



**FOR RECOMMENDATION**

**CONFIDENTIAL**

**IN CAMERA SESSION**

**TO:** Business Board

**SPONSOR:** Scott Mabury, Vice President, University Operations  
**CONTACT INFO:** 416-978-7116, [scott.mabury@utoronto.ca](mailto:scott.mabury@utoronto.ca)

**PRESENTER:** Scott Mabury, Vice President, University Operations  
**CONTACT INFO:** 416-978-7116, [scott.mabury@utoronto.ca](mailto:scott.mabury@utoronto.ca)

**DATE:** June 2, 2014 for June 12, 2014

**AGENDA ITEM:** 12 (a.)

**ITEM IDENTIFICATION:**

*UTM North Building Reconstruction Phase B - Financial Implications and Funding Sources*

**JURISDICTIONAL INFORMATION:**

*Under the Policy on Capital Planning and Capital Projects,*

“...proposals for capital projects exceeding \$10 million must be considered by the appropriate Boards and Committees of the Governing Council on the joint recommendations of the Vice President and Provost and the Vice President, University Operations. Normally, they will require approval of the Governing Council. Execution of such projects is approved by the Business Board”.

“If a project will require financing as part of the funding, the project proposal must be considered by the Business Board.”

**GOVERNANCE PATH:**

**Project Planning Report**

1. UTM Campus Council [for recommendation] (May 29, 2014)
2. Academic Board [for recommendation] (June 2, 2014)
3. **Business Board [for recommendation] (June 12, 2014)**
4. Executive Committee [For Endorsement and Forwarding] (June 16, 2014)
5. Governing Council [For Approval] (June 25, 2014)

## **Execution of Project**

### **1. Business Board [for approval] (June 12, 2014)**

#### **PREVIOUS ACTION TAKEN:**

Phase A of the North Building re-construction, (Deerfield Hall), a \$56 million, 5,200 net assignable square meters (nasm), building, was approved by Governing Council on February 16, 2012. The Campus Affairs Committee, at its April 28, 2014 meeting considered and recommended this proposal for Campus Council consideration.

#### **HIGHLIGHTS:**

Detailed discussion of the background, space plan and site can be found in the “*Report of the Project Planning Committee for the North Building Reconstruction, Phase B at the University of Toronto Mississauga*”.

As has been well documented elsewhere, UTM is guided by a tightly-woven, integrated plan that provides for the one-time investment of continuing growth revenues in critical capital projects that, in turn, accelerates progress in a number of priority academic areas, especially faculty recruitment. It is an approach that has served UTM well and has enabled the campus to sustain significant growth while protecting and improving academic standards. Over the past five years, this strategy has enabled the investment of more than \$70 million of Capital Reserves to leverage new construction, renovation and campus infrastructure projects with minimal borrowing.

The timing for this next phase of capital renewal at UTM, linked to the next stage of enrolment expansion, aligns extremely well with the Province’s December 2013 Major Capacity Expansion Framework announcement. The provincial government is seeking proposals for capital projects that meet their goals for post-secondary education, including increased capacity in undergraduate enrolment, cost efficiencies and regional economic benefits. With enrolment at UTM projected to reach twenty thousand students in the longer term, these provincial objectives are well served by the North Building Phase B project, which will be submitted to the Ministry of Colleges, Training and Universities (MTCU) as a University of Toronto priority.

The estimated Total Project Cost (TPC) is \$121.2 million: within that total, construction costs (excluding hazmat/demolition costs) are estimated at \$96.5 million, or \$439 per square foot.

Of the TPC of \$121.2 million, the University will submit a proposal to MTCU for \$85 million (70%). In the last round of MTCU funding for capital projects, the Province contributed 70% toward an approved project, with the remaining 30% to be funded by the institution. UTM was successful in receiving \$52.5 million (70%) toward the North Building Phase A and South Building renovations; it is anticipated a similar approach will be taken by MTCU for this round of capital expansion. Proposals are due by September 26, 2014, but there is no indication yet of what might be the time line for the government’s decision.

North Phase B will also be accorded priority for UTM’s Boundless fund raising campaign and a target of (at least) \$5 million has been made against the project: \$2.5 million in donations coupled with \$2.5 million from the recent commitment by the Provost of up to \$6 million over three years from the University Fund (UF) to match such donations. The situation is similar to that of the \$35 million UTM Innovation Complex, now under construction. Initially approved as being fully funded from UTM Capital Reserves, that project subsequently received a pledge from the City of Mississauga for \$10 million over ten years. (The \$5 million fund raising target for the North Phase B project will remain in place whether or not government funding is received.)

Should the requested government funding of \$85 million be received the balance of the project cost beyond \$5 million in fundraising, \$31.2 million, will be funded by Capital Reserves derived from the UTM Operating Budget as follows: \$18.3 million now in-hand; and \$12.9 million in fiscal 2014-15.

If the project does not receive approval for funding from the Province, \$85.9 million will be funded by Capital Reserves derived from the UTM Operating Budget and UTM would seek to finance the balance of the total project cost through long-term borrowing of \$30.3 million. Provision has been made within UTM’s approved five-year Operating Budget to service the \$31.2 million borrowing. The multi-year plan for funding from Capital Reserves is shown in the table below:

**Capital Reserves derived from UTM Operating Budget (\$ millions)**

<b>Current</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
\$18.3*	\$13.0	\$6.75**	\$17.0	\$15.9	\$15.0

**Notes:** \* Cash in-hand

\*\* Lower amount reflects other 1-time commitments already planned.

Estimates of amounts available for roll-over from the Operating Budget into Capital Reserves are not based on optimistic revenue growth or “to-the-bone” expenditures plans. They do represent the continuation of sound planning, prudent fiscal management, are informed by experience to-date and are based on confirmed enrolment growth commitments as contained in UTM’s approved five-year Operating Budget. Nevertheless, these contributions will be treated by the centre as a “first-call” against UTM’s gross revenues in each of the years as shown above.

Should the government respond positively to UTM’s request for funding support but at a level less than \$85 million, government funds would first be used to eliminate the need for borrowing and the balance used to offset amounts that would otherwise be provided from Capital Reserves derived from the UTM Operating Budget.

It is important to proceed on the understanding that UTM can indeed financially support North Phase B as outlined herein, even in the absence of any government grant, as significant preliminary work must be done so that the project is “shovel ready”. Delaying project approval while awaiting confirmation of government funding will delay completion of the project by a full

academic year: a delay that will jeopardize UTM’s ability to meet current and planned enrolment growth targets.

**FINANCIAL IMPLICATIONS:**

**a) Total Project Cost Estimate**

The North Phase B project cost has been established at \$121.2 million.

**b) Funding Sources**

The primary plan for funding sources for the North Phase B project is as follows:

• Provincial Capital Funding (Major Capacity Expansion Framework)	\$ 85.0 M
• Capital Campaign (Donations and Matching Funds)	\$ 5.0 M
• Capital Reserves from the UTM Operating Budget	<u>\$ 31.2 M</u>
Total:	\$121.2 M

The alternative funding plan for funding sources for the North Phase B project is as follows:

• Capital Campaign (Donations and Matching Funds)	\$ 5.0 M
• Capital Reserves from the UTM Operating Budget: up to	\$ 85.9 M
• Borrowing: up to	<u>\$ 30.3M</u>
Total:	\$121.2 M

**RECOMMENDATION:**

Be It Recommended to the Governing Council:

1. THAT the project for the North Building Phase B, with a space program of 10,247 nasm (20,494 gsm) as outlined in the Project Planning Report dated April 23, 2014, be approved in principle with a total project cost of \$121,200,000, be funded as follows:

Provincial Capital Funding (Major Capacity Expansion Framework)	\$ 85,000,000
Capital Campaign (Donations and Matching Funds)	\$ 5,000,000
Capital Reserves from the UTM Operating Budget	<u>\$ 31,200,000</u>
<b>Total:</b>	<b>\$121,200,000</b>

2. THAT should government funding not be received, or partially received, that the project for the North Building Phase B be funded as follows, with the draw on capital reserves being utilized to the maximum before borrowing funds would be accessed:

Capital Campaign (Donations and Matching Funds)	\$ 5,000,000
Capital Reserves from the UTM Operating Budget: up to	\$ 85,900,000
Borrowing: up to	<u>\$ 30,300,000</u>
<b>Total:</b>	<b>\$ 121,200,000</b>



**DOCUMENTATION PROVIDED:**

*Report of the Project Planning Committee for the North Building Reconstruction, Phase B at the University of Toronto Mississauga (April 23, 2014).*

**Report of the Project Planning Committee for the  
North Building Reconstruction,  
Phase B  
at the University of Toronto Mississauga**

April 23, 2014

FACILITIES PLANNING & MANAGEMENT  
UTM



## Table of Contents

<b>I.</b>	<b>Project Background</b>	<b>2</b>
	a) Membership	2
	b) Terms of Reference	2
	c) Background Information	3
	d) Statement of Academic Plan	4
	e) Space Requirements	10
<b>II.</b>	<b>Project Description</b>	<b>20</b>
	a) Vision Statement	20
	b) Space Program and Functional Plan	22
	c) Building Considerations	42
	d) Site Considerations	48
	e) Campus Infrastructure Considerations	52
	f) Secondary Effects	55
	g) Schedule	59
<b>III.</b>	<b>Resource Implications</b>	<b>60</b>
<b>IV.</b>	<b>Recommendations</b>	<b>61</b>

### Appendices

- Existing North Building Plan
- Existing Space Inventory
- Occupant Profile
- Space Utilization and Requirement Analysis
- Room Specification Sheets (on request)
- Total Project Cost Estimate (on request to limited distribution)
- 2011 UTM Campus Master Plan: Planning Principles
- 2011 UTM Campus Master Plan: Site 7 North Campus Expansion
- Mechanical & Electrical Design Criteria
- Food Services Plan
- Geotechnical report (on request)
- Links to UofT Standards and Policies

## I. Project Background

### a) Membership

Paul Donoghue	CAO (UTM) (Co-Chair)
Gail Milgrom	Director, Campus & Facilities Planning (U of T) (Co-Chair)
Amy Mullin	Vice-Principal, Academic & Dean (UTM)
Mark Overton	Dean of Student Affairs (UTM)
Diane Crocker	Registrar & Director of Enrolment Management (UTM)
Shyon Baumann	Chair, Department of Sociology (UTM)
Emmanuel Nikiema	Chair, Department of Language Studies (UTM)
Holger Syme	Chair, Department of English & Drama Studies (UTM)
Sergio Tenenbaum	Chair, Department of Philosophy (UTM)
Shafique Virani	Chair, Department of Historical Studies (UTM)
Ed Schatz	Chair, Department of Political Science (UTM)
Andrew Petersen	Director, TLSI, Robert Gillespie Academic Skills Centre (UTM)
Lisa Kramer	Management Faculty (UTM)
Nausheen Adam	VP Internal & Services (UTMSU)
Samantha Andrade	Undergraduate Student Representative (UTM)
Amy Klassen	Graduate Student Representative (UTM)
Paull Goldsmith	Director, FM+P (UTM)
Stepanka Elias	Assistant Director, Facilities, Management & Planning (UTM)
Susan Senese	Director, Information & Instructional Technology Services (UTM)
Andréa De Vito	Representative, Hospitality & Retail Services (UTM)
Anil Vyas	Director, Technology Resource Centre (UTM)
George Phelps	Director, Project Development, (U of T)
Sarah Hinves	Planner, Campus & Facilities Planning (U of T)
Natalia Dourbalova	Senior Facilities Planner, FM+P (UTM)
William Yasui	Senior Facilities Planner, FM+P (UTM)

### b) Terms of Reference

1. Develop a detailed Space Program for the proposed North Building reconstruction – Phase 2.
2. Identify the space program as it is related to UTM's existing and approved academic plan; taking into account the impact of approved and proposed program enhancements that are reflected in increased faculty, student, and staff complement.
3. Demonstrate that the proposed Space Programs are consistent with the Council of Ontario Universities' and University of Toronto space standards.
4. Identify site plan implications, with reference to the design guidelines and other issues included in the UTM Campus Master Plan and to the North Building Phase 1.
5. Determine a functional layout of the space required within the proposed building envelope.
6. Determine any secondary effects to the building project and related resource implications of these effects.
7. Identify all equipment and moveable furnishings necessary to the project and their related costs.
8. Determine a total project cost (TPC) estimate for the capital project, including costs associated with secondary effects and infrastructure.
9. Identify all sources of funding for the capital project and any increased operating costs once the project is complete.
10. Report by end of December, 2013.

Note: The North Building Phase 1 in the above Terms is now called Deerfield Hall; North Building Phase 2 is now Phase B.

### **c) Background Information**

UTM continues to plan for and realize significant enrolment growth. Actual undergraduate enrolment in 2013-14 reached 10,482 full-time equivalents (FTE). Over the next five years, between 2013 and 2018, UTM's approved plan calls for undergraduate enrolment growth of at least 21%, which will represent about 58% of all undergraduate growth across the university during that period.

A key element supporting that growth is an integrated, multi-year capital plan, designed to provide the additional facilities needed to accelerate progress in a number of priority areas, especially faculty recruitment. With more than 2.5 million square feet of built space on the campus and a number of recently completed capital projects, faculty recruitment is being constrained by a lack of office and research space. Those pressures will be somewhat ameliorated in mid-2014 with the completion of two projects now underway. Phase A of the North Building Reconstruction (Deerfield Hall) will provide expanded office and research space for the departments of Psychology and Mathematical and Computational Sciences (as well as replacement rehearsal space for Theater and Drama, additional study space and food services). The UTM Innovation Complex will more than double the size of the existing Kaneff Centre. It will provide critically-needed growth capacity for the departments of Management and Economics, a number of professional graduate programs, be a focus for UTM's Institute for Management and Innovation (IMI), include expanded teaching space, a renewed Financial Learning Centre and allow for the relocation of the Office of the Registrar from the W.G. Davis Building.

These projects will allow the departments noted above to "catch-up" to the demands of past increases in enrolment growth and accommodate growth in specific areas. The project will also free up office space in the Davis Building supporting growth in other areas such as Biology and Geography.

Significant additional space will be required if UTM is to deliver on its enrolment growth projections and commitments. Phase B of the North Building reconstruction is necessary to accommodate growth of a number of academic departments (Humanities currently located in the North Building and Social Sciences in the Davis Building), allow further consolidation and possible relocation of some academic departments and enhance teaching and student spaces.

By focusing on Phase B, UTM is supporting an important direction that came out of the update to the campus Master Plan, a conscious shift toward development/redevelopment of the northern part of the campus. The project will also accelerate the replacement of the remaining portion of a 40-year old "temporary" building that is in very poor condition, is expensive and inefficient to operate and does not warrant significant investments of scarce resources to upgrade.

Full reconstruction of the site will allow UTM to consolidate the Humanities programs, as well as accommodate growing Social Science programs. This second phase will also include a significant number of traditional and innovative active learning classrooms (more than a third of the total space program), collaborative research spaces, and technology and academic skills centres.

This project should connect to floor levels one to three (and potentially level four) of the Deerfield Hall building that is currently under construction. Phase B will have six floor levels with assignable areas plus a mechanical penthouse, and will fit within the development envelope shown in 2011 UTM Campus Master Plan.

As demonstrated in the 2011 Master Plan, the existing North Building development site could accommodate a building complex of 29,000 net assignable square metres (nasm); this maximum area

is equal to the total assignable floor area in the William G. Davis Building that is currently the largest academic complex on the UTM campus. Deerfield Hall will be 5,200 nasm in size and the proposed area for Phase B is almost twice the size, 10,247 nasm. This still leaves a significant area on the adjacent Parking Lot 1 for Phase C development at a future date.

#### d) Statement of Academic Plan

The current student FTE projection for 2018/19 is 13,314 FTE (15,813 head count).

UTM Fall Student Headcount and FTE

<b>Headcount</b>			
	<b>2008-09</b> (Actual)	<b>2013-14</b> (Actual)	<b>2018-19</b> (Projection)
Undergraduate	10,506	12,581	15,149
Graduate*	418	546	664
<b>Total</b>	<b>10,924</b>	<b>13,127</b>	<b>15,813</b>

<b>FTE</b>			
	<b>2008-09</b> (Actual)	<b>2013-14</b> (Actual)	<b>2018-19</b> (Projection)
Undergraduate	8,678	10,482	12,682
Graduate*	375	530	632
<b>Total</b>	<b>9,053</b>	<b>11,012</b>	<b>13,314</b>

*\*Graduate counts include both students registered in UTM graduate programs and graduate students who choose formally to affiliate with UTM.*

Four humanities (English, Language Studies, Historical Studies and Philosophy), currently located in the North Building, and two social science departments (Political Science and Sociology), located in the Davis Building, are included in the program. Each has experienced significant enrolment growth and anticipates future growth to 2018/19. Some identify a desire for a graduate student presence at UTM, which is restricted by the current lack of space, along with adequate office space for a high number of sessional instructors.

#### **English**

The Department of English and Drama includes two academic fields. Maintaining a physical connection between colleagues in Drama and in English has been a major challenge in the past ten years. The construction of Deerfield Hall will provide Drama with new faculty offices and, for the first time, appropriate space for rehearsal and storage for the Theatre and Drama Studies program.

Phase B of the North Building reconstruction will bring the English portion of the Department back into closer proximity to colleagues in Drama, and reconnect the administrative offices to the entire Department. A departmental lounge, shared with the Department of Philosophy, will form a social hub for informal collegial interaction. New shared meeting rooms will ease some current organizational problems, and additional offices will allow for growth anticipated over the next five years. New offices will also provide adequate space for sessional lecturers and teaching assistants (TAs) who play an important part in the department's pedagogical mission.

Most importantly, the new space will drastically improve interaction with students. A shared large office with multiple cubicles will be set aside for TAs (all of whom are PhD students), especially those who run weekly tutorials. A reception area with comfortable seating will open the department to the undergraduate population, and will allow students waiting to meet with faculty or the undergraduate coordinator to socialize. (Two chairs in a corridor make up the current waiting area.) The new building offers the potential to accommodate graduate students interested in affiliating with UTM, as well as postdoctoral fellows supervised by English faculty. The presence of postdoctoral fellows on campus will provide a major boost to the Department's on-campus research profile and activities.

### **Language Studies**

Language Studies is comprised of five disciplines: French Studies; Italian Studies; Linguistics; Teaching and Learning; and the Language section. Enrolment nearly doubled between 2002 and 2009 (from 1,081 to 2,050 FCE), compounded by a rapid acceleration in growth to 3,197 FCE as of September 2013. Unfortunately, the faculty complement has not followed the same trend (decrease from 14 FTE in 2002 to 13 FTE in 2013 although several searches are currently underway). As a result, the number of sessional lecturers and TAs has significantly increased over the years. Sessionals are on campus a minimum of three days a week and need to be properly accommodated in shared offices and also require space for private meetings with students.

The Department plans to hire faculty in continuing positions in order to sustain the steady enrolment growth in the number of program students. Language Studies serves 194 Major students in French, 127 Major students in Linguistics and 47 Major students in Italian (368 Majors total), in addition to 41 Specialists and more than 500 Minor students. There is currently a high number of sessional lecturers relative to full-time faculty, but ideally this situation will change in time. It is anticipated that several of the shared sessional offices proposed in the new building will be converted into offices for faculty in continuing positions in the future.

The proposed new space program will foster enhanced interactions among faculty and students, and provides flexibly designed space to accommodate faculty and student researchers, while also accommodating the need for offices to serve sessionals, TAs, and faculty.

### **Historical Studies**

The Department of Historical Studies is a trans-disciplinary department that includes five disciplines: Classics; Diaspora and Transnational Studies; History; History of Religions; and Women and Gender Studies. Since its inception eight years ago the Department has juggled space year-to-year in an attempt to meet the needs of growing faculty and staff complement, increasing enrolment, graduate student engagement, and academic initiatives. In addition to a chronic shortage of appropriate space for a large cohort of sessional faculty members, Historical Studies lacks contiguous and useful space for graduate students and TAs. Further, Research Assistants have been relegated to work on the St. George campus as there is no current space provision at UTM; this has hampered the Department's ability to develop its intellectual community. The new space program will allow enhanced development of intellectual community and more space for faculty and student researchers to work in close proximity, as well as accommodating recent and planned growth in faculty complement and for more TAs to serve the growing student population.



## **Philosophy**

Philosophy is a broad-ranging discipline, concerned with everything from the fundamental nature of reality and knowledge to applied topics in ethics and political theory. UTM Philosophy faculty are experts in the history of philosophy back to antiquity, and in contemporary issues in ethics, metaphysics, logic, epistemology, feminist theory, aesthetics, philosophy of cognitive science, philosophy of mind and language. Researchers in these different fields of philosophy gain much from discussing their work with students and faculty across the discipline. The Department requires space configured to encourage collaboration among graduate and undergraduate philosophy students and faculty with a variety of different perspectives and areas of expertise. Students benefit immediately from having easy access to their professors and teaching assistants. The current space does not allow for this kind of fruitful interaction. Faculty members are spread out, there is no common space to foster spontaneous philosophical discussion and debate, and no space to hold planned reading group or research group meetings. The Department also lacks appropriate space for student support projects such as our undergraduate essay-writing clinic; teaching assistants have limited office space, often far from the department hub, or located in other buildings. It is important to have a space in which students have easy access to their instructors and in which they can interact in an adequate learning environment.

The Department of Philosophy welcomes the opportunity for new space, including the additional of a shared lounge for faculty and staff, which will foster interaction and which is congenial to its teaching and research aims.

## **Sociology**

The Department of Sociology houses programs in Sociology and Criminology and Socio-Legal Studies, and is exploring development of further programs. The Department has grown quickly over the last 10 years, with the growth accelerating in recent years. There is tremendous student demand for programs in Sociology, and students from outside the Department frequently enroll in courses as electives.

Relocation will provide a contiguous arrangement for faculty offices to facilitate cohesion for the purposes of teaching, research, and administration. Furthermore, the new space will allow sessional instructors to schedule and hold office hours flexibly and effectively, without creating disruptions to those working nearby. The provision of flexibly designed research lab space means that graduate and undergraduate research assistants, as well as Research Opportunity Program and Work-Study students, will be able to work in close proximity to their supervisors, in space that best suits the needs of the particular projects.

The addition of a lounge area for faculty and staff will provide a useful space for social interaction with the members of the Department, as well as with colleagues in Political Science. In addition, the space can double as a place for having informal talks for small audiences.

The new Sociology space will facilitate the growth of the Department, and allow a continuation in the highest quality instruction, research, collaboration between faculty and engagement with students.

## **Political Science**

There are four sub-fields in Political Science: Canadian Politics; Comparative Politics; International Relations; and Political Theory. The first three of these sub-fields are located within the Social Sciences whereas the fourth (Political Theory) is more properly located within the Humanities. This straddling of Social Sciences and Humanities contributes very substantially to methodological diversity within Political Science. One of the key goals of our program is to promote understanding of this methodological diversity and the wide range of intellectual approaches to the academic study of politics, both interpretive and quantitative.

The North Building reconstruction project will allow the relocation and consolidation of the Political Science departmental offices and support spaces. Due to a prior relocation to the Davis Building, the department lacks contiguous space. Faculty offices are at a significant remove from the department office and support spaces. TA offices are located in an even farther-removed part of the building. This arrangement has hindered interaction within the department, both between administrators and faculty and between faculty/instructors and students. The Department also lacks a common space open to students, hindering efforts to create a sense of community among them.

With the reconstruction, the department will have a cohesive space that will allow faculty, administrative staff, instructors, teaching assistants, undergraduates, and potentially graduate students the chance to interact more closely. It will also allow closer interaction, as well as the potential for new synergies with some key related departments, such as Philosophy and Sociology.

Once the Political Science and Sociology departments relocate from their current Davis Building location, other departments (such as Biology and Geography) adjacent to their current location will have the opportunity to expand.

## **Robert Gillespie Academic Skills Centre**

In addition to departmental space, relocation of the Robert Gillespie Academic Skills Centre (RGASC) is included in this project. This will allow for improvement upon and expansion of the RGASC facilities while also allowing the library to expand student spaces into the area vacated by the RGASC.

The RGASC has a dual mandate to support students with academic skills enhancement and to assist faculty and teaching assistants with the development and implementation of effective practice in their courses and programs.

Thirty minute one-on-one consultations between individual undergraduate students and learning strategists are a core element of the RGASC's support offerings. In addition, the RGASC offers regular small-group events (5-20 students), including facilitated study groups and workshops on various academic skills, including critical reading and writing, presentations, problem solving and numeracy, time management, and study strategies (both for the general population and contextualized for specific courses or programs). Centre faculty and staff also collaborate with instructors to provide integrated support within specific courses through drop-in sessions at key points in the term, and in-course instruction and training for courses involved in the Dean's Writing Initiative. These approaches are becoming increasingly important, as they allow for more effective collaboration with faculty and content delivery to a large number of students who otherwise would not reach the

RGASC. Centre staff also work with teaching assistants and instructors, providing one-on-one course and assignment design consultations as well as group sessions on instructional topics.

Current demand is greater than the Centre's capacity (which is restricted by space), and the RGASC expects continued growth in demand. In particular, the RGASC estimates that approximately 80 one-on-one appointment requests per week in peak periods of the Fall and Winter terms cannot be served, primarily because of lack of space for additional learning strategists; in addition, lack of space for new faculty and staff restrict the Centre's ability to support new, innovative programming.

The new space program will foster increased interactions with faculty and will permit the RGASC to expand its support for student success in keeping with our expanded student enrolment.

### **Active Learning Classrooms**

Active Learning Classrooms (ALCs) are designed to support pedagogy encouraging student collaboration and greater engagement between students, the content, and their instructor. To support this goal, ALCs are designed to create the capability for groups of students to work together and to reduce the importance of a central focal point. In contrast to tiered rows of tables facing a lecture/presentation wall, an ALC is often flat-floored and configured with round group tables around a room's perimeter. Typically, ALCs are enhanced by technology, particularly a dedicated screen, laptop hookup and microphone for each table with the ability for an instructor to switch between lecture material and group responses or input. This allows the instructor, for example, to pose a case or problem to small student groups and, later, to engage the entire class in a discussion of the various group responses. While technology does add to the classroom experience, and is required for larger rooms, active learning pedagogies are supported by the group-table configuration alone.

While active learning spaces have existed in various forms for many years, current design and evaluation of ALCs are based on the "SCALE-UP" (Student-Centered Active Learning Environment with Upside-down Pedagogies) concept at North Carolina State University in the late 90s. The "TEAL" (Technology Enhanced Active Learning) concept at MIT followed shortly after constructing its first pilot room in 2000). Both are based on a nine-person table size, which can be subdivided in pods of three.

A six-person subcommittee of the project's membership visited peer institutions in Canada and the US to experience Active Learning first hand, and met with instructors and administrators involved in the implementation, instruction and support of these rooms. The institutions visited were: the University of Minnesota, University of Iowa, Wilfrid Laurier University, Sheridan College, University of Windsor, and McGill University.

The University of Minnesota's recently constructed Science Teaching & Student Services Building includes 14 purpose-built ALCs ranging in size from 27- to 171-seat rooms. UMN provided the greatest cross-section of room types of institutions visited, as well as extensive and ongoing research. According to their findings, student performance (such as examination results) has improved across the board and for the most part both students and faculty have now embraced the new pedagogy. Courses in a range of disciplines and across all years are now taught in ALCs.

