the founders of the University of Saskatchewan had a dream of building a world-class institution of higher learning in the middle of the prairies.

This year, we celebrate the realization of their dream and the collective effort that made it a reality. Successive generations of men and women have poured their inspiration and their endeavor into building one of the most distinctive campuses in North America.

As stewards of this beautiful campus, FMD’s mission is to plan, design, build, and maintain the physical resources of the University. Respecting the vision and traditions from which the U of S has grown, we continually strive to protect, support, and enable the strategic directions of the University that will carry us into the next century.

Recently, we have witnessed a resurgence of construction and renovation on our vibrant campus and the flurry of activity continues. Whether we are injecting new life into old buildings, giving birth to state-of-the-art facilities where research and learning will flourish, or simply making our workplaces safer and more efficient, we continually strive to improve this place where we work and learn.

Keeping an eye toward the future, this issue of Building Matters will discuss several major capital projects currently being considered or already in development. We are proud of our origins, respectful of our history, and excited about the future.

President Peter MacKinnon recently said, “Having built a world-class university on the banks of a prairie river, our mission now is to engage fully in all we do, to enlighten all we serve, and to explore all aspects of our world.”

“The buildings are beautiful, my ideal of university buildings.”

— Walter Murray president (1908-1937)
The recently completed Aquatic Toxicology Expansion involved various upgrades and additions to the Toxicology Centre to provide research space necessary for Canada Research Chairs Dr. John Giesy and Dr. Monique Dube. It also presents potential for the School of the Environment, the Canadian Foundation for Innovation (CFI), and other toxicology initiatives.

The project involved a single storey expansion to the northwest corner of the Toxicology Centre (approximately 220 square metres) and incorporates rooms for solvent and equipment storage and a new emergency generator and electrical room. The former SRC Pilot Plant, which previously functioned as a sculpture studio, was retrofitted to accommodate the aquatic culture and exposure labs. Water treatment equipment for the experimental labs occupies a large portion of this retrofitted space. Below-grade water storage tanks were also added for emergency supply to these new aquatic labs.

Various interior areas within the Toxicology Centre were upgraded with basic wet lab facilities and modified to accommodate new offices, graduate student spaces, and other administrative functions.

A two-storey addition above the most easterly portion of the former SRC Pilot Plant space (approximately 170 square metres per floor) accommodates an instrument lab and wet chemistry lab on the first floor and a biochemistry/molecular toxicology lab complete with autoclave, chemical storage, cell culture, and microscope room on the second floor. A new mechanical penthouse expansion at roof level was integrated to accommodate the increased infrastructure requirements.
With the support of staff, students, faculty, and alumni, the College of Law is undertaking an ambitious campaign to return to pre-eminence in Canadian legal education. This campaign has four pillars: implementation of a strategic plan, improvement of student services, growth and strengthening of the faculty complement, and expansion and modernization of the physical premises.

The expansion will address serious overcrowding, modernize facilities, and address function and accessibility deficiencies. It will meet the present needs of students, faculty, and staff, and will allow for future growth of the college.

The construction of approximately 2,987 square metres of new space will provide an opportunity for the college to “backfill” and renovate vacated spaces within the existing Law Building to accommodate new functions. The Native Law Centre, currently located in the Diefenbaker Centre, and renovations to the law library have been included in this project’s design.

Construction is progressing very quickly in order to meet the completion date scheduled for this fall. Many of the sustainable features of the building are starting to take shape: the windows are in place giving the structure a distinctive look while providing natural light to over 75% of the interior spaces; the roof structure will soon be complete allowing planting to begin on Saskatchewan’s first Extensive Living Roof by the end of May; and the displacement ventilation system is being installed. This ventilation system will provide 100% outdoor air, ensuring excellent indoor air quality and significantly reducing the amount of energy used by the building.

A computer simulation of the building’s energy use showed a 55% reduction in energy use over a typical building. Sustainable construction practices have also been followed: building materials with over 32% recycled content have been selected and onsite recycling and salvage have resulted in 87% of construction waste being diverted from the landfill. The College of Law expansion is well on its way to becoming the University of Saskatchewan’s first green building.
ACADEMIC HEALTH SCIENCES PROJECTS

The Academic Health Sciences project involves a series of additions and renovations. This sequencing was necessary due to the scale of the project and the infrastructure changes required. Some of the components are finished, others are in progress, and some are still moving through the design phase.

D Wing

The D Wing addition to the B Wing of the existing Health Sciences Building will add approximately 16,000 square meters of floor space, the majority of which will accommodate laboratory and vivarium space for research.

