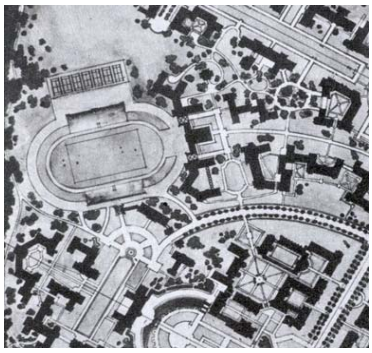
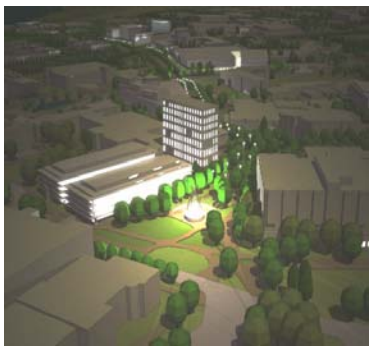
CORE AREA MASTER PLAN

University of Saskatchewan





FINAL REPORT

MARCH 2003

PREFACE

The Core Area Master Plan for the University of Saskatchewan has been prepared by Brook McIlroy Planning & Urban Design with input from Crosby Hanna and Associates, ND Lea, Allen Kani and Cochrane Engineering.

The Plan was prepared under the leadership of the Facilities Management Division and the Campus Master Plan Steering Committee comprised of representatives from the University and the Saskatoon community.

Over the course of preparing the plan, numerous public open houses, presentations and workshops were held to gain valuable input from the campus community and the public.

We wish to thank all those who provided their time and vision in this process.

1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Core Area Master Plan for the University of Saskatchewan (Master Plan) has been prepared to support the strategic directions of the University and is the result of an extensive University and community consultation process.

The Master Plan establishes the physical framework for growth of new areas and enhancement of existing areas of the University of Saskatchewan campus.

The plan is based on an evaluation of issues including space and growth needs, strategic priorities, building and landscape design, sustainable development, transportation and parking.

The vision for the campus places equal weight on the quality of outdoor spaces as it does on its architectural character, with the objective of creating a safe, active and beautiful campus that projects an image befitting the University of Saskatchewan.

The imprint of the first Master Plan created by Brown and Vallance in 1909 is still forcefully evident in the contemporary University environment. This plan was characterized by a major urban design set piece known as "The Bowl" oriented on axis with Devil's Dip providing dramatic views to the South Saskatchewan River.

As the campus evolved in the 1950s, adherence to the original plan began to diminish. In particular, the influence of the automobile began to have a dramatic impact on campus patterns. Increasingly, buildings began to be spread further apart and separated by parking lots. Buildings addressed roads instead of courtyard-type pedestrian areas.

Most importantly the primary organizing device – orientation to the river – was abandoned in the 1950s and 60s as ever larger buildings were placed in a manner that blocked views from the Bowl to the river.

Despite these changes in site patterns, there remains a remarkable consistency in the feeling of the campus through extensive landscaping and the consistent use of light-coloured stone and similar materials as the principle building material.

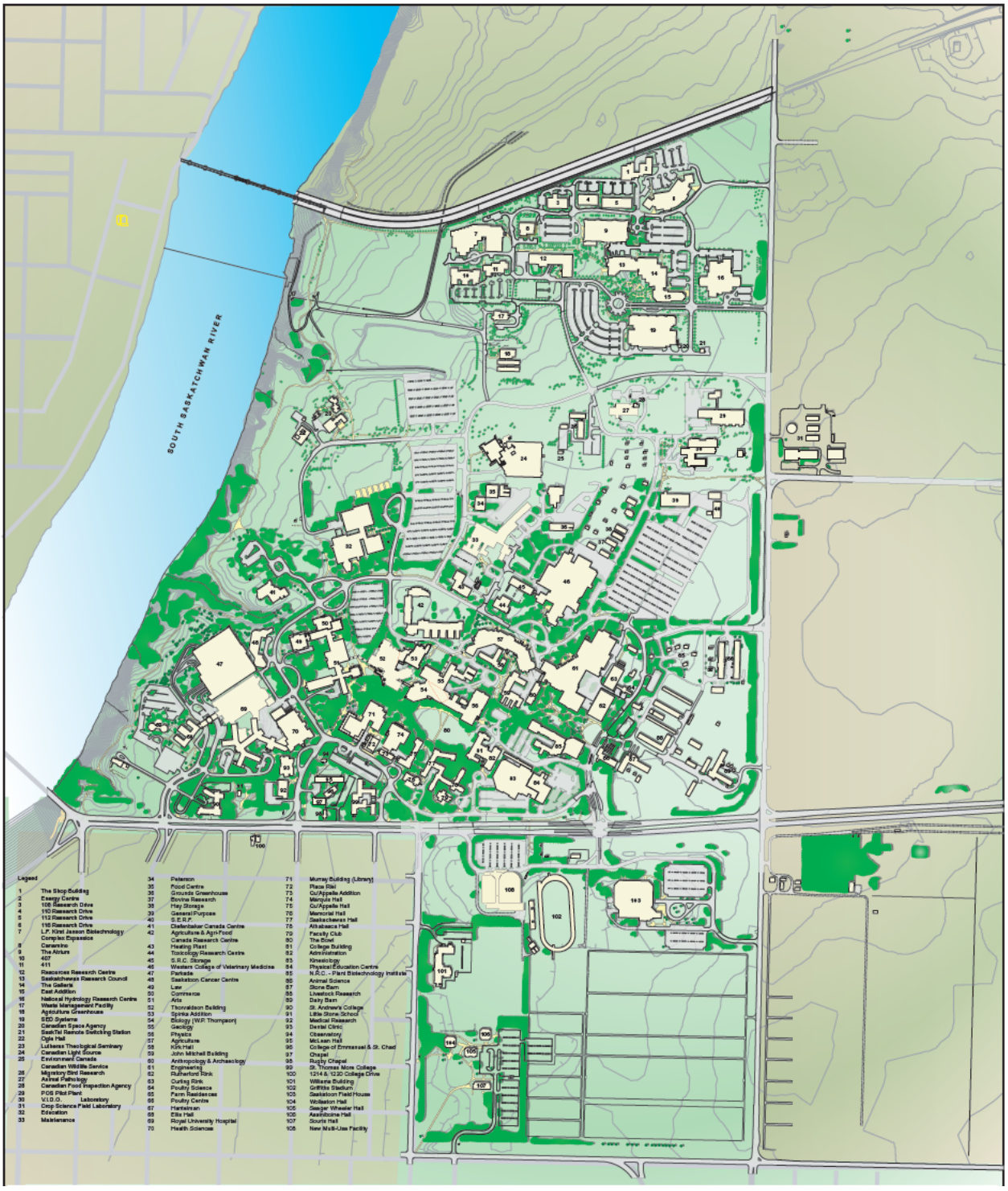


***Figure 1.1**: The campus as it exists today*

***Figure 1.2**: The Master Plan (conceptual example)*

1.2 MASTER PLANNING PRINCIPLES

The following principles, derived from a process of University and community consultation, have guided the vision for the Master Plan.

Principle 1: Supporting Excellence
The quality of the physical development of the campus must reflect the strategic priorities of the University, convey a sense of space and pride of place that reflect excellence and pre-eminence.

Principle 2: Strengthening Research
Strengthening the University's research focus through expanded research facilities and improved linkages with the core campus will enhance the University's future opportunities.

Principle 3: Strengthening The University's Role in the Community
The University recognizes the need to foster closer connections with the Saskatoon and wider Saskatchewan communities, particularly First Nations groups. The Master Plan must address the associated facilities needs arising from these relationships and ensure that the campus is a welcoming environment and good neighbour.

Principle 4: An International Perspective
The University will increasingly attract a greater number of international students who will require focused facilities particularly in the areas of on-campus services and housing.

Principle 5: An Environmentally Responsible Campus
The University is committed to being a model of environmental responsibility through its operations, teaching and research and the physical development of the campus.

Principle 6: A Connected Campus
As the campus grows, stronger physical and active connections should be created both within the campus and between the University and the community. Enhanced links are critical between the core campus and Innovation Place, Canadian Light Source (CLS) and McEown Park.

Principle 7: A Mixed-Use Campus
The Master Plan must support the housing and service needs of the University's diverse communities.

1.3 CAMPUS GROWTH

The University of Saskatchewan is currently in the process of preparing a strategic plan to guide the future priorities and growth of the University. As part of this process it is anticipated that scenarios for growth in student enrollment will be explored. The Master Plan's illustration of potential growth on the U of S campus is a theoretical study to determine the spatial capacity of the campus to accommodate growth. The following analysis should not be construed as a growth target.

Primary Teaching, Research and Support Space

- The campus clearly has the ability to accommodate significant growth in the coming years.
- The total new building area achieved through additions to existing campus buildings plus development of new sites in the Core Campus North and Core Campus South areas, that are within a 10-minute walk, is approximately 235,000 gross square metres (gsm).
- Taking into account the current campus space deficiency of 60,000 gsm, a potential new building area of 175,000 gsm would be available to accommodate new growth in the primary academic functions of the University.
- This 175,000 gsm will support an additional FTE population of 6,335 which based on current ratios equates to 5,522 students and 813 faculty/staff (FTE).
- Based on this analysis the University can theoretically accommodate an increase in student enrollment of 35% while maintaining academic/research and support facilities within a 10-minute walking distance between buildings.
- A 35% increase would increase the present student FTE from 15,824 to 21,346.

Residential Uses

- Currently the U of S provides approximately 1,500 beds constituting a total area of 50,000 gsm (approximately 33 gsm per bed). Based on a current FTE enrollment of 15,824, 9.5% of the student population is provided with housing.
- There are no land constraints to supplying housing on the U of S campus.
- The proposed plan illustrates the potential to provide an additional 2,000 beds at McEown Park, bringing the campus total to 3,500 beds. Additional residences can be accommodated in the Core Campus North and South and North areas.

Allied Research Space

- An abundance of land is available for growth in research space on campus. This includes expansion of Innovation Place, development of the Core Campus North as a research cluster, as well as significant sites in the Research North and Research South Areas.

1.4 MASTER PLAN DESCRIPTION

- A strong north-south emphasis is proposed for the re-configuration of the road network to link the Core Campus South area to emerging and existing developments to the north including Innovation Place, CLS and other research uses.

- Northerly extensions are therefore illustrated for Education Road, Seminary Crescent, Veterinary Road and Maintenance Road.

- Education Road is redefined as a grand tree-lined boulevard axially aligned with the Innovation Place traffic circle and the Galleria building.

- Seminary Crescent is extended south to Campus Drive and north to Innovation Place and provides a continuous 'river-view' route paralleling the Meewasin Valley and linking Campus Drive to Ski Jump Coulee and lands to the north.

- Centennial Quad-a new formal open space on the scale of the Bowl-is positioned to axially align with Ski Jump Coulee and to act as the focus for new development in the north campus area.

- As part of the agreements pertaining to the development of the Preston Crossing commercial area, a portion of the coulee area will be dedicated to the City for expansion of the public lands contiguous with the Meewasin trail area. Ski Jump Coulee will therefore have a greater public role.

- The Quad re-establishes the University's historical connection to the River. New buildings frame the edges of the Quad while allowing through-views from Education Road to the coulee and the river.

- The new alignment of Education Road complements the location of CLS and affords a large contiguous development parcel that, upon build-out, can provide a system of interlinked buildings extending south to Campus Drive. A significant setback is provided from the new road to the beam source as a means of minimizing vibration transfer.

- A new North Parking Garage is located in this area within easy walking distance from both the Core Campus South and Core Campus North areas.

- The Core Campus South and Core Campus North areas feature special wetland landscaping treatments extending the presence of Devil's Dip Coulee at the south end and Ski Jump Coulee at the north into the fabric of the campus. These park-like water feature areas will retain storm water and cleanse it through natural filtration. The water can be recycled for irrigation purposes.

- With improvements to Preston Avenue as a 4-lane, separated boulevard, traffic capacity is expected to eventually become equivalent to the volumes that exist presently on College Drive. Preston Avenue will no longer be a secondary edge to the campus – it will increasingly become a gateway similar to College Drive in use and importance. An overriding objective of the plan is to establish a framework for the revitalization of the east side of the campus as a principal gateway to the University.

- Access to the campus from Preston Avenue is re-configured to provide two signaled intersections: one at Perimeter Road (renamed Northgate Blvd.) and the other at the realigned 108th Street.

- The primary east gateway to the campus is via a new alignment of 108th Street, which is positioned southward to intersect with Preston south of the City electric sub-station. The substation should be well screened with trees and landscaping as part of a larger landscaping strategy to create an appropriate gateway image at this intersection.

- In this location a strong campus gateway can be provided free of the "back-of-house" uses and utilities that are concentrated at the area of the present 108th alignment. Undeveloped lands in this area of the campus are available on both the north and south sides of the entrance road (labeled Campus Drive East) for the development of both buildings and landscaped areas that can form a strong gateway image for the University.

- A large east parking garage is proposed to be located in this area close to the new campus gateway.

- Over time, East Road can be eliminated and lands in this area will become available for new academic/research buildings, expansion of the Farmstead or other uses.

- Veterinary Road is realigned to pass between POS Pilot Plant and CFIA and to link to Resources Row. Veterinary Row is also realigned at its southern segment to minimize conflicts between loading areas servicing the paddocks. This realignment results in a continuous north-south route on the east half of the campus joining these areas with Innovation Place.

- The existing paddocks area north of Veterinary Medicine is undisturbed and lands to the east of the paddocks remain available for potential expansion of research uses, parking, additional paddocks or maintenance operations.

- In the Core Campus South area a special gateway treatment is proposed at the Wiggins/Campus Drive intersection through the re-design of Wiggins Court.

- New buildings are proposed to infill sites throughout this area primarily for academic uses within the 10-minute walking zone.

- The existing open space system is revitalized as a sequence of courtyards and quads each with a specific identity associated with its neighbouring building uses.

- The Health Sciences area re-establishes a positive face to the river and the city beyond through re-development of the Hantelman site.

- A formal tree-lined promenade on the north side of College Drive between University Bridge and Memorial Gates acts as a new west campus gateway.

- The Athletics area is linked to the new Kinesiology Building via an enclosed overhead pedestrian walkway spanning College Drive.

- A new south parking garage is internally linked to the walkway via the proposed overhead pedestrian walkway.

- The McEown Park area is re-defined to provide an additional 2,000 beds in a series of low-rise buildings in a setting of active and passive green spaces. The low-rise (3-4 storey) format of housing is intended to complement the scale and character of the surrounding neighbourhood and to buffer the existing high-rises.

1.5 MASTER PLAN GUIDELINES

The Master Plan presents more detailed recommendations to guide the implementation process through Building Design guidelines (Section 4.0), Open Space System (Section 5.0), and A Sustainable Campus (Section 6.0). A detailed discussion of traffic, parking and transit issues is contained in Section 7.0, followed by Master Plan: Next Steps (Section 8.0) and Draft Master Plan Feedback Summary (Section 9.0).

1.6 MASTER PLAN: NEXT STEPS

The primary purpose of a Master Plan, especially for an existing institution, is to build consensus around broad principles.

This Master Plan for the University of Saskatchewan, the third in a series, has outlined principles that will successfully guide development for the next 25-50 years. However, the issue of detail should be addressed at this time by articulating a process that will bring the necessary detail to bear on planning issues and will provide a strategy to respond in a meaningful way to the feedback received during the development of the Master Plan. Almost all of the comments received relate to a level of detail that go beyond the bounds and intention of this Master Plan.

The process that has emerged would envision the initiation of a series of "sub-plans" that would create a "bridge" between the Master Plan and the individual projects.

These "sub-plans" would study, in greater depth, separate areas of the campus. Each would be unique, but in most cases the planning process should be guided by a steering committee comprised of academic, university governance and student representatives. This ensures another round of consultation and the necessary stakeholder feedback to properly define individual projects. Detailed information about the "sub-plans" are explored in Section 8.0.

2.0 MASTER PLAN BACKGROUND

The Master Plan at the University of Saskatchewan responds to the need for a coordinated, cohesive approach to development on campus. The Master Plan establishes the physical framework for growth of new areas and enhancement of existing areas of the University of Saskatchewan campus. The plan is based on an evaluation of issues including space and growth needs, strategic directions and priorities, building and landscape design, sustainable development, transportation and parking.

2.1 INTRODUCTION

The Master Plan is intended to support the evolving strategic directions of the University as defined by various strategic policy initiatives including the University Mission Statement, the University of Saskatchewan Objectives, Framework for Planning and the current initiatives of the Enrollment Plan. Additional considerations have been identified through an extensive University and community consultation process.

This initiative builds upon the high standards of quality evident in the existing campus. The vision for the campus places equal weight on the quality of outdoor spaces as it does on its architectural character, with the objective of creating a safe, active and beautiful campus that projects an image befitting the University of Saskatchewan.

The new Master Plan provides the University with an opportunity to re-establish its original connections to the South Saskatchewan River and to strengthen links between the core campus and outlying areas including the emerging North Campus area and Canadian Light Source (CLS) facility, Innovation Place, McEown Park and surrounding communities.

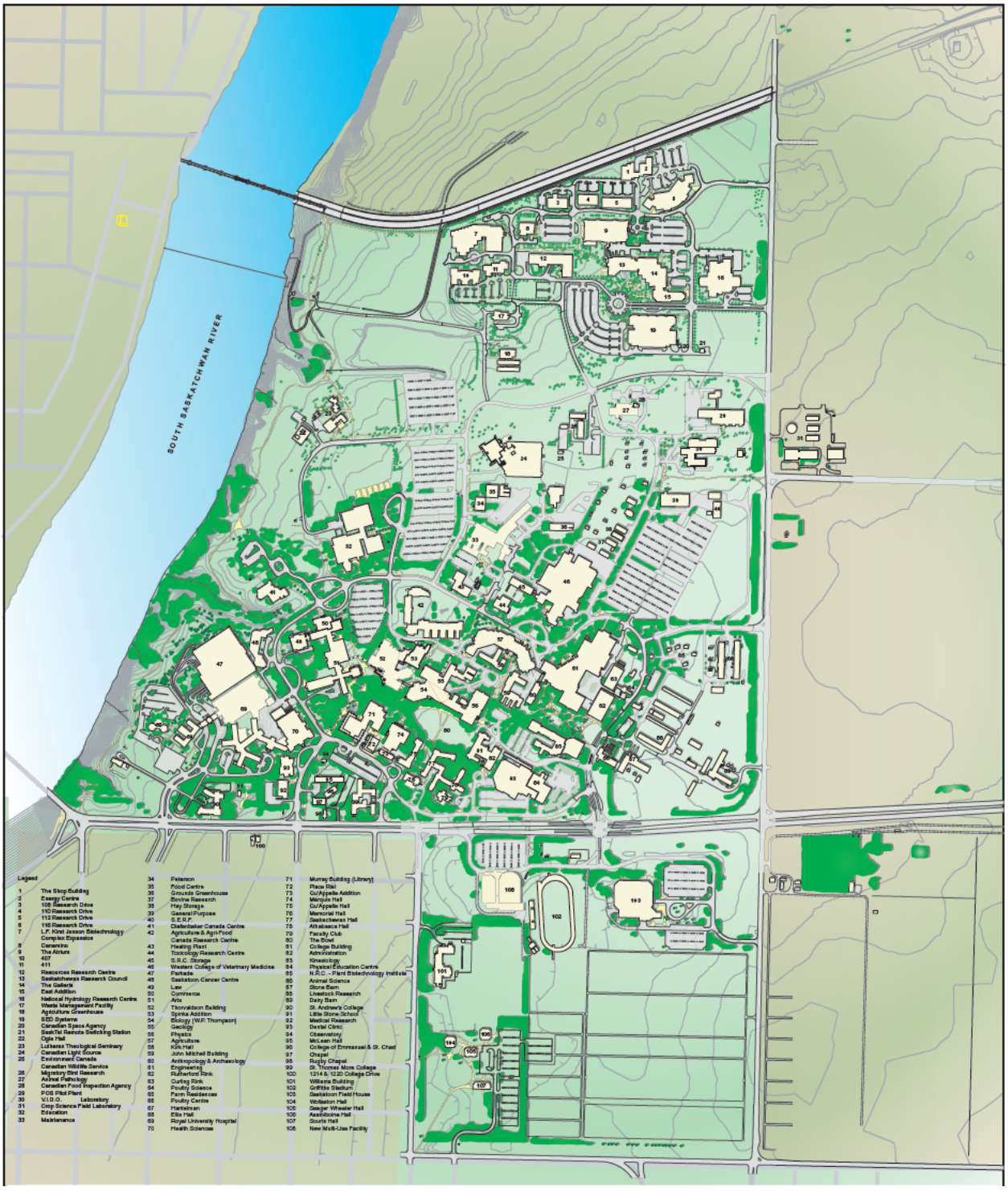


***Figure 2.1**: The campus as it exists today*

Figure2.2: *The Master Plan (conceptual example)*

2.2 RECORD OF CONSULTATION

Master Plan: Steering Committee

Dr. Michael Atkinson, Vice-President (Academic) and Provost, PCIP
Dr. Ken Coates, Acting Vice-President (Academic) and Provost, PCIP
Dr. Bryan Harvey, Acting Vice-President (Research), PCIP
Dr. Tony Whitworth, Vice-President (Finance and Resources), PCIP
Mr. Craig Stehr, President, USSU
Ms. Janelle Hutchinson, Past President, USSU
Ms. Angela Regnier, Graduate Students' Association
Ms. Joan Bobyn, Graduate Students' Association
Dr. Gordon Barnhart, University Secretary
Dr. Joe Angel, Past Chair, Capital Planning Committee
Dr. Bill Archibold, Chair, Capital Planning Committee
Dr. Bob Lucas, Chair, Council
Dr. Jene Porter, Vice-Chair, Council; Past Chair, Planning Committee
Dr. Lou Qualtiere, Chair, Planning Committee
Ms. Pauline Melis, Director, Academic Affairs
Mr. Paul Becker, Associate Vice-President, Facilities Management, ACIP
Mr. Larry Harder, Director, Planning and Development
Mr. Bryan Bilokreli, Associate Director, Planning and Development
Ms. Donna Rondeau, Planning Assistant, Planning and Development
Mr. Colin Tennent, Director, Architectural and Engineering Services
Mr. Bill Hewson, Director, Operations and Maintenance
Ms. Judy Yungwirth, Director, Corporate Administration
Mr. Bernard Flaman, Planner, Planning and Development
Mr. John Gerstmar, Meewasin Valley Authority
Mr. Lorne Sully, City of Saskatoon Planning Department
Mr. Doug Tastad, Innovation Place

June 27, 2003	Board approval
June 26, 2003	Board committee presentation
May 22, 2003	To Council for approval
March 10, 2003	Brook McIlroy to have December changes and February inserts complete
March 3, 2003	FMD to complete new sections and photos etc.
November 25, 2002 Library 154	Meeting of Capital Planning Committee
November 13, 2002 Faculty Club	Meeting of Capital Planning Subcommittee to Respond to Core Area Master Plan
November 5, 2002 Place Riel Theatre	Presentation of Draft Final Report to Steering Committee, Administrative Committee on Integrated Planning, Provosts Committee on Integrated Planning, Capital Planning Committee and Planning Committee
June 26, 2002 C210 Administration Building	Presentation to Land and Facilities Committee and Steering Committee

May 23, 2002 Place Riel Theatre	Presentation to Council
March 21, 2002 E260 Administration Building	Presentation to Steering Committee
March 21, 2002 C210 Administration Building	Presentation to Land and Facilities Committee of Board of Governors
March 21, 2002 Faculty Club	Public presentation
March 20, 2002 Place Riel Theatre	Presentation to Capital Planning Committee, Planning Committee, Steering Committee, Research Committee, Academic Programs Committee, Dean's Council and Budget Committee
November 23, 2001 Kirk Hall	Transportation lecture/workshop with Richard Tebinka
November 22, 2001 Kirk Hall	Sustainability lecture/workshop with Greg Allen
November 5, 2001	Individual meetings with deans/stakeholders: Dr. C. Baker P. Melis Dr. L. Pearson Dr. B. R. Bilson Dr. J. Stakiw Dr. W. Archer Dr. D. Gorecki Dr. K. Jacknicke F. Winter Dr. T. Wishart Dr. E. Barber Dr. R. Cavell Dr. M. Tremblay J. Bobyn Dr. A. Livingston Dr. R. Billinton J. Beck J. Hutchinson B. Dean
October 22, 2001 Saskatchewan Hall	Residence workshop with Andrew Nizielski included student representatives, John Olson, Neil Nickel, Sylvia Cholodniuk, Gord Snell
October 22, 2001 Facilities Management	Master Plan project planning session
October 22, 2001 Faculty Club	Public open house presentations
September 28, 2001 Facilities Management	Design workshop #2

September 27, 2001 Administration E260	Steering Committee meeting #1
September 18, 2001	Individual meetings with deans/stakeholders: Dr. E. Walker – Aboriginal issues R. Wilson – Placement of arena C. Ayers – Saskatoon District Health Dr. A. Livingston – Veterinary Medicine M. Molaro – Planning and Development
August 20-21, 2001 Facilities Management	Campus structure workshop
June 15, 2001 C210 Administration Building	Progress of study, academic vision: Michael Atkinson, Pauline Melis, academic programming documents
May 8, 2001 Faculty Club Board Room	Initial meeting with consultant team
March 13, 2001	Consultant selection committee selected Brook McIlroy
November 6, 2000 Administration C210	Master Plan Steering Committee, review of the model for the Master Plan and review of the request for proposal for consulting services for the Master Plan.
October 10, 2000	Invitation to sit on the Master Plan Steering Committee.