The addition of Active Learning Classrooms at UTM will provide facilities for faculty with an interest in this pedagogy, as a complement to the current inventory of traditional classrooms and lecture theatres. Faculty, engaged in discussions to date, have expressed a desire for a range of class sizes. The program reflects current discussions and also identifies ALC-capable rooms to be

converted in future if demand grows. A six-person table size was agreed upon for the ALC rooms. The six-person size allows for greater collaboration across the table (due to a smaller table diameter) as well as the ability to subdivide groups into three-person pods. Two classrooms in the Davis Building will be retrofitted as pilot rooms (with capacities of 48 and 78) to provide a testing ground for course development, to expand awareness of Active Learning pedagogy within the UTM community, and fine-tune the proposed classrooms prior to building occupancy.

## e) Space Requirements

### Existing Space:

Proposed occupants of the North Building Phase B currently occupy 3,586 nasm of space in the North Building, which will be demolished to facilitate this project. Academic departments have additional space (137 nasm) in the Annex Building, and the Academic Skills Centre occupies 136 nasm in the library. In addition Political Science and Sociology, occupy 706 nasm in the Davis Building; Political Science also has one 13 nasm office in Kaneff.

In total, the occupant's existing space on campus is 4,578 sm of which 992 sm will be made available for reallocation.

<b>Department</b>	<b>North Building</b>	<b>Davis Building</b>	<b>Annex Building</b>	<b>Kaneff Building</b>	<b>HMALC Building</b>	<b>Total Nasm</b>
	<b>Nasm</b>	<b>Nasm</b>	<b>Nasm</b>	<b>Nasm</b>	<b>Nasm</b>	
Department of English and Drama*	378		23			<b>401</b>
Department of Language Studies	522		11			<b>533</b>
Department of Historical Studies	501		57			<b>558</b>
Department of Philosophy	280		46			<b>326</b>
Department of Political Science		292		13		<b>305</b>
Department of Sociology		414				<b>414</b>
Registrar (classrooms)	1,262					<b>1,262</b>
Student Study Space	136					<b>136</b>
Student Space	29					<b>29</b>
Food Services	54					<b>54</b>
R. Gillespie Academic Skills Centre					136	<b>136</b>
Technical Support	42					<b>42</b>
Facilities Management + Planning	382					<b>382</b>
<b>Total Nasm</b>	<b>3,586</b>	<b>706</b>	<b>137</b>	<b>13</b>	<b>136</b>	<b>4,578</b>

\* English only  
See Appendix A for North Building Plans

With the exception of 1,262 nasm of classroom space, the majority of the existing space is faculty and administrative office and support space. Approximately 2,100 nasm of office space (150 offices plus support) will be lost as a result of demolition. Project staging is described in more detail under Secondary Effects.

## Occupant Profile:

The total number of FTE faculty, staff and students for 2013/14 and projected for 2016/17 were used as input measures in the Council of Ontario Universities Building Block space formula to generate a theoretical requirement for facilities at the divisional level as described in the next section, Space Analysis. COU input measures, defined within the Building Blocks, are used by all Ontario postsecondary institutions for this purpose. They may differ somewhat from other commonly used definitions used by UTM. Under COU, CLTAs, sessional instructors, TAs and ROPs do not generate space. However, the analysis was adjusted to reflect actual need expressed by the Departments. More detail is provided under Space Requirements on the next page.

### **Academic Facilities**

#### **Projected Growth (2016/17)**

in FTE	ENG	LAN	HIS	PHI	POL	SOC	Space generated:
Faculty (Research)	16.31	14	25.85	15	17.5	25	Office + Lab
Faculty (Teaching)	1	4.3	3	0	1	2	Office
CLTA	3	2.92	3	1.7	.6	0	Office
FCE (Stipend Courses)	8.4	27.65	28.35	5.95	10.85	10.15	Office
Post-Doctoral Fellow	2	2	3	2	1	1	Office + Lab
Research Associates	0	0	0	0	0	0	Office + Lab
Research-Funded Staff	0	0	0	0	0	0	Office
Administrative Staff	2.33	5	4.6	2	2.7	4	Office
Graduate	4	3	5	0	0	24	Office + Lab
Teaching Assistant	22.5	18	37.5	22.5	31	70	Office
ROP	6.25	0	41.25	0	0	6.25	Lab

An additional 14 FTE Faculty (11 Research and 3 Teaching) beyond 2016/17 projections will be accommodated in the North Building Reconstruction Phase B based on enrolment growth. The positions have not been assigned to a specific department at this time, and therefore will be included under Unallocated Academic Offices. Below, FTE include anticipated growth and were used to determine space requirements for central administrative office and support space. Note that the Robert Gillespie Academic Skills Centre was grouped with Campus Facilities as it provides a campus-wide service, though it is comprised of staff with academic appointments.

### **Campus Facilities**

#### **Projected Growth (2016/17)**

in FTE	RGASC	Tech Support	FM+P	Space generated:
Director/Manager	.4	1	1	Office
Academic Staff	7.2			Office
Administrative Staff	3	16	35	Office
Program Assistant/Work Study	1.8			Office

See Appendix: Occupant Profile for a complete profile including 2013/14 data.

## **Space Requirement:**

### **Academic Facilities:**

The table on the following page compares existing to the proposed allocations, as well as generated space requirements for academic departments and classroom space.

According to the COU analysis of academic facilities, the existing space allocation is 71% of the area generated. Political Science and Sociology both located in the Davis Building show the most significant space deficit; if these departments remained in existing space, in 2016/17 they would occupy 72% and 56% of the space generated respectively.

COU analysis of the proposed space program indicates a surplus of space, or over-accommodation of the Departments. However, not accounted for under COU is the space requirement for a high number of sessional instructors and TAs. To account for this reality, an input measure was added for sessional instructors, where 3.5 FCE=1 FTE. Where Departments do not, or will not, have a UTM-based graduate population, 1 nasm was assigned to TAs based on current space usage, plus 25% for growth. Where departments also have a graduate student population, the TA numbers were halved, anticipating overlap. English, Sociology and Historical Studies also have ROP (Research Opportunity Students) who do not generate space under COU though some do require workspace. For planning, based on an estimated 12 hours per week, three ROP are equivalent to 1 FTE grad student or 1.3 nasm each with a 25% allowance for growth. In the adjusted scenario, a space shortfall is indicated if projected departmental growth were to occur within the current space footprint (ranging from 52% of space generated for Sociology to 79% for English).

The individual departmental profiles include a number of CLTAs. The number of existing CLTAs was maintained for future calculations. However, it is anticipated that as the individual departments hire new faculty members, the numbers of CLTAs will decrease. The unused offices will be returned to UTM general space inventory, additional to the unallocated offices included in the table below, and under the direction of the Office of the Dean, SPMC will re-allocate their use.

The 3,791 nasm space program was developed to include the additional requirements, at 95% of the area generated (3,994 nasm). Shared meeting space was prorated evenly across departments resulting in some above and some below 100%.

Department Name	Generated Space	Generated Space	Existing Space	%	%	Proposed North	%	%
	2016/17 Nasm (COU)	2016/17 Nasm (Adjusted)	Inventory Nasm	I/G (COU)	I/G (Adj.)	Phase B Nasm	P/G (COU)	P/G (Adj.)
Department of English	433	509	401	92	79	506	117	99
Department of Language Studies	602	653	460	76	70	615	102	94
Department of Historical Studies	707	902	558	79	62	840	119	93
Department of Philosophy	361	417	326	90	78	431	120	103
Department of Political Science	424	492	305	72	62	499	118	101
Department of Sociology	743	798	414	56	52	729	98	91
Allocated for Growth (beyond 2016)*	223	223	0	NA	NA	168	75	75
<b>TOTAL ACADEMIC FACILITIES</b>	<b>3,493</b>	<b>3,994</b>	<b>2,464</b>	<b>71</b>	<b>62</b>	<b>3,788</b>	<b>109</b>	<b>95</b>
LS teaching labs**			60			65		
Centre - South Asian Civilizations**			0			57		
Classrooms			1,262			3,878		
Student Study Spaces + Societies			178			420		
North Meeting Place/Food Services			54			550		
R. Gillespie Academic Skills Centre			136			222		
Technical Support			42			231		
Facilities Management + Planning			382			646		
Campus Support Services						390		
<b>TOTAL CAMPUS FACILITIES</b>			<b>2,114</b>			<b>6,456</b>		

**TOTAL**

**4,578**

**10,247**

\* Additional FTE Faculty, based on projected enrolment growth beyond 2016, will be accommodated in 14 unallocated offices.

\*\* These academic facilities excluded from the analysis.

The next table compares generated space with the proposed space program for academic facilities by space category rather than by department.

Space Category	Generated Space	Proposed North	%	COU
	2016/17 Nasm (Adjusted)	Phase B Nasm	P/G (Adj.)	
Faculty Offices	2,139	2,028	95	4.1
Staff Offices	260	255	98	4.4
Office Support	714	690	97	4.5
Research + Grad Student Space	666	647	97	4.2,4.3, 3
Allocated for Growth (beyond 2016)*	223	168	75	4.1
<b>TOTAL</b>	<b>3,994</b>	<b>3,791</b>	<b>95</b>	



## Campus Facilities:

Some types of space require a campus-wide analysis. The Proposed UTM total areas include buildings under construction and the North Phase B expansion (accounting for demolition of the existing North Building) and are based on 11,012 FTE students (2013) and 13,314 FTE (2018).

	Generated Space 2013/14 Nasm	Existing Inventory UTM Nasm	% I/G	Generated Space 2018/19 Nasm	Proposed North Phase B Nasm	Proposed UTM Total Nasm	% P/G
<b>CLASSROOMS (a)</b>	13,545	10,027	74%	16,376	3,878	13,547	83%
<b>STUDY SPACE (b)</b>	6,607	3,455	52%	7,988	330	3,842	48%
<b>STUDENT SPACE (c)</b>	2,203	2,203	100%	2,663	90	2,546	96%
<b>FOOD SERVICES (d)</b>	4,955	3,931	79%	5,991	73	4,758	79%
<b>ASSEMBLY SPACE (e)</b>	3,028	1,120	37%	3,661	477	2,266	62%

- (a) FTE students x 1.23 sm (COU)
- (b) FTE students x .6 sm (COU)
- (c) FTE students x .2 sm (to maintain current ratio)
- (d) FTE students x .45 sm (UTM target) compared to .5 to .7 sm range (COU)
- (e) FTE students x .275 sm, given the .15 to .4 sm range (COU)

### Classroom space

The COU classroom space guidelines were used to determine the shortfall of classroom facilities for the current academic year and for 2018/19. A factor of 85% of the COU space guideline has been accepted by the University of Toronto as an achievable target. The new North Building Phase B will add 3,878 nasm of classroom facilities to the campus, 38% of the space program, while 1,262 nasm of existing classroom facilities will be removed as a result of demolition (2,616 net new nasm).

In addition to assessing a total area requirement for the campus, this analysis considers:

1. how well classrooms are used according to the number of hours booked per week; and
2. how well supply (room capacity) aligns with demand (section size).

According to the COU, a well utilized classroom should be booked for 34 hours of scheduled academic instruction over a 57 hour week. Further, when a room is booked, a minimum 65% of seats should be occupied.

Included in the existing inventory are the 61 classrooms under the control of the Registrar's Office used for undergraduate instruction, and a further 30 classrooms, which are departmentally controlled. The following tables illustrate the undergraduate instructional space shortage by comparing current room inventory under the Registrar's control to COU-generated space needs at current and projected enrolment levels.

*Distribution and utilization*

UTM's classrooms are well used based on hours scheduled. An analysis of room utilization shows that classrooms are booked 40 hours per week (Fall 2013) on average for regularly scheduled instruction\* with peak usage of up to 57 hours in a 30-seat classroom (at capacity). All but one classroom in the 51-60 group size exceed the 34 hour minimum.

Room Utilization:

Room size groups	2013 Room Inventory	2013 Utilization (hours per week)	2013 Utilization (average hours per week)	2013 Utilization (peak hours per week)	COU Room Utilization (minimum)
1-25	3	136	45	52	34
26-30	11	504	46	<b>57</b>	34
31-35	3	133	44	47	34
36-40	5	220	44	56	34
41-50	8	342	43	55	34
51-60	6	181	30	47	34
61-75	7	270	39	48	34
76-100	5	192	38	49	34
101-128	1	42	42	42	34
129-150	3	106	35	44	34
151-164	3	87	29	37	34
165-225	0	0	NA	NA	34
226-292	2	87	44	48	34
293-350	1	41	41	41	34
351-377	1	43	43	43	34
500	2	85	43	43	34
<b>TOTAL</b>	<b>61</b>	<b>2,469</b>	<b>40</b>	<b>57</b>	<b>34</b>

\* In addition to undergraduate courses, the 2,469 hour demand above includes 210 hours per week booked by the Centre for Teaching and Learning's Facilitated Study Groups (FSG), Science Without Borders (SWB), and First-Year Academic Transition (utmONE) programs within the 57 hour M-F timeframe.

While rooms are also well used according to seat utilization, where all but one group size (129-150) show an average utilization equal or greater to the 65% minimum recommendation, there are many instances in every room size grouping where bookings are exceedingly low. The discrepancy between inventory and bookings demonstrates that the current inventory is insufficient not only in quantity but in distribution. Many courses are offered in larger class size, resulting in a domino effect of poor seat utilization. A gap in room offerings of the 165 to 225-seat range serves as an example. Courses of this size are scheduled in rooms of 292 to 500, resulting in seat utilization as low as 40%.

Seat Utilization (%):

Room size groups	COU		
	Seat Utilization (average %)	Seat Utilization (minimum %)	Seat Utilization (minimum %)
1-25	74	40	65
26-30	83	50	65
31-35	78	14	65
36-40	81	38	65
41-50	76	40	65
51-60	78	34	65
61-75	73	27	65
76-100	65	15	65
101-128	66	16	65
129-150	64	17	65
151-164	69	15	65
165-225	NA	NA	65
226-292	79	41	65
293-350	70	43	65
351-377	73	49	65
500	65	18	65
<b>TOTAL</b>	<b>73</b>	<b>14</b>	<b>65</b>

The following table compares the current room inventory to the number of rooms required based on booking requests. Room requirements were generated by dividing room requests in hours by 34 hours per week.

Room Demand (current):

Room size groups	2013 Room Inventory	2013 Room Requirements	Inventory compared to Requirements
1-25	3	<b>14</b>	11
26-30	11	9	-2
31-35	3	6	3
36-40	5	7	2
41-50	8	10	2
51-60	6	6	0
61-75	7	6	-1
76-100	5	3	-2
101-128	1	2	1
129-150	3	2	-1
151-164	3	1	-2
165-225	0	<b>3</b>	3
226-292	2	2	0
293-350	1	1	0
351-377	1	1	0
500	2	2	0
<b>TOTAL (count)</b>	<b>61</b>	<b>75</b>	<b>14</b>

Overall, UTM has a current shortfall of 14 classrooms based on current demand. Additional bookings by the Centre for Teaching and Learning's Facilitated Study Groups (FSG), Science Without Borders (SWB), and First-Year Academic Transition (utmOne) programs generate a demand for eight rooms beyond the 67 room required by undergraduate courses for a total of 75 rooms. The greatest need is in the 25-seat classroom (14 required versus three actual); the demand spans across disciplines, where tutorial sizes of 20 to 25 are requested in the Humanities, Social Sciences and Sciences. For example, English has a standard tutorial size of 20; compatibility with lab group sizes is required for Chemistry and Physics (both 20) and Biology (22).

Classroom demand will continue to grow to 2018 (and beyond) given projected enrolment growth of 2,302 FTE students over five years (or an average of 460 FTE per year though the distribution varies). Such enrolment growth will have the greatest impact on first year course bookings, predominantly in the smallest and largest section sizes. However, highlighted by the previous utilization tables, there is capacity in the larger lecture theatres. As such, the emphasis remains on additional supply of smaller rooms.

### *Proposed Space Program*

The proposed space program includes 31 classrooms within 3,878 nasm. The area will bring the total classroom inventory to 13,547 nasm or 83% of COU (where 85% is a target). Within the allocated area, the array of classrooms was generated as most appropriate for current and anticipated need. The chart below demonstrates how the new facility will help to address UTM's shortfall by comparing the 2013 requirements with the new classroom inventory in 2018.

The 2018 projected classroom inventory includes buildings under construction, and accounts for demolition of the existing North Building. The total 2018 inventory also includes the North Phase B space program. As with the previous tables, the 78 rooms included will be controlled by the Registrar's Office (compared to 61 current and 75 generated as a requirement for 2013).

<b>Room size groups</b>	<b>2013 Room Requirements</b>	<b>2018 Projected Inventory</b>	<b>Proposed Program</b>	<b>Total 2018 Inventory incl. North B</b>	<b>2018 Inventory compared to 2013 Requirements</b>
1-25	14	1	13	14	0
26-30	9	10		10	1
31-35	6	2	3	5	-1
36-40	7	4	4	8	1
41-50	10	6		6	-4
51-60	6	5	4	9*	3
61-75	6	3		3	-3
76-100	3	4	5	9*	6
101-128	2	1		1	-1
129-150	2	3		3	1
151-164	1	2	1	3*	2
165-225	3		1	1	-2
226-292	2	2		2	0
293-350	1	1		1	0
351-377	1	1		1	0
500	2	2		2	0
<b>TOTAL</b>	<b>75</b>	<b>47</b>	<b>31</b>	<b>78</b>	<b>3</b>

\* Include Active Learning Classrooms

The space program above has been proposed with two key factors in mind: first, the program provides rooms in size brackets that will help ease the space shortage in each of those areas as identified using COU guidelines. Second, the program is weighted towards those room sizes that will enable UTM to refine and improve course offerings and schedules beyond the current model, which in some cases, is driven by available space. For example, offering a larger room size in response to the generated need of a lower size bracket will reduce the seat utilization, but anticipates change in the composition of course offerings over time. Courses in the 41-50 seat range can be accommodated in a 51-60 capacity room, 61-75 in a 76-100 and so on.

Overall, growth beyond 2013 will result in increased seat and room utilization across room sizes, and continued efficiency in scheduling to reduce peak demand.

Secondary effects of this project will include construction of temporary classrooms. These facilities will be designed and used during the construction of North Building Phase B only; there will be no permanent classroom facilities built on campus as a result of secondary effects.

### Student Space

UTM includes study space in each of its capital projects in an attempt to maintain, at minimum, its current space allocation per student. As with other campus-wide space, requirements are assessed using student FTE as an input measure. UTM's current inventory of study space is 3,455 nasm or .31 nasm per student, approximately half of the area recommended by COU. The new inventory including the proposed North B building more or less maintains the existing ratio, by providing a total of 3,842 nasm or .29 nasm per student. This project alone will not satisfy the ongoing shortage of study space across campus. However, other areas, such as the North Meeting Place will provide additional student space, though not categorized as such in the inventory.

UTM currently has 2,203 nasm of student space (organization offices, lounge and recreation space), of which 28 nasm is located in the North Building to be demolished. Over the next five years, 343 net new nasm will be added to the campus inventory, which includes 90 nasm proposed in the space program. The resulting ratio of space-to-student is .19 nasm compared to .2 nasm currently.

### Food Services and Assembly Space

The North Meeting Place identified in the space program includes 73 nasm of food service facilities and an additional 477 nasm event space. COU suggests .5 to .7 nasm per student for food facilities. However, in reality, food service across Ontario institutions range from .16 to .47 nasm per FTE, with a system average is .33. The location of the campus and ease of access to off-campus food choices influence the appropriate area allocation. UTM has set a target for its campus need at .45 or 5,991 nasm with a projected 13,314 FTE students. The projected total area for the UTM campus is 4,758 nasm, or .36 nasm per FTE. The proposed area maintains the current allocation per student but falls short of UTM's target. Future projects such as the anticipated Davis Building Meeting Place renovation will continue to bridge this identified gap.

For event or assembly space, COU suggests a range of .15 to .40 nasm per FTE student. UTM's current allocation is .10 nasm per FTE student. The proposed North Meeting Place, and the Coleman Commons expansion and Rotunda included in the Kaneff/Innovation Complex under construction increase the campus' assembly facilities considerably, to fall within COU's recommended range. As a result of these projects, the projected area per student will be .17 nasm.

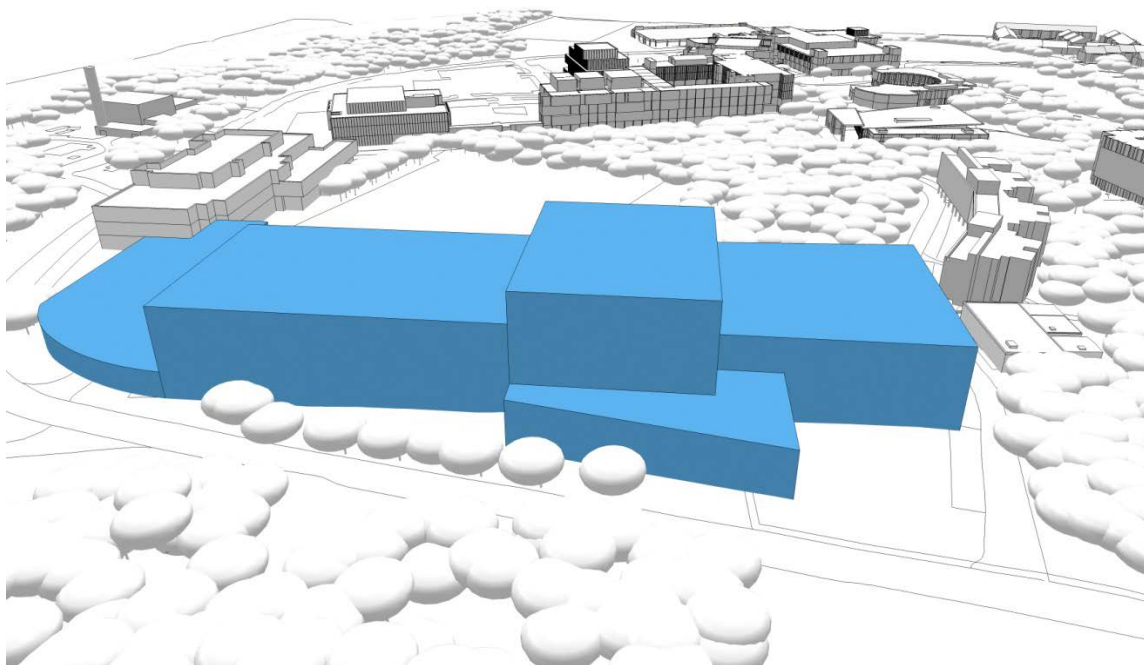
## II. Project Description

### a) Vision Statement

Though the campus has experienced a significant increase in its built environment over recent years, critical space needs remain. This project addresses, in particular, facilities required by Humanities and Social Sciences, both the current shortfall and growth in student enrolment along with new academic initiatives. The project also includes a significant number of classrooms to address replacement of those being removed by the North Building demolition; a number of smaller classrooms to reflect a change in course size offerings since the Instructional Centre was planned (particularly with respect to the need for tutorial meetings); and enrolment growth identified in the Academic Plan.

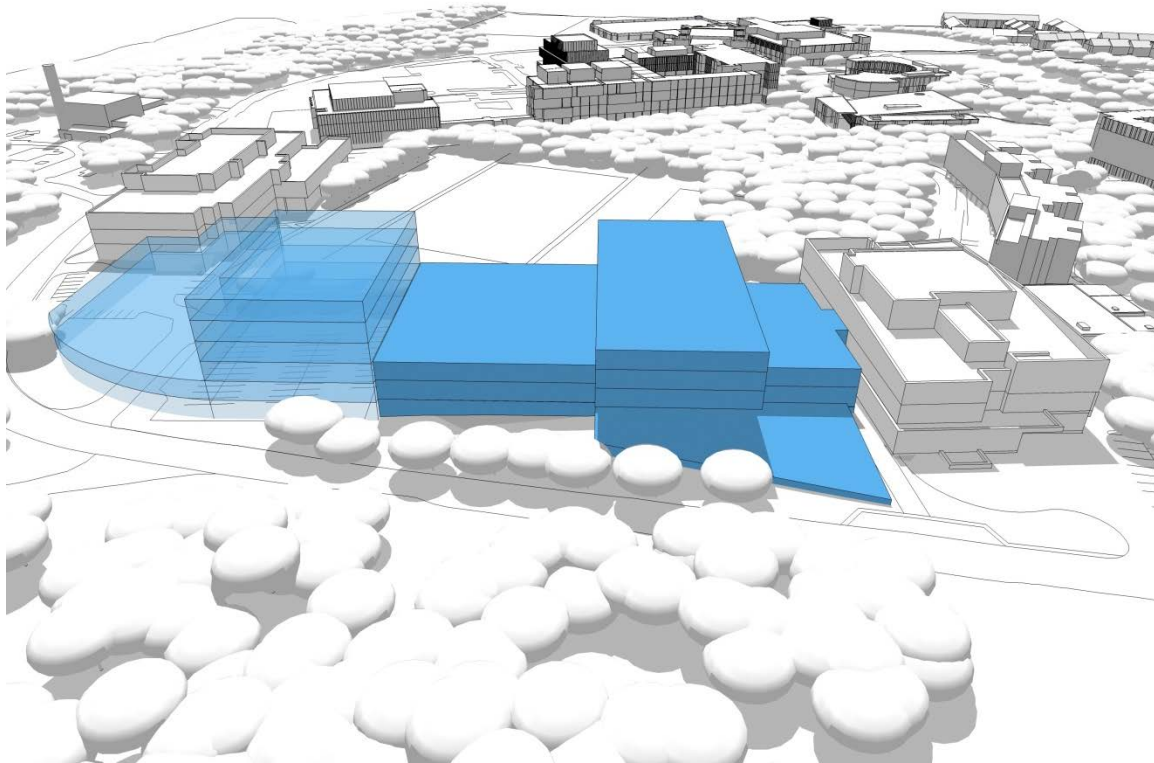
This project will complete the phased demolition of the North Building, which was constructed more than 40 years ago as a temporary structure; and replace it with a visually striking structure that is technologically innovative, energy efficient, and ecologically sustainable. The project must connect to Deerfield Hall (North A), currently under construction, with pedestrian links on levels one to three, and potentially the fourth level if architecturally feasible.

Phase B will be six-storey structure plus a mechanical penthouse. The envelop shown in 2011 UTM Campus Master Plan provides a guide for future massing and setbacks, though a longer, narrower (30m) mass is anticipated for the upper three floors. This revised width will be more appropriate for an office floor plate and create a setback between Deerfield Hall and North B.



#### **Massing Model all Phases Site 7, North Building Redevelopment, 2011 UTM Campus Master Plan**

*Phase A envelope on the right (Deerfield Hall now under construction); rising to 9 storeys in Phase B with a lower entrance court envelope; and dropping back down to 6 and 2 storeys in Phase C on the left, to connect with the existing Instructional Centre.*



**Modified Massing Model all Phases Site 7, North Building Redevelopment**

*The model has been adjusted from the envelope proposed in the 2011 Master Plan based on construction of Phase A and specific massing requirements of Phase B.*

*Phase A on the right (Deerfield Hall now under construction); rising to 6 storeys in Phase B (solid blue); and Phase C, Parking Lot #1, (translucent blue) maintained on the left.*

Demonstrated in the Master Plan, the existing North Building development site can accommodate a building complex of 29,000 net assignable square metres (nasm), and a portion as high as nine storeys. Deerfield Hall will be 5,200 nasm in size and Phase B is projected to have a total assignable area of 10,247 nasm. Parking Lot 1 will remain as a future development site (Phase C).

