

# BuildingMatters

Dream noble dreams and build well Fall 2010



Gordon Oakes-Red Bear Student Centre





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**Building Matters** is an annual publication of the Facilities Management Division (FMD) to provide planning and construction activity updates on the changing face of the University of Saskatchewan campus. Information in this publication was accurate as of August 1, 2010. For current information throughout the year, see the Current Major Projects section or Major Projects Planning Process on the FMD website.

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# Unprecedented Growth

*Building Matters* takes on a new look to keep pace with the rapidly changing face of our beautiful campus

Welcome to the new *Building Matters*. In an attempt to keep pace with the rapidly changing face of our beautiful campus, we thought it was appropriate to update the look of the vehicle we use to communicate the news of that transformation.

There is more development happening on the University of Saskatchewan campus right now than in any other point in our history! The university is growing and evolving to meet the shifting needs of students, research, and the communities we serve. By focusing the university's energy and resources on these three interconnected areas, we are building toward a more engaged university.

We are creating a university where faculty, staff, and students engage each other in a common enterprise, where meaningful interaction is encouraged across traditional boundaries and disciplines. For example, the design and function of the new Academic Health Sciences building will bring most of our health sciences together in one location. This proximity will stimulate learning, research, and collaborative work. It will allow the U of S to lead advances in health care services locally, nationally, and globally.

This kind of impact on our society through research, but also through scholarly and artistic work, is encouraged within many of the facilities profiled in this issue of *Building Matters*. For instance, the new International Vaccine Centre (InterVac) will be the first laboratory in Western Canada to allow research on both animal and human infectious diseases. It will make Canada a world leader in vaccine



research for diseases as diverse as hepatitis C, SARS, HIV, tuberculosis, and avian influenza.

On a more artistic note, the proposed Clarion Project will have the potential to bring together people from many disciplines and will generate synergies between the arts, science, medicine, and business. It will enhance the creative environment at the U of S and promote innovative programming that will shape the cultural landscape far beyond our campus.

Many of this university's programs and activities are evolving through new partnerships and collaborations that cross traditional boundaries. One such endeavour will be the Gordon Oakes-Red Bear Student Centre. When complete, the centre will provide facilities for Indigenous ceremonies, academic pursuits, and social gatherings. The services and amenities housed in this unprecedented facility will help to attract and retain Aboriginal students in an environment where the spirit and knowledge of First Nations values sits alongside a traditional university educational system.

We will also tell you about some of the ways the federal government's

Knowledge Infrastructure Program (KIP) is supporting infrastructure enhancements at universities and colleges in Canada. This funding is allowing the university to address critical deferred maintenance issues that would otherwise far exceed the capabilities of our Capital Renewal Program.

For example, KIP funding is helping to turn an old post-mortem facility into a multi-disciplinary diagnostic laboratory at WCV. This world-class facility will not only serve Saskatchewan producers and support research carried out across campus, it will play a key role in the national animal and human health surveillance system and support work in government agencies such as the Canadian Food Inspection Agency and the Canadian Wildlife Service.

As we have always done, the university is changing to meet the needs of students, research, and our communities in a distinctively Saskatchewan way—giving Saskatchewan people access to global knowledge and taking Saskatchewan knowledge to the world. ■



## Lighting Retrofit

### construction

The university expects their ongoing lighting retrofit project will save 17,893 GJ/yr, or \$277,365 in electricity costs (at current utility rates). This amounts to greenhouse gas emission reductions of about 4,240,000 kg CO<sub>2</sub>/yr—roughly equivalent to taking 656 cars and light trucks off the road in Saskatchewan.

The university is retrofitting over 26,000 magnetic ballast light fixtures and T-12 lamps with high efficiency electronic ballasts and T-8 lamps. Compact fluorescent lamps will replace the incandescent lamps in an estimated 3,000 fixtures, and LED technology will be applied to nearly 700 exit signs. These retrofits address the impending ban of inefficient T-12 magnetic ballasts. Not only will these retrofits reduce electrical consumption and utility costs, improved lighting will also cause less eye strain and help to create a healthier work environment.

The university will continue to explore other proven lighting control and retrofit technologies that may offer even greater efficiency and performance. This will fulfill our strategic commitment to environmental sustainability and demonstrates how—from environmental, economic, and social perspectives—an initial capital investment can generate ongoing operating cost savings.

