Appendix "D"
Academic Board
November 15, 2001

November 1st, 2001.

MEMORANDUM

To: Planning and Budget Committee

From: Ron Venter, Vice-Provost, Space and Facilities Planning

Re: Project Planning Report for the Leslie L. Dan Pharmacy Building.

Item Identification
Project Planning Report for the Leslie L. Dan Pharmacy Building.

Sponsor
Ron Venter, Vice-Provost, Space and Facilities Planning

Jurisdictional Information
The Committee considers reports of Project Committees and recommends to the Academic Board approval in principle of projects.

Highlights
The Faculty of Pharmacy is planned to be relocated into the health science sector of the campus. The new facilities will accommodate the enrolment expansion to 240 students as provided with the approval of its 2000-2004 strategic plan. The doubling of undergraduate enrolment brings with it faculty growth and opportunities for significant expansion in research endeavors.

Existing obsolete facilities now located in a building which is almost 40 years old will be replaced by state of the art research and support facilities. Inadequate instructional space will be replaced by two large fully equipped electronic lecture halls and an array of other smaller instructional meeting rooms.

In June, 2001, the Planning and Budget approved the User Report for the Pharmacy Building at an estimated cost of $70M. Post June 2001 it became clear, in discussion with the members of the Faculty of Pharmacy, that adjustments to the plan were required which included changes to classrooms, laboratory structures and the planned usage of all laboratories, research personnel accommodations etc. which resulted in an increase of some 230 nasm. In addition, it is now proposed to locate the entire Faculty within the CCBR and the new Pharmacy Building and to vacate both the Hughes and Koffler Buildings which currently house Pharmacy. The estimated total project cost has essentially remained unchanged as a result of reduced escalation costs off-setting the increased space.

The new Project Planning Report identifies a total space program requirement for the Faculty of Pharmacy of 9,721 nasm, consistent with the projected enrolment and academic plans for the Faculty. Approximately 1,040 nasm, accommodating eight Pharmacy faculty and their associated research teams will be located within the Centre for Cellular and Biomolecular Research [CCBR]. The balance of the space program, approximately 8,680 nasm is planned to built on the site at the northwest corner of College Street and University Avenue. This program technically exceeds the capacity of the approved building envelope for the site. The preferred long-term objective is to have the entire Pharmacy program accommodated within the Pharmacy and CCBR buildings.

Relief from the existing by-laws and additional municipal approvals will be required. Further meetings with the city, initiated in early October, are now planned for November, 2001.

Currently the site accommodates the historical greenhouses used by the Department of Botany. The Planning and Budget Committee recently approved the construction of new facilities on the roof of the Earth Sciences Centre. These will be operational by June 2002. City approvals for the Pharmacy building envelope included discussions regarding the dismantling and possible relocation of the southern most greenhouse. An allocation of $350,000 is required to dismantle and package the greenhouse; as well, an allocation of $1,000,000 is to be made toward the construction of the new greenhouses for Botany. The final secondary effect is for the temporary access arrangements to the Tanz Building.

Planning for the CCBR and the Pharmacy Building has required an upgrade and increase to the capacity of the infrastructure in this sector of the south east campus. The new Pharmacy facilities have contributed to this requirement.

Under the new Policy on Capital Planning and Capital Projects, the Project Committee will continue through the implementation phase. The Working Executive of the Project Committee will comprise the lead User, a Planner and Implementer all of whom have been intimately associated with the project definition since its inception; the Working Project Executive for the Pharmacy Building comprises:

Users:	Jake Thiessen, and Ms. Lesley Lavack
Planner:	Shirley Roll
Implementor:	Julian Binks

This Working Executive will expand to include the Project Manager, once appointed. The role of the Working Executive is to ensure the successful completion of the project and to ensure that the user needs and concepts introduced into the Project Planning Report are addressed throughout the process of consultant selection, design and implementation which are carried out under the direction of the Assistant Vice-President, Operations & Services.

Resource Implications

The total projected cost of the Pharmacy Building is estimated at $70,000,000. It is to be noted that this project is one of only three major building projects at the University of Toronto that has received support from the SuperBuild Fund. The two other buildings are the Communication, Culture and Information Technology [CCIT] Building at UTM and the Bahen Centre for Information Technology [BCIT] that is currently under construction on the St George Campus.

The operating costs for the new Pharmacy Building are projected to be $1.4M per year and will be the responsibility of the Faculty of Pharmacy. The current operating costs for the Hughes and Koffler Buildings, presently occupied by Pharmacy, will be credited to Pharmacy so that the net operating cost anticipated is estimated at $800,000. This cost will be addressed by the Faculty of Pharmacy through revenues derived from enrolment expansion.

The early funding for this project has been assembled from a number of sources together with more recent contributions. A summary of the secured, pledged and planned funds are provided below together with the current shortfall.