As with Deerfield Hall, the building should be inspiring and inviting, with light-filled public spaces; glazing should be located to optimize views to the future Campus Green on one side, and the preserved natural area on the other. A minimum of two main building entrances should be considered from level 1 (Campus Green/Five-minute Walk). The main building entrance from Outer Circle Road is included in Deerfield Hall, and public spaces, food services, circulation, and the elevator location were designed with connection to Phase B in mind. The design of public corridors, such as double height space, should carry over to Phase B for continuity.

It is important that the design and layout of this space intuitively lead students, staff and faculty to their destinations. The design and layout should clearly indicate which areas are public, semi-public, private or restricted. Good layout and design will ease pedestrian flow and confusion and provide an enhanced sense of safety and security to users and occupants.



**b) Space Program and Functional Plan**

**Space Program:**

The total project area is 10,247 nasm or 20,494 gsm based on a gross factor of 2.0 gsm per nasm.

**English:**

The space program for the Department of English includes dedicated office space required to house the entire department, replacing existing space in the North Building and increasing their total allocation of space to reflect growth. The total number of existing and anticipated faculty (22.71), PdFs (2), staff (2.33) and students (4 PhD plus 22.5 TAs) were used to generate the space program.

The program area for the Department of English is 507 nasm (414 nasm dedicated plus additional shared meeting and research space prorated for each department). The area is a 26% increase over their existing space (401 nasm), which aligns with the 509 nasm requirement generated.

<b>English</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Offices:</u>				
Chair Office	1	18	18	ENG- 4.1-01
Faculty Offices (private)	19	12	228	ENG- 4.1-02
Faculty Offices (shared)	3	12	36	ENG- 4.1-03
Research Offices (2 post-docs)	1	12	12	ENG- 4.2-01
TA Student Offices (shared)	1	45	45	ENG- 4.3-01
Support Admin. Offices (private)	3	12	36	ENG- 4.4-01
<u>Office Support:</u>				
Kitchenette	1	9	9	ENG- 4.5-01
Photocopier/Mail and Supply Room	1	9	9	ENG- 4.5-02
File Storage	1	11	11	ENG- 4.5-03
Reception	1	10	10	ENG- 4.5-04
See also Academic Shared Facilities				SHA- 4.5-01 to SHA- 4.5-04
<u>Research:</u>				
See Academic Shared Facilities				SHA- 3.1-01
<b>Subtotal – English:</b>	<b>32</b>		<b>414</b>	

## Language Studies:

Language Studies is also located in the North Building, to be demolished. The space program is 586 nasm comprised of dedicated office space as well as teaching and research space. The total number of existing and anticipated faculty (29.12), PdFs (2), staff (3 plus 2 CTEP) and students (3 PhD plus 18 TAs) were used to generate the space program. Note that Language Studies has a significant number of sessional instructors (7.9 FTE) to be accommodated in shared offices. Language Studies also has access to shared meeting and research area, for a total of 615 nasm (used in the analysis) plus 65 nasm teaching labs. The program allocates 160 additional nasm to the department.

Interactive language practice rooms will be used for academic activities by 8 language groups (Arabic, Chinese, French, Hindi, Italian, German, Persian and Spanish), and three different programs (French, Italian, Linguistics) for intensive language practice, presentation rehearsals, role play, etc. All students studying languages will use these practice rooms to rehearse presentations, plan debates and practice their language skills. These rooms would also be available for students in the English Language Linguistics (ELL), for Facilitated Study Group (FSG) sessions, or for other peer or faculty led small groups. Further, Room A can also be used for TAs for one-on-one consultation with students.

The Research lab will accommodate computer workstations, table and chairs, and a closed recording and interview room of 10 nasm within. The recording/interview room will serve for research in phonetics and psycholinguistics.

Language Studies	# of Rooms	Nasm per Room	Total Nasm	Room Data I.D. #
<u>Offices:</u>				
Chair Office	1	18	18	LAN- 4.1-01
Faculty Offices (private)	19	12	228	LAN- 4.1-02
Faculty Offices (shared)	9	12	108	LAN- 4.1-03
Research Offices (2 post-docs)	1	12	12	LAN- 4.2-01
TA Student Offices (shared)	1	14	14	LAN- 4.3-01
TA Student Offices (single)	1	9	9	LAN- 4.3-02
Support Admin. Offices (private)	4	12	48	LAN- 4.4-01
Support Admin. Offices (private)	1	15	15	LAN- 4.4-02
<u>Office Support:</u>				
Kitchenette	1	9	9	LAN- 4.5-01
Photocopier/Mail and Supply Room	1	9	9	LAN- 4.5-02
File Storage	1	11	11	LAN- 4.5-03
Reception	1	10	10	LAN- 4.5-04
See also Academic Shared Facilities			SHA-	4.5-01- 4.5-04
<u>Research:</u>				
Research Lab	1	30	30	LAN- 3.1-01
See also Academic Shared Facilities				SHA- 3.1-01
<u>Teaching:</u>				
Practice Room A	1	25	25	LAN- 2.1-01
Practice Room B	1	15	15	LAN- 2.1-02
Scenery Storage	1	25	25	LAN- 2.1-03
<b>Subtotal – Language Studies:</b>	<b>45</b>		<b>586</b>	

## Historical Studies:

The Historical Studies space program replaces existing space in the North Building and increases their total allocation to reflect growth. The total number of existing and anticipated faculty (39.95), PdFs (3), staff (4) and students (5 PhD plus 37.5 TAs) were used to generate the space program. Note that Historical Studies has the highest number of sessional instructors (8.1 FTE) to be accommodated in shared offices.

The program area for the department is the largest at 840 nasm (678 nasm dedicated plus additional shared meeting and research space prorated). This is a 51% increase over their existing space (558 nasm).

<b>Historical Studies</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Offices:</u>				
Chair Office	1	18	18	HIS- 4.1-01
Faculty Offices (private)	32	12	384	HIS- 4.1-02
Faculty Offices (shared)	9	12	108	HIS- 4.1-03
Research Offices (3post-docs)	2	12	24	HIS- 4.2-01
TA Student Offices (shared)	1	29	29	HIS- 4.3-01
TA Student Offices (single)	2	9	18	HIS- 4.3-02
Support Admin. Offices (private)	4	12	48	HIS- 4.4-01
<u>Office Support:</u>				
Kitchenette	1	9	9	HIS- 4.5-01
Photocopier/Mail and Supply Room	1	12	12	HIS- 4.5-02
File Storage	1	18	18	HIS- 4.5-03
Reception	1	10	10	HIS- 4.5-04
See also Academic Shared Facilities				SHA- 4.5-01 to SHA- 4.5-04
<u>Research:</u>				
See Academic Shared Facilities				HIS- 3.1-01
<b>Subtotal – Historical Studies:</b>	<b>55</b>		<b>678</b>	

**Philosophy:**

As with the other Humanities departments, Philosophy’s space program will both replace existing area, to be demolished, and accommodate growth. The total number of existing and anticipated faculty (18.4), PdFs (2), staff (2) and TAs (22.5) were used to generate the space program.

The program area is 431 nasm (338 nasm dedicated plus additional shared meeting and research space prorated), a 33% increase over their existing space (326 nasm), slightly more than the 417 nasm requirement generated. As mentioned under Space Requirements on page 12, some departments appear to have a surplus allocation because shared support space was prorated evenly.

<b>Philosophy</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Offices:</u>				
Chair Office	1	18	18	PHI- 4.1-01
Faculty Offices (private)	16	12	192	PHI- 4.1-02
Faculty Offices (shared)	2	12	24	PHI- 4.1-03
Research Offices (2 post-docs)	1	12	12	PHI- 4.2-01
TA Student Offices (shared)	1	20	20	PHI- 4.3-01
TA Student Offices (single)	1	9	9	PHI- 4.3-02
Support Admin. Offices (private)	2	12	24	PHI- 4.4-01
<u>Office Support:</u>				
Kitchenette	1	9	9	PHI- 4.5-01
Photocopier/Mail and Supply Room	1	9	9	PHI- 4.5-02
File Storage	1	11	11	PHI- 4.5-03
Reception	1	10	10	PHI- 4.5-04
See also Academic Shared Facilities				SHA- 4.5-01 to SHA- 4.5-04
<u>Research:</u>				
See Academic Shared Facilities				SHA- 3.1-01
<b>Subtotal – Philosophy:</b>	<b>28</b>		<b>338</b>	

**Political Science:**

The Department of Political Science will be relocated from the Davis Building. The total number of existing and anticipated faculty (22.2), PdFs (1), staff (2.7) and TAs (31) were used to generate the space program.

The analysis indicates a significant space deficit, where current space (305 nasm) is 62% of the space required for growth. The program area is 499 nasm (409 nasm dedicated plus additional shared meeting and research space prorated) is a significant increase over their existing space, growth which cannot be accommodated in the Davis Building. The proposed program is slightly more than the 492 nasm requirement generated, attributed to even proration of support space.

<b>Political Science</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Offices:</u>				
Chair Office	1	18	18	POL- 4.1-01
Faculty Offices (private)	17	12	204	POL- 4.1-02
Faculty Offices (shared)	5	12	60	POL- 4.1-03
Research Offices (1 post-docs)	1	12	12	POL- 4.2-01
TA Student Offices (shared)	1	12	12	POL- 4.3-01
TA Student Offices (single)	3	9	27	POL- 4.3-02
Support Admin. Offices (private)	3	12	36	POL- 4.4-01
<u>Office Support:</u>				
Kitchenette	1	9	9	POL- 4.5-01
Photocopier/Mail and Supply Room	1	9	9	POL- 4.5-02
File Storage	1	12	12	POL- 4.5-03
Reception	1	10	10	POL- 4.5-04
See also Academic Shared Facilities				SHA- 4.5-01 to SHA- 4.5-04
<u>Research:</u>				
See Academic Shared Facilities				SHA- 3.1-02
<b>Subtotal – Political Science:</b>	<b>35</b>		<b>409</b>	

## Sociology:

The Department of Sociology will also be relocated from the Davis Building. The total number of existing and anticipated faculty (29.9), PdFs (1), staff (4), graduate students (24) and TAs (70) were used to generate the space program.

The program area is 729 nasm (562 nasm dedicated plus additional shared meeting and research space prorated). Of the academic departments analyzed, the greatest space deficit was identified for Sociology, where current space (414 nasm) is 52% of the space required for growth. As with Political Science, this growth cannot be sustained in the Davis Building.

<b>Sociology</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Offices:</u>				
Chair Office	1	18	18	SOC- 4.1-01
Faculty Offices (private)	26	12	312	SOC- 4.1-02
Faculty Offices (shared)	3	12	36	SOC- 4.1-03
Research Offices (1 post-docs)	1	12	12	SOC- 4.2-01
TA Student Offices (shared)	5	12	60	SOC- 4.3-01
TA Student Offices (single)	3	9	27	SOC- 4.3-02
Support Admin. Offices (private)	4	12	48	SOC- 4.4-01
<u>Office Support:</u>				
Kitchenette	1	9	9	SOC- 4.5-01
Photocopier/Mail and Supply Room	1	12	12	SOC- 4.5-02
File Storage	1	18	18	SOC- 4.5-03
Reception	1	10	10	SOC- 4.5-04
See also Academic Shared Facilities				SHA- 4.5-01 to SHA- 4.5-04
<u>Research:</u>				
See Academic Shared Facilities				SHA- 3.1-02
<b>Subtotal – Sociology:</b>	<b>47</b>		<b>562</b>	

## **Academic Shared Facilities and Office Allocation for Growth:**

### Office Support

Meeting Rooms will be centrally booked, and will be dispersed across the upper three floors and departmental lounges will be shared by floor. Lounges should be centrally located, readily accessible to all of the floor's occupants. Meeting rooms will facilitate a variety of activities; such as, senior undergraduate & graduate seminars, departmental meetings, presentations/guest speakers, and small social events.

### Research Space

Research Centres will be clustered on the third floor rather than within departmental space.

1. **Social Sciences**  
to support Political Science and Sociology research with an emphasis on security to address contractual obligation of granting agencies
2. **Humanities**  
allow the departments of English, Languages, and Philosophy to support research activities on campus and attract more graduate students to campus.
3. **Historical Studies**  
to support large research initiatives of a vibrant department and provide space for a large number of research opportunity students working in the department
4. **Centre for South Asian Civilizations (CASC)**  
to facilitate interactions between faculty drawn mainly from the humanities and social sciences who focus on the study of South Asian civilizations, and to support student involvement in research in the area

The concept for the research laboratories was discussed and examined from various perspectives to ensure that it will support future opportunities while maximizing space utilization. This approach balances distinct needs of the individual departments with a shift in philosophy of shared space to support collaborative research. Consolidation allows the ability to share technology, more easily supported when clustered, and will allow greater flexibility to transform space as time, funding, research initiatives and practices change.

The space should:

- be flexible and reconfigurable
- have mixture of office/work areas to accommodate bookable(hotelling) and dedicated needs
- accommodate meeting and social space (including kitchenette and informal areas) to foster conversation, exposure to research, idea generation, greater awareness of scholarship using collaboration and technology
- offer digital resources to support innovative research supported by the Training & Testing Facility, and be co-located on the third floor
- provide support for access to large data sets, statistical analysis and data creation
- a space that celebrates and supports multi-disciplinary scholarship
- Support for access to large data sets, statistical analysis and data curation

Two 12-person meeting rooms will be included within the cluster. One of these meeting rooms will be located between the Humanities and the Historical Studies laboratories, and the other between Social Sciences and CASC. These meeting rooms should also be accessible from a public corridor, to be available to other groups on campus.

<b>Academic Shared Facilities</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Office Support:</u>				
Faculty/Staff Lounge	3	60	180	SHA- 4.5-01
Meeting Room (12-seat)	2	30	60	SHA- 4.5-02
Meeting Room (25-seat)	2	62.5	125	SHA- 4.5-03
Meeting Room (40-seat)	1	100	100	SHA- 4.5-04
				to
				SHA- 4.5-04
<u>Research:</u>				
English/Philosophy/Language Studies Facility	1	62	62	SHA- 3.1-01
Sociology/Political Studies Facility	1	82	82	SHA- 3.1-02
Historical Studies Facility	1	89	89	HIS- 3.1-01
Centre for South Asian Civilizations:				
CSA Multipurpose Facility:	1	33	33	CSA- 3.1-01
CSA Faculty/Director Office (private):	1	12	12	CSA- 4.1-01
CSA Support Admin. Offices (private):	1	12	12	CSA- 4.4-01
<b>Subtotal – Academic Shared Facilities:</b>	<b>14</b>		<b>755</b>	

#### Unallocated Faculty Offices (Growth)

An allowance for growth beyond 2016/17 is included in a suite of offices to be located on the fifth floor. Locating this suite centrally provides equitable proximity to all six departments.

<b>Allocation for Dept. Growth Beyond 2016/17</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Offices:</u>				
Faculty Offices (private)	14	12	168	ACA- 4.1-01
<b>Subtotal – Allocation for Growth:</b>	<b>14</b>		<b>168</b>	



**Classrooms:**

The space program allocates 3,878 nasm for Classrooms, more than a third of the total space program. The proposed classrooms are to be furnished and equipped to the same level as those developed for the new Instructional Centre, with specialized requirements for Active Learning Classrooms (ALC) identified in the Room Datasheets. Both traditional rooms and ALCs will be under the scheduling control of the Registrar’s Office.

Currently, three tiered and 12 flat-floor classrooms are located within the North Building. The proposed space program captures some of these rooms lost to demolition; will accommodate projected growth in undergraduate enrolment; addresses a current and significant need in smaller sized-tutorial rooms; and introduces Active Learning Classrooms to UTM’s inventory in response to a growing shift in pedagogy.

<b>Classrooms</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Nasm per station</b>	<b>Room Data I.D. #</b>
<u>Classrooms:</u>					
Tiered Lecture Theatre (225-Seat)	1	468	468	2.1	CLA- 1.1-01
Large Classroom (162-Seat; Active Learning)	1	398	398	2.4	CLA- 1.2-01
Classroom (84-Seat; Active Learning)	1	192	192	2.3	CLA- 1.2-02
Classroom (80-Seat; ALC capable)	2	192	384	2.4	CLA- 1.2-03
Classroom (80-Seat)	2	182	364	2.3	CLA- 1.2-04
Classroom (60-Seat; Active Learning)	1	130	130	2.2	CLA- 1.2-05
Classroom (60-Seat; ALC capable)	3	130	390	2.2	CLA- 1.2-06
Classroom (40-Seat)	4	97	388	2.4	CLA- 1.2-07
Classroom (35-Seat)	3	87	261	2.5	CLA- 1.2-08
Classroom (25-Seat)	13	63	819	2.5	CLA- 1.2-09
<u>Classroom Support:</u>					
Classroom Support	2	10	20		CLA- 1.3-01
Classroom Support	6	6	36		CLA- 1.3-02
Classroom Support	7	4	28		CLA- 1.3-03
<b>Subtotal – Classrooms:</b>	<b>46</b>		<b>3,878</b>		

Station sizes for the traditional classrooms are consistent with UTM’s Instructional Centre. ALCs were sized according to fit plans, based on review of similar facilities at other institutions. In general, the ALCs have significantly different proportions and layout, but the ALC station size is consistent with that of comparable standard classrooms.

The mix of classrooms was based on right-sizing inventory to align with requested bookings. The highest number of requests received by the Registrar’s Office is in the 20-25 seat range, 70% of which are 1<sup>st</sup> year tutorials. Much larger rooms are booked in the absence of availability of tutorial rooms, resulting in a low station-utilization (% of seats occupied when a room is in use). The same is true for existing 35-, 40- and 60-seat capacity rooms. The proposed program includes three 35-seat rooms, which will accommodate significant demand for requests ranging from 26 to 35. 40- and 60-seat rooms are proposed to address a current need for upper year courses.

Four 80-seat classrooms are proposed based on current and projected demand: as current year 1 students reach upper years, the current enrolment caps of 52 and 65 are likely to increase. Further,

this project presents an opportunity to replace two classrooms in the Davis Building, scheduled for reallocation.

While three tiered classrooms are to be demolished, only one (the 160-seat room) will be replaced. A 225-seat lecture theatre was included, to satisfy demand for larger lecture sections, there has been a request to have the flexibility for collaborative activities in this lecture theatre; this request will be considered during the design process for this facility and the building. The second largest classroom, 162-seat ALC, will provide an alternative teaching space of a large size. Active Learning Classrooms (including rooms that can be converted in future) range in size from 60- to 162- seat. Further, though smaller classrooms with loose tables and chairs are not identified as ALC in the space program, by their nature they can easily be configured to support group collaboration.

The proposed (traditional) classrooms are to be furnished and equipped to the same level as those developed for the new Deerfield Hall and will be under the scheduling control of the Registrar’s Office.

**Student Space:**

The space program provides 420 nasm for Student Space, in addition to 216 nasm included in Deerfield Hall.

To address a chronic shortage of student space, UTM has committed to include study space in each of its new buildings. Phase B of the North Building Reconstruction project will include a range of student study spaces comparable to those found in Deerfield Hall: general study or lounge areas, a computer study room (with traditional personal computer workstations), quiet study areas (wireless), and small group study rooms.

Humanities and Social Sciences Societies Offices will be assigned on as needed basis to academic societies and will be administered through the Office of the Academic Dean. The Women’s Centre is currently located in the North Building and has, therefore, also been included in the project.

<b>Student Space</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Academic Societies Office:</u>				
Humanities (shared)	1	48	48	STU- 14.1-01
Social Sciences (shared)	1	24	24	STU- 14.1-02
Women’s Centre	1	18	18	STU- 14.1-03
<u>Study Space:</u>				
General Study/Lounge Area (36-seat)	2	36	72	STU- 5.5-01
Computer Study Room (Undergraduate)	1	90	90	STU- 5.5-02
Quiet Study Area (12-seat)	3	24	72	STU- 5.5-03
Small Group Study Room (6-Seat)	8	12	96	STU- 5.5-04
<b>Subtotal – Student Space:</b>	<b>17</b>		<b>420</b>	

### Robert Gillespie Academic Skills Centre:

In addition to departmental space, relocation of the Robert Gillespie Academic Skills Centre (RGASC) is included in this project (222 nasm).

The RGASC has a dual mandate to support students with academic skills enhancement and to assist faculty and teaching assistants with the development and implementation of effective practice in their courses and programs.

Inclusion in the program improves upon the Centre's current allocation (136 nasm) providing purpose-built space for one-on-one consultations between individual undergraduate students and learning strategists. Meetings will be accommodated at workstations rather than large meeting rooms subdivided with makeshift partitions. Centre staff also work with teaching assistants and instructors, providing one-on-one course and assignment design consultations as well as group sessions on instructional topics.

Further, relocation of the RGASC will allow for much-needed expansion of student space in the Hazel McCallion Learning Centre.

<b>Robert Gillespie Academic Skills Centre</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Offices:</u>				
Academic Office (private)	7	12	84	ASC- 4.1-01
Academic Office (private)-Learning Strategist	3	12	36	ASC- 4.1-02
Academic Support Office (private)	1	12	12	ASC- 4.4-01
Academic Support Workstation	1	10	10	ASC- 4.4-02
<u>Office Support:</u>				
Reception/Waiting Area	1	20	20	ASC- 4.5-01
Multi-purpose/Meeting Room (12-seat)	1	24	24	ASC- 4.5-02
Secure Storage	1	12	12	ASC- 4.5-03
Photocopier/Mail and Supply Room	1	8	8	ASC- 4.5-04
Kitchenette	1	6	6	ASC- 4.5-05
Staff Lounge	.5	20	10	SHA- 10.2-01
<b>Subtotal – RGASC:</b>	<b>17.5</b>		<b>222</b>	

Optimal location of the RGASC is with classroom support space, research centres and the Testing & Training Facility, likely on the third floor.

**Technical Support Space:**

Standard information technology, multimedia, audio-visual and electronic classroom support space is allocated in the program to support faculty, students, classrooms and staff in the building; there will also be space designated to supporting faculty in the use, testing and development of technology in the Testing & Training Facility. This will address the current need on campus for a facility dedicated to providing sustained support and training to faculty using technology as part of their teaching.

*Testing and Documentation*

This space will provide a single location to test and document the wide range of technologies in use by instructors at UTM. This purpose of this testing and documentation is to a) maintain a level of knowledge and expertise required of faculty as technologies shift and change; b) to ensure that the current applications of existing technologies continue to function properly in light up upgrades, or barring that, finding new solutions where required; and c) to ensure that faculty have up-to-date, accurate, and appropriate documentation for the technologies they seek to use (including help materials for students), in an appropriate format. Technologies requiring testing and documentation include: podiums and podium software; new presentation hardware and software, including tablets; classroom response systems and associated software; institutional LMS (Blackboard) and related add-ons and upgrades; video and audio conferencing software; and emerging technologies where appropriate.

*Training and Consultation*

Given the increasing ubiquity of technology in teaching, the provision of a sustained, thoughtful, and needs-based technology training and consultation program to faculty and TAs is critical. This facility will offer resources required for: setting up the online components of a course; applying tools that help students engage with each other and with course material; finding and using technology tools to help build better assignments; efficient online grading and feedback; and digital grade importing and submission, as well as the application of new and emerging technologies where relevant.

The Testing & Training Facility’s presence within the new building, likely to be collocated with the RGASC on the third floor and classroom support, will provide visibility required to help faculty and TAs see what resources are available to them.

<b>Technical Support Space</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Technology Resource Centre:</u>				
Technician's Office (shared)	1	20	20	CLS- 10.1-01
General AV Workshop	1	25	25	CLS- 12.2-01
General AV Storage	1	15	15	CLS- 12.2-02
<u>Computing Services:</u>				
Computing Services Support Office (shared)	1	20	20	ITS- 10.1-01
General Storage	1	15	15	ITS- 10.2-01
<u>Testing &amp; Training Facility:</u>				
Manager's Office	1	15	15	ITS- 10.1-02
ITL/IT Support Analyst Office	3	12	36	ITS- 10.1-03
Training/Testing Facility	1	75	75	ITS- 10.2-02
Staff Lounge	.5	20	10	SHA- 10.2-01
<b>Subtotal – Technical Support Space:</b>	<b>10.5</b>		<b>231</b>	

## North Meeting Place:

The North Meeting Place will be comprised of a large seating area/event space and a smaller component of dedicated food services space to serve as a satellite or extension of the food service area in Deerfield Hall. Deerfield Hall includes a 406 nasm, 173-seat food services space, a “cornerstone” location in the campus master plan for food service; the space program for Phase B will provide 73 nasm of food service facilities and an additional 477 nasm event space.

The North Meeting Place is envisioned as a large open area, similar to the existing Meeting Place in the W.G. Davis Building and is expected to serve as the main building circulation space. Furnishings will include: lounge seating (16 seats near the Food Services Kiosk and approx. 60 throughout the rest of the facility), mixed, hard seating at tables (approx. 24 close to the Kiosk) and general displays.

The North Meeting Place will also be ideal for accommodating special events that may be booked throughout the year such as, formal conference activities, official presentations, and career/research fairs.

Highlights for the Food Services space program include:

- Nationally-branded coffee kiosk with additional grab and go merchandisers
- Storage and Staging area to support kiosk and food service requirements for special events
- Seating and lounge space to support kiosk
- Additional Seating to support expansion of Deerfield Hall Café into the existing Phase A seating as discussed in the vision document for the Deerfield Hall Café space.

The servery area will be separated from the customer queuing area and building common space by a sliding partition wall or security closure that not only secures the space but also conceals the service counter and support space from the building common area when the café is closed.

All tables and food service equipment will be specified by the food service facility planner under the direction of the Hospitality and Retail Services Department. The equipment will be installed under the base construction contract but will be tendered by the Hospitality and Retail Services Department and supplied to the contractor for installation.

North Meeting Place	# of Rooms	Nasm per Room	Total Nasm	Room Data I.D. #
Open Seating Area	1	477	477	EVE- 15.1-01
Kiosk Seating (28-seats)	1	32	32	EVE- 7.1-01
Food Services Kiosk	1	17.5	17.5	EVE- 7.1-02
Food Services Support Area	1	11.9	11.9	EVE- 7.2-01
Vending	2	5.8	11.6	EVE- 7.1-03
<b>Subtotal – North Meeting Place:</b>	<b>6</b>		<b>550</b>	

## Facilities Management & Planning:

Facilities Management & Planning (FMP) has four of its five divisions located on the first floor of the North Building. The four divisions are central administration, Planning Design & Construction, Utilities Infrastructure, and Building Operations & Services. The fifth division, Grounds, has its operations located within the Grounds Building. This project will require relocation of FMP's administrative operations into temporary locations during Phase B construction.

The space program includes a mix of large and standard-sized private offices, open offices, and hoteling workstations. The space program accommodates the department's current staffing complement (26 FTE) as well as approved new hires (7 FTE) and workstations for part-time, contract and summer student hires.

Since this department is responsible not only for the care and maintenance of all of the campus' infrastructure, buildings, roads, parking lots and grounds but also for renovations and new construction projects, its support facilities will need to be duplicated and expanded. Support facilities will include new project rooms and staff lounge, and replacement facilities; such as, library/plan file work area, archive storage, plotter and copier rooms, and kitchenette.

The program area for FMP at 646 nasm is a significant, but needed, increase of 69% over its existing allocations of 382 nasm, and aligns with the COU-generated 644 nasm. 33 FTE staff, including the Director, require offices and support space. In addition to full-time permanent staff, the FTE includes contract employees and outside consultants supporting capital projects. In total 36 stations (offices and workstations) are provided in the program, which includes 3 additional hoteling stations for staff from St. George campus who periodically require office space.