The retrofit of most larger buildings on campus has been completed. The Physics building is in process now, and the Thorvaldson building is slated for 2011. ■

## Engineering Expansion

### pre-planning

The College of Engineering is reviewing space requirements to assess their teaching, research, student, and administrative needs. The review will examine classroom needs, lab efficiency and modernization, availability of office space for college administrative support staff, and student spaces—student study areas, resource areas, interactive spaces, and space associated with new initiatives.

The information and data gathered through this review will assist in sourcing capital funding to construct new facilities. The developmental strategy and planning scenarios will reflect the overall space needs of the college and will also take into consideration project phasing and staging. ■



## Diefenbaker Building Rejuvenation

### design

A proposed renovation of the Diefenbaker Building will rejuvenate the centre for expanded academic, research, and public uses. The result will be a vibrant hub of public affairs teaching, research, and programming that brings together university faculty, visiting scholars, students, and the historically significant artifacts of the Diefenbaker Archives and Museum while increasing the awareness of the Centre's gallery and exhibits.

Built in 1979, the Diefenbaker Building hosts university research centres and programs, including the Johnson-Shoyama Graduate School of Public Policy (JSGS) and the Centre for the Study of Co-operatives. As well, accommodation of competitive

graduate programs in collaboration with the University of Regina means more people are working out of the Diefenbaker Building than in the past. Proposed improvements to the Diefenbaker Building will provide space for additional education programming, including workshops, speaking presentations, and public events.

Three components are envisioned for the rejuvenation: the creation of a multi-purpose room for up to 80 people, upgrades to the archival and storage systems, and aesthetic improvements of the lobby area. The end result will help fully realize the Diefenbaker Building's potential as a centre for leadership development and outreach programming. ■

# Gordon Oakes-Red Bear Student Centre

design

Design has been approved for the new Gordon Oakes-Red Bear Student Centre, however the project has been stalled by lack of funding.

When complete, the Gordon Oakes-Red Bear Student Centre will become a central resource of services and amenities to support Aboriginal students, while also creating knowledge and understanding of Aboriginal history and culture among non-aboriginal students and the broad campus community.

This proposed project hinges on securing capital funds to develop three components totaling approximately 1,300 m<sup>2</sup>. The Gordon Oakes-Red Bear Student Centre will provide an environment where Aboriginal students can get the necessary support to succeed in the university environment. A second space will be occupied by the Indigenous Student Council, a peer support and advocacy group for Aboriginal students at the University of Saskatchewan. Finally, the Central Gathering Space will unify other spaces within the building and provide shared facilities for Indigenous ceremonies, academic forums and lectures, and social gatherings.

Aboriginal enrolment for post-secondary education is increasing rapidly at the U of S. Through the development of the Gordon Oakes-Red Bear Student Centre, the university intends to meet these demands in an environment where the spirit and knowledge of First Nations values sits alongside the knowledge and wisdom of a university educational system. ■



# Academic Health Sciences Project



Cranes dot the skyline above the Academic Health Sciences (AHS) project site, and for good reason. It is the site of the largest capital project in the history of the University of Saskatchewan. Last year at this time there was only one crane on the east side of the D Wing construction site. Today there are three cranes—one on the north side of the D Wing addition and two on the E Wing building site.

When the AHS project is complete, the Colleges of Dentistry, Medicine, Nursing, Pharmacy and Nutrition, and the Schools of Physical Therapy and Public Health will be located within the same district of campus. The College of Kinesiology and the Western College of Veterinary Medicine will not physically move to the same area, but students, faculty, and researchers from these colleges will participate in various learning and research activities located there.

Considerable progress has been made in the four years since construction began. The box below shows the current status of the various components of the project.

Keeping with the university's high standards, every effort is being made to ensure the new facilities will be energy efficient and will meet

the strict Leadership in Energy and Environmental Design (LEED) certification standards where applicable. These standards ensure buildings use systems that improve their overall performance and operations, such as energy saving mechanical and electrical systems, water conserving plumbing fixtures, efficient use of natural

**B Wing, fourth floor renovations (Interim Clinical Learning Resource Centre, lecture theatre and numerous break-out rooms)** completed 2006

**Gene Expression Mapping using Synchrotron Light (GEMS) Lab** completed 2007

**Site utility relocations and upgrades** completed spring 2008

**D Wing, new construction** began in fall 2008, exterior to be completed in 2011 and interior to be completed mid-2012

**E Wing, new construction** began in fall 2009, to be completed mid-2013

**Medical Research Building/MRI deconstruction** completed January 2010

**A and B Wing renovations** 2014 to 2016

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sunlight, highly efficient insulation to reduce heating and cooling requirements, and long-lasting construction materials that require minimal maintenance. LEED standards also encourage the use of locally available and commonly used materials, building materials selected for high recycled content and low volatile organic compound (VOC) emissions, and the diversion of construction waste from construction sites. Other sustainable choices in this project will result in the reduction of CO<sub>2</sub> emissions, improved indoor air quality, and stewardship of resources.