All values in millions of dollars.

Source	Secured	Pledged	Planned	Total
SuperBuild	28.800			28.800
SuperBuild Interest*	1.640			1.640
Leslie Dan contribution		8.000		8.000
Herb Binder [Shoppers Contribution]	0.700	1.300		2.000
UIIF [original pledge]		7.200		7.200
Apotex Group of Companies		5.000		5.000
OIT & CFI applications anticipated				
Shortfall, naming possibilities			17.360	17.360
Total Project Cost	31.139	21.500	17.360	70.000

* interest on $28.8 million, SuperBuild allocation to April, 2001.

The administration proposes to proceed with the detailed design and implementation of this project to be able to allow for the accommodation of the planned expansion growth in Pharmacy enrolments on the St. George campus of the University of Toronto. It is projected that construction on the Pharmacy Building will commence in February, 2003 with completion projected for 2005. The current projected shortfall is $17,360 million.

Given the very urgent need to move forward with the expanded enrolments in Pharmacy it is crucial that every effort be made to ensure that the proposed schedule for this project be maintained and compressed whenever possible. Accordingly, it is planned, with the approval of the senior administration, to immediately initiate the process to appoint the consultants for the project, always subject to the final approval of Governing Council. It is to be noted as well that the location of the site is an important gateway to the University and as such the selection of the architect is particularly important. The cost estimates provided have allowed for an exterior cladding upgrade and some marginal increase in the consultants fees to allow for some flexibility.

Recommendations

THAT the Planning and Budget Committee recommend to the Academic Board:

(i) THAT the revised Project Planning Report for the Leslie L. Dan Pharmacy Building be approved in principle,

(ii) THAT the revised project for the Leslie L. Dan Pharmacy Building with a project scope of 8,680 net assignable square meters, sited on College Street [near University Avenue], at a project cost of $70,000,000 with funding as follows, be approved:

SuperBuild	$28.800 million
SuperBuild interest	1.640 million
Leslie Dan contribution	8.000 million
Herb Binder contribution	2.000 million
UIIF contribution	7.200 million
Apotex contribution	5.000 million
Future donations to be sought through the Campaign, including naming opportunities. Research funding possibilities through CFI and OIT sources.	
Funding from increased student enrolments	17.360 million

and

(iii) THAT an allocation of $7,200,000 from the University Infrastructure Investment Fund [UIIF] for the Pharmacy Building be approved.

PROJECT COMMITTEE REPORT

for the

LESLIE DAN PHARMACY BUILDING

EXECUTIVE SUMMARY

Campus and Facilities Planning
Office of the Vice-Provost, Space and Facilities Planning
November 1, 2001

Project Planning Committee Report for the Pharmacy Building

I. MEMBERSHIP

Professor Jake Thiessen (Chair), Associate Dean, Faculty of Pharmacy
Professor Wayne Hindmarsh, Dean, Faculty of Pharmacy
Ms. Lesley Lavack, Assistant Dean, Faculty of Pharmacy
Professor Rob Macgregor, Graduate Chair, Faculty of Pharmacy
Professor Joan Marshman, Faculty of Pharmacy
Professor Jack Uetrecht, Faculty of Pharmacy (added to the Committee April, 2001)
Professor Jana Bajcar, Director, Pharm. D. Program, Faculty of Pharmacy
Professor John Coleman, Chair, Department of Botany
Mr. Zubin Austin, Faculty of Pharmacy
Ms. Heather Ditzend, Registrar, Faculty of Pharmacy
Ms. Brenda Thrush, Assistant to Registrar, Faculty of Pharmacy
Ms. Melanie Everts-Rodrigues, Undergraduate Student Representative, Faculty of Pharmacy (graduated, June 2001)
Shelley Furler, Graduate Student Representative, Faculty of Pharmacy
Mr. Flemming Galberg, Facilities and Services
Mr. Philip Byer, Environmental Protection Advisory Committee Representative
Mrs. Elizabeth Sisam (Secretary), Director, Campus and Facilities Planning, Office of the Vice-Provost, Planning and Budget

II. TERMS OF REFERENCE

1. Determine a space programme and functional layout for a new building to accommodate the Faculty of Pharmacy to be located at the College and University portion of Site 15. The space programme developed should accommodate the resources needed to enable the Faculty to double the student enrolment in the undergraduate Pharmacy Programme.

2. Maximise the use of the building envelope and respond to the conditions outlined in the City of Toronto Design Guidelines for this building site.

3. Demonstrate that the proposed space programme will take into account the Council of Ontario Universities' and the University's own Space Standards.

4. Plan to realise maximum flexibility of space to permit future reallocation as programme needs change.

5. Review the utilisation of existing support services and facilities at the Medical Sciences Building and planned for the Centre for Cellular and Biomolecular Research and identify opportunities for sharing.