<b>Facilities Management &amp; Planning</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Offices:</u>				
Administrative Office (large-private)	4	18	72	FMP- 10.1-01
Administrative Office (private)	15	12	180	FMP- 10.1-02
Administrative Workstation	13	10	130	FMP- 10.1-03
Hoteling Workstation	3	6	18	FMP- 10.1-04
Reception/Key Workstation & Waiting Area	1	25	25	FMP- 10.1-05
<u>Office Support:</u>				
Project Room	2	24	48	FMP- 10.2-01
Meeting Room (12-seat)	1	24	24	FMP- 10.2-02
Library/Plan Files/Open Work Area	1	36	36	FMP- 10.2-08
Archive Storage	1	24	24	FMP- 10.2-03
Secure Storage/Mail/Supply Room	1	18	18	FMP- 10.2-04
Plotter Room	1	15	15	FMP- 10.2-05
Photocopier Room	1	6	6	FMP- 10.2-06
Kitchenette	1	10	10	FMP- 10.2-07
Staff Lounge	1	40	40	SHA- 10.2-02
<b>Subtotal – Facilities Management &amp; Planning:</b>	<b>46</b>		<b>646</b>	

**Campus Support Services:**

FMP’s Building Operations and Services Division is responsible for building maintenance, custodial services, recycling, shipping/receiving & stores. This unit also works with the Grounds Division to handle each building’s waste management. Currently, the North Building has minimal building support facilities: a few custodial closets and a small locksmith workshop. Waste is currently managed through the temporary placement of two 6-cubic yard bins for waste and two 6-cubic yard bins for recyclables in Parking Lot 1.

With the completion of Phase B, this building and Deerfield Hall will constitute a significant built presence on campus, and the amount of waste and recyclables will be significant. The space program, therefore, includes an enclosed waste management facility that will accommodate a 15-cubic yard trash compactor two 6- or 8-cubic yard bins for general recyclables, and miscellaneous solid waste; such as, special waste/recyclables (e.g. lamps, ballasts, wood skids, etc.). The new waste facility in Deerfield Hall will be scaled back to accommodate kitchen waste from the North Café and production waste from Drama Studies’ facilities.

Phase B will include a two-bay loading dock, shipping office and warehousing facility not only to provide shipping and receiving capabilities to Phase B and Deerfield Hall but also to serve as a back-up campus facility if the main Davis Building dock operations have to close for emergencies, repairs or maintenance.

With Deerfield Hall and Phase B, the new complex will have the need for considerable custodial services. This project will include locker and lunch room suites for housekeeping staff, a supervisor’s office, duty room, general and maintenance equipment storage. As well, the existing lock shop will be moved back into Phase B.

The program area for campus support services of 390 nasm is a considerable, but needed, increase over the existing North Building allocation of 15 nasm.

<b>Campus Support Services</b>	<b># of Rooms</b>	<b>Nasm per Room</b>	<b>Total Nasm</b>	<b>Room Data I.D. #</b>
<u>Shipping &amp; Receiving:</u>				
Dock (2 bays)	1	90	90	FMP- 9.1-01
Shipping Office	1	15	15	FMP- 9.1-02
Waste Management Area	1	75	75	FMP- 9.1-03
Warehousing (short term)	1	30	30	FMP- 9.1-04
Courier/Mail Room	1	6	6	FMP- 9.1-05
<u>Custodial Services:</u>				
Locker/Lunch Room	1	60	60	FMP- 9.1-06
Supervisor’s Office	1	12	12	FMP- 9.1-07
Duty Room	1	12	12	FMP- 9.1-08
Maintenance Lift Storage	1	20	20	FMP- 9.1-09
General Storage	2	20	40	FMP- 9.1-10
<u>Lock &amp; Maintenance Shop:</u>				
	1	30	30	FMP- 9.1-11
<b>Subtotal – Campus Support Services:</b>	<b>12</b>		<b>390</b>	

## Non-assignable apace

Included in the building project are non-assignable elements that are not specifically described in the Space Program, but will be part of the architect's responsibility for design of Phase B.

Non-assignable spaces include: washrooms, elevators, corridors, stairs, electrical and telecommunications closets, mechanical rooms and shafts, etc. These aspects of the building program are not included in the above summary of assigned spaces. All of the buildings assignable and non-assignable areas are to be accommodated within the recommended building gross up factor of two times the net assignable area (nasm) described in the space program.

Each of the rooms identified in the space program above has been described in detail in room data sheets. However, most of the non-assignable areas typically are not described with room data sheets, and instead rely on best design and engineering practices, and UTM's design standards and specifications.

UTM's Facilities Management & Planning assume that the following non-assignable areas will need to be accommodated in Phase B of the North Building Reconstruction project.

### Ground Floor:

1. Building entry facility (BEF) for heating & cooling supplies from and returns to the Central Utility Plant (CUP), domestic water & gas (propane if required); as well, this mechanical room will accommodate the equipment associated with the gray water system (if applicable), fire suppression system, compressors & booster pumps (if required), and flow/consumption meters.
2. Building entry facility (BEF) for line voltage & emergency/back up electrical power; this main electrical room will accommodate the main electrical panel, consumption meter & emergency power switchgear.
3. Building entry facility (BEF) for telecommunications to accommodate voice and data lines from the new campus server room that is being accommodated in Deerfield Hall (Phase A).

### Each Assignable Floor:

1. Elevators – at least two electric gearless traction elevators with one large enough to accommodate systems furniture, furniture, equipment, etc. The larger elevator must serve all floor levels including the mechanical penthouse. Two elevators can be located beside each other; the design of the lower floor level may make the provision of a third (short run) elevator near the recommended Parking Lot 1 entrance desirable.
2. Stairs – number and location will depend on exiting requirements; one set of stairs will need to extend to the mechanical penthouse. Feature stairs have been architecturally significant elements in all of UTM's recent new buildings and should be considered in the design of this building..
3. Electrical room(s) with power distribution panel(s) for each floor will likely be required. Note: The food service area will likely require its own electrical sub-panel and the same may be true for the active learning classrooms & computer study rooms (but these will likely be located within or near the rooms as opposed to separate closets). Electrical rooms will be stacked on top of each other. Note: The dimensional size of the building may require more than one stack of electrical rooms.
4. Telecommunications closet(s) with boards (for voice) and racks (for data, security & AV systems) in each; suitably located for proper coverage on each floor. These rooms will be



stacked on top of each other. Note: The dimensional size of the building may require more than one stack of communications rooms

5. Each of three lower floors will have a large custodial closet that will need to accommodate more equipment (e.g. ride-on floor scrubber) & cleaning supplies due to greater amount of pedestrian traffic, and one standard custodial closet. Each of the three upper floors will have two standard closets. These rooms will be stacked on top of each other & likely next to, or close to, washrooms.
6. Washrooms (male & female) with the three lower floors having more fixtures due to higher occupancies. Assisted accessible washrooms should be provided on each floor. As with custodial closet, washrooms will be stacked on top of each other. A staff washroom will need to be located within the Campus Support facility

#### Mechanical Penthouse:

1. Primary function of this area is to accommodate the building's air handling equipment but will likely accommodate other mechanical equipment; such as, a workstation for the Building Automation System (BAS).
2. Elevator machine rooms may need to be provided as separate rooms within the penthouse for related equipment and/or controls.

Other considerations for building design that are not typically or may not be shown in room data sheets or UTM design standards:

1. All custodial, campus services & waste management equipment, safety & security systems (including emergency phones, CCTV cameras & intrusion alarms, public address, card access, and Medeco hard key hardware), audio-visual equipment & infrastructure (instructional & digital wayfinding/information), IT systems equipment & infrastructure, and building, room & wayfinding signage will be included in the main construction contract.
2. All building entrances and roof areas will be supplied with outside hose bibs (non-freeze wall hydrants) & GFI electrical outlets; additional hydrants & GFI outlets will be needed to be provided along grade level building elevation & roof areas (especially green roofs). All main entrances will also have power-operated doors.
3. Each stair landing will need to be supplied with standard, wall electrical outlets for housekeeping & maintenance purposes; also, standards outlets will need to be provided along all corridors & public areas.
4. Standard water fountain/bottle filling stations will need to be provided on all floors of the building; no less than two stations on each of the lower three floors, and at least one station on each of the upper three floors.

## **Functional plan:**

Phase B of the North Building Reconstruction project has similar space program and functional layout requirements as Deerfield Hall. The proposed space program has three major clusters with the most prominent being classrooms and classroom support, and the six academic departments. The smallest grouping is for academic and administrative support functions.

These groupings suggest a general functional distribution of the program to place classrooms, classroom support and student study space on the lowermost three floors. The academic departments are recommended to be located on the upper three floor levels, with two departments being paired on each floor level. The remaining academic and administrative support functions would be distributed over the lower three floor levels.

Several factors begin to shape the layout and massing of Phase B's space program:

- efficiency of stacking and massing
- critical adjacencies to, and separation from, other program areas
- desire for natural light
- appropriately scaled ceiling heights and volumes
- direct access to the exterior, at grade levels
- clustering of space according to hours of operation
- energy efficiency
- need for security

Room Data Sheets have been prepared in which specific functional requirements, including the factors listed above, have been identified on a room-by-room basis. As well, the section on *Non-Assignable Area* provides details on unassigned areas that may influence Phase B's floor layouts and overall design.

The 2011 master plan for the campus identified a large development site (Site 7), that considers the staged demolition of the existing North Building and development of new facilities. Deerfield Hall (Phase A) development replaces the existing south portion or 'Block A' of the North Building.

There is a one-storey grade change between the inner campus (Five-Minute Walk) and vehicular drop-off at Outer Circle Road; this results in a partial basement condition at the lowermost level. The Receiving Area will likely be located at this same level because vehicle access is envisioned off of the current parking lot (Lot 1). The first floor level is expected to have a main public space (North Meeting Place) that would transition with an appropriately sized feature stair between the two grade levels: floor levels one and two. As well, a main pedestrian corridor on the lowest ground floor is expected to run between parking lot 1 and Deerfield Hall, intersect with the main public space and access the existing pedestrian walk that is next to the North Playing Field.

High traffic and activity spaces such as, classrooms, Academic Skills Centre, study space and food services, would be appropriately located on the lower three floors. Public amenities such as, food services and lounges, should have views that open directly to the exterior. For planning purposes, the proposed food services facility can be considered a distinct operation from the operations in Deerfield Hall, but the design should be flexible enough to develop a more integrated operation in the future.

Academic Office space will be located on the upper floor levels, consolidated by department. Further, departments have been collocated as follows:

- Historical Studies and Language Studies (Fourth Floor)
- English and Philosophy (Fifth Floor)
- Political Science and Sociology (Sixth Floor)

Food Services may be an extension of Deerfiled Hall and/or a satellite location on the main (lowermost) floor.

In order to arrive at a realistic budget and to demonstrate the fit of the program to the approved envelope while preserving the required functional relationships of the program elements, the following vertical arrangement of the assignable space, or functional plan, was prepared:

Space Program	Floor	Area
Centrally Allocated Classrooms & Classroom Support space	1	
Language Studies Research Laboratory	1	
Student Study space	1	
Computer Study Room	1	
Food Services	1	
Meeting Place	1	
Campus Support Services	1	
Sub-total level 1		2,225 nasm (4,340 gsm)
Centrally Allocated Classrooms & Classroom Support space	2	
Student Study and Lounge space	2	
Student space – Women’s Centre	2	
Technical Support	2	
Facilities Management + Planning Offices and Support space	2	
Sub-total level 2		2,220 nasm (4,329 gsm)
Centrally Allocated Classrooms & Classroom Support space	3	
Research Centres	3	
Academic Skills Centre	3	
Training & Testing Facility	3	
Student Society Space	3	
Student Study space	3	
Sub-total level 3		2,257 nasm (4,401 gsm)
Historical Studies Offices and Departmental Support space	4	
Language Studies Offices and Departmental Support space	4	
Shared Departmental Meeting Space	4	
Sub-total level 4		1,360 nasm (2,345 gsm)
English Offices and Departmental Support space	5	
Philosophy Offices and Departmental Support space	5	
Academic offices for Growth (beyond 2016/17)	5	
Shared Departmental Meeting Space	5	
Sub-total level 5		1,082 nasm (1,866 gsm)

Political Science Offices and Departmental Support space	6	
Sociology Offices and Departmental Support space	6	
Student space – Club offices	6	
Shared Departmental Meeting Space	6	
	Sub-total level 6	1,094 nasm (1,886 gsm)
	Sub-total Penthouse	(1,327 gsm)
<b>Total Nasm Program Space</b>	<b>10,247 nasm (20,494 gsm)</b>	

It should be noted that the above locations are based on the aforementioned room data sheets and planning principles for the functional layout envisioned for Phase B. The actual design of Phase B may place specific facilities and/or departments on different floor levels.

## c) Building Considerations

### **Standards of Construction:**

UTM's recently constructed buildings (or under construction) have moved away considerably, architecturally, from basic, functional forms that are evident in earlier structures; such as the William G. Davis and North Buildings. Deerfield Hall, the Innovation Complex, the Instructional Centre, the Terrance Donnelly Health Sciences Complex, and the Hazel McCallion Academic Learning Centre can be considered as not only architectural benchmarks but also as general standards of construction quality for Phase B.

For planning and costing purposes, it was assumed that Phase B will be similar to Deerfield Hall from a construction standard standpoint.

### **Building Characteristics and Massing:**

#### **Floor to floor heights**

The planning intent is to have Phase B's lowermost floor level match the floor elevations of Deerfield Hall. To that end, Phase B is projected to have the following finished floor-to-floor elevations:

First Floor *	4.75m (15'7")
Second Floor	4.50m (14'9")
Third – Sixth Floors	3.90m (12'9")

Currently, the ground floor of Deerfield Hall has a finished floor elevation of 128.51 metres with a total building height of 23.65 metres from the ground elevation at the terminus of the Five Minute Walk to the top of penthouse parapet.

\* It should be noted that a floor-to-floor distance of 5.50 m may be required for the front portion of the 225-seat lecture theatre. This height can be achieved either by rising portions of the ground floor above the second floor level along Outer Circle Road (with considerations for possible interference with BEF facilities that will be serviced from the road) and/or by selectively excavating below current (Deerfield Hall) floor level.

#### **Structural complexity and built form**

For planning and costing purposes, it was assumed that Phase B will have the same structural complexity and a similar or compatible built form to Deerfield Hall. Deerfield Hall has a caisson wall and pier design to support a concrete superstructure. It is not the intent of UTM that Phase B be viewed as merely an architectural extension of Deerfield Hall however; Phase B should stand apart aesthetically, but work functionally with, Deerfield Hall.

## **Key Building Components and Systems:**

### **Mechanical/ Electrical and Data**

UTM will not specifically proscribe the mechanical and electrical systems that must be used in the design and construction of Phase B because the design-build team will be required to meet UTM's and the City of Mississauga's requirements for LEED® Silver certification, and UTM is willing to consider innovative approaches to achieve or exceed this criteria.

However, for planning and costing purposes, it was assumed that Phase B will be similar to the building systems that are being incorporated into Deerfield Hall and the Innovation Complex. Both buildings will be heated through the campus' district energy system that is based on a high  $\Delta T$  hot water system, and will be cooled through the central chilled water system. Electrically, both buildings have line voltage supplied from the main campus service (by Enersource) and emergency power will be brought over from the central emergency generators that are located in the Central Utilities.

All utilities will be properly metered and all building systems monitored and/or controlled through Facilities Management and Planning's building automation system (BAS). Currently, UTM's Facilities Management and Planning is finalizing specification and standards for architectural design, mechanical and electrical design, and building automation systems.

The current Deerfield Hall project is implementing a switch over of the campus' two fiber optic services from North Building's Block B into the new server room in Deerfield Hall, and telephone service will need to be brought into Deerfield Hall. Incoming and internal Deerfield Hall infrastructure will be sized to allow the extension of voice and data services into Phase B from Deerfield Hall.

See Appendix: Mechanical & Electrical Design Criteria

### **Accessibility**

The University is committed to equitable access to all of the building's facilities by the whole campus community. A Universal Design Consultant is typically retained early in the design process to ensure that the consultant's recommendations will be incorporated into the built project.

To address the broad diversity of people who will use the facilities, the signage system will be designed to assist individuals with disabilities in identifying spaces (e.g. Braille, high contrast) and wayfinding. Attention will be given to the layout of the space and the materials used and the Manager of the AccessAbility Resource Centre will be consulted throughout the design process.

An amendment to the Ontario Building Code (2012) related to Accessibility was filed on December 27, 2013 (Ontario Regulation 368/13). Effective for applications submitted after January 1, 2015, the requirements will be more stringent and impact the following areas relevant to this project: barrier-free path of travel; visual fire safety devices, washrooms, and seating in assembly spaces.

## **Personal Safety and Security**

The building design must allow its students, faculty, staff and visitors access as required and as allowed, safely and easily. At the same time, the design must be sensitive to the needs of those whose activities require security after hours. Limited areas of this building could be operational throughout the week for 24 hours a day.

A detailed security plan will need to be developed for each room, zone or floor, and factored into the design of the building to ensure that accessibility, security and functional objectives are all met simultaneously. Specific security requirements have been identified by Phase B occupants in the room data sheets that have been prepared to describe their individual rooms.

## **Building Access Systems**

Currently, most of UTM's older buildings have exterior doors that are manually unlocked (either standard lock sets or panic bars) by custodial staff in the mornings and locked down at nights by Campus Police. As well, interior facilities that are accessed by students, faculty and staff on a regular basis such as, classrooms, study rooms, lounges, etc., are also unlocked and locked in the same manner as the building's exterior doors. UTM has transitioned to a new hard key system that provides greater control of security to academic and administrative units over their own space. The new Medeco system has been included in recently completed renovations and new buildings, including Deerfield Hall (North A), and will be included as part of the Phase B project.

Recently, new buildings have installed electronically controlled exterior doors that can be operated either through a soft key (card), locally programmed or network driven system. Individual rooms (e.g. classrooms or student study areas) can also be unlocked or secured with similar systems. The particular system or mix of systems will need to be developed in conjunction with Campus Police, Facilities Management & Planning, the building occupants and other campus agencies. A significant consideration will be that the selected system(s) be the same or compatible with the selected systems in Deerfield Hall.

Card readers may be requested by academic departments for controlled access after normal hours of operation. Universal access will be granted on the three lowermost floors' main circulation areas in line with the campus' academic requirements (for example; extended use of classrooms beyond normal building hours). Any electronic security system will need to have hard key override for use by police, emergency, maintenance and custodial staff.

Non-public areas, for example, mechanical/electrical areas, custodial rooms and telecommunication closets, will require standard lock sets: Hard keys will conform to UTM's approved door hardware (Medeco) specifications and standards.

## **CCTV Systems**

UTM currently has closed circuit security cameras (CCTV) in critical areas of the campus. Wherever there are concerns of personal safety or the security of specific equipment (for example, research laboratories, computer laboratories), cameras are strategically located to provide suitable coverage; these cameras are connected to Campus Police's monitors and recording servers in the William G. Davis Building.

The number of cameras that will be needed in this project will depend on design and layout of the Phase B program. For planning purposes, the total project cost (TPC) estimate includes an adjusted allowance based on the projected cost of the same system that is currently being installed in Deerfield Hall.

UTM currently has emergency call stations located throughout the campus grounds and in some building locations; these stations are located in either high risk areas or convenient locations (for example, readily visible in pedestrian travel routes or building entrances).

As with all recently completed buildings on campus, public address (PA) systems for emergency communication and notification have been included in the budget. The PA system will cover the main hallways and any high occupancy locations (for example, the North Meeting Place, lecture hall, etc.).

## **Servicing (including garbage and recycling, deliveries)**

The original North Building had a small delivery area next to the cafeteria with waste bins stored in a small outside chain-link fenced compound. With the demolition of Block A for the construction of Deerfield Hall, a replacement receiving and waste management area was included within the design. During construction, waste and recycling bins were temporarily relocated to Parking Lot 1.

The space program for Phase B includes a shipping and receiving dock with local warehousing and waste management facilities. This facility will be accessed through a new service yard that will be developed within the existing parking lot. This facility will not only provide shipping and receiving functions for Phase B and Deerfield Hall but also act as a secondary or back-up dock facility for the campus if the main facility in the William G. Davis Building is not available.

The new dock facility will be the main operation for Deerfield Hall and Phase B, and the facilities under construction in Deerfield Hall will be re-assigned as the shipping and receiving for the new cafeteria and Drama Studies rehearsal and support facilities. The Deerfield Hall waste facilities will primarily accommodate wet and organic wastes from the cafeteria, and "construction-like" waste from the Drama Studies' activities (e.g. set construction); normal waste and recycling materials will be directed to Phase B's facility.



## **Acoustics**

The acoustical quality of the built environment is potentially important in several areas of the building's design. In any large public areas, such as the proposed North Meeting Place and crush space for large classrooms, it is critical that noise created in these spaces are not unduly transmitted into instructional, study, research and office areas. This concern has had to been addressed during design development or post construction in other projects that included large public volumes.

The acoustic characteristics of instructional spaces, especially large lecture halls, must be able to ensure that instructor and class participants can be readily heard and that background noises are minimized. As well, any open study, research and office areas may require both passive and active sound treatments to ensure that any noise or sound generation within the room is kept to an acceptable level.

## **Signage and Donor Recognition**

This project will need to provide all necessary signage associated with Phase B. Interior signage includes not only those signs mandated by the Ontario Building Code but also departmental identifications, room names and numbers, room schedules (as required) and interior wayfinding. Exterior signage includes building identification, street and road signage for pedestrian and vehicular wayfinding, and other site specific signage (e.g. parking, loading dock instructions, etc.).

UTM has specifications and standards for both interior and exterior signage that the design-build team will be required to implement on this Phase B project.

## **Sustainability Design and Energy Conservation (LEED):**

The University of Toronto has a long commitment to environmental sustainability across the academic and administrative operations of this institution. The University has been guided by an Environmental Protection Policy since 1994. This policy outlines the University's commitment to minimizing negative impacts on the environment, conservation and wise use of natural resources, and including environmental concerns in planning. The policy also commits the University to meeting and where possible, exceeding, environmental standards, regulations, and guidelines.

U of T Mississauga's banner for growth - *Grow Smart, Grow Green* - balances campus development with environmental sensitivity and responsibility. With the recent establishment of the tri-campus Sustainability Board and its sub-committees reviewing energy, capital projects and funding models for sustainable initiatives, the University of Toronto continues to make strides in the area of sustainability.

The most intriguing of new buildings on the campus are held to a rigorous set of university design standards, including environmentally sustainable measures. This project will follow the lead of recent projects at UTM: the Hazel McCallion Library (HMALC) achieved LEED® Silver in 2007; the Instructional Centre and the Terrence Donnelly Health Science Complex, both completed in 2011, were designed to achieve LEED® Silver, as was the William G. Davis Building 3<sup>rd</sup> floor renovation. UTM's Deerfield Hall and the Innovation Complex that are under construction are both pursuing LEED® Silver as well.

In fact UTM had required that all new buildings and major renovations be designed and built to a minimum LEED® Silver certification before the City of Mississauga adopted the same requirement for new buildings as part of its Green Development Standards.

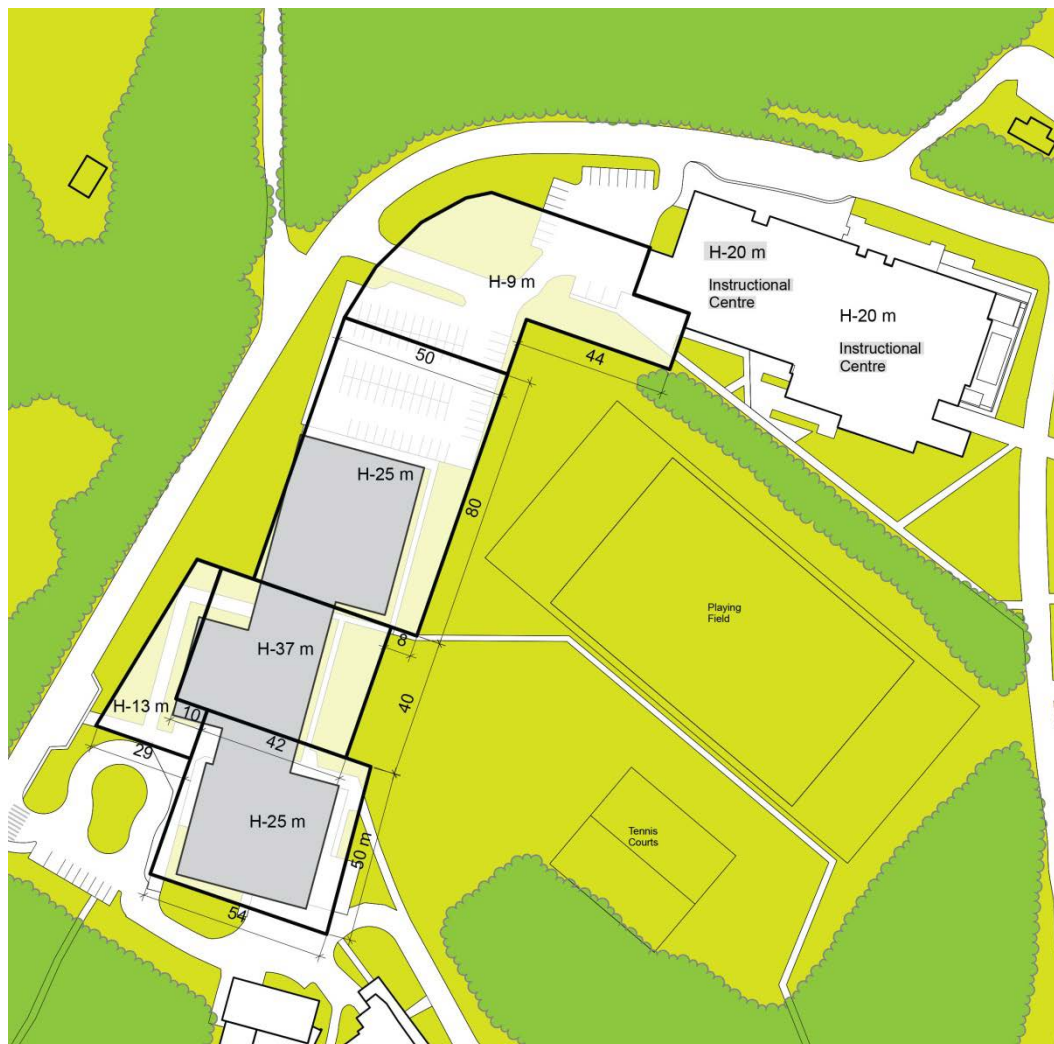
Phase B of the North Building Reconstruction project will be designed and constructed to meet LEED® NC certification at a Silver rating, or better. Some of the sustainable design strategies that could be considered are:

- Green roof
- Rainwater harvesting systems for flushing toilets and urinals, and for landscape watering systems
- Low maintenance native plantings
- Water-efficient fixtures and combined water fountains/bottle-filling stations
- Durable, local materials with renewable and/or recycled content
- Energy efficient equipment and fixtures
- Energy efficient lighting and controls, coordinated with natural light where appropriate
- Zoned HVAC control wherever beneficial and desirable
- Optimal energy efficiency for reduced operating cost and emissions
- Provision of recycling depots for source-separation of waste throughout the building to meet the needs of the University's recycling and waste reduction programs and vehicular access to these sites
- Roof areas suited to the incorporation of solar thermal water collectors and photovoltaic collectors if opportunities for such installations become available.

