Sir Wilfred Grenfell College
CAMPUS MASTER PLAN

January 2007

Brook McIlroy Planning + Urban Design
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Memorial
University of Newfoundland
ACKNOWLEDGMENTS

The Sir Wilfred Grenfell University Campus Master Plan was commissioned by the Board of Regents in 2005 and has been developed in keeping with the University’s philosophy of community engagement and collegiality. The Plan was built on a collaborative process that engaged a broad spectrum of the University and was prepared under the overall leadership of Darrell Miles, Director, Facilities Management, Dennis Waterman, Director, Administration and Finance, and the Campus Master Plan Steering Committee.

Additional consideration goes to the staff of the College who diligently supported the team throughout the preparation of the plan.

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PREFACE

Introduction

This academic year, Sir Wilfred Grenfell College (SWGÇ) is celebrating its thirty year anniversary as a key member of the Corner Brook community. In thirty years, SWGC has grown to 1,400 students and provides employment for over 200 staff and faculty. In the last year, enrolment has increased by 15 percent – mostly from out-of-province and international students – and the College has been building its academic programs and research activities in fields as diverse as tourism, sustainability, management and education.

A Changing Environment

Corner Brook's demographic reality is a challenge for the College and all institutions of higher learning in Western Newfoundland. Currently, there are 29 percent fewer students in kindergarten and grades 1 and 2 than in the City's two high schools. However, this decline in enrolment has been somewhat mitigated by a growing percentage of students who decide to pursue secondary education, and a greater ability by Memorial University to retain qualified Newfoundland students. As Memorial's market share grows, however, the opportunity for further local enrolment growth is being exhausted. SWGC has long recognized this challenge, and in order to attract out-of-province faculty and students the University has been pursuing a strategy of both:

a) excellence in specialization – providing unique, specialized and research-based programs, and

b) offering an unparalleled quality of life and learning environment in a spectacular natural setting.

The Campus as Facilitator

Both these strategies have a significant bearing on facilities: quantitatively, the campus must offer sufficient space to accommodate growth in new programs and research. Recent growth projections indicate that enrolment may be required to increase by 40 to 80 percent within five years to help SWGC reach the necessary critical mass to support viable, complementary research programs. Even a less aggressive growth plan envisages that enrolment would more than double (a 115 percent increase) by 2020. While growth in traditional programs translates into predictable, linear growth, growth in leading-edge research is often space-consuming. Qualitatively, new research and teaching spaces must be at the leading edge to attract the best students and faculty.

SWGÇ has been attracting faculty and students based on its quality of life. The opportunity exists to build on the existing infrastructure, unique natural setting and panoramic views and ensure that despite its small size, the Campus offers a truly collegial environment and a compelling range of recreational and cultural facilities. For example, leveraging the recent agreement with the City of Corner Brook to manage the nearby Pepsi Centre has provided much needed recreational space discreetly adjacent to the Campus. As the Campus grows, it will be important to accommodate the higher numbers of faculty, staff, students and on-campus residents to improve the cultural, recreational and intellectual offering on campus.

Based on these mandates, the Campus Plan provides a course of action for growth, for the location and design of new buildings, and the design of open spaces and circulation network to and on campus. The Campus Plan also provides direction for the preparation of a future comprehensive campus sustainability strategy.
The Campus Plan was developed on a foundation of community consultation, with significant input of members of the campus community, including:

1. Individual interviews – representative members of staff, faculty, the student body and municipal officials were interviewed.

2. Meetings with the Steering Committee and University Executives – meetings were held to present draft plans and receive valuable guidance, feedback and advice.

3. Workshop – participants actively debated key campus planning issues in an interactive campus design session.

4. Open Houses – two open houses were held during which key concepts were presented to members of the campus.

5. Website – the website was updated at intervals to inform the campus community of the evolution of the proposed Master Plan allowing the members of the campus community to provide direct feedback to the design team.

**Objectives of the Campus Plan**

The development of the Master Plan should be closely tied to the university’s Mission and Strategic Framework. Increasingly, the opportunity to attract more research uses and out-of-province students to the campus will drive the growth of the Campus. To fulfill these important requirements, the University commissioned a Campus Plan and has selected a team of architects, planners, urban designers and landscape architects to undertake this process. The primary objectives of the Campus Plan include:

1. Provide a *feasible and flexible physical framework* to accommodate growth over the next ten to twenty years through recommendations for the placement of new buildings and facilities, and their relationship to campus open spaces.

2. Guide the design of new buildings and significant additions to ensure that they *fit within their unique environment and create safe and animated people-friendly spaces* year-round.

3. Identify opportunities for *high quality open spaces* and a *safe, functional and attractive pedestrian network*.

4. Provide the bases for the preparation of a comprehensive Sustainability Plan.
Table of Contents

ACKNOWLEDGMENTS

PREFACE

1. BACKGROUND 1
2. CAMPUS PLAN CONCEPT 17
3. OPEN SPACE GUIDELINES 41
4. TRANSPORTATION 77
5. SUSTAINABILITY 87
1. BACKGROUND
1. BACKGROUND

1.1. Introduction & Context
Sir Wilfred Grenfell College is the Corner Brook campus of Memorial University of Newfoundland and serves Western Newfoundland communities as well as a growing contingent of out-of-province students and researchers.

Located on a large forested parcel of 73 hectares (180 acres) overlooking the City of Corner Brook, the campus has grown from a single building in 1975 to a series of interconnected buildings of various styles. The College now accommodates over 1,400 students and 200 faculty and staff members.

Unlike its St. John’s counterpart, the Corner Brook Campus has abundant land resources and ample parking. Most of its buildings however are at capacity and must be expanded to accommodate administrative needs as well as new and expanding programs including environmental sciences, business, education, nursing and tourism studies.

The primary focus of the Campus Plan has been to consider an appropriate growth plan for the Campus, while considering its challenging topography and its natural environment, the need to maintain indoor connections between existing and new buildings to the largest extent possible, and the need to foster a collegial environment to help SWGC maintain the quality of life that has been its hallmark since its inception thirty years ago.

1.2. Why a Campus Plan?
The purpose of a Campus Plan is not to dictate or prescribe growth. Instead, the Campus Plan provides a set of options presented as a cohesive whole, to allow the University to identify an appropriate growth path for the institution. The Campus Plan guides the design of buildings and open spaces in a way that complements the site and the existing built form. The Plan is also intended to prevent the negative consequences of piecemeal development and to identify opportunities on key sites, to ensure their future availability for buildings and/or open space development.

It is recommended that the Plan be updated every 5 years to reflect changes in academic priorities, the fiscal context and other external conditions.

1.3. Document Organization
This document is subdivided into six chapters, as described:

Chapter 1: Background – presents an analysis of the Campus today with its strengths and opportunities as identified by the Consultant Team through campus community consultation, on-site analysis and background research.

Chapter 2: Campus Plan Concept – introduces the Campus Plan framework - the key structural elements of the campus to be created or improved, including buildings, green spaces and circulation networks.

Chapter 3: Open Space Guidelines – recommendations on the functional and aesthetic design open spaces for all seasons, with the goal of creating a compelling park-like setting that reinforces the high-quality and functionality of the campus.

Chapter 4: Transportation – presents a series of recommended improvements to the Campus’s accesses and internal circulation network, along with a set of policy initiatives to encourage alternative modes of transportation.

Chapter 5: Sustainability – provides the framework for the future preparation of a Sustainability Plan at Sir Wilfred Grenfell College to set campus growth within a progressive framework of coordinated long-term economic, social and environmental viability – coordinated with teaching and research activities.
1.4. History of the Campus

Sir Wilfred Grenfell College is a young institution, with only thirty years of activity. In 1975, what the College was then called the West Coast Regional College, opened its doors with a single building housing classrooms, labs, the library, bookstore, gym, pool, residence and dining hall.

In 1979, the College was renamed Sir Wilfred Grenfell College after the missionary doctor from England who was instrumental in bringing health care to coastal communities in Newfoundland, Labrador and Québec in the late 1800s and early 1900s.

In 1988, the new Fine Arts building opened, adding significantly to the College’s ability to offer a broad range of course offerings.

The mid to late 1990s, the Campus grew significantly with the opening of the Library and Computing Centre in 1995, the Student Centre in 1997 and the Forest Centre in 1998.

Growth slowed down somewhat in the new century, but the opening of chalet-style apartments in 2002 signalled a change in the provision of residential space on campus. Since then, the chalets with their pitched roofs and wood construction have been an extremely popular form of residence that integrates well with the natural setting.

In 2005, SWGC began leasing portions of the RecPlex situated just below the campus to accommodate office and instructional space needs. In 2006, the College took over the management of the Pepsi Centre, the nearby multi-purpose arena and concert hall.

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1 - Background
1.5. Process Overview and Consultation Summary

In addition to site visits and analysis of existing documents, input from the Campus Community was an important foundation of the campus planning process. The following steps were followed to inform the preparation of the Plan:

Process Overview

Site Visit 1 – September 15, 2005
The first site visit included an introductory meeting with the Steering Committee and a series of individual discussions with a variety of academic and administrative stakeholders.

Site Visit II and Workshop/Open House 1 – January 12, 2006
In early 2006, the Team returned to the Campus with a preliminary analysis of the Campus's physical structure and an early identification of growth and landscape improvement opportunities. An interactive workshop asked participants what they thought were key priorities to be addressed as the Campus grows and evolves.

Site Visit III and Open House II – April 12, 2006
The Team integrated the input received during its January visit and presented a concept plan and set of development principles to the SWGC community in two open house sessions held on campus. The feedback received allowed the Team to proceed with a draft of the Campus Plan.

Consultation Summary

The following key points were made by individual interviewees, workshop participants and open house attendees over the course of the process. They have been organized thematically and do not reflect a chronological order or the origin of the remarks.

Strategy
The Campus Plan should assist the University in ensuring that the Campus support excellence and the strategic goals of the University. These include:

- attracting and retaining out-of-province faculty, staff and students;
- expanding graduate enrolment and research programs;
- accommodating potential, confirmed new and growing programs such as nursing, business, tourism and education, and becoming a model of sustainability;
- The plan should help identify building locations, parking lots and the circulation network well in advance.

Campus Appearance and Character

- The overall appearance of the Campus should be improved as the Campus does not currently project an image congruent with its natural setting. A prominent and attractive gateway to the Campus should be created through the careful integration of new buildings and open spaces.
The Natural Setting and Open Spaces

- An important initiative is to better integrate the Campus within its natural setting and to better preserve the integrity of natural spaces.
- Natural features on and around the Campus should be preserved, particularly the fen. Woodlands should be preserved to the greatest extent possible.
- The campus should be formally connected to the Corner Brook Walking Trail of the City’s tennis courts. A well-maintained trail network could be used as a selling point to attract students, faculty and staff.
- Existing outdoor spaces should be improved and redesigned, with less emphasis on hard surfaces. For example, the garden across from the main entrance is not well used.
- Outdoor spaces should provide amenity spaces for socializing or simply enjoying the outdoors. A dedicated area should be provided for smokers away from the main entrance doors.

Access, Circulation and Parking

- A prominent and welcoming entrance to the Campus should be created through buildings and signs, and a tall, visible landmark element.
- Pedestrian circulation should be made more convenient and comfortable. For example, the sidewalk on front of the Campus seems to be provided on the side least intuitively used. As a result, most pedestrians walk on the street.
- As much as possible, the Campus should be more accessible to those with mobility challenges.
- No through roads should be planned near residential buildings.
- Alternative accesses to the Campus should be planned. There is only one access road that often backs up with activities at the sports centre.
- Parking should be provided close to buildings, including residences, and direct routes created to entrances. Parking should remain available to visitors in close proximity to the campus gallery.
- Transit service should be improved to increase ridership. A UPASS (bus pass funded by a mandatory levy subject to referendum) should be considered to make transit more attractive and well-known to all.
- Significant snow accumulation should be taken into account in the design of the campus open spaces and circulation networks.

Building Design

- Buildings should be designed to fit in their natural environment. Views to the Bay should be protected and buildings should incorporate large amounts glass to ‘bring the outdoors in’.
- Building façades should not be flat and linear but articulated to integrate well with the forest and campus open spaces.
- New buildings should be built as “green buildings” that minimize resource and energy use in their construction and long-term operation.
Space quality, quantity and location

- Qualitatively, most campus spaces have suffered from lack of investment and should be improved including residences, classrooms, office, library, recreation and common areas.

- Quantitatively, space shortages are reported to be significant in all types of spaces including:
  1. Classrooms: There is demand for large classrooms – while keeping in mind that part of the University’s mission is to keep class sizes small.
  2. Offices: Offices currently do not meet requirements (in size, number and quality).
  3. Laboratories: Laboratory space is increasingly needed, even in humanities.
  4. Storage space: On-site storage should be provided as off-site storage is very expensive.
  5. Bookstore: The Bookstore short of space and lacks a proper loading dock.
  6. A science building with space for research.
  7. Residences: the university is contemplating new residences. Consultation participants stressed that residences should ideally not exceed 3 storeys to keep a small-scale residential feel. A mix of types should co-exist. Relying only on the chalet style is not desirable. New residence buildings could include classrooms and/or common space. Over time, the Main Residence could over time be converted to academic spaces to convert this strategically-located space into offices and academic space.

- Better facilities for receptions and conferences is needed. There is a shortage of meeting rooms. Ad-hoc booking of meeting spaces, especially the one conference room, is very difficult.

- Throughout campus, more communal and recreation spaces are needed:
  - Indoor and outdoor exhibition space;
  - Space for a campus doctor;
  - A multi-faith room.

- As the campus evolves, more effort should be devoted to keeping uses together to reinforce collegiality.

- A University Centre/Commons should be planned as a multi-use building between the University and the broader community, and accommodate uses such as large and flexible space for receptions, student common areas, student orientation, a professional gallery and theatre with common atrium, space to accommodate convocation, indoor recreational uses, a café, dining facilities (special events and conferences), the Bookstore and the Staff and Faculty Club.

- A landmark structure like the clocktower on the St. John's campus should be considered.

- Renovations provide the opportunity to “right-size” offices: some are too large, some too small.

- Since computer labs are not heavily used, including for classes, no additional labs should be planned in the short term.

- Food services should be distributed throughout the campus in intimate spaces providing healthy food choices.
Fine Arts

- The Fine Arts building was once “state of the art” but now serves many more users than it was designed for and has suffered from deferred maintenance. The building is occupied throughout the day and well into the night, to the extent that community visual arts courses had to be cancelled so that the space could revert to university uses.
- Studio and rehearsal space are particularly needed.
- Community outreach should become even more of an emphasis with new space for instructional space, a professional public gallery, a common atrium to be shared by the Theatre and the Gallery and a Sculpture Garden.

The Library

- The Library is running out of space for collections and needs more study spaces for individual and group work.
- The opportunity exists to construct an additional floor on the existing Library, which could house a lecture theatre.
- The ground floor can be fully excavated to create an Information Common and common space on the ground floor. This would allow the current library entrance to be improved and incorporate a student lounge/cafe.
- The Library needs new space for its existing and future storage needs.
- Any additions/renovations to the Library should include improvements to the grade level entrance.
1.6. Analysis and Opportunities

Campus Planning Context
The following elements are significant in helping understand the current building blocks of the Campus.

The Site
The Campus is located on an 184-acre parcel at the edge of Corner Brook's urban area and is connected to the rest of the City by O'Connell Drive and Elizabeth Street. There is currently no access to Wheeler’s Road south of the campus. As the Campus intensifies and existing access become congested, an additional access point to Wheeler's Road may become necessary. In general, the Campus should grow along its north facing slope and towards the City rather than away from it – which would require significant road construction at a great financial and environmental cost.

The Grade
The Campus is generally built on a north-facing slope with a thin layer of topsoil sustaining forest vegetation on bedrock. Flat areas on the northern edge of the campus have been graded in anticipation of a building yet to be built. The need to blast and grade the terrain will influence the choice of building sites. Conversely, the grade difference provides opportunities to create levels of parking without significant excavation.

The Climate
While Corner Brook has a more moderate climate than much of Newfoundland, wind and winter weather must be well considered. Necessary considerations include:

- Facilitating snow removal on vehicular and pedestrian paths;
- Enabling snow storage that does not impede pedestrian circulation;
- Creating outdoor open spaces that do not look “abandoned” in the off-season;
- Maximizing the use of wind shelters and sun catches;
- Mitigating the strong westerly winds with the placement of buildings;
Current layout and configuration

The existing built areas of the Campus occupy about 20 acres and have been carved into the forest, particularly the more recent residence buildings. The forest enclosure greatly contributes to the character of the Campus. From the Main Residence to the Forestry Building, most academic buildings have been arranged linearly and connected internally. Chalet-style residences are an exception and are more loosely located on either side of the campus on moderately sloped sites. Future building sites exist in close proximity to existing buildings which will allow the expansion of the indoor network and foster a collegial campus environment.

Edges, access and circulation for pedestrians and vehicles.

The University lacks a strong sense of arrival for those arriving from University Drive. Instead, a wooded area conceals the Campus buildings from view. Vehicular circulation on campus is simple: a street provides access to the northern edge of the campus and connects to Grenfell Drive, itself connecting to Elizabeth Street. Another street extends from University Avenue and provides access to a large parking lot just south of the Campus, and further to the Long Term Care Facility.

The north access road has sidewalks on the north side of the street, opposite from the Campus. The extension of University Drive does not have sidewalks. On campus, pedestrians tend to favour indoor connections, but a network of informal paths exist outdoors, particularly to and from the chalet-style residences. At the current time, there is no continuous, formal outdoor pedestrian connection along the entire length of the Campus from the Main Residence to the Forestry Building. No clearly marked trail system exists throughout the campus lands or to the Corner Brook Stream Walking Trail.
**Parking**

Unlike the St. John's campus, the SWGC campus is not currently experiencing a parking shortage with close to 1,200 spaces for a population of about 1,600. This ratio of 0.75 is much higher than the ratio of 0.25 to 0.30 generally observed on Canadian campuses. This parking is supplemented by additional parking spaces at the Pepsi Centre, the RecPlex, and the Arts and Culture Centre. These parking spaces could be shared since the usage patterns vary among institutions. Flexibility, along with measures to encourage alternative modes of transportation, will be instrumental in allowing the redevelopment of some surface parking spaces on campus without significant disruption.

**Open Spaces**

Most open spaces on campus are between buildings. While the most space exists in front of campus buildings, much of campus open space is not well defined, are also north-facing and exposed to westerly winds. Despite these challenges, the flat area in front of the Fine Arts Building is often used by students for informal sports. A cluster of benches on a concrete pad by the main parking lot at the entrance to the Campus is not used as it is overgrown in the summer and engulfed in snow in the winter. The open space in front of the Main Residence also remains unused as it lacks landscaping, seating or other amenities.