2.3 HISTORICAL PERSPECTIVE

In 1909, 1,300 acres were acquired along the banks of the South Saskatchewan River in Saskatoon for a new university campus. The Montreal architectural firm of Brown and Vallance was retained to propose a master plan and submit plans and specifications for the first set of buildings. The resulting master plan was based on 19th century ideas of urban design and city planning that emphasized **public space**. The central oval, now know as "the Bowl" and a crescent shaped roadway were the dominant features of the original plan. The Bowl is aligned with "Devil's Dip" a ravine that opens into the South Saskatchewan river valley. The area between the crescent and the river was envisioned as the main part of the University with a grand plaza overlooking the river.

Figure 2.3: 1909 Master Plan by Brown and Vallance

The 1928 aerial photograph shows the extent to which the original master plan was realized. Both the Bowl and the crescent are evident with the Bowl defined by the original gothic style buildings. The crescent is not much more than a "line in the sand" but anticipates the creation of precincts of the campus that would feature a grand and ceremonial public space strongly linked to the environment of the river valley.

Figure 2.4: 1928 aerial view showing the partial realization of the original 1909 Master Plan

Images from the early 1960s depict the results of the second master plan developed over a nine-year period from 1954 to 1963 by Izumi, Arnott and Sugiyama with Parkin Associates. The emphasis is on **mobility** rather than public space in keeping with the central ideas of modernist urbanism. Accommodating car traffic is brought to the forefront with the construction of the peripheral roadway, Campus Drive. Several of the major features of the original master plan are in the process of being removed or changed. The direct relationship between the Bowl and the river has been cut off by the first phase of the Arts Building complex. The crescent is threatened by new roadway alignments and will eventually disappear with the construction of the 1966 wing to the Thorvaldson Building and the 1970s construction of the College of Dentistry. The river valley is seen as a transportation resource rather than a natural resource with a high-speed roadway planned along the top of the bank. The current Royal University Hospital parkade was sited along the riverbank to take advantage of the planned roadway. A positive legacy of this plan is the development of the campus "precincts" that are still evident and useful today.

Figure 2.5: 1961 Master Plan by Izumi, Arnott and Sugiyama with Parkin Associates

The current Master Plan seeks to balance the ideas of the first two designs and, perhaps, swing the emphasis from **mobility** and accommodating car traffic toward maintaining and creating **public space** and supporting a non-motorized transportation environment.

2.4 TODAY'S CAMPUS – ANALYSIS AND OPPORTUNITIES

The campus continues to grow with major projects recently completed including the CLS. This project alone has opened up an array of opportunities for associated research buildings in the north campus area. Other new buildings in progress or contemplated include the Kinesiology Building, restoration of the College Building, Twin-Pad Ice Facility, expansion of the Student Union, and additions to Royal University Hospital.

The following section provides both an appreciative and critical analysis of the campus and identifies key opportunities for future enhancements.

A Vibrant Core

- The core campus area around the Bowl has developed primarily as a pedestrian-oriented area linked with a network of paths connecting both defined formal open spaces – such as the Bowl – and a series of less well defined courtyard-type spaces.

- Both heritage and contemporary buildings around the Bowl provide a dense, compact core that facilitates pedestrian movement and results in a level of activity and animation conducive to a healthy, vibrant campus community.

- Building infill projects in the core campus area such as the Spinks, NRC and Engineering additions continue a pattern of incremental growth adjacent to existing departmental facilities.

- The core area is surrounded by a ring road – Campus Drive – that assists in defining and containing the core area. A pattern of drop-off loops and lay-bys provides a strong sense of entry to buildings facing Campus Drive.

Farmstead Heritage

- The Farmstead located at the southeast end of Campus Drive provides a clearly separate identity and function from the Bowl area. The magnificent Stone Barn is an important gateway landmark to the campus and an emblem of the University's history.

- Farm vehicles, machinery, animal barns and paddocks require that this area has restricted access. There are opportunities to improve integration with the core campus and the public through the adaptive reuse of the Stone Barn as an assembly space suitable for conferences, meetings and public functions.

- The preservation and, where possible, reuse of heritage farm structures including the Stone Barn, the Grain Elevator and the Poultry Science Building are a priority for the University. These structures are central to the origins and identity of the campus and give it a unique sense of place which should be preserved for future generations.

Health Sciences Revitalization

- The Hospital area has evolved into a compact, high-density area. The development of this area appears to be the result of incremental additions without an overall guiding plan in place. Clearly the practical requirements of the hospital including clinical proximity, vehicular access, parking and emergency services place demands on this area unlike any other on campus.

- No vehicular through-routes are provided that link the Hospital to the campus, although the original Memorial Gates located on College Drive suggest this to be the main campus entry point.

- Although no vehicular connections between the campus and hospital area are recommended, there is an opportunity to improve the legibility and formal treatment of the west-east pedestrian system between the community, the hospital and the campus.

- A tree-lined pedestrian promenade, beginning at the University Bridge and running along the north side of College Drive in what is presently an undefined and neglected campus edge, can serve as a highly imaginable gateway and campus edge and can provide a more engaging context for the Memorial Gates area.

- Significant opportunities exist for expansion of the hospital site in a manner that complements the surrounding campus and community.

- The river valley should be viewed as an opportunity to present a public face to the community and to provide spectacular views for hospital users. It should not be viewed as secondary space for service and back-of-house type functions.

North Campus Integration

- In contrast to the historical pattern of the core, buildings on the outer edge of Campus Drive within the 10-minute walking zone tend to be spread further apart from each other, separated by parking and service areas or by relatively undefined and under-utilized open spaces. The environment is influenced far more by the road network and, as a result, is less hospitable to pedestrians.

- This is particularly the case on the north and northeast quadrants. Buildings such as the Diefenbaker Canada Centre, Education Building, and Veterinary Medicine are set back from pedestrian circulation routes – sometimes by hundreds of metres. The lack of interface between building edges and pedestrians is further frustrated by large stretches of building walls devoid of windows, entrances and architectural interest.

- This pattern reduces opportunities for a sense of community, animation, safety and climatic comfort and ill serves the creation of a dynamic pedestrian-friendly campus.

- Consequently the ability to link the core campus to areas to the north is frustrated both by poorly defined pedestrian routes and by the lack of sheltering and animating building edges.

- As the north campus develops and surface parking lots are re-developed as building sites, there is an important opportunity to infill gaps in the building and landscape fabric to create an animated, hospitable walking environment that seamlessly links with the Core Campus South area.

Parking Transformation

- A number of sites in and near the core campus area, which are presently used for surface parking, have the potential to become major new building locations within the 10-minute walking distance required between academic buildings.

- As these sites develop, the Master Plan will address the issue of parking through a series of parallel activities including reduced demand, improved transit, satellite parking lots, below-grade structures and the development of three parking garages located at the core campus perimeter (see Section 7.0 Transportation).

Gateways

- Landmark structures including the University Bridge, Memorial Gates, St. Andrew's College and the Stone Barn reinforce a sense of orientation and arrival to the campus from the south and west. Arrival points from the east, north and at the University Bridge however are poorly defined.

Campus Edges

- Campus edges established by the South Saskatchewan River, College Drive, Preston Avenue and Circle Drive provide a context for strengthening a sense of arrival to

the University through gateways, signage, landscaping and new development that provides a positive face to the surrounding community.

Open Space as the Primary Campus Ordering Device

- The campus open space system is based on a framework of formal and informal spaces including courtyards, agricultural fields, paddocks, sports fields, walkways, gardens and the Meewasin Valley landscape along the South Saskatchewan River.

- Significant opportunities exist to strengthen the network of campus quads and courtyards as a primary ordering and orientation device for the campus. A primary objective for the Core Campus North area is the creation of Centennial Quad – a new formal open space similar in scale and role to the Bowl.

- The non-orthogonal pattern of the campus and the 'visual-disconnect' from orienting landmarks such as the river make navigation through the campus difficult, particularly to visitors. On the other hand, over time one develops an appreciation for the delightful sense of discovery and complexity of the campus' spaces.

- Tree placement and landscaping patterns reflect both formal and informal alignments of buildings and circulation networks on campus.

- The pre-1950s era favoured a formal pattern of evenly spaced trees aligning paths and roads creating a very clear and powerful visual orientating device. Remnants of this "tree allee" pattern are evident at the east end of the Bowl, the President's Residence and the area of Memorial Gates.

- Post-1950s landscaping favoured a more informal, clustered and picturesque placement of trees. Although appropriate in certain contexts, the lack of formal structure in the planting of trees along circulation routes reduces the ability to provide comfortable, visually-defined pedestrian paths through campus.

- Weather protected pedestrian connections are provided primarily through above and below grade building links. This network should be extended with a greater emphasis on more at-grade, weather-sheltered walkways (such as colonnades) that help the animation and safety of adjacent outdoor spaces and courtyards.

Figure 2.6: A promenade of trees at Memorial Gates reinforces circulation paths and orientation

Figure 2.7: A positive relationship between the campus and the Meewasin Trail is a focus of the Master Plan

Figure 2.8: Public art should enliven one's journey through the campus and celebrate local culture and history

Engaging the River Valley

- The west portion of Campus Drive loops close to the river, however the placement of buildings has resulted in very restricted access points and views to the valley. Subsequently, the sense of integration with the river and Meewasin Trail is limited.

- Although the original Master Plan of 1909 explicitly considered the importance of views to the campus from across the river, recent developments have weakened the quality of this relationship.

- Positive examples of appropriate building relationships with the river include the President's Residence and the Lutheran Seminary. Both buildings are designed as pavilions that celebrate views to the valley with equal attention paid to all building facades. Notably, both buildings are relatively small and do not block views to the river from the campus.

- There is exciting potential for better interface with the river through the re-establishment of four of the original organizing patterns derived from the 1909 Master Plan.

    1. Orient buildings to face west directly onto a non-arterial river road flanking the valley.
    2. Place buildings in a manner that front onto open spaces and courtyards that are axially aligned to views of the river much as the Bowl was originally intended.
    3. Buildings closer to the river should be smaller in footprint and height to mitigate the blocking of views.
    4. Buildings closer to the river should be designed as four-sided pavilions. Buildings should not turn their backs on the river.

Heritage and Culture as an Integral Part of the Campus

The campus is a living example of its natural and cultural history. The importance of creating visible and active interpretations of its history is strongly evident and should continue to engage the campus community through the design of buildings and open space and through interpretative aspects of signage, outdoor sculpture, memorials, cultural exhibits and natural elements.

Closing the Gap

McEown Park and Innovation Place are located at the extreme south and north ends of the campus respectively. They are both important clusters of activity that should be integrated into the daily experience of the campus. The Master Plan explicitly provides a framework to improve

circulation, visual links and symbolic links between these areas and the core campus.

2.5 MASTER PLANNING PRINCIPLES

The following principles, derived from a process of University and community consultation, have guided the vision for the Master Plan.

Principle 1: Supporting Excellence

The Master Plan operates in the broader context of the University of Saskatchewan's core role and purpose. Academic and research priorities translate into physical realities. The Master Plan should be flexible enough to respond to these evolving core needs while providing certainty that a high quality and prestigious campus image will be achieved. The quality of the physical development of the campus must convey a sense of excellence and reflect the unique attributes and character of the local community.

The Master Plan is a Foundational Document created to support the implementation of key policy initiatives contained in the following University documents.

- The Enrollment Plan
- The Mission Statement
- The University of Saskatchewan Objectives
- The Framework for Planning

Principle 2: Strengthening Research

The University has established itself as a research leader by successfully attracting large research institutions including the CLS, Agriculture Canada, the National Research Council and the Saskatchewan Research Council. The evolution of Innovation Place as one of North America's pre-eminent research parks exemplifies the enormous potential for future growth of research focused development on campus. Strengthening the University's research focus through expanded research facilities and improving linkages with the core campus will enhance the University's future opportunities.

The key elements of this principle include

- providing well-defined campus locations for future research-based development, including the expansion of any existing research operations in a manner consistent with the high quality of the core campus;

- fostering collaboration and cross-fertilization between student, faculty, administration and research entities on

campus by way of physical connectivity and a network of vibrant public spaces; and

- providing on-campus accommodation for visiting and permanent researchers.

Principle 3: Strengthening The University's Role in the Community

The University operates within the broader context of the City of Saskatoon and the Province of Saskatchewan, providing a focal point for economic development, employment and an array of community services in the areas of health, recreation, athletics, culture and continuing education.

The campus must be perceived as a welcoming environment providing ease of orientation and clearly marked access to visitor services such as Extension Division, parking and other community-used facilities.

The University's key civic role and stewardship in the community also require that campus edges positively interface with surrounding land uses and the river. The University must not be seen to either ignore or turn its back on the surrounding community.

The University has recognized the potential of fostering closer connections with the Saskatoon and wider Saskatchewan communities, particularly First Nations groups. The Master Plan must address the associated facilities needs arising from these relationships.

The key elements of this principle include

- expanded and renewed athletic and wellness facilities to respond to both University and community needs;

- expansion of medical facilities to address community and academic/research program needs;

- new facilities which support enhanced First Nations enrollment and programs including a potential First Nations Centre, housing in proximity to day care and other community services, potential for living/learning facilities; and

- building and landscaping treatments that complement the land use, scale and design character of the surrounding community.

Principle 4: An International Perspective

The University will increasingly attract a greater number of international students who will require focused facilities particularly in the areas of on-campus services and housing.

The key elements of this principle include

- providing appropriate on-campus housing options for international students and researchers,
- increasing academic and support space to accommodate international students' needs, and
- exploring opportunities for an International Students' Centre as a focus for support services and informal socializing.

Principle 5: An Environmentally Responsible Campus

The University is committed to being a model of environmental responsibility through its operations, teaching and research, and the physical development of the campus.

The key elements of this principle include

- addressing energy use/generation, water conservation/treatment and waste management through innovative land-use planning, building, landscape and utility design and operations;
- enhanced focus on public transit, pedestrian and cycling facilities, compact development/housing and services within walking distance, all as a means for reducing automobile use both on and off campus;
- adoption of sustainable development guidelines, environmental assessment protocols, life-cycle costing and procurement procedures in the development of campus facilities;
- provision of recycling facilities and protocols;
- development of storm water management ponds and treatment of storm water run-off;
- initiation of a University-wide campaign promoting green education;
- encouraging of sustainable learning and research; and
- sustainable development triple bottom line balancing social, environmental and economic imperatives.

Principle 6: A Connected Campus

The University of Saskatchewan campus has traditionally enjoyed the luxury of abundant space reflecting its inception as an academic village in the midst of the wide-open prairie. In contrast to the pattern of a compact campus form envisioned in the 1909 plan, many areas of the campus, such as Innovation Place and McEown Park, have developed autonomously, separated by vast undeveloped spaces. In addition, the City of Saskatoon has grown up around the campus and distances between the University and surrounding communities are increasingly foreshortened. As the campus grows, strong physical and active connections should be created both within the campus and between the University and the community.

Key applications of this principle include

- providing for academic expansion accessible within a 10-minute walking distance between classes;
- enhancing visual and physical links between the campus and the South Saskatchewan River;
- strengthening links between Innovation Place, CLS and other research uses and the core campus area;
- creating stronger links to the athletic/wellness and residential uses in the south campus area;
- expanding the pattern of courtyard-type open spaces, defined by active building edges to promote greater use of outdoor areas on campus and an overall image of a pedestrian-oriented campus;
- strategically locating buildings, trees and other structures including colonnades to provide favourable microclimate conditions to support pedestrian use;
- enhancing the campus perimeter and key gateways to assist in creating a positive interface between the University and surrounding communities;
- mitigating the presence of large surface parking areas through landscaping or eventually through replacement with attractive parking structures located at the periphery of the core campus area; and
- valuing indoor links and public spaces as equally important to those on the exterior – they recognize the extreme variation in weather from season to season.

Figure 2.9: Tree-lined routes such as this pat at Clinic Place provide a sheltered and welcoming environment for pedestrians

Principle 7: A Mixed-Use Campus

To support the housing needs of the existing campus community to respond to the University's initiatives in terms of increased research and graduate focus, as well as to respond to the needs of First Nations, the physical development of the campus must fulfill a series of requirements including

- conveniently located residences for graduate students, married students, families, undergraduates and visiting researchers; and

- on-campus services such as health care, child-care, food services, retail, entertainment, recreation, and transit.

2.6 HOW MUCH GROWTH CAN THE CAMPUS ACCOMMODATE?

The University of Saskatchewan is currently in the process of preparing a strategic plan to guide the future priorities and growth of the University.

As part of this process it is anticipated that scenarios for growth in student enrollment will be explored. These strategies will be determined by principles developed by University leadership based on a strategic integrated plans and availability of resources.

In this sense, the following analysis of the potential for growth on the U of S campus is a purely theoretical study to determine the spatial capacity of the campus to accommodate growth. In this regard, *the following analysis should not be construed as either a growth target or projection*.

Current Space Supply

Primary Uses: University Academic/Research/Support Areas

- Primary Uses are those building areas that directly support the University's ability to fulfill its primary function as an academic institution. This includes the space categories of classrooms, instructional labs, research labs, academic and administrative offices, library, athletics and recreation, food services, central services, student and student activity areas.

- There is a direct correlation between the supply of primary space and the University's ability to support student enrollment and research intensiveness.

- Residential Uses and Allied Research Uses (NRC, Agriculture Canada, etc.) are not considered Primary Uses as they do not have a direct correlation to the University's ability to support student enrollment and research activities.

- Currently the U of S provides approximately 450,000 gross square metres (gsm) of Primary Use space.

- Based on a U of S campus population (FTE) of 18,154 persons (approximately 15,824 students and 2,330 faculty/staff) the ratio of Primary Use space per person today is 25 gsm per person.

- Based on space entitlements of the Saskatchewan Universities Funding Mechanism (Modified COU Formula), there currently exists a deficit of approximately 60,000 gsm. If the campus were to provide for the full

entitlement this would result in a ratio of 28.1 gsm per person.

Future Primary Use Space

- For the purpose of projecting the ability of the campus to accommodate growth for its primary academic, research and support uses, a ratio of 28.1 gsm per person has been used.

- The total new building area achieved through additions to existing campus buildings plus development of new sites in the Core Campus North and Core Campus South areas, that are within a 10-minute walk, is approximately 235,000 gsm.

- Taking into account the current deficiency of 60,000 gsm, a potential new building area of 178,000 gsm would be available to accommodate new growth in the primary academic functions of the University.

- This 178,000 gsm will support an additional FTE population of 6,335, which, based on current ratios, equates to 5,522 students and 813 faculty/staff (FTE).

- Based on this analysis, the University can comfortably accommodate an increase in student enrollment of 35% while maintaining academic, research and support facilities within a 10-minute walking distance between buildings.

- A 35% expansion would increase the present student FTE from 15,824 to 21,346.

- This is a conservative estimate that takes into account the holding of key sites for parking structures, generous open space areas and an average building height of four floors. In some instances, buildings higher than four floors can be comfortably accommodated on campus, while in more sensitive areas (adjacent to the River, the Bowl, College Drive and Campus Drive) more modest building scale is desirable.

- The campus clearly has the ability to accommodate significant growth in the coming years.

Residential Uses

- Currently the U of S provides approximately 1,500 beds constituting a total area of 50,000 gsm (approximately 33 gsm per bed). Based on a current FTE enrollment of 15,824, 9.5% of the student population is provided with housing.

- There are no land constraints to supplying housing on the U of S campus.

- The proposed plan illustrates the potential to provide an additional 2,000 beds at McEown Park, bringing the campus total to 3,500 beds. Additional residences can be accommodated in the Core Campus South and North areas.

- The Master Plan supports the principle of providing housing throughout the campus as an important source of 24-hour/7-day-a-week activity that assists in maintaining a vibrant and safe campus and as a means of reducing automobile use both on and off campus.

- New housing should develop the McEown Park and Voyageur Place Precincts to their full potential. Future housing should focus on Core Campus South, Core Campus North and Sutherland lands.

- Existing pockets of housing in the core campus area should be viewed as positive attributes and retained where possible.

- Conversion of some residential buildings in the core campus for academic and administrative office space should be considered as these buildings become increasingly substandard and require renovation. However, displaced housing should generally be replaced within the core campus area.

- The Master Plan identifies the potential to integrate housing as a component of a new Arts Building addition (in the area of the present west classroom wing).

- Family housing units should be placed close to community schools and services.

- Future use of the 20.3 ha. Sutherland lands (southeast corner of Circle Drive and 108th Street) should be considered for both student family housing and other affiliated housing such as a senior's life-lease community (similar to the University of Guelph's Village by the Arboretum).

Allied Research Space

Adequate land is available for growth in research space on campus. This includes expansion of Innovation Place, development of the Core Campus North as a research cluster, as well as significant sites in the North Research and South Research areas.

Development of allied research facilities is broadly divided into two precincts. The Core Campus North/Innovation

Place areas are appropriate areas for high-profile research uses which can comfortably function within a generally public setting. While some facilities will have security protocols in place to restrict access to the interior, the design and nature of uses allows the building to fit comfortably into a public campus setting.

The Research South area is appropriate for uses that do not require high-profile locations or intensive daily interaction with the campus community. In some cases, due to their use, these facilities may purposely discourage public interface.

Generally this area has also developed in the past with many 'back-of-house' facilities including maintenance equipment, vehicle storage, a power substation, and paddocks. The Master Plan recognizes the practical need to provide for these uses in a manner that does not detract from the overall image desired for the campus. The plan therefore provides opportunities for expansion of these operations while shifting the more public face of the University away from this area through the establishment of new gateways on the east side of the campus.

3.0 MASTER PLAN DESCRIPTION

The following section describes the major components of the Master Plan in its entirety. Sections 3.2 to 3.11 provide a more detailed description of each of the campus sub-areas.

3.1 MASTER PLAN FRAMEWORK

- A strong north-south emphasis is proposed for the reconfiguration of the road network to link the Core Campus South area to emerging and existing developments to the north including Innovation Place, CLS and other research uses.

- Northerly extensions are therefore illustrated for Education Road, Seminary Crescent, Veterinary Road and Maintenance Road.

- Education Road is re-defined as a grand tree-lined boulevard, axially aligned with the Innovation Place traffic circle and the Galleria building.

- Seminary Crescent is extended south to Campus Drive and north to Innovation Place and provides a continuous 'river-view' route paralleling the Meewasin Valley and linking College Drive to Ski Jump Coulee and lands to the north.

- Centennial Quad – a new formal open space on the scale of the Bowl – is positioned to axially align with Ski Jump Coulee and to act as the focus for new development in the north campus area.

- As part of the agreements pertaining to the development of the Preston Crossing commercial area, a portion of the coulee area will be dedicated to the City for expansion of the public lands contiguous with the Meewasin Trail area. Ski Jump Coulee will therefore have a greater public role.

- Centennial Quad re-establishes the University's historical connection to the river valley. New buildings frame the edges of the Quad while allowing through-views from Education Road to the coulee and the river valley.

- The new alignment of Education Road complements the location of CLS and affords a large contiguous development parcel that, upon build-out, can provide a system of interlinked buildings extending south to Campus Drive. A significant setback is provided from the new road to the beam source as a means of minimizing vibration transfer.

- A new north parking garage is located in this area within easy walking distance from both the Core Campus South and Core Campus North areas.