6. Identify all equipment and moveable furnishings necessary to the project and their related costs.

7. Determine the secondary effects to the building project and resource implications of relocation of activities currently accommodated on the site.

8. Provide a capital cost estimate for the construction taking into account the additional requirements for improvements to services and infrastructure in this sector of the campus.

9. Identify all resource implications of the proposal including the necessary increase to the annual operating budget of the University once this building is complete.

10. Report by December 31, 2000

III. BACKGROUND INFORMATION

HISTORICAL SKETCH OF THE FACULTY OF PHARMACY

Although informal academic experiences trace back to 1868, Pharmacy became a new and distinct Faculty at the University of Toronto in July, 1953. At that time, the University assumed responsibility for the professional school that had been run by the Ontario College of Pharmacy (Pharmacists) since 1882.

The evolution of pharmacy education has shown remarkable growth from a few voluntary evening classes in 1868, with strong emphasis on apprenticeship, to the current one plus four year program. At present, the B.Sc.Phm. is a second entry scientific and professional practice programme that provides students with the knowledge and skills to deliver pharmaceutical care in professional pharmacy practice settings. In order to develop, monitor and assess students' ability to use their knowledge effectively to care for patients in identifying, preventing and resolving drug-related problems, a curriculum with particular emphasis on problem-based teaching and learning, and supervised experiential experiences in pharmacy practice is needed. Small group learning has become a central part of such education.

As the demands of the profession change, so does professional education. Recognising the need for specially educated graduates with additional clinical experience and in-depth knowledge of therapeutics, the Faculty introduced a two-year post-baccalaureate doctorate programme (Pharm. D.) in 1994. This evolution in professional education placed the University of Toronto at the forefront of Pharmacy faculties in Canada. While this programme has remained small compared to the Bachelor of Science in Pharmacy undergraduate program, the Pharm. D. programme provides unique educational opportunities. Graduates are esteemed and have become leaders throughout academia, industry, hospital pharmacies, and consulting practices.

The initiation of the first baccalaureate programme by the Ontario College of Pharmacy in 1948 also served as a natural and necessary prelude to the first graduate programme. With the creation of the Faculty of Pharmacy at the University of Toronto in 1953, the M.Sc. Degree in Pharmacy was also launched. The University thereafter assumed responsibility for both the undergraduate and the graduate programmes. The graduate department in Pharmacy (now the Department of Pharmaceutical Sciences) has grown steadily and now has approximately 70 graduate students enrolled, of which 35 are in the doctoral programme. The Department offers research training in a wide variety of areas, presents courses that are both distinct and interdisciplinary, and affords opportunities for students to enrol in collaborative programs with other Faculties, such as Medicine.

A perceived need for programmes to enable pharmacy practitioners to become more skilled in business resulted in the development of the Koffler Institute for Pharmacy Management. A new facility in which to house the Institute was realised through a major fund-raising campaign, was built on the St. George campus and opened in 1990. The goal of the Institute was to equip pharmacists with enhanced managerial skills in order that they be better prepared to conduct the business aspects of community pharmacy. It was envisioned that there would be three or four scholars in the Institute to strengthen the undergraduate curriculum courses in pharmacy administration and as well enhance the graduate programme. A number of factors prevented the full realisation of this goal as it was imagined. After a two year effort to make the Institute self-supporting, the programme, per se, was terminated. The building now houses the Social and Administrative faculty members of the Faculty and the academic management endeavours are realised primarily through courses for undergraduate and graduate students. The seminar and lecture rooms in the Koffler Institute for Pharmacy Management are under general University control with the Faculty of Pharmacy having first option on their use for teaching purposes.

IV. ACADEMIC PLAN TO RAISE OUR SIGHTS

DEMAND FOR THE B.SC.PHM.

The Faculty continues to receive significant numbers of applications for admission to the B.Sc.Phm. program. In recent years, the annual applications have totalled more than 700. Over the past few years the applicants admitted annually represent less than 20% of those applying. When comparing provincial intake of students to population, Ontario's only Faculty of Pharmacy places last amongst schools of Pharmacy in Canada, admitting only approximately 1 student per 100,000 population. In contrast to Ontario, the two faculties in Quebec together admit approximately 3.4 students/100,000 population, Manitoba 4.45, Saskatchewan 8.3, Alberta 3.75, British Columbia 3.5 (includes population of Yukon and NWT) and the two Faculties in the Eastern Maritime Provinces admit approximately 4.5 students per 100,000 population (Newfoundland, Prince Edward Island, New Brunswick and Nova Scotia). Demand for Pharmacy professionals is increasing. Ontario's demand clearly exceeds supply. Ontario employers are forced to find pharmacists, other than individuals who graduate from the University of Toronto's programme and become licensed in Ontario, in other jurisdictions. Recruiting efforts are directed toward pharmacists educated in other provinces and in other