At the rear of campus buildings, open spaces are south-facing but on a slope. The exception is the recently built multi-sports surface located next to the Gym. There are no outdoor gathering areas near residences. Generally, it has been challenging to design spaces that are affordable to construct and maintain, are functional for a variety of uses, and are attractive spaces in winter.

**Views**

The view to Downtown Corner Brook and the bay is a key campus asset. However, this must be balanced with the fact that the most attractive views are also north and west facing, with little protection from the wind and have the minimal sun exposure.

**Functionality of the Campus**

The Campus currently has little variety in food services and other daily services, particularly useful for students in residences. These services are an important quality of campus life necessary to attract out-of-province faculty, staff and students, but they require a critical mass of patrons. Atracting other compatible institutions and providing cultural programming attractive to the Community at large can be helpful in sustaining a greater variety of campus amenities.

**Other Institutions**

SWGC is surrounded by other institutional buildings, providing an opportunity for collaborative planning to avoid duplication, maximize the use of available resources and leverage the joint force of a large population of users. For example, parking spaces and food preparation can be planned together, with users being directed to available supply in the general area (e.g. parking) or resources being shifted to the most appropriate location when needed (e.g. food preparation).

- a. The Forestry Centre (on campus)
- b. The RecPlex
- c. The Participark an five well-used city tennis courts
- d. The Arts and Culture Centre
- e. Herdman Collegiate
- f. The Pepsi Centre
1.7. Current and Proposed projects

SWGC is growing. The following projects have either been confirmed or are expected to be confirmed shortly.

Student Services

- A 232 sm (2,500 sf) expansion of the Arts and Sciences Building for $1 million was approved in June 2006 for completion by year’s end.

- Nursing School: pending the approval of the move of the nursing program from the hospital, a substantial amount of space would be needed on campus including classrooms, instructional laboratories, a medical library and residence spaces.

Residences

- Approximately 200 new residence beds are also very high on the list of priorities for the Campus and are considered important in increasing out-of-province enrolment.

Infrastructure Financing Strategy

The University’s 2005 Infrastructure Financing Strategy was approved in 2006. It includes the following items for the SWGC Campus:

- $6 million for new residences. This assumes chalet-style construction of 150 units.

- $9 million for academic expansion (plus $1 million already approved for Arts & Sciences 2,500 square foot expansion). This assumes fully fitted 2,322 sm (25,000 sf) of new academic and research space.

- $2 million for collection space and an information commons in the Library.
1.8. Summary of space and schedule analysis

1.8.1. Timetable Analysis
While the efficiency of all non-scheduled uses like offices and common spaces can often only be improved through renovations, the efficiency of scheduled uses like labs and classrooms can be adjusted on a yearly basis through scheduling improvements. Beyond the immediate financial attractiveness of being able to “do more with less”, more efficient use of space may result in an expanded choice of times and facilities available to students and instructors and the ability to limit enrolment caps to pedagogical considerations.

1.8.2. Station and Room Utilization
Station Utilization represents the utilization of available seating in all available classrooms over the schedule when the room is in use. For example, if half of the available seats are occupied in every class and every session, the overall station utilization will be 50 percent. In determining space standards for classrooms, the Council of Ontario Universities assumes a utilization of 65 percent. Paulien and Associates, an American firm that specializes in the analysis of space resources, recommends a station utilization target of 60 to 70 percent.

The average Station Utilization of classrooms at SWGC was found to be 51%, and ranges between 27 and 76 percent. Small institutions often achieve lower utilization rates because the possible number of combinations of classrooms and class sizes is less than in larger institutions.

Room Utilization is the average utilization of each room over the total number of hours that the University is open during the week. For the purpose of providing standards, the Council of Ontario Universities assumes an average utilization of 34 hours per week. Paulien and Associates recommends a use of 30 to 40 hours a week, but has found that in small private institutions, actual use is generally lower, between 20 and 25 hours.

Classroom Utilization at SWGC was found to be an average of 29 hours and a median of 26 hours, with a minimum of 8 hours and a maximum of 75 hours. The percentage of station and room utilization seems to indicate a mismatch between facilities and class sizes. Instead of building new classrooms, opportunities exist for example to split existing classrooms into two, perhaps with moveable partitions. Using existing facilities more efficiently can delay the need for construction of a building.

1.8.2. Scheduling Pattern
A study of the main schedule provided by SWGC indicated that the current utilization rate could be improved through revised scheduling. The approach followed in the analysis involved organizing all the winter 2006 classes by start time. Ideally, the pattern should be somewhat uniform throughout the week, illustrating a consistent use of facilities. Assuming that university facilities can accommodate peaks utilization below the peak represents underutilized capacity.

Using the registrar’s schedule, the scheduling patterns indicate that facility use on campus is highest between the hours of 10:30am to 4:30pm Monday shows a drop in campus population between the hours of 12:30pm and 1:30pm whereas the decline in campus population on Tuesday and Thursday is evident only at 3:30pm. Campus use after 4:30pm is minimal every day, especially Fridays. This indicates an opportunity to increase utilization by encouraging the use of late time slots.
Figure 1.3: In the above diagram, each bar represents a group of students who begin and end a class at the same time. The horizontal line indicates the number of classes that start and end at the same time.

Figure 1.1 & 1.2: In the charts above, each red bar represents the number of students enrolled in classes at any given time. Campus facilities are theoretically capable of accommodating more students outside of peak times.
When classes do not all start and end at the same time:

- Classes start before others have ended, so students cannot transfer between these overlapping classes.
- When the first group ends, the rooms can stay empty for a period of time too short to be usable (e.g., 30 minutes).
- Individual department schedules are less viable as students take cross-disciplinary degrees.

- A standard schedule like the one shown in Figure 4 is preferable, which accommodates 9 blocks one hour, 6 blocks 1.5 hours or 3 blocks one hour in a standard day, plus an evening session of 1x3 hours, 2x1.5 hours or 3x1 hour. The ability to use lab facilities is enhanced as three blocks of 3 hours are created in the core teaching hours.
- In general, all departments should adopt the same schedule and schedules should be coordinated by each faculty and department.

![Figure 1.4: Sample Standardized Schedule](image-url)
1.8.3. Scheduling Recommendations

The following recommendations are proposed as part of an approach to increase the utilization of space. Improvements to the academic schedule can lead to substantial efficiencies in the use of classroom and laboratory space, while clear procedures can ensure that space is used efficiently and allocated fairly. Key principles should include:

- Matching each class to the most appropriate facility;
- Making facilities as versatile as possible. Often, matching a class to the facility with the closest size is not possible because of the equipment necessary. As a result, a class of 30 may have to be accommodated in a classroom with a capacity of 60 for that reason;
- Smoothing out utilization peaks and troughs over the week by scheduling more classes early and late in the day and on Fridays;
- Ensuring that classes start and end according to a unified grid.

i) “unbundle” class times

Currently, class times are usually “bundled” where a class is scheduled at the same time on Monday, Wednesday and Friday or Tuesday and Thursday for the entire term, for example, from 8:30 am to 9:30 pm. Class times should be “unbundled”, so that no commitment is required to teach at 8:30 am on multiple days (e.g. Monday, Wednesday and Friday). For example, a class then could be scheduled for Monday at 8:30 am, Wednesday at 9:30 am, and Friday at 10:30 am.

ii) standardize the schedule

Blocks of time in use on the same day should be standardized across the institution to ensure compatibility among programs and disciplines. The standard schedule would extend from 8:30 am to 5:30 pm and allow for six uniform blocks of 90 minutes, nine blocks of an hour, or three blocks of 3 hours for certain uses (e.g. labs). An additional block would be scheduled from 6:00 pm to 9:00 pm.

iii) explore the use of less popular time blocks

Afternoons, and particularly Friday afternoons are currently less used than other time blocks. Although lab utilization was not analyzed at SWGC, labs in most universities tend to be mostly scheduled in the morning. Less popular time blocks need to be promoted to better balance the use of facilities over the schedule and minimize bottlenecks, both in the use of academic facilities and parking.
iv) Computerize the scheduling and space allocation system

Space allocation and scheduling are currently performed in a manual and at times decentralized fashion, resulting in time-consuming processes to identify and reserve meeting space, and less than optimal schedules. It is recommended that SWGC consider the acquisition of a campus-wide scheduling system. The system would optimize the relationship between space, equipment, time, faculty and students, both for recurring events like classes, and one-time events like lectures and meetings. The software could be customized to enforce processes, accommodate preferences and automatically request approvals when needed.

- For scheduling, the software would allow the registrar to run a variety of scheduling scenarios before finalizing the schedule for a given year and may be able to accommodate waiting lists, which are currently maintained manually.

- Bookings would coincide with a consistent time grid to minimize the creation of unusable time blocks. For ad hoc bookings, an automated space reservation system could be used to allow university users to see what facilities were available and when, and book space themselves. To maintain controls, the system would be configured to restrict access to space types to certain users.

- Another significant advantage of such a system is the availability of usage reports that allow Administration to analyze usage patterns and utilization statistics centrally, even if departments continue to control access to specific space. Additional data can result in improved space allocation decisions and the charging of space resources to each user. There are numerous off-the-shelf scheduling software packages available on the market, specifically tailored to universities.

v) Expand summer use

The summer course offering can be expanded to utilize the University facilities more efficiently and take advantage of times during which the Campus is most visually attractive. Other universities like the University of Guelph have adopted a three-semester system, with a full palette of courses being offered year-round. While this option merits consideration, the move to a year-round system requires extensive investigation and consultation as its impacts on staff, students and faculty would be far-reaching. Also, it must be understood that while teaching space would be used more efficiently, office and research space would still have to grow proportionately with the hiring of new faculty and staff.
2. CAMPUS PLAN CONCEPT

2.1. THE CONCEPT

The role of the Campus Plan is not to prescribe or mandate growth, but to help accommodate the goals, aspirations and visions of the University community by identifying and analyzing opportunities for growth and physical improvement. The rate of growth and extent of campus transformation will be a product of funding and programming opportunities.

With a comprehensive plan, the University can undertake individual projects with the assurance that each project fits within a cohesive long-term vision. The Plan can prevent lost opportunities, for instance a building placed in the middle of what could be a premier open space. In addition to the Campus Plan, it will be crucial for the University to coordinate the Plan with the Strategic Framework Plan as it evolves and with facility or department-specific studies undertaken to clearly understand the adequacy of current facilities and the need for new construction. Detailed department or building-focused space studies will help SWGC assess how it uses space currently, how space can be used more efficiently and how much new space will be required to implement the objectives of the Strategic Plan. While an overview is provided in Chapter I, detailed space studies can also help define the precise space needs associated with each type of new initiative. In summary, the Campus Plan provides SWGC with a physical framework that will allow the University to comprehensively plan and design new facilities and open space that collectively create an inspiring, beautiful and sustainable campus environment.

Figure 2.1: The Campus Plan Concept
2.1.1. Building Siting and Design Principles

a. New buildings should be built with minimum clearing, excavating and grading.

Clearing, blasting, excavating and grading are costly and detrimental interventions on the natural environment. New buildings should be built first on areas that are in proximity to existing campus buildings, and areas of moderate slope and/or are already graded, including parking lots.

b. The Campus should be compact.

Campus growth should foster collegiality by maximizing opportunities for socializing and informal interaction. A well-connected and compact campus is key to encouraging such an environment. A compact campus is also more cost-effective to operate and maintain.

c. New campus buildings should be designed to complement the natural setting.

To provide a coherent and attractive experience to out-of-province faculty, staff and students, buildings should fit with the Corner Brook context. This includes using regional materials, natural colours and architectural styles common in the area. Buildings should be scaled to fit with the surrounding environment in height, massing and character.

d. Buildings should frame views and create an attractive edge to the Campus.

New buildings should embrace the spectacular views to the north with attractive north-facing building edges that promote transparency between indoors and outdoors through prominent entrances and large expanses transparent glazing, particularly on the ground floor.

e. All edges of buildings should look onto attractive outdoor spaces.

Building edges should front onto attractive open spaces to provide amenity areas. The campus will be connected as a whole through a coherent network of open spaces, and provide attractive views to building occupants.

f. Tall building elements should create visual anchors.

Although campus buildings should generally blend in their natural environment, taller building elements should be strategically located to promote landmark views from the city to assist in on-campus orientation.

g. Building edges should be linked with breezeways or enclosed building connections at the ground floor level.

Enclosed linkages between buildings are already an integral part of buildings at SWGC. By removing people from outdoor spaces and ground floor areas, elevated links can minimize the use of outdoor areas, particularly in the summer months. An alternative is to create enclosed breezeways/colonnades at the ground floor level to facilitate access to the outdoors and to animate ground floor spaces.

h. The Campus should be planned in conjunction with neighbouring institutions.

Although SWGC is relatively isolated from activity in Corner Brook, the campus is located in close vicinity to other institutions including The Forestry Centre (on campus), The RecPlex, The Arts and Culture Centre, Herdmann Collegiate and The Pepsi Centre (already managed by SWGC). Joint planning can facilitate initiatives like the sharing of food preparation, transportation planning and management, the sharing of athletic and parking facilities.
2.1.2. Landscape Design Principles

1. Campus landscape design should contribute to campus life and beauty in all seasons of the year, particularly in the winter months.

   The campus landscape should evolve with the seasons and not look "abandoned" outside of the summer months. For example, large expanses of turf grass are bound to remain underutilized for most of the year. Plants can be selected for a positive year-round appearance.

2. The campus garden-like landscape should be enhanced by integrating the natural setting, using natural materials and incorporating a consistent palette of furnishings.

   Campus open spaces should generally be designed as "natural fingers" entering the campus and not as overly manicured spaces that belong to other traditions, environments and climates – and look out of place at SWGC. Furnishings should use local materials in their natural state such as stone and wood.

3. Accessible pedestrian walkways and connections should be usable in all seasons of the year.

   Outdoor paths should be designed to facilitate snow removal throughout the year, link building entrances directly to one another and be well-lit. Some open spaces should be designed to facilitate snow removal. Other open spaces should be designated for use in the summer months only and not require snow removal.

4. The Fen should be protected

   The environmental integrity of the Fen should be protected, including its recharge capability.
2.1.3. Strategic Direction

The following strategic directions provide a guide to the key initiatives proposed by the Plan and implemented through buildings and open spaces discussed in this Chapter as well as in Chapter 3 – Open Space Guidelines and Chapter 5 – Sustainability.

1) A strengthened “front of the Campus”

The north side of Grenfell Drive is the main entrance to the campus and a visitors’ first impression. New buildings are proposed on already-graded areas along the street, some on existing parking lots. New open space design is proposed for the space between these new buildings and the existing campus.

2) An expanded and improved pedestrian network

The Plan proposes a gradual strengthening of the pedestrian network through the establishment of well-marked connections between building entrances, to and from parking lots, as well as formalized connections to the Corner Brook Stream Trail. The Plan proposes a hierarchy of designs for trails depending on their type and frequency of use. A particular emphasis is on the outdoor pedestrian connection in front of the existing campus buildings along Grenfell Drive, as well as between existing and proposed residences.

3) New buildings on graded terrain, including parking lots

The Plan identifies a number of building sites that can be built upon with minimal forest clearing, and in most cases, minimal excavating and grading. As shown in Figure 1, these sites can accommodate the bulk of campus growth within the foreseeable future.

4) A common language for open spaces

As per the landscape principles, a common language is proposed for all open spaces, with distinct new open spaces proposed throughout the Campus. Open spaces are designed to welcome the natural environment onto the Campus and complement adjacent buildings.

5) Improved existing buildings

Consultation exercises determined the need for improvements to the pool and the gym. While improvements to academic spaces were identified as necessary as well, these should be the object of a detailed study that would examine the current and future needs of each department closely and map them to available facilities.

6) Decentralized communal spaces to foster informal interaction and enhance quality of life on campus for staff, faculty and students

Campus analysis and consultation exercises identified the need for a series of decentralized common spaces and campus amenities. In this Chapter, opportunities are identified in each new building proposed by the Plan. In Chapter 3 – Open Space Guidelines, a broader approach to the inclusion of common spaces is provided.
2.2. BUILDINGS

Today, SWGC provides approximately 19,787 square metres (sm) (213,000 square feet [sf]) of teaching, research and support space* which accommodates a campus population of 1,616 including students, faculty and staff. In addition, 11,984 sm (129,000 sf) is provided in residence buildings of 411 beds. The ratio of teaching, research, support space to the campus population is approximately 12 sm per person (132 sf), which is at the low end of the Canadian average of between 12 sm (129 sf) and 18 sm (194 sf) per person.

Potential building opportunities including residences identified in the plan range from 30,100 sm (324,000 sf) to 57,226 sm (616,000 sf) depending on the inclusion of a large new building outside of the current built up area of the campus and the number of storeys for each building (see details by building and proposed concept plan). The Plan is a long-term scenario which can be realized and fine-tuned over time.

*Support space includes administration, food services, student union, athletics, and physical plant areas.

2.2.1. Existing Buildings

The new buildings contemplated by this Plan accommodate between 51,900 sm (558,665 sf) and 65,968 sm (710,097 sf) or 47 to 86 percent more space than today.

This scenario supports a net increase of up to 65,968 total sm or x sm of teaching, research and support space (x% of the current floor area). By allocating all new buildings, except the proposed residences to teaching, research and support space and assuming a constant space/population ratio of 12 sm per person (132 sf) - a total campus population of x can be accommodated.

It is important to note that this figure is provided for reference only. The concept does not prescribe campus growth but identifies opportunities for new buildings and additions, all of which will likely not be built within the timeframe of 30 years anticipated by this Plan.

The Plan identifies 527 additional parking spaces - 262 of which are in structured facilities. The provision of parking in structured facilities requires that the University dedicate sufficient revenue to build parking facilities and simultaneously promote alternative modes of transportation in a cohesive, proactive and comprehensive fashion. This is key to creating a compact and walkable campus that protects natural areas. Additional details are provided in Chapter 4 - Transportation.