- The Core Campus South and Core Campus North areas feature special wetland landscaping treatments extending the presence of Devil's Dip Coulee at the south end and Ski Jump Coulee at the north into the fabric of the campus. These park-like water feature areas will retain storm water and cleanse it through natural filtration. The water can then be recycled for irrigation purposes.

- With improvements to Preston Avenue as a four-lane, separated boulevard, traffic capacity is expected to eventually become equivalent to the volumes presently on College Drive. Preston Avenue will no longer be a secondary edge to the campus – it will increasingly become a gateway similar in use and importance to College Drive. An overriding objective of the plan is to establish a framework for the revitalization of the east side of the campus as a principal gateway to the University.

- Access to the campus from Preston Avenue is reconfigured to provide signalized intersections.

- The primary east gateway to the campus is via a new alignment of 108th Street, which is positioned southward to intersect with Preston Avenue south of the city electric sub-station. The substation should be well screened with trees and landscaping as part of a larger landscaping strategy to create an appropriate gateway image at this intersection.

- In this location, a strong campus gateway can be provided free of the 'back-of-house' uses and utilities that are concentrated at the area of the present 108th alignment. Undeveloped lands in this area of the campus are available on both the north and south sides of the entrance road (labeled Campus Drive East) for the development of both buildings and landscaped areas that can form a strong gateway image for the University.

- A large east parking garage is proposed to be located in this area close to the new campus gateway.

- Over time, East Road can be eliminated and lands in this area will become available for new academic/research buildings, expansion of the Farmstead or other uses.

- Veterinary Road is re-aligned to pass between POS Pilot Plant and Canadian Food Inspection Agency (CFIA)

and to link to Resources Row. Veterinary Row is also re-aligned at its southern segment to minimize conflicts between loading areas servicing the Paddocks. This re-alignment results in a continuous north-south route on the east half of the campus joining these areas with Innovation Place.

- The existing paddocks area north of Veterinary Medicine is undisturbed and lands to the east of the paddocks remain available for potential expansion of research uses, parking, additional paddocks or maintenance operations.

- In the Core Campus South area, a special gateway treatment is proposed at the Wiggins/Campus Drive intersection through the re-design of Wiggins Court.

- New buildings are proposed to infill sites throughout this area primarily for academic uses within the 10-minute walking zone.

- The existing open space system is revitalized as a sequence of courtyards and quads each with a specific identity associated with its neighbouring buildings uses.

- The Health Sciences Precinct re-establishes a positive face to the river and the city beyond through re-development of the Hantelman site.

- A formal tree-lined alley on the north side of College Drive between the University Bridge and Memorial Gates acts as a new west campus gateway.

- The Athletic area is linked to the new Kinesiology Building via an enclosed overhead pedestrian walkway spanning College Drive.

- A new South Parking Garage is internally linked to the walkway via the Twin-Pad Arena complex.

- The McEown Park area is redefined to provide an additional 2,000 beds in a series of low-rise buildings in a setting of active and passive green spaces. The low-rise (3-4 storey) format of housing is intended to complement the scale and character of the surrounding neighbourhood and to buffer the existing high-rises.

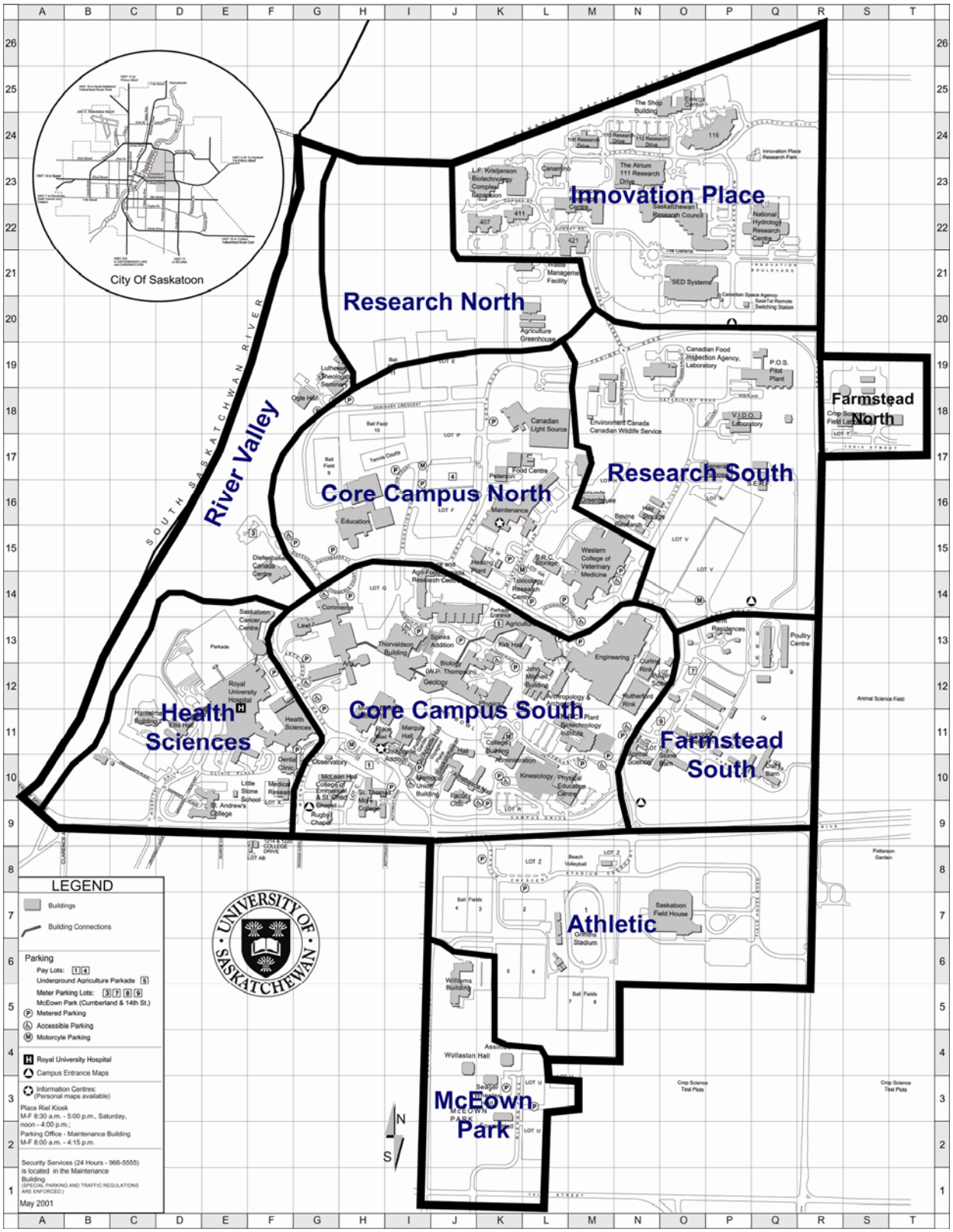


Figure3.1: *Precincts of the University of Saskatchewan*

Figure3.2: *The Master Plan (conceptual example)*

3.2 CORE CAMPUS SOUTH PRECINCT

The Core Campus South is presently comprised of 37 buildings including buildings occupied by allied research institutions and colleges. This area represents the historical and academic heart of the University centred on the Bowl.

The Master Plan for the Core Campus South focuses on the strengthening of the high-quality environment that presently exists and opportunities to supply new facilities through a balance of additions to existing structures and development of new building sites.

Existing Facilities

Buildings – Primary Uses
- Law
- Commerce
- Arts
- Thorvaldson Building
- Spinks Addition
- Biology (W.P. Thompson)
- Geology
- Physics
- Agriculture
- Kirk Hall
- John Mitchell Building
- Archaeology
- Engineering
- Rutherford Rink
- Curling Rink
- Poultry Science Building
- Main Library and Murray Building
- Place Riel
- Marquis Hall
- Memorial Union Building
- Faculty Club
- College Building
- Administration
- Physical Activity Centre (Kinesiology)
- Physical Education Centre
- Observatory
- McLean Hall

Buildings – Allied Institutions
- College of Emmanuel & St. Chad
- Emmanuel/St. Chad Chapel
- Rugby Chapel
- St. Thomas More College

Buildings – Residences
- Qu'Appelle Hall
- Qu'Appelle Hall Addition
- Saskatchewan Hall
- Athabasca Hall

Buildings – Allied Research
- Agriculture Canada
- NRC Plant Biotechnology Institute

Key Open Spaces and Outdoor Facilities
- the Bowl
- Nobel Plaza
- Palliser Garden
- Voyageur Place
- Saskatchewan Court*
- Athabasca Court*
- College Court* and Pond
- Arts Court
- Commerce Court
- East Quad* (bounded by Engineering/Archaeology/NRC)
- Science Court* (east end of Science Place)
- Alumni Quad* (bounded by Physics/John Mitchell Building/College Building)
- Wiggins Court* (north of the Wiggins Drive/Campus Drive intersection bounded by Library/Arts buildings).
- Theology Court* (bounded by Rugby Chapel and St. Thomas More)

*interim names assigned to currently unnamed spaces.

Parking
- University Parking (681 stalls): Lot 1 (135 stalls), Lot R (307 stalls), Lot C (58 stalls), Lot 8 (20 stalls), Lot L (34 stalls), Agriculture Below-Grade Garage (127 stalls)

Figure 3.3: View of "the Bowl" (3D model)

Core Campus South: Master Plan

- The placement and configuration of building additions takes into consideration ease of extension to existing facilities as well as the opportunity to define a linked system of formal open spaces, quads and courtyards, as the primary organizing device of the Core Campus South area.

- A network of pedestrian circulation paths presently functions within the core area. To reinforce strong connections and ease of orientation to the emerging north campus area a new north-south pedestrian route called 'Scholars Walk' will connect the Wiggins gateway at College Drive to the north campus Centennial Quad, CLS, Ski Jump Coulee and Innovation Place.

- Anticipated building additions include extensions to the W.P Thompson Building (CS8 & CS9), Law, Commerce (CS 2), John Mitchell Building (CS11 & CS12), NRC (CS13), Physical Activity Centre (CS14) and potential added floors to Geology (CS7) and Physics (CS10).

- Scholars Walk is envisioned as a tree-lined promenade linking a series of key campus open spaces and buildings.

- Three significant development sites identified in the plan are suitable for new buildings of a significant scale. These include Parking Lot G, re-development and intensification of the west classroom wing of the Arts building and re-development of the lands east of the Engineering building.

- Through these new additions and buildings, a series of formal open spaces will either be created or revitalized and named including Wiggins Court, Riel Court, Commerce Court, East Quad, Science Court, Alumni Quad, College Court and Theology Court.

- Opportunities for revitalization of these courtyards and quads should be linked to the capital planning and fund raising efforts for adjacent building projects. Open spaces should be considered for donor naming opportunities.

Wiggins Court Transformation and Arts West Wing Re-development (CS3)

- The outdoor court area between the Library and Arts buildings is the most highly-used pedestrian entrance to the campus (referred to here as Wiggins Court). Wiggins Road is also the most publicly recognized vehicular entry point onto campus.

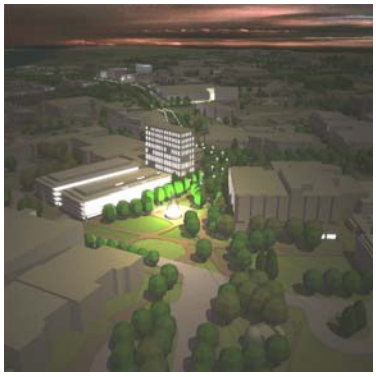


Figure 3.4: Wiggins Court (3D model)

- Wiggins Court – aligned axially with Wiggins Road – has the potential to become one of the campus's most significant spaces, reflecting in design and activity its role as the University's pre-eminent gateway site.

- Additional campus retail, food and student services are proposed to be located in this area.

- The Library link tunnel that presently connects the Library and Arts buildings is proposed to be developed as a partially at-grade/below-grade complex focused on a two-storey conical shaped skylight/entrance structure centred in the Wiggins Court and serving as a key University landmark.

- The Wiggins Court transformation is conceived in tandem with the proposed re-development of the west wing of the Arts Building (CS3).

- The classroom wing of the Arts Building has been identified as a potential re-development site in part due to the increasing obsolescence of the classrooms and other

technical and environmental deficiencies that will require considerable capital investment in the near future.

- This strategic site is ideal for a centralized state-of-the art classroom facility available to the entire University. A facility is illustrated in the plan and comprised of two parallel wings of four floors linked by a glass atrium. Above the north wing a potential additional four floors could accommodate residences.

- A residence facility in this location would be ideal for Health Sciences and other students and would assist in bringing a sense of 24-hour vibrancy to the area.

- Conversion of some residential buildings for academic and administrative office space, such as the Qu'Appelle Hall Addition, are being considered. Displaced housing should generally be replaced within the Core Campus area and could be provided in the Arts West Wing facility.

- The proposed form for the Arts West Wing allows for phased development to allow the retention of existing classrooms until the first phase of the new building provides replacement facilities.

- The south-facing ground floor of the west wing, opening onto Wiggins Court, is proposed to provide café/food services and other campus retail uses that can 'spill out' to a landscaped terrace area that would be part of Wiggins Court. These uses would be seamlessly linked to the below-grade services of the Library Link.

- The combined vision for the Arts West Wing re-development and Wiggins Court will provide a vibrant, welcoming environment that will revitalize the University's image at its most important gateway.

Academic Building CS1 (Parking Lot G)

- Parking Lot G provides the last large 'open' development site within the Core Campus South area. It is suitable for a large new academic building (CS1).

- The form of building CS1 should provide a geometry that will support the creation of formal open spaces on both the west side (Commerce Court) and the east side (College Court – bounded by Agriculture Canada and Thorvaldson).

- The building should be sited in a manner that emphasizes connections from the historic campus to the emerging north core area where significant expansion is expected to occur in the future. Its function and design should be conceived as the literal and metaphorical

bridging of two areas of the campus that have traditionally been disparate.

- Building CS1 will link on the south to the Thorvaldson/Arts pedestrian bridge and to the north via a tunnel below Campus Drive linking to Education.

- The design of the building will reinforce Scholars Walk (the at-grade pedestrian path connecting Wiggins Court to the north campus Centennial Quad and Ski Jump Coulee) through the incorporation of an open or all weather colonnade along the east wall of the building flanking College Court.

USSU Building

- The plan allows for incremental expansion of student facilities subject to available funding. The USSU building (CS4) is illustrated south of Place Riel. Future program space not accommodated in this parcel can be provided in two other areas. A north addition to Place Riel (CS6) is created by enclosing the breezeway between the Library and Marquis Hall and new areas provided through the transformation of Wiggins Court and the Arts West Wing.

East of Engineering (CS15 &16)

- The lands to the east of Engineering represent a significant potential development site. The site presently accommodates Rutherford Rink, the Curling Rink and the Poultry Science Building.

- The development of a twin-pad ice facility in the Athletic Precinct will replace the need for the Rutherford Rink which should be considered for removal.

- A series of buildings are proposed to be developed in this area. They may function as extensions to Engineering or alternatively for another department or research use.

- The re-alignment of 108th Street as the new east campus gateway (Campus Drive East) will provide further area at the north end of Engineering. The design of the north end of the building should reflect its role as a high-profile landmark.

- The Poultry Science Building is an original Brown and Vallance building with considerable heritage and architectural character; however, it has fallen into disrepair. This building should be restored and featured as a key heritage asset on campus. Its existing location, though seemingly remote today, will be strategically close to the east parking garage proposed at the northeast corner of Campus Drive and Veterinary Road.

Future uses should be considered for the building including a small research institute, student centre (perhaps for international students), or as an on-campus day care (perhaps combined with a café/restaurant).

- Another potential scenario for the Poultry Science Building would be to relocate it to a site adjacent to the expanded Ski Jump Coulee park providing it with a public function (tea house/café/washrooms) to serve as a destination along the Meewasin Trail. This could be pursued in association with the City of Saskatoon and Meewasin Valley Authority as a joint initiative to provide a much needed public facility along the trail.

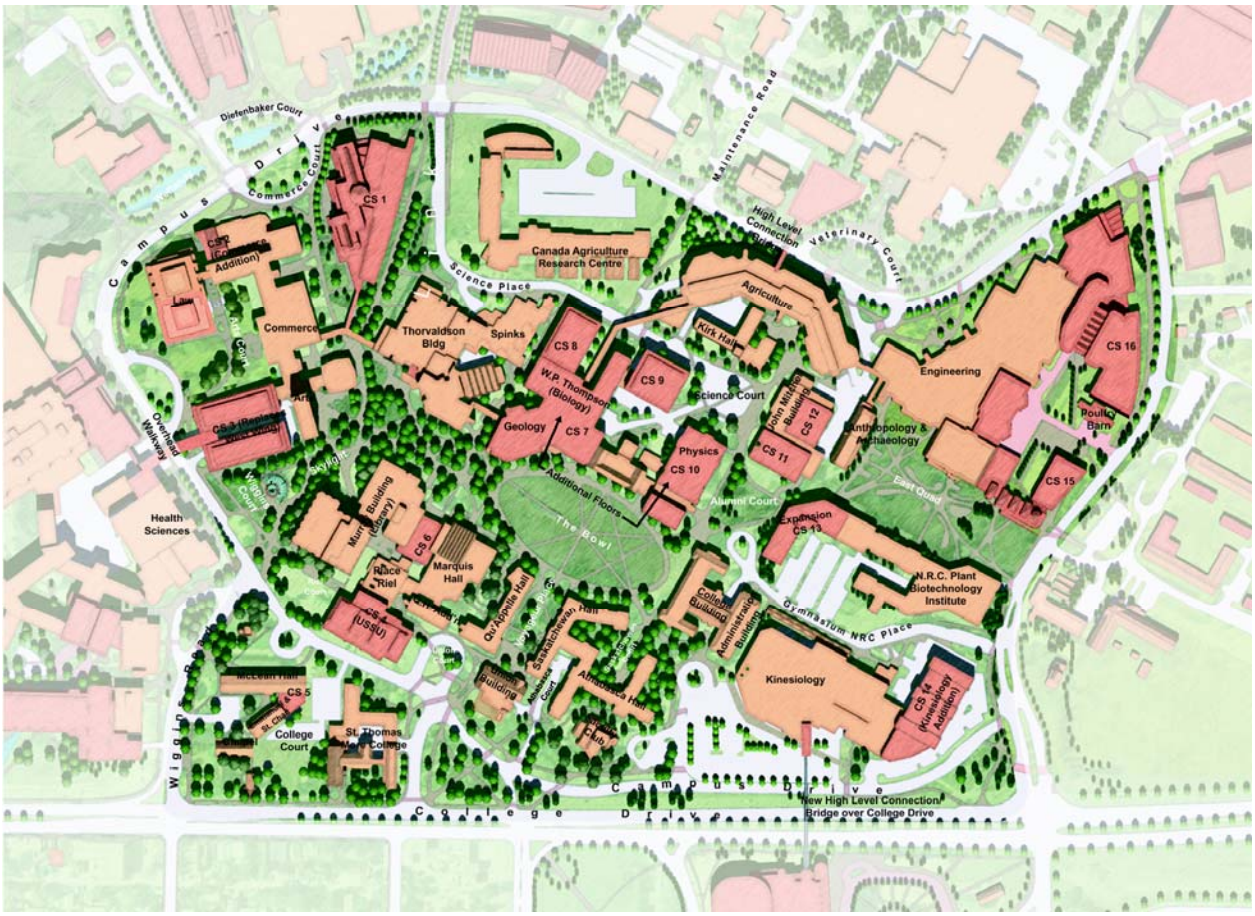


Figure3.5: *Core Campus South Precinct (conceptual example)*

3.3 CORE CAMPUS NORTH PRECINCT

Figure 3.6: View east along Campus Drive (3D model)

This area has perhaps the most potential to create a significant new focal area for the campus. It naturally grows in a northerly direction linking to the uses of the Core Campus South area with its mix of academic, research, residence and student service functions. The large area, presently occupied by parking lots F, P and Visitor Lot 4, located between the Education Building and Maintenance Building, represent prime future development sites. This area is within a 10-minute walk to the cluster of University science buildings and the Agriculture Canada Building, and offers a natural extension of the pedestrian-oriented qualities of the existing campus core. It is in this area that significant opportunity exists for research-related growth in response to the CLS.

Present Facilities

Buildings

- Education Building
- Western College of Veterinary Medicine
- Toxicology Centre
- Animal Resources Centre
- Maintenance Complex
- Heating Plant
- Research Annex
- Canadian Light Source (Synchrotron)
- Peterson Building
- Food Building

Open Space

- 3 playing fields, 6 tennis courts

Parking

- Faculty and Staff Lot F (494 stalls), Student Lots E (463 stalls) and P (464 stalls) and Visitor Pay Lot 4 (222 stalls).

Key opportunities for this area include

- creating a second major formal green space –Centennial Quad – that can act as the visual and symbolic centre of the Core Campus North bringing together research, graduate academic buildings, residences and student services including athletic and recreation opportunities;

- re-establishing campus links and views to the river valley;

- creating a scenic river-view road by extending Seminary Crescent to link south to Campus Drive – this route will link the core campus to the future research lands west of Innovation Place and provide spectacular views of the Meewasin Trail and Ski Jump Coulee Park;

- establishing much needed physical and symbolic links between the thriving research community that has developed in the north areas of the campus (for instance Innovation Place and Canadian Light Source) and the campus core through the creation of a grand tree-lined boulevard as an extension of Education Road;

- providing a north parking garage strategically located close to core academic buildings as well as existing and future research buildings;

- rationalizing and relocating playing fields in a manner that will better integrate with a cohesive open space system and will free up valuable building sites close to the campus core; and

- providing high-profile building sites for a range of uses including public facilities such as a cultural facility fronting onto and overlooking the river, academic buildings, and buildings associated with CLS.

Core Campus North: Master Plan

- A major new formal open space – Centennial Quad – is proposed as the centre of the Core Campus North area and would be dedicated to the University's 100th anniversary. The quad is positioned to axially align with Ski Jump Coulee in a manner that echoes the Brown and Vallance plan of 1909 (the Bowl was situated to axially align with Devil's Dip).

- The quad will direct and frame views to the Meewasin Valley and Ski Jump Coulee.

- The quad will be similar in scale and role to the Bowl and will be lined with new buildings, tree-lined pedestrian paths and landscaping features. However, unlike the Bowl, the quad will be highly visible from the community.

- Because of this 'one-side-open' configuration, the design of the landscape within the quad should provide greater sheltering features through gentle berming, tree and shrub planting and semi-weather protected structures including colonnades integrated into adjacent building edges.

- Seminary Crescent provides an appropriate setting for the Lutheran Seminary and Ogle Hall, both of which face onto it. South of these buildings; the crescent provides some of the most beautiful vistas looking west to the river with a large open field in the foreground. However, this area is seldom experienced in day-to-day life on campus.

- The Master Plan extends Seminary Crescent both northward through the Ski Jump Coulee Park and southward to link with Campus Drive.

- Seminary Crescent will become a highly scenic river road and provide a "river-side" address for prominent new buildings and sports fields. This will heighten access and views to the river as part of the regular experience of the campus.

- A new cultural facility facing the river in this location would draw the Saskatoon and University communities together in one of the most dramatic settings in the city.

- North Road is reconfigured to link with Education Road providing a view corridor from the Peterson Building to Centennial Quad.

- Education Road is proposed to be extended northward to create a grand tree-lined boulevard linking Innovation Place to Campus Drive. The extension and re-design of Education Road provides an opportunity to establish a high-quality, ceremonial route for both pedestrians and automobiles linking the core campus to the increasingly important development to the north and providing views to Centennial Quad and the river valley.

- The alignment of Education Road and elimination of the North Road/Perimeter intersection provides a contiguous development site in the area of the CLS complex (for CLS and related expansion) that, upon build-out, can provide a system of interlinked buildings, including a parking garage, extending all the way to Campus Drive.

- North Road is also linked in an easterly direction to Maintenance Road, south of the Maintenance Building, as a means of providing multiple points of entry and egress to the future parking structure, thereby reducing traffic volumes on both Campus Drive and Education Road.

Playing Fields

- Currently three fields are located in this area. An additional playing field is proposed to replace one of the fields removed in the Athletic Precinct bringing the total to four in the north campus.