The existing Medical Research Building, B Wing Annex, and Laundry Building were deconstructed to make room for the D Wing expansion and the E Wing building. Where possible, materials from these facilities were salvaged for recycling. Millwork and other reusable items were donated to Habitat for Humanity, fieldstone and granite will be used on the new facilities, and concrete from the Medical Research Building, MRI, and the B Wing Annex will be recycled as backfill in road construction.

Due to the scope and size of the Academic Health Sciences project, it will be finished in a series of stages with the final phases completed by 2016.

For more details on the Academic Health Sciences project, visit [www.usask.ca/healthsciences](http://www.usask.ca/healthsciences). ■



D Wing



D Wing



## Heating Plant Expansion

construction

Watching new buildings go up on campus is exhilarating, but the excitement would fade quickly if we could not heat and cool those buildings. In reality, utilities are the lifeblood of our campus infrastructure. As the campus continues to grow, we also need to upgrade required support systems. For example, our Heating Plant Boiler Feed Water Treatment System can no longer support the production of enough steam to meet campus needs. Several components

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## Steam Distribution Replacement, Veterinary Road construction

Reliable steam service is vital for the research sector on campus. The direct buried district steam distribution system that runs between the Western College of Veterinary Medicine (WCVM) and Vaccine and Infectious Disease Organization (VIDO) was installed in the early 1970s. While it has already outlived its expected life, it is no longer able to keep up with demand.

Since September 2008 there have been an average of two significant failures per month. These failures result in a great deal of steam and condensate loss and potentially unsafe situations. They are also very disruptive to the important research being done in the facilities the steam system serves—the Canadian Light Source (CLS), InterVac, VIDO, Animal Resources Centre, POS (Proteins, Oils, Starches) Pilot Plant, and the General Purpose Building.

Replacing these buried steam lines is critical to supporting nationally important, world-class research, while decreasing energy losses, improving safety and service reliability, saving water, and reducing the use of treatment chemicals.

Approximately 570 m of concrete tunnel will be constructed to contain high pressure steam lines, high pressure condensate lines, and pumped condensate return lines. Service chambers will also be constructed for access to ancillaries such as isolation valves, steam traps, and expansion compensators. The size of the steam and condensate lines will also be increased to provide sufficient capacity to serve VIDO/InterVac and potential future developments in this area of the University of Saskatchewan campus. ■

## Heating Plant Expansion

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need to be expanded, upgraded, or completely replaced to meet the university's growing demand for steam heating and process steam for research and operations.

Expansion of the Heating Plant Boiler Feed Water Treatment System is underway. This project will increase the capacity, efficiency, and reliability of the existing feed water treatment system to accommodate growth in campus demand for steam from the current 300,000 pounds per hour (pph) to 600,000 pph, and it will ultimately provide future capacity for the addition of approximately 150,000 m<sup>2</sup> of building space on campus.



New facilities supported by the Central Heating Plant will include the Canadian Light Source (phases 2 and 3), the Place Riel addition, the WCVM additions, InterVac, the Gordon Oakes-Red Bear Student Centre, and the Academic Health Sciences additions. There will also be new loads imposed by non-university agencies serviced by the Central Heating Plant such as the new Children's Hospital at Royal University Hospital.

Soon, additional boiler capacity will be required, but this feed water upgrade project will allow the Heating Plant to meet the steam requirements of the campus through the immediate wave of new construction. By putting the increased feed water capacity in place now, a future boiler expansion will be possible without further increasing the size of the feed water system. ■

# International Vaccine Centre (InterVac) construction



HEPA filters for CL-3 Labs



Installing the biosafety cabinets (gloveboxes)



Working on the first floor mixing chamber

Construction continues at the site for the International Vaccine Centre (InterVac) along Perimeter Road in the North Precinct of the campus, and the facility is nearing completion. The building exterior is complete and the building is weather tight. The exterior stairs, ramps, and loading docks have been constructed, and the soft landscaping should be completed by early September. Within the facility, most of the complex mechanical and electrical systems have been installed.