<table>
<thead>
<tr>
<th>Existing Buildings</th>
<th>Footprint (sm)</th>
<th>Footprint (sf)</th>
<th>Storeys</th>
<th>Total Floor Area (sm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Sciences</td>
<td>7,414</td>
<td>79,806</td>
<td>3</td>
<td>22,242</td>
</tr>
<tr>
<td>Arts &amp; Sciences (1 storey)</td>
<td>557</td>
<td>5,996</td>
<td>1</td>
<td>557</td>
</tr>
<tr>
<td>Library &amp; Computing</td>
<td>1,165</td>
<td>12,519</td>
<td>3</td>
<td>3,489</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>1,481</td>
<td>15,942</td>
<td>3</td>
<td>4,443</td>
</tr>
<tr>
<td>Student Residences 1</td>
<td>178</td>
<td>1,916</td>
<td>2</td>
<td>356</td>
</tr>
<tr>
<td>Student Residences 2 - 8</td>
<td>363</td>
<td>3,907</td>
<td>2</td>
<td>726</td>
</tr>
<tr>
<td>Forest Centre</td>
<td>1,148</td>
<td>12,357</td>
<td>3</td>
<td>3,444</td>
</tr>
<tr>
<td>Forest Centre Storage</td>
<td>151</td>
<td>1,625</td>
<td>1</td>
<td>151</td>
</tr>
</tbody>
</table>

| Total                        | 12,458         | 134,069        |         | 35,408                |

Table 1.2: Existing Campus Building Areas
2.2.2. Proposed Buildings

![Diagram of the Campus Concept](image)

**Figure 2.2: The Campus Concept**

<table>
<thead>
<tr>
<th>Proposed Buildings</th>
<th>Footprint (sm)</th>
<th>Footprint (sf)</th>
<th>Storeys</th>
<th>Total Floor Area (sm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - University Centre</td>
<td>2,825</td>
<td>30,409</td>
<td>3-4</td>
<td>8,475-11,300</td>
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<tr>
<td>B - Academic</td>
<td>1,885</td>
<td>20,291</td>
<td>3-4</td>
<td>5,655-7,540</td>
</tr>
<tr>
<td>C - Academic &amp; Administrative</td>
<td>1,900</td>
<td>20,452</td>
<td>3-4</td>
<td>5,700-7,600</td>
</tr>
<tr>
<td>D - Academic &amp; Administrative</td>
<td>1,900</td>
<td>20,452</td>
<td>3-3</td>
<td>5,700-5,700</td>
</tr>
<tr>
<td>E - Parking Garage</td>
<td>5,295</td>
<td>57,008</td>
<td></td>
<td>5,700-5,700</td>
</tr>
<tr>
<td>F - Residence</td>
<td>1,630</td>
<td>17,546</td>
<td>3-4</td>
<td>4,690-6,520</td>
</tr>
<tr>
<td>G - Library Expansion</td>
<td>536</td>
<td>5,770</td>
<td>3-3</td>
<td>1,608-1,608</td>
</tr>
<tr>
<td>H - Arts &amp; Sciences Expansion</td>
<td>796</td>
<td>8,668</td>
<td>3-3</td>
<td>2,388-2,388</td>
</tr>
<tr>
<td>I - Academic</td>
<td>5,828</td>
<td>62,734</td>
<td>3-4</td>
<td>17,484-23,312</td>
</tr>
</tbody>
</table>

Table 2.2: Areas as outlined in the Campus Concept

2 - Campus Plan Concept
a. Building A

Building A occupies one of the most prominent sites on Campus and would provide a gateway building to the Campus – an important element that is currently missing. This 3-4 storey building is proposed to be linked to the Arts and Sciences Building by colonnades framing a new formal campus quad. The mix of uses in this building would depend on need at the time of construction, but its strategic location calls for the inclusion of community-focused uses, particularly on the ground floor. These could include a new Campus Common integrating meeting, assembly and exhibition space and potentially a new combined performance and exhibition cluster with a common atrium. Building on this community orientation, this building would be particularly well-suited to a future Continuing Education or Lifelong Learning department. A restaurant and café could serve neighbouring buildings and the expanding university and a welcome desk or information centre could act as a first point of contact for first-time visitors. The building could be an appropriate home for senior management or positions that receive a significant number of visitors.

Figure 2.3: A new Campus Common building is proposed to include community-focused uses and provide meeting places for the campus as a whole.
Important design elements for this key building include:

- A highly transparent ground floor to welcome visitors and animate the new open space between this building and the Arts and Sciences Building;
- A design that capitalizes on views to the valley – potentially with terraced outdoor spaces;
- Informal meeting/common spaces – including a café or lunch spot on the ground floor, exhibition space visible from entrances; and
- A landmark feature to signal the entrance to the Campus.

**b. Building B**

Building B is proposed on a portion of the existing parking lot south of the Main Residence. This 3-4 storey academic building offers significant opportunities for synergies with the Long Term Care Facility, including Nursing or other Health Care related fields. While not as prominent as buildings proposed on the ridge, this building should incorporate common spaces on a highly transparent ground floor. Entrances should be provided on all sides of the building to facilitate walking to and from other buildings and parking facilities. As a building that is visible from all sides, the building should be well designed with entrances from University Drive. Service entrances and loading docks should be located away from main entrances and appropriately screened.

*Figure 2.4: Building B will incorporate common spaces with a highly transparent ground floor.*

*2 - Campus Plan Concept*
c. Buildings C&D

Buildings C and D take advantage of already-prepared sites at the northern edge of the Campus, overlooking the Valley. These buildings will help buffer prevailing westerly winds while providing expansive views to downtown Corner Brook and the Bay.

Building C should have a weather-protected above grade link to the Pepsi Centre. The extension to the Library will reduce the walking distance between Building D and the remainder of the Campus. These buildings lend themselves well to a variety of academic and administrative uses, but a mix of public uses should be provided on the ground floor facing south to provide a positive edge to proposed outdoor spaces and to allow campus users to walk indoors at grade along the length of the building façades.

d. Parking Garage E

Buildings C and D are built on top of a one-level parking garage integrated in the slope. This parking garage will replace surface parking lost to development and accommodate future parking requirements. A key advantage of structured parking in the Corner Brook climate is the protection afforded from the elements. The parking garage can also be used as an indoor connection between the two buildings, preferably facing the valley, and should integrate much needed on-campus storage.

Figure 2.5: A parking structure will be located below Buildings C and D.
e. Building F

Building F is proposed as a 3-4 storey, 250 to 330-bed residence in a quiet area of the Campus near the Fen and close to other campus buildings and residences, as well as the Long Term Care Facility. In addition to university students, the size of the building allows for a variety of residents, including graduate students as well as visitors or short-term staff at the Long Term Care Facility. Ideally, the height of the building should be 3-4 storeys to fit well with its particularly sensitive natural setting.

The Residence should include social spaces for residents and can include facilities available to the general campus population to encourage mixing. During consultation exercises, participants stated that they would also welcome general university uses in the building, including classrooms.

The connection of this residence to the surrounding formal and forested open spaces, as well as to the Fen, will be a key distinguishing amenity of this building.

Figure 2.6: Building F will house residences in a quiet area near the Fen.

2 - Campus Plan Concept
f. Building G and Library Expansion

The ground floor of the Library is underutilized and its colonnade facing a blank wall functions poorly. The proposed 3-storey infill addition would improve the image and entry to the Library while increasing its capacity. The ground floor of the library would be fully excavated and the ground floor turned into an Information Commons including circulation desks, computers and informal reading areas – on the model of the space at the QEII Library in St. John’s. The ground floor space should also include open meeting spaces to encourage interaction, and would take advantage of the views. It would be very important to ensure the transparency of this ground floor to create a strong relationship between the indoor and outdoor spaces. The concentration of the “public” uses of the Library would allow for remaining spaces to be focused on quiet study spaces and stacks.

The Library is pre-structured for an additional floor, allowing for additional space for collections and potential teaching space, including a large amphitheatre.

Figure 2.7: The Library entrance will be improved and the Library will be expanded.
g. **Building H**

Building on the principle of infilling available spaces on campus instead of further carving into the forest, this 3-storey Arts and Sciences infill structure takes advantage of an underutilized space, and creates a common space for Arts and Sciences. The ground floor would include an improved entry and a student lounge combined with a transit waiting area. Since this new infill building would be built in front of windows in the existing residence, residence rooms should either be relocated or an atrium created between the existing and the new building.

The location of this new structure would allow for the inclusion of an indoor bus waiting area integrated with common spaces. As other ground floor spaces, the ground floor of this structure should be highly transparent to animate the new open space it creates in front of the Arts and Sciences Building.

*Figure 2.8: Building H is proposed for an underutilized space on Campus.*

2 - Campus Plan Concept
h. Building I

Unlike all other new buildings proposed on Campus, Building I necessitates a new access road as well as excavation and grading. It is therefore a long-term project to be undertaken when all other sites on campus have been built upon. Through its size, this prominent 3-4 storey hilltop building provides the opportunity to incorporate a range of academic, residential and research uses depending on SWGC’s needs at the time of consideration. If residential uses are contemplated, the opportunity will exist to convert residential space in the Main Residence to reclaim this strategically-located space, and potentially allow the construction of the Arts and Sciences Infill Building (Building H) without issues of compatibility with residential uses. Residences would therefore be located at the quieter edges of the Campus, leaving the campus core for academic and administrative uses that rely on proximity to facilitate transfers between classes and day-to-day interactions among members of the Campus Community.

The building is proposed as a phased structure over several years.
2.3. LANDSCAPED AREAS

a. Main Quad

Enclosed by glazed breezeways and covered walkways, the Main Quad will provide the campus community with a semiformal protected courtyard in which to study, relax or meet with friends. The Main Quad should be the symbolic and physical heart of the campus, and be easily accessible and visible when arriving on campus. The design should be simple yet visually powerful as a place that connects well with the surrounding buildings and provides some opportunities for public art.

The open lawn area is surrounded by both existing and proposed trees but will remain as flexible space that can accommodate various uses and will provide opportunities for seating. The main campus access promenade will provide service and maintenance access and some parallel parking that can be used as short term parking.

Figure 10: Main Quad from the east.

Figure 11: Main Quad from the west.

Figure 2.10: Main Quad

2 - Campus Plan Concept
b. **Library Quad and Switchback Garden**

The Library Quad provides a visual base to the library extension and landmark feature while visually linking the building to Grenfell Drive. Physically, the Quad provides locations for seating and meeting while creating patterns in the landscape that will provide visual interest in the winter months.

The steep slope on the west side of building will incorporate natural stone boulders, for retaining the grade, and a native species garden that will feature the local forest typology. The remaining gardens areas surrounding the building will be more ornamental as an expansion of existing gardens on the east side of the building. The main walkway on the east side of the building that links the residential area to the main campus will be developed with seating areas that can be used as "spill-over" space from the library. The covered walk linking the Main Quad will extend to a new library entrance.
c. **Formal Entry Court**

The one-way entrance loop from University Drive provides approximately 8 parking spaces for visitors. The loop will accommodate buses and will provide an entrance to the proposed main campus promenade. Landscape and open space adjacent to the loop will incorporate both interior and covered exterior waiting spaces (covered walkway in the Main Quad) with ample seating opportunities. Well-developed pedestrian access from the corner of University Drive and Grenfell Drive will provide a stronger pedestrian presence at this primary entrance as well as establishing the campus identity at this highly visible corner. The pedestrian entrance will engage the formal entry court at a café ‘spill-over’ area associated with the new campus building.

As this area represents the ‘front door’ of the campus, areas within the formal entry court will include ornamental gardens in highly visible locations and areas of enhanced and new naturalization.

![Diagram of Formal Entry Court]

*Figure 2.12: Formal Entry Court*

2 - Campus Plan Concept
d. Fine Arts Quad

The Fine Arts Quad will provide a dynamic forecourt to the Fine Arts building that will highlight the significance of the Fine Arts program at the college and the excellent history of the artisan community of Newfoundland. The landscape will provide diverse opportunities for art installations by both students and professional artists and will feature permanent displays as well as temporary 'guest' pieces.

An open gathering space for special events will be provided and will include opportunities for sculpture placement and seating. The adjacent landscaped areas can also be utilized for sculpture placement in a garden format.

An open lawn area is proposed for the roof of the parking garage structure where there are magnificent views to the Bay. The area will include raised planters that can also be used for seating. Paved areas around the perimeter of the lawn can be used as 'spill-over' space associated with the new academic buildings and provide an elevated viewing area oriented to the north-east. The centre of the lawn area will be left clear to maintain the spectacular views to the north and north-east.

The main campus access promenade will provide access for deliveries and service, will provide some parallel parking spaces and will provide access to the proposed parking structure.
e. **Residence at the Fen**

The proposed residence building landscaping will provide an interesting and educational landscape while being sensitive to the proximity to and function of the Fen. The landscape will include amenity areas for the building residents such as patio space and seating areas, barbeque areas and gardens. A sufficient setback will be required to protect the Fen and infiltration areas are proposed to capture and clean runoff from around the proposed building, including the parking areas. The infiltration area will be used as an interpretive feature and will include a raised boardwalk and woodland trail access.

A parking area to the south, providing approximately 50 spaces, is proposed to be accessed from the new campus drive. This new drive will also provide a drop-off feature at the main entrance to the building with some lay-by parking for short term use.

![Interpretive features will be located in this location.](image)

---

**Figure 2.14: Residence at the Fen**

2 - Campus Plan Concept
f. **Main Campus Promenade**

The proposed Main Campus Promenade is designed to provide some vehicle access between University Drive and Grenfell Drive through the main part of the campus. The Promenade is a 6.0m wide, 2 way traffic and emergency service route designed to blend well with the pedestrian environment. Some parallel parking spaces are provided for temporary parking and will be demarcated with a change of paving material. The Main Campus Promenade is not meant to be a major vehicular thoroughfare and will be designed in such a way that it can be shared with pedestrians.

*Figure 2.15: Section through Main Campus Promenade.*
g. **Back Lot** Student Lounge and Patio

The open space adjacent to the east side of the Arts and Sciences building is designed to accommodate patio and seating areas for the existing residential space in the building and provide more buffer planting and parking areas closer to the facility. If the 'Back Lot' student lounge remains in this part of the building, the adjacent patio space can be cordoned off and used for lounge functions. If the student lounge moves to the proposed University centre, the patio space can function as a quiet exterior gathering space to be used mostly by the adjacent student residences.

A new parking area providing approximately 22 spaces is proposed adjacent to the southern wing of the Arts and Sciences building. The length of University Drive along this open space will be reconfigured to allow parallel parking and street trees on both sides of the street.

*Figure 2.16: Student Lounge and Patio.*

2 - Campus Plan Concept
h. **New Academic Building, University Drive**

The new academic building to the south of the Arts and Sciences building will be complete with parking facilities, access to the woodland trails and the Corner Brook Stream Trail and perimeter landscaping. Well developed pedestrian access will be provided through crosswalks, sidewalks and a main entrance at the north corner. This length of University Drive adjacent to this proposed building has also been reconfigured to provide parallel parking spaces and street trees on both sides of the street.

![Diagram of New Academic Building]

*Figure 2.17: New Academic Building*
Figure 2.18: Section through the proposed University Drive.
i. **Remainder of the Campus**

- Consider outdoor gathering spaces for residence dwellers, with benches and barbecues.
- Consider small pavilions for teaching and education in the forested areas of the campus lands.
- Introduce wayfinding and interpretive signage in the forested areas.
- Connect to the Corner Brook Stream Walking Trail System.
3. OPEN SPACE GUIDELINES
3.1. Open Space Guidelines

Well planned and designed landscapes have the ability to provide a memorable visual image of the Sir Wilfred Grenfell College campus. The landscape in particular makes a powerful first and lasting impression and can be important in establishing an image of quality which ultimately will assist the College in recruitment and retention of faculty, students and staff. The Campus Open Space Plan identifies ways to manage and protect existing campus landscape assets and direct future landscape design that is environmentally and financially sustainable and that addresses Campus Planning and design objectives.

Campus in a Forest:

Geographically, the SWGC campus is uniquely located within the Conner Brook Subregion, which lies within the greater context of the Western Newfoundland Forest Ecoregion. The Long Range Mountains provide protection from cold north-easterly winds giving this area long periods of frost free weather. This, in combination with the underlying limestone geology, creates the most favourable growing conditions on the island. The excellent growing condition is reflected in the healthy, well tended garden areas and the abundant native forest growth that envelopes the campus and provides the campus with its stunning visual presence.

The campus is uniquely located at the interface between the forest and the community of Corner Brook. The presence of the natural environment needs to be expressed so that all who visit the campus will appreciate the 'Campus in a Forest' connection. Green links will be established to strengthen the physical connection to the forest and to conserve forest-like settings in the expanding campus development. Landscaping on the campus will be intensified and strengthened to enhance the visual perception of the forest’s presence within the campus’ boundaries.

The SWGC is located within a unique natural setting, within close proximity to the community of Corner Brook.

Challenging Climate:

During most of the school year snow is both a beautiful and imposing presence on the campus. Corner Brook is one of the snowiest communities in Canada, averaging 200-400cm each winter. All aspects of the open space design should respect the impact and longevity of the snow’s presence and find ways to make the campus open spaces more accessible for pedestrians during the winter months.

Connections to the Community:

The ability of the community of Corner Brook to adapt to the challenging climate is reflected in the many outdoor recreational opportunities available during all seasons of the year. (Walking, hiking, camping, cycling, skiing, snowmobiling, canoeing etc.) As such, the campus plan will endeavour to incorporate all available outdoor recreational opportunities and make relevant physical connections within the campus boundaries and connections external to the Campus, such as making a more formal link to the Corner Brook Stream Trail system.
3.2. Structuring Framework

In order to strengthen the quality of the campus layout, certain corridors and open spaces should be preserved, reinforced, or created. For example, the function of the existing vehicle entry court off University Drive will remain in place but will be reconfigured to better serve the proposed campus development. The Fine Arts Quad and Library Quad are spaces which already exist and will be enhanced through improved space organization and landscaping. Open spaces such as the Quad Access Drive, the Main Quad, and the Residence at the Fen are new spaces which will enhance the aesthetics and function of the proposed development on the campus.

The function of existing corridors will be retained, such as the University Drive entry court, shown above.
3.2.2. Basic Elements

Edges

Edge related open spaces are comprised of the frontages where the Campus meets the community and where the character of the University will make its biggest impact. These spaces are shared by the surrounding community both physically and visually. SWGC’s formalized edge related open spaces occur along Grenfell Drive and University Drive. The campus plan proposes improvements to these edges that will project contextually appropriate, high quality landscapes and promote the image of the campus for visitors and the surrounding community.

Entries

Entries to the campus are locations that offer opportunities to signal arrival at SWGC and establish a strong sense of place. Connectivity and arrival to the campus from University Drive does not have a well-defined arrival sequence, therefore the campus plan recommends improvements to existing and new roads. The design of buildings and open spaces contribute to a stronger sense of arrival and orientation on campus. The Campus Plan recommends organizing the entry points into a hierarchy that will establish primary, secondary and tertiary entrances. All levels of entry signage will belong to a family of elements that will share a common design vocabulary and scale.

The Primary Entrance, located at the intersection of Grenfell Drive and University Drive, marks the northern limit of the campus. The primary entrance will incorporate significant signage and identification features that will be visible by both vehicles and pedestrians from the intersection of O’Connell Drive and University Drive. The main function of the Primary entrance will be to welcome visitors to the campus and contain basic guiding directional information. The primary entrance will be the most used entrance on the campus.

The secondary entrances are located at the Entry Court off University Drive and at the intersection of Grenfell Drive and NW residence access drive. Secondary entrance features will be smaller in scale than the primary entrance feature and will contain more specific directional information.