- Two fields have been re-positioned as permanent open space areas between Seminary Crescent and the Meewasin Trail. Another two are positioned west of the existing Agriculture Greenhouses and at the east end of a sequence of open spaces including Ski Jump Coulee and the proposed pond (storm water management facility).

- The Tennis Courts in this area are relocated to the Athletic Precinct south of College Drive where they will have proximity to residential uses and new athletic buildings in the area.

Parking

- Upon full build-out, parking will be provided by a combination of the north garage, underground parking associated with new research buildings and small convenience/visitor parking surface lots.

- The displacement of the existing surface parking lots (E,F,P and 4) will gradually occur as these sites are developed. Parking will be replaced by a combination of new spaces created with new parking garages and/or interim surface lots created north of this area.

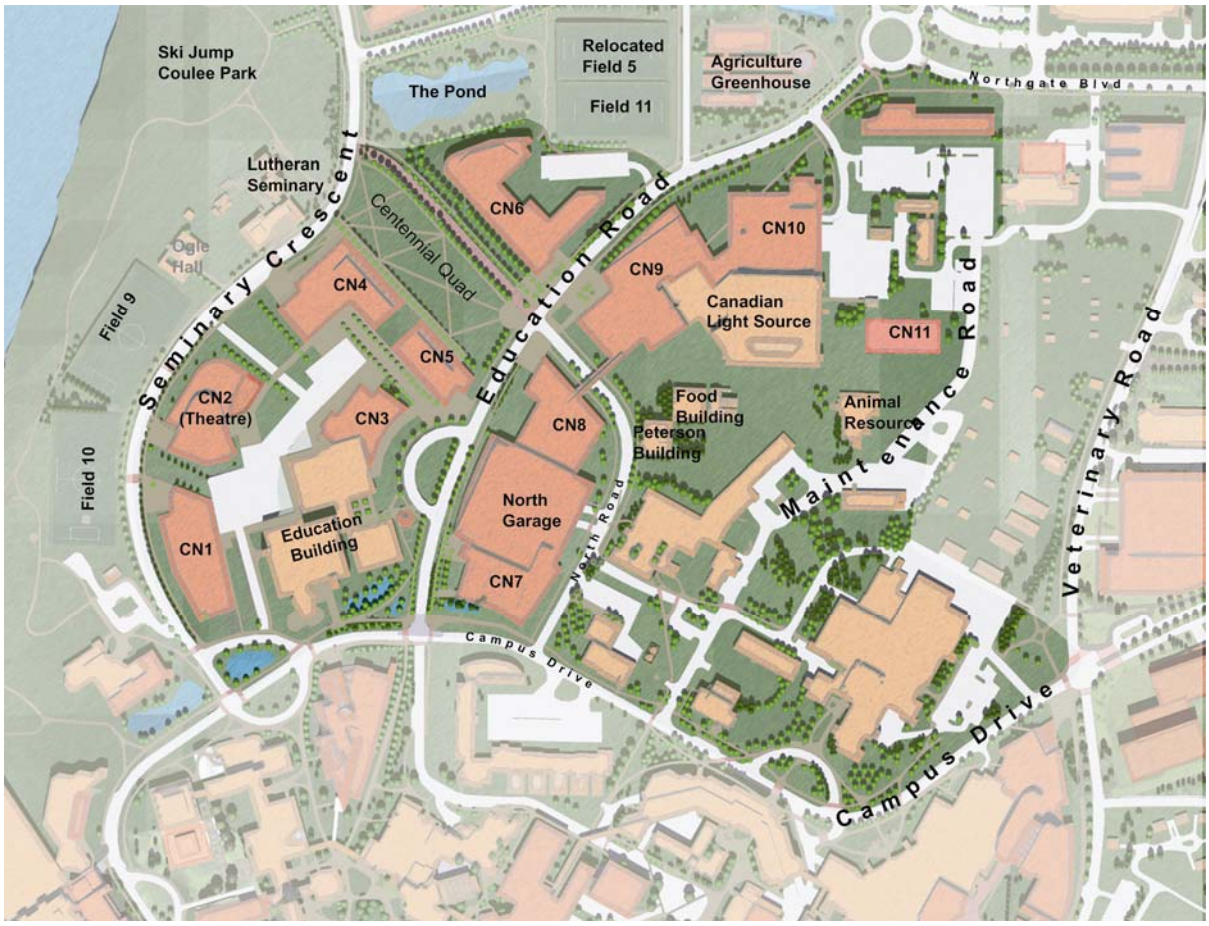


Figure3.7: *Core Campus North Precinct (conceptual example)*

3.4 HEALTH SCIENCES PRECINCT

Figure 3.8: View North between Health Sciences Precinct and Core Campus South (3D model)

The Health Sciences Precinct, including Royal University Hospital, is one of the most publicly visible and utilized areas of the campus. Relative to other areas on campus, it is the most constrained in terms of available land area for expansion and yet is under considerable pressure to grow and modernize. The road network serving the hospital area is closed from the rest of the campus and cannot be linked easily without removal of existing buildings.

The relationship between the campus and the river is the most strained in this area. The hospital garage presents a less than ideal view of the campus as viewed from across the river valley. The planned addition to the garage will further block views to the river valley from the hospital. The Master Plan provides significant new building area (approximately 60,000 gsm) while re-establishing a positive relationship between the Health Sciences Precinct and the river valley by orienting new additions to face this view.

Existing Facilities

- Hantelman
- Ellis Hall
- Royal University Hospital
- Health Sciences
- Little Stone School
- Medical Research Building
- Dental Clinic
- President's Residence

Health Sciences Area: Master Plan

- The Health Sciences Precinct, including the President's Residence, defines the University's southwest gateway and is highly visible from University Bridge and College Drive. The Memorial Gates serve as a vivid link to the University's past.

- The plan proposes a campus gateway treatment on the open space just east of the University Bridge. Stone gateway pylons inscribed with 'University of Saskatchewan' (perhaps to coincide with the 2007 centennial year) are positioned as an entrance to a tree-lined promenade formalizing an already heavily travelled pedestrian route leading to the Memorial Gates and into the campus.

- Four potential new sites to accommodate expansion are on Campus Drive, in the present location of the Hantelman Building, at the east end of Clinic Place, and potentially as an addition to the Medical Research Building that would involve the relocation of the Little Stone School (to the Diefenbaker Canada Centre).

Figure3.9: *Health Sciences Precinct (conceptual example)*

3.5 RIVER VALLEY PRECINCT

The River Valley Precinct encompasses lands within Meewasin Valley Authority and University jurisdictions. The intent of combining the two areas into the Master Plan is to facilitate a unified approach to these lands as a continuous landscape recognizing this as the primary natural amenity area of the campus and its use as a community-wide resource. The precinct extends from the University Bridge to the CP Rail line and includes Devil's Dip and Ski Jump Coulee.

Existing Facilities

Buildings

- Diefenbaker Canada Centre (2,534 gsm)
- Lutheran Theological Seminary (17,300 gsm)
- Ogle Hall

Parking

- Visitor metered – Diefenbaker (79 stalls) and small parking lots associated with the Lutheran Seminary and Ogle Hall.

Outdoor Facilities

- Playing Field 11 is located east of the Lutheran Seminary.

- The open field area bounded by the Meewasin Trail, Ogle Hall, Seminary Crescent and the Diefenbaker Canada Centre accommodates an informal sculpture garden.

Contemplated/Proposed New Facilities

- The University will provide the City of Saskatoon with an open space dedication area in the vicinity of Ski Jump Coulee that will expand the potential of the coulee as a public resource.

- A 2,600 gsm expansion plan has been prepared by the Diefenbaker Canada Centre which would provide museum/archives facilities plus a lecture theatre. The addition would be placed on the south/east and north/east sides of the building.

- A study undertaken as part of the researcher residence plan reviewed the potential for the University to acquire and convert the Lutheran Seminary to a residence facility. The study illustrates options that could yield from 26 to 48 beds which may be appropriate as a residence for visiting researchers to CLS.

- St. Thomas More is currently operating Ogle Hall as a student residence.

River Valley Area: Master Plan

- The plan does not propose any new development of buildings in this area reflecting the priority of preserving views and access to the river valley in perpetuity.

- Two playing fields are proposed to be relocated between the Diefenbaker Canada Centre and Ogle Hall.

- The Sculpture Garden concept is proposed to be relocated as a sequence of installations throughout the campus and principally along the alignment of Scholars Walk.

- The Little Stone School is proposed to be relocated in proximity to the Diefenbaker Canada Centre to provide an improved interpretive context for the school and to facilitate improved public use of the Centre and its grounds.

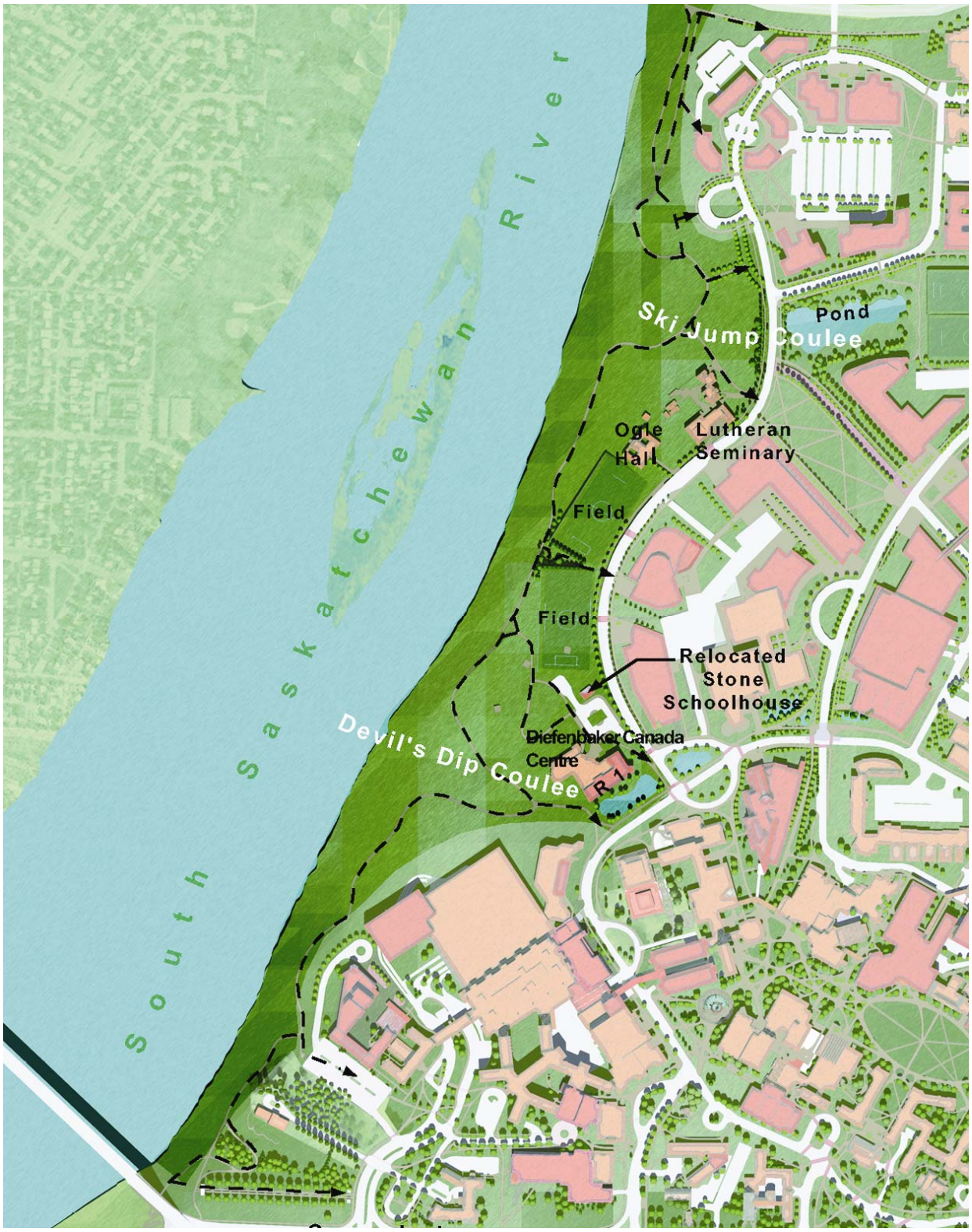


Figure3.10: *River Valley Precinct (conceptual example)*

3.6 FARMSTEAD PRECINCTS

The Farmstead defines the University's southeast gateway and is highly visible from both Preston Avenue and College Drive and serves as a vivid link to the University's origins as an agriculture college. Its form and function should be maintained and enhanced. Generally, recommended improvements to the Farmstead area reflect recommendations of the Farmstead Master Plan Review document of April 1996.

Existing Facilities

Buildings
- Stone Barn
- Poultry Centre
- Animal Science
- Livestock Research
- Dairy Barn
- Dairy Barn East Silo
- Dairy Barn West Silo
- Farm Residences
- Grain Elevator

Parking
- University lots (101 stalls); visitor metred Lot 7 (38 stalls) and Lot 9 (35 stalls); faculty and staff Lot O (28 stalls).

Outdoor Facilities
- Various enclosed Farmstead paddocks and storage areas.

Currently Proposed/Approved New Facilities

- Heifer Barn
- Feed Processing Centre
- Workshop
- South Sheep Shed

Farmstead Master Plan

- A key initiative of the Farmstead Master Plan includes the renovation and conversion of the Stone Barn as the central feature of a Farmstead interpretive centre and museum. The large loft areas of the barn would make ideal assembly areas for University and community gatherings and events.

- A clearly marked entrance to the Stone Barn and an adjacent public parking lot is proposed as part of this revitalization.

- The Farmstead Master Plan also calls for the preservation of the Barn and its adjacent stone fencing together with

the development of a field area south of the barn "…to include horticultural and crop science plants for the viewing public." This outdoor area would be an excellent way to enhance the Farmstead's gateway role and to assist in engaging and inviting the public to the campus.

- The Grain Elevator, located on Campus Drive between Lots 7 and 9, is an important historical structure on campus. It should be preserved and remain in its present location.

- A new feed mill has been proposed as part of the improvements to the Farmstead and has been the subject of recent funding applications.

- It is recommended that the future feed mill be located in the area of East Road, which will eventually be closed subsequent to the re-alignment of 108th Street with Campus Drive East.

- The issue of farm vehicle access to research fields via Preston Avenue must be addressed in the design for the widening of Preston Avenue. Key to the safe movement of these vehicles will be the location of signalled intersections on Preston Avenue and farm vehicle routes that can connect to these intersections. A full four-way signalled intersection at Preston Avenue and the re-aligned 108th Street may present a viable solution for moving vehicles to research fields.

- With the relocation of 108th Street further south on Preston Avenue, expansion of the North Farmstead area is possible.

- The North Farmstead area should be screened with extensive shelter-belt landscape treatment in recognition of the campus-gateway role of this intersection.

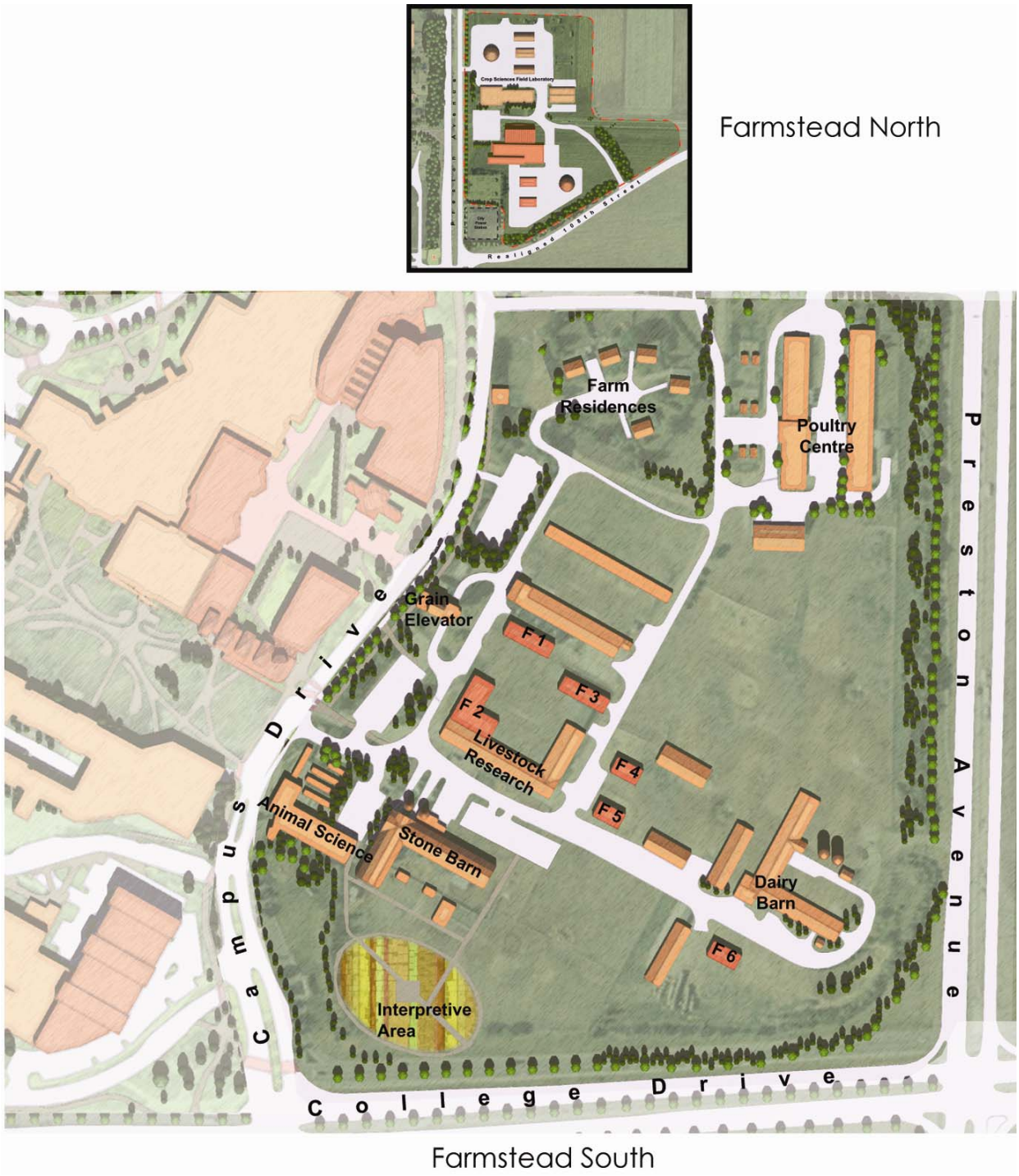


Figure3.11: *Farmstead South and Farmstead North Precincts (conceptual example)*

3.7 RESEARCH SOUTH PRECINCT

The Research South lands represent one of the greatest challenges for the Master Plan. Increasingly, Preston Avenue will become a principal gateway to the campus on par with College Drive. As a result, the Research South lands will become a principal gateway to the campus. However, there exists a "back-of-house" character to these lands which include an array of uses including animal paddocks, storage yards, power substation and a series of allied research buildings that do not invite public attention nor strong interface with the everyday academic life on campus.

The challenge in this area is to provide a strong and "imageable" east gateway to the campus, efficient and high-volume access from Preston Avenue to the proposed east parking garage and improved links north to Innovation Place, all while maintaining the array of relatively "non-public" land uses that presently occupy a significant portion of the site.

Existing Facilities

Buildings

- Environment Canada – Canadian Wildlife Service Migratory Bird Research
- Canadian Food Inspection Agency (CFIA)
- Animal Pathology- (CFIA)
- POS Pilot Plant
- VIDO Laboratory
- Grounds Greenhouse
- Bovine Research Centre
- Hay Storage
- Surplus Equipment Recycling Facility (SERF)
- General Purpose Building
- Crop Science Field Lab

Parking

- University lots – Lot V (938 stalls), Lot Y (383 stalls), Lot K (60 stalls), Lot H (103 stalls)
- Allied research parking lots – Environment Canada (TBD stalls), CFIA (TBD stalls), POS (TBD stalls), VIDO (TBD stalls)

Outdoor Facilities

- University Power Transformer Station
- General Outdoor Storage Area

Currently Proposed/Approved New Facilities

- INTERVAC (7,500 gsm)
- VIDO Expansion (4,200 gsm)
- POS Pilot Plant Expansion TBD

Research South: Master Plan

- The primary north gateway to the campus will be from the intersection of Preston Avenue and Northgate Boulevard (Perimeter Road). Northgate is proposed to remain a two-lane road, but will integrate a central landscaped median.
- The open lands to the north, between the road and Innovation Place, are proposed to be designed as a linear landscape linking the north gateway at Preston Avenue to Ski Jump Coulee and the river valley. The linear landscape should thematically link to the landscape character proposed for Ski Jump Coulee.
- Northgate Boulevard extends to a small traffic circle axially aligned with Innovation Place to the north and Education Boulevard to the south.
- The primary east gateway to the campus is via a new alignment of 108th Street. The street has been relocated southward to intersect with Preston south of the City electric sub-station, which will be screened with trees and landscaping. This relocation provides better spacing between Northgate Boulevard (Perimeter Road) and 108th Street, increasing the viability of both intersections having signals.
- In this location, a strong campus gateway can be provided free of the "back-of-house" uses and utilities that are concentrated at the area of the present 108th Street alignment. Undeveloped lands in this area of the campus are available on both the north and south sides of the entrance road (labeled Campus Drive East) for the development of both new buildings and landscaped areas that can form a strong gateway image for the University.
- A major east parking garage with efficient access to Preston Avenue and 108th Street is proposed in this location.
- East Road can be eliminated and lands in this area can become available for new academic/research buildings, expansion of the Farmstead or other uses.
- Veterinary Road is re-aligned to pass between POS Pilot Plant and CFIA to link directly to Resources Row at Innovation Place. This re-alignment results in a continuous north-south route on the east half of the campus joining these areas with Innovation Place.
- Veterinary Road is shifted slightly east at its southern segment to minimize conflicts between loading areas servicing the paddocks and to provide for an expanded parking area for the Veterinary Clinic.

- The Grounds Greenhouse is relocated to the Grounds Nursery area on 14th Street.
- The existing Veterinary Medicine paddocks area is undisturbed and lands to the west of the paddocks remain available for potential expansion of research uses, parking, additional paddocks or maintenance operations.
- Lands to the north of the paddocks are available for potential expansion of research uses and parking.
- It is recommended that the existing University Waste Management Facility (presently located at the west edge of Innovation Place) be relocated to this area where it will be isolated from high profile, public areas.