## d) Site Considerations

### Campus Planning:

Campus planning at UTM has evolved with enrolment growth and has been guided by key principles established in the Campus Master Plan of 2000. Seven major buildings have been added to the inventory at UTM since 2000, plus two under construction; their siting and massing following the planning principles set out in that document. The 2011 Campus Master Plan builds on the 2000 Master Plan taking into account the growth as it has actually transpired since the earlier plan was published.



**Plan showing all Phases Site 7, North Building Redevelopment, 2011 UTM Campus Master Plan**  
*Phase A envelope on the right stepping up to 5 storeys (6 storeys from Campus Green) from the existing Erindale Hall Residence (under construction); rising to 9 storeys in Phase B with a lower entrance court envelope; and dropping back down to 6 and 2 storeys in phase C at the left, to connect with the existing Instructional Centre. Existing Building, to be demolished, is shown in grey.*

Consistent with the 2000 Master Plan, the current master plan anticipates the development of a Campus Green in the place of the current north athletic field, the edges of which are defined by a ring

of buildings including the North Building, the location of which has become Site 7 in the new plan. Site 7 is considerably larger than the existing footprint of the North Building to better complete the edge of the Green and permit connection to the new Instructional Centre. Deerfield Hall (Phase A), the southern portion of the site, is currently under construction.

Phase B must tie into Deerfield Hall, ideally at all levels, which will require planning around the existing main corridors and egress system, and matching, or transitioning to existing floor-to-floor heights. Deerfield Hall will consist of four floor levels above the ground elevation at the Five-Minute Walk terminus.

The volume and height of a new building or series of buildings, 25 m or six storeys at its highest occupied height, will exert a considerable presence on the campus and can add immensely to the rich and diverse architectural mix of the University and the City of Mississauga.

The Deerfield Hall (Phase A) expansion occupies four floor levels above the ground elevation at the Five-Minute Walk terminus.

### **Zoning Regulations**

The campus is identified by the Mississauga Zoning By-law 0225-2007 as Institutional; “I” refers to Hospital and University/College that serve a regional function, in appropriate locations throughout the City; and “I-5” specifically to UTM campus. Further detail is provided under Part 12 of the By-law. The specified site is well within minimum setbacks and other regulation lines on campus.

### **Site Context:**

#### **Site Access**

With the completion of Phase B implementation on Development Site 7, it is anticipated that the new building will not substantially alter access to the site as currently exists for the North Building. However, during construction of Phase B, site access will be affected.

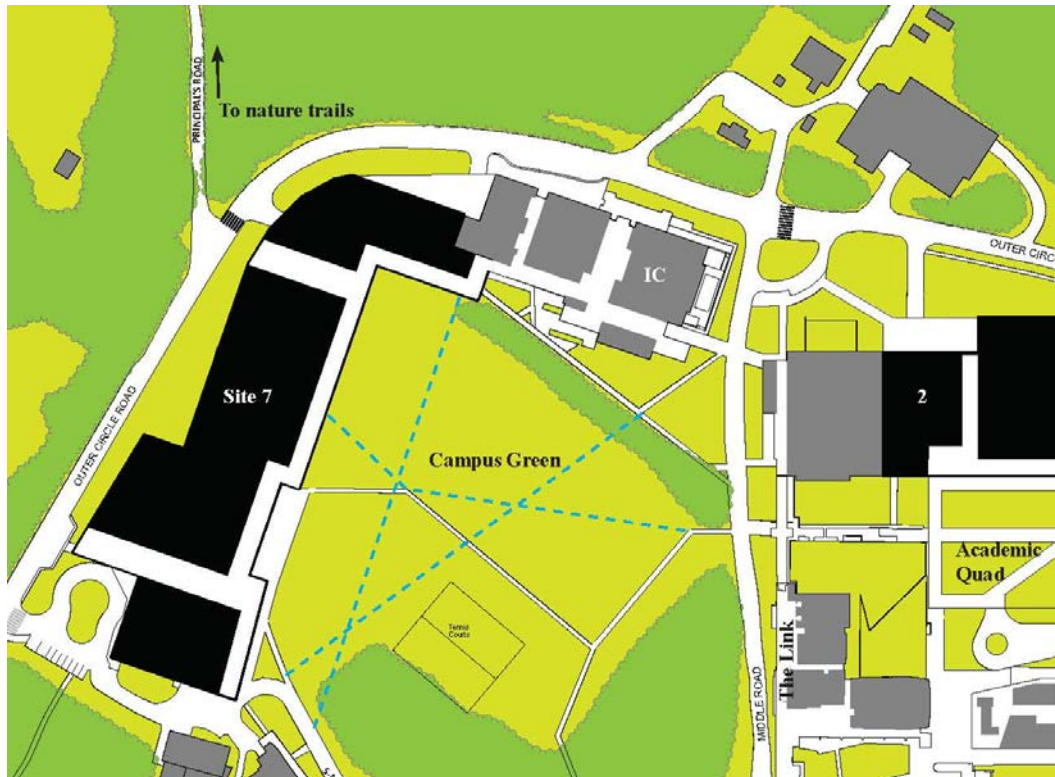
The portion of Parking Lot 1 that is immediately adjacent to the North Building will be closed during construction to provide the main site gate and space for construction trailers, materials storage & vehicle/equipment maneuvering. The small portion of Lot 1 adjacent to the Instructional Centre will need to remain open to delivery, service & waste management vehicles throughout the construction period. The few parking spot that will be available in the reduced Lot 1 will likely be needed as accessible & car pool spots. UTM faculty, staff & students who currently use Lot 1 will need to be reassigned to other lots on campus.

During construction, the project team will need to work with UTM staff to minimize the effects of any road access shutdowns. Sufficient notification of any planned closures will need to be communicated well enough in advance to ensure reasonable accommodation of campus services.

It should be noted that construction vehicle traffic on Mississauga Road north of the Outer Circle Road entrance is prohibited by municipal by-law.

## Pedestrian Routes

As shown in the “Nolli” plan below, full development of the site will complete the pedestrian link between the new Instructional Centre and the existing Five-minute Walk; the pedestrian link will be a continuation of the Five-Minute Walk, looking onto the Campus Green and similar in character to the new Instructional Centre main thoroughfare and the Communication Culture & Technology (CCT) Building ‘Link’.



North Campus Sector “Nolli” plan from 2011 Master Plan – Site 7 indicating all phases of the North Building redevelopment/expansion

Prior to construction, a temporary pedestrian sidewalk will be constructed to link the remaining portion of Parking Lot 1 and the walkway along the North Playing Field to ensure that individuals can walk between the Instructional Centre and Deerfield Hall, Erindale Studio Theatre and the student residences.

## Landscape and Open Space

Hard and soft landscaping to be included in the design, with accommodation for benches, bicycle parking, in line with the new standard palette of street furniture and materials.

There is strong likelihood that Phase B’s demolition and construction activities may begin just shortly after Deerfield Hall construction has been completed. In this situation, the portion of the current construction site, that accommodates the current contractors’ office and storage trailers, and outside heavy equipment and materials storage, may not be restored to its original landscaped condition.

This condition will be due to the likely need for the Phase B contractor to use the same site for its purposes. As well, some of hard and soft landscape elements may not be implemented as Phase B's own design may need to tie in or transition with Deerfield Hall's design.

### **Soil Conditions:**

High water tables have been found in nearby locations during the recent construction of buildings and other construction activities. It is likely that dewatering of the site will be required to control ground-source or run-off water. This site is at a relatively high point on the campus.

A geotechnical study that investigated the North Building site was undertaken during the planning for Deerfield Hall. This report and any relevant studies of adjacent properties are included under separate cover; further geotechnical investigations will likely be needed.

Significant dewatering of the construction site was required during early stages of Deerfield Hall's construction and will likely be needed for Phase B. However, the additional geotechnical investigations may indicate whether conditions have changed with the appearance of Deerfield Hall on the development site, and recent utilities work in the adjacent portions of Outer Circle Road.

### **Demolition of Existing Structures:**

The remaining North Building (Blocks B and C) will be demolished in order to construct the project.

Before the existing North Building can be demolished, an extensive investigation into possible hazardous building materials will have to be undertaken and any identified materials will have to be properly removed and disposed. After abatement work has been completed and building certified of being clear of all hazardous materials, UTM's Facilities Management and Planning will decommission building systems and salvage any useful items and components.

### **Environmental Issues:**

The building site does not fall within environmentally regulated areas such as Area of Natural and Scientific Interest (ANSI) or Environmentally Significant Areas (ESA), verified by the Credit Valley Conservation Authority (CVC) Regulated Features map. The only concern will be to ensure the insulation or amelioration of sound sources from the building such as air handling equipment in the mechanical penthouse.

### **Noise or Vibration Restrictions (isolation, working hrs):**

Construction activities will be major sources of dust, dirt, noise & vibration. Although UTM's campus community has proven to a significant tolerance to these situations during normal hours of campus operations, the constructor and its trades must still provide notifications ahead of time of any activities that may be potentially disruptive or annoying to the campus and surrounding communities. Disruptions & annoyances are especially important to avoid during examination periods and after hours.

Campus-wide and user-specific notifications will need to be sent out in a timely fashion, and UTM requires a moving two-week look ahead construction schedule with noise/vibration/dust ratings.

Construction activities and two-week look-ahead schedules are typically posted on Facilities Management and Planning's website.

**e) Campus Infrastructure Considerations**

UTM's campus is effectively serviced by a central utilities system with most of its services centered in the Central Utilities Plant (CUP). The campus' infrastructure and building systems are continually being upgraded and the Phase B project is expected to participate in and benefit from the latest changes.

**Utilities (electrical, water, gas, steam lines)**

**District Energy System (Heating & Cooling)**

- Phase B will be the third project to incorporate central high  $\Delta^{\circ}\text{T}$  hot water heating & chilled water cooling as the building's base HVAC infrastructure (District Energy System)
- Insulated supply & return piping from the CUP is being installed as part of the Deerfield Hall project with sufficient flow capacity & appropriate take-off loops for Phase B
- A high  $\Delta^{\circ}\text{T}$  hot water boiler will be installed in the CUP to satisfy the heating requirements of Deerfield Hall; boiler & condenser design is modular & Phase B will require the engineering design, purchase & installation of a properly sized modular unit(s) – initial estimations indicate that five (5) x 5,000 MBH high efficiency hot water boiler unit will be required
- UTM currently has a project underway to replace the original cooling tower with a new state-of-the-art modular installation, and to upgrade the internal circulation within the CUP to meet the existing needs of the UTM campus; however, there is likely insufficient capacity to meet the incremental needs of Phase B – the addition of two modular cell units to the new tower will likely be needed.
- Current chiller capacity in the CUP is also projected to be insufficient to accommodate Phase B; two (2) x 600-ton chillers are likely required.

**Electrical Service**

- Sufficient electrical service exists along Outer Circle Road to meet the requirements of Phase B; as with Deerfield Hall, the proposed building will require the supply & installation of a suitably sized transformer on far side of Outer Circle Road and main electrical cables then brought under the road to Phase B's electrical room
- The existing transformer for the North Building will be removed during demolition.

**Emergency Power**

- Sufficient output from the CUP's two central emergency generators can accommodate Phase B's life-safety requirements & a project is underway to extend this service to Deerfield Hall through a new duct bank. The current project includes spare conduits and duct bank splits for future North Building phases; however, switch gear, cabling & conduits from the CUP to Phase B will be required.

## **Sanitary Sewers and Stormwater Management**

- Deerfield Hall included the installation of a new sanitary sewer under the Five Minute Walk to meet the requirements of all phases of the North Building Reconstruction project. Phase B will need to include a sanitary line to connect to this existing sewer at an appropriate location just southeast of Deerfield Hall.

See Appendix: Mechanical & Electrical Design Criteria

## **Communications (phone/data)**

Currently, the campus' main incoming 10G (Cogent) fiber optic cable enters the campus from Mississauga Road at the middle entrance through Oscar Peterson Hall to north portion of Outer Circle Road. This fiber optic cable then travels along the outside of the road and crosses across the road in front of Block B of the North Building. From the North Building's building entry facility (BEF), the cable exits the building back across the Outer Circle Road and along the road to the CUP where it enters the main service tunnel. The cable runs through the tunnel to the campus' main server room in the William G. Davis Building. Also, a fiber optic service runs from the North Building BEF up Principal's Road to the Paleomagnetism Laboratory Building.

A second 1G (Orion) fiber optic cable for the Mississauga Academy of Medicine enters the campus from Mississauga Road at the North Entrance, runs along Outer Circle Road, crosses the road and enters the North Building's BEF. As with the 10G cable, the 1G cable follows the same path to the CUP, through the service tunnel to the Terrence Donnelly Health Science Complex.

Bell's copper telephone lines for the North Building enter at the same location as the fiber optic cables.

In the Deerfield Hall project, a new campus server room is being constructed and a new 144-strand fiber optic cable has been installed beneath the Five Minute Walk between the existing server room in the William G. Davis Building and Deerfield Hall. During the construction of Deerfield Hall the existing 10G Cogent, 1G Orion, Paleomagnetism Laboratory, and Bell telephone cables will be re-routed to the new server room. The 10G Cogent and 1G Orion cables will then either leave Deerfield Hall and follow a route as the current one to the CUP or their services will be re-directed down the new Five Minute Walk cable to the William G. Davis Building. The Paleomagnetism Laboratory service will be upgraded to meet new cabling standards and to extend service to Lislehurst, the new Grounds Building and field research facilities (including the proposed Research Greenhouse).

For Phase B, data and voice communications will be directed out of the Deerfield Hall BEFs, through Deerfield Hall and into Phase B's BEFs.

When the new campus server room is operational, the existing server room in the William G. Davis Building will be converted into the campus' new Disaster Recovery Centre.

## **Roads and Pedestrian Pathways**

Phase B is anticipated to be accessed from a number of different locations and directions. The building will be accessed either directly from Outer Circle Road through a main entrance or indirectly through Deerfield Hall. As with Deerfield Hall, Phase B could also be accessed from the Five Minute Walk, and the Campus Green (North Playing Field) walkway. As with the existing North Building, a strong pedestrian connection with the Instructional Centre is essential.



Realignment of the existing pedestrian pathway is anticipated along the length of the building (Campus Green side) to connect to new pathways and hard landscaping that has been completed with earlier campus landscaping projects and are included with the Deerfield Hall project. During construction, a temporary pedestrian walkway will need to be constructed and maintained to allow pedestrian traffic between the Instructional Centre and Deerfield Hall. This walkway will likely follow the existing sidewalk along Parking Lot 1 and stay just outside the Campus Green's (North Playing Field) existing chain link fence.

UTM has just completed major improvements to its sidewalk system along most of Outer Circle Road. The Phase B project is expected to further enhance this pedestrian network.

**Bicycle parking:**

As with UTM other LEED® Silver certification projects, Phase B will include the provision for the secure parking of bicycles.

**Servicing and fire access:**

As noted earlier, the shipping and receiving, and waste management facilities for Phase B will be accessed through a new service yard that will be developed in the existing Parking Lot 1. Grounds vehicles and equipment will be able to move readily around Phase B and Deerfield Hall via Outer Circle Round and hard landscaped paths (e.g. sidewalks).

Fire access for Phase B will be directly from Outer Circle Road and Parking Lot 1.

## Secondary Effects

In order to construct Phase B, the existing North Building, 4,214 nasm which is fully occupied, will be demolished as a requirement of this project. The North Building has a significant amount of academic and administrative activities and the following occupants and facilities will need to be moved out of the building before the project can proceed:

Department	Nasm	
<b>North Building –Staging Required</b>		
Department of English and Drama	378	English only
Department of Language Studies	522	
Department of Historical Studies	501	
Department of Philosophy	280	
Facilities Management + Planning	382	
Registrar (classrooms)	1,262	
<b>Subtotal Nasm</b>	<b>3,325</b>	Requires temporary accommodation during construction.
<b>North Building –Staging Not Required</b>		
Department of English and Drama	409	Drama only
Human Resources	138	
AccessAbility Resource Centre	47	
Student Study Spaces	136	
Student Space	29	
Food Services	54	
Technical Support	42	
Campus Services	34	
<b>Total Nasm</b>	<b>4,214</b>	Area removed from the space inventory due to demolition.

The Theatre Drama Studies portion of the Department of English and Drama Studies will be relocated to newly constructed spaces in Deerfield Hall, and will not need to be provided with temporary accommodations. Also, the small coffee kiosk will likely not need to be relocated as the new cafeteria operation will open with Deerfield Hall. Some facilities; such as student study spaces, computer/microelectronics support rooms will not duplicated elsewhere until Phase B is completed. The impact of this will be minimal since the overall space for these functions increases with the opening of Deerfield Hall. All of the remaining occupants of the North Building will need to be either permanently or temporarily relocated.

The Academic Annex is a two-story modular building (490 nasm) built in 2010, adjacent to the Kaneff Centre. It is currently used as swing space with the Department of Psychology as the primary tenant (334 nasm); they will be moving into new space in Deerfield Hall in the fall of 2014. The vacated space on the first floor of the Annex will become the permanent home for UTM's Human Resources department. The functionality of the Annex will be enhanced by the installation of an accessibility elevator that will be salvaged from its temporary location during the Deerfield Hall

project. (The balance of the Annex will be used for swing-space for the Department of Philosophy as noted below.)

As noted in the above table, major loss arising from the demolition of the North Building will be classrooms: fully 880 seats. Although the aforementioned new building will add some classrooms, and the use of facilities not previously scheduled (e.g. conference and meeting rooms), the Registrar's Office has identified a significant demand for certain classrooms. After analysis and input from the Office of the Registrar, it was determined that the classrooms will not be replaced in their current configuration. Instead, nine 25- to 30-seat rooms and one 200-seat lecture room will be constructed in the W.G. Davis Building this summer so that they are available by the start of classes in September. As well, two rooms in the Davis Building have been identified as good candidates for the development of pilot active learning classrooms; these pilot ALCs will be constructed after the replacement classrooms have been brought into the classroom inventory.

The AccessAbility Examination Centre (47 nasm) will be temporarily accommodated in a series of private offices in the Davis building that are currently being used as swing space (for occupants of the Kaneff Centre who were displaced during the construction of the Innovation Complex). That space will be available by the fall of 2014 when the Innovation Complex is complete. A permanent home for this centre will be incorporated into the future Student Services Plaza project (William G. Davis Phase 2).

After the above steps, a further 2,062 nasm must be replaced with swing-space, requiring more than 100 offices. Off-campus rental of space, coupled with a shuttle service was considered but the location of the campus and lack of appropriate nearby space combined with logistical challenges precluded that as a practical option.

Temporary, "portable" units, either purchased or rented, were also considered. But the scale of the space needed would require nine (9) 36' x 60' units which would pose significant challenges in terms of finding an appropriately flat site on campus. Use of an existing parking lot would exacerbate major pressures already being experienced on the supply of parking spaces. Finally, even if a site could be found and the units were rented, major costs would be incurred to bring the necessary services to the site. A review of all portable solutions concluded that they would be both impractical and excessively costly.

A more realistic opportunity is presented by UTM's on-campus student residences: almost 1,400 beds spread across several different building types including townhouses, apartment-style and traditional, double-loaded corridor buildings. UTM Student Housing and Residence Life has had an overall occupancy rate of 95-96% over the last several years. UTM's central management of its residence stock (in contrast to the numerous 'owners/managers' of individual college residences on the St. George campus) facilitates the assignment of returning students to townhouse-style on-campus residences and generally provides more flexibility in the allocation of specific residences to different groups of students as the nature of demand changes from year to year. Combined with the typical vacancy rate, that ability to manage the bed stock also means that if part of a student residence were to be used as temporary swing-space, the overall impact on residence capacity can be minimized.

To accommodate faculty and staff displaced during the construction of North 2, UTM identified a portion of Erindale Hall, an on-campus apartment-style residence for upper-years students, as desirable for temporary work/office accommodations for employees. The second and third floors of Erindale Hall, consisting of 2- and 4-bedroom apartments housing 100 students, can be temporarily converted to a mix of 100 private and open office spaces with minimal disruption to the remainder of the building continuously assigned to student accommodation.

Erindale Hall is particularly favoured by returning/upper-years residence students, with an occupancy rate of 99%, however, the flexibility noted above means that the impact of a net loss of less than 50 beds can be minimized. UTM will still be able to meet our first-year housing guarantee and UTM's distinctive four-year housing guarantee for international students. For the relatively small number of returning students who may be affected, UTM continues to promote and utilize UT Housing Service's 'housing finder' and 'roommate finder' functions for students seeking off-campus housing, which facilitates additional accommodation options for upper-years students.

This temporary reassignment will be cost neutral to the two ancillary services affected: the Student Housing and Residence Life department and Hospitality and Retail Services (for meal plan revenue that would otherwise be collected). Associated costs for the use of a portion of Erindale Hall include a three-year lease for the two floors, the relocation and storage of residence furniture, minor renovations related to telecommunications, electrical services and security, the reallocation and supplementing of office furniture, and re-installation of residence furniture at the end of the lease term. While not insignificant, the cost of the student residence option is less than would be incurred through the portable-building alternative.

This strategy was developed in consultation with the UTM Student Housing and Residence Life department, Hospitality and Retail Services department and was endorsed by the UTM Student Housing Advisory Committee in October 2013.

The table below summarizes the proposed plan:

<b>Department</b>	<b>Proposed Location</b>	<b>Details</b>
Department of English and Drama	Erindale Hall	3 <sup>rd</sup> floor(temporary)
Department of Language Studies	Erindale Hall	3 <sup>rd</sup> floor (temporary)
Department of Historical Studies	Erindale Hall	2 <sup>nd</sup> floor (temporary)
Department of Philosophy	Academic Annex	2 <sup>nd</sup> floor (temporary)
Facilities Management Planning	Erindale Hall	2 <sup>nd</sup> floor (temporary)
Registrar (classrooms)	W.G. Davis Building	Temporary classrooms will be constructed on the 1 <sup>st</sup> and 2 <sup>nd</sup> floors of the W.G. Davis Building
Human Resources	Academic Annex	A minor renovation will be required to modify the building for permanent assignment of Human Resources to the first floor
AccessAbility Resource Centre	W.G. Davis Building	A suite of series of private rooms on the second floor will be provided as

		temporary accommodations
Food Services	NA	Food Services will be provided elsewhere on campus with existing and new facilities such as Deerfield Hall and the Colman Commons expansion.
Department of Microelectronics	NA	This support function will not be accommodated on temporary basis.
Department of Anthropology	NA	Artifacts will be returned to the owner agency prior to construction.
Student Space	NA	This support function will not be accommodated on temporary basis.
Computing Services	NA	This support function will not be accommodated on temporary basis.
Student Study Spaces	NA	Study Space will be provided elsewhere on campus with existing and new facilities such as Deerfield Hall.

### Post-Construction Considerations

When Phase B is completed its occupants will release spaces in a number of locations on campus both temporary and permanent accommodations. These spaces will be re-allocated to address spatial needs due to program growth in other areas of UTM. The table below summarizes the space that will be released:

Department	Davis Building	Kaneff Building	HMALC Building	Total Nasm
	Nasm	Nasm	Nasm	
Department of Political Science	292	13		<b>305</b>
Department of Sociology	414			<b>414</b>
Academic Skills Centre			136	<b>136</b>
<b>Total Nasm</b>	<b>706</b>	<b>13</b>	<b>136</b>	<b>855</b>

## Schedule

Project milestones are to be identified for:

- Report complete April 3<sup>rd</sup>, 2014
- UTM Campus Council May 29<sup>th</sup>, 2014
- Governance approval June 25<sup>th</sup>, 2014
- Project management team selected June 25<sup>th</sup>, 2014
- Secondary effects projects completed October 3<sup>rd</sup>, 2014
- Design-build team selected November 24<sup>th</sup>, 2014
- North Building early works completed December 19<sup>th</sup>, 2014
- North Building demolition completed March 20<sup>th</sup>, 2015
- Phase B construction completed June 23<sup>rd</sup>, 2017
- Phase B full occupancy August 4<sup>th</sup>, 2017
- Post construction demobilization August 25<sup>th</sup>, 2017

### III. Resource Implications

#### Total Project Cost

The total estimated project cost for the North Building reconstruction includes a new building of 20,494 gross square metres (220, 596 gross square feet), and 10,247 net assignable square metres. It assumes that the contract for integrated design-build services will be awarded in the fall of 2014 and that the building will be ready for occupancy for the fall term of 2017.

A construction cost estimate was prepared by the firm of Turner and Townsend, and was based on the scope of work as outlined in this report, the room data sheets, UTM design standards and specifications, and benchmark projects; such as, Deerfield Hall and the Innovation Complex. The estimate assumes that the building will be delivered under a design-build format, with fully-integrated design team approach, and that as much of the project will be delivered by the design-builder as possible.

The TPC assumed that the design-build contract will include estimates or allowances for the following:

- The design-build team, design and construction amount, which includes demolition of the North Building, new construction, and site work and soft landscaping in the immediate vicinity of the new construction
- District Energy System infrastructure in the Central Utilities Plant
- New high voltage transformer & emergency power service (from the CUP)
- Water, storm and sanitary system relocations, extensions & connections
- Gas service (if required)
- Approved UTM door hardware schedule
- LEED silver certification (minimum)
- Full-fit out of infrastructure & equipment for telecommunication, electronic security & classroom technology (AV)
- Millwork, fixed furniture, furnishings & equipment, including food services
- Moving, furnishings and equipment.
- All OBC-mandated, building & room identification signage, and interior and campus wayfinding signage.

The TPC assumes that the following project costs will not be included in the design-build contract but will be carried within the TPC:

- Professional consultant fees & disbursements for project management, compliance, enhanced commissioning, building envelope, geotechnical & environmental surveys, arborist, etc.
- Site approval & building permits
- Own forces & third party cost
- Loose furniture, furnishings & equipment (primarily offices, lounges, classrooms, housekeeping)
- Moving costs (secondary effects & final move in)
- Secondary effects (such as temporary offices,..)
- Financing costs
- Miscellaneous costs (e.g. donor recognition, ceremonies)

## **Operating Costs**

Operating cost estimates have been developed using our experience with the Terrence Donnelly Health Science Complex, one of the most recent LEED Silver academic buildings on the UTM campus. That experience suggests that we can expect direct and indirect operating costs for North Phase B to be about \$12 per gross square foot. Operating costs for the much smaller, existing North Building that will be demolished are about \$610,000, resulting in an annual increase in operating costs associated with North Phase B of about \$2.0 million. Provision has been made for these additional operating costs in UTM's 5-year operating budget.

Demolition of the remaining North Building will also eliminate just over \$1 million worth of deferred maintenance associated with the old building.

## **Funding Sources**

The North Building Reconstruction Phase B is expected to be funded by a combination of the following sources:

- Provincial Capital Funding (Major Capacity Expansion Framework);
- Capital Reserves derived from the UTM Operating Budget;
- Capital Campaign (Donations and Matching Funds); and
- Borrowing.

## **IV. Recommendations**

Be It Recommended to the University of Toronto Mississauga Campus Council:

1. THAT the Report of the Project Planning Committee for North Building Phase B, dated April 23, 2014, be approved in principle; and
2. THAT the project scope of the North Building Phase B, totalling 10,247 nasm (20,494 gross square meters) to be located on the site of the existing North Building on the UTM campus, be approved in principle, expected to be funded from a combination of the following sources:
  - Provincial Capital Funding (Major Capacity Expansion Framework);
  - Capital Reserves derived from the UTM Operating Budget;
  - Capital Campaign (Donations and Matching Funds); and
  - Borrowing.