The only tertiary entrance on the campus is located at the intersection of University Drive and the south residence access drive. This entrance will need to be identified once the Long Term Care Facility is operating to alleviate confusion upon entry to this part of the campus. As this access drive is a dead end, directional information should be provided.

Campus Circulation

By helping to define and differentiate circulation routes, the landscape can improve way finding and give identity and scale to the campus. Pedestrian paths through the campus are constructed of a variety of materials and have been installed on a per-case basis without the benefit of an overall plan. The rationalization of these path systems will enable pedestrians and authorized vehicles to move more smoothly on specifically designated paths. The circulation system will be better defined and will become more attractive with coordinated paving materials and supporting site amenities such as planting, furnishings and lighting.
Vehicular Circulation and Storage

A basic concept of the open space plan is to remove as much vehicular circulation as is possible and reduce the area required for storage functions from the interior of the campus. A certain amount of vehicular access and storage is necessary to provide basic service, access and delivery functions to existing and proposed buildings. As illustrated in the Campus Plan, vehicular access areas, especially in the north end of the campus, should be de-emphasized both physically and visually. Vehicular access routes through the campus should generally be considered a secondary function to pedestrian movement.
Pedestrian Circulation

Currently the pedestrian network relies on a system of interior pathways constructed of different materials without an apparent hierarchy. Areas of neglect have been the pedestrian connections from entries and edges to the interior open spaces of the campus, building-to-building connections and connections from parking areas. The Campus Plan focuses on the creation and preservation of a high-calibre, organized pedestrian priority environment. The design objective for walkways is to make them clearly recognizable as continuous corridors so that the driver, or pedestrian will be able to easily comprehend connections between campus destinations within the campus and out to the surrounding community. These linear links have been prioritized according to their location, projected function, capacity, and their importance in the overall design.

For example, the primary pedestrian circulation accessing the main campus will have a stronger visual presence than the sidewalks along University Drive and Grenfell Drive. Lighting, plant material, and site furnishings will further define the levels of pedestrian circulation and give them a visual hierarchy. Seating areas will be aligned along pedestrian routes and will include distinctive light poles, banners, seating and way finding elements.

Walkways can be memorable places as they sequentially reveal the individual campus areas and buildings through harmonized linked spaces. This experience will vary with each type of walkway design. Walkways should be considered in the larger context as opportunities to enrich the campus and should therefore be designed on a campus-wide basis, not on a project by project basis. The Campus Plan includes a series of walkways that will incorporate different environments, for example, the primary pedestrian circulation accessing the main academic precinct will exhibit an urban setting with hard paving and site furnishings, whereas walkways proposed within the woodland areas will be softer and more natural materials and will reflect the close proximity of a more natural environment.

Landscaping along walkways will enrich the campus experience.
Bicycle Circulation

Although cycling is not currently a popular mode of transportation to and through the campus, it should be given consideration in the design of gathering spaces and walkways. Links to existing and proposed bicycle trails and the community of Corner Brook at large should be created to provide safe and easily accessible cycling routes. The Campus Plan does not propose any dedicated bike paths as the Campus is compact enough to avoid dedicated bike trails which are space-consuming. Cyclists can park at the edge of campus or follow vehicular routes over short distances to the core campus. Wider paths can be shared by pedestrians and cyclists. Bicycle storage areas should be discretely located near campus entrances and building entrances. Where possible, locate bicycle storage areas in secure and sheltered areas.
Campus Open Space: Quads, Terraces and Gardens

Campus open spaces are places where people are most likely to congregate. These places can provide opportunities for more highly detailed, civic design solutions. Walls, lighting, seating and paving are dominant elements within these spaces and their expression should be sympathetic to the existing and proposed architectural styles in materials, form and composition.

All campus open spaces should be designed with elements that reinforce the geometry of the space in the winter months and provide some buffering from the wind. Open spaces should also endeavour to have appeal and interest in all seasons of the year and should seldom look abandoned or disused. A key design principle is to design outdoor spaces to be functional for summer use but to use materials and features such that the spaces do not look abandoned in the off-season. Furnishings should use local materials in their natural state such as stone and wood.

The Campus Plan proposes the following new or improved open spaces, which are described in detail in Chapter 2:

- The Fine Arts Quad
- The Main Quad
- The Library Quad
- The Residence at the Fen
- Formal Entry Court
- 'Backlot' Student Lounge and Patio
**Formal Open Spaces**

Traditionally the central organizing spaces of the campus; formal open spaces should represent and symbolize the heart of the College. Open space design should take its cue from the context and framework provided by each space's unique surroundings, and, in this case, the campus's proximity to its natural environment. All open spaces, existing or proposed, should be designed for passive safety with clear sight lines from adjacent buildings and for the elimination of isolated zones. The Fine Arts Quad, Main Quad and Formal Entry Court are examples of formal gathering spaces.

**Gardens**

To maintain the tradition of garden spaces on the campus, enhancement of existing gardens and inclusion of new garden areas are proposed in the campus plan. Gardens are strategically located in highly visible locations and in areas where steep terrain may preclude other uses. Gardens will be designed as "natural fingers" entering the campus and not as overly manicured spaces that belong to other traditions, environments and climates – and look out of place at SWGC. The Library Quad is an example of a typical garden space.
**Naturalized Areas**

Naturalized areas are shown in locations previously occupied by open lawn and in areas that expand existing stands of naturalized plant material. The goal of increasing the areas of naturalization is two-fold. The primary intent is to purposefully integrate the natural setting within the campus and the secondary is to reduce the areas of maintenance. Naturalized areas can occur on steep slopes, can be used to frame views, provide wind buffers and can be a source of education and interpretation. Proposed naturalized areas can begin with a simple 'no mow' zone with some programmed planting of native species. Existing naturalized areas will be managed and maintained and can include small pavilions for teaching and education. The Residence at the Fen is an example of both existing naturalized and proposed naturalized areas.

**Residential Amenity Areas**

Outdoor gathering spaces for residence dwellers will be provided and will include amenities such as patio areas, seating, gardens and barbecue facilities. The Residence at the Fen will include a boardwalk and interpretation elements that can be accessed by other residences on the campus.

**Residual Spaces**

Residual and connecting spaces should be emphasized through landscape design and building massing to better link both visually and functionally various parts of the campus. Residual spaces that exist between walkways and buildings, at building entrances and near emergency exits and service areas, for example, should be treated with as much attention to detail as gathering spaces. Grading, lighting, planting and safety concerns should all be considered. For example, the blank facade behind the Arts and Sciences building, within the service area is visible from the residential wing of the building. The campus plan proposes tree and shrub planting on the east side the service area to provide screening of service functions from the residential portion of the building.

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*Figure 3.1: Diagram of naturalized area.*
3.3. Landscape Design Guidelines

Landscape design guidelines establish general criteria to be used to direct future site design as the Campus Plan is implemented. While each new project will present its own set of unique opportunities and constraints, design guidelines help ensure that all projects developed over time can exhibit consistency in materials, forms and character while simultaneously allowing flexibility for positive innovation. The goal is to achieve an integrated, coherent campus environment regardless of when each project is constructed.

3.3.1. Wind and Weather

Pedestrian comfort on campus is directly affected by opportunities to buffer the wind through the location and design of buildings, structures and landscape. The placement of strategically located wind breaks can be done through built form and tree placement that reflect both the formal patterns of building and road alignments as well as the informal patterns that reflect pedestrian desire lines and strategic views.

Existing trees and shrubs on campus that are doing well become important elements in providing a semi-mature framework to future planting. New planting should concentrate on intensifying existing plantings, which will then improve the microclimate for future plant material installation.

Snow removal and storage is also a major element with regards to creating comfortable pedestrian environments. Design of walkways and gathering spaces should pay particular attention to the physical placement and dimensioning of landscape elements to respect snow storage and removal requirements. Campus open spaces must be accessible for pedestrians during the winter months.

3.3.2. Campus Schedule and Construction

New development proposed for the campus should be ultimately timed to correlate to SWGC’s curriculum and new construction should take place at times least disruptive to the school year. Typically, new landscape projects should be tendered in the winter months with a construction start date scheduled at a time co-ordinated with the end of the school year in the spring. Ideally, the majority of the construction should be completed during the summer months when the campus is less populated and is dry and ready for construction. Any newly finished projects should be secured and protected from theft or vandalism. New or sensitive planting areas (for example, a naturalization installation) should also be protected until the planting has become established enough to sustain the intended use.
3.3.3. Surface Parking Areas

With new development identified by the Campus Plan, some existing large surface parking lots will be removed or replaced over time. Surface parking is generally to be located at the south end of the Campus, minimizing the amount of vehicular circulation permitted in the main campus area. A number of small 'pocket' parallel parking areas will be created and opportunities to expand street edge parking are encouraged.

All new surface parking areas should incorporate an adequate number of disabled parking spaces and identify designated motorcycle or other alternate-mode vehicle parking spaces. Parking preference should be given to highly fuel-efficient vehicles and registered carpools. As new surface parking lots are developed and existing ones redeveloped, the following guidelines should be observed to de-emphasize the parking area's appearance:

**Configuration**

Any new or redeveloped surface parking areas should be constructed with the most efficient configuration as possible to reduce the overall quantity of pavement. This means reducing the size of access drives, parking stalls and aisles as much as possible within allowable standards. The guidelines recommend at typical parking stall size of 2.7m wide by 5.5m long with an aisle width of 5.75m. Infiltration areas, which will be required for existing and proposed surface parking areas will be a minimum of 3.0m in width.

![Diagram of guidelines for surface parking areas.](image)

Figure 3.2: Diagram of guidelines for surface parking areas.
**Signage**

All parking areas should be identified on the campus map. Special parking spaces (for example, VIP parking, disabled parking or motorcycle parking) should be designated by either a change in the paving material or by the use of a sign. All signage should be legible yet creatively and tastefully designed and belong to a campus wide signage concept.

**Screening and Planting**

Parking lots should be screened with intensive ground cover, shrubs and tree planting to minimize their visual impact. Healthy existing trees near or within parking areas should be preserved. All opportunities to plant evergreen plant material along the perimeter of parking areas or within internal islands should be pursued. Internal planting islands should be considered for all surface parking areas but should be designed in fewer, but larger configurations to ease snow removal in the winter.

**Paving Materials and Edges**

Parking area surface materials should be selected to support the nature of the pedestrian oriented campus. Although making a clear distinction between pedestrian and vehicular areas is an important issue, parking lot surfaces should blend well with surrounding pedestrian spaces. Surface materials such as unit pavers are be a preferable alternative to large expanses of asphalt. Combinations of materials, such as concrete with unit paving banding or unit paving with natural stone can also be considered. To reduce the amount of run-off, semi-permeable or fully permeable paving materials should be considered for all, or at least a portion of a parking area, instead of asphalt to allow some storm water to percolate in to the ground.

Smooth concrete curbs should be proposed to contain vehicles, direct surface run off and provide solid edges for snow removal equipment. Plastic poles should be used to mark edges in need of protection prior to abundant snowfall.
Lighting and Security

Lighting should be selected to minimize light pollution and produce white, colour accurate lighting (metal halide). Tall standards should be replaced with pedestrian-scaled standards and low bollards. Lighting should be adequate to provide good visibility in nighttime conditions. All parking areas should contain at least one emergency telephone or beacon. Please refer to the lighting section of the landscape guidelines for more detailed information.

Aisles and Internal Pedestrian Network. Pedestrian access that must cross parking areas should be directed to well designated pedestrian scaled walkways. A change in paving materials and appropriate lighting, signage and vertical markers for identification in the winter months should accompany all such walkways. This crosswalk detail should be consistent throughout the campus where pedestrians and vehicles intersect.

Drainage

Runoff water from parking areas should be captured on-site in swales. New and redeveloped surface parking areas, should be designed to drain into vegetated or grassy swales. The swales filter the runoff and then slowly release the water into the ground or into the existing storm water system. Semi-permeable pavers should be considered for new parking area paving to allow some storm water to percolate before being collected in swales.
3.3.4. Paving Materials

Paving is intended to assist in the organization of the campus open spaces while being a background element that allows the activity of the surrounding use to predominate. Imitation pavement materials, for example, concrete that is finished to look like natural stone, are not recommended for this campus.

All paving materials should be selected for their ability to withstand Corner Brook's climate and heavy salting in the winter months. Pavements should be designed to maximize pedestrian safety and to accommodate people with disabilities. Vehicles will occasionally traverse most pavements within the campus; therefore, new pavement design should take vehicle use into consideration.

Subsurface Conditions

It is recommended that the existing subsurface conditions be investigated prior to any new pavement being installed. Underlying causes of the existing pavement failure may continue to cause problems for future pavements. It is essential that subsurface preparation and base material selection and installation be done properly for the new pavement to be successful. Including geotechnical investigation in the construction process will provide accurate information for the design of an appropriate pavement section. Demonstration plots of various hard paving materials may be installed to find the best pavement section solution. Finding a level of comfort with alternate paving materials may greatly improve the paving palette for the campus.

Walkways

As the Campus Master Plan demonstrates a hierarchy of walkways, there should also be a corresponding hierarchy of paving materials. The following is the recommended palette of materials and colours:
Main Campus Walkways: (see previous page)

- Minimum 5.0m wide to accommodate emergency and service vehicles
- High quality easily recognizable paving materials such as, unit pavers, natural stone, concrete paving or a combination thereof.
- Unit pavers minimum 60mm unit thick in areas of exclusive pedestrian use. Install on concrete base or use 70mm to 80mm thick pavers where paving will sustain vehicular use.
- Paving colour palette: red brick or other to be determined
- Specify texturized surfaces to reduce slipping

Garden Walks and Boardwalks:

- Minimum 3.0m wide
- High quality unit pavers, selection related to location
- Paving colour palette: natural stone or other to be determined
- Boardwalks to be minimum of 3.0m wide, constructed of high quality, locally sourced lumber appropriate for outdoor use

Sidewalks:

- Minimum 2.0m wide
- Natural concrete paving with broom finish
- Located adjacent to access routes or roadways
- Free of fixed elements or obstructions to snow removal

Crosswalks: (see below)

- Minimum 3.0m wide
- Crosswalks to be paved with texturized, interlocking unit pavers with concrete edging

Figure 3.4: Main Campus walkways.
Woodland Trail: (Figure 3.5)

- Minimum 3.0m wide to allow emergency vehicle access
- Constructed of high quality, well compacted, locally sourced granular material
- Trails should not be lit to promote daytime use only

Paving for Gathering Spaces

Paving for gathering spaces can react specifically with the unique concept and purpose of the space and its context. A high-quality, classic palette of materials will prove successful over time. Natural stone, unit pavers in non-custom colours and finishes and natural concrete paving will provide a timeless aesthetic that will be appropriate now and in the future.

Patterns and detailing in the paving to create interest should respond appropriately to the use and scale of the space. For example, patterns and detailing for a large gathering space will have a larger scale that those of a smaller, more intimate courtyard. Large, plain expanses of paving should be avoided.

Figure 3.5: Internal Campus Circulation.
3.3.5. Stairs, Steps and Ramps

Due to the campus terrain, stairs and steps are often necessary to provide pedestrian access throughout the campus. A majority of existing steps are constructed out of wood with short treads and present unsafe conditions when wet, covered or partially covered with snow. The guidelines propose that existing wood stairs either be replaced with paved ramps, or with concrete or precast concrete steps with a minimum tread of 30cm (12”). Landings should be provided every 9 risers, or at every 9m on a ramp. The tread or ramp surfaces should be texturized to provide slip resistance.

All new construction should avoid using steps by incorporating well designed ramps and/or grade related entrances.

3.3.6. Service and Equipment Storage Areas

Efficient service and equipment storage areas are critical to the operation of the campus, but they should not detract from the pedestrian experience on the campus. Service areas including loading docks, dumpsters, tanks, at grade mechanical units and maintenance equipment storage should always be screened to the greatest extent possible. Exterior bin and dumpster storage areas should be consolidated and completely surrounded by a permanent screening feature with gates. The screen should be an opaque material such as wood or metal and should be at least 2.5m in height. The design and detailing of the screen should be well thought out and appropriate for its context.

Service areas and routes should be perceived as being part of the pedestrian realm and should blend well with adjacent pedestrian pavements. Break up large expanses of paving with changes in colour, unit or materials. Paving in service areas should be washable and easily drained. And pavement section design should be appropriate to withstand heavy vehicles.

The area provided adjacent to the Fine Arts building for outside artwork preparation should be tastefully screened from surrounding areas.
3.3.7. Grading

Site grading should recognize existing drainage patterns while functionally solving drainage problems that may exist as a result of ground plane alternations during construction. Similarly, site grading should be sympathetic to existing landforms while providing appropriate transition of architectural elements to grade. Site grading should also provide for an uninterrupted flow of vehicular and pedestrian traffic through the SWGC campus. The plan should direct and provide adequate flow of surface runoff to swales and catch basins while gracefully contouring the land to blend with the existing conditions of the site.

Sensitive use of site grading can provide aesthetic qualities for development. It can soften or highlight rigid architectural lines, create private spaces, screen objectionable views and add interest to flat sites that have little or no topographic interest. Drainage then becomes an integral part of the overall Campus Plan that fulfills basic functions while being visually attractive. Site grading should always provide barrier free access to all of the campus’s facilities. Design of barrier free access should be an integral part of all new site works and should not appear as an afterthought.

The SWGC campus terrain will pose a challenge to all new development. It is inevitable that some grade retaining measures will have to be applied to alleviate grading challenges. The guidelines propose that retaining walls that require replacement and new retaining walls be constructed of natural stone. Retaining walls in close proximity to gathering areas should be approximately 500mm in height so that they can be used for seating and will not require safety rail protection. Retaining walls above the height of 1.2m should be constructed of large boulders or a gabion wall system if they are not in a high visibility area. All natural stone should be locally sourced.
### 3.2.8. Planting

Trees and other planting should be considered as design elements that define basic spatial order and can, in turn, significantly influence the quality of campus life. The designed placement of plant material in conjunction with existing vegetation and the arrangement of buildings is the crucial design element for campus. Plants are alive - thus their maintenance requirements, fragility and lifespan should constantly be acknowledged and accommodated.

Soil and Planting Bed Preparation Although the climate and the underlying limestone geology creates favourable growing conditions, balanced topsoil is typically imported for new planting areas. In accordance with this practice, the guidelines recommend preparing all new planting beds with a minimum of 30cm of pH balanced topsoil for areas of shrub and groundcover planting. Tree pits should be prepared separately and should be oversized to allow room for a 30cm layer of topsoil between the root ball and existing soils. Existing planting areas should be supplemented with compost, when available. All new planting areas should be finished with a good quality hardwood mulch.