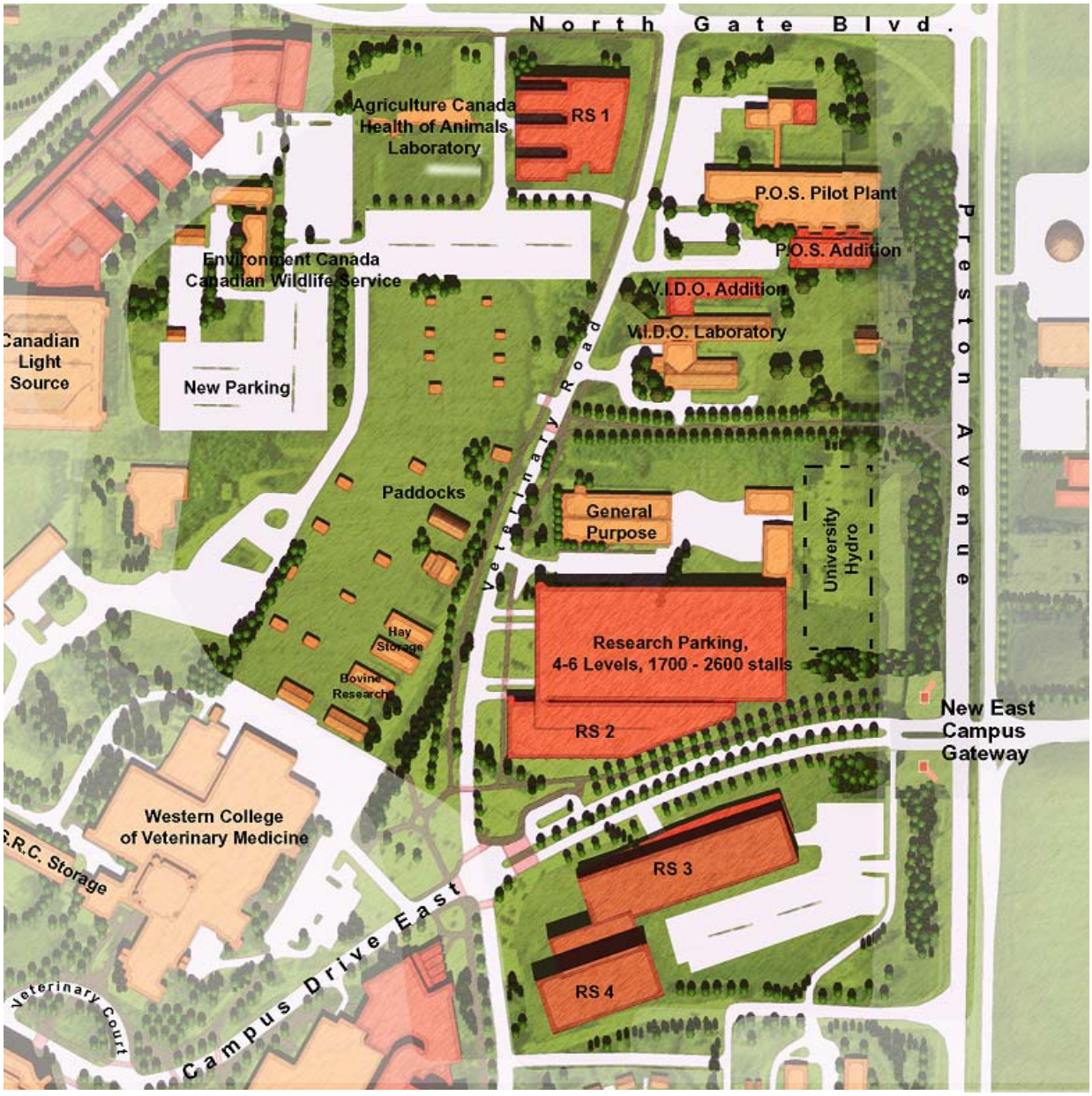


Figure3.12: *Research South Precinct (conceptual example)*

3.8 INNOVATION PLACE PRECINCT

The Master Plan does not directly address site-planning issues for Innovation Place as it is responsible for its own planning and development initiatives. Innovation Place site design issues are addressed by the Master Plan insofar as issues of interface and strong linkages between the Core Campus and Research areas are a fundamental objective of the Master Plan.

Existing Facilities

Buildings

- Innovation Place leases 31.7 ha. (78.3 acres) of land from the University on which 20 buildings have been developed for a total of 95,400 gsm (1,027,000 gsf).

Parking

- Parking is provided at a ratio of 1 stall for every 40 gsm of building area. Approximately 2,400 stalls are supplied on surface lots. (parking count to be confirmed)

Outdoor Facilities

- Various landscaped amenity areas have been developed at Innovation Place including the Innovation Bowl in front of the Galleria and Garden Park/Orchard Park areas. These areas, in combination with indoor food service and common areas, are key socializing spaces that are used for both informal and programmed events organized by Innovation Place management or tenants.

Proposed New Facilities

Innovation Place estimates the capacity for additional growth of 90,000 gsm within the 31.7 ha. site, bringing the total to 185,000 gsm (2 million sq. ft.). This extent of growth however will increasingly rely on accommodating parking in above grade parking structures.

Innovation Place Master Plan

The Master Plan proposes that Innovation Place have three points of access from Preston Avenue at Research Drive (all-way/signalized), Northgate Boulevard (Perimeter Road, all-way/signalized) and Innovation Boulevard (all-way/non-signalled).

The Ski Jump Coulee Park, in combination with the pond and playing fields, provides an important amenity area that will serve as a key point of interface, bringing together Innovation Place, the University and the community.

The plan proposes improved connections to Innovation Place by:

- linking Veterinary Road directly to Resources Row,
- extending Innovation Boulevard past the Traffic Circle in a southwest orientation (aligned on axis with the Galleria Building and Innovation Bowl) to link up with Northgate Boulevard via a new traffic circle and southward to education Road and Campus Drive,
- linking Downey Road as it extends west into the Research North area to Seminary Crescent via a north-south road link through the Ski Jump Coulee Park,

Figure3.13: *Innovation Place Precinct (conceptual example)*

3.9 RESEARCH NORTH PRECINCT

The Master Plan reflects the concept of the U of S Land-Use and Urban Design Study (May 1999) that recommends that this area (referred to as CP Rail/River Lands in the report) be available for future research park expansion.

Existing Uses

- A portion of the Research North area is presently used as a plant isolation unit by the College of Agriculture. The Land-Use Study recommends that this function be relocated to the Circle Drive/14th Street lands.

- Irrigation of the College's fields in the north area of the University's lands is supplied from this area via an overland channel supplied by a pump house north of Ski Jump Coulee at the river valley's edge. Plans are in progress to replace the overland channel with a buried pipe system.

Research North Master Plan

- The plan proposes expanding research development by approximately 40,000 gsm, extending the Downey Road loop and providing a range of development sites that are generally smaller than the sites that have been developed at Innovation Place to date.

- Buildings should generally face both outward to the river valley and inward to the internal road network. Similar to the design principles for the Core Campus North area the river valley is considered a public amenity made accessible via a riverside road network. This pattern is slightly modified to the north where development is envisioned to occur on both sides of the road as a buffer to the CP Rail tracks.

- A grade-separated road link across the CP Rail line is proposed to eventually link the campus northward to the Preston Avenue/Circle Drive lands (70 ha.), which are identified in the Land-Use Study as future development lands for a range of potential uses including research park expansion, seniors life-lease residential and a University arboretum.

- The Research North lands also take advantage of the central amenity area of the Ski Jump Coulee Park contiguous with the pond (naturalized storm water management facility) and two University playing fields.

- An option for the Park would be to relocate the heritage Poultry Science Building to this site, as a public amenity and destination incorporating a café/tea house and public washrooms.

- The existing Agriculture Greenhouses have ample room for expansion to the west. They will be prominently located as part of the entry sequence to the north campus near the new traffic circle. Consideration should be given to providing a publicly accessible greenhouse facility in this location that, through displays and activities, engages the community in the research and teaching activities of the University.

- Consideration should be given to the relocation of the University's Waste Management Facility. As Research North grows, this use will conflict with the area's increasing profile as a prestigious research area and its role as a publicly accessible open space. This facility would be more appropriately located in the Research South area, which is specifically designated for uses requiring greater separation from the campus population and the public.

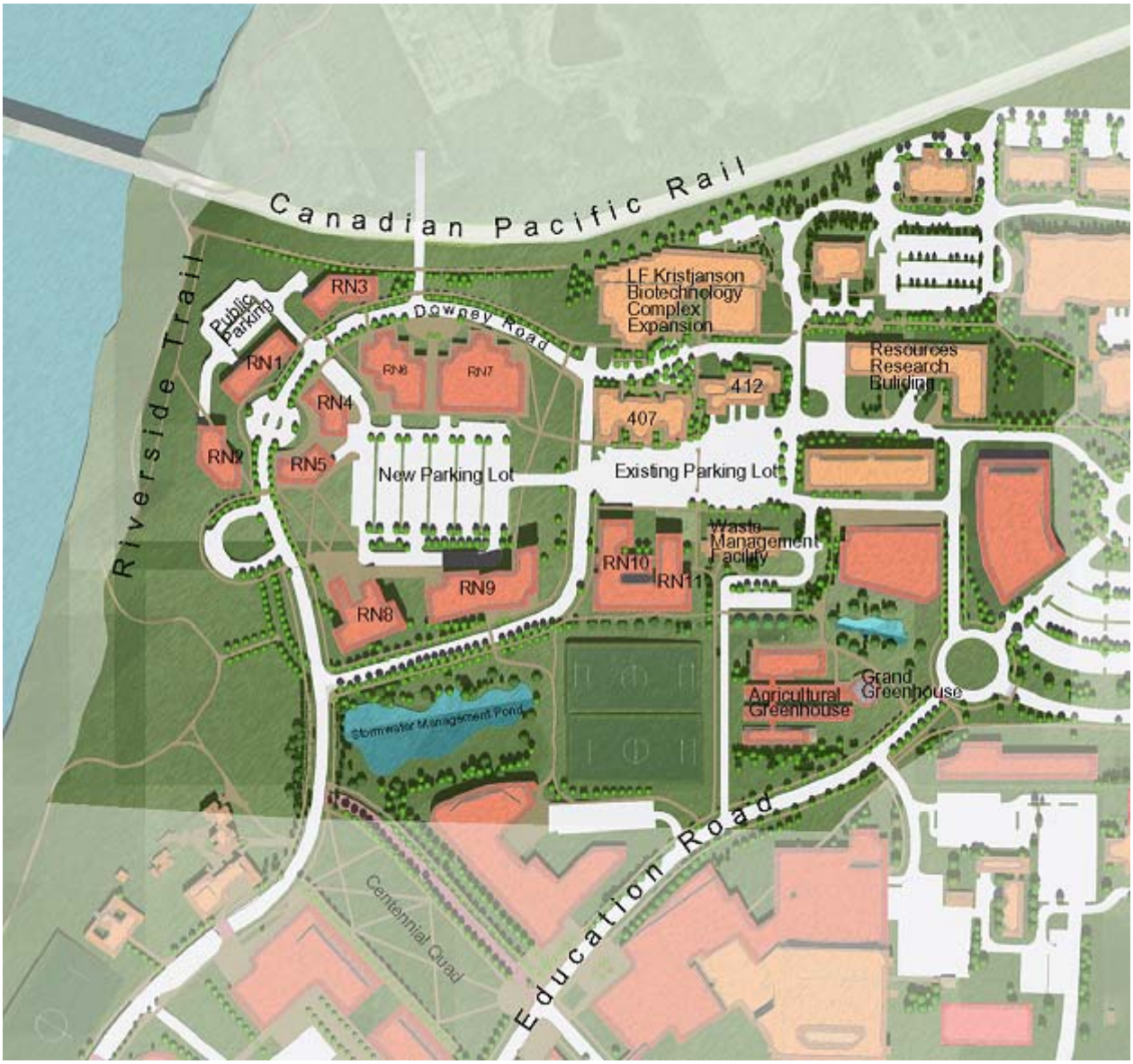


Figure3.14: *Research Area North Precinct (conceptual example)*

3.10 ATHLETIC PRECINCT

The Athletic Precinct is bound by College Drive to the north, Cumberland Avenue to the west, Preston Avenue to the east and on the south by the McEown Park residential village and agriculture research fields to the south.

Existing Plan

Buildings and Structures
- Griffiths Stadium
- Teamhouse
- Saskatoon Field House (leased to the City of Saskatoon)
- Crop Science Seed Barn

Open Space
- 6 playing fields (Fields 3-8)
- Volleyball Courts

Parking
- Parking lot Z (313 stalls)
- Parking lots and service areas associated with the Saskatoon Field House

Proposed Plan

- A new Twin Pad ice facility (7,000 gsm) has been proposed in this area. The building is proposed to be located south of the south parking garage.

- A south parking garage is planned south of College Drive on the site of Lot Z.

- A 30-metre wide service area and laneway is situated between the two buildings.

- The east side of Stadium Crescent is reconfigured to provide a drop-off for the Twin Pad facility and access to the parking garage in a configuration that allows for a shared outdoor Athletics Event Plaza on the north side of Griffiths Stadium. The design of the plaza should provide for on-going use of the area (during non-event periods) for recreation uses including volleyball.

- A new enclosed pedestrian bridge links the south side of College Drive to the new Kinesiology Building. This pedestrian walkway and beyond will be a continuous interior link to the south parking garage.

- The west segment of Stadium Crescent presently provides a right-in/right-out connection to College Drive. This road is proposed to be extended south as a tree-lined, central vehicular and pedestrian spine linking the Twin Pad facility, south parking garage, playing fields, tennis courts, Williams Building and McEown Park residential village.

Figure 3.15: View north towards Griffiths Stadium (3D model)

Figure 3.16: View west along College Drive (3D model)

- An additional parking area is provided east of the Saskatoon Field House – Field House Parking 1 (FHP1) and provides 344 stalls. This lot should be a student pay lot. A portion of these stalls will replace the general parking function of Lot U, which is proposed to become entirely dedicated to residential uses. Assuming 260 stalls replace the Lot U general parking function, FP1 will provide approximately 80 additional general parking stalls to the campus supply.
- FP1 is also accessible for use as overflow parking for off-peak Field House events.
- A bus parking area is proposed between Griffiths stadium and the Field House. This area can also be used for temporary additional grandstands that may be required for international competitions.
- Playing fields 3 and 4 are proposed to stay in place, although there is an opportunity to lengthen both fields northward to better accommodate intramural football and soccer. Similarly, Fields 7 and 8 remain in place, but greater separation is provided between the fields.
- Currently Fields 5 and 6 are too narrow and short for intramural soccer and football. Field 5 is removed (and is replaced in the Core Campus North area) and Field 6 is repositioned and dimensioned to regulation size.
- It is proposed that the existing tennis courts north of the Education Building be relocated to the Athletic Precinct to take advantage of the athletic focus of the area and proximity to the residential population of McEown Park. In this area, the operation of a University Tennis Club may become viable with opportunities to share change room facilities and concessions provided in the Twin Pad facility. Proximity to the south parking garage and the surrounding residential neighbourhoods will also create opportunities for increased public use and revenues.

Figure3.17: *Athletic Precinct (conceptual example)*

3.11 McEOWN PARK RESIDENTIAL VILLAGE PRECINCT

Existing Facilities

Buildings
- Williams Building (8,700 gsm including a day care)
- Four student residence buildings – Wollaston Hall, Seager Wheeler Hall, Assiniboine Hall and Souris Hall – providing approximately 30,400 gsm/692 beds.

Parking
- University lots: Lot U (493 stalls), Williams Lot (132 stalls)

Outdoor Facilities
- Day care play ground
- Informal open space areas used by residents

McEown Park: Master Plan

Buildings
- The somewhat random arrangement of the residential buildings of McEown Park are refocused within a central green space (Village Green) which is centred on a new north-south road/pedestrian path (McEown's Lane).

- The lands surrounding the Village Green are infilled with three- or four-storey residence buildings and townhouse-type buildings which address the Village Green and the surrounding residential streets – Cumberland Avenue to the west and 14th Street to the south.

- This includes McEown Hall as a proposed mixed-use residential and student community centre proposed to be located south of the Williams Building with an interior link. This four-storey building would provide campus community uses on the ground floor including a daycare, café, convenience grocery store, living/learning areas and other common facilities to be used by McEown Park residents. The upper three floors would provide residential units suitable for both graduate and undergraduate students.

- The three- to four-storey scale of the residences provides a suitable scale as a transition from the high rise towers to the houses in the surrounding community.

- The entire development may have a pedestrian, neighbourhood scale and a sense of enclosure that will provide a more hospitable community atmosphere for McEown Park.

- In contrast to the existing tower residences, the three- to four-storey format provides a flexible building module that

can accommodate a broad range of student housing needs including undergraduate, graduate and married students, and families.

- Creating a greater diversity of green spaces by including family-oriented "Tot Lots."

- New buildings close to Cumberland Avenue should be prioritized for family-type townhouse units located close to community facilities including neighbourhood schools.

- The series of new three- to four-storey structures yield a total of 68,000 gsm of residential space, providing approximately 2,000 beds.

Parking

- Presently, Lot U (493 stalls) provides both general student parking and parking for McEown Park residences (291 stalls are assigned to residents). This implies a ratio of .43 stalls per resident in McEown Park. This parking ratio is well above the campus-wide ratio of .26 stalls per person. This suggests that the remaining 202 stalls in Lot U serve general student parking.

- The plan proposes to shift the general student parking function from Lot U to the proposed lot adjacent to the Saskatoon Field House – Lot FP1 which will provide 344 stalls.

- As a result, Lot U can be entirely dedicated to residence parking. The McEown Park concept reduces Lot U by 55 stalls (from 493 to 438 stalls) as a result of the placement of housing at the south end facing 14th Street.

- Total residence parking of 668 stalls is comprised of Lot U (438 stalls) and 230 new surface parking stalls proposed in well-landscaped lots placed between rows of residences (priority for these stalls would be assigned to families).

- The proposed total of 2,692 beds in McEown Park (692 existing/2,000 new beds) provides on-site residence parking at a ratio of .25 stalls per person. This ratio is consistent with the principle of supplying 1 stall per 4 beds that has been recommended by the University's student housing consultant. While this represents a reduction from the current McEown Park ratio, given the proximity of additional stalls near the Field House and the south parking garage in the Athletic Precinct, this supply of on-site parking is reasonable. In keeping with University initiatives to reduce automobiles on campus, it should also be an objective to reduce the parking requirement for residences to be well below the existing campus ratio of .26 stalls per person

- The Williams Lot would be somewhat impacted by the proposed Community Centre/Residence to the south, but is reconfigured to maintain 132 stalls. If there is additional demand for parking close to the Williams Building this should be provided by the south parking garage.

Figure3.19: *McEown Park Precinct (conceptual example)*

4.0 BUILDING DESIGN GUIDELINES

4.1 INTRODUCTION

Campus architecture has a profound impact on the culture and identity of the University. Every new building, addition and renovation provides an opportunity to mark one's passage through the campus and to it make it memorable.

It is important that campus architecture provide a strong relationship with the campus fabric. Sensitivity to context is a major prerequisite to responsible campus design. Strong relationships established with surrounding buildings, open space and circulation networks contribute to a stronger campus identity and a greater sense of place which promotes the reputation of the institution.

Planning future campus buildings, additions and renovations will include the challenge of respecting campus traditions and history, while promoting innovative design.

The following building design guidelines have been prepared to assist those involved in the design of future campus buildings, additions and renovations in creating a cohesive, high-quality campus image and in promoting and encouraging architectural excellence and innovation.

Figure4.1: University of Saskatchewan

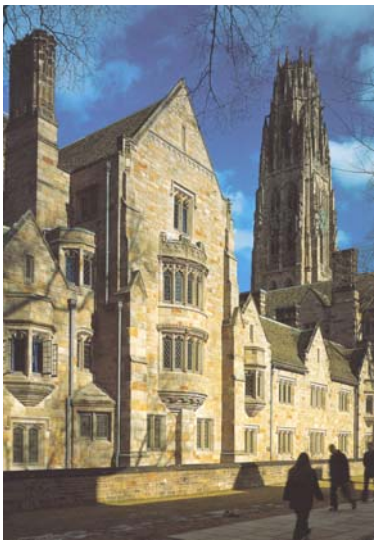


Figure 4.2: Yale University

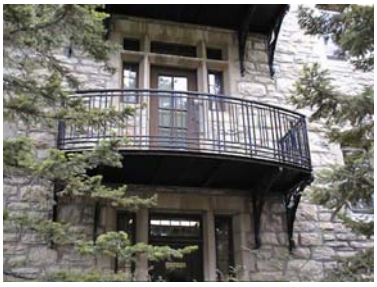


Figure 4.3: University of Saskatchewan

4.2 BUILDING DESIGN OBJECTIVES

- Strengthening campus identity and image
- Promoting environmental responsibility and sustainable design
- Encouraging space for interaction and reflection
- Providing flexibility and accommodating change and growth
- Ensuring clarity of circulation and easy orientation

4.3 GENERAL GUIDELINES FOR BUILDING DESIGN

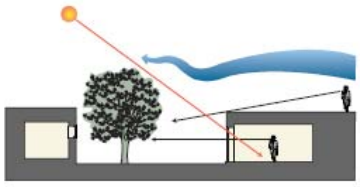


Figure4.4: Maximum solar gain and minimum prevailing wind effects can be controlled by building orientation.

Figure 4.5: Taller building elements should be placed to terminate view corridors – University of Saskatchewan

Figure 4.6: Active building and pedestrian pathways are visually and physically connected – York University

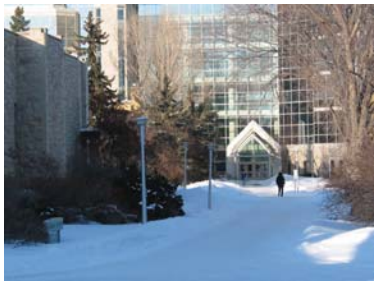


Figure 4.7: Clearly defined links between pedestrian routes and entrances – University of Saskatchewan

The following series of guidelines for building design are intended to be applied throughout the campus for new buildings, additions and renovations. The guidelines have been produced to support and encourage the five main Building Design Objectives.

The following guidelines should be used as a general guiding framework. In certain circumstances the specific opportunities of a building design may present an approach that is not anticipated in these guidelines. The intent therefore is not to create a rigid set of rules that must be adhered to in all circumstances.

Relationship with Context

- Sustainable design principles should be incorporated in the site selection process to minimize negative site impacts, such as soil disturbance, erosion and sediment deposits, ground water pollution and loss of landscape.
- When possible, buildings should be oriented to take advantage of winter solar gain, provide year round shading to western exposures and provide summer shading for southern exposures.
- When possible, buildings should be oriented to minimize the effects of winter prevailing winds on entrances and open spaces *(Figure 4.4)*.
- Taller building elements should be placed to terminate view corridors and mark key building entrances, gateways or significant public spaces *(Figure 4.5)*.
- Pedestrian pathways, active building uses such as offices, lounges, food areas or interior circulation routes should be placed to visually or physically connect with these outdoor areas and to provide increased animation, surveillance and safety *(Figure 4.6)*.
- Principle pedestrian entrances should be located off common open spaces, plazas, or significant pedestrian pathways *(Figure 4.7)*.
- Blank building walls without entrances or loading areas should be oriented to have minimal exposure to public areas of the campus including pedestrian paths, roadways and courtyard spaces.
- Pedestrian and bicycle traffic should be given priority and generous space consideration at the main entrances and throughout the campus.

- Exterior grade and interior floor levels should be aligned at pedestrian entrances

- Service areas and service access should be located in discreet areas, separate from main public areas.

- Security through self-surveillance should be facilitated by avoiding the creation of dead-end exterior space, as well as ensuring strategic lighting and visual transparency between interior and exterior at grade level *(Figure 4.8)*.

- Landmarks should be introduced to reinforce the identity of campus and as a point of reference for orientation through campus. Landmark elements may take the form of tower elements or other distinguishing features which help build campus identity and image; they may be integrated into the building design or stand alone as part of an open space or plaza *(Figure 4.9) (Figure 4.10)*.

- The impact of shadows cast by future buildings, additions or renovations on existing buildings and open spaces should be minimized.

- When site topography is appropriate, consideration should be given to incorporating exterior terraces and roof gardens *(Figure 4.11)*.

Figure4.8: Visual transparency between interior and exterior spaces at grade will improve a sense of security – University of Saskatchewan

Figure 4.9: Tower elements terminating view corridors – Queen's University

Figure 4.10: Landmark structures can help to build an identify and image for the campus – University of Saskatchewan

Figure 4.11: Example of a campus roof garden

Figure4.12: Transitional space between the building and pedestrian space – University of Toronto

Figure 4.13: Higher floors are expressed with building envelope variation – Queen's University

Figure 4.14: Canopies serve as a protective element at ground level – University of Saskatchewan

Building Form

- Building heights above four floors should step back between two to three metres.
- In general, a pattern of flat-roof buildings should be encouraged to reduce shadows as well as reinforce horizontal continuity of campus form. Exceptions include sloped roofs as part of a Collegiate Gothic expression, particularly in the Core Campus South and Health Sciences Precincts.
- Where possible, building massing should articulate transitions from a pedestrian scale and give expression to the building at higher floors through the use of building envelope variation or rhythm *(Figure 4.12) (Figure 4.13).*
- Buildings at ground level should incorporate several protective architectural elements – such as canopies and colonnades – off common open space, plazas, or significant pedestrian pathways to encourage interaction and assembly *(Figure 4.14) (Figure 4.15).*

Figure 4.15: Colonnades serve as a protective element at ground level, sheltering people from wind, rain and snow – York University

Figure 4.16: Horizontal continuity of form is reinforced by building height – University of Toronto

- Buildings are generally recommended to be three to four storeys in height to minimize shadows as well as reinforce horizontal continuity of form *(Figure 4.16)*.

- Additions should complement existing buildings in architectural form and material, but not necessarily through replication of historical architectural elements *(Figure 4.17).*

- Entrances should have clear and prominent architectural expression to aid in both orientation and campus identity *(Figure 4.18).*

- Roof gardens should be encouraged as they minimize heat absorption by reducing "heat islands" on site. They also reduce storm sewer loads by collecting, filtering and storing rain water for on-site use.