InterVac will be home to one of the largest vaccine research facilities in North America. Building a containment facility of this nature requires strict monitoring in all areas of construction, certification, and operation. Within the overall building

commissioning process, individual components continue to be tested to assure compliance with the design and performance intent, both before and after installation. All piping and ductwork assemblies and connections will be pressure tested to assure integrity of construction. Individual components connected to the various systems will undergo further testing and commissioning performed on the collective systems to provide additional system validation.

When the building is complete, rigorous testing of all systems in both normal and abnormal operational conditions will be conducted to further confirm correct function. The building will also be run through multiple failure scenarios to assure that all back-up

and redundant systems are properly activated.

Finally, representatives from the Canadian Food Inspection Agency and the Public Health Agency of Canada will visit the facility to conduct a series of validation test to confirm the airtight nature and operation of the building. Representatives from these agencies will work within the facility for approximately a month to assure proper building operation before issuing appropriate documentation to certify that the facility is safe for work with the approved pathogens.

Construction is expected to be complete in early 2011. After InterVac has been granted official certification in spring 2011, the research for which it was designed will begin. ■



View from northwest



South ramp from roof



View from northeast

## College Quarter Student Residence Projects

Undergraduate Student Residence — construction

Graduate Student Residence — design



Artist's renderings, College Quarter (left) and Undergraduate Student Residence Building (above). Below are construction images from the undergraduate residences building site, including the view from a student window.



Demand for student residences at the U of S is very high, yet the university houses only 6% of its student population on campus (extremely low compared to peer institutions). At the same time, rental costs in Saskatoon are escalating and affordable rental units for students are becoming increasingly scarce. The university's enrolment plan calls for strong growth in graduate student numbers. This growth will increase demand even more for student housing.

The university's ultimate goal is to add 1,700 residence beds on campus to accommodate about 15% of our student population. The redevelopment of attractive, accessible, and affordable housing in the College Quarter along Cumberland Avenue between College Drive and 14<sup>th</sup> Street will be essential to the success of the university's student recruitment and retention efforts.

A 400-bed undergraduate student residence facility is being built southeast of the RJD Williams Building and should be completed by fall of 2011. In addition, a graduate student

residence, to be located northeast of the RJD Williams Building, is expected to house 260 graduate students. The Graduate Student Residence is targeted for occupancy in September 2012.

Eventually, these residences will become part of the mixed-use village envisioned for the College Quarter. Residences will exist among sports facilities, shops, restaurants, cafés, bookstores, grocery stores, offices, clinics, cultural destinations, and green spaces. They will be adjacent to the College GreenWay, a pedestrian connection to the main campus described as an all-season, all-hours pathway that will incorporate street-level services, link buildings and activities, and will allow direct pedestrian and bicycle connections to the main campus.

The architecture of the student residences will help build a community of scholars within its walls. Suites will be comfortable, quiet, and well equipped, with a number of unit types from which to choose. Social and study spaces, designed to help foster a

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sense of community and scholarship, will be key elements of the design. Together, these buildings will include exercise rooms, meeting and lecture rooms, restaurants or cafés, administrative offices, as well as laundry, bike storage, and other amenities. A quiet, sunny, landscaped courtyard, with park benches and trees for shade will reinforce the sense of community and create an outdoor place for study, quiet thought, and other outdoor activities.

Environmental considerations will be of primary importance in the design of the student residences. From design through construction, these projects will strive toward the meaningful and verifiable standards set by the Leadership in Environmental and Environmental Design (LEED) program. The buildings will have a high standard of energy efficiency, achieved by combining high levels of insulation, energy-efficient building systems, and effective solar-control strategies. Both suites and common spaces will have plenty of natural light. The buildings will manage their own storm water runoff and will feature water-efficient landscaping and plumbing fixtures. Building materials will be selected for high recycled content and low volatile organic compound (VOC) emissions. And of course, a recycling program during construction will divert as much of the construction waste from the landfill as possible.

Both the Graduate and Undergraduate Student Residences will set an example to teach the students who live in them about the values of responsible global citizenship. A well-designed 'green' building can also be comfortable, humane, and uplifting—the essence of a good place to study and to call home.