Temporary space has been leased at Innovation Place for the biomedical researchers and animal facilities that will be required to vacate the existing B Wing facility to accommodate the D Wing addition. These researchers will move into D Wing once the project is complete.

As part of the D Wing expansion, a pedestrian tunnel will be constructed under Campus Drive. Once construction of D Wing and the Aboriginal Student Space (see page 6) is complete, a new link will connect to the tunnel from Place Riel to the Health Sciences Complex.

The D Wing addition is currently in the construction document stage, with tender documents expected to be complete in November 2007. Throughout the design development stage, user consultation has been ongoing and will continue throughout the completion of construction documents.

E Wing

The E Wing addition will include a new library, the first 500-seat lecture theater on campus, and new clinical learning resource space. The existing Medical Research Building will be deconstructed to...
accommodate the E Wing addition. The majority of the E Wing will be a stand alone building, extending from the pedestrian intersection of the Academic Health Sciences Building and the Dental Clinic all the way to Campus Drive. Currently in the design phase, several user group and working group meetings are being held to determine space allocation needs. Tender documents should be issued in the spring of 2008.

Completed

B Wing

The new lecture theatre space and breakout rooms on the 4th floor (B Wing) have been in use for both curriculum and non-curriculum bookings since January 2006. The Interim Clinical Learning Resources Centre is also complete and has been in use since September 2006.

Construction Phase

Site Utilites

Utility relocations and upgrades will be required to accommodate the large additions to the Health Sciences Building (D Wing and E Wing). Utilities affected include steam, chilled water, electrical infrastructure, gas lines, and fire lines. The most visible aspects of this project will be the relocation of Campus Drive to make room for D Wing, the underground conduit being installed to accommodate electrical services, and the demolition of the old Royal University Hospital laundry building. The utility relocation aspect of the Academic Health Sciences project has recently been tendered and construction will start in May.

GEMS Laboratory Renovation

The B307 GEMS (Gene Expression Mapping Using Synchrotron Light) renovation will convert an under-utilized anatomy teaching lab into biomedical research space for the GEMS research group. This will be a demonstration lab for the open design concept being used for D Wing. Researchers and scientists who will be working in the new space will be able to witness first hand the development of the collaborative lab space. The project is currently in the construction phase and is expected to be complete and functional by the end of summer 2007.

Preliminary Planning

A Wing and B Wing Renovations

Once D and E Wings are functional, renovations will begin in the existing A and B Wings of the Health Sciences Building. This portion of the project is still in the preliminary planning stages.
ABORIGINAL STUDENT SPACE
Design Phase

Planning continues for the development of an Aboriginal Student Space. The vision for this project is to provide resources and amenities for Aboriginal students while engendering knowledge and understanding of Aboriginal history and culture among non-Aboriginal students and the campus community.

The proposed project hinges on securing capital funds to develop three components totaling approximately 1,000 square metres. While separate, the following three components will collaborate to create stronger relationships and increased opportunities:

- space for Aboriginal students, coordinated through the Indigenous Students’ Council, including a lounge, resource/computer room, and student office
- Aboriginal Students’ Centre/Student and Enrolment Services offices and facilities for student advisors/counselors, including space for Elders
- central teaching/learning/ceremonial space

The site chosen for this project, Wiggins Court, will allow the facility to be linked to the Lower Arts/Place Riel Tunnel and the new Academic Health Sciences D Wing.

HIGHER PERFORMANCE RESEARCH COMPUTING FACILITY
Design Phase

The 4th floor of the Spinks Addition was identified some time ago as uniquely suited to house research computing clusters—racks of computers that can draw large amounts of power (10 or more kW per rack) and therefore require tremendous amounts of air conditioning. Spinks has the electrical capacity to accommodate the required cooling, and the 4th floor is both adjacent to the roof (to allow for dry cooler/condenser installation) and close to a large mechanical space with easy access.

The space initially chosen (Room S426) was not large enough to accommodate both the air conditioning equipment and the racks of computer clusters (26 planned for total capacity), so the graduate student space currently located in Room S404 will be relocated to Room S426 and Room S404 will be developed as the Higher Performance Research Computing Facility. Construction is expected to begin this summer.
UNIVERSITY LEARNING CENTRE 
AND LIBRARY TRANSFORMATION
Construction Phase

The University Learning Centre and Library Transformation project will involve major renovation of the ground and first floors of the Murray Library (South Wing), which will nearly double the space devoted to student programs and services within the library. The project includes a University Learning Centre dedicated to the development of learning skills for students and teaching skills for faculty. It will be a casual and flexible space, connected to new media resources, and designed to accommodate the new ways in which students are learning.