- Mechanical penthouses and service areas should be incorporated as part of the building massing and/or within roof gardens *(Figure 4.19).*

Figure4.17: The Law Building is successful in its use of traditional and modern forms and materials in a manner consistent with the heritage of the campus – University of Saskatchewan

Figure 4.18: Entrance with prominent architecture expression – University of Saskatchewan

Figure 4.19: Mechanical penthouses are incorporated as parts of the roof garden

Figure4.20: A clear expression of program form

Figure 4.21: Interior circulation extends out to exterior space – University of Illinois

Circulation and Program

- Clarity of programming the spaces should be expressed in both interior circulation and in exterior form to aid in efficient orientation and navigation *(Figure 4.20)* and the creation of an identity throughout campus.
- Encourage interior circulation that naturally and clearly extends out to exterior open space and/or landmarks that will assist in easy orientation through buildings *(Figure 4.21).*
- Attempts should be made to allow natural light in all offices. When possible, longer floor area should be arranged around courtyards to shelter wind *(Figure 4.22).*
- Atriums should be introduced in larger floor plates for the provision of natural light, visual orientation and seasonal relief *(Figure 4.23).*
- Provide non-specific programmed areas easily accessible from main circulation corridors which encourage interaction, reflection and informal discourse *(Figure 4.24).*
- Circulation should provide flexible/adaptable program space with easy access to mechanical and electrical services.

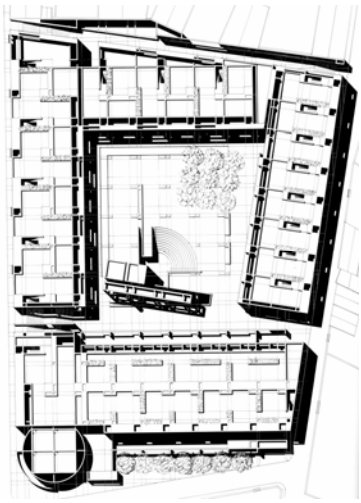


Figure 4.22: Courtyard building with long, narrow floor plates on all sides, provides generous natural light and shelter from wind

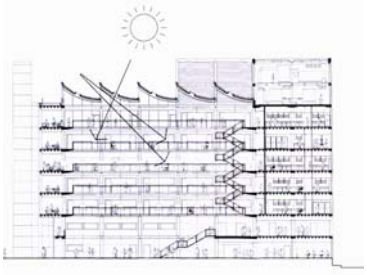


Figure 4.23: Sectional view of an atrium space with controllable shading device – Imperial College, London, UK

Figure 4.24: A non-specific programmed gathering corner off the end of a main circulation route – University of Saskatchewan

Building Systems

- New buildings on campus should be designed to meet, and preferably exceed, environmental standard such as the Model National Energy Code of Canada for Buildings (MNECB), C-2000, ISO 14000, or ASHRAE/IESNA 90.1-1999 (Figure 4.25).

- Operational energy consumption is the most significant source of a building's negative impact on the ecosphere. The budgeting process for new projects should recognize lifecycle costs of building structures and factor reduced future operating costs into the review of initial capital costs.

- Natural ventilation and underfloor distribution systems should be encouraged to promote passive convection cooling and ventilation. Passive systems can minimize or eliminate mechanical systems for heating, cooling and ventilating buildings *(Figure 4.26)*.

- Innovative wastewater treatment, water reduction and sustainable irrigation strategies, including the use of water efficient plumbing fixtures, should be encouraged *(Figure 4.27)*.

- Protocols should be implemented to measure and verify the operation of building systems over their life cycles to provide both optimal performance as well as quantitative results.

- Building systems should be designed to be adaptable to future change in use or possible change in program. Designing for flexibility prolongs the possible useful life of buildings, which in turn reduces waste, conserves resources and reduces environmental impacts of manufacturing and transport.

Figure4.25: Lui Centre at University of British Columbia was required to meet a high standard of energy efficiency

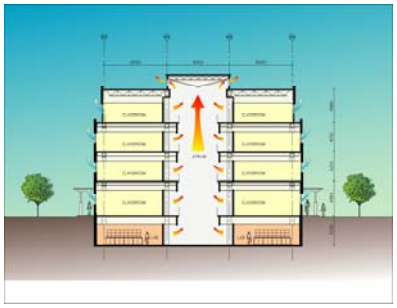


Figure 4.26: Passive convection ventilation system can minimize heating, cooling and ventilation costs

Figure 4.27: Using drought resistant landscaping strategies including the use of grey water and rainwater can reduce the need for irrigation systems

Figure 4.28: Storage of rainwater in retention ponds controls runoff

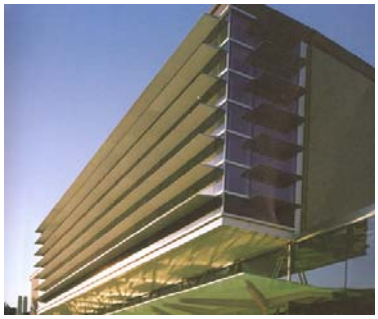


Figure4.29: At York University, the new Computer Science Building has shown substantial reduction in heating, cooling and ventilation loads due to progressive and innovative design

Figure 4.30: Shading louvers on southern exposures reduces heat gain in the summer

Figure 4.31: New buildings should utilize the traditional Greystone material used on many campus buildings

Figure 4.32: Combination of materials including wood, copper and stone – University of Toronto

- Preference should be given to low-impact energy sources (i.e. geothermal heating, solar power, passive heat gain, wind power, etc.). The selection of low impact energy sources is fundamental to reducing negative impacts from a building's energy consumption *(Figure 4.29)*.

- Thermal performance should be increased to reduce operational energy use by using higher performance window and wall assemblies, passive strategies including "double wall" glazing systems or double skin wall assemblies and sunlight shading louvers *(Figure 4.30)*.

- Provide the highest possible Indoor Air Quality throughout buildings by minimizing contamination of indoor air and the penetration of pollutants of outdoor air, as well as the provision of fresh air.

- The use of efficient lighting equipment and the elimination of unnecessary lighting of occupied space by using room and task light switches, occupancy sensors and photocells as energy efficient occupant controls should be encouraged.

Exterior Materials

- New buildings, additions and renovations should contribute to the tradition of architectural excellence of the University campus. Building design should utilize an architectural vocabulary of materials that complement existing building materials and are consistent with the campus precincts (Figure 4.31).

- Materials recommended to be used as much as possible are natural stone, clay brick, wood, copper or zinc *(Figure 4.32)*.

- Clarity of massing and circulation through innovative use and composition of materials should be encouraged to aid in efficient pedestrian orientation and navigation

- Strong colours with "character" should be used sparingly at strategic locations where they may be seen as identifiers to architectural elements, such as entrances and circulation paths to aid in efficient pedestrian orientation and navigation *(Figure 4.33).*

- The use of clear high-efficiency glazing should be encouraged wherever possible. Minimal tinting should be encouraged to promote visual connections between buildings and outdoor areas and have a sense of the interior life and activity within the buildings.

- Reflective glass should be avoided *(Figure 4.35).*

- Mechanical penthouses and service areas should be incorporated as part of the building cladding material.

- Consideration should be given to detailing new buildings for deconstruction or demountability, as well as proper construction waste management.

- Materials should be used as efficiently as possible, including re-using and recycling. Material efficiency and reduction can significantly reduce the waste of new materials.

- Selection of building materials (i.e. stone and aggregate) from local sources or from non-local sources that have similar characteristics to native materials should be encouraged.

- Where possible, exterior material should continue into entrance lobbies to aid in efficient pedestrian orientation and navigation.

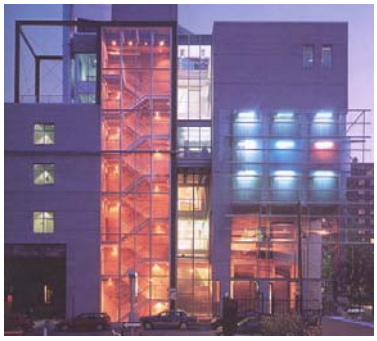


Figure4.33: University of Quebec – use of coloured lighting

Figure 4.34: Use of strong colour in interior

Figure 4.35: Non-reflective, clear glazing with minimal tinting allows for a stronger relationship between interior and exterior areas

Figure 4.36: Clear glazing provides enhanced animation and safety of outdoor areas

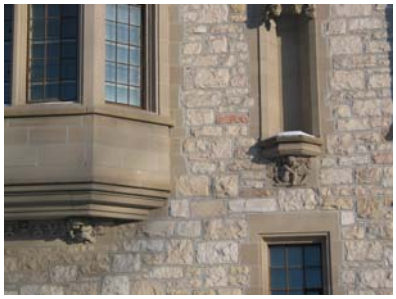


Figure4.37: Campus Core South fieldstone and sandstone

Figure 4.38: Campus Core South fieldstone and tyndal stone

Figure 4.39: Campus Core South fieldstone and no-reflective glass

Figure 4.40: Brick and stone (Campus Core South)

Table 4.1: Materials Charts

MATERIAL	CHARACTERISTICS	RECOMMENDED USES
Natural Stone	An excellent building material. Principle building stones used in North America are limestones, marbles, granites and sandstone. Local stones should be given preference. Stone and brick are the only materials that would be considered in the Campus Core South precinct *(Figures 4.37 – 4.41)*.	Wall cladding, window trimming, landscaped walls, flooring
Wood	Very effective when used with concrete or stone. Specific species should be used for exterior applications.	Limited wall cladding, doors & windows, interior applications, trellis work
Copper/ Zinc	Both materials form a natural patina inherent in the aging process of the material. Minimal maintenance is required.	Wall cladding, roof cladding, fascia & flashing
Prefinished Metal Panel System	Appropriate in emerging research areas within Research South Precinct. Used in conjunction with stone materials. Consistent colours, high durability and ease of maintenance.	Wall cladding
Prefinished Metal Panel Systems	Appropriate in emerging research areas with Research Sough, used in conjunction with stone materials.	

Figure 4.41: Brick and stone (Campus Core South)

5.0 OPEN SPACE SYSTEM

In support of the fundamental principles established for the University of Saskatchewan Campus Master Plan, the campus open space system needs to be viewed as the key structural element of the campus environment. It is this system which provides the links between and among campus buildings; it reinforces linkages with the broader community; it establishes the physical and visual context for buildings on-campus; it facilitates efforts aimed at enhancing the sustainability of the campus; it creates the outdoor gathering places, recreation spaces and pedestrian connections so critical to a livable campus; and it is a key component of the overall campus image as perceived by those from within and beyond the University community.

Figure5.1: *The open space system should support community identify and gatherings – University of Saskatchewan*

5.1 PRIMARY COMPONENTS OF THE OPEN SPACE SYSTEM

In fulfilling these critical roles, the campus open space system is seen to consist of the following primary components:

- Campus Entrances
- Streetscapes
- Pedestrian/Cyclist Routes
- Main Building Entrances
- Service/Utility Areas
- Open Space Focal Points, which include: the Bowl and proposed Centennial Quad, ceremonial/symbolic spaces, courtyards and plazas, feature landscapes, sports fields and the landscape "matrix" of the campus (includes all other open spaces that establish the context, settings and images for campus facilities and development)

Examples of each of these components may be found in one or more locations within the University campus today. Based on the Master Plan options presented in this report, the opportunity exists to enhance these and create additional open spaces with the aim of supporting the multifaceted role of the campus open space system.

Figure 5.2: *Open spaces are used as placed of recreation and learning*

Figure5.3: *Open space Network (conceptual example)*

5.2 PRINCIPLES/GUIDELINES FOR THE OPEN SPACE SYSTEM PLAN

A series of principles and guidelines for open space design and development are proposed below. These include principles and guidelines that are intended to apply throughout the campus, as well as guidelines for specific components of the proposed open space system. Overlain on these component-specific guidelines are a series of guidelines relating to the various campus precincts identified in the preliminary Master Plan options.

Campus-Wide Principles and Guidelines

1. **Open space development should create an appropriate mix of formal and informal spaces.**

- The campus landscape(s) should reflect and be compatible with the prairie climate, geography and people, and they should include a celebration and interpretation of settlement of the prairies and the cult of the tree, the role of horticultural and native species on the prairie, thematic gardens as oases on the prairie, diversity of landscape character on the prairie and University achievements.
- Except in designated open space focal points and along key linkages, landscaping should be informal rather than formal.

2. **Open space development should assist in visually unifying different functional areas of the campus.**

- The use of land forming, configuration of planting (massing) and species selection contributes to such visual unification.
- With respect to species selection, the use of Scots Pine and Elm varieties as "theme trees" for the campus should be continued and reinforced to convey an overall image of the campus from a distance, as well as providing definition, continuity and an element of scale appropriate to campus buildings and linkages.
- Extension of the river valley edge setting into the campus and appropriate establishment of a "sense of prairie" can reinforce the rich natural and cultural heritage of the campus.

3. **Special attention should be paid to landscape appearance and year-round functionality, including during winter months.**

- Consideration should be given to incorporating a number and variety of coniferous and deciduous

species that have interesting form, texture and colour in trunks and branches. This reflects a continuation of current practices.

- Landscape design should consider opportunities to increase pedestrian comfort through reduced wind velocity, controlled snow drifting and reduced solar heat reflection.
- Space should be provided in landscaped areas for required snow storage.
- In keeping with the importance of the river-edge prairie context of the campus, design consideration should be given to the re-establishment of a greater diversity of groundcover varieties.

4. Open space development should serve to integrate buildings and other structural elements with their site and with one another.

Figure 5.4: *In some areas of the campus the landscape should be the primary/focal point*

- The development of landscape structures that repeat architectural vernacular and/or materials enhances integration among buildings and site.

5. In designated open-space focal points, landscape development should be considered the key and dominant element.

6. In support of enhanced campus sustainability, Xeriscape(TM) principles should be applied in open space development to the fullest extent possible. Xeriscaping incorporates

- *professional planning and design* that addresses functional, technical and aesthetic factors in a comprehensive, meaningful manner,
- *soil analysis* to ensure sufficient soil organics to maximize water penetration for plant use,
- *efficient irrigation* to ensure that water is applied only when needed and only to the extent that the plants can use the water,
- *practical turf areas* confined to key traffic areas to lower water usage and to reduce turf management,
- *appropriate plant selection* to optimize the use of drought resistant, hardy plants with low water requirements,
- *use of organic mulches* to provide moisture retention, reduce weed growth, prevent erosion and provide visual interest, and
- *appropriate maintenance* techniques and approaches to reduce overall landscape management requirements related to plant grouping and growth rates, mowing, weed growth and fertilization.

7. **Campus open space should be designed and developed to promote personal safety and provide a sense of security.**

- The more people using and seen to be using campus open spaces, especially at night, the safer they will feel.
- A clear spatial structure on campus, with a legible hierarchy of identified routes and spaces, will provide people with the orientation and clarity necessary to move through the campus with comfort.
- Appropriate lighting and well designed planting (e.g. separation of high shrubs from pedestrian/cyclist routes and building entrances) are essential for maintaining visibility in open spaces.

Figure 5.5: *Tree-lined campus paths reinforce orientation and pedestrian comfort*

8. **The campus open space system should be designed to provide universal accessibility to all parts of the campus where people may be expected to study, work or live. In those portions of the campus not used for such purposes (e.g. along and near the river), open space design should provide universal accessibility to the extent feasible.**

9. **A wayfinding and signage strategy will be developed to enhance campus legibility and circulation.**

- Signage should reinforce connections between various components of the open space system.
- Campus site signs should clearly direct visitors to their primary destination.
- A hierarchy of signage, based on scale, should be devised to impart the appropriate message(s).
- Signage should be distinctive to unify the various campus precincts, but can vary in specific details among the different precincts.

10. **Campus open spaces should include a full range of complementary site furnishings.**

- Site lighting, benches, trash units/ash urns, bicycle racks and site signage are the key site furniture elements.
- Site furniture should be distinctive, vandal resistant and easily maintained.
- Site furniture should be arranged as part of and integrated with the overall landscape composition.

- Specific site furniture elements can vary among the campus precincts to reinforce landscape characteristics.

5.3 COMPONENT-SPECIFIC GUIDELINES

The following guidelines apply to the design and development of the primary components of the campus open space system, regardless of their location and the campus precinct in which they may be situated.

Campus Entrances

- Campus entrances should be designed to provide a clear and legible identification of place and arrival.

- Repetition of landscape structures is useful in strengthening a sense of entry to the campus.

- Scale of development at entrances should be appropriate to their function (i.e. vehicle and/or pedestrian entrances) and importance.

- Campus entrances should express a strong landscape identity but need not be the same at each entrance.

- It is important to clearly identify the entrance to the Royal University Hospital as a distinct precinct entry rather than an entrance to the main campus.

Streetscapes

- Streetscapes refer to both those streets along the campus periphery and to primary vehicle routes within the campus itself.

- College Drive median development should be extended east to Preston Avenue.

- A vernacular similar to the College Drive Median should be considered for the Preston Avenue median from 14th Street to the CP Rail line (and beyond, to the Circle Drive overpass). It should provide basic street tree planting (with possible variations in tree spacing). Ground surface can vary to be complementary to adjacent development (e.g. ground cover species in lieu of unit paving and concrete in areas adjacent to agricultural lands).

- Medians should be irrigated, as necessary, to ensure health and vigour of plant material.

- Street tree planting program should be undertaken along the north side of 14th Street.

- Wider sidewalks should be considered in association with supplementary street tree planting along the east side of Cumberland Avenue.

- Increased definition, continuity and scale should be provided by the planting of landmark tree groupings along Wiggins Avenue and Campus Drive, and to selectively supplement and reinforce existing groupings of Scots Pine and Elm theme trees.

- The Campus Drive vernacular north, to and within Innovation Place, should be extended along the new north-south connector (Resources Row).

- The proposed Campus Drive East (see Option 2 extension of re-aligned 108th Street), Scholars Walk and Northgate Boulevard should be developed as formal, tree-lined routes.

- The proposed western connector between Campus Drive and Innovation Place should be developed to provide a streetscape transition from the informality along Campus Drive to the formality of Innovation Boulevard.

- The under-storey/ground plane along Innovation Boulevard should be developed to reinforce its role as the ceremonial entry to Innovation Place.

- The urban agricultural character of Downey Road should be extended.

- Artwork/sculptures should be installed at key road intersections to highlight/provide visual interest and diversity.

- Lighting levels at road intersections and at other key locations should be upgraded (e.g. lay-by's, drop-offs near buildings).

- Adoption of new campus streetlight fixtures should be considered (to provide enhanced lighting levels and possible energy efficiencies and to address the aesthetic issue).

Pedestrian/Cyclist Routes

- Pedestrian and cyclist routes should be located and aligned to discourage all but minor short-cutting. As a general rule-of-thumb, short-cutting will occur if destination exceeds 35 degrees off the walk alignment.

- A variety of pathway widths that reflect levels of use (balanced with the need for emergency vehicle access routes) should be considered. Widths as narrow

as 1.5m – the minimum to accommodate snow removal equipment – may be considered, but the likelihood of potential conflicts between pedestrians and cyclists may dictate a greater minimum width. Longitudinal grades should not exceed 5% without ramping, rails or other mitigating measures to meet accessibility requirements.

- No steps should be built along a route unless a convenient alternative route without steps is also provided.

- Pathway geometries/alignments should reflect the landscape context (i.e. formal vs. informal).

- Rest areas should be provided at appropriate locations along lengthy routes.

- Bicycle parking should be provided at key locations. Consider large, secure, outdoor bicycle parking "garages" at selected locations; bicycle parking in convenient locations as close as possible to roads and vehicle parking areas; bicycle parking near main building entrances; or some combination of the above.

- Night lighting should be incorporated along pedestrian/cyclist routes to provide personal safety and a perception of safety.

- Consider providing a variety of surface textures and materials appropriate to site, function and landscape context.

- If grade-separated crossings of major roads by pedestrian/cyclist routes is not an option, crossings should be located near road intersections. Otherwise, a marked and/or raised pedestrian road crossing is required.

Main Building Entrances

The key role of open space in the vicinity of main building entrances is to establish a strong sense of entry to the buildings and to help communicate, clearly and legibly, that these are the intended places of entry to the buildings.

Design considerations, to help reinforce this role, include

- possible installation of sculpture/placemaker elements,

- provision of seating,

- provision of bicycle racks,

- use of planters or portable containers/pots with annuals,

- upgraded surface texture/materials, and

- open space in the vicinity of main building entrances with higher levels of site lighting.

Service/Utility Areas

- Open space design and development should provide for the functional requirements of service/utility areas.

- Strong landscape buffers should be developed and maintained at the edges of large "temporary" surface parking lots that will remain until they are re-developed. Appropriate combinations of trees, shrubs, fencing and/or land forming can be used to provide this kind of buffer treatment. The screening must be effective at eye level as well as in a general sense. Snow removal/storage requirements should be accommodated in buffer design.

- Landscape buffers should also be employed to screen out other types of unsightly service areas (e.g. loading docks).

- Permanent surface parking should be

    - developed with landscaped medians/bulbs to provide for efficient use and circulation and to break up the mass of non-green space in the parking areas,
    - complete with appropriate lighting to provide personal safety and the perception of safety to users,
    - visually softened/screened at the edges with land forming, planting and/or fencing,
    - designed with the assumption that snow will be removed from, not stored on site, and
    - surfaced with a permeable material to reduce storm-water run-off.

5.4 OPEN SPACE FOCAL POINTS

The Bowl

The Bowl, today, represents the one open space on the University of Saskatchewan campus which exhibits characteristics, to a greater or lesser degree, of all types of open space focal points: it serves as a symbol of the University of Saskatchewan; it is a venue for a variety of ceremonial functions and intense casual use; it is probably the most commonly used gathering place on campus; and it contains the Nobel Laureate Plaza.

Significant opportunity exists, however, for the Bowl to serve as the pre-eminent open space on campus more effectively and for landscape development in the Bowl to more appropriately reflect this status. Design and development initiatives should focus on

- strengthening the internal geometry of place and filling the voids;
- adding internal focal points within the Bowl;
- strengthening entry and exit points; and
- highlighting the ceremonial qualities of the space.

Ceremonial/Symbolic Spaces

Aside from the Bowl, there are few clear examples of ceremonial or symbolic open spaces on the campus. Indeed, the Memorial Gates represent the only other major example of such a space that can truly be considered as a key placemaking open space with clear symbolic significance or a recognized ceremonial role.

The relative scarcity of ceremonial or symbolic spaces on campus, however, serves only to emphasize the importance of their protection and enhancement. While it is not anticipated that there will ever be a large number of such spaces on campus, the passage of time, events, people and their achievements may well lead to the creation or evolution of others. Aside from recognizing the possibility of same, however, it is impossible to set out design guidelines for these spaces without understanding the nature of their significance.

Courtyards and Plazas

Courtyards and plazas are recognized as key gathering areas, complete with a wide range of amenities, including any or all of the following:

- seating (formal and/or casual)
- a complex planting program, hard and soft ground surfaces and visual diversity
- sculptural elements
- water features/fountains (which can serve as sculptural elements in winter);
- a sense of whimsy

Given their locations, their form and their situations relative to adjacent buildings, courtyards and plazas can be developed to extend the season of outdoor enjoyment, shelter from cold winds, act as sun traps, or serve as quiet places of retreat.

Feature Landscapes

Feature landscapes are those open space areas of campus that, whether natural or developed, provide casual environments for education, entertainment, relaxation and enlightenment. They are distinctive and primarily soft landscapes with broad appeal. Existing examples on campus include Devil's Dip near the river, Garden Park and Orchard Park in Innovation Place and the pond area near the Little Stone School along College Drive.

Opportunities for additional feature landscapes could relate to the development of informal arboretum-like areas in association with specific buildings or complexes, engineered wetlands, which could also provide a storm water management function, naturalized prairie meadows, or 'demonstration' shelterbelts.

Sports Fields

The sports fields, considered components of the campus open space system, include only those fields not used exclusively for intercollegiate, athletic performance and/or instructional functions. In other words, they include those fields which are used, at least in part, for University community intramural and other recreational purposes and exclude Griffiths Stadium and the 'field throws area' adjacent to the Saskatoon Fieldhouse.

Most of these fields are located in the Athletic Precinct of the campus. Regardless of their location, design and development of sports fields should consider the following guidelines:

- Fields should be developed to full regulation size to accommodate adult recreational play.

- Irrigation development and level of turf management should be based on levels of use, the need to maintain turf integrity and the need to protect user safety. Based on a previous review of athletic field use, the relationship between field supply and field play demand suggests that demand for field time is very intense and level of development/management will need to be accordingly high.