The subgrade of planting areas adjacent to new building development should be thoroughly aerated to break up pockets of highly compacted soils. Planting areas should have an adequate scale and plant density to achieve the critical mass required to tolerate periods of drought. Planting areas should also be designed to potentially receive collected rainwater or building greywater.

### Planting Structure and Scale

The size and growing speed of trees, shrubs and planting beds should be considered carefully with respect to the proportional relationship to campus buildings, roads, walkways, topography, and nearby spaces. Tall, stately trees in rows along edges of formal open spaces and connecting corridors; or large clumps and sweeping masses of smaller trees and shrubs should be considered when planting on a campus wide scale.

Smaller trees and shrubs and perennials are appropriate choices at a courtyard or garden scale or at building entrances where people tend to congregate. Overly intricate planting design is out of character and scale with the campus setting. Plant material will be more effective both visually and physically when planted in large striking masses.

In the winter months, the plant material is often the only showing major landscape element that gives a space its structure. Attractive, sturdy winter plant forms will give life to a space when the landscape is otherwise dormant.
Plant Selection

The selection of plant material should be predicated on its particular design function in the landscape. Landscape plans should specify plant material that is mostly indigenous to the natural plant communities of Corner Brook. In cases where non-invasive exotic plants are used to enhance the landscape, planting should be limited to those species that are able to withstand the particular microclimate of the SWGC campus and require neither the use of fertilizers nor pesticides.

Plant selection should consider enhancing the campus appearance during specific time periods and have a 'Best Show' timed to University events:

- Autumn: student arrival and school year commences – provide fall foliage display
- Winter: landscape dormant - provide winter interest with fruit, bark and form, microclimate
- Spring: Students emerge, landscape wakes – provide spring show with early blooms and leaves
- Summer: Graduation, recruiting – provide summer blooms and foliage contrast

Plants selected for areas that will potentially receive snow storage should be tolerant of salt accumulation and other urban toxins such as oil and petrol residue. Plants selected for these areas should be herbaceous, or low lying in structure so that they can withstand the physical crushing of snow storage. Perennials, grasses and shrubs with flexible, or fine branching structure would be appropriate choices for these areas.

Trees

It is important that trees begin to establish a pattern or theme that will tie the campus together. Major trees or general canopy trees form a structure and add a feeling of permanence to a campus. Trees may be used for mass, to define, accent or to soften architectural elements, and to further define circulation routes and the spatial quality of open spaces. Planting size for specimen trees should be a minimum of 70mm caliper for deciduous trees and a minimum of 150cm height for evergreen trees. Trees planted in a naturalization scheme should have a large range of acceptable sizes to provide adequate structural diversity.

Mature trees lend a sense of history, permanence and strength to SWGC's image and begin to establish a framework for wind buffering. Existing trees on campus that are doing well became critical elements in providing a semi-mature framework for future planting. New planting should concentrate on intensifying existing arrangements, which will then improve the microclimate for any future planting nearby.

Trees should be selected for their form and colour through all seasons and should be chosen to support the thematic concept of the area in which they will be planted. Tree dedications should be actively pursued to connect alumni to a renewed campus and tree identification labelling may be considered to provide a further educational experience.

New tree planting should vary in size and species. Species diversity improves plant health and mitigates the potential effect of species-specific diseases.
Shrubs and Groundcover Planting

Shrub and groundcovers species and the way in which they are planted should convey a significance corresponding to the role of that space and the time of the year that the space is likely to be used. The plant material should conform to a formal plan that accentuates and enhances pedestrian routes and seating areas, frames and marks building entrances and emphasizes views through the space to the landscape beyond.

Shrub and groundcover planting is an important part of the landscape palette and can contribute greatly to the campus appearance by providing a level of dynamic change that cannot be exhibited by the larger trees. Because of higher maintenance requirements, shrub and groundcover planting should occur in fewer but larger areas to maximize the visual impact. Primary areas are building entrances, quadrangles, gardens and building foundations. The consolidation of shrub and groundcover planting will have an appropriate scale for the campus.

The use of masses of low maintenance plant material at key locations can:

- Define edges
- Soften or accentuate architectural features
- Direct traffic flow
- Screen undesirable views
- Ameliorate grade differences
- Stabilize slopes

Simplicity of plant character in keeping with the architectural palette will create a unified composition properly scaled to the size and style of the building.

Vines

Deciduous and semi-evergreen vines create visual interest on both contemporary and traditional buildings on campus. Leaves often emerge green in the spring and mature to spectacular fall colours. Most vines are drought tolerant and will grow in a variety of soil conditions. Vines can soften or articulate architectural edges, animate blank facades and help naturally cool buildings in the summer months.

Naturalization

Several areas of the campus have been identified for naturalization: the locations being selected to ameliorate steep slopes, reduce the maintenance of lawn areas, frame views, provide wind buffers and provide a source of education and interpretation.

Naturalized areas are shown in locations previously occupied by open lawn and in areas that expand existing stands of naturalized plant material. The goal of increasing the areas of naturalization is two-fold. The primary intent is to purposefully integrate the natural setting within the campus and the secondary intent is to reduce the areas of maintenance. Proposed naturalized areas can begin with a simple 'no mow' zone with some programmed planting of native tree, shrub and groundcover species. [sketch of typical naturalized planting module]
3.3.9. Recommended Plant Palette

**Coniferous Trees:**

Balsam Fir (Abies balsamea): Symmetrical evergreen tree with soft fragrant needles, grows to a height of 20m.

Larch (Larix laricina): Open, pyramidal tree with attractive cones and branch pattern in the winter. Larch loses its needles in the winter but has attractive winter form. Grows to a height of 25m.

Red Spruce (Picea rubens): Broadly conical evergreen tree with lustrous bright or dark green needles. Grows to a height of 21m.

Black Spruce (Picea mariana): Medium sized evergreen tree with a distinctly conical shape and blue-green colouring. Grows to a height of 12m.

White Spruce (Picea glauca): Hardy, shapely tree with dark green foliage. Excellent specimen tree and wind buffer. Will tolerate exposed areas. 25m height.

Eastern White Pine (Pinus strobus): Fast growing, open conical shape with soft green needles. Excellent for windbreaks, screening and as a specimen. Grows to a height of 18m.

Red Pine (Pinus resinosa): Broad, oval shaped crown atop a straight trunk with dark green glossy foliage. Grow to a height of 12m.

Eastern White Cedar (Thuja occidentalis): Dense, pyramidal tree with short branches ending in flat horizontal sprays. Grows to a height of 20m.

Hemlock (Tsuga canadensis): Slow growing, dark green evergreen with a soft, graceful habit.

Austrian Pine (Pinus nigra): Rapid growing densely branched conical from when young, umbrella shaped with age. Long dark lustrous green needles, tolerates range of soil conditions and road salt. Grow to 18m in height.

Scots Pine (Pinus sylvestris): Hardy, rapid growing, pyramidal evergreen tree adaptable to many kinds of soils, with blue-green coarse foliage. 18m height.
Deciduous Trees:

Red Maple (Acer rubrum): Fast growing, rounded-pyramidal tree with yellow to scarlet fall colour. Open, rounded winter form with ascending branches close to the ground and clusters of flower buds. Grows to a height of 16m.

Sugar Maple (Acer saccharum): Slow growing, long-lived tree with rounded form. Dark green leaves turn shades of yellow, orange and red in the fall. Winter form is upright and rounded. 25m height.

White Birch (Betula papyrifera): Fast growing, graceful tree with peeling white bark. Dark green foliage turns yellow in the fall. Bark provides excellent winter interest along with finely textured branch structure. 13m height.

Yellow Birch (Betula lutea): Irregular, short crowned tree with dark reddish young bark with thin papery curls maturing to reddish brown ragged edged palates. Dark green foliage turns yellow in the fall. Oil of wintergreen can be distilled from the stem and bark. 20m height.

Pin cherry (Prunus pensylvanica): Fast growing, shrubby tree with slender branching habit. Leaves deep green in summer turning to yellow and red in the fall. Produces a white flower in the spring followed by small red cherries. Excellent for naturalizing and useful as a ‘nurse’ species for evergreen seedlings. 12m height.

Dogberry (Sorbus decora or americana): Small, slow-growing, shrubby, ornamental tree with dark green compound leaves. White flowers followed by red fruit. Fall colour is deep red. Hardy, disease resistant tree. 8m height.

Choke Cherry (Prunus virginiana): Small suckering tree or large shrub with crooked branches and slender twigs forming an oval, rounded crown. White flowers appear in the spring followed by dark purple cherries. 10m height.

Mountian Maple (Acer spicatum): Small, short, multi-stemmed trunked tree with yellowish-green leaves turning orange and red in the fall. Brilliant red fruit (wings) persist into the winter. 8m height.

American Elm (Ulmus Americana): Broad vase-shaped tree with dark green leaves that turn yellow in the fall. Grows to a height of 26m.

Aspen (Populus tremuloides): Fast growing, narrow-pyramidal tree with lustrous dark green leaves that turn bright yellow in the fall. Excellent for naturalizing and for use in areas of difficult soils. 15m height.

Horsechestnut (Aesculus hippocastanum): Upright, oval tree with coarse green compound leaves followed by paricles of white flowers. Spiny nuts develop in the fall. Winter form is distinctively coarse. 20-25m height.
Shrubs

Serviceberry or Chuckley Pear (Amelanchier): Graceful, upright narrow multi-stemmed shrub with greyish green leaves that turn brilliant red-orange in the fall. Fruit is attractive to birds. 6-8m in height.

Dogwood (Cornus): Multi-stemmed, suckering shrub with green leaves turning maroon in the fall. Dark red branches attractive in the winter. Excellent for stabilizing slopes and naturalizing. 2m height.

Mugho Pine (Pinus mugo): Shrubby, broad evergreen shrub with dark green needles and often an irregular form. Adaptable and salt tolerant. 2 to 3m height.

Shrubby Cinquefoil (Potentilla fruticosa): Low growing, dense spreading shrub with medium to bright green leaves in the summer. Yellow flowers from early summer to first frost. Rich brown, dense branches and dried seed stalks provide winter interest. 1.0m height.

Common Lilac (Syringa vulgaris): Large, irregular shrub with dark green to blue green leaves. Large, fragrant lilac colored flowers appear in spring. Winter form is leggy and coarse. 3-4m height.

Witchhazel (Hamamelis): Large shrub with small yellow flowers in late September. Green foliage changes to orange-yellow in the fall. A sturdy plant good for naturalizing or mass planting. 5m height.

Rhododendron: Broadleaf evergreen shrub with open irregular habit. Beautiful, large flowers bloom in May/June. 1.2 to 2.0m height.

Rugosa Rose (Rosa): Useful shrub for massing and accent planting. Fuschia flowers bloom throughout the summer and fall. Shrub is thorny. 1.2m height.

Spiraea: Hardy, low growing shrub with reliable flowering. Select from green leaved or yellow leaved varieties. Excellent for massing. 1.0 to 1.5m height.
Wild Raisin (Viburnum cassinoides): Upright spreading shrub with large white flower. Fruit enjoyed by wildlife. Found in wet habitats, thickets, clearings, forest edges and along streams and ponds. 1m to 3m in height.

Sea Buckthorn (Hippophae rhamnoides): Ornamental shrub with silvery green foliage and bright red berries in the fall. Drought tolerant. 2.5m height.

Snowberry (Symphoricarpos albus): Broad rounded shape with bluish green foliage. Dainty white flowers followed by white waxy berries. Reddish-orange fall colour. 1.5m height.

Winterberry (Ilex verticillata): Oval, rounded rich green shrub with excellent dense winter form. Noted for its profusion of bright red berries and brilliant fall colour. 2m height.

Euonymous (Euonymus alatus): Outstanding shrub with corky ridged bark noticeable in the winter. Green foliage turns brilliant red in the fall. Ideal for borders, screens and large hedges.

Junipers: Low growing evergreen shrubs with coarse, prickly foliage. Useful for massing and groundcovering. Often have a purplish winter tone. 0.5m to 1.2m height.

Bearberry (Arctostaphylos uva-ursi): Low, spreading evergreen shrub excellent for groundcover. Dark green leaves turn brilliant red in the fall. 15cm height.
Grasses

Fountain Grass (Pennisetum): Medium to fine textured grass that takes on a graceful mounded form. Drought tolerant and suitable for mass plantings. 1.25m height.

Tufted Hair Grass (Deschampsia): Low mounding tufting grass with flowers on long graceful stems over dense clumps of dark green foliage. 0.80m height.

Feather Reed Grass (Calamagrostis): Distinctive, upright growing grass with flowers turning buff in the winter. Good winter form. Drought tolerant, excellent for massing. 1.2m height.

Blue Lyme Grass (Elymus): Clump forming grass with bright blue arching leaves. Suitable for slope stabilization and massing. 0.60m height.

Ribbon Grass (Phalaris arundinacea): Bright green and white foliage with freely spreading habit. Tolerant of many soil conditions, excellent ground cover and drought tolerant. 90cm height.
**Perennials**

Daylilies: Trustworthy, dependable flowering perennial with bright green strap-like foliage. Flower colour varies per cultivars. Excellent for massing and naturalizing. Flowers from mid summer to frost.

Hosta: Broad, heart shaped leaves emerge in the spring to form dense mounds of foliage. Flowers extend above mound in late summer. Chose from variegated and blue tinged varieties.

Lavender: Medium sized, silver-green foliage with bluish pink flowers. Excellent for borders and massing. Foliage is fragrant. Drought tolerant. 60cm height.

Shasta Daisy: Free flowering perennial with white flowers and yellow eye. Attractive in massing. 60cm height.

Black Eyed Susan (Rudbeckia hirta): Drought tolerant, self-seeding perennial with masses of bright yellow flowers July through to October. 60cm height.

St.John’s Wort (Hypericum): Attractive, medium sized perennial/shrub with showy, yellow-orange flowers from July to September. Leaves are bluish-green. Excellent for spreading. 50-60cm in height.


Virginia Creeper (Parthenocissus quinquefolia): Creeping vine with dark green foliage turning bright red in the fall. Excellent for groundcover.

**Plant Recommendations by Use:**

Street Trees: Linden Red Maple Red Oak Horsechestnut

Windbreaks: Austrian Pine White Spruce Larch Eastern White Cedar

Experimental Plant Species to test on SWGC Campus: Carpinus Pyrus Cercidiphyllum Ginkgo Fraxinus

Linden
3.3.10. Lighting

Light fixtures, in addition to providing for safety and security, should be installed as design elements to provide visual continuity between different campus areas. Lighting should be pedestrian-scaled, produce natural light and minimize light pollution. Heritage replica standards should be avoided because of the architectural diversity already present on campus.

Lighting should be integrally designed as part of the built environment and should reflect a balance between lighting needs and the contextual ambient light level and surrounding night-time characteristics of the campus. In particular, light pollution and trespass onto neighbouring properties should be minimized. Recommended light level guidelines and uniformity ratios established by the Royal Astronomical Society of Canada provides guidance on avoiding unnecessary light pollution.

A hierarchy of fixture styles should be selected for the campus – one for streetscapes, one for walkways and one for parking areas. Low level bollards may be introduced in key areas. Streetscape lights should have a mounting height of 7-9m, should be placed approximately 30m apart and should be equipped with banner arms. Pedestrian lights should have a mounting height of 3.5 to 4m and be installed 15-20m apart. All new lighting should be coordinated with tree spacing. Light pole and bollards should be located in sodded or planting areas adjacent to paved areas to reduce the occurrence of base damage from snow removal equipment.
3.3.11. Site Furnishings

Outdoor areas perform an important role in supplementing indoor study and meeting space. Site furniture should be located in main gathering spaces such as quads or courtyards, as well as at main entrances to all campus buildings. Furnishings should be placed and oriented so that they do not obstruct pedestrians, emergency or maintenance vehicles.

To support the visual unification of the campus, reduce maintenance and simplify replacement, site furnishings should be consistent throughout SWGC grounds.

- Campus furniture should be selected for its durability, its compatibility with the cold climate and its availability for additional purchases in the future.
- Colours and materials of site furniture should be coordinated as much as possible.
- For aesthetic and maintenance purposes, natural materials and finishes should be selected.

Seating

Seating areas should be located outside of the main pedestrian flow and should be located throughout the campus, in clusters in the more frequented areas like the quads and courtyards. Seating areas should be located in sunny exposures whenever possible should provide opportunities for both large and small groups. Seating should be stiled and maintained so that they can remain in place all year round. Lightweight metal furniture can be used on patios for ease of storage during the winter. Lighting, recycling bins and waste receptacles should always be clustered close to seating areas.

To support the theme and enhance the presence of the natural environment within the SWGC campus, the campus plan proposes using natural materials such as stone and wood for seating elements. Well designed precast concrete slabs, square cut boulders and stone seatwalls make interesting and durable places to sit, and do not require storage during the winter or undue quantities of maintenance. Natural materials used for seating elements should be locally sourced.

Currently, benches on campus have limited seasonal use.

Simple, stone benches can be used to define the perimeter of planted areas and walkways. Sunny exposure will lengthen seasonal use.
Waste Receptacles and De-icing Material Storage

Garbage containers should have separate divisions for various recyclable materials. All waste disposal should be integrated into one container. Garbage and recycling containers should be located throughout the campus with a design consistent complementary of other site furnishings. Storage space for de-icing material could be incorporated into the waste receptacle design to reduce clutter around walkways and within gathering spaces.

Bicycle Racks

Bicycle racks should be provided near the entrances of all buildings and should be located in clusters, oriented in such a way that they do not impede pedestrian movement. The post and ring design is preferred as larger, multi-cycle units impede pedestrian movement and snow clearing.

Bike racks are placed outside of the main entrance of a university building for convenience and security.

Trash receptacles with plastic liners should be chosen with separate sections for recycling.
3.3.12. Wayfinding and Signage

The ways in which a campus provides directional guidance creates a visual identity that is readable, accessible and engaging and serves to encourage interaction with the campus environment. Signage is a form of welcoming and an important safety feature.

A comprehensive naming, signage and wayfinding strategy should be undertaken with an emphasis on lending a clear identity to each access route, walkway, open space and building on the campus. The primary objective of signage and maps should be to inform visitors, shorten distances by encouraging the use of short cuts and to increase predictability by supplying information on walk times and distances. Signage geared towards motorists can provide useful information on the location of alternative parking facilities.

Naming rights to buildings, courtyards walkways, promenades and even parking lots can form the basis of a fundraising program.

The following are guidelines for signage on the campus:

- All signage should belong to a family of elements and should be of a consistent design vocabulary, include the SWGC logo and campus colours
- Sign information should be elevated high enough to clear snow levels in the winter
- Text and graphics should consist of a high contrast colour scheme with some reflective quality so the sign can be seen and read in reduced lighting conditions
- Signs should be externally illuminated so they can be located and read at night-time
- Incorporate natural materials, for example, stone and timber
- Streets and access routes should be clearly named and consistently marked

Consistent, well designed signage contributes to overall Campus quality.