The Learning Centre will be developed in phases. Phase 1, which is now complete, provided more space for the Gwenna Moss Centre for Teaching Effectiveness on the ground floor, Murray Building North. The Writing Help and Math Help services of the University Learning Centre were established on the 1st floor, Murray Building South. These changes accommodated the most critical components of the University Learning Centre.

Planning for Phase 2 is now underway, and is due to open in September 2008. The ground floor of the Murray Building South will be transformed into an exciting new space to include a café, group study and meeting rooms, and a large new study lounge with wireless internet access and comfortable seating. The circulation desk and reserve collection will be moved to the ground floor and library staff will relocate to a renovated space on the 6th floor.

Murray Building ground floor plan.
GRIFFITHS STADIUM UPGRADES
Construction Phase

Originally proposed as a result of the successful bid for the 2006 Vanier Cup, the Griffiths Stadium project resulted in a series of upgrades that brought the stadium and support spaces to a level typical of an institution of the University of Saskatchewan’s caliber.

Renovations took into consideration the needs of the University’s athletic programs as well as the Vanier Cup and community priorities. The result is a facility that will serve not only the needs of the University, but will be available to community and provincial partners. The development of this facility will permit the University and the city/province to bid on the hosting of other national events.

CHILLER ADDITION
Construction Phase

Stadium upgrades included replacement of the existing main field with artificial turf; installation of improved lighting and an aluminum grandstand; expansion of the media box; construction of a new team building, washrooms, and a concession building; and renovation of the existing team building and classroom/office building (under the current grandstand). The old Huskie clubhouse is being renovated and upgraded to act as the visitor’s clubhouse; it could accommodate two high school football teams or two soccer teams. Renovations will be complete in June 2007.

An addition to the heating plant is being constructed to accommodate the new chiller required to cool the expanding infrastructure on the University campus. Chiller #4 will be the first new capacity added since 1988. The building addition will allow space and provisions for a future chiller #5, which is not anticipated to be required until at least 2015.

All new motors driving pumps, cooling tower fans, and other ancillary equipment associated with chiller #4 will be very high efficiency with variable speed controllers to minimize energy consumption. Infrastructure to support chiller #4 was tendered in November 2006 and work began immediately. Chiller #4 will be operational for the 2007 cooling season.
The new International Vaccine Centre (InterVac) will be the first laboratory in Western Canada to allow research on both animal and human health for current and emerging infectious diseases. The centre is being developed collaboratively by the Vaccine and Infectious Disease Organization (VIDO), the College of Medicine, and the Western College of Veterinary Medicine. When completed, the bio-containment facility will be one of the largest vaccine research laboratories in North America and will lead Canada into world leadership in vaccine research and development for diseases as diverse as hepatitis C, SARS, HIV, tuberculosis, and avian influenza.

A containment facility of this nature requires strict monitoring in all areas of construction, certification, and operation. As a result, almost 75% of the 13,670 square metre facility will be used for complex building support systems. In order to create the airtight rooms and environments necessary for the research, facilities of this type have very strict parameters for construction.

Funding for this world-class facility comes from the Canadian Foundation for Innovation, the Province of Saskatchewan, the Government of Canada, the City of Saskatoon, and the University of Saskatchewan. Once started, construction will take approximately 32 months to complete.
FEED TECHNOLOGY RESEARCH FACILITY

Design Phase

The first of its kind in Canada, the Feed Technology Research Facility will fill a critical infrastructure gap in feed processing research and development that will benefit the Canadian feed industry and promote rural economic development. The facility will enable applied scientific research in feed processing technology and animal nutrition. As part of an international network of advanced feed research facilities, it will provide national leadership in feed processing research.

The proposed facility, to be located adjacent to the Crop Science Field Laboratory at the eastern gateway of the University, will consist of a multi-level building structure with approximately 1,500 square meters of floor space. It will support collaborative interdisciplinary research for numerous researchers and graduate students from animal nutrition, crop genomics and breeding, animal health, food safety, and biotechnology.

The pilot plant being incorporated into the design will allow industry and University researchers to conduct specific targeted feed development research. An educational component will provide a forum where students and industry groups can work together to achieve more effective and profitable use of feedstuffs across Canada. A potential bio-processing extension to the processing line may someday allow for non-feed type bio-product processing, including bio-fuels.