For more information about the College Quarter Student Residence Projects visit the website: [www.usask.ca/collegequarter](http://www.usask.ca/collegequarter). ■

## THE CLARION PROJECT

*An Artful Vision*

pre-planning



Imagine. Inspire. Transform.

The Clarion Project is “an artful vision” for an enhanced creative environment at the University of Saskatchewan that would promote innovative arts and multi-disciplinary programming, and would ultimately result in the construction of a new fine and performing arts facility.



The Clarion Project promises to shape the cultural landscape beyond the U of S campus, bringing together people from all disciplines and generating synergies between the arts, science, medicine, and business.



The name and visual identity for the Clarion Project was selected to encapsulate the project's long-term vision and core message. The clarion, an ancestor to the trumpet, is a clear and melodious instrument that was once used by cavalries as a signal during war. As a symbol, it both articulates the artistic impulse of this project and is a signal for support. The chosen visual identity symbolizes the triad of partnership between government, community, and university.



The university has undertaken extensive consultation with Saskatoon and Saskatchewan arts communities about the Clarion Project and has received positive feedback and enthusiastic support. From the outset, the Clarion Project facility was envisioned as complementing the many performance venues that already exist and thrive in Saskatoon. It would be a place to create and strengthen partnerships between the university and the community, and would fill a niche for community groups who want to host small-to-medium-sized cultural events.



The College Quarter, along Cumberland Avenue between College Drive and 14<sup>th</sup> Street, is currently the preferred site for the Clarion facility. ■



## College of Law Expansion “LEED”ing the Way

The multi-million dollar College of Law Expansion project, completed in 2007, was the first building project on campus to meet Leadership in Energy and Environmental Design (LEED) standards—a set of advanced construction guidelines that encourage energy and water conservation, environmentally friendly construction practices, and building designs that maximize user comfort.

The building includes many sustainable features including natural light to over 75% of the interior spaces, Saskatchewan’s first extensive living roof on both the lower and higher roofs, and a displacement ventilation system providing 100% outdoor air to the building. Sustainable construction practices were also followed—building materials with over 32% recycled content were selected and on-site recycling

and construction salvage diverted 87% of construction waste from the landfill.

The adoption of LEED standards resulted in an environment-friendly, high-performance building that uses more local resources, makes optimal use of natural light and passive solar heat, provides greater comfort for occupants and requires less energy to construct and maintain. Occupants

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## Griffiths Stadium Graham Huskie Clubhouse Expansion

construction

The existing Graham Huskie Clubhouse, constructed in 2006, was a huge step forward from the meeting rooms under the west-side bleachers, but the amount of space required by the football team has increased in the past few years because of the Huskies reliance on video scouting the opponents. With the new addition, the Huskies Graham Clubhouse will be one of the top athletic facilities in the country.

An expansion is proposed to provide enhanced space for the Huskie football program, including training areas for players, office space for coaching staff, and meeting/

presentation space for other sports-related events. Although the primary use will be for Huskie football operations, the space will be available to other Huskie athletes, College of Kinesiology programs, and university events as well. Public space in the facility may be available for rental to external groups as a means of generating revenue to support operating costs.

This project involves a two-story addition to the east side of the existing clubhouse. It will house a high performance training centre with a multi-purpose weight, exercise, and training space on the ground floor.

On the second floor, in addition to administration space, three of the four meeting areas will have retractable sidewalls, allowing them to be combined into larger meeting areas. The smaller rooms will be perfect for game film viewing and smaller meetings. The expanded space will accommodate large meetings, receptions, and special events. The outdoor roof deck, with a view of the stadium and track, will provide space for gatherings and a camera enclosure for game filming.

Construction on the clubhouse began in August and is expected to be completed by fall 2011. ■



## Place Riel Student Centre Expansion and Renovation construction

The Place Riel Student Centre Expansion and Renovation project is essential for the University of Saskatchewan Students' Union (USSU) to provide appropriate levels of service and to enhance the overall experience of an increasing number of students with ever-changing needs.

Construction began in May 2010 and has already passed the halfway point. Phase 1, the Campus Computer Store and The Cove in Lower Place Riel, opened to the public earlier this year. Later this fall, Phase 2 will include the completion of new offices for Global Commons, also in Lower Place Riel, and the opening of some lower level food vendors.