countries. Two major issues emanate from this situation. First, Ontario's only Faculty of Pharmacy could and should, with sufficient resources, produce more graduates and thus contribute a more significant proportion of individuals licensed in Ontario. Second, Ontario's only Faculty of Pharmacy could and should produce more 'specially educated' graduates to meet the profession's and patients' heightened expectations of pharmacists. An increase in enrolment and maintenance of the quality of the B.Sc.Phm. programme will provide positive responses to these issues. The effect of doubling enrolment in the B.Sc.Phm. programme and thus enabling significant increases in faculty complement will have major positive outcomes in terms of undergraduate teaching and learning, graduate programmes and research. This extraordinary expansion will be unprecedented. The impact of these enhancements would not only be to make the Faculty of Pharmacy, University of Toronto the undisputed leader in Canada, but would also place it amongst outstanding US Schools of Pharmacy.

Enrolment Growth:
Recognising the unique opportunities for an increase in enrolment, the Pharmacy Faculty Council, in April, 1999, passed a motion to increase enrolment to a minimum of 140 in September of 1999 and a minimum of 160 in September 2000, contingent upon appropriate resources. In September 2001 this increased to 180. This number will be eventually increased to 240 students based on the approved 2000-2004 Strategic Plan. These decisions paved the way for the approval of Superbuild funds (Government of Ontario) for a new Pharmacy building.

RESEARCH AND GRADUATE STUDIES

The physical and symbolic move of Pharmacy to the university campus in 1954 coincided with the first arrangements for students to pursue Ph.D. degrees in pharmaceutical sciences. While the programmes were small, they have increased not only in numbers of graduate students but in areas of research being explored.

The opportunity and needs in the undergraduate enrolment growth, must bring with it faculty growth. The increased student complement will require 24 new faculty positions. Expanding the Faculty complement will also increase productivity in research and innovation more than proportionally. By assembling expanded clusters of researchers, the Faculty will improve the research potential of the already excellent investigators. The addition of various talented faculty members, increased collaboration with other biomedical researchers on campus, and a nurturing of its research mission, will allow the Faculty to increase its contributions to the overall reputation of the University as a place that educates outstanding professionals and performs cutting-edge research. Both attributes are necessary for a Research "I" university status. Ph.D. programmes in the pharmaceutical sciences will also increase resulting in an expansion of the doctoral program. The planned growth will double the number currently in the Department. The synergy of more researchers working together will undoubtedly fuel discoveries. The opportunity to become a unique centre of excellence in pharmaceutical research will be facilitated not only by the creation of critical masses of research faculty, but also by the Faculty's prime location in Toronto, and society's increasing interest in and concern for discovery and use of pharmaceuticals.

THE DREAM TO EMBRACE EXCELLENCE

In 1994, the *White Paper* enunciated a vision for the University of Toronto on the model of a "research university" in which teaching and research were intimately linked, and its scholars would be at the frontiers of their areas of study.

The Faculty of Pharmacy holds a unique position at the University of Toronto. As the only Faculty of Pharmacy in Ontario, it has significant opportunities and great responsibilities to develop and deliver leading-edge academic programmes, make these programmes accessible to increased numbers of qualified students, to advance the practice of pharmacy to meet evolving societal needs, and to make significant contributions to the discovery and dissemination of pharmaceutical knowledge. The facility now being planned will become the cornerstone on campus for the discovery, application and dissemination of pharmaceutical knowledge. A resource centre in the building will provide a repository of pharmaceutical information accessible to the University community. Furthermore, cutting-edge, interdisciplinary professional education in pharmaceuticals can serve to optimise patient medication use.

At this critical juncture, the Faculty of Pharmacy wishes to capture an opportunity. It is not content to continue a gradual, evolutionary growth in its scholarly activity such that it is at the head of Canadian Faculties. Its ambition is to attain a position among the highest ranking Faculties of Pharmacy in North America. Ordinarily, such a jump cannot be made via small incremental changes in faculty complement.

The University of Toronto is being offered an opportunity to position this Faculty as a North American leader as there will be a large influx of excellent faculty who are offered the time and opportunity to engage in frontier research. There will be opportunities for new, collaborative ventures with other disciplines and industry. It must offer tangible support to create within Pharmacy a zone of pharmaceutical research and expertise that will serve as a springboard to eminence in drug discovery, development and dissemination of pharmaceutical knowledge. Such a vision embraces the model of a "research university" where the Faculty of Pharmacy will be in a leadership position and provide a resource both within the University and the Province.

