
- ☐ One set of complete as-built documents is required, dated, marked "as-built" or "record" and stamped and signed by consultant of origin. The as-built documents should be submitted digitally to TRU within two months after completion of construction and will be stored for future reference.

d) Occupancy Stage

Upon completion of the project the following should be submitted:

- ☐ A declaration by the appropriate professional that the Sustainability Performance Targets have been met. In addition, supply:
 - ☐ Declaration by the civil engineer that requirements have been met for Site Protection, Stormwater Management, and Future Water Meters.
 - ☐ Declaration by the mechanical engineer that requirements have been met for Water Efficient Toilets & Low Flow Fixtures, and ASHRAE 62.
 - ☐ Declaration by Landscape Architect that Landscape and Irrigation System Design requirements have been met.
 - ☐ Declaration by contractor that requirements have been met for:
 - ☐ Energy Star Appliances,

- ☐ Solar Rough-ins,
- ☐ Recycling Infrastructure,
- ☐ Material Selection,
- ☐ Construction Indoor Air Quality Management Plan, and
- ☐ Finishes, Carpeting, and Low VOC Paints.
- ☐ Calculations demonstrating Construction Waste compliance.
- ☐ As Built Modeling Report/ NECB or ASHRAE Checklist (for Part 3 buildings);
- ☐ Checklist from the Homeowner Protection Office's "Illustrated Guide for Energy Efficiency Requirements for Houses in British Columbia" (for Part 9 buildings);
- ☐ Calculations demonstrating construction waste management compliance.
- ☐ A Commissioning Report for electrical, mechanical, envelope systems.

PHOTO CREDITS:

TRU Marketing & Communications: section 1 cover, section 2 cover, 3.1.2, 3.1.4, 3.1.5, 3.1.7, 3.2.3, 3.4.1, 3.7.5, 3.5.2, section 4 cover, 4.4.4, 4.9.6.

Yale-NUS (Master Plan by Pfeiffer Partners Architects with Kieran-Timberlake, Design by Pelli Architects with Forum Architects): 2.3.1 (b)

Tree Protection Barrier: Advanced Tree Care (<http://www.advancedtreecare.biz/>): 3.1.2

Call Station: Security Specialists (<http://www.securityspecialists.com/com-call-station.php>): 3.1.3

Nathan Phillips Square Roof Garden: Landzine (<http://www.landzine.com/index.php/2012/10/nathan-phillips-square-podium-roof-garden-by-plant/nathan-phillips-square-podium-roof-garden-02/>): 3.2.3

Calabasas Old Town Improvements Project by RRM Design Group: 3.3.2

Courtyard Garden: <http://room-ideas.com/bedroom-ideas/small-courtyard-garden-design-private-new-year-eve-party-courtyard-garden-ideas>: 3.6.1

Outdoor Learning: Drury's Office of Marketing & Communications: 3.2.3 (b)