- Demand levels also suggest that night lighting of at least some fields is required to provide sufficient playing time during peak use periods.

5.5 CAMPUS AREA PRINCIPLES AND GUIDELINES

McEown Park Precinct

The predominance of residential uses in this precinct suggests a residential character of the open space within an institutional setting. In addition to the overall notion of a residential character is the need to make the area both functional and pleasant for its residents (which will include single students, couples and families with young children). Within this residential precinct, however, the proposed Student Community Centre is seen as the heart of the community. Important open space design considerations therefore include the following:

Figure 5.6: *Sports Fields – University of Saskatchewan*

- Appropriate pedestrian/cycle routes should provide convenient connections to the core campus, to the Student Community Centre and to Cumberland Avenue, with linkages to Brunskill School and the 8th Street shopping area.
- Children's play area(s) should be provided at appropriate location(s).
- Provision of vegetable garden plots should be considered.
- Outdoor spaces appropriate to and pleasant for gathering/socializing in, and for informal recreation/play should be provided.
- The provision of sufficient private/communal open space for the sake of surface parking should not be sacrificed. If necessary, alternative parking scenarios should be provided to ensure an appropriate balance between green open space and surface parking.
- The landscape character of the McEown Park Precinct should be derived from the development of open spaces in a range of scales and a variety of planting approaches within a unified structure.
- Effective night lighting should be provided without being obtrusive (i.e. respect the residential context).

Athletic Precinct

- Where feasible, planting should occur near edges of sports fields to mitigate effects of wind and sun and to better define spaces.
- Site furnishings, such as players' benches, trash units, possibly temporary spectator bleachers should be provided as required and appropriate.
- Night lighting of recreational sports fields is required, based on previously documented field time demands.
- Irrigation development and turf management to maintain field playability will likely be more important in this precinct than in any others,
- Landscape development should complement the proposed arena and soften the visual impact of the proposed parking structure.

Core Campus (North and South) and Health Sciences Precincts

The open space character of the Core Campus South and Health Sciences Precincts has been firmly established in the last five decades as an informal, though intensively developed, landscape of high quality. The intent here is to reinforce the character that has already been established. In the Core Campus North Precinct. Development to date has been less intense but the generally informal landscape character has evolved in a similar manner. In this precinct, the recommended intent is to effectively extend the landscape character of the Core Campus South Precinct into this area as development intensifies.

As buildings are renovated, expanded, replaced and developed within these precincts, it is proposed that this overall informal character be retained. The development and re-development process will, however, provide opportunity to further strengthen the quality of open space. The following guidelines are recommended to help in such strengthening of landscape character:

- upgrade key areas including building entrances
- develop courtyard/plaza areas in a variety of settings
- In the Health Sciences Precinct
    - develop clearly defined main entrance(s)
    - in addition to positive overall landscape impression, focus on provision of healing/restorative landscape settings in selected locations
- consider roof planting on the top level of parking structures;
- respect the river valley context

Farmstead and Research South Precincts

- The farmyard, shelterbelt edges and a small town character should be retained and reinforced.
- Research facilities should provide a landscape image(s) with which rural visitors will be comfortable and to which they can relate.
- Possible development of dugout(s) at appropriate locations should be considered.

Innovation Place and Research North Precincts

- Agricultural image of Downey Road should be extended.
- Shelterbelt/visual softening along CP Rail line and, as appropriate, along Preston Avenue should be provided.
- Demonstration garden(s) and village park(s) should be developed as standard components of the landscape matrix.
- Should integrate with the River Valley Precinct and the corridor to the west.
- The impact of site lighting on views of the area from the west bank of the South Saskatchewan River should be minimized.

River Valley Precinct

- The dry upland prairie character of this precinct should be emphasized and respected.
- The coulee settings at Devil's Dip and Ski Jump Hill should be highlighted and enhanced.
- Should cooperate with Meewasin Valley Authority in monitoring landscape health and managing landscape restoration/rejuvenation programs.
- Additional stopping/rest areas along the top of the river valley, particularly towards the north end adjacent to the Research North Precinct should be provided.
- The impact of site lighting on views from the South Saskatchewan River should be minimized.

6.0 A SUSTAINABLE CAMPUS

6.1 INTRODUCTION

The notion of sustainability is helpful as an integrating and holistic concept that serves to tie together environment, economy and social systems (Figure 6.1). This is referred to as a "triple bottom line" that balances three synergistic principles. Sustainable development will maintain ecological integrity, ensure economic prosperity by looking at the true costs of activities and provide for social well being both in our backyard and in other parts of the world, all without compromising the ability of future generations to meet their own needs. Indeed, the World Commission on the Environment and Development defines sustainable practices as those that "meet the needs of present generations without compromising the ability of future generations to meet their own needs."

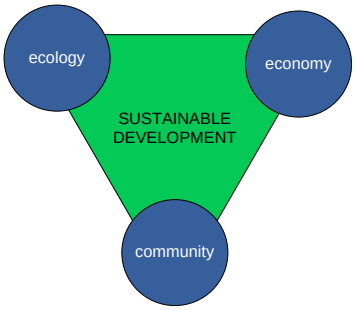


***Figure 6.1**: Sustainable development forges linkage between environment, economy and social systems*

The University of Saskatchewan has made a commitment to pursuing a sustainable vision. In 1990, the University was a signatory to the Talloires Declaration, a pledge of university presidents around the world to a sustainable future. The Declaration recognizes that universities can play a unique leadership role in the education, research, policy formation and information exchange that will make international sustainable development possible.

As a document primarily concerning the physical development of the campus, the University of Saskatchewan Master Plan focuses on sustainability issues related to land use, landscape design and architectural design. In combination with other initiatives and studies and programs, the Master Plan will help form an environmental policy that will assist in guiding site re-development and building design. Of course, the physical form of the campus and its spaces is not enough to ensure sustainability – sustainability on campus will require a matrix of managerial, operational, institutional, research and pedagogical practices and policies that aim for a sustainable future.

6.2 CAPITAL PROJECT ADMINISTRATION

Figure 6.2: *Seattle University has implemented a Greed Building Policy, ensuring that all new construction, such as its recently completed Student Centre, meet LEED certification requirements*

Life Cycle Costing

- The design of green buildings can make great strides toward a more sustainable campus, while reducing the operating costs of the University. Some up-front costs for sustainable technologies may be greater than in traditional construction, but the life-cycle cost for these technologies will result in a net cost savings for the University. The budgeting process for new projects should recognize lifecycle costs of building structures and factor reduced future operating costs into the review of initial capital costs.

Environmental Assessment Protocols

- The adoption of assessment protocols by the University, such as the Leadership in Energy and Environmental Design (LEED) Rating System devised by the US Green Building Council (USGBC), which provides third-party certification of buildings as "green buildings" is an important step (Figure 6.2). Rating systems have been developed for both new and existing buildings. The LEED system is based on a set of requirements that change along with the development of better environmental technologies. The LEED system is currently being reviewed by the Sustainable Building Canada Committee (SBCC), with the likelihood that this will become the North American Standard. The University of Saskatchewan has taken a leadership role by pursuing LEED certification for new buildings. Using this third-party certification system will ensure that future development on campus will be environmentally-friendly, even with changes in technology and building practices. New buildings on campus should be designed to meet, and preferably exceed, environmental standards such as LEED, the Model National Energy Code of Canada for Buildings (MNECB), C-2000, ISO 14000 and ASHRAE/IESNA 90.1-1999. Once a building is completed, protocols should be implemented to measure and verify the operation of building systems over their life cycles to provide both optimal performance as well as quantitative results.

6.3 ENERGY

The energy required for the generation of heat and electricity used on campus derives primarily from the combustion of non-renewable fossil fuels, such as coal, oil and natural gas. The consumption of these fossil fuels has been cited as a factor in a wide range of environmental impacts, including air pollution, resource depletion, oil spills and international climate change. Climate change can result in sea level rise, increased air pollution, decreased fish stocks, reduced crop yields and an increase in the frequency and severity of extreme weather events.

Land Use

- As noted in the section on transportation, shifting the focus of the transportation modal split toward more efficient means of transportation, such as walking, cycling and public transportation, helps to reduce our reliance on fossil fuels for energy.
- Organizing land uses in a compact, pedestrian-oriented campus setting (i.e. placing the majority of future academic development within a 10-minute walking radius) will help to encourage pedestrian/cyclist movement on campus and will help to protect environmentally sensitive areas from development. The Master Plan aims to maintain a pedestrian-oriented environment, linking buildings internally by walkways and paths, as well as strengthening pedestrian links between the north and south areas of the campus and also between the river valley and the core campus. Providing a compact form of development has the added benefit of making public transportation more affordable and efficient.
- Minimizing the distance between buildings also has the effect of increasing the efficiency of the steam heating system employed throughout the campus. This can help to reduce the University's reliance on fossil fuels for the generation of heat.
- Renewable sources of energy should be investigated, including solar, wind, geothermal, biomass, hydro and biogas strategies. Biomass and biogas strategies may be appropriate for the elimination of some of the manure waste-streams currently generated by the University's agricultural research and practices, while at the same time enabling energy generation and the production of usable compost for landscaping or agricultural purposes.
- The development of the campus needs to be integrated into the fabric and structure of the surrounding city to create effective corridors for wildlife and alternative modes of transportation. Working with the City of Saskatoon to develop dedicated trails and bike lanes on roads leading to the campus will help to encourage a network of natural and pedestrian/cyclist connections throughout the area.

Figure 6.3: *The use of full-cup for lighting in outdoor environments can help to reduce light pollution by providing light only to where it is needed.*

Figure 6.4: *Special design consideration for transit shelters can help to improve the experience of taking public transit and advertise its presence – Hanover, Germany*

Landscape Design

- By providing a safe, comfortable and beautiful pedestrian environment, the landscape design of the campus can encourage cycling & walking and help to achieve a more energy-efficient future.

- Attention should be paid to the microclimate of outdoor environments and should aim toward the reduction of the urban heat island effect, which can increase energy consumption used for artificial ventilation and cooling.

- Reduction of urban heat island effect can be achieved by providing shade on impervious landscape surfaces, including parking lots, walkways, plazas, etc. whenever possible.

- Surface parking lots should utilize porous pavement materials such as gravel in preference to asphalt whenever possible to allow for run-off infiltration and minimal solar heat absorption.

- High-albedo (i.e. reflective) and light-coloured surfaces including pavement, roofing and building cladding should be encouraged to minimize heat absorption by reflecting the sun's radiation. These efforts can be achieved in conjunction with the preservation and enhancement of campus green space by supporting tree-planting programs and gardens. Trees and green spaces act as buffers against noise, provide shade and wildlife habitats, protect against erosion, reduce city temperatures, reduce building energy consumption, add natural beauty and act as natural control against the greenhouse effect.

- Energy efficient outdoor light fixtures should be used whenever possible to reduce energy consumption while maintaining an adequate level of illumination for safety and comfort. Site lighting criteria should be developed to maintain these safe light levels while ensuring energy efficiency. Lighting criteria should also address light pollution reduction to avoid the inefficient lighting of off-site areas and night sky pollution. Technologies to reduce light pollution include full cutoff luminaries, low-reflectance surfaces and low-angle spotlights (Figure 6.3).

- Public transportation should be encouraged by working with City Transit to develop safe and comfortable bus shelters and waiting areas. These waiting areas can be landscaped to provide for wind-shelter and appropriate micro-climate environments and the bus shelters themselves should be given special architectural treatment to promote public transit on campus (Figure 6.4).

Architectural Design

- A high minimum standard for energy performance should be set that all new buildings on campus will meet or exceed. Building envelopes and building systems should be designed to maximize energy performance. Technologies to achieve energy efficient architectural design are numerous and varied in their application and range from more efficient lighting and HVAC systems to improved building envelope systems.

- A primary strategy to achieve energy efficiency is to use natural processes, such as daylight and air pressure differences to light and ventilate buildings.

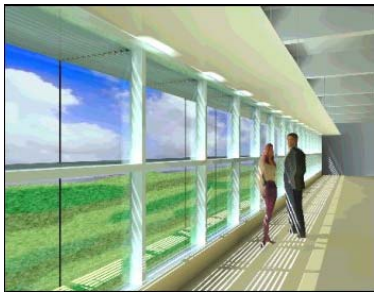


Figure 6.5: *Light shelves can be used to bounce light further into the interior of the building. Using daylight to provide illumination is both environmentally friendly and cheep – BC Gas Operations Centre, Surrey, BC*

Natural Lighting

- Enhanced use of natural day lighting should be encouraged in the design and renovation of all campus buildings. Strategies include building orientation, shallow floor plates, light-wells, atriums, heliostats, light shelves, increased building perimeter, exterior and interior shading devices, high performance glazing and photo-integrated light sensors (Figure 6.5).

Light-Sensors

- Light and motion sensors should be used to reduce use of lighting fixtures and levels where there is sufficient daylight or where space is infrequently used.

Solar Energy

- The sun's energy can also be harnessed for passive heating of the building. Passive solar heating makes use of building components to collect, store and distribute solar heat gains and thus reduce the demand for space heating. Through proper window selection, orientation and sizing, the cost of space heating can be significantly reduced. Hot water radiant heating systems can be supplemented through solar energy, reducing energy demands and operating costs. Excessive solar gains can be mitigated by shading devices and extensive plantings to block direct illumination (Figure 6.6).

Figure 6.6: *Sun louvers can help to reduce large solar gains, cooling the interior of the building – Computer Technology Building, Austria*

Energy-Efficient Fixtures

- Where mechanical ventilation or artificial lighting is required, energy-efficient fixtures and technologies should be used whenever possible. Task lighting, operable windows and in-floor ventilation diffusers, can help to ensure that energy is directed to where it is needed, while at the same time providing for a more comfortable indoor environment.

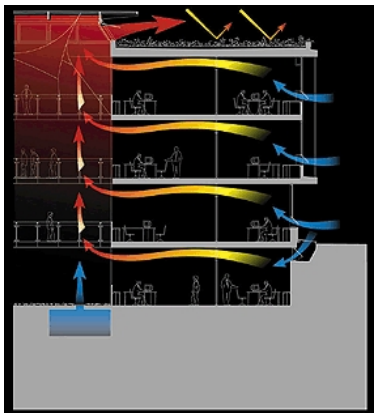


Figure 6.7: *Designing the building to take advantage of cross-ventilation can help to improve energy efficiency and cut operating costs*

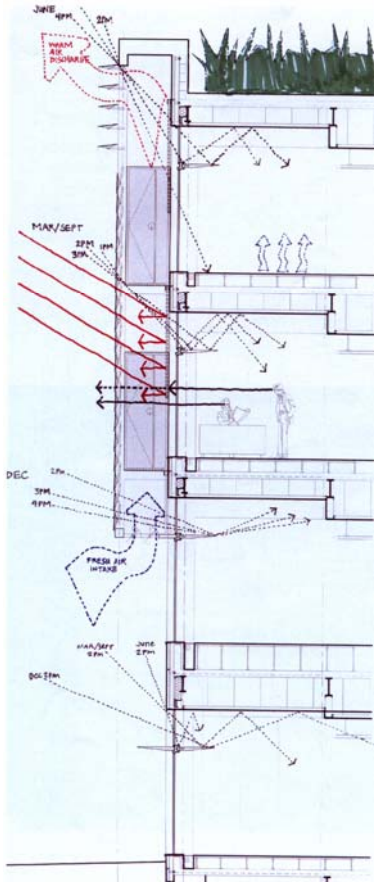


Figure 6.8: *Double skin wall assemblies, sunlight shading louvers and light shelves can help to achieve energy efficiency through natural day lighting and shading, as well as increased thermal performance*

Natural Ventilation

- Natural ventilation strategies generally use temperature and pressure differences in the atmosphere to achieve cross-ventilation of spaces. The aim is to have an airtight building envelope while controlling outdoor air supply to provide required ventilation. Features of naturally ventilated buildings include operable windows, exhaust vents located high in the building with intakes located low in the building and open building plans to facilitate air movement. Designs can incorporate atria, internal stairwells, ventilation chimneys and underfloor distribution systems to take advantage of passive convection cooling and ventilation (Figure 6.7). Indoor air quality should be kept at a high standard, minimizing the contamination of indoor air and the penetration of pollutants of outdoor air, as well as providing a steady supply of fresh air.

Enhanced Thermal Performance

- Increasing the thermal performance of both new and existing buildings should be implemented in order to reduce operational energy use. Possible strategies to achieve this include using higher performance window and wall assemblies, “double wall” glazing systems or double skin wall assemblies and sunlight shading louvers (Figure 6.8).

Light-Coloured Materials

- Light-coloured and high-albedo materials should be utilized in the design of buildings to reflect the sun’s energy rather than absorb and re-radiate it. This will reduce urban heat island effect.

Green Roofs

- Vegetated roofing systems will help to cool the atmosphere through plant evapotranspiration. Green roofing systems should be encouraged for all new building projects and a demonstration project should be initiated in the immediate future.

Cycling-Friendly Facilities

- To encourage cycling as a means of non-polluting, energy-efficient transportation, end-of-trip cycling facilities should be incorporated into the architecture and site planning of buildings. Secure bicycle lock-up facilities should be located near building entrances. The design of new buildings should include showers and locker rooms as end-of-trip facilities. Currently, cycling may be a viable option for students, staff and faculty of the University, but deemed unreasonable due to the lack of amenities to make one feel comfortable doing so.

6.4 WATER

With its picturesque location beside the South Saskatchewan River, the University of Saskatchewan has an important responsibility for stewardship of the watercourse and for minimizing the impacts of water consumption and wastewater streams.

Figure 6.9: *Vegetated roofing systems can help to reduce and filter peak storm-water loads, remove airborne particles and carbon dioxide from the air, guard against urban heat island effect and reduce the costs associated with heating and cooling the building – Kalke Village Shopping Centre, Vienna, Austria*

Land Use

- The compact Master Plan helps to minimize the amount of impermeable surface coverage by use of porous paving materials that allow for storm-water to permeate through the soil.

Architectural Design

Green Roofs

- To assist in building cooling and reduce storm-water run-off, vegetated "green" roofing systems should be integrated into building design whenever possible. Green roofs uptake precipitation and release it through evapotranspiration while slowing the discharge of excess water. Cisterns to collect excess storm-water should be considered so that run-off water may be used for irrigation purposes later (Figure 6.9).

Water Conservation

- To reduce the consumption of potable water and save operating costs, high-efficiency washroom fixtures (i.e. low-flush toilets and low-flow shower heads) should be installed wherever possible. Similarly, high-efficiency fixtures decrease the outgoing wastewater flows, resulting in a smaller environmental impact.

Grey-water Recycling

- The grey-water produced by sinks and bathtubs may be reused for irrigation purposes or for sewage conveyance, thereby reducing potable water consumption. Alternately, a grey-water heat recovery unit may be used to preheat clean water by using the heat from outgoing grey-water by means of a heat exchanger. Preheating the clean water supply to the water heater can help to reduce the energy costs associated with heating water. Grey-water reuse and heat recovery systems should be considered in new buildings on campus.

Figure 6.10: *Stormwater management can help to increase soil infiltration of storm-water, treat and reduce peak flows and add visual interest and variety to the landscape*

Figure 6.11: *Cisterns can collect and store rainwater from rooftops for later use in irrigating landscapes and crops – Chesapeake Bay Foundation, Annapolis Maryland*

Landscape Design

Porous Paving Materials

- To reduce the volume and velocity of storm-water run-off, large impervious surfaces should be avoided. The University of Saskatchewan currently uses gravel paving in most of its surface parking lots. This practice is recommended to continue. In other areas, porous paving materials may be used to allow for ground infiltration of storm-water.

Storm-water Retention and Reuse

- Drainage swales, filter strips, storm-water management ponds and constructed wetlands should be developed to handle and treat storm-water volumes, thereby enabling groundwater recharge and reduction of peak run-off volumes (reducing the potential for erosion) (Figure 6.10). Water should be collected from roof downspouts and channeled to storm-water retention ponds and cisterns for use as a source of irrigation.

Planting

- An extensive and primarily drought-resistant planting program should be implemented throughout the University, not simply to beautify the campus, but also to help achieve storm-water uptake.

Grey-water

- The volume of water used for landscaping irrigation purposes should be reduced by capturing grey-water and reusing it where possible (Figure 6.11).

Xeriscape™

- As noted in the landscaping guidelines, Xeriscape™ principles should be applied in open space development to the widest extent possible. These principles can help to reduce the water usage associated with maintaining the open space system. Furthermore, native plant species should be used whenever appropriate, not only to maintain biodiversity and ecosystem integrity and to guard against invasive species, but also to reduce water consumption.

6.5 SOLID WASTES

To reduce solid waste streams, a four-pronged strategy of reduction, recycling, reuse and rethinking should be implemented. Reduction of materials used at the University will result in smaller waste streams, some of which can be diverted from landfill by recycling and reuse. Rethinking involves a continued institutional commitment to solid waste reduction, a critical reassessment of current practices regarding waste generation and education to inform people about solid waste reduction.

Figure 6.12: *Biogas can be generated from decomposing agricultural wastes and used for the generation of heat and electricity. Biogas is a natural, renewable resource that has the added benefit of diverting wastes from the landfill – Biogas Collection Facility, Sweden*

Recycling

- In 1999/2000 campus-wide paper and cardboard recycling efforts diverted approximately 943 metric tons of waste from landfill sites. Further improvements to these campus initiatives include the creation of designated recycling depots and bins located throughout the campus, particularly at key waste generation sites (photocopiers, residences, vending machines, cafeterias, etc.). The design of recycling bins should be co-ordinated throughout the campus, ideally with recycling bins integrated with all garbage receptacles.

Composting

- It is possible to divert many food and organic wastes from landfill by composting. The institutional diversion of food and organic landscaping wastes should be considered by the University, with possible partnership with other institutions such as the Correctional Services Facility near the U of S campus, as described in the U of S Sustainability Assessment of February 2002. Otherwise, it may be feasible to provide space for a composting facility on the University grounds.

Agricultural Wastes

- Agricultural wastes from the University's barns, the Veterinary College and VIDO are currently collected and spread over U of S agricultural lands every fall. With less land available for the spreading of manure, overspreading, which could result in contamination of both ground and surface water, is becoming a concern. Composting animal wastes should be considered, with the possible view to the generation of electricity through the burning of methane gases produced by decomposing wastes (Figure 6.12).

Building materials

- In certain situations, it may be appropriate to reuse building materials, thereby extending the life cycle of the existing building stock, conserving resources, reducing waste and reducing environmental impacts as they relate to materials manufacturing and transport. Salvaged materials should also be considered in building design for reduction of resource consumption and landfill diversion. Surplus materials still in good shape may be sent to organizations such as Habitat for Humanity for reuse. Building materials from local sources and sources native to the area should be preferred over sources further afield to reduce transportation requirements and to promote local economic development.

- Whenever possible, building materials from rapidly renewable sources (such as bamboo flooring, wool carpet, strawboard, linoleum flooring and poplar OSB) should be considered in the building design. These rapidly renewable materials help to achieve sustainability by ensuring resources for future generations. In other applications, products such as engineered woods help to conserve resources and reduce construction wastes.

- Building systems should be designed to be adaptable to future change in use or possible change in program. Designing for flexibility prolongs the longest possible useful life of buildings, which in turn reduces waste, conserves resources and reduces the environmental impact of manufacturing and transport.

7.0 TRAFFIC/PARKING ISSUES

7.1 PRESTON AVENUE ACCESS

Preston Avenue is currently a two-lane undivided roadway, with left-turn lanes at the approach to College Drive and 108th Street. To the north it is being realigned to tie into the new Attridge/Circle Drive interchange. The City of Saskatoon has indicated that long-range plans include a four-lane divided cross-section on Preston Avenue. It is understood that the City would like to minimize the number of median openings along Preston Avenue between College Drive and the Attridge interchange.

Currently there are two primary connection points between the University and Preston Avenue, at East Road and Perimeter Road. There is a secondary service road north of College Drive (Farm Lane). There are also two intersections serving Innovation Place immediately north of the University campus, at Innovation Boulevard and Research Drive. The roadway networks for the University and Innovation Place are also connected between North Road and Innovation Boulevard.

The Master Plan reconfigures the spacing of signalized intersections along Preston Avenue to provide better traffic flow. A new major access point at the realigned 108th Street (shifted to the south by approximately 225 metres), provides a divided entry road into the heart of the campus. Northgate Boulevard (Perimeter Road) is connected at the north end of the campus. East Road will eventually be eliminated.