**APPENDICES:**

Existing North Building Plan

Existing Space Inventory

Occupant Profile

Space Utilization and Requirement Analysis

Room Specification Sheets (on request)

Total Project Cost Estimate (on request to limited distribution)

2011 UTM Campus Master Plan: Planning Principles

2011 UTM Campus Master Plan: Site 7 North Campus Expansion

Mechanical & Electrical Design Criteria

Food Services Plan

Geotechnical report (on request)

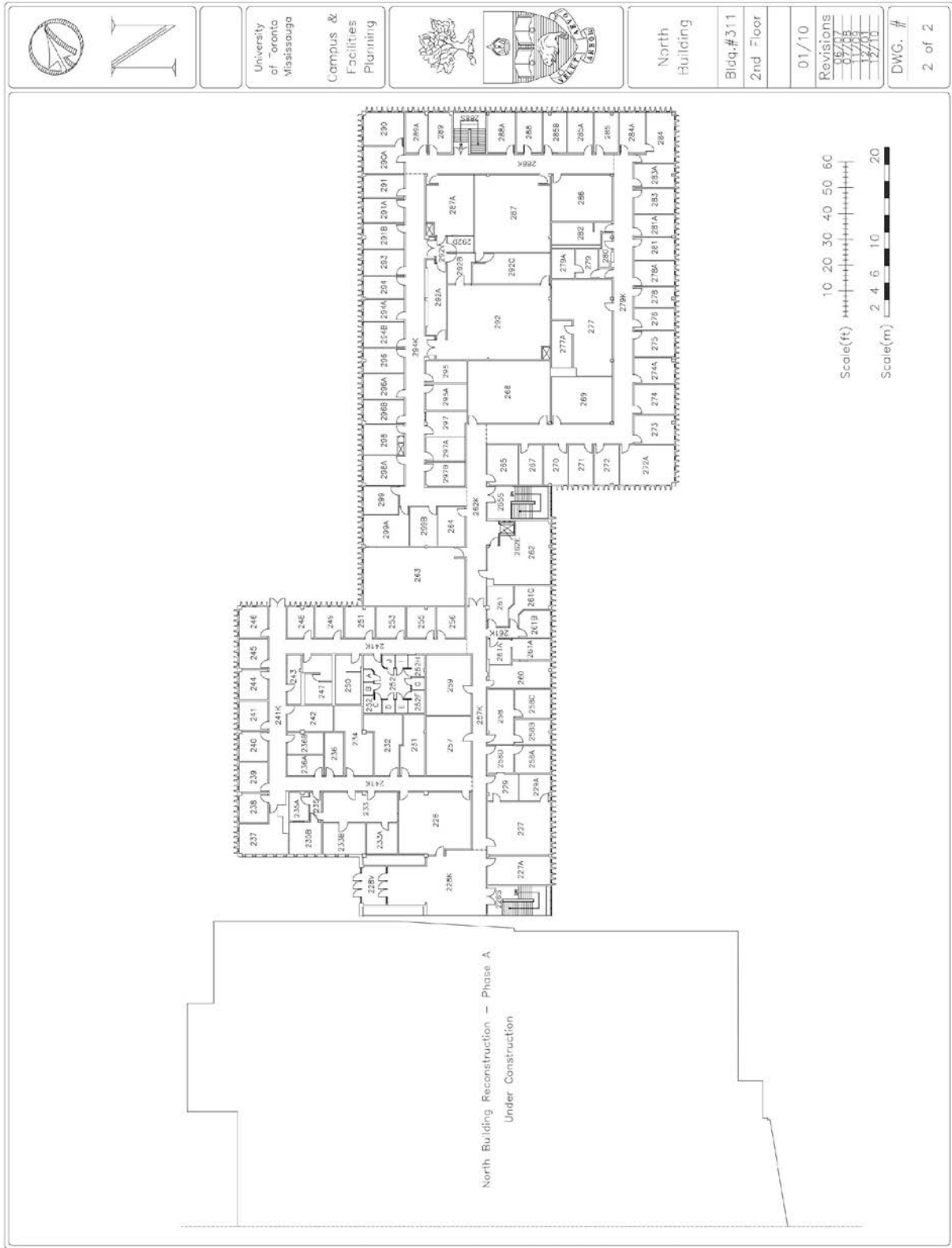
Links to UofT Standards and Policies



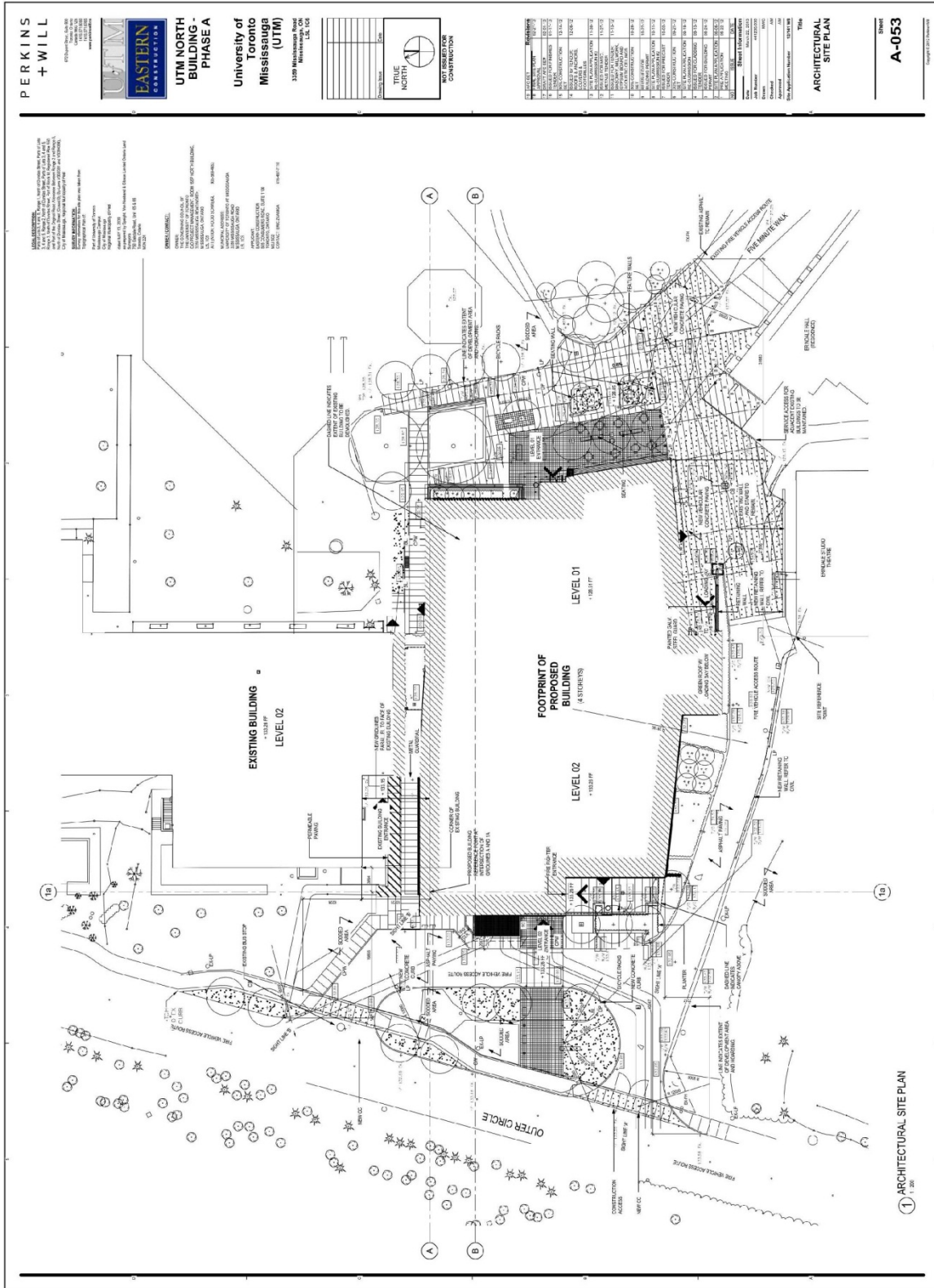
**Existing North Building 1<sup>st</sup> Floor Plan (original building to be demolished):**



**Existing North Building 2<sup>nd</sup> Floor Plan (original building to be demolished):**



**Existing North Building: Deerfield Hall (under construction):**





## Existing Space Inventory:

### Academic Facilities: Department of English

Dept	Building Name	Alpha Cod	Room ID	Category (	Category Name	Description	Share Typ	Share	Pe	Area (sqm)
ENG	North Building	NE	169	04.3	Graduate Student Office	TA's office	None	100		15.45
ENG	North Building	NE	229	04.5	Office Support Space	Office Storage	Time	33.4		3.8
ENG	North Building	NE	258A	04.5	Office Support Space	Mail Room	Time	33.4		4.5
ENG	North Building	NE	258	04.5	Office Support Space	Departmental Library	None	100		20.11
ENG	North Building	NE	258D	04.5	Office Support Space	Photocopy Room	Time	33.3		3.31
ENG	North Building	NE	261A	04.5	Office Support Space	Kitchenette/Faculty Lounge	Time	33.4		6.62
ENG	North Building	NE	262	04.5	Office Support Space	Dean's Lounge (Humanities)	Time	33.4		16.22
ENG	North Building	NE	264	04.1	Academic Offices	Faculty Office Single	None	100		14.7
ENG	North Building	NE	273	04.4	Departmental Support Staff Office	Supp Admin Office Single	Time	33.3		5.31
ENG	North Building	NE	288	04.1	Academic Offices	Faculty Office Single	None	100		14.41
ENG	North Building	NE	288A	04.1	Academic Offices	Faculty Office Single	None	100		15.48
ENG	North Building	NE	289	04.4	Departmental Support Staff Office	Supp Admin Office Single	Space	50		6.5
ENG	North Building	NE	289A	04.1	Academic Offices	Faculty Office Single	None	100		12.38
ENG	North Building	NE	290	04.1	Academic Offices	Chair's Office	None	100		19.07
ENG	North Building	NE	290A	04.4	Departmental Support Staff Office	Supp Admin Office Single	None	100		15.11
ENG	North Building	NE	291	04.1	Academic Offices	Faculty Office Single	None	100		12.87
ENG	North Building	NE	291A	04.1	Academic Offices	Faculty Office Multi	None	100		13.47
ENG	North Building	NE	291B	04.1	Academic Offices	Faculty Office Single	None	100		14.51
ENG	North Building	NE	293	04.1	Academic Offices	Faculty Office Single	None	100		14.38
ENG	North Building	NE	294	04.1	Academic Offices	Faculty Office Single	None	100		12.69
ENG	North Building	NE	294A	04.1	Academic Offices	Part Time Acad/Stipend Office	None	100		12.35
ENG	North Building	NE	294B	04.1	Academic Offices	Part Time Acad/Stipend Office	None	100		14.57
ENG	North Building	NE	296A	04.1	Academic Offices	Faculty Office Single	None	100		14.45
ENG	North Building	NE	296B	04.1	Academic Offices	Part Time Acad/Stipend Office	None	100		13.37
ENG	North Building	NE	298	04.1	Academic Offices	Faculty Office Single	None	100		15.94
ENG	North Building	NE	298A	04.1	Academic Offices	Faculty Office Single	None	100		16.92
ENG	North Building	NE	299	04.1	Academic Offices	Faculty Office Single	None	100		13.65
ENG	North Building	NE	299A	04.1	Academic Offices	Faculty Office Single	None	100		20.92
ENG	North Building	NE	299B	03.1	Research Lab	Faculty Office Single	None	100		14.67
ENG	North Building	NE								<b>377.73</b>
ENG	Academic Annex	AX	117	04.3	Graduate Student Office	Teaching Assistant Office (Shared)	None	100		11.34
ENG	Academic Annex	AX	123	04.1	Academic Offices	Faculty Office Single	None	100		11.34
ENG	Academic Annex	AX								<b>22.68</b>
ENG										<b>400.41</b>

## Academic Facilities: Department of Language Studies

Dept	Building Name	Alpha Cod	Room ID	Category (Category Name)	Description	Share	Typ	Share Pe	Area (sqm)
LAN	North Building	NE	167	02.2	Unscheduled Class Lab	Rehearsal Area	Space	70	31.14
LAN	North Building	NE	167	02.3	Undergraduate Lab Support Space	Storage Room	Space	30	13.35
LAN	North Building	NE	227	04.1	Academic Offices	Stipend Office Multi	None	100	45.87
LAN	North Building	NE	229	04.1	Academic Offices	Office Storage	Time	33.3	3.83
LAN	North Building	NE	229A	04.4	Departmental Support Staff Office	Admin Office Single (CTEP)	None	100	11.83
LAN	North Building	NE	231	04.1	Academic Offices	Faculty Office Single	None	100	19.29
LAN	North Building	NE	232	04.1	Academic Offices	Faculty Office Single	Space	30	7.54
LAN	North Building	NE	232	04.3	Graduate Student Office	RA office	Space	70	17.59
LAN	North Building	NE	233	02.2	Unscheduled Class Lab	Language Testing	Space	50	15.49
LAN	North Building	NE	233	04.5	Office Support Space	Lounge	Space	50	15.49
LAN	North Building	NE	233A	14.1	Student Club Space		None	100	13.13
LAN	North Building	NE	233B	04.1	Academic Offices	Chair's Office	None	100	18.26
LAN	North Building	NE	235A	04.5	Office Support Space	Photocopy Room	None	100	7.66
LAN	North Building	NE	235B	04.4	Departmental Support Staff Office	Supp Admin Office Single	None	100	14.42
LAN	North Building	NE	236	04.4	Departmental Support Staff Office	Supp Admin Office Single	None	100	11.39
LAN	North Building	NE	236A	04.1	Academic Offices	Stipend Office Multi	None	100	10.54
LAN	North Building	NE	236B	04.1	Academic Offices	Stipend Office Multi	None	100	10.49
LAN	North Building	NE	237	04.1	Academic Offices	Faculty Office Single	None	100	22.51
LAN	North Building	NE	238	04.1	Academic Offices	Faculty Office Single	None	100	11.7
LAN	North Building	NE	239	04.1	Academic Offices	Faculty Office Single	None	100	12.03
LAN	North Building	NE	240	04.1	Academic Offices	Faculty Office Single	None	100	11.97
LAN	North Building	NE	241	04.1	Academic Offices	Faculty Office Single	None	100	11.9
LAN	North Building	NE	242	04.1	Academic Offices	Faculty Office Single	None	100	16.82
LAN	North Building	NE	244	04.1	Academic Offices	Faculty Office Single	None	100	11.98
LAN	North Building	NE	245	04.1	Academic Offices	Faculty Office Single	None	100	12.01
LAN	North Building	NE	246	04.1	Academic Offices	Faculty Office Single	None	100	12.46
LAN	North Building	NE	248	04.1	Academic Offices	Faculty Office Single	None	100	11.6
LAN	North Building	NE	249	04.1	Academic Offices	Faculty Office Single	None	100	12.25
LAN	North Building	NE	251	04.1	Academic Offices	Faculty Office Single	None	100	12.99
LAN	North Building	NE	255	04.1	Academic Offices	Instructor's Office	Time	50	6.13
LAN	North Building	NE	258A	04.5	Office Support Space	Mail Room	Time	33.3	4.41
LAN	North Building	NE	258D	04.5	Office Support Space	Photocopy Room	Time	33.3	3.31
LAN	North Building	NE	261 A	04.5	Office Support Space	Kitchenette	Time	33.3	6.48
LAN	North Building	NE	261	04.1	Academic Offices	Stipend Office Multi	None	100	13.19
LAN	North Building	NE	261B	04.1	Academic Offices	Stipend Office Multi	None	100	11.97
LAN	North Building	NE	261C	04.1	Academic Offices	Stipend Office Multi	None	100	14.51
LAN	North Building	NE	262	04.5	Office Support Space	Dean's Lounge (Humanities)	Time	33.3	15.89
LAN	North Building	NE	270	04.1	Academic Offices	Faculty Office Single	None	100	13.26
LAN	North Building	NE	273 275	04.4	Departmental Support Staff Office	Supp Admin Office Single	Time	33.3	5.31
LAN	Academic Annex	AX	119	04.1	Academic Offices	Stipend Office (Shared)	None	100	521.99
LAN	Academic Annex	AX							11.36
LAN									11.36
LAN									533.35



## Academic Facilities: Department of Historical Studies

Dept	Building Name	Alpha Cod	Room ID	Category	Category Name	Description	Share Typ	Share Pe	Area (sqm)
HIS	North Building	NE	146	04.1	Academic Offices	Faculty Office Multi			3.02
HIS	North Building	NE	146	04.2	Research Office/Project Space				12.07
HIS	North Building	NE	146A	04.1	Academic Offices	Faculty Office Multi	None	100	26.35
HIS	North Building	NE	147	04.1	Academic Offices	Faculty Office Shared	None	100	14.12
HIS	North Building	NE	148	04.1	Academic Offices	Faculty Office Single	None	100	15.84
HIS	North Building	NE	149	04.1	Academic Offices	Faculty Office Single	None	100	14.02
HIS	North Building	NE	150	04.1	Academic Offices	Faculty Office Shared	None	100	14.07
HIS	North Building	NE	151	04.1	Academic Offices	Faculty Office Shared	None	100	12.64
HIS	North Building	NE	151A	04.1	Academic Offices	Stipend Office	None	100	12.82
HIS	North Building	NE	152	04.1	Academic Offices	Stipend Office	None	100	12.82
HIS	North Building	NE	153	04.4	Office Support Space	Reception/Waiting	Space	20	13.93
HIS	North Building	NE	153	04.5	Office Support Space	Reception/Waiting	Space	20	13.93
HIS	North Building	NE	153	04.5	Office Support Space	Office Files	None	15	10.44
HIS	North Building	NE	153	04.5	Office Support Space	Kitchenette	None	10	6.96
HIS	North Building	NE	153A	04.1	Academic Offices	Chair's Office	None	100	23.97
HIS	North Building	NE	153B	04.4	Departmental Support Staff Office	Supp Admin Office Single	None	100	11.83
HIS	North Building	NE	153C	04.4	Departmental Support Staff Office	Supp Admin Office Single	None	100	10.49
HIS	North Building	NE	153D	04.1	Academic Offices	Faculty Office Single	None	100	15.2
HIS	North Building	NE	153E	04.5	Office Support Space	Lounge	None	100	15.9
HIS	North Building	NE	153G	04.1	Academic Offices	Faculty Office Multi	None	100	31.86
HIS	North Building	NE	153H	04.1	Academic Offices	Faculty Office Single	None	100	13.34
HIS	North Building	NE	153I	04.4	Departmental Support Staff Office	Supp Admin Office Single	None	100	13.43
HIS	North Building	NE	155	04.5	Office Support Space	Photocopy / Fax / Storage	None	100	12.43
HIS	North Building	NE	253	04.1	Academic Offices	Faculty Office Shared	Time	67	8.33
HIS	North Building	NE	255	04.1	Academic Offices	Faculty Office Shared	Time	50	6.13
HIS	North Building	NE	265	04.1	Academic Offices	Sessional Office Multi	None	100	16.68
HIS	North Building	NE	267	04.1	Academic Offices	Faculty Office Single	None	100	13.16
HIS	North Building	NE	271	04.1	Academic Offices	Faculty Office Shared	None	100	13.8
HIS	North Building	NE	272	04.1	Academic Offices	Faculty Office Shared	None	100	13.77
HIS	North Building	NE	272A	04.1	Academic Offices	Sessional Office Multi	None	100	29.92
HIS	North Building	NE	295	04.1	Academic Offices	Faculty Office Single	None	100	12.62
HIS	North Building	NE	295A	04.1	Academic Offices	Faculty Office Shared	None	100	14.91
HIS	North Building	NE	297	04.1	Academic Offices	Faculty Office Shared	None	100	13.61
HIS	North Building	NE	297A	04.1	Academic Offices	Faculty Office Single	None	100	13.23
HIS	North Building	NE	297B	04.1	Academic Offices	Faculty Office Single	None	100	13.19
HIS	North Building	NE							<b>500.82</b>

**Academic Facilities: Department of Historical Studies (cont.) and Philosophy**

Dept	Building Name	Alpha Cod	Room ID	Category (Category Name)	Description	Share Typ	Share Pe Area (sqm)
HIS	Academic Annex	AX	103	04.1 Academic Offices	Stipend Office	None	100
HIS	Academic Annex	AX	103	04.3 Graduate Student Office	Teaching Assistant Office (Shared)	None	5.69
HIS	Academic Annex	AX	104	04.1 Academic Offices	Stipend Office	Time	50
HIS	Academic Annex	AX	104	04.3 Graduate Student Office	Teaching Assistant Office (Shared)	Time	50
HIS	Academic Annex	AX	105	04.1 Academic Offices	Stipend Office	Time	50
HIS	Academic Annex	AX	105	04.3 Graduate Student Office	Teaching Assistant Office (Shared)	Time	50
HIS	Academic Annex	AX	106	04.3 Graduate Student Office	Teaching Assistant Office (Shared)	None	100
HIS	Academic Annex	AX	117	04.3 Graduate Student Office	Teaching Assistant Office (Shared)	None	100
							<b>56.71</b>
HIS							<b>557.53</b>

Dept	Building Name	Alpha Cod	Room ID	Category (Category Name)	Description	Share Typ	Share Pe Area (sqm)
PHI	North Building	NE	229	04.5 Office Support Space	Office Storage	Time	33.3
PHI	North Building	NE	258A	04.5 Office Support Space	Mail Room	Time	4.41
PHI	North Building	NE	258D	04.5 Office Support Space	Photocopy Room	Time	33.3
PHI	North Building	NE	261A	04.5 Office Support Space	Kitchenette/Faculty Lounge	Time	3.31
PHI	North Building	NE	262	04.5 Office Support Space	Dean's Lounge (Humanities)	Time	6.48
PHI	North Building	NE	260	04.1 Academic Offices	Faculty Office Single	Time	15.89
PHI	North Building	NE	273	04.4 Departmental Support Staff Office	Supp Admin Office Single	None	100
PHI	North Building	NE	274	04.1 Academic Offices	Faculty Office Single	Time	33.3
PHI	North Building	NE	274A	04.1 Academic Offices	Faculty Office Single	None	100
PHI	North Building	NE	275	04.1 Academic Offices	Faculty Office Single	None	100
PHI	North Building	NE	276	04.1 Academic Offices	Faculty Office Single	None	100
PHI	North Building	NE	278	04.3 Graduate Student Office	Teaching Assistant Office Multi	None	100
PHI	North Building	NE	278A	04.1 Academic Offices	Faculty Office Single	None	100
PHI	North Building	NE	281	04.1 Academic Offices	Faculty Office Single	None	14.11
PHI	North Building	NE	281A	04.1 Academic Offices	Faculty Office Single	None	12.57
PHI	North Building	NE	283	04.1 Academic Offices	Faculty Office Single	None	100
PHI	North Building	NE	283A	04.1 Academic Offices	Faculty Office Single	None	12.45
PHI	North Building	NE	284	04.1 Academic Offices	Faculty Office Single	None	13.94
PHI	North Building	NE	284A	04.1 Academic Offices	Chair's Office	None	100
PHI	North Building	NE	285	04.4 Departmental Support Staff Office	Supp Admin Office Single	None	21.29
PHI	North Building	NE	285A	04.1 Academic Offices	Faculty Office Single	None	100
PHI	North Building	NE	285B	04.1 Academic Offices	Faculty Office Single	None	14.41
PHI	North Building	NE	289	04.4 Departmental Support Staff Office	Supp Admin Office Single	None	100
PHI	North Building	NE				Space	50
							<b>279.5</b>
PHI	Academic Annex	AX	102	04.2 Research	Stipend Office (Shared)	None	100
PHI	Academic Annex	AX	121	04.1 Academic Offices	Stipend Office (Shared)	None	100
PHI	Academic Annex	AX	106	04.3 Academic Offices	Stipend Office (Shared)	None	100
PHI	Academic Annex	AX					<b>45.94</b>
PHI							<b>325.44</b>

**Academic Facilities: Department of Political Science**

Dept	Building Name	Alpha Cod	Room ID	Category (Category Name)	Description	Share Typ	Share P	Area (sqm)
POL	William G. Davis Building	DV	1146	Graduate Student Office	Teaching Asst Off Multi	None	100	14.32
POL	William G. Davis Building	DV	1146A	Graduate Student Office	Graduate Office Multi	None	100	13.48
POL	William G. Davis Building	DV	3125	Departmental Support Staff Office	Supp Admin Office Multi	None	100	24.73
POL	William G. Davis Building	DV	3205F	Departmental Support Staff Office		None	100	0
POL	William G. Davis Building	DV	3125A	Academic Offices	Chair's Office	None	100	17.3
POL	William G. Davis Building	DV	3125B	Departmental Support Staff Office	Supp Admin Office Single	None	100	16.68
POL	William G. Davis Building	DV	3233	Academic Offices	Faculty Office Single	None	100	12.89
POL	William G. Davis Building	DV	3243	Academic Offices	Faculty Office Single	None	100	12.87
POL	William G. Davis Building	DV	3249	Academic Offices	Faculty Office Single	None	100	12.75
POL	William G. Davis Building	DV	3259	Academic Offices	Faculty Office Single	None	100	13.04
POL	William G. Davis Building	DV	3263	Academic Offices	Faculty Office Single	None	100	13.04
POL	William G. Davis Building	DV	3269	Office Support Space	Kitchenette/Faculty Lounge	Time	25	17.86
POL	William G. Davis Building	DV	3274	Academic Offices	Faculty Office Single	None	100	12.2
POL	William G. Davis Building	DV	3275	Academic Offices	Faculty Office Single	None	100	13.05
POL	William G. Davis Building	DV	3277	Academic Offices	Faculty Office Single	None	100	13.15
POL	William G. Davis Building	DV	3290	Academic Offices	Faculty Office Single	None	100	14.16
POL	William G. Davis Building	DV	3291	Academic Offices	Faculty Office Single	None	100	14.16
POL	William G. Davis Building	DV	3292	Academic Offices	Faculty Office Single	None	100	14.16
POL	William G. Davis Building	DV	3293	Academic Offices	Faculty Office Single	None	100	14.16
POL	William G. Davis Building	DV	3294	Academic Offices	Faculty Office Single	None	100	14.16
POL	William G. Davis Building	DV	3295	Academic Offices	Faculty Office Single	None	100	14.16
POL	William G. Davis Building	DV						<b>292.32</b>
POL	Kaneff Centre	KE	229	Academic Offices	Faculty Office Single	None	100	12.44
POL	Kaneff Centre	KE						<b>12.44</b>
POL								<b>304.76</b>