THE DEVELOPMENT OF LEADING VENTURES

The Faculty is moving to establish a Pharmaceutical Research Innovation Zone. The Zone which will be assembled as an application to the Canada Foundation for Innovation will consolidate and expand about 8 major research nodes on campus linked to Pharmaceutical Funtionomics, wherein genomic, proteomic and bioinformatic information are applied to the discovery and development of new drug therapies. These nodes will be organised within sub-themes of chemistry, pharmaceutics, pharmacology and toxicology. In conjunction with the University health science complex, the Zone will promote assessment and refinement of the clinical and economic value of new pharmaceutical therapies suggested by genomic and biomedical discoveries. It will also provide an unparalleled opportunity for synergy with the CCBR and will permit scientists from various domains to co-operate in enhanced research capabilities.

A component of the Zone and the Pharmaceutical Functionomics is a Molecular Design and Information Technology Centre (MDIT). This Centre, composed of a high tech supercomputing facility, will form the heart of a new drug discovery and development programme within the new building and will position the Faculty and allied scientists as leaders in Canada and the first Canadian university to offer such a research tool. A $3 M grant has been received from the Ontario Innovation Trust that, along with in-kind contributions of $1.5 M from Silicon Graphics Incorporated and $2.9 M from Tripos Incorporated USA, will provide the Faculty with the very high-end, state-of-the-art computing hardware and software needed for drug modelling. The Super Computer will soon be housed in its temporary home in the F. Norman Hughes Pharmacy Building.

The opportunity to solidify strength in selected areas of research has been realised through the generous programme of 'matching funds' at the University. A Chair in Pharmaceutics and Drug Delivery has been established through a $1 million donation by Glaxo Smith Kline. Furthermore, the F. Norman Hughes Chair in Pharmacoeconomics has been established, funded through alumni, industry and friends of Dr. Hughes. Opportunities and funding from the Canada Research Chairs programmes will provide further strength in Molecular Medicine. Additional Chairs will be sought by the Faculty to provide further strength in the Department of Pharmaceutical Sciences.

V. SPACE PROGRAMME

OVERVIEW OF EXISTING SPACE

The Faculty of Pharmacy currently occupies all of the F. Norman Hughes Pharmacy Building (4,148 net assignable square metres) and 738 nasm of the existing 959 nasm comprising the Koffler Institute of Pharmacy Management for a total of 4,886 nasm of space. The space that the Faculty uses at the Koffler Building houses the Social and Administrative faculty including their offices, labs and graduate students on the third floor, a faculty conference room on the second floor and classroom space that includes one 180-seat tiered lecture hall and two seminar rooms (30 and 39 seats) under the control of the Office of Space Management. The remaining assignable space at the Koffler Institute comprises two, tiered, 41-station computer classrooms used by the Administrative Management Systems of the university for staff computer training. The flat floor space in the Koffler Institute amounts to 533 of the 959 total nasm in the building.

The F. Norman Hughes Pharmacy Building was constructed in 1963 and has had numerous renovations since that time. The building, originally constructed for an undergraduate programme of approximately 80 students, is crowded and inadequate to meet the Faculty's needs at its current level of occupancy. Because of increases in student numbers and programs it can no longer provide the required physical environment for the teaching and research needs of the Faculty of Pharmacy. This space issue was identified as a serious deficit in both the 1995 and 2000 accreditation assessments related to physical facilities by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP).

NOMINAL SPACE ALLOCATION

The following table includes all the space required by the Faculty of Pharmacy to accommodate:

- increased undergraduate enrolment of 240 per year (times four years)
- an expanded graduate student enrolment of a minimum of 140
- an enrolment of 50 students per year (times 3 years) for a new Bachelor of Pharmaceutical Sciences programme being developed in conjunction with the Faculty of Arts and Science
- the existing Pharm. D. programmed enrolment of 9 students per year (times two years)
- the equivalent of 24 FTE enrolment for a newly re-formatted and more flexible delivery of the Pharm. D. programme.

The Space Programme includes research and office space for the approved faculty complement of 54.53 FTE and offices for the approved 26 FTE administrative positions. In addition to the offices provided for approved faculty and staff are workstations for research personnel, offices for the Development Officer and her support staff as well as a pool of offices to be assigned to visiting and emeritus faculty.