Carved or in-layed signage can be integrated into gateway markers, seating, low walls and other permanent campus furnishings.
3.3.13. Public Art

Outdoor art should be integrated throughout the campus, at highly visible locations and in a variety of forms. Art should enhance the campus users’ experience and broaden their knowledge of SWGC, the community at large and Atlantic Canada’s rich history. Art on the campus provides the opportunity for the college to promote local artists and draw support and visitors from the surrounding community.

Interpretive displays and signage, sculpted or patterned landforms and plantings should be as much a part of the campus’ outdoor art strategy as more traditional art forms. The following area basic guidelines for public art on the campus:

- For new work, contracts with artists should specify maintenance and installation requirements of the work, whether the work is permanent or temporary.
- Outdoor spotlighting should illuminate the work.
- Outdoor art should be incorporated into the campus plan so that it acts like signage and enhances the pedestrian experience.
- Ideally, permanent or temporary works would be integrated into the new courtyards and quads or at the view termini of the many new allees or breezeways.
- Outdoor art should be located in plain view and secured solidly.

Outdoor art should be placed in a planted context that will highlight it to its best possible advantage. The background and base should be considered to compliment the art throughout the year.
3.3.14. Protection and Preservation of Significant Features

A thorough site evaluation should be performed prior to the commencement of new construction. Any existing features should be investigated in terms of their significance to the aesthetics, ecological or hydrological function, history and heritage of the immediate site and the site's position in the larger context of the campus.

Elements worthy of protection and preservation on SWGC's campus:

- Existing trees and large shrubs [campus photo]
- Existing naturalized clumps or clusters of vegetation [campus photo]
- The Fen and buffer area [campus photo]
- Interesting topographical features, outcrops [campus photo]
- Existing swales or creeks

Elements deemed worthy of preservation should either be properly protected during construction or if adequate protection cannot be provided, if possible, the element should be moved.

Erosion control

Due to the varied topography, proximity to streams and the abundance of impermeable surfaces on the campus, erosion control during and after construction is a major issue. Stormwater runoff from construction sites should be collected, monitored and discharged appropriately without causing damage to areas downhill.

De-icing Materials and Alternatives

Many studies have been performed on the detrimental effects of using salt (sodium chloride) as a de-icing compound during the winter months. Long term salt use can be seen in plant material damage, soil and water quality and even in the health of local wildlife. Chloride based materials also wreak havoc on infrastructure consisting of metals and concrete and accelerate degradation on metal vehicle parts. The campus plan encourages the maintenance department to consider alternative materials such as calcium magnesium acetate (CMA) or potassium acetate (KA).

3.3.15. Maintenance Program

One of the largest challenges for landscape improvements on any campus is that of maintenance. Not all areas will receive the same level of landscape care. Locations should be identified where naturalization can occur and the use of drought tolerant, disease and pest resistant, low maintenance plant material should be encouraged in all new planting areas. The term 'low maintenance' refers to plant materials that do not require irrigation, fertilization and pruning.

A tiered system of maintenance should be considered to classify landscape areas into high, medium and low maintenance areas so that maintenance resources can be properly distributed. For example, areas that are highly visible near entrances and doorways should be of high maintenance so that they can look their best at all times. Areas of low maintenance, for example naturalized areas or areas of established vegetation, may only require periodic maintenance and scheduled monitoring to keep the areas free of hazards.
3.3.16. Safety and Security in the Landscape

The composition of elements should adhere to the principles of design for defensible space; clear visibility should be maintained at the ground plane, sight lines into the space from adjacent buildings and areas should be preserved and traffic patterns should avoid dead or isolated zones.

- Eliminate secluded and dead-end spaces.
- Provide emergency call stations or bollards.
- Provide clear views into and out of spaces. Landscaping should provide visibility between 1.0m and 2.4m in height from the ground in landscaped areas adjacent to gathering spaces and walkways.
- Naturalized areas adjacent to gathering spaces and walkways should maintain the 1.0 to 2.4m clear viewing height for a minimum horizontal distance of 6m.
- Woodland trails should include a 2.0m buffer on each side of the pavement that is cleared of view obstructing vegetation. Deciduous and evergreen trees can be limbed up to a height of 2.4m instead of being removed.

*Figure 3.6: Section showing gathering spaces adjacent to a naturalized area.*
• Eliminate potential hiding spaces near doorways and adjacent to parking areas.

• Provide a constant level of colour accurate lighting (metal halide) on pedestrian routes, avoid inconsistent lighting levels that may create bright spots and shadows.

• Schedule regular maintenance for all lighting and emergency features to ensure constant operation.

• All redeveloped and new hard surfaces should have non-slip textures.

• Landscape elements should be maintained in a condition that alleviates trip hazards or other causes of bodily harm.

• Potential areas of vehicle - pedestrian conflict should be identified and reconfigured, if possible, to alleviate the conflict. Areas that cannot be redesigned should be well lighted and identified with signage to inform both pedestrian and drivers of the potential dangers.

• Signage should be provided in all locations where natural hazards, such as slopes, bogs and unstable banks, may put people in harm’s way. Directional signage in and near the woodland areas should be provided to keep people from getting lost.

![Figure 3.7: Landscaped areas should be designed with safety in mind.](image-url)
4. Transportation

4.1. Why is Transportation Important?

For many years, transportation has not been an issue on most Canadian campuses. The approach to transportation was simple: students would either live in residence and reach their classes on foot, or live at home and drive to the campus, or be dropped off. In response, universities were building surface parking lots, allowing students, faculty and staff to park for free, or at a minimal cost. How campus users arrived at the campus was traditionally not viewed as within the University’s realm of responsibilities.

In recent years, a series of interrelated concerns with social, financial and environmental dimensions have been associated with this approach. SWGC has not experienced these concerns to the same extent as other campuses, and thus finds itself in a unique position to address these issues before their impact becomes as urgent as elsewhere. A proactive approach can even procure a competitive advantage.

- Access to education: the rising cost of owning and operating an automobile, compounded with rising tuition may reduce access to education in the absence of viable alternatives. In other words, students may find themselves unable to attend school if the cost of tuition is supplemented with mandatory automobile ownership;

- Cost of construction: the cost of providing additional parking is rising in step with labour and materials costs. As the campus grows, additional terrain preparation is required;

- Fairness: the cost of constructing and maintaining parking spaces is rarely covered by the cost of parking permits. While the amortized annual cost of building and maintaining a surface parking space – excluding any blasting or excavating – usually exceeds $500 per space, a cost that entirely comes from government grants and tuition, regardless if a student uses parking or not. Provinces including Québec and British Columbia limit the extent to which taxpayers’ dollars can be used to subsidize parking on university campuses and require that facilities be self-sustaining.

- Local and global environmental concerns: Automobile use results in a host of environmental impacts and externalities borne by society at large including expanded infrastructure, air pollution, congestion and accidents, including on campus. Transportation and parking are closely linked to the extent that the availability of parking is a key determinant in people’s decision to drive. The ability to drive and park on campus encourages people to live further from the city and triggers the need for infrastructure that cannot be supported by any level of government. A driving culture further propagates demand for parking. In addition, surface parking lots require vegetation to be cleared and result in contaminated water running off untreated to rivers and oceans. For SGWC to grow as an environmental leader, it must proactively address the issue of transportation and parking.

- Appearance: as SWGC focuses on attracting out-of-province students, faculty and staff, it must provide a campus environment at least as appealing as its competitors, and befitting to its situation in an area known for its natural beauty. Large expanses of surface parking do not fit in this strategy and detract from this goal.

Universities across North America have decided to tackle this challenge by right-sizing and right-pricing parking, while encouraging more responsible and efficient use, such as carpooling, and alternatives, including walking, cycling, and transit.
4.2. Right-sizing Parking

In light of the factors listed above, the right amount of parking at the right price should be provided, and alternatives provided.

- The Campus Plan identifies the opportunity to build between 47% and 86% additional floor space on campus through a series of new buildings and additions. Some buildings replace surface parking lots.

- In parallel, new parking facilities are proposed as a combination of surface and underground structured facilities. As in the case of floor space, the plan does not prescribe the construction of all the proposed spaces, but identifies possible locations for new parking.

- Currently, the campus provides 460 spaces for a population of 1,616, for a 29% ratio. A more common Canadian ratio falls within the 20 and 25% range. This ratio requires some level of carpooling and schedules designed to ensure that students are not all on campus at once. Therefore, a population of 3,000 would only require about 750 spaces. There is some flexibility to build over parking lots, at least temporarily until new parking is provided in replacement.

- The proposed concept identifies opportunities for a total of 489 spaces (61 of which are on-street parking, 174 of which are structured parking), or an increase of only 29 spaces over the current number. If parking were to grow as fast as proposed built area (86% additional floor space, between 600 and 750 (20% and 25% of a population of 3000) total spaces would have to be added.

- Providing this amount of parking would be problematic given the space constraints on campus, cost and the existing high ratio.

- In addition, it is expected that a substantial proportion of new floor space to be built on campus would relieve existing space shortages and accommodate more space consumptive uses such as research and graduate programs. A one-to-one increase of parking facilities to floor space is therefore unwarranted.

- The opportunity also exists for SWGC to rely on surrounding parking facilities, particularly at the RecPlex and the Arts and Culture Centre – the schedules of which do not coincide with that of the University.

- In summary, the Campus Plan identifies sufficient parking to support SWGC’s growth as envisaged in the long-term scenario.

Surface parking lots should be minimized and broken up into smaller parking courts with walkways and plantings.
4.3 Proposed Parking Strategy

It is proposed that a proactive and comprehensive approach to addressing transportation demand be followed. Its components are outlined on the following pages.

4.3.1 Charge for parking

In addition to demonstrating leadership in the responsible management of resources and the encouragement of sustainable transportation modes, there are three main reasons for charging for parking, with the eventual goal of self-sufficient parking operations. Each will be outlined in order:

a) Curb demand for parking;

b) Recover the cost of providing parking to eliminate the need to use government grants and tuition to subsidize parking; and

c) Reach a level capable of supporting structured or underground parking facilities.

a) Curb Demand for Parking

Municipalities that switch to water metering or begin charging for garbage collection find that demand usually plummets, as per the fundamental law of supply and demand. Parking works similarly. Charging a high enough price for parking, in conjunction with support for alternative transportation modes like walking, cycling, carpooling and particularly transit are widely recognized as the most effective method of containing parking demand. Users will respond to a price either by switching to other modes or carpooling. However, it is essential that viable alternatives be provided.

Without detailed modelling, it is difficult to predict exactly how demand for parking will evolve. However, increases in the price of parking coupled with transit improvements to be sought in collaboration with the City of Coner Brook and Murphy Brothers are certain to affect demand.

It is recommended that further analysis on parking and transit demand patterns be conducted, particularly comparative analysis before and after changes are introduced. For example, the Canadian Urban Transit Association reports that the introduction of the UPASS at Saint Mary’s resulted in a 100% increase in transit ridership to the Campus (CUTA Issue Paper 8, August 2004).

b) Recover the Cost of Providing Parking

Currently, parking expenses are not covered, let alone the opportunity cost of land. The cost is entirely covered by tuition and government grants. Charging for parking would allow for these costs to be fully covered but should be implemented progressively and communicated accurately.
c) Reach a level capable of supporting structured or underground parking facility.

The cost of underground or above-ground structured parking is higher than for surface parking and thus requires higher fees to justify the construction of these facilities. Although parking spaces on campus will never all be underground or structured, and given that the University can oversell parking passes, the price of $2 (to cover the cost of the parking sticker) per academic year for student parking will have to rise substantially. The average cost to provide a mix of surface, underground and structured parking per year, per space can reach about $1,500. While this figure may seem high, it is important to remember the following:

- This amount represents a cost per space per year. It is not the price of a parking pass. The university routinely oversells parking passes in relation to spaces. In addition, an increased number of spaces could be dedicated to short-term parking – both hourly and daily. Shorter periods generate more revenue.

- All the proposed underground and structured spaces may not be built but if they are, it will take place over 30 years, allowing enough time for necessary adjustments;

- SWGC can decide to continue to subsidize parking or apply the parking subsidy to transit services. As a note, it may be cheaper to subsidize transit passes than building underground or structured parking spaces;

- The above amount includes interest charges but SWGC may not need to self-finance all the proposed facilities or borrow all the necessary funds if fundraising is effective in financing certain facilities that include parking; and

- The costs used are intentionally conservative. In reality, the cost of excavation would be covered in the overall cost of a building.

The above analysis illustrates the need to plan ahead and gradually raise parking prices to more closely match not only current but anticipated costs.

SWGC should introduce parking fees in a phased manner over a five-year period with the objective of respecting the 'user-pay' principle to ensure that tuition fees and grants are not used to pay for parking that only some campus users benefit from. For example, the University of Victoria recently adopted this policy and is increasing rates by 40 percent the first year and 20 percent the three subsequent years. Any new underground or structured parking spaces provided should be substantially more expensive to reflect the amortized value of construction and maintenance.

Parking should not be discussed in a vacuum but in the context of land use, the University’s aspirations and other transportation options. As discussed above, the University should collaborate with neighbouring institutions and the City on transportation issues in general. SWGC also include representatives of all major groups on campus to discuss the issue of transportation and parking pricing.

Also, it is important that SWGC not increase parking prices in the name of “sustainability” without viable alternatives (for a significant portion of the population) and without a comprehensive sustainability plan.
4.4 Parking Cost Analysis Comparison

Like Mount Allison and St. Francis Xavier Universities, SWGC does not charge for parking, whereas all other universities in the Atlantic Provinces do. Table 4.1 indicates that the price of campus parking passes varies greatly. Generally, staff and faculty are charged a different rate than students. Some US universities even charge faculty and staff an amount proportional to compensation, so for example, the President of the University pays more than a custodian.

Prices charged at Atlantic universities do not cover the cost of providing surface parking, let alone underground or structured parking. Yet, they cover a greater proportion of this cost than universities where tuition and government grants cover 100 percent of the cost of providing parking.

4.5 Road Infrastructure

Adding new roads to connect the Campus to points south has been mentioned in the past. The University should encourage the City to consider road improvements only in the context of a comprehensive transportation strategy and have the proposed improvements compete for available tax dollars with other possible transportation initiatives. The following questions should be asked:

- Will the proposed improvements trigger additional traffic?
- Is the reduced congestion worth the investment?
- What are the consequences of not building the proposed improvements?
- Are the improvements necessary from a safety standpoint?
- What would be the effect of the same investment in transit or carpooling?

4.6 Alternatives

4.6.1 Transportation Demand Management

- To assist in planning for transportation services, SWGC should develop and implement a Travel Demand Management strategy to minimize travel by single-occupant vehicles, requiring that transportation would be managed holistically at the University. This should include regular monitoring of progress towards sustainability (for example, on an annual or biannual basis).

- Transportation alternatives should be promoted by staff and student transportation coordinators who would help commuters plan routes, provide information about alternatives, promote carpooling, etc. Transportation alternatives are discussed in more detail below.

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Table 4.1: All prices exclusive of taxes.
4.6.2 Transit

Current Situation
Transit is currently provided by Murphy Brothers Ltd., a private operator and the following constraints exist:

- Currently there are four bus routes, but they are combined into two routes outside of "peak" hours;
- During the summer months, only the combined routes are in operation;
- Buses operate at half-hour intervals only for 7 hours per day – from 7 am to 10 am, and 3 pm to 7 pm – and 5 days per week – Monday to Friday. They operate at hour-long intervals outside of these times but not on weekends; and
- Transit service is heavily subsidized by the City of Corner Brook.

The Importance of Transit
The quality and availability of transit services is a crucial issue for SWGC which should be addressed in the near term. In terms of property management, it is in the best interest of the university to encourage greater transit use. As service and ridership increase, SWGC will face less pressure to design and build additional parking facilities. Transit is also a service that students have come to expect, particularly out-of-province students with no access to a car.

In fact, three broad constituencies exist for transit services at SWGC. It is important to understand the distinct needs of these constituencies and how to serve them best.

i) Locally-based commuter students, faculty and staff.

Since these users generally did not choose the location of their home based on the proximity to the University, these users are typically dispersed across the region and are thus the most difficult clientele to serve.

ii) Out-of-town students who live off-campus.

This group is less difficult to serve than local residents since it is assumed that these students are able to select their place of residence based on the availability of convenient transit service.

iii) On-campus residents.

This is the easiest group to serve as typical usage patterns would include trips to retail stores and the Downtown. Serving this group well is important as it represents a critical growth area for SWGC. The inadequacy of the transit service may deter out-of-province students, acting as a competitive disadvantage for SWGC.

Transit improvement must be an evolutionary process, with coordination of changes between SWGC, the City of Corner Brook and Murphy Brothers Transport. SWGC can assist the City and Murphy Brothers by informing them of impending changes that may affect transit ridership (such as parking rate increases), so that extra service can be added to cope effectively. It would be advisable to discuss impending changes in the spring of each year to plan for changes proposed for September of that year.

Transit improvements should be coordinated among the University, the City of Corner Brook and Murphy Brothers.
A UPASS for SWGC

Using passes or reduced fares can help to promote the use of transit among students, faculty and staff. A UPASS is an appropriate tool to increase ridership among students, while discounted passes can be effective for faculty and staff – potentially provided to those who agree not to purchase a parking pass.

To increase transit use, a study should be conducted in collaboration with the City to determine the feasibility of a universal bus pass for all students, and the possibility of discounted passes for faculty and staff; these passes are paid for as a mandatory part of tuition (or offered to staff at the same price as parking). Based on recent Canadian experiences in Victoria, London, Hamilton, Guelph, Vancouver and Halifax, a twenty-five percent to fifty percent increase in undergraduate ridership could be expected following the implementation of a UPASS system. In fact, the Canadian Urban Transit Association reports that the introduction of the UPASS at Saint Mary’s resulted in a 100% increase in transit ridership to the Campus (CUTA Issue Paper 8, August 2004).

In Canada, UPASS fees vary greatly:

- Brock University: $147 per academic year
- Simon Fraser University: $98 per semester
- Queen’s University: $40.41 per academic year
- Trent University: $236.90 per academic year (Includes some parking)
- University of Victoria: $56 per semester
- Guelph University: $55.19 per semester
- McMaster University: $67.93 per academic year
- University of British Columbia: $176 per year
- Dalhousie University: $58 per semester
- Saint Mary’s University: $115 per academic year

This compares advantageously to the $50/month (or $50rides) or $200/semester (student pass rate – available only for a full semester) currently charged by Murphy Brothers Ltd for a monthly adult pass. The low price of the pass is premised on mandatory participation based on the argument that everyone benefits from lower congestion and access to parking, even those who do not use transit. Students with disabilities who cannot take transit should be exempt.