The remainder of the project, which includes a new lower level food court, main floor Concourse/USC Executive Chamber/Student Info Desk and USSU Reception, and a second floor USSU office area and Campus Club space, is slated for substantial completion in early 2011. Fit-up of the third and fourth floors of the expansion for new Student Health and Counselling space (see below) is scheduled to proceed immediately following development of the space.

When completed, the project will include enhanced pedestrian crosswalks through the bus mall to the parking lot adjacent to Campus Drive, the re-roofing and enhancement of the courtyard between the Murray Library and Place Riel, and a new roof over the Murray Building's Art and Art History Studios.

The project is also on track to meet LEED certification requirements. Of note, approximately 88% of building material waste to date has been diverted from the landfill.

For more details on the Place Riel Student Centre project, visit [www.renewplacieriel.ca](http://www.renewplacieriel.ca). ■

## Student Health and Counselling Relocation Project construction

The Student Health and Counselling Centre will be located on the third and fourth floors of the Place Riel expansion tower. The third floor, to be occupied by Student Counselling, will consist of psychotherapy treatment rooms, reception and waiting areas, and support space. The fourth floor,

to be occupied by Student Health, will include examination rooms, practitioner offices, lab and treatment rooms, massage therapy, chiropractic services, and administrative and staff space.

Construction is expected to be complete by spring of 2011. ■



Window wells in the Place Riel addition will provide natural light to all floors.



Plans include new seating areas and food outlet spaces in Lower Place Riel.



Concrete is finished on the ground level on the north side of the building.



## Marquis Hall Renewal and Arts Food Service Outlet Upgrade

Phase 1 — complete

Phase 2 — construction

The Marquis Hall Renewal (Phase 1) now complete, involved an extensive renovation to the Bookstore—consolidating the Centre Shop, previously located in Place Riel, with the Bookstore—as well as moving the A&W outlet, also previously located in Place Riel, into the Arts Food Services Outlet. The goal is to transform the Arts Food Services Outlet into the university's secondary food court, which will also provide an expanded range of food options.

The Main Bookstore now serves as a central retail location on campus for textbooks, U of S insignia items, clothing/backpacks, stationery, art supplies, and special reference materials. The redesigned facility also provides space for a faculty-publications/reading area to promote U of S faculty research and academic publications.

The redesigned facility provides for an online presence, and the hours of operations were expanded to include some evenings and Saturdays.

Marquis Hall Renewal (Phase 2) represents the beginning of major renovations to upper Marquis Hall to create a central gathering place on campus that will host retail services, residence dining, special events, and the food services primary kitchen. Marquis Hall is an important centre on campus and this investment will improve the student experience, serve the university's need for enhanced special event meeting facilities, and contribute to the ongoing future viability of food service operations.

The first stage includes partial removal of the ramp between the main and second floors, to be replaced by a new elevator adjacent to the main

foyer providing full access to all three levels. This new elevator will allow for bathroom alterations in both the women and men's washrooms at the basement level to meet usage requirements.

Various other design changes in the kitchen and serving areas will increase storage, allow for better functionality, address inefficiencies, and permanently resolve health and safety concerns. Construction began on stage one in May and is expected to be complete in September 2010.

Stage two will focus on enhancements to the kitchen and servery and will be completed between May and August 2011. Stages one and two must proceed within consecutive summer time frames to ensure a safe and efficient working facility. ■



## University Learning Centre and Library Transformation Project complete



The University Learning Centre and Library Transformation project, a major renovation of the ground, first, and sixth floors of the Murray Library (South Wing), is complete. The renovation nearly doubled the area of the Murray Library devoted to student programs and services. Among these programs is the University Learning Centre, a collection of services dedicated to the development of learning skills for students and teaching skills for faculty. Services such as the Gwenna Moss Centre for Teaching

Effectiveness, the Writing Help centre, and the Math Help centre have been consolidated and expanded within the Murray Building.

The new Learning Commons, on the ground floor of the Murray Building South, opened its doors to students in March 2009. The Learning Commons provides a casual and flexible space that is connected to new media resources and is designed to accommodate the new ways in which students are learning. Other changes in the library include the relocation of the circulation desk and reserve collection to the ground floor. The finishing touch was the opening of a new Starbucks in September 2009 in the Learning Commons on the main floor of the Murray Building. ■



## Law “LEEDING” the Way

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may notice things like better air quality, better lighting, better temperature control, and so on.