Space Category	**Nasm**
Classrooms & Classroom Service	
300 seat tiered lecture room, large tablet arms	390
240 seat tiered lecture room, large tablet arms	312
60 seat tiered lecture room, continuous desks	96
Resource Centre 24-seat Group Instruction Room, flat floor	48
8-seat group rooms (1 x 24 seats and 1 x 8 seat)	64
Professional Practice Seminar Rooms (5 x 16 seats)	160
Resource Centre Group/Discussion Rooms (2 x 40 seats)	160
Classroom Storage	7
A/V Storage	15
Pharm. D. Flexible Classroom (capacity 20)	46
Pharm. D. Classroom Storage	4
Pharm. D. Student Team Work Space (8-16 students)	28
Total Classrooms	**1,330**
Teaching Laboratories and Support Space	
Professional Practice Compounding and Dispensing Lab	245
Professional Practice Consultation Rooms (10 @ 7.5 nasm)	75
Professional Practice Sterile Prep Room	40
Professional Practice Over-the-Counter Demonstration Area	26
Professional Practice Storage Room	13
Professional Practice Lab Manager Office	13
Professional Practice Teaching Assistants Office	28
Professional Practice Technicians Office	13
Professional Practice Computer Support Room	13
Pharmaceutics Teaching Laboratory	230
Pharmaceutics Teaching Lab Instrument Room	51
Pharmaceutics Lab Preparation Room	25
Pharmaceutics Teaching Lab Balance Room	31
Pharmaceutics Stores	105
Pharmaceutics Stores Preparation Area	15
Faculty Technician's Workshop	20
Total Teaching Laboratory and Support Space	**943**

Research Laboratories and Support Space	
Wet Labs and research meeting rooms in CCBR	774
Wet Lab Personnel Rooms in CCBR	175
Biochemistry Research Laboratory (14 @ 70 nasm)	980
Wet Chemistry Research Laboratory (1 @ 70 nasm)	70
4-PI Flexi-Wet-Labs (2 @ 280 nasm)	560
Wet Lab Support (tissue/computer/instrument) Rooms (23@13 nasm)	299
Wet Lab Personnel Room (23 @ 28 nasm)	644
Animal Receiving Room	14
Large Equipment Rooms (5 @ 20 nasm)	100
Ice Machine Alcoves (2 @ 2 nasm)	4
Liquid Scintillation Rooms (2 @ 16 nasm)	32
Climate Controlled Equipment Room	12
Cold Rooms (6 @ 6 nasm)	36
Large Autoclaves, (2 rooms @ 10 nasm)	20
Research Dishwasher rooms (2 @ 7.5 nasm)	15
Research Darkroom	10
Research Solvent Storage (1 for waste & 1 for flammable)	16
Research Seminar Room (100-seat)	150
Research Meeting Rooms (3 @ 18 nasm - 12 people at table)	54
Graduate/Pharm. D. Common Rooms (2 @ 40 nasm)	80
MDIT supercomputer and monitor	76
Social Admin/Pharm Practice Focus Group Rooms (seat 12)	48
Social Admin/Pharm Practice Focus Group Kitchenette	5
Social Admin/Pharm Practice A/V Storage Room	4
Social Admin/Pharm Practice Observation Room	18
Social Admin/Pharm Practice Interview Rooms	36
Social Admin/Pharm Practice Personnel Rooms (20 PIs x 5 people x 4 nasm)	400
Social Admin Research Data Collection Computer Lab	40
Social Admin Research Data Storage Room	12
Social Admin Research Waiting/Reception Area	10
Social Admin Research Office Support Space	10
Pharm Practice Research Data & Equipment Storage Room	12
Total Research Laboratory and Support Space	**4,716**
Academic Offices (13 nasm each)	
27 Private Faculty Offices (existing 0.5 FTE appointments and above)	351
8 Shared Faculty offices (existing, less than 0.5 FTE appointments)	104
Glaxo Chair in Pharmaceutics and Drug Delivery	13
F. Norman Hughes Chair in PharmacoEconomics	13
Pharm. D. Faculty Team Work Space (12-18 people)	28
Pharm. D. Shared Office (all part-time faculty)	13
Pharm. D. Core Faculty for Flex Programme	13
4 offices for visitors/emeriti	52
26 new Faculty (less 8 in the CCBR)	234
8 new Faculty in CCBR	88
Total Academic Offices	**909**
Graduate Student Rooms (offices are incorporated into research personnel space)	
TA Meeting Rooms (@ 8 nasm)	32
Total Graduate Student Rooms	**32**
Non-Academic Offices	
Dean's Office	23
Associate Dean	13