## Academic Facilities: Department of Sociology

Dept	Building Name	Alpha Cod	Room ID	Category (Category Name)	Description	Share Typ	Share Pct	Area (sqm)
SOC	William G. Davis Building	DV	3202	03.1 Research Lab Space	Research Lab	None	100	19.8
SOC	William G. Davis Building	DV	3204	04.3 Graduate Student Office		None	100	19.08
SOC	William G. Davis Building	DV	3206	04.3 Graduate Student Office		None	100	19.62
SOC	William G. Davis Building	DV	3205F	04.4 'Departmental Support Staff Office	Teaching Assistant Office Multi	None	100	13.09
SOC	William G. Davis Building	DV	3208C	04.1 Academic Offices	Supp Admin Office Single	None	100	17.32
SOC	William G. Davis Building	DV	3208D	04.1 Academic Offices	Shared Faculty Office	None	100	14.78
SOC	William G. Davis Building	DV	3217	04.4 Departmental Support Staff Office	Supp Admin Office Single	None	100	13.38
SOC	William G. Davis Building	DV	3218	04.4 Departmental Support Staff Office	Supp Admin Office Single	None	100	13.44
SOC	William G. Davis Building	DV	3219	04.1 Academic Offices	Faculty Office Single	None	100	12.89
SOC	William G. Davis Building	DV	3220	04.4 Departmental Support Staff Office	Supp Admin Office Single	None	100	13.16
SOC	William G. Davis Building	DV	3221	04.1 Academic Offices	Faculty Office Single	None	100	12.75
SOC	William G. Davis Building	DV	3222	04.5 Office Support Space	Storage	None	100	6.89
SOC	William G. Davis Building	DV	3223	04.1 Academic Offices	Shared Faculty Office	None	100	12.77
SOC	William G. Davis Building	DV	3226	04.5 Office Support Space	Storage	None	100	9.39
SOC	William G. Davis Building	DV	3229	04.5 Office Support Space	Photocopy Room	None	100	12.77
SOC	William G. Davis Building	DV	3230	04.1 Academic Offices	Faculty Office Single	None	100	13.39
SOC	William G. Davis Building	DV	3231	04.1 Academic Offices	Faculty Office Single	None	100	12.75
SOC	William G. Davis Building	DV	3232	04.1 Academic Offices	Faculty Office Single	None	100	13.39
SOC	William G. Davis Building	DV	3234	04.1 Academic Offices	Faculty Office Single	None	100	13.37
SOC	William G. Davis Building	DV	3236	04.1 Academic Offices	Faculty Office Single	None	100	13.37
SOC	William G. Davis Building	DV	3237	04.1 Academic Offices	Faculty Office Single	None	100	12.69
SOC	William G. Davis Building	DV	3238	04.1 Academic Offices	Faculty Office Single	None	100	13.03
SOC	William G. Davis Building	DV	3239	04.1 Academic Offices	Faculty Office Single	None	100	12.69
SOC	William G. Davis Building	DV	3240	04.1 Academic Offices	Faculty Office Single	None	100	13.03
SOC	William G. Davis Building	DV	3242	04.1 Academic Offices	Faculty Office Single	None	100	13.39
SOC	William G. Davis Building	DV	3244	04.1 Academic Offices	Faculty Office Single	None	100	13.39
SOC	William G. Davis Building	DV	3246	04.1 Academic Offices	Faculty Office Single	None	100	13.39
SOC	William G. Davis Building	DV	3248	04.1 Academic Offices	Faculty Office Single	None	100	13.39
SOC	William G. Davis Building	DV	3250	04.1 Academic Offices	Faculty Office Single	None	100	13.39
SOC	William G. Davis Building	DV	3269	04.5 Office Support Space	Staff Lounge / Kitchenette	Time	25	17.87
SOC								<b>413.66</b>

## Campus Facilities: Classrooms, Student Space and Food Services

Dept	Building Name	Alpha Codr Room ID	Category C Category Name	Description	Capacity Area (sqm)
UTM-REG	North Building	NE 134	01.2 Non-Tiered Classrooms	Classroom - Electronic	160
UTM-REG	North Building	NE 139	01.2 Non-Tiered Classrooms	Classroom - Flat Floor	289.20
UTM-REG	North Building	NE 140	01.2 Non-Tiered Classrooms	Classroom - Flat Floor	58
UTM-REG	North Building	NE 142	01.2 Non-Tiered Classrooms	Classroom - Flat Floor	50
UTM-REG	North Building	NE 143	01.2 Non-Tiered Classrooms	Classroom - Flat Floor	62.78
UTM-REG	North Building	NE 144	01.2 Non-Tiered Classrooms	Classroom - Flat Floor	40
UTM-REG	North Building	NE 160	01.1 Tiered Classrooms	Classroom - Flat Floor	20
UTM-REG	North Building	NE 172	01.2 Non-Tiered Classrooms	Classroom - Tiered Floor	43
UTM-REG	North Building	NE 174	01.1 Tiered Classrooms	Classroom - Tiered Floor	75
UTM-REG	North Building	NE 228	01.2 Non-Tiered Classrooms	Classroom - Flat Floor	111.51
UTM-REG	North Building	NE 257	01.2 Non-Tiered Classrooms	Seminar Room	70
UTM-REG	North Building	NE 259	01.2 Non-Tiered Classrooms	Seminar Room	75.88
UTM-REG	North Building	NE 263	01.2 Non-Tiered Classrooms	Classroom - Flat Floor	66
UTM-REG	North Building	NE 268	01.2 Non-Tiered Classrooms	Classroom - Flat Floor	151.38
UTM-REG	North Building	NE 269	01.2 Non-Tiered Classrooms	Seminar Room	48
UTM-REG	North Building	NE 286	01.2 Non-Tiered Classrooms	Seminar Room	25
					36.96
					25
					85
					50
					30
					39.34
					35
					<b>880</b>
					<b>1,261.78</b>

Dept	Building Name	Alpha Codr Room ID	Category C Category Name	Description	Share Type	Share Pe Area (sqm)
STUDY	North Building	NE 129	05.5 Study Space Not Under Library	Jurisdiccti Study Room	None	61.61
STUDY	North Building	NE 130	05.5 Study Space Not Under Library	Jurisdiccti Study Room	Space	49.45
STUDY	North Building	NE 170	05.5 Study Space Not Under Library	Jurisdiccti Study Room (Humanities)	Space	24.84
						<b>135.9</b>

Dept	Building Name	Alpha Codr Room ID	Category C Category Name	Description	Share Type	Share Pe Area (sqm)
STUDENT	North Building	NE 131	14.3 General Lounge Space	Lounge	None	18.55
STUDENT	North Building	NE 131A	14.1 Student Office And Support Space	Student Club Room (Women's Centre)	None	10.06
						<b>28.61</b>

Dept	Building Name	Alpha Codr Room ID	Category C Category Name	Description	Capacity Area (sqm)
FOOD	North Building	NE 159R	10.1 Central Administrative Offices	Supp Admin Office Single	100
FOOD	North Building	NE 173	07.1 Food Facilities	Tim Hortons	100
					<b>53.41</b>

## Campus Facilities: Robert Gillespie Academic Skills Centre and Technical Support

Dept	Building Name	Alpha Code	Room ID	Category C Category Name	Description	Capacity	Area (sqm)
RGALC	Hazel McCallion Academic Le	HM	377	10.1 Central Administrative Offices	Lecturer	1	13.03
RGALC	Hazel McCallion Academic Le	HM	378	10.1 Central Administrative Offices	Strategist/Admin Office Multi	3	11.34
RGALC	Hazel McCallion Academic Le	HM	380	10.1 Central Administrative Offices	Strategist/Admin Office Multi	3	11.33
RGALC	Hazel McCallion Academic Le	HM	381	10.1 Central Administrative Offices	Strategist Office Single	1	13.03
RGALC	Hazel McCallion Academic Le	HM	383	10.1 Central Administrative Offices	Lecturer	1	12.93
RGALC	Hazel McCallion Academic Le	HM	386	10.2 Central Admin Office Support	Storage	0	10.61
RGALC	Hazel McCallion Academic Le	HM	388	10.2 Central Admin Office Support	Classroom	12	26.63
RGALC	Hazel McCallion Academic Le	HM	390	10.1 Central Administrative Offices	Admin Office Single	1	4.45
RGALC	Hazel McCallion Academic Le	HM	390	10.1 Central Administrative Offices	Senior Lecturer	1	10.39
RGALC	Hazel McCallion Academic Le	HM	390V	10.1 Central Administrative Offices	Admin Office Multi	2	10.89
RGALC	Hazel McCallion Academic Le	HM	390V	10.2 Central Admin Office Support	Reception	1	10.89
RGALC							<b>135.52</b>

Dept	Building Name	Alpha Code	Room ID	Category C Category Name	Description	Share Type	Share Pe Area (sqm)
COMP	North Building	NE	137A	10.1 Central Administrative Offices	Technician's Office Multi	None	15.47
MICRO	North Building	NE	234	10.1 Central Administrative Offices	Classroom Tech Office Multi	Space	10.84
MICRO	North Building	NE	234	12.2 Other Central Service	Audiovisual Storage	Space	16.27
							<b>42.58</b>

## Campus Facilities: Facilities Management and Planning

Dept	Building Name	Alpha Code	Room ID	Category C Category Name	Description	Share Type	Share Pe Area (sqm)
FMP	North Building	NE	159	Central Administrative Offices	Supp Admin Office Multi	Space	53.33
FMP	North Building	NE	159	Central Admin Office Support	Reception/Waiting	Space	28.7
FMP	North Building	NE	166	Plant Maintenance	Caretaking Office	None	26.67
FMP	North Building	NE	127B	Plant Maintenance	Custodial Staff Locker Room	None	100
FMP	North Building	NE	155P	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159A	Central Admin Office Support	Archive Room	None	100
FMP	North Building	NE	159B	Central Admin Office Support	Kitchenette	None	100
FMP	North Building	NE	159C	Central Admin Office Support	Meeting Room	None	100
FMP	North Building	NE	159D	Central Administrative Offices	Director's Office	None	100
FMP	North Building	NE	159E	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159F	Central Administrative Offices	Assistant Director	None	100
FMP	North Building	NE	159H	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159I	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159J	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159K	Central Administrative Offices	Manager's Office	None	100
FMP	North Building	NE	159N	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159P	Central Administrative Offices	Supp Admin Office Multi	Space	46
FMP	North Building	NE	159Q	Central Admin Office Support	Office Files/Meeting Area	Space	24
FMP	North Building	NE	159Q	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159S	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159T	Central Administrative Offices	Supp Admin Office Single	None	100
FMP	North Building	NE	159U	Central Administrative Offices	Supp Admin Office Single	None	100
FMP							
							<b>381.26</b>





## Occupant Profile:

The total number of FTE faculty, staff and students for 2013/14 and projected for 2016/17 were used as input measures in the Council of Ontario Universities Building Block space formula to generate a theoretical requirement for facilities at the divisional level as described in the next section, Space Analysis. (COU input measures, defined within the Building Blocks, are used by all Ontario postsecondary institutions for this purpose. They may differ somewhat from other commonly used definitions used by UTM.).

### Academic Facilities

<b>English</b>	<b>Existing 2013/14</b>	<b>Growth 2016/17</b>	<b>Change</b>
FTE Faculty (Research)	14.31	16.31	2
FTE Faculty (Teaching)	1	1	0
CLTAs	3	3	0
FCE (Stipend Courses)	8.4	8.4	0
FTE Post-Doctoral Fellows	0	2	2
FTE Research Associates	0	0	0
FTE Research-Funded Staff	0	0	0
FTE Staff	1.83	2.33	.5
FTE Graduate*	0	4	4
FTE Teaching Assistants	22.5	22.5	0

\* PhD (Growth)

### Language Studies

FTE Faculty (Research)*	11	14	3
FTE Faculty (Teaching)	3.3	4.3	1
CLTAs	2.92	2.92	0
FCE (Stipend Courses)	25.55	27.65	2.1
FTE Post-Doctoral Fellows	0	2	2
FTE Research Associates	0	0	0
FTE Research-Funded Staff	0	0	0
FTE Staff**	3.8	5	1.2
FTE Graduate***	0	3	3
FTE Teaching Assistants	18	18	0

\* Existing includes current search

\*\* Includes Concurrent Teacher Education Program

\*\*\* PhD (Growth)

<b>Historical Studies</b>	<b>Existing 2013/14</b>	<b>Growth 2016/17</b>	<b>Change</b>
FTE Faculty (Research)*	21.78	25.85	<b>4.07</b>
FTE Faculty (Teaching)	3	3	<b>0</b>
CLTAs	3	3	<b>0</b>
FCE (Stipend Courses)	28.35	28.35	<b>0</b>
FTE Post-Doctoral Fellows	2.5	3	<b>.5</b>
FTE Research Associates	0	0	<b>0</b>
FTE Research-Funded Staff	0	0	<b>0</b>
FTE Staff**	4	4.6	<b>.6</b>
FTE Graduate	0	5	<b>5</b>
FTE Teaching Assistants	37.5	37.5	<b>0</b>

\* Existing includes current search

\*\* Includes .6 Centre for South Asian Civilizations

\*\*\* PhD (Growth)

### **Philosophy**

FTE Faculty (Research)	14	15	<b>1</b>
FTE Faculty (Teaching)	0	0	<b>0</b>
CLTAs	1.7	1.7	<b>0</b>
FCE (Stipend Courses)	3.5	5.95	<b>2.45</b>
FTE Post-Doctoral Fellows	.5	2	<b>1.5</b>
FTE Research Associates	0	0	<b>0</b>
FTE Research-Funded Staff	0	0	<b>0</b>
FTE Staff	1.9	2	<b>.1</b>
FTE Graduate	0	0	<b>0</b>
FTE Teaching Assistants	22.5	22.5	<b>0</b>

### **Political Science**

FTE Faculty (Research)*	15.5	17.5	<b>2</b>
FTE Faculty (Teaching)	1	1	
CLTAs	.6	.6	<b>0</b>
FCE (Stipend Courses)	10.85	10.85	<b>0</b>
FTE Post-Doctoral Fellows	.9	1	<b>0</b>
FTE Research Associates	0	0	<b>0</b>
FTE Research-Funded Staff	0	0	<b>0</b>
FTE Staff	2.3	2.7	<b>.4</b>
FTE Graduate	0	0	<b>0</b>
FTE Teaching Assistants	31	31	<b>0</b>

\* Existing includes current searches

<b>Sociology</b>	<b>Existing 2013/14</b>	<b>Growth 2016/17</b>	<b>Change</b>
FTE Faculty (Research)*	19	25	<b>6</b>
FTE Faculty (Teaching)	2	2	<b>0</b>
CLTAs	0	0	<b>0</b>
FCE (Stipend Courses)	10.15	10.15	<b>0</b>
FTE Post-Doctoral Fellows	.3	1	<b>.7</b>
FTE Research Associates	0	0	<b>0</b>
FTE Research-Funded Staff	0	0	<b>0</b>
FTE Staff	2.9	4	<b>1.1</b>
FTE Graduate**	16	24	<b>8</b>
FTE Teaching Assistants	70	70	<b>0</b>

\* Existing includes current searches

\*\* 4 MASc, 12 PhD (Existing); 4 MASc, 20 PhD (Growth)

An additional 14 FTE Faculty (11 Research and 3 Teaching) beyond 2016/17 projections will be accommodated in the North Building Reconstruction Phase B based on enrolment growth. The positions have not been assigned to a specific department at this time, and therefore will be included under Unallocated Academic Offices. Below, FTE include anticipated growth and were used to determine space requirements for central administrative office and support space. Note that the Robert Gillespie Academic Skills Centre was grouped with Campus Facilities as it provides a campus-wide service, though it is comprised of staff with academic appointments.

### **Campus Facilities**

<b>Robert Gillespie Academic Learning Centre</b>	<b>Existing 2013/14</b>	<b>Growth 2016/17</b>	<b>Change</b>
Director	.4	.4	<b>0</b>
Senior Lecturer	2	3	<b>1</b>
Lecturer	1	1	<b>0</b>
Learning Strategist	1	1	<b>0</b>
Writing Instructor	1.4	2.2	<b>.8</b>
Writing Initiative Instructor	.5	0	<b>-.5</b>
Administrative Staff	2.4	3	<b>.6</b>
Program Assistant	1.2	1.8	<b>.6</b>

<b>Technical Support</b>	<b>Existing 2013/14</b>	<b>Growth 2016/17</b>	<b>Change</b>
Manager (Testing & Training)	0	1	<b>1</b>
Technician (Tech. Resource Centre)	5	6	<b>1</b>
Technician (Computing Services)	5	6	<b>1</b>
ITL/IT Support Analyst Office	2	3	<b>1</b>

<b>Facilities Management &amp; Planning</b>	<b>Existing 2013/14</b>	<b>Growth 2016/17</b>	<b>Change</b>
Director	1	1	<b>0</b>
FMP Admin	4		
Planning Design & Construction	17		
Utilities Infrastructure	2		
Building Operations & Services	2		
Grounds	1		
Environmental Health & Safety	1		
Total Administrative Staff	27	35	<b>8</b>

UTM North B: Space Requirements As Measured By COU Space Standards and Adjusted to reflect UTM policy/actual requirements, 2016/17

Dept	Room Type	Input Measure 2016/17	Space Factor	Generated Space 2016/17	Proposed Space	% PIG	COU Cat	Notes
ENG	Total FTE Faculty	17.50	13.0	227.50	282.00	94.3	4.1	1 Teach (exist), 16.31 Res. (14.31 exist + 2 growth) allowance for 3 CLTAs + 2.4 sessional instructors
ENG	Faculty Supplement	5.50	13.0	71.50			4.1	3 Teaching (existing), 25.85 Research (21.85 + 4)
HIS	Total FTE Faculty	28.85	13.0	375.05	510.00	98.2	4.1	allowance for 3 CLTAs + 8.1 sessional instructors
HIS	Faculty Supplement	11.10	13.0	144.30			4.1	4.3 Teaching (1 + 3.3), 14 Research (11 + 3)
LAN	Total FTE Faculty	18.50	13.0	240.50	354.00	92.3	4.1	allowance for 2.9 CLTAs + 7.9 sessional
LAN	Faculty Supplement	11.00	13.0	143.00			4.1	all research (14 + 1)
PHI	Total FTE Faculty	15.00	13.0	195.00	234.00	97.3	4.1	allowance for 1.7 CLTAs + 1.7 sessional instructors
PHI	Faculty Supplement	3.50	13.0	45.50			4.1	1 Teaching (exist), 17.5 Research (15.5 + 2)
POL	Total FTE Faculty	18.50	13.0	240.50	282.00	96.4	4.1	allowance for 57 CLTAs + 3.1 sessional (exist)
POL	Faculty Supplement	4.00	13.0	52.00			4.1	2 Teaching (existing), 25 Research (17 + 8)
SOC	Total FTE Faculty	27.00	13.0	351.00	366.00	90.7	4.1	allowance for 2.9 sessional (exist)
SOC	Faculty Supplement	4.05	13.0	52.65			4.1	
<b>TOTAL FACULTY OFFICES</b>				<b>2,138.50</b>	<b>2,028.00</b>		<b>94.8</b>	<b>4.1</b>
Emerith will be accommodated outside of the North B project in the Davis Building Senior Scholars Centre, which reduces the faculty office requirement by Department.								
ENG	Total FTE Non-Acad Staff	2.33	13.0	30.29	36.00	118.9	4.4	1.83 (exist) + .5 (growth)
HIS	Total FTE Non-Acad Staff	4.00	13.0	52.00	48.00	92.3	4.4	4 (exist)
LAN	Total FTE Non-Acad Staff	3.00	13.0	39.00	63.00	96.9	4.4	2.3 (exist) + .7 (growth)
LAN	Total FTE Staff CTEP	2.00	13.0	26.00			4.4	1.5 (exist) + .5 (growth)
PHI	Total FTE Non-Acad Staff	2.00	13.0	26.00	24.00	92.3	4.4	1.9 (exist) + 1 (growth)
POL	Total FTE Non-Acad Staff	2.70	13.0	35.10	36.00	102.6	4.4	2.3 (exist) + .4 (growth)
POL	Total FTE Non-Acad Staff	4.00	13.0	52.00	48.00	92.3	4.4	2.9 (exist) + 1.1 (growth)
<b>TOTAL STAFF OFFICES</b>				<b>260.39</b>	<b>255.00</b>		<b>97.9</b>	<b>4.4</b>
ENG	Office Support	385.25	0.25	96.31	111.50	115.8	4.5	39 namsm dedicated plus 72.5 namsm shared
HIS	Office Support	653.79	0.25	163.45	121.50	74.3	4.5	49 namsm dedicated plus 72.5 namsm shared
LAN	Office Support	509.00	0.25	127.25	111.50	87.6	4.5	39 namsm dedicated plus 72.5 namsm shared
PHI	Office Support	320.63	0.25	80.16	111.50	139.1	4.5	39 namsm dedicated plus 72.5 namsm shared
POL	Office Support	379.35	0.25	94.84	112.50	118.6	4.5	40 namsm dedicated plus 72.5 namsm shared
SOC	Office Support	608.40	0.25	152.10	121.50	79.9	4.5	49 namsm dedicated plus 72.5 namsm shared
<b>TOTAL OFFICE SUPPORT</b>				<b>714.11</b>	<b>690.00</b>		<b>96.6</b>	<b>4.5</b>

UTM North B: Space Requirements As Measured By COU Space Standards and Adjusted to reflect UTM policy/actual requirements, 2016/17

Dept	Room Type	Input Measure 2016/17	Space Factor	Generated Space 2016/17	Proposed Space	% PIG Cat	COU Notes
ENG	Research Appointments	2.00	13.0	26.00	12.00	46.2	4.2
HIS	Research Appointments	3.00	13.0	39.00	24.00	61.5	4.2
LAN	Research Appointments	2.00	13.0	26.00	12.00	46.2	4.2
PHI	Research Appointments	2.00	13.0	26.00	12.00	46.2	4.2
POL	Research Appointments	1.00	13.0	13.00	12.00	92.3	4.2
SOC	Research Appointments	1.00	13.0	13.00	12.00	92.3	4.2
ENG	Total FTE Grads	4.00	4.0	16.00	45.00	149.7	4.3
ENG	Total TA's	11.25	1.25	14.06			4.3
HIS	Total FTE Grads	5.00	4.0	20.00	47.00	108.2	4.3
HIS	Total TA's	18.75	1.25	23.44			4.3
LAN	Total FTE Grads	3.00	4.0	12.00	23.00	66.7	4.3
LAN	Total TA's	18.00	1.25	22.50			4.3
PHI	Total FTE Grads	0.00	4.0	0.00	29.00	103.1	4.3
PHI	Total TA's	22.50	1.25	28.13			4.3
POL	Total FTE Grads	0.00	4.0	0.00	39.00	100.6	4.3
POL	Total TA's	31.00	1.25	38.75			4.3
SOC	Total FTE Grads	24.00	4.0	96.00	87.00	58.8	4.3
SOC	Total TA's	35.00	1.25	43.75			4.3
ENG	Research Disciplines E	19.31	1.0	19.31	20.00	72.4	3
ENG	Research ROP	6.25	1.3	8.31		0.0	3
HIS	Research Disciplines E	29.85	1.0	29.85	89.00	298.2	3
HIS	Research ROP	41.25	1.3	54.86		0.0	3
LAN	Research Disciplines E	16.50	1.0	16.50	51.00	309.1	3
LAN	Research ROP	0.00	1.3	0.00			3
PHI	Research Disciplines E	16.00	1.0	16.00	21.00	131.3	3
PHI	Research ROP	0.00	1.3	0.00			3
POL	Research Disciplines E	18.00	1.0	18.00	18.00	100.0	3
POL	Research ROP	0.00	1.3	0.00			3
SOC	Research Disciplines E	37.50	1.0	37.50	94.00	250.7	3
SOC	Research ROP	6.25	1.3	8.31		0.0	3
<b>TOTAL RESEARCH + GRAD SPACE</b>					<b>666.27</b>	<b>97.1</b>	<b>3.4,2,4,3</b>

All input measures are FTE and areas shown are in nasm.  
Adjustments are in blue.

Notes:  
2 PdFs (growth)  
2.5 (exist) + .5 (growth)  
2 PdFs (growth)  
.5 (exist) + 1.5 (growth)  
9 (exist) + .1 (growth)  
.3 (exist) + .7 (growth)  
4 PhD (growth)  
37.5 TA's (exist), divided by 2 to estimate grad/TA overlap  
3 PhD (growth) deficit addr. by surplus in research  
18 TA's (15 LS + 3 CTEP)  
22.5 TA's (existing)  
31 TA's (existing)  
4 MAsc (exist), 20 PhD (12+8) deficit addressed by surplus in research  
70 TA's (existing), divided by 2 to estimate grad/TA overlap  
16.31 Fac + .5(2 PdF) + .5 (4 PhD)=19.31  
3 ROP = 1 FTE Grad based on a 12 hour week = 1.3 nasm per ROP  
25.85 Fac + .5(3 PdF) + .5 (5 PhD)=29.85  
14 Fac + .5(2 PdF) + .5 (3PHD)=16.5  
15 Fac + .5(2 PdF) + .5 (0 grad)=16  
17.5 Fac + .5(1 PdF) + .5 (0 grad)=18  
25 Fac + .5 (1 PdF) + .5 (24 grad)=37.5  
combination of shared and dedicated space

## **2011 UTM Campus Master Plan: Planning Principles:**

### Campus Planning Principles

UTM's Planning Principles have been created to help guide proposed campus development, and should be read in conjunction with review of proposed building envelopes.

They were derived from key concepts first presented in the 2000 Master Plan, and evolved in response to feedback from the UTM community. During an intense period of community engagement from January to April 2010, a series of meetings, a web link to the Master Plan from the UTM homepage and email contact allowed students, staff and faculty to provide feedback on the Planning Principles.

Key themes emerged from this consultation, including:

- a desire for centralized outdoor common space;
- improved pedestrian connections on campus and to outlying areas;
- preservation of green space;
- increased campus amenity; and
- a well-articulated sense of UTM's academic mission and campus identity through built form.

The pages that follow outline Campus Planning Principles under seven headings >

1. CAMPUS ENVIRONMENT
2. LAND USE
3. MASSING
4. BALANCED INTENSIFICATION
5. SUSTAINABILITY
6. ACCESSIBILITY
7. HERITAGE PRESERVATION

## Campus Planning Principles



*North Field (future Campus Green)*

*The existing North Field has the potential to serve as a unifying element on the UTM campus if enhanced as a multi-use, flexible open space accessible to the broader University community. It is the largest single open space at UTM, comparable in scale to St. George's Front Campus.*



*Engaging the Ecological Context*

*UTM's existing Nature Trails provide an entry point into the rich ecological zones along the Credit River valley. The trail network can be enhanced to provide greater accessibility and connection to the University's unique natural context.*



*Land Allocation*

*The supply of parking on campus remains a challenge and a particularly inefficient use of land if constructed as surface level-only. Solutions lie in a combination of enhanced transit options and reduced-footprint parking amenities.*

### CAMPUS ENVIRONMENT

The University community's environment must:

- support intellectual aspirations of its community;
- build on a fundamental framework of social and environmental amenity;
- be vibrant and encourage activity;
- relate buildings to landscapes and create a logical sequence of movement;
- provide shelter and active travel between buildings;
- be safe, secure, and accessible;
- respect and engage with the unique ecological context; and
- maintain and enhance a central unified open space, as a unifying element on campus.

This Principle defines the vision and aspiration of spaces between buildings. The principles under Campus Environment recognize the University's unique sense of place as far more than the sum of its parts.

Related section under Opportunities & Challenges: Open Space

### LAND USE

Uses and functions assigned to the campus' physical environment must:

- promote the University's academic goals and serve its overall mission;
- consider non-academic uses that are compatible with, contribute to and engage the University community;
- enhance the connection between residential and academic life;
- respect and engage with the ecological context;
- seek opportunities to animate the campus, particularly by locating active use at the ground floor level and providing transparency between indoor and outdoor spaces; and
- ensure a visionary campus plan where parking, transit, servicing and traffic planning coordinate with existing and future buildings.

Unlike the 2000 Plan, this Master Plan does not identify specific building programs or land use zoning for each development site. The Land Use Principle provides overarching intent within an otherwise flexible framework.