Three all-direction signalized intersections are provided at Research Drive, Northgate Boulevard and at the realigned 108th Street. A non-signalized all-way intersection at Innovation Boulevard would be maintained. This would result in three signalized intersections with spacing of approximately 550 metres (and 800 metres to the intersection at College Drive). The current signalized intersection spacing along College Drive between the River and Preston Avenue is 275 metres, 400 metres, 360 metres, 525 metres and 500 metres moving from west to east. As such, the proposed spacing on Preston Avenue would be significantly better than on College Drive providing a balance between adequate controlled access points to campus while maintaining efficient traffic flow on Preston Avenue.

If potential new development on campus is factored to potential increases in student, faculty and staff population (e.g., full-time equivalent student population from approximately 15,800 to approximately 18,000) the number of trips in and out of the campus will increase. In addition, the University foresees continuing emphasis on community activities on campus. The alternative to Preston Avenue is

making use of one of the two entrances off College Drive, at Wiggins Road to the west and at Campus Drive to the east, both signalized intersections. If access along Preston Avenue was to be excessively restricted, additional traffic would be forced to make use of the internal street system to and from College Drive. This would be contrary to the concept of minimizing traffic within the core campus and keeping traffic to the periphery of the campus. It also means additional emphasis needs to be placed on the internal road system, especially at major intersections such as the newly created intersection of Campus Drive and the extension of 108th Street.

The demand for northward movements is expected to increase compared to the current situation (until the construction of the Attridge interchange, only right-in/right-out movements were allowed at the intersection of Circle Drive and Preston Avenue). This should reduce the traffic volumes proceeding on 108th Street towards Circle Drive and reduce traffic activity along College Drive for people proceeding to the College Drive/Circle Drive intersection for northbound movements. Maintaining a number of all-directional access points on the two sides of the University helps disburse traffic volumes to minimize the creation of congestion points.

Figure7.1: *Road Network (conceptual example)*

7.2 CURRENT CAMPUS PARKING SUPPLY VERSUS DEMAND

The Master Plan recommends the construction of three parking structures on campus. The parkades are to be located next to Griffiths stadium (south garage), east of the Education Building (north garage), and on the east edge of the campus (east garage).

ND LEA examined the impact the various developments recommended in the Master Plan would have on the campus parking supply, assuming a catchment area of 720 m (a 10-minute walk) around each of the potential parkade sites. The total parking spots lost due to development and the total remaining were determined and the required number of spaces for each parkade was estimated.

In the 10-minute walk surrounding the proposed south parkade site, the existing parking supply is 2,147 spaces. Following Master Plan developments such as the proposed arena, the Kinesiology Building, the Student Union Building, expansion of the McEown Park Village, etc., 1,670 existing parking spaces are lost. The total number of spaces remaining within a 10-minute walk is 477. The number of lost spaces is offset by the construction of a new surface lot to be built adjacent to the Saskatoon Field House of 344 spaces. This gives a net loss of 1,330 parking spaces within a 10-minute walk of the Stadium site.

The area surrounding the quad parkade will see the greatest impact to the existing parking supply. Of the existing 2,411 parking spaces in this area, 2,116 will be lost due to developments such as the Researcher Residence and others, leaving 295 spaces.

The estimated catchment area of the east parkade includes 1,863 existing parking spaces. Following development of the Engineering north and south expansions, the Physical Education expansion and others, 1,435 parking spaces will be lost, leaving 428 spaces.

It is important to note that the above paragraphs outline spaces lost relative to each individual parking site. Parking lot overlaps occur in the count of lost spaces for each site. Therefore, the spaces lost, excluding overlaps, are in the order of 1,170, 1,915, and 1,300 for the south, north, and east parkades, respectively. This would suggest that the north parkade should be larger and the south parkade smaller.

7.3 PARKING SUPPLY SCENARIOS

Two scenarios for handling the parking needs of increased student and faculty/staff populations are envisioned. For the purpose of testing scenarios the full-time equivalent enrolment at the University of Saskatchewan was assumed to increase from 15,824 to 18,000 over a ten-year period. It has been assumed that the faculty/staff population, currently 2,327, would also increase proportionately to approximately 2,645. This yields a net increase in the campus population of almost 2,500. The two scenarios are:

Scenario 1: Maintain current on-campus parking supply

There are currently 4,782 parking spaces at the University of Saskatchewan allocated for students and faculty/staff. Another 706 spaces are available to visitors. If the existing parking supply is maintained while the University population grows by approximately 14% over the next ten years, the parking ratio for students and faculty/staff would be lowered from 0.26 to 0.23 spaces per faculty/staff/student. This is equivalent to the western Canadian average, as discussed in Section 4.

Maintaining the current parking supply is an environmentally pro-active scenario and could be achieved by shifting the transportation mode split for students and faculty/staff to have less emphasis on the personal vehicle. Other Canadian universities have accomplished this by instituting a UPASS (universal bus pass) program in which students purchase a discounted yearly bus pass as a part of their tuition fees (This will be discussed further in Section 7.7). Another option to achieve this scenario is to modify existing parking management practices to encourage less parking on campus (i.e., increase parking fees and/or replace some or all reserved parking stalls for faculty/staff with scramble parking).

Scenario 2: Maintain current ratio of 0.26 stalls per faculty/staff/student

With an increase to 18,000 full-time equivalent (FTE) students and 2,645 faculty/staff, the number of parking spaces required on campus would need to increase to 5,368 spaces in order to maintain the current parking rate.

One option to accommodate an increase of close to 600 additional parking spaces is to increase the size of one or more of the proposed parking structures. Another option is the construction of a remote surface parking lot. This will trade off the reduced capital (of over $7,000,000) and operating costs with the cost of operating a shuttle bus service. There is available land for a surface lot north of the campus on the north or south side of the rail line. This would have to be implemented along with a shuttle service to transport users to and from the main campus. This scenario has been

successfully instituted at several campuses across Canada and will be discussed further in Section 7.9.

7.4 OTHER UNIVERSITIES

A survey of several Canadian universities was conducted as a part of the August 2000 parking study completed by ND LEA. The universities surveyed were:

- University of British Columbia
- Simon Fraser University
- University of Alberta
- University of Calgary
- University of Regina
- University of Manitoba
- University of Waterloo
- Lakehead University

Additional eastern universities were contacted as part of the Master Plan study, including:

- University of Guelph
- McMaster University
- Queen's University

The parking ratio of total number of spaces per faculty/staff/student was calculated for each university. The results are outlined in the following table.

Table 7.1: Parking Ratios at other Universities

Campus	Stalls per Faculty/Staff/Student
University of British Columbia	0.22
Simon Fraser University	0.16
University of Alberta	0.20
University of Calgary	0.32
University of Regina	0.25
University of Saskatchewan	*0.26*
University of Manitoba	0.20
Western Canadian Average	***0.23***
Lakehead University	0.33
University of Waterloo	0.22
University of Guelph	0.32
McMaster University	0.20
Queen's University	0.11
Eastern Canadian Average	***0.17***
Canadian Average	***0.23***

The range of parking supply ratios is 0.11 to 0.33. The parking ratio or number of spaces per faculty/staff/student at the University of Saskatchewan is 0.26 – higher than the western Canadian and national averages of those campuses examined. This is in part reflective of the number of students from rural Saskatchewan who have a car available to be able to return home on weekends.

7.5 PARKING FUNDING OPTIONS

The cost of constructing new parking is variable and is dependent on the nature of the parking, amenities provided, efficiency of the lot layout, etc. Surface parking can cost anywhere from $1,500 to $2,000 per space (with the upper limit including hard surfacing, electrical plug-ins, high level of lighting, perimeter fencing, etc). A single level parking deck can be in the order of $9,000 – $11,000 per space, above ground parking structure in the order of $12,000 - $14,000 per space, and underground parking in the order of $18,000 – $20,000. Again, these upper and lower bands can vary depending on efficiency, materials, ventilation requirements, water problems, etc.

Parking can either be considered a necessary requirement to satisfy the needs of an adjacent facility (e.g., constructing a parking facility in order to make an office building leaseable by providing parking to the tenants) or a service that should at a minimum pay for itself, and possibly generate net revenue for the owner.

Parking rates at the University in 2000 ranged from $12.90 to $16.80 per month. These rates make it financially difficult to construct new parking if the intent is to recover the cost and pay for ongoing operations and maintenance. The existing parking management system in which reserved parking is provided also reduces the flexibility for the owner and results in either a longer payback period or a need for higher rates. In the case of scramble parking, greater use can be made of individual spaces because lots can be oversold by 10% to 30%, depending on the nature of the users to account for the fact that all users are not in the lot at any one time.

Generally, casual parking provides the greatest return on investments due to the turnover during the day. For example, a parking garage constructed at the University of Manitoba is a net revenue generator; however it is exclusively casual with no monthly spaces.

In order to maximize the likelihood of a relatively short payback period and parking contributing net revenues, the University will need to consider revising parking management, with less use of reserved parking and more scrambled monthly spaces, or differential parking in which someone who requests a reserved space will pay a higher parking charge. As well, the parking fees for monthly parking need to increase substantially to near market rates. Increased parking rates may also help reduce the demand for parking and increase the demand for transit or other alternatives. As an example, a 1995 study at the University of Saskatchewan developed demand curves based on a survey of students and staff. That study indicated elasticity rates of -0.31 for student parking and -0.34 for faculty and staff parking. This means that for a 10%

increase in parking fees, a 3.1% decrease in parking demand may occur.

Parking rates at the University of Saskatchewan, based on the 2000 data, are low compared to other universities that were examined in the August 2000 parking study. The University of Saskatchewan rates for students were at about 46% of the average rate for the other universities, with the faculty rate at about 38% of the average for the other Universities. It was also found that, on average, faculty rates at the other universities were approximately 10% higher than the student rate. At the University of Saskatchewan faculty rates are approximately 10% lower than the student rates.

In summary, in order to make new parking feasible, the University would need to consider

- revising the management structure to encourage more scramble and less reserved spaces;
- increasing parking charges to reflect the actual cost of providing parking, and maximizing the use by casual parkers of the more expensive structure parking in order to increase revenues, with surface parking used virtually exclusively for monthly users; and
- instituting differential parking charges for various types of parking spaces.

7.6 PARKING STRUCTURES VERSUS SURFACE LOTS

There are three supply alternatives to address a shortfall in parking supply: surface lot, above ground structure, and below ground structure.

A surface lot has a relatively low construction cost ($1,500 - $2,000 per stall) but is land intensive and is not consistent with the University of Saskatchewan's commitment to preserving green space by not developing additional lands for parking. An above ground structure is more expensive than a surface lot ($12,000 - $14,000 per stall) but uses less land and has partial weather protection. A below ground structure is more expensive ($18,000 to $20,000 per stall) but provides full weather protection, is less visually intrusive and can be incorporated into a building design.

A list of advantages and disadvantages of above and below ground parking is provided in Table 7.2.

Table 7.2: Comparison of Above and Below Ground Parkades

	Advantages	**Disadvantages**
Above Ground Parkade	Costs less than underground parking	Cannot be easily heated
	Lighting and ventilation costs are lower than underground parking	Aesthetics
	Efficient use of land	Higher maintenance costs than surface parking
	Higher visibility than underground-surveillance is better and visitors can more easily identify the parkade when it is above ground	Concentrates traffic
	Less walking distance than surface spaces	
Below Ground Parkade	Can be incorporated into a building design	Construction costs are higher
	Hidden from sight	Lack of visibility can cause safety concerns and may be difficult for visitors to find
	Can be heated	Ventilation and lighting costs are high
		Higher maintenance costs than surface or above ground parkade
		Concentrates traffic

7.7 TRANSIT ISSUES

A feasibility study of a universal bus pass (UPASS) program at the University of Saskatchewan examined the experience at other universities and recommended a similar program for the University of Saskatchewan (*University of Saskatchewan Transit Pass Study*, Tranplan Associates). A universal bus pass would be available to all undergraduate students and paid for as part of tuition.

The study found that a 25% to 50% increase in undergraduate ridership could be expected following the implementation of a universal pass program. This is based on recent Canadian experiences in Victoria, London, Hamilton and Guelph. The most recent UPASS programs appear to have attracted 40%to 50% increases in student ridership among those who were eligible for the pass. The observed mode split for school trips to the University of Saskatchewan in 1997 was 22% to 23%.

In order for a UPASS system to be successful in Saskatoon, the report states that increased service levels would be needed during peak periods on Routes 7/19, 27, 20, and 6A as well as the addition of new services connecting the University with residential areas where students are over represented. While the riding count data for the routes mentioned above suggest that existing transit capacity is not fully utilized, additional runs would be required in most of these corridors to handle the expected increases in demand.

The report also recommends a UPASS fee of $100 per year to maintain the student's share of total fare revenue and to fund the provision of the required service improvements. Universal pass fees per year range from a low of $37 for the Queen's University pass to $109 for Trent University's pass. Western's and Victoria's passes are currently priced at $96 while the Guelph and McMaster universal passes are priced at $68 and $58, respectively.

In most cases, the UPASS program is voted in by students in a referendum. However, at the Southern Alberta Institute of Technology (SAIT) in Calgary, the City of Calgary approved a mandatory transit pass for full-time students. The pass is optional for SAIT faculty and staff. One month after the program's introduction, Calgary Transit found that overall transit usage to and from SAIT increased by 38% compared to the previous year.

A student referendum was recently held at the University of Saskatchewan; the UPASS initiative was rejected by a majority of the students. Officials feel that the program could be reviewed again in the next school year.

The implementation of a UPASS program has the potential to reduce parking demand at the campus, thereby minimizing the number of new spaces that must be built.

7.8 PERIMETER PARKING

Currently, parking lots are disbursed throughout the University campus, with the larger lots typically adjacent to Campus Drive. Away from Campus Drive are a series of smaller lots, and "on-street" meter spaces along various access roads. Many of the spaces require drivers to travel through much of the campus to access the lots. As an example, a large percentage of the University's parking is accommodated in lots E, F, G, P, and 4. These lots are located 700 and 1,000 metres from the nearest public street.

One item raised at the workshop with University stakeholders was the desirability of making the core campus as pedestrian and cyclist friendly as possible, minimizing conflicts with vehicles. One way of accomplishing this is to focus parking on the periphery of the site close to the adjacent public street system. This will reduce the number of vehicles having to travel up to a kilometer through the campus, thereby reducing traffic pressures on the internal road system, and reducing conflicts with pedestrians and cyclists. The Master Plan concept includes a parking structure in The Campus Core North area (on a portion of lots 4 and F); however, the majority of new parking is located near Preston Avenue and College Drive, cutting down the length of the trip between the street system and the parking facilities by up to 60%.

7.9 INTERNAL ROADWAY SYSTEM

The internal roadway system of the University of Saskatchewan should have the following characteristics:

- Low traffic volumes (perimeter parking areas would help to encourage this)
- Well signed, well identified, visible pedestrian crossings; pedestrians have priority at all intersections
- Ability to accommodate cyclists
- Low speeds, reinforced by incorporating traffic calming measures if necessary
- Ability to accommodate transit facilities, including adequate pavement structure and the provision of appropriate stop locations (e.g., bus bays)
- Well lit with highly visible emergency call kiosks
- Good wayfinding signage for visitors
- Appropriate traffic control at intersections
- Ability to accommodate farm vehicles in certain areas
- Avoids redundancy
- Includes a secondary road network for service vehicles that doesn't necessarily provide a circulation function

8.0 MASTER PLAN: NEXT STEPS

8.1 ANTICIPATED "SUB-PLANS"

It is proposed that the "sub-plans" be reviewed on a minimum of a five-year schedule, corresponding with the Integrated Planning Process, with the goal of updating the core document.

The following list outlines the "sub-plans" that are being contemplated at this time. Some are well underway; others will be initiated in the future as the need arises. There will be others that cannot be anticipated at this time.

8.2 PRESTON AVENUE WIDENING

Goal
To give further definition to the Preston Avenue widening initiative proposed by the City of Saskatoon. The steering committee is to inform the design of the roadway, especially in terms of access to agricultural lands.

Planning issues include
- defining a new identity for the eastern edge of the campus;
- working with the City of Saskatoon Planning Department;
- balancing the needs of the motorized and non-motorized transportation environment; and
- dealing with issues of access to University Agricultural lands.

Steering Committee
College of Agriculture:
Bernard Laarveld, Doug Bradley, Graham Scoles, Kirk Blomquist, Rick Holm, Pierre Hucl
Facilities Management:
Bernard Flaman, Darlene Machibroda
U of S Corporate Administration:
Judy Yungwirth
City of Saskatoon:
Trevor Bell, Jeff Balon, Lorne Sully, Jill Beck, Don Drysdale, Cory Day, Cal Sexsmith, Bill Kalyn
Meewasin Valley Authority:
John Gertsmar
Innovation Place:
Doug Tastad, Ron Wiebe
Consultants:
Rob Crosby (Crosby Hannah Associates)
Tom Mercer (Stantec)

Status
Nearing the end of the process. The roadway design is almost complete; questions of image and aesthetics have yet to be addressed. Grounds staff have been involved in the working group sub-committees.

8.3 COLLEGE BUILDING RESTORATION AND HISTORIC CORE

Planning issues include

- renewal of existing heritage building;
- creating new quarters for the Registrar's Office and student services, including facilities for First Nations students, International students and disability services;
- gathering together several existing University cultural facilities in a more important and identifiable location; and
- increasing density in the historic core to resist sprawl and support existing transportation infrastructure, retail services and cultural facilities.

Consultants

Cochrane Engineering
Friggstad Downing Henry Architects
Keywest Engineering

Input has been received from

Provincial Heritage Branch
Parks Canada

College Building Task Force

Margaret Ball	Department of Learning
Elaine Cadell (Laurel Rossnagel)	Alumni and Development
Marvin Ekroth (Gary Gable)	Music Department
Don Kerr	English Department
Bryan Bilokreli, Larry Harder	Facilities Management Division
Ian MacLean (Gordon Barnhart)	University Secretary
Paul Becker	AVP, Facilities Management Division
Joe Angel, Chair	Capital Planning Committee
Peter MacKinnon	President
Tony Whitworth	VP (Finance and Administration)
Doug Richardson	McKercher, McKercher and Whitmore
Terry Hellquist	Construction Engineer, Facilities Management Division
Karen Leedahl	Electrical Engineer, Facilities Management Division
Howie Salisbury	Mechanical Engineer, Facilities Management Division
Karen McClelland	Canada Millennium bureau, Winnipeg
Frank Korvemaker	Heritage Branch, Municipal Affairs, Culture

8.4 NON-MOTORIZED TRANSPORTATION ENVIRONMENT

Planning issues include
- improving transportation opportunities for pedestrians, cyclists and wheelchairs;
- connecting separate areas of the campus;
- identifying materials that will improve the image of the University.

Authors
Bernard Flaman
Planner, U of S, Facilities Management Division
Stephen McIntyre
Graduate Student, U of S, Department of Geography

Status
No public consultation at this time

8.5 SIGNAGE AND WAYFINDING SUB PLAN

Planning issues include
- improving the accommodation of visitors to the campus;
- improving access to sports and cultural facilities;
- preserving current uncluttered appearance and historic "lozenge-shaped" building signage; and
- involving naming committee for streets and buildings

8.6 HOUSING PLAN

Planning issues include
- doubling existing housing stock;
- integrating academic and residence plan;
- considering context of peer institutions;
- considering issues of racial diversity and sexual orientation; and
- considering character of existing housing precincts

8.7 SYNCHROTRON EXPANSION

Planning issues include
- expanding requirements of a technology that is changing on a six-month basis;
- planning for the housing needs of visiting researchers; and
- establishing a positive connection between the existing University campus and a successful office park.

8.8 NORTH EAST CAMPUS

Planning issues include
- expanding plans of Intervac, POS, VIDO

8.9 WESTERN COLLEGE OF VETERINARY MEDICINE EXPANSION

Planning issues include

- expanding the small animal clinic, public parking and the nature of Veterinary Road;
- recognizing the increasingly public role of the large animal clinic; and
- establishing a positive connection between the existing University campus and a successful office park.

9.0 APPENDIX: DRAFT FINAL MASTER PLAN FEEDBACK SUMMARY

- This is a summary of feedback received on the Draft Final Master Plan. Detailed comments are kept on file at Facilities Management and have been referenced as indicated.

Date Received	Received From	Action/Notes
November 2002	Bryan L. Harvey University Coordinator of Agr. Research 211 Kirk Hall 117 Science Place University of Saskatchewan Saskatoon SK S7N 5C8 Phone: (306) 966-5795 Fax: (306) 966-4737 Email: harvey@duke.usask.ca	• These comments must be balanced with feedback that has been received during workshops and open houses that suggest favour for a LESS car oriented environment. However, Dr. Harvey's comments concerning signage and accommodating visitors to the campus will inform future Sub-plans. • Dr. Harvey makes a very convincing case against the implementation of shuttle buses in the U of S context. The document will be revised.
November 8 2002	John Gerstmar Resource Planning Manager Meewasin Valley Authority	• See Preston Avenue Sub-plan. • Roundabout requires further study. • See Housing Sub-plan. • The concept appears to be accepted by the commentator; detailed design would be the subject of a Sub-plan. • See Non Motorized Transportation Sub-plan. • Document revised to reflect comments.
November 15 2002	Jim Basinger University of Saskatchewan	• See Housing Sub-plan. • The sketches for "campus north" depict broad concepts of creating a more positive relationship to the river valley and between the University and Innovation Place. A Sub-plan will be required to truly define the nature of a project as specific design criteria are unknown at this time (e.g. Future requirements of CLS).
November 15 2002	Lorne Sully City of Saskatoon	• See Preston Avenue Sub-plan.
November 18 2002	Bernard Flaman, Planner University of Saskatchewan	• New section added. • Photos revised. • Document revised. • Section deleted.
November 18 2002	Capital Planning Sub-Committee (c/o Pat Harpnell) University of Saskatchewan	• Document revised. • See new section: "Master Plan: Next Steps". • Section summarizing consultation to be added. • This comment suggests overturning an approved document and points to an urban design concept that runs counter to the financial, environmental and social goals of the plan.
November 27	Gordon Sarty	• The position of Sustainability Coordinator is

2002	Associate Professor Department of Psychology University of Saskatchewan	being created within Facilities Management to champion these issues.
December 2 2002	Allan Poulin University of Saskatchewan	• These comments are well considered and will inform the Housing Sub-plan.
November 29 2002	Ken Turner Retired Grounds Manager	• Mr. Turner's comments are appreciated and are an excellent example of "institutional memory". It is also a good reminder to involve the current grounds staff in future Sub-plans.
November 25 2002	Capital Planning Committee University of Saskatchewan	• Document to be revised to reflect the importance of interior public space. • See "Master Plan: Next Steps". • Section added. • The reader must be reminded that the sketches in the Master Plan are just that – sketches. NONE of the roadway changes shown in the document have been designed, they represent an idea only. The technical requirements of CLS will drive any roadway changes in that area. These requirements are likely to change several times before the roadway is designed. • See Housing Sub-plan.
November 26 2002	Research Committee University of Saskatchewan	
November 6 2002	Murray Zook Grounds Manager University of Saskatchewan	• Grounds staff will be involved in the decision making process involved in any relocation of their facilities.
November 22 2002	Bryan Bilokreli Associate Director Planning & Development University of Saskatchewan	• Revisions and edits to document as a whole.
December 9 2002 and January 14 2002	Ian Innes	• As with Mr. Turner, Mr. Innes' comments are appreciated and are valuable from the perspective of institutional memory. Mr. Innes' passion and love for the campus is very evident from his comments. • Sections responding to the Campus history have been added to the document. • Many of the comments are very detailed and go beyond the intent of the Master Plan – See "Master Plan: Next Steps". • Many of Mr. Innes' comments suggest that he advocates an entirely different concept or vision for the Campus than that being presented in the Master Plan. His vision seems to be that of a "rural" campus whereas the Master Plan is proposing a more "urban" direction. The requirements of students, faculty, and researchers for proximity is demanding an approach to development that is at odds with the concept of a "rural" campus. New challenges related to funding suggest that existing facilities and infrastructure (of all types) must be utilized to maximum efficiency. This and new trends in sustainable development

		suggest that a compact and dense campus is one that would be desirable from a financial, social and environmental standpoint. However, Mr. Innes' comments are valuable as a reminder that density must be balanced with livability.