It is important to note that the UPASS should be priced high enough to accommodate service improvements.

Other universities have priced the UPASS to have it approved by students in a referendum, but the revenue thus collected did not allow the transit authority to accommodate demand or improvements. Selected discounts can be arranged for holders of the U-pass to encourage its use. This can involve discounts on merchandise, meals at campus facilities or campus entertainment events, as well as at off-campus businesses.

For faculty and staff who pay no tuition, a different payment strategy than UPASS is needed. Different pricing strategies exist:

1. Free for every employee. Ideal, but costly and potentially perceived as unfair by students.

2. True cost – likely uncompetitive with the subsidized parking pass.

3. Same as parking pass – appears as a ‘level playing field’, but ignores the strong attractiveness of the car.

4. Free for every employee that declines a parking pass - General pricing would be the same as the parking pass. For maximum effectiveness, beneficiaries should be able to purchase daily or weekly parking passes as backups to ensure high take-up. In parallel, a partnership agreement or strategy with the City should be considered to advocate a long-term public transportation plan for the Region.
Service Improvements

In parallel with the UPASS, it is crucial to expand transit services to ensure that a large majority of students have access to transit, either directly from home or at transfer points. A feasibility study tailored to SWGC should analyze projected use and service level needs during peak periods and provide recommendations for a funding structure. It is very important not to set the price of the UPASS too low, as it would further constrain Murphy Brothers from adding service to respond to additional demand and serve as many areas of the City as possible.

A more detailed study should be conducted to determine whether routes serve the needs of the university community. Postal code analysis based on the first three digits of the postal code will not yield useable results in Corner Brook as most students live within the A2H region.

Taxis are also popular in Corner Brook as they are flexible and operate 24 hours a day. SWGC and the City should consider integrating taxis into the transit system to allow passholders to use taxis outside of the transit system’s working hours (with the understanding that the service would be a form of “dial-a-bus” service that picks up and drops off several people at a time and not a conventional taxi service).

A committee should be created with representatives from SWGC’s administration, students and staff representatives, the City and Murphy Brothers, to move these ideas forward. Involving staff and students will ensure that improvements suit their needs.

4.6.3 Carpooling

Carpooling can be effective in reducing parking demand but needs encouragement. In addition to higher rates, carpooling should be encouraged with:

- Promotion of the concept
- Reserved and discounted spaces with adequate enforcement (e.g., Dalhousie’s ’Rideshare program’).
- An online matching web site (a number of Canadian sites exist that can be readily used – but the service must be publicized).
- A system of “guaranteed ride home” for family emergencies (the University promises to pay for a taxi in case of emergencies for registered carpoolers. In use at several universities and abuse is rare.)

4.6.4 Cycling

Although not a viable alternative year-round for all, cycling should nonetheless be encouraged since a large proportion of the campus population lives within cycling distance. The following suggestions should be considered:

- Provision of showers and change rooms throughout the campus. For example, allow use of the gym changing facilities to all cycling commuters.
- Provision of well-designed, highly visible bike racks near each building.

4.6.5 Tele-commuting

Tele-commuting is often mentioned as a way to reduce parking demand. However, in a university context, collegiality is crucial and could be impeded by a high rate of telecommuting.
4.7 Concluding Remarks

Numerous recommendations have been made throughout this section. Many of these recommendations encourage the use of alternative transportation modes; effectively constitute the beginning of a Travel Demand Management (TDM) plan for the University, reflecting the need to minimize growth in automobile traffic.

A final recommendation is for the need for change to be effectively communicated to students, faculty and staff. To remain fiscally responsible, and to be able to continue to direct funds to programs, the University and the campus community must become active participants in change. This need and the TDM plan should be communicated through campus media – for example, articles in the campus newspaper, posters across campus, and the University website. The University may also wish to consider hiring a Travel Demand Management Coordinator (even part time), to further develop and manage these programs.
5. **Sustainability**

5.1. **Context and Rationale**

The purpose of this Section is twofold: to establish a foundation for a comprehensive sustainability programme to be prepared in consultation with Faculty, Staff and Students, and to identify a few key opportunities to begin implementing sustainability on campus. This chapter is not intended as a comprehensive Sustainability Plan or a complete inventory of possible initiatives. It is intended to frame the Campus Plan in the broader complex of sustainability and suggest processes to implement follow-up initiatives.

Following the adoption of the Campus Plan, the preparation of a comprehensive sustainability strategy should be considered. The Strategy should be built on a consultation strategy leading to detailed principles, goals, targets, actions and an implementation plan against which progress can be measured.

This discussion is particularly relevant at SWGC, particularly with the recent discussions on sustainability, sustainable development and the creation of a Centre for Environmental Excellence. The New Canada Research Chair in Environmental Economics, an integrated research program to study economic issues facing environmental and resource management represents a great opportunity to advance sustainability on campus.

A key highlight of this section is the need for SWGC to leverage its relationships with the St. John's Campus, with the provincial government, the City of Coner Brook and other institutions in the City, including the Hospital and the School Board.

5.1.1 What is Sustainability?

Sustainability is not just about efficient boilers and light bulbs, but about a new attitude to using land and resources with the long-term well-being of people and the environment in mind. In 1987, the World Conference on Environment and Development defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). Since then, sustainability has been understood as the need for all development to take place in an environmentally, socially and economically responsible fashion – over the long term, rather than the short term. This chapter will focus on the environmental side of campus development although it is understood that social and financial sustainability are of equal importance.
5.1.2 Sustainability in Universities

A worldwide movement exists to promote sustainability in universities. In 1990, a diverse group of university presidents and chancellors signed the Talloires Declaration in Talloires, France. Since then, the declaration has been signed by over 300 university leaders in over 40 countries. The University Leaders for a Sustainable Future promotes the declaration and acts as a repository of information for best practices in this domain. Please note that the emphasis placed on campus planning and operations in the remainder of this chapter is not intended to diminish the importance of incorporating sustainability in the curriculum.

The Talloires Declaration

Universities have a major role in the education, research, policy formation and information exchange necessary to make these goals possible. Thus, university leaders must initiate and support mobilization of internal and external resources so that their institutions respond to this urgent challenge.

We, therefore, agree to take the following actions:

1. Increase Awareness of Environmentally Sustainable Development
2. Create an Institutional Culture of Sustainability
3. Educate for Environmentally Responsible Citizenship
4. Foster Environmental Literacy for All
5. Practice Institutional Ecology
6. Involve All Stakeholders
7. Collaborate for Interdisciplinary Approaches
8. Enhance Capacity of Primary and Secondary Schools
9. Broaden Service and Outreach Nationally and Internationally
10. Maintain the Movement
5.1.3 The Drivers

It is often argued that scarce resources available in the midst of a challenging fiscal environment should be applied to fulfilling the core elements of the University's mission.

Several drivers define the need to embrace sustainability. A selection follows:

**Ethics and Responsibility that further the academic mission**

As a community leader, employer, landlord and educator, Memorial's influence ranges from the community to the national scale. In light of this role and impact, it is clear that the transformation of the campus into a catalyst for environmental sustainability should be an integral part of Memorial's mission. Embracing sustainability is not only the "right thing to do" in helping foster a clean local environment and fulfill Canada's international climate change commitments, but provides opportunities to integrate the planning and management of the Campus and its research and academic functions. By leading initiatives, Memorial can pioneer the use of new technologies and practices in the Region and Province.

**Efficiency**

Universities are increasingly realizing that energy retrofit programs and attention paid to lifecycle costs of buildings not only result in a healthier local and global environment in the long term, but can have an effect on the bottom line within a relatively short term. Furthermore, with growing volatility in energy prices, reduced consumption can only reduce the uncertainty related to energy costs.

A holistic approach to efficiency extends much beyond buildings to all aspects of the University's operations and the behaviours or its users, for example ensuring that instead of every student owning and operating a private automobile, safe, affordable, reliable and comfortable public transit service is provided.

Efficiency can also involve using local products, thus supporting the local economy and saving fuel, instead of importing goods and materials over long distances.

**Competitiveness**

Increasingly, students, faculty and staff have strong views about the health of the environment, and have expressed their opinion about the use of pesticides, the sourcing of food on campus, the origin of clothing sold in the bookstore and the preservation of the natural environment around campuses. This new generation will progressively expect a sustainable campus. The window in which being sustainable is a leading edge position will close. Soon it will be expected, particularly from an institution that bills itself as a centre of excellence in the Environment. Furthermore, SWGC can capitalize on its location in a breathtaking natural site to differentiate itself from its more urban competitors.

**Quality Of Life**

A Sustainable Campus provides an excellent quality of life, not only with buildings that maximize access to natural light and ventilation, clean and accessible outdoor spaces, but also buildings are inspiring and accessible to all. Studies have shown that in "green buildings", productivity is improved, academic performance enhanced and absenteeism reduced.
5.2. The Need for a Comprehensive Approach

For the implementation of sustainable guidelines to be effective, a comprehensive, systematic and strategic approach needs to be pursued. This means that over time, every process and activity on campus is reviewed for its environmental impact, taking into account social and economic implications, as well as potential cost savings. The following components are suggested as part of this approach:

5.2.1. The Sustainability Audit

An important first step is to understand SWGC’s current stand prior to devising an action plan. A recent audit prepared for the University of Prince Edward Island used the Campus Sustainability Assessment Framework (CSAF), designed specifically for Canadian universities and colleges. It incorporates aspects of more than 20 existing frameworks, including ISO 14000 (environmental management). UPEI’s audit included the following topics:

- Health & Wellbeing
- Community
- Knowledge
- Governance
- Economy & Wealth
- Water
- Materials
- Air
- Energy
- Land

The above illustrates that not only energy consumption from heating and power and water consumption should be collected over time, but also energy from commuting as well as overall emissions and practices to evaluate Memorial’s environmental impact. Meaningful statistics should be used to demonstrate that energy savings achieved through technology can be greatly enhanced through behavioural efforts - encouraging transit and carpooling, turning off the lights or using occupant sensors, using the stairs instead of taking the elevator, turning off computers, etc.

5.2.2. Involving the Community

As discussed above, sustainability does not only consider the environment, but financial and social sustainability as well. In the Newfoundland context, this distinction is crucial and the ramifications of each decision should be considered carefully. For example, while an aggressive paper recycling program is certain to save trees and energy, job losses may result in the local logging and pulp and paper industries while bales of used paper must be trucked off-island over long distances. Memorial-led initiatives can benefit the environment, the University Community and the Community at large, while creating long-term economic opportunities.

5.2.3 Complementary Bottom-Up and Top-Down Approaches

A more sustainable campus should not only be the responsibility of champions at the senior level of the administration. With a ‘bottom up’ approach, sustainability becomes everyone’s business instead of change being imposed from the top. Workshops are conducted in every department to ensure that each employee is made aware of the importance of sustainability and empowered to contribute solutions and implement sustainable practices on the job. To date, only one university in Sweden has undergone the Natural Step process, although the process has been applied to various municipalities in Canada, for example Halifax. The ‘Bottom-Up’ approach should be complemented with a ‘Top-Down’ approach whereby senior management empowers the organization to change – for example by making sustainability an integral part of strategic planning to provide members of the campus community with clear direction, and through the creation of a sustainability committee that is charged with gathering data and establishing targets, and that reports directly to the President.
5.2.4 Lifecycle Costing

An important step in the implementation of sustainability is the consideration of lifecycle costs - a concept that Memorial is already applying to the evaluation of energy retrofits in its EPC (Energy Performance Contract) program in St. John's: the added cost of acquisition, maintenance, replacement and operation over the lifetime of an object. The relevance of lifecycle costing to sustainability stems from the role of energy in the operation of buildings, machinery and vehicles. Since a premium is often attached to energy efficiency, it is important to consider lifecycle costs and coordinate capital and operational budgets. In parallel, discussions can be held with funding organizations and governments to explain the benefit of lifecycle costing, especially as part of fundraising efforts for new buildings. In addition to lifecycle costing, external costs and benefits should be recognized as much as possible. This means that costs and benefits not normally accounted for, either environmental or financial are taken into account in decision-making.

The use of lifecycle costing is crucial for buildings and systems, but can also be applied to all types of equipment.

5.2.5 Sustainability and Incentive Systems

The implementation of the most thoughtful policies will only succeed with a solid process in place to ensure that job descriptions and incentives clearly specify the need for sustainable practices. Too often, employees are primarily rewarded for keeping costs down and vendors retained on the basis of price. In addition, budgets should be revised to accommodate lifecycle costing and changes in labour requirements. For example, as drought-tolerant grasses and ground covers limit the need for lawn mowing and irrigation, the effective costs or savings of these changes should be calculated for the budgeting process.

5.2.6 A Supportive Environment

Asking current staff to take on extra responsibilities is a difficult task. Instead, the University should consider the establishment of a Sustainability Coordinator position on a part or full-time basis. The Sustainability Coordinator is responsible for coordinating the participation of departments and administrative units by facilitating workshops and providing encouragement, education and resources. The Coordinator could also act as a consultant to assist departments in their efforts, liaise with faculty members interested in implementing sustainability in the curriculum or conducting research in the field. The coordinator can suggest alternatives to current practices and help identify alternative practices, suppliers and products. The Coordinator can also facilitate partnerships with suppliers and other public and private institutions in the region to pool purchasing power and coordinate requirements. Some of the savings resulting from the implementation of recommendations, such as improved energy efficiency, should be earmarked as funding for the Sustainability Coordinator position. The Coordinator position can also be split with a part-time teaching position. In this case, the Coordinator is an even more favourable position to implement Sustainability in the Curriculum.

Energy costs can be reduced through the use of photovoltaic panels or similar systems.
5.2.7 Sustainability in the Curriculum

In the short-term, SWGC may find it difficult to hire a full-time sustainability coordinator. However, the most compelling success stories come from universities with strong environmental studies program that have adopted the concept of a sustainable campus as a key project. Initiatives are moved forward by proactive staff and students, and championed by university executives. The proposed Centre for Environmental Excellence is an ideal repository for a campus-wide sustainability initiative.

By weaving sustainability into its curriculum, Memorial can establish itself as a leader in environmental education and research, in addition to sparking new ideas on how to constantly improve its own practices. Because sustainability has social, environmental and economic dimensions, every discipline presents opportunities to include sustainability in its curriculum. Students can be provided with opportunities to work on long-term study projects that involve sustainability, and research programs can be established to further advance the state of knowledge in environmental science and education, with opportunities for partnerships with internal and external entities involved in the day-to-day implementation of sustainability. The Sustainability program can also constitute a source of on-campus employment for students, for example in recycling, composting, manual grounds maintenance and training others in sustainability practices. Finally, a sustainable campus provides opportunities for outreach programs such as summer camps and community outreach.

However, it is of crucial importance that sustainability not be "pigeon-holed" in an academic department. The objective of a sustainable campus must constantly be championed by the university administrators at the highest level and integrated in the University's strategic planning.

5.2.8 A Proactive Approach

Because of the relatively recent awareness and emphasis on sustainability and the small size of the Newfoundland and even Canadian markets, some products and services available elsewhere may not be available or only at a higher cost. Examples include organic produce, renewable power, 'green' construction materials or the recycling of electronics. A proactive approach in collaboration should be pursued with allied institutions such as colleges, school boards, the Western Health Care Corporation, government agencies and private firms to encourage the growth of a market for sustainable products, services and practices in Western Newfoundland.

5.2.9 Data Collection and Monitoring Systems

Data Collection and Monitoring systems are needed to first prepare a sustainability audit and subsequently to track progress over time against pre-established targets, and to identify areas in which further progress is needed. The gaps in data collection can be identified in the audit and should be addressed to complete the audit.

Over time, partnerships can be established with compatible institutions to agree on a common measuring system to allow benchmarking. Each year, a report should be produced to publicize the progress made at Memorial, inspire other organizations and encourage further efforts. Senior management, or an ad-hoc committee composed of various university stakeholders, should be accountable for progress.
5.2.10 The Mount Allison Example

Mount Allison has been conducting a detailed Environmental Audit for four years. The document contains facts on the relevance of various indicators, the University's absolute and year-to-year comparative performance, as well as objectives and recommendations for implementation. The clarity of the document makes it an attractive and compelling read. The document covers the following themes:

- Dining Services
- Water Use
- New Buildings and Renovations
- Energy Use
- Air Emissions
- Hazardous Waste
- Solid Waste
- Paper Consumption
- Transportation
- Grounds Keeping
- Risk Prevention
- Procurement
- Academic Opportunities
- Stewardship

5.2.11 Getting Campus Users to Participate

Other universities have adopted a series of measures to inform and educate the student body in minimizing their energy and water use. This task is a challenging one, since unlike faculty and staff, the student body turns over frequently. These initiatives and measures are typically championed collaboratively by Facilities Management, student organizations and other entities such as Residence Services:

- University administrators should lead by example; for example, by donating their time in tree planting programs or themselves choosing to walk or cycle to work, and to switch to a smaller -- or even hybrid -- car.
- A mandatory sustainability awareness session should be hosted for all new staff and students;
- Barter and 'garage sales' should be encouraged and supported in residences to minimize disposal;
- Include information on sustainability in information sessions for new students - energy and water consumption, recycling, transit and carpooling;
- Support a group (which could report to the Sustainability Coordinator or Facilities Management in the interim) that would create information panels and displays on sustainability. For example, students at Penn State University calculated that the equivalent to a ton of coal was burned every day to supply their residence's power needs resulting in 3 tons of greenhouse gas emissions. They suggested displaying a ton of coal in the hallway of each residence. At LaVerne University, signs in the laundry room explain that washing and drying a t-shirt uses 10 times as much energy as making it in the first place - and encourages students to line dry their clothes when possible.

Cover of the Mount Allison University Environmental Audit.
5.3 Campus Sustainability Initiatives

The following section provides an overview of areas where sustainable practices should be incorporated into the design and operation of the campus and its functions. These initiatives could be undertaken as components of a comprehensive sustainability plan at SWGC following a comprehensive sustainability audit as described above.

5.3.1 Buildings

Through their construction, maintenance and operation, buildings have a significant impact on the environment. Buildings consume about 38% of total Canadian secondary energy use, produce about 30% of total Canadian greenhouse gas emissions and use 40% of raw materials.