Assistant Dean	13
Private Administrative Offices (13 nasm each)	
Dean's Secretary	13
Senior Development Officer	13
Business Officer	13
Financial Assistant	13
Admin. Asst. to SDO & Alumni Office Mgr	13
Admissions (2 existing positions)	26
Registrar	13
Assistant to the Registrar	13
2 new registrarial positions	26
Secretarial (2 existing and 2 new positions)	52
Graduate Administrator	13
Pharm Sci Administrator	13
Co-op Placement Co-ordinator	13
SPEP Admin Assistants (2)	26
LAN Administrator	13
IT Assistants (2)	26
Pharm. D. Admin (2 existing positions)	26
Undergraduate Laboratory Co-ordinators (2 new positions)	26
Faculty Technician's Office	13
Shared Administrative Offices (for 2 people each)	
Admissions Recruitment officer & Admissions Officer	13
Quality Assurance Officer & Alumni Office Manager	13
Librarian (partial appointment)	7
Faculty Receptionist	13
Social Admin Research Receptionist/Secretary	13
Total Non-Academic Offices (36 total)	**472**
Departmental Support Space	
Administrative Meeting Room (to seat 20)	30
Faculty Conference Room (to seat 50)	60
Dean's Meeting Room	20
Dean's Meeting Room Kitchenette	4
Dean's toilet/shower	4
Administrative Storage Rooms	49
Faculty Reception Waiting Area	20
Faculty/Staff/Graduate Students Mail Room	20
Office Machines Room (2 @ 10 nasm)	20
Faculty/Staff Lounge (seat 15-20)	40
Faculty/Research/Resource Centre Server Room	6
PharmD Director's meeting space	10
Pharm. D. Reception/Waiting Area	10
Pharm. D. Storage/Records	10
Total Departmental Support Space	**303**
Library/Study Space	
Resource Centre Main Room (80 stations plus help desk)	256
Resource Centre Machines Room	40
Resource Centre Utility Room	3
Resource Centre Print Materials Room (40 stations plus 1)	65
Resource Centre Quiet Reading Rooms (4 @10 stn/18 nasm each)	72
Resource Centre Quiet Computer Work Area (60 stations)	192
Pharm. D. Individual Student Study Space	20
Total Library/Study Space	**648**

Student and Common Use	
Undergraduate Pharmacy Society Office	13
Undergraduate Student Storage Room	16
U/G Student Groups office/meeting room (10 to 30 people)	50
Undergraduate Student Lounge (100-120 stn total in 2 rooms)	144
Pharmacy Graduate Student Association Office	13
Total Student and Common Space	**236**
Other Space	
Pharmacy Museum	16
Curator's Office and Storage Space	16
Café - food preparation area	15
Café - seating area	85
Total "Other" Space	**132**
Total Pharmacy Space Programme, All Categories	**9,721**
Programme area for the site (less 1,037 nasm provided in CCBR)	8,684

SUMMARY OF SPACE UTILISATION ANALYSES

In anticipation of expanding enrolment, a Space Utilisation Study was done for the Faculty of Pharmacy during the summer of 1998 using data from the 1997/98 academic year. The annual undergraduate enrolment in 1997/98 was 120 students. At that point in time the university and the Faculty were considering increasing the annual enrolment to 160 students, the number prior to the budget cuts of the early '90s. When enrolment was 160 students, the faculty occupied the same amount of space as they now do. The utilisation study revealed, that according to COU space standards even at an enrolment level of 120 students per year, there was an inadequate amount of space in the research lab, non-academic office and graduate student office categories.

Classrooms

In the past decade, the Faculty has changed the way it delivers its academic programme to now incorporate a significant amount of problem-based teaching and learning. This has created a much higher demand for classroom space, specifically for small-group rooms. While the COU calculation indicated that there was enough total floor area of classroom space for the 1997/98 enrolment, the sizes of the classrooms did not match the Faculty's need to teach courses in single sections and the COU guidelines did not recognise the additional space burden created by the new problem-based programme.

Two new large classrooms are proposed, one to seat 300 students and the other to seat 240. The new 300-seat classroom will accommodate a combined class of one entire year of students in the Pharmacy programme and one year of students in the Pharmaceutical Sciences programme. The two programmes are expected to overlap and a number of courses will therefore be taught to the combined number of students of both programmes. When the 300-seat classroom is booked for a class of 240 students, the room will still be booked to 80% capacity, exceeding the COU standard of filling the room to a minimum 62% capacity for 30 hours per week.

The current faculty were surveyed to determine the number of hours that scheduled and unscheduled small group work is required for each course. This information was analysed according to the COU guidelines for the utilisation of classrooms and it was determined that 24 small group work areas are required to adequately accommodate the demand. The size of a small group was determined by the faculty to comprise eight students. Each room should be able to accommodate up to five groups working at once. The space programme has two rooms in the Resource Centre to serve this function, each accommodating 5 working groups, five Professional Practice Seminar Rooms to each accommodate two groups; and two more rooms to accommodate the remaining four groups.

Teaching Laboratories

The Faculty of Pharmacy's earlier academic programme was more chemistry-based whereas the new programme is more pharmacy practice-based. With the advent of the new teaching programme, the two existing large undergraduate wet labs thus became under-utilised while other areas of the building were straining at the seams. The new building will provide less of the chemistry-based and more of the practice-based teaching space.

Pharmaceutics

The existing Pharmaceutics Labs and related rooms account for 606.16 nasm (plus 131 nasm for Pharmaceutics Stores areas) in Pharmacy's current building. Building slightly more than half this much space (337 nasm) will permit the anticipated Pharmaceutics teaching laboratory components of the curricula to be scheduled to the minimum 18 weekly hours required by COU. This will include the courses taught to the new Pharmaceutical Sciences students as well as those taught to the Pharmacy students.