LEED is a concept developed by the United States Green Building Council. In Canada, LEED standards are promoted by the Canada Green Building Council ([www.cagbc.org](http://www.cagbc.org)). The LEED program allows builders and

developers to earn basic, silver, gold, or platinum status, depending on how many points they accumulate during construction. Points are awarded for using approved construction practices or incorporating green building components. The Law addition obtained gold status and set a high standard for other campus projects to follow.

Facilities Management Division (FMD) now considers the LEED system for all new developments. Targets are for gold rating for the Gordon Oakes-Red Bear Student Centre and Academic Health Sciences E Wing, and silver rating for D Wing. FMD is also assessing the use of the LEED Existing Building system for existing facilities. ■



## WCVM Equine Performance Facility design

The existing Equine Performance Centre is located north of the large animal clinic and is adjacent to the area dedicated to client animal unloading. The existing building is a rectangular pre-engineered structure with pre-finished metal siding. The expansion will be situated north and east of the current facility and will be constructed around the existing pre-engineered structure. The exterior of the expanded building will be clad in masonry panels that better match the aesthetics of the main building.

The expanded centre will provide a dedicated indoor facility for diagnosis and teaching of equine lameness and clinical examination of primarily equine cases. Such a facility has been identified as a high priority for further development of modern equine clinical services and the clinical teaching program.

The new Equine Performance facility will also address significant animal and safety concerns and provide a fully functional, all-weather equine physical performance facility. ■

## Dairy Research Facility design

The Dairy Research Barn is out-of-date and undersized. The facility, operated by the Animal and Poultry Science Department within the College of Agriculture and Bioresources, was housed in the Stone Barn (built in 1912) until the construction of the present Dairy Barn in 1972. However, significant technical advancements in the industry, including the development of robotic milking machines and automated feeders, have rendered the facility obsolete. In addition, modern dairy cows are larger than those housed in the building at the time of construction.

A major upgrade and expansion of the existing Dairy Research Barn is urgently required to meet the teaching and research needs of the department. A new and expanded facility, coupled with a physical upgrade of the existing building, would provide the required



space for a larger herd size, robotic and traditional milking capabilities, cattle housing and feed research areas, milk storage and support rooms, staff and visitor spaces, and a public

viewing gallery. The new facility would also serve as an opportunity to test new sustainable technologies, including biofuel generation from agricultural waste and passive solar capture. ■

# Western College of Veterinary Medicine (WCVM) Expansion and Renovation Project

## construction

After six years of construction, the WCVM project is nearing completion. This extensive rebuilding project included five distinct additions to the WCVM facility—an expansion to the animal care unit, an addition to the veterinary teaching hospital, a research wing, the diagnostic wing, and a new loading dock—each designed to draw upon architectural features and finishes of the existing building.

Several other areas within the college were renovated to provide safer and more modern facilities in which to work, teach, and learn. The project has been a technical and logistical challenge, requiring renovations to multiple areas of the building, without interrupting the services provided or the teaching mission of the college.

The final stage of the project involved an internal renovation of the old post-mortem facility into a multi-discipline diagnostics laboratory and demonstration room. This project was supported by the Federal and Provincial governments through the Knowledge Infrastructure Program (see “Knowledge Infrastructure Program (KIP) Supporting Infrastructure Enhancement at Universities and Colleges in Canada” on page 19).

As part of the renovation, the iconic incinerator stack on the East side of the building has been dismantled. Gas-fired incineration for waste disposal has now been replaced by a process known as alkali hydrolysis, which exposes the waste to a combination of heat, pressure, and a caustic solution in a more efficient and sustainable practice. ■



## Grains Innovation Laboratory complete

The recently completed Grains Innovation Laboratory (GIL) added 1,466 m<sup>2</sup> to the Crop Science Field Laboratory (CSFL) located at the corner of Preston Avenue and 108<sup>th</sup> Street.

The addition provides the College of Agriculture and Bioresources with improved and increased research space and will allow for activities such as screening, grinding, and milling. The GIL will consolidate and enlarge the malting, baking, and wet chemistry laboratories with the milling, grinding, and office facilities presently located in various buildings around the campus.

The project required substantial site modifications. Two older Quonsets, which previously housed the field sample drying area and a workshop and storage area for Soil Science, were removed: both of these functions have been included and integrated into the new building. The new building also features open laboratory floor plans and large operable windows to allow natural light into the space.