- The most sustainable building is obviously the one that is not built. Using space efficiently and allocating underused space in a timely manner are obvious ways to delay the construction of a new building. This can mean using scheduling software to analyze the schedule and ensure that no space goes unused, or scheduling classes and events outside of regular hours. In a university context, buildings often remain unused over many hours of the day, days of the week and months of the year.
- If new space is necessary, the following general principles apply:
  - The conversion of existing buildings should be considered;
  - Construction should take place on existing flat sites close to existing buildings;
  - Blasting, excavating and grading should be resorted to as little as possible;
  - Sites serviced by existing roads should be built upon prior to constructing new roads;
  - Without jeopardizing the small, intimate scale of the campus, the largest and tallest buildings possible should be built. Scattered, low and small buildings consume more land, which will require more blasting, excavating, grading and clearing trees in the future;
  - The Fen should be protected;
  - Trees should be protected;

- New development should follow LEED-NC (Leadership in Energy and Environmental Design - New Construction) principles, and ultimately should aim for certification. LEED certification distinguishes building projects that have demonstrated a commitment to sustainability by meeting higher performance standards in environmental responsibility and energy efficiency. LEED buildings, when looked at in terms of lifecycle costing, are cheaper to construct, maintain and operate than conventional buildings.

- An important component of sustainability is the encouragement of healthy lifestyles and the fostering of social interaction. Buildings play a large role in achieving these goals in providing sufficient space for recreation to encourage healthy lifestyles. Social spaces should be well-located and programmed.
Energy and Water Systems

Memorial’s EPC Program (Energy Performance Contract) is a comprehensive initiative to identify and implement energy savings opportunities on the St. John’s Campus. An extension of the program or similar initiative should be considered for the Corner Brook Campus, along with behavioural changes and projects ranked based on emissions in addition to cost savings to prioritize otherwise equivalent projects. For new buildings, the LEED program (Leadership in Energy and Environmental Design) provides an excellent framework to design buildings that minimize energy consumption in their construction and operation. The following list presents initiatives that may be proposed as means to attain LEED or as retrofit to existing buildings.

- New buildings should be designed so as to encourage the use of staircases instead of elevators. Users tend to favour staircase use when they are clearly visible, accessible, and feature abundant glazing;

- Energy efficient boilers, HVAC systems and an emphasis on reducing the size of plants through innovative mechanical and construction technology (natural cooling, heat recovery, passive solar design, etc.). Memorial is already considered a leader in energy efficiency and is planning further improvements. Thus should continue, and new buildings brought to the highest standards from the onset to minimize the need for retrofits;

- Over time, every building should be equipped with a monitor that shows how much energy is being consumed and changes year over year – with tips on how to reduce usage;

- Planted roofs are very effective as insulation, year-round;

- Building floorplates should maximize daylighting to reduce lighting requirements;

- Deciduous trees should surround buildings to reduce cooling loads in the summer without blocking sun access in the winter;

- Energy efficient outdoor light fixtures should be preferred and downcast to minimize light pollution, in conjunction with a fine-tuned timing system to ensure that lights are only on when it is dark;

- Room and task light switches, occupancy sensors and photocells should be installed as energy-efficient occupant controls;

- Efficient lighting equipment should be systematically preferred;

- Electricity is produced quite sustainably in NL, but this could change if demand grows beyond the capacity of existing infrastructure. The purchase of electricity from renewable sources should be considered, including off-site wind power and methane from landfills. If such sources are not yet available, Partners should be identified to pioneer such efforts, leading to a potential opportunity for economic development in Western Newfoundland;

- The University of Calgary’s evolve project, pursued jointly with Direct Energy, allows for some of the savings planned to accrue over seven years to be applied to academic programming as well as sustainable education and research.

Bioswales should be implemented around new surface parking lots to reduce water run-off.
Water
Water may seem plentiful in Newfoundland, but clean water requires energy to produce and transport, while wastewater must be treated at great expense when it is not simply conveyed to the Ocean without treatment. Hot water requires energy to produce. Some opportunities include:

- Cooling systems that do not use potable water;
- Vegetated roofs to mitigate stormwater runoff;
- Innovative wastewater treatment, water reduction and sustainable irrigation strategies including the use of grey- and rainwater for irrigation;
- Runoff reduction through permeable surfaces, green roofs and filtration swales or ponds.
- Low-flow faucets and showerheads in existing and new buildings;
- Low-flow and dual-flush toilets in existing and new buildings;
- An effective process to report and repair leaks as they occur;
- Plants that require little or no irrigation;
- Water-saving watering practices;
- Storage of rainwater and treated greywater to avoid using potable water for irrigation;

If there are no salvageable materials available from an existing development site, they should be purchased directly from building demolition sales, from salvage contractors and used materials dealers. Reused materials can be used both in new buildings and in public amenity areas, for example and as outdoor paving. Material reuse is more sustainable than the use of recycled materials as reused components do not require significant reprocessing.

Many new and established construction products made with reprocessed waste materials are available for use on new projects. Construction materials containing postconsumer waste or recovered materials have the greatest recycling merit and should be used where feasible.

5.3.3 Quality of Life

- A high degree of indoor environmental quality should be achieved through design techniques including daylighting and the use of low-emission finishes formulated to low or zero volatile organic compounds (VOC) standards.

- Building flexibility should be maximized to satisfy the varied demands of current and future users and residents. Raised access flooring, modular partitions, a consistent structural grid and non-centralized HVAC systems all contribute to building flexibility.

- Natural ventilation systems should be considered as an alternative means to air conditioning through the promotion of passive convection cooling and ventilation. Passive systems can minimize or eliminate mechanical system usage for heating, cooling and ventilating buildings during prolonged periods in the year.
5.3.4 Green Roofs and Roof Gardens

Hard and dark surfaces like building rooftops, streets and parking areas are not only unattractive, but they tend to result in runoff (see Runoff).

Planted Roof Runoff

- In a storm, all water that falls on a hard surface in the downtown is either directed to the storm or sanitary sewer. In either case, expensive pipes must be laid and maintained and the runoff must be processed. Often, the runoff water collects pollutants which often flow into watercourses untreated.

- A better alternative is to capture water on site through on-site infiltration or evapotranspiration. With on-site infiltration water is allowed to infiltrate slowly into the ground, a bio-swale can be constructed to filter the water before it seeps into the ground. Evapotranspiration is when, over time, water evaporates from the ground and is consumed by vegetation, the combined rate and quantity constitutes evapotranspiration.

Green Roofs vs. Roof Gardens

- It is important to distinguish green roofs from roof gardens as the former can achieve the same or even greater environmental benefits with lower construction and maintenance costs.

Green Roofs

- Green roofs refer to planted roofs. They may not be accessible to the public. Their purpose is to provide a visual amenity to occupants of surrounding buildings and to provide environmental services as described below. Plantings may consist of a single species and/or species that require little care.

Roof Gardens

- Roof Gardens are designed as an amenity for the occupants of the building. While their environmental benefits generally do not exceed those of green roofs, they are more expensive to build and maintain as they generally require a greater variety of species, wider walkways and sitting areas.

Advantages

- Thermal Insulation – planted roofs work hard even in the winter months by providing extra insulation. In general, temperature variations are greatly reduced on planted roofs. Over a full year, heat gain is reduced by 95% and heat loss by 26% (Source: Soprema – NRC study).

- Reduction of Runoff – rainwater is captured and returned to the atmosphere. Some excess may be evacuated through pipes as on a conventional roof, but the overall amount is reduced. In an NRC study, runoff volume was found to be reduced by 54% (Source: Soprema).

- Air quality improvements – plants absorb carbon dioxide and emit oxygen. They also filter pollutants. 1 m² of unmowed grass on a roof absorbs up to 2 kg of windborne dust each year (minimum area of 2000m²). 1.5 m² of unmowed grass produces enough oxygen for one single person needs for one year (Source: Soprema).

- Improved longevity of the roof membrane – the membrane is shielded from ultraviolet rays and the elements. Manufacturers of planted roof systems routinely offer warranties on their membranes.

- Sound Insulation – planted roofs also reduce noise penetration. 10 cm of growing medium reduces the noise by 15-20 dB (Source: Soprema).

- Visual Amenity – for occupants of surrounding buildings, a green roof offers visual relief.
5.3.5. Open Space

Though located in the middle of nature, the built-up area of the SWGC Campus is substantially impervious due to the total area occupied by buildings, roads, parking lots and other asphalted areas. This means that much of the rainfall is sent to the Ocean instead of seeping naturally through the ground. There is significant scope to improve the environmental quality of SWGC’s open spaces: by the selection of plant species that require less maintenance, and by integrating native species. Additional details can be found in Chapter 3 - Open Space Guidelines.

- Generally, impermeable surfaces should be minimized;

- Following construction, areas around buildings should be optimized for planting with an adequate and well aerated layer of topsoil;

- Landscaping should be sized and located to allow plants to consume stormwater or building greywater, the use of potable water to irrigate landscaping is discouraged.

- Native plant materials should be used wherever possible as they require less maintenance, watering and fertilization – except in areas with significant stress from salt and snow storage, where non-native plants may fare better.

- Existing significant trees, tree stands, and vegetation should be protected and incorporated into site design and landscaping. Provisions should be made to protect such trees from construction if development occurs in close proximity.

- Landscape design should incorporate a wide range of strategies to minimize water consumption, e.g. native species, use of mulches and compost, alternatives to grass and rainwater or greywater collection systems.

- Ornamental lawns should be minimized as they require a lot of maintenance and are not native to the province.
The width of all planting beds should be at least 2.5 metres wide (except on sidewalks) to enable plant material to be massed to create a healthy and sustainable landscape and reduce irrigation dependency.

Impervious areas directly connected to the storm drain system are the greatest contributor to the storm water management system. Breaks in such areas, by means of landscaping or other permeable surfaces should be provided to allow runoff absorption into the soil and avoidance or minimization of discharge into the storm drain system.

The distribution of outdoor lighting should be controlled according to outdoor lighting design recommendations of the Royal Astronomical Society of Canada to minimize light pollution and maintain a dark night sky. Well-designed lighting networks that incorporate full cut-off fixtures are also more energy-efficient.

Paved areas, such as surface parking, should be minimized wherever possible in order to maximize permeable surfaces that absorb and biodegrade certain toxins. This also reduces the volume of runoff into the storm drainage system.

Streets, driveways and parking areas should be as small as possible within allowable standards. This challenges the status quo – do streets really need to be this wide, can adjacent developments share a common parking area, can a driveway be permeable?

Parking areas should drain into vegetative or grassy swales that are incorporated into large common landscaped areas within a project or perimeter landscaping.

Bio-swales should be created next to parking lots and walkways to collect stormwater runoff to minimize the dependency on storm water sewers. Bio-swales should be planted with salt-tolerant shrubs and grasses to filter water before it percolates into the ground. They should be graded to direct water away from paved areas.

Drainage basins should be located throughout parking lots to collect stormwater. These basins should be planted with native plant materials that thrive in wet conditions.

A well-drained snow storage area should be provided in a location that enables melting snow to leach into drainage courses and storm drain inlets to prevent toxic materials from being washed into streams.
5.3.5 Parking and Transportation

A significant amount of energy is consumed by campus users commuting to and from the campus. Transportation-related energy use should be acknowledged, and a program adopted to encourage alternatives to establish reduction targets. Managing access to the campus is strongly related to the supply of parking. The encouragement of other modes of transportation can eliminate the need for new parking lots, thus resulting in the following benefits:

- Reduced paving of open space or need to construct a concrete parking garage;
- Reduced heat island effect in the summer defined as the localized increase in temperature due to absorption of solar energy in flat paving surfaces;
- Increased opportunity to plant trees that capture carbon dioxide and enhance the appearance of the campus;
- Reduced use of asphalt;
- Reduced power use for lighting;
- Reduced use of salt and melters as paved surfaces as a ratio of campus users are reduced;
- Reduced plowing. Conversely, the University can encourage alternative modes of transportation by restricting parking supply. In general, the following are some initiatives that can reduce emissions and energy consumption in the area of transportation:

In preparing its environmental report card, SWGC should include private transportation to and from the campus in the university's energy consumption picture to encourage alternatives, such as walking, transit, carpooling and telecommuting. Video-conferencing should be encouraged as an alternative to air travel. Additional information on transportation alternatives can be found in Chapter 4 – Transportation.

Alternative modes of transportation should be encouraged and supported.
5.3.6 Procurement

Procurement covers the sourcing of all products and services on campus. By actively managing its procurement policies, Memorial can obtain products and services that can result in a cleaner environment not only in Western Newfoundland but also where these products are produced. SWGC’s purchasing decisions should reflect its values.

The following are some principles that should be followed in the selection of products and services. Please note that they can at times appear to contradict one another. The net benefit should therefore be determined:

- Repair and reuse before purchasing. Also explore exchange and barter, or shared use with other users - for example in the case of specialized machinery;

- Select products and services that are produced locally, employ local people and help perpetuate local culture and practices. An important example is the sourcing of local and seasonal food on campus, minimizing the reliance on imported processed food should be dramatically reduced. Universities across North America have struck agreements with local farmers or worked with conventional food services corporations to ensure that a stable supply of healthy, seasonal and locally produced food is provided to the University;

- Food Services is an ideal place to implement a sustainable approach, as the sourcing, preparation and sale of food provides so many opportunities to embrace sustainability: sourcing from local farms and food producers, buying seasonal, organic and fair-trade products, applying innovative and progressive employment practices – including hiring students youth-at-risk and vulnerable members of the community, providing a variety of healthy food options, etc;

- When products from developing countries must be purchased, products that have been produced with improved social practices should be preferred (e.g. fair trade coffee, sweatshop-free clothing);

- The lifecycle costs of options should be determined and durable, easy to repair products preferred;

- Modular products that are easily repaired and products that with maintenance contracts should be considered. For example, copiers and carpeting can increasing be bought as a service: the vendor only replaces defective parts (tiles in the case of carpeting) which are then reprocessed;

- Renewable materials should be preferred to man-made alternatives where possible;

- The economic impacts on the Newfoundland and Labrador economy and the viability of its communities should be considered when making a purchasing decision. As mentioned earlier, SWGC should buy locally grown and produced food as much as possible from over 600 registered farms and 100 food processors operating in Newfoundland and Labrador;

- SWGC should collaborate with like-minded organizations to engage in co-operative purchasing and increase each institution’s clout with vendors;

- MUN should consider adopting a code of ethics for its own investments (e.g. for its pension and endowment funds) to ensure that its investments reflect the values of the University.
5.3.7. Processes

The challenges inherent to achieving a green building include shifting operational costs onto capital costs, dealing with new technologies, finding expertise. These challenges can be tackled by the Administration in an orderly and organized fashion. Changing behaviour by users, trying to influence changes in millions of daily actions, is a different challenge, which can be helped with the right mix of supportive technology and information. Although the following initiatives may appear simplistic, they can help support the use of technology and help create a “culture of conservation and sustainability”:

- Thermostats should be lowered in the winter and users educated on the reasons for doing so. Temperature in winter can be as low as 19 degrees. In the summer, thermostats can be raised as high as 26 degrees. Where no air conditioning is available, fans and operable windows can be used to circulate the air to avoid the installation of new HVAC systems;

- The use of chemicals that have impacts on the local environment and human health, for example Volatile Organic Compounds (VOCs) should be avoided.

- Cleaning products should be non-toxic, plant-based, fragrance-free and biodegradable. The benefits do not only accrue to the environment with cleaner air and water, but to employees who use them as well. Health impacts of harsh chemicals among maintenance workers are well-documented. The general campus population benefits as well;

- Pesticides and synthetic fertilizers should generally be avoided. The University of Waterloo has adopted an alternative maintenance plan for turf grassed areas to minimize the use of these products - University of Waterloo WATGreen, Task Force on Turf Grass;

- Master switches should be installed in all residence rooms to allow turning off all lights and selected outlets from one switch;

- Plants that require less watering, fertilizing and pest control should be planted. Mowing schedules and times should be reviewed to minimize the need for watering in the case of a drought;

- Idling on campus should be discouraged through signage and training of parking enforcement personnel;

- Users should be trained to use the ‘sleep’ function on computers at night, on week-end and during holidays - or the use of technology to remotely put computers on stand-by when appropriate should be considered;

- New practices should be adopted to minimize the use of machinery on campus. For example, leaves and grass should be raked when the volume is small and dry;

- HVAC systems should be cleaned yearly to ensure high air quality;
5.3.8 Waste Reduction and Management

Ambitious recycling programs can be problematic in relatively isolated areas such as Newfoundland from whence waste materials would have to travel over long distances for lack of local processing capacity or a market for recycled goods. Memorial should consider:

- First, minimizing waste is much better than recycling it. The University should give its preference to products with less packaging and work with the food services provider to eliminate, or at least minimize the use of disposable packaging, and favor easily recyclable and/or biodegradable containers;
- First, quantities of each type of waste should be tracked and an understanding developed as to where each type of waste goes, particularly hazardous waste from labs;
- SWGC should collaborate with other large generators to support local processing;
- SWGC should support local pilot projects in processing, especially involving new technologies - for example opportunities to produce energy from waste;
- SWGC should consider opportunities for on-campus composting and use (e.g. in grounds maintenance). It is possible to start small, for example with coffee grounds;
- A collection point for household hazardous waste should be provided, such as compact fluorescent bulbs and batteries; and
- SWGC should work with the City and Province to devise innovative strategies in recycling and waste management technologies.

5.3.9 The Social Dimensions of Sustainability

Social dimensions of sustainability should be considered as well, and the physical campus can play a large role in the achievement of social objectives on campus. Here are a few examples:

- Safety and security: campus design should take into account the need for safety and security, for example by avoiding nooks and crannies, ensuring that sight lines are preserved on paths, avoiding tall shrubs, etc. Safety can also be implemented in the choice of materials to prevent slipping, particularly in the winter;
- Active lifestyles: active lifestyles can be encouraged in myriad ways, for example ensuring that stairs are clearly visible and are preferred over elevators by most campus users; a trail network to encourage exercise and the "communion with nature"; informal multi-sports fields that encourage casual exercise without cumbersome booking, and are well sheltered from wind;
- Collegiality: indoor and outdoor spaces scattered throughout the campus should be programmed to encourage informal, day-to-day interaction among students - both local and non-local, as well as faculty members;
- Accessibility - An important part of social sustainability is ensuring that everyone who is otherwise capable of attending university and wishes to can do so. This is especially relevant to SWGC with or absence of alternatives in Western Newfoundland;
- Engaging the community: SWGC and the community cannot live without one another. SWGC should continue to welcome members of the Community on campus through recreational and cultural programming;
• Supporting the local economy; buying locally, e.g. construction materials and food, also carries an important social dimension. When SWGC buys locally, it employs current and potential students, their friends and family – and those of faculty and staff members; and

• Quality of Life Initiatives: social sustainability extends much beyond the physical campus to include examples such as:
  a. Programs to encourage out-of-province students to mingle with local students, particularly those who do not live in residence; e.g. a "Newfoundland Hospitality" in which each out-of-province student would be paired with a NL student; and
  b. A "random acts of kindness squad" as at Saint Mary’s, a volunteering program for students that makes it easy and compelling to volunteer outside the campus, for example litter pickup events or clothing drives, with opportunities for visits to seniors, coaching kids at risk in schools, etc. It is important that the Community view SWGC as directly beneficial to the Community and not just as a large employer.