Related sections under Opportunities & Challenges: Circulation, Open Space, Environment and Housing



**MASSING**

The form and scale of future expansion should define and develop appropriate relationships with surrounding buildings and landscapes. New construction must take into account impact on micro-climatic conditions creating an animated streetscape, and minimizing shadow and wind conditions.

Erindale Hall is a positive example of built form on campus, appropriate in scale and proportion. The north face of the residence building gives definition to the Five-minute Walk stretching between the Student Centre and North Building; the south side undulates to allow greater view and connection in response to the surrounding natural environment.



*Erindale Hall, north elevation*

*In addition to successfully negotiating two very different campus conditions to the north and south, Erindale Hall provides a colonnade running parallel to the 5-Minute Walk for use during inclement weather.*

**BALANCED INTENSIFICATION**

Future campus development must enhance, not overwhelm, existing University environs while making efficient use of limited campus land. The Plan seeks to:

- balance the desire for consolidation and the desire to connect to the outdoor environment;
- enliven and shape the spaces between and within buildings;
- strive to achieve the appearance of a complete campus at each phase of the plan; and
- ensure the adjacent community is addressed in scale and presence, while presenting a prominent and inviting image of an academic institution.

Though the Principle of Balanced Intensification applies equally to all three University campuses, the context is quite different. Despite a large land holding, UTM must be sensitive in its development footprint. UTM is unique, given its proximity to the Credit River, its woodlands, and its location within a predominantly residential district. In response, academic expansion sites are contained primarily within the ring road. In addition to sensitivity toward existing context, new buildings must also be thoughtful in creation of new context. As stated in the 2000 Master Plan “each building project is responsible for creating the open space that surrounds it”.

Related sections under Opportunities & Challenges: Open Space and Environment; and Sites & Sectors



*Recreation, Athletics & Wellness Centre (RAWC)*

*The RAWC has created a positive street presence along Outer Ring Road and serves to connect through to the Davis Building beyond. Its massing at the street level helps to identify the building as a secondary gateway to the inner campus.*



*Communication, Culture and Technology Building, CCT*

*An example of enlivening and shaping the spaces between buildings, the CCT’s siting in relation to the Davis Building created an intimately-scaled outdoor courtyard. Glazing along perimeter walls allows visual connection to the exterior from interior ground floor spaces.*

## Campus Planning Principles



*Solar Panel Array, Davis Building*

*The solar panel retrofit on the Davis Building is a prominently displayed example of a sustainable energy technology in use at UTM. Displays inside the building provide real-time energy use data.*



*Bike Share program*

*Students, faculty and staff can sign out a bicycle free of charge to use for up to 24 hours. This recent initiative is promoting active lifestyles and provides alternative transportation to improve the local air quality and campus parking congestion.*



*Green Roof, RAWC Building*

*The green roof on the RAWC facility is an example of sustainable building technology that mitigates storm water runoff, provides additional habitat for local species, and reduces both building cooling loads and the campus' urban heat island effect.*

## SUSTAINABILITY

Beyond reduced environmental impact, the University of Toronto Mississauga seeks to:

- take a leadership role in line with the University's overall mission;
- advance opportunities to link sustainability principles with research and teaching;
- promote its environmental achievements on campus and to the outside community;
- meet the University's stringent Design Standards related to environmental measures, and continue to strive beyond minimum requirements;
- incorporate technological advancements in building and landscape design, and seek partnerships where appropriate;
- encourage bicycle commuting and transit-oriented modes of travel; and
- enhance, connect and respond to the Campus' ecological context.

Environmental stewardship continues to be a high priority in discussions with the UTM community given the campus' naturalized context and the institution's emphasis on environmental sciences, sustainability, biodiversity and climate in programs such as geography, chemical and physical sciences, and management.

Recent buildings reflect both UTM's banner for growth – *Grow Smart, Grow Green* – with the Hazel McCallion Academic Learning Centre completed in 2006, the first building on campus to achieve LEED® Silver certification, and current projects (registered with the Canada Green Building Council (CaGBC)) aiming to achieve LEED® Silver or higher.

Related section under Opportunities & Challenges: Sustainability

## ACCESSIBILITY

The University's buildings and landscape must accommodate a diverse population in an open and inclusive campus. The campus environment should adhere to the principles of universal design.

UTM is a relatively new campus and as such largely accessible. Nonetheless, certain improvements can be made such as to the ramp at the main entrance to the Davis Building and the front door to campus. The design of the ramp also could be better integrated into the architecture.

Standards are anticipated to become more stringent in the near future once the Accessibility of Ontarians with Disabilities Act (AODA) *Accessible Built Environment Standard* is legislated.

Related section under Opportunities & Challenges: Accessibility



*Accessible Entry, Davis Building*

*All buildings and connections to buildings throughout the campus should strive to be universally accessible. This accessibility should be integrated into the design process of new and renovated facilities.*

## HERITAGE PRESERVATION

The University of Toronto seeks to protect and maintain its heritage properties and landscapes. Listed and designated properties should not be considered in isolation, but as character-defining elements within the overall campus context. Development should respect and engage with the contextual value of these heritage elements.

There are only two designated heritage properties on campus (Lislehurst, and Alumni House) both outside Outer Circle Road. The Student Centre and the 1968 wing of the South Building (now the Davis Building) are listed buildings within the ring road, where most future development will occur.

Mississauga Road is recognized as a Cultural Landscape, as it is one of the City's oldest and most picturesque thoroughfares. The Master Plan is sensitive to UTM's unique context.

Related section under Opportunities & Challenges: Heritage



*Cultural Landscape, Mississauga Road*

*This picturesque thoroughfare serves as one of UTM's campus edges and has a distinct character that should be handled with sensitivity.*



**2011 UTM Campus Master Plan: Site 7 North Campus Expansion:**

North Campus Sector

**Area Plan:**



Proposed new development in this sector includes the following:

Site 7            North Campus expansion



## SITE 7: North Campus expansion



*View of North Building's west facade with entrance drop-off in foreground*



*North Building service entry at the south of the site*

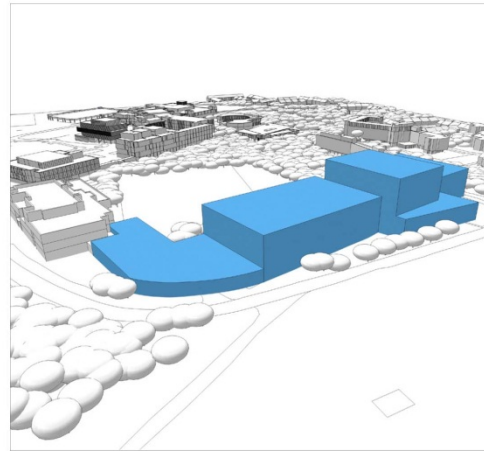
### **Site 7 Context:**

Site 7 is the current location of the North Building and parking Lot 1. The building, constructed more than 40 years ago as a temporary structure, does not meet current and projected space needs for Humanities. Furthermore, the scale, proportions and materiality of the North Building no longer fit the context of a campus, which has matured substantially over the last decade.

The site is located between the western-most portion of Outer Circle Road, one level above the main campus, and the proposed Campus Green. The current low-slung 2-storey structure lacks a sense of arrival or destination from both the Five-minute Walk approach, and the main road. The proposed north expansion presents an opportunity to anchor this end of campus. Full development of the site will complete the pedestrian connection between the Five-minute Walk and the new Instructional Centre.

The proposed envelope is configured to accommodate the likelihood of phased demolition of the North Building, and construction of a series of projects over time. Development of Site 7 will eventually involve the demolition of parking Lot 1 and thereby require that the 115 existing parking spaces be relocated elsewhere on campus or incorporated into development.

**Proposed Envelope Capacity:**



View southeast toward Site 7



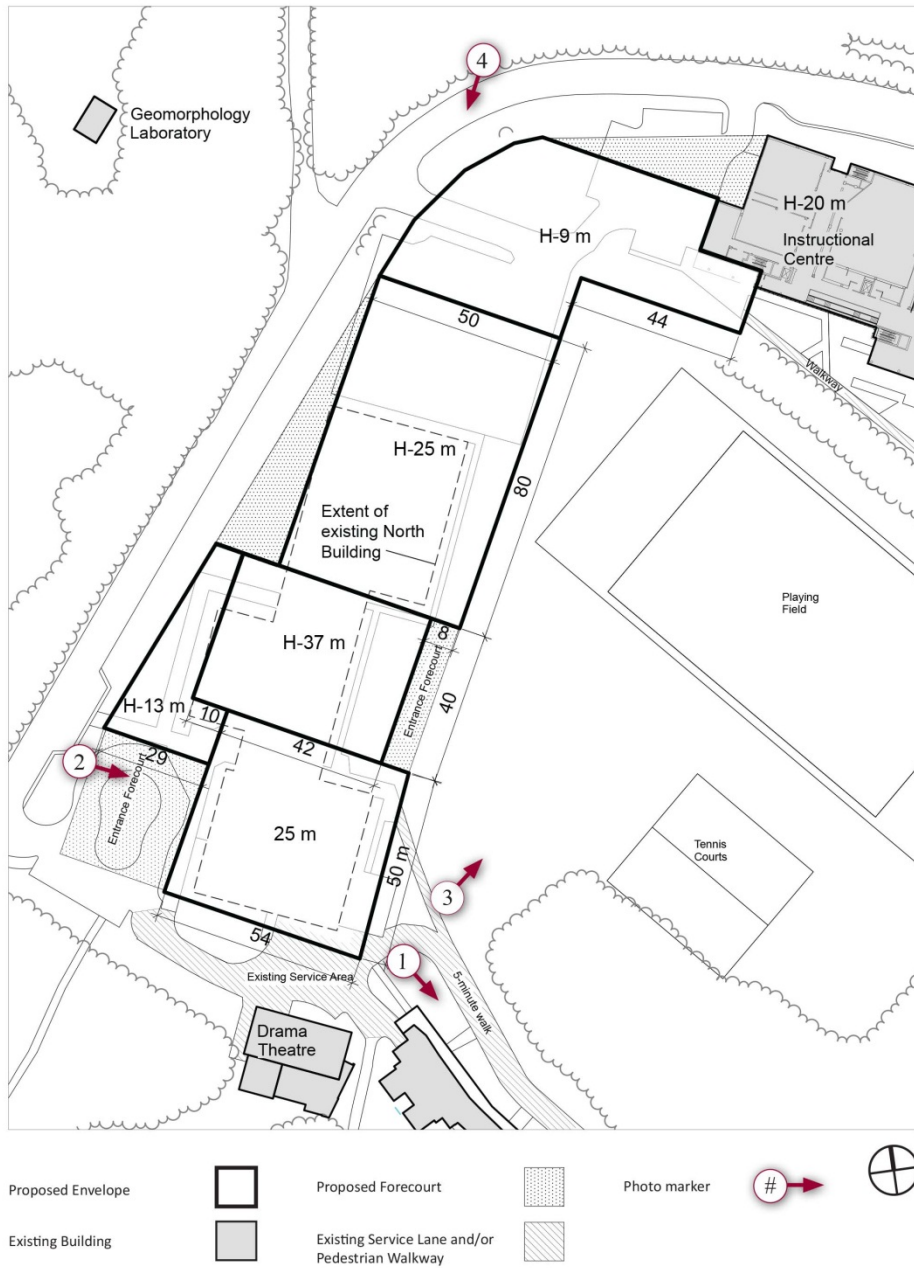
**Proposed Envelope:**

Proposed Envelope:	68,034 gsm
Discounted Envelope:	57,829 gsm
Maximum Height:	37 m

**Use Assumptions:**

Heights are taken from the elevation at Campus Green, approximately one storey below Outer Circle Road. The proposed envelope accounts for phased demolition of the North Building, and phased construction.

SITE 7: North Campus expansion





Site Photos:



View from North Building service lane to the Five-minute Walk and Erindale Hall



Drop-off loop in front of North Building



View of athletic field (future Campus Green) and Instructional Centre under construction



View from Outer Circle Road toward parking Lot 1 and the North Building

## SITE 7: North Campus expansion

### **Development Context:**

#### **Secondary Effects:**

- The proposal calls for demolition of the North Building.

#### **Parking:**

- There are 115 parking spaces on this site, most of which will be impacted by development.
- Opportunities to incorporate parking into future Site 7 development should be considered.

#### **Servicing:**

- The site can be served directly from Outer Circle Road at any point. Given the vastness of the site footprint and potential area, more than one service entry may be desirable.
- Connecting to, and expanding, the Instructional Centre Shipping & Receiving area should be considered.

#### **Pedestrian Routes:**

- A building or series of buildings on this site should locate main entrances based on future pedestrian paths of travel across the Campus Green, in addition to the existing Five-minute Walk.
- The new buildings should link to the Instructional Centre's main pedestrian thoroughfare. Similar to the CCT Link, interior connections should be transparent where possible to provide views to the outside, and animate the building at grade.

#### **Height and Massing:**

- The proposed envelope anticipates large volume spaces such as theatres, classrooms, assembly space.
- A 9-storey tower visually anchors the proposed volume; it allows potential efficiencies for stacked construction of repetitive modules such as offices and labs.
- Stepping down to a maximum of 6 storeys respects the height and scale of adjacent Erindale Hall.

#### **Open Space:**

- New construction will view, and frame the edge of, the future Campus Green.

#### **Accessibility:**

- New construction and major renovations must comply with the *Ontario Building Code*, and anticipate future legislation of more stringent requirements as identified under the *AODA Built Environment Standard*.

SITE 7: North Campus expansion

**Site Data:**

**Existing Site Occupancy** (above and below grade)

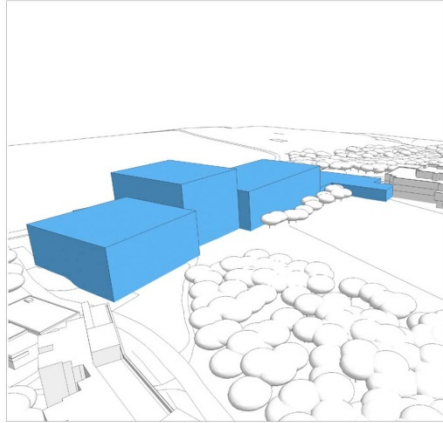
<b>Building</b>	<b>Department</b>	<b>NASM</b>	<b>Gross</b>
North Building	AccessAbility Resource Centre	47	
	Anthropology	901	
	Business Services	12	
	Campus Infrastructure & Facilities	279	
	Computing Services	38	
	English & Drama	693	
	Food Services	490	
	French, German, Italian	442	
	Historical Studies	571	
	Human Resources	119	
	Microelectronics	27	
	Philosophy	263	
	Registrar	1995	
	Student Organizations	29	
	Unallocated Space	58	
	Utilities & Grounds	19	
	VP Academic	358	
	VP Research	14	
		<b>TOTAL Site Area</b>	<b>6,356</b>

**Proposed Area (gsm)**

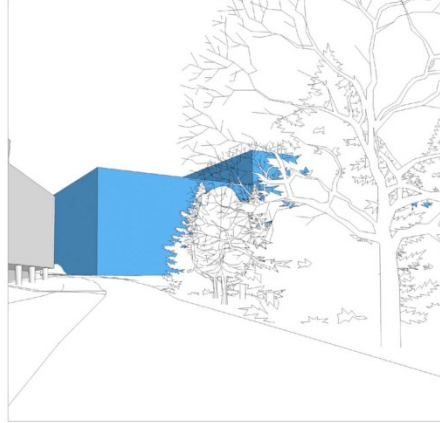
Discounted Envelope:	(above grade):	57,829
	(below grade):	12,651 (assumes 1 storey)
less Area to be Demolished:		9,467
Net Site Increase:		61,013 gsm

## SITE 7: North Campus expansion

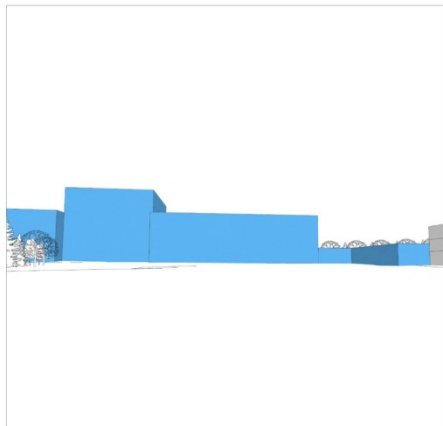
### Additional 3D Views (Potential Envelope):



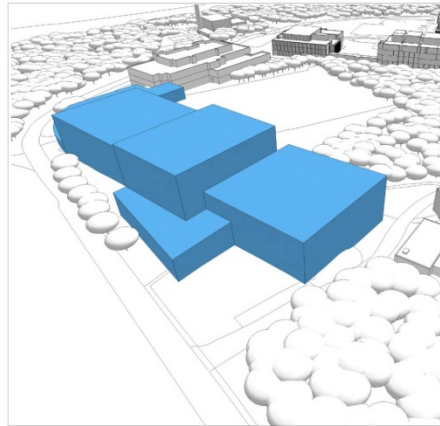
*View toward northwest*



*View along Five-minute Walk*



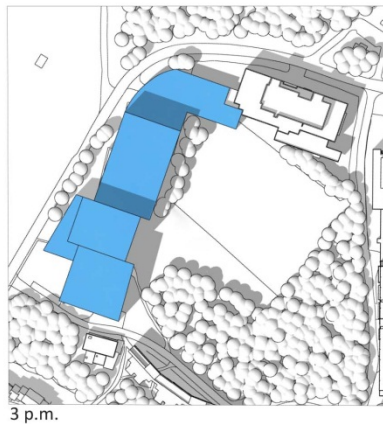
*View from Campus Green*



*View toward northeast*

SITE 7: North Campus expansion

Shadow Study (September 21):





## North Campus Sector Summary



North Campus Sector 'Nolli' plan

Nolli plans show all means of pedestrian passage: streets, laneways, pedestrian pathways and interior 'streets' indicate the fine-grain at which the pedestrian experiences the UTM campus ('Nolli' plan is an architectural parlance, after Giambattista Nolli's map depicting circulation through Rome in the 1700's).

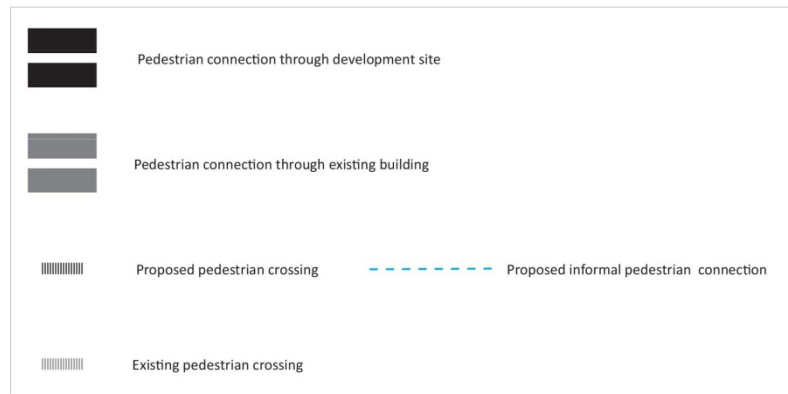
**Pedestrian Circulation Plan (Nolli) with Development Sites**

Development sites allow for expansion of University facilities within the campus boundaries, while also providing the opportunity to extend and enhance the pedestrian scale environment with the addition of new open spaces and pedestrian level pathways. Shown in black, development sites allow for linkages indoors and out, as illustrated by this plan.

The Instructional Centre (IC) plays a significant role at the campus planning level as it will define one edge of a large campus green, approximately equal in size to the Front Campus on the St. George Campus. A ‘Campus Green’ proposed in the current location of the north athletic field could instead become a multi-use outdoor space. The plan opposite identifies potential informal pathways across the green, as well as recently constructed paved paths. Both in terms of size and location, this open space offers potential for a multi-use gathering space, especially with the redevelopment of the North Building (Site 7). Uses could include informal gathering, student study and recreation, and could be activated by functions such as community events, alumni gatherings, convocation (now held at St. George), movies, reception, fairs, orientation, conferences etc.

Connections through proposed Site 7 emphasize:

- the continuation of the interior corridor through the newly constructed Instructional Centre;
- an interior connection facing the Campus Green, similar to the CCT Link;
- a prominent connection between a drop-off/pick-up point and UTM Shuttle stop along Outer Circle Road and the inner campus; and
- a second prominent connection to Principal’s Road, which leads to the Paleomagnetism Lab, Forensics research area, Weather Station, Artist’s Cottage, the Principal’s Residence, and ultimately to the trails beyond. Improving safety by providing a pedestrian crossing in this location is critical, particularly in conjunction with new development.







## **Mechanical & Electrical Design Criteria:**

### **1.0 INTRODUCTION**

This briefing note is intended to offer an overview of the overarching Design Criteria that will guide the design for the mechanical and electrical infrastructure serving the proposed North Wing Phase B development. These design criteria together with well prescribed performance criteria for the building envelope will also help ensure that the building's energy performance is at least 30-35% superior to a model building as defined under the Model National Energy Code for Buildings.

### **2.0 SITE SERVICES**

- Storm and Sanitary Sewers extended from the Campus Storm and Sanitary Sewer network.
- Utility (Normal) Power extended from the Campus Power Distribution System
- Emergency Power extended from the Campus Central Utilities Plant (CUP)
- Heating & Cooling Energy Supply extended from the Campus Central Utilities Plant (CUP)
  - Chilled Water for Cooling;
    - New Variable Speed Centrifugal Chiller in the CUP
    - 14°F System  $\Delta T$
  - Hot Water for Heating
    - New High Efficiency Hot Water Boiler in the CUP
    - High System  $\Delta T$

### **3.0 MECHANICAL SYSTEMS**

#### **3.1 Plumbing**

- Domestic Cold, Hot and Recirculation Water System.
- Low Flow Fixtures; Automatic Faucets and Flush Valves
- Gas Fired Domestic Hot Water Heaters

#### **3.2 Fire Protection**

- Fire Standpipe and Sprinkler Systems
- Pre-action Sprinklers for Main Electrical Room and Generator Room

#### **3.3 HVAC**

- Central Air Handling Systems, Variable Speed Operation
  - Hydronic Heating & Cooling
  - Variable Air Volume with Demand Controlled Ventilation
  - Energy Recovery on 100% Outdoor Air Systems
- Perimeter Heating Loop, Variable Speed Pumping
- Gas Fired Pure Steam Humidification in Air Handling Units

#### **3.4 Building Automation System (BAS)**

- Direct Digital Controls
  - Web Based Platform

- Integrated with the Campus Control System / Campus LAN
- Control Strategies
  - Occupancy Schedules
  - Demand Controlled Ventilation
  - Scheduled Temperature Reset Strategies
- Interface with Lighting Control System

### **3.5 Miscellaneous Systems**

- Natural Gas Distribution to support Gas Fired Humidification System and Domestic Hot Water Heater
- Metering, Measurement & Verification System
  - Interface with the existing Enterprise Utility Software

## **4.0 ELECTRICAL SYSTEMS**

### **4.1 Power Supply**

- Utility (Normal) Power Distribution
- Emergency Power Distribution

### **4.2 Lighting**

- Compact Fluorescent and/or LED Lighting
- Daylighting to limit lighting power density
- Occupancy Sensors
- Lighting Control System interfaced with the BAS
- Compliance with Crime Prevention Through Environmental Design

### **4.3 Fire Alarm**

- Addressable Fire Alarm System
- Interfaced with the Campus Security & Monitoring System

### **4.4 IT and Communications**

- Interfaced with the Campus Local Area Network

### **4.5 Security System**

- Interfaced with the Campus Security & Monitoring System
- Access Control
  - All points of Entry and Exit
  - Secure zones within the building.

*End of Mechanical & Electrical Design Criteria*

## **Food Services Plan:**

### **University of Toronto Mississauga Hospitality and Retail Services North Building Food Service Redevelopment – Phase B**

#### **Project Background, Concept and Vision**

##### **I. Food Services – Kiosk and Event Support**

Currently in Block ‘B’ of the North Building, there is a Tim Hortons kiosk with a limited menu along with some grab and go food, snack, and beverage items. This outlet currently occupies 12 nasm of space which includes storage, back of house/food and beverage production, food merchandising, and customer queuing space. A similar concept would be ideal for the reconstructed North Building Block ‘B’ for the following reasons:

- It is a labour efficient concept
- It serves to complement the new North Side Bistro opening in the North Building Block ‘A’
- It provides food service operating flexibility for off-peak periods (evening, summer, etc.)

The main intent of this concept is to provide food and beverage options for those who wish to take food away and consume it elsewhere. However, in keeping with the design and feel of the building, the food outlet should contain elements that relate it to the base building design. This outlet should also be supported by minimal but varied types of seating (bistro tables, soft seating) that are not fixed so that they can be removed for events. The seating area will also double as lounge space for the building. In addition, this outlet will serve as a food service staging area for the event space of 350-400 people that is planned for the North Building Block ‘B’.

It is anticipated that the placement of the outlet will be on the ground floor of the redeveloped North Building Block ‘B’ to be adjacent to high traffic areas and to be ideally located as food service event support.

As indicated in the Vision Document for the North Building Café and Lounge located in North Building Block ‘A’, the North Building Block ‘B’ project should include space to accommodate an extension of the dining and lounge space in Block ‘A’. This extension will allow for an expansion to the existing Block ‘A’ Café servery elements into the existing common space and/or lounge space to ensure that the expanded Block ‘A’ Café is sized appropriately for the newly combined North Building.

##### **II. Concept Overview and Vision**

The North Building Block ‘B’ food service outlet should ideally be situated on the ground floor of the building adjacent to the proposed event space but on the opposite side of the building from the Additional Seating Area for Block ‘A’. The outlet should also be situation adjacent to the receiving and waste staging areas while simultaneously fronting onto the main traffic areas. Further, the seating area would best be situated in a fashion as to serve as dining space for the outlet and double as lounge space when the outlet is closed.

The service entrance to the kiosk should be adjacent to the main traffic area and the seating area. The delivery entrance to the outlet should be connected to the receiving and waste staging areas by a service corridor and should be hidden from main traffic flow through the building. Deliveries to the outlet will travel down the corridor through the delivery entrance attached to the storage area.

This food service kiosk is to be designed in a fashion that allows the kiosk to be hidden during events but will still allow access from the outlet to the event space for food services to support the event

The Block 'B' food service outlet will feature:

- A Nationally Branded coffee kiosk with pastry items and cold beverages
- Grab and Go prepared meals and snacks
- Beverage merchandisers
- Impulse merchandisers

The Additional Seating Area to support the Block 'A' Café and Lounge will ideally carry forward some of the design elements from the Block 'A' seating area but tie into the design elements of the Block 'B' redevelopment as well. Ideally, this space should not be included in the proposed event space and could be maintained separately while the event space is occupied for a function.

### **III. Development and Implementation**

The café will be designed by a consultant team consisting of a food service facility designer under the direction of the University of Toronto Mississauga Hospitality and Retail Services Department and the base building design team.

Key elements of the food service operation design will be:

- simplicity and efficiency in operation
- ability to be 'hidden' during special events
- provide enough utility capacity to support food services for special events
- selection of finishes that are complimentary to the building and the national coffee brand, and are comforting and uplifting. These finishes will be:
  - ceramic wall tiles
  - millwork finished in warm colours
  - flooring that is resilient and complimentary to the base building

**Links to UofT Standards and Policies:**

University of Toronto Design Standards

[www.fs.utoronto.ca/aboutus/design.htm](http://www.fs.utoronto.ca/aboutus/design.htm)

University of Toronto Mississauga (UTM) Standards

(on request)