UNIVERSITY SERVICES BUILDING RENOVATIONS

Construction Phase

To ensure the workplace of the operations and maintenance trades personnel complies with all code and safety regulations identified by Occupation Health and Safety, and to address space and layout deficiencies, the University Services Building (formerly Maintenance Building) is being reconfigured. The carpentry shop, electrical shop, and tool crib will occupy space in new additions. Space made available by these moves will be reconfigured to accommodate FMD’s safety and environment employees, much-needed meeting space, and a training facility. Also included within the renovated space will be an information technology services (ITS) server room, which will house new computer network servers, operations servers, and new research clusters.

CAMPUS LIGHTING RETROFIT PROGRAM

Design Phase

Recent confirmation that the existing fluorescent fixture technology on campus will be phased out has prompted FMD to review systematic lighting and exit light retrofits across campus in areas that have not yet been retrofitted through capital renewal projects.

As of June 2010, T-12 magnetic ballasts will no longer be available, making servicing or replacements with current tube and ballast technology impossible. This underlying deadline requires virtually all of these fixtures be replaced within the next 3 years as individual replacements no longer become viable. The proposed lighting retrofits are technologically straightforward to implement, have reasonably short pay-back periods, and do not involve intensive integration with other systems.

The lighting retrofits are also a critical step forward on a wide range of energy conservation measures identified by FMD. They support the University’s commitment to sustainability by reducing energy consumption (thereby energy costs) and greenhouse gases. They will also improve the indoor environmental quality (light) throughout campus.

Disposal of fluorescent bulbs in an environmentally responsible manner is an important part of the project since the bulbs contain traces of mercury. FMD plans to employ the use of a “bulb-eater” that crushes bulbs and deals with the toxic elements. We are also trying to ensure the remaining glass and end caps are not simply sent to the landfill.
Work continues on the expansion and renovation of the Western College of Veterinary Medicine (WCVM). The improvements, including upgrades to facilities for teaching, research, diagnostic, and clinical purposes, were necessary to assure the college continued to meet national and international accreditation standards.

The diverse nature of this project has brought funding from various sources, including Agriculture and Agri-Food Canada, the Province of Saskatchewan, and a WCVM capital fundraising campaign.

Following a complicated construction schedule ensured the college’s operations could continue throughout construction. Construction of a new loading dock, food animal clinical sciences building, and animal care unit are complete. Work is finishing on expansions to both the veterinary teaching hospital and the research wing. A major addition to the diagnostics area, including additional space for Prairie Diagnostic Services, was started fall 2006. In addition, numerous retrofits and renovations within the building will address bio-security and safety issues within the small and large animal clinics to assure the college mandate of teaching and hands-on experience are properly supported.

The majority of the project should be complete by spring 2008, however, some smaller elements will continue until fall.
On June 3, 2007, more than 30 unique and interesting Saskatoon buildings will open their doors to the public. With 8 buildings on campus participating—Diefenbaker Canada Centre, Little Stone Schoolhouse, Museum of Natural Sciences, St. Andrew’s College, St. Thomas More College (Chapel and Gallery), Agriculture Building, College Building, and Main Barn—the University of Saskatchewan is very proud to be a part of the third annual Doors Open Saskatoon.

The Doors Open concept is simple—buildings of architectural or historical significance, or those with a unique purpose, open their doors to visitors. The aim is to facilitate people’s understanding and enjoyment of their local architectural environment while encouraging awareness of our built heritage. Many groups provide guided tours, special exhibits, and displays, while others just let visitors wander about.

Last year, Doors Open Saskatoon attracted over 16,000 visits. This year, thousands more are expected to celebrate our architectural and cultural heritage by visiting unique spaces not generally accessible to the general public.

As we honour the University of Saskatchewan’s 100th anniversary in 2007, Doors Open is a wonderful opportunity to celebrate our built heritage.

For more information about Doors Open and a full list of the participating buildings, go to www.doorsopensaskatoon.ca.

Several of the building projects featured in this publication are funded in part through the Thinking the World of our Future campaign. We are grateful for the generous gifts from members of the campus community, alumni, and friends of the University of Saskatchewan in support of these new facilities.

For more information about the campaign or to make a contribution to these exciting initiatives, visit the website at www.usask.ca/campaign or call the campaign office at 306-966-5186.

BUILDING matters is an annual publication of the Facilities Management Division (FMD) intended to provide planning and construction activity updates on the changing face of the U of S campus. Information included in this publication was accurate as of May 1, 2007. For current information throughout the year, see the Current Major Projects section or Major Projects Planning Process on the FMD website.

If you have questions or comments, call the Manager, Communications and Divisional Services, FMD, at 306-966-8844, or email val.szydlowski@usask.ca.

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