Construction of the building was complete in December 2009 and occupation complete by June 2010. ■



## Feed Technology Research Facility design

The Feed Technology Research Facility will provide a state-of-the-art facility to support studies on the effects of feed processing on functional properties and on safety and quality of feeds, and for preparation of experimental diets for animal nutrition research. The facility will occupy approximately 4,300 m<sup>2</sup> on five floors of an existing industrial process line in North Battleford, Saskatchewan. After modifications and renovations, the renovated research facility will house a pilot scale line (PSL) and an industrial scale line (ISL) for research and teaching purposes within a wide range of processing conditions. ■

## Knowledge Infrastructure Program (KIP) Supporting Infrastructure Enhancement at Universities and Colleges in Canada



As part of Canada's Economic Action Plan, the federal government's Knowledge Infrastructure Program (KIP) provides up to \$2 billion to support infrastructure enhancement at universities and colleges in Canada. Two programs at the University of Saskatchewan are currently being supported by KIP—the Research Roof Top Renewal program and the Diagnostic Laboratory Renovation at the Western College of Veterinary Medicine (WCVM).

A 2007 Roof Condition Assessment determined that the roofs of nearly 25% of the 47 major buildings on campus are well beyond their expected life spans and in need of replacement. This was not news to those affected by the increasing number of roof leaks reported in 26 of these buildings.

Roof leaks and failures can disrupt, or even immobilize academic programming and research activities. Roof leaks also cause safety concerns when rain water comes into contact with electrical systems and equipment. A roof renewal program is one of the university's most critical deferred maintenance priorities, but an undertaking of this magnitude far exceeds the capabilities of the university's Capital Renewal Program. That's where KIP comes in.

Federal government funding will allow the university to address the most critical areas within the roof replacement program, ensure the preservation of physical assets and the continuity of university programming, and reduce energy consumption and greenhouse gas emissions. Taking advantage of green roof technologies will provide even more cooling opportunities, as well as reduced storm water runoff and increased life expectancy for the new roofs, thus ensuring construction materials are diverted from the landfill.

Another project supported by KIP is the renovation of the Diagnostic Laboratory at WCVM. The improved lab facility will ensure Saskatchewan producers and veterinarians, as well as industry, government, and academic researchers have access to the latest animal diagnostic services, and that the facility meets the highest biosafety and biosecurity standards.

This project is part of a much larger project that has been underway since 2004 to upgrade and enhance WCVM infrastructure and facilities to ensure WCVM meets international accreditation standards for the foreseeable future. Unfortunately, due to unprecedented construction cost escalation in Saskatchewan, this final phase of the WCVM project was halted in June 2008.

Now, with support from KIP, Saskatchewan will have a world-class diagnostic laboratory at WCVM where innovations in diagnostic and clinical techniques can be developed, tested, and practically applied—all at one centre. The lab will not only serve producers in Saskatchewan, Alberta, and Manitoba, it will play a key role in the national animal and human health surveillance system.

The Diagnostic Laboratory supports infectious disease and other research carried out across campus and in government agencies such as the Canadian Food Inspection Agency and the Canadian Wildlife Service. It is critical in training diagnosticians, pathologists, and veterinary professionals for positions across Canada. ■

# Core Area Revitalization Project (CARP)

The Core Area Revitalization Project is a multi-year, multi-project program to address the university's most critical space needs and focuses on a major revitalization and redevelopment of facilities within the core of campus. The project scope consists of renovations to the Animal Science Building and Kirk Hall, expansion to space within Innovation Place to accommodate short-term needs, as well as a feasibility study to identify necessary expansion of space in order to accommodate the university's long-term space needs. The Animal Science Building has been renovated to accommodate Parking and Campus Safety and Security, as well as some College of Engineering staff and students on an interim basis.

University Advancement, the Industry Liaison Office, and portions of the Office of the Vice President Research and of Community Health and Epidemiology/School of Public Health have been relocated to Innovation Place. The relocation of these administrative and community research units has allowed the renovation of Kirk Hall to accommodate academic functions of Geography, Native Studies, and School of the Environment and Sustainability. The Kirk Hall renovation is complete. The project provided back-fill opportunities to address needs within existing buildings.

The final project is a long-term feasibility and future construction project to ensure academic needs can continue to be addressed within the core of campus. ■



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