Professional Practice

Building upon the student-centred, problem-based education model currently used by the Faculty of Pharmacy, the Professional Practice Laboratory will provide the opportunity for students to learn and practice, in a controlled, simulated pharmacy setting, the skills necessary to providing patient-centred, pharmaceutical care. These skills will range from accurate prescription interpretation and computer inputting through to compounding of extemporaneous formulations. They will include dispensing, sterile techniques (i.e. intravenous drug preparation), patient counselling and monitoring. Closed-circuit TV will be used in the Professional Practice Laboratory to allow for unobtrusive observation and discussion of simulated patient/pharmacist interactions.

The Professional Practice Lab areas in the current building total 288.9 nasm. In the new facility, 466 nasm are allocated to the Professional Practise Lab plus the use of the 160 nasm of adjoining seminar rooms. When these seminar rooms are not being used in conjunction with the Professional Practice Lab, they will be free to be booked for use by other small groups.

Research Labs

The research activity that occurs at the Faculty of Pharmacy is a blend of both "wet" and "dry" research. The wet research encompasses a range of enquiry including molecular design, biomolecular thermodynamics, supramolecular formulation and nanotechnology, membrane transport, transmembrane drug action, pharmacokinetics, drug metabolism, and toxicology. Of the 31 wet bench scientists in the faculty of Pharmacy, 23 will be housed in the new Pharmacy building while the remaining eight will be housed in the new Centre for Cellular and Biomolecular Research (CCBR). The 23 laboratories have been divided into three fundamental types that permit the array of wet scientific investigators to conduct their research.

The new supercomputer that will be the basis of the Molecular Design and Information Technology (MDIT) Centre will be housed in a wet research area. This high tech supercomputing centre, will form the heart of a new drug discovery and development core facility within the building. It will be first of its kind in Canada to use advanced visualisation techniques for drug design and the integration of medicinal chemistry, genomic, proteomic, and pharmacodynamic knowledge to discover innovative new drugs. It will form an integral part of both research and education of graduate students. This Centre will also become a resource for scientist in other departments, centres and institutions. Among these would be the CCBR, Institute for Drug Research, medical sciences, and an array of hospital-based investigators.

Graduate students and other research staff, including post doctoral fellows, research associates, research assistants and technicians will be housed collectively in Personnel Rooms located close to the Principal Investigator with whom they will be working. These rooms will accommodate eight such personnel for every Wet Lab based Principal Investigator in the new facility, six such personnel per Principal Investigator located in the CCBR and five such personnel for every Social and Administrative Pharmacy and Pharmacy Practice Principal Investigator. The determination of the number of personnel needing to be accommodated was based on existing levels of research personnel and the number that can be accommodated in the current plans for the CCBR.

Academic Offices

The approved faculty complement is 55.53 FTE. Of these, 8 FTE faculty will have their offices in the CCBR close to their research labs. Each of the remaining faculty will be assigned an office close to their research laboratories and their graduate students. Full time faculty and appointments that are equal to or greater than 0.5 FTE have been allocated a private office. Faculty with appointments less than 0.5 FTE will share an office. In addition, a pool of six offices will be provided to be assigned to "other" faculty, including visitors and emeriti, on a shared basis. All of these 69 offices are to be 13 nasm, in accordance with COU guidelines. Due to partial appointments, the ratio exceeds one office for one FTE.

Office space is also provided for a number of positions beyond the approved complement that is paid for through the operating fund. This includes space for two endowed chairs, office space for the Pharm. D. director and Pharm. D. clinical faculty, individuals supported through a self-

funded program, and space for a faculty member currently seconded to be International Pharmacy Graduates (IPG) programme administrator. The IPG is supported through soft monies.

Graduate Student Offices

Currently graduate students are not very well accommodated in the Faculty of Pharmacy. A total of 66 nasm is allocated to accommodate the 72 existing graduate students. In accordance with the COU guidelines, a total of 460 nasm should be provided for 115 graduate students. The office space for the approved 115 graduate students will be located within the Personnel Rooms in the various research areas of the facility.

Non-Academic Offices

There are a total of 26 FTE non-academic positions approved for funding. In addition to the positions paid from the operating fund, there are 2.5 FTE (the Senior Development Officer, the Alumni Manager and the Administrative Assistant) to these that will be paid for by Development.

Resource Centre/ Study Space

The Resource Centre will be similar to the 'information commons' at the Robarts Library for the pharmacy students. There are to be carrels with computers and carrels with power and data connections to support laptop use. Students will be able to access the internet, various software applications and specific databases. There will be rooms for noisy group work and rooms for quiet study or computer work. Facilities for printing and photocopying will also be provided. A 24-station group instruction room will permit the librarian to help students learn to use the various applications and databases loaded on the system as well as techniques for internet searches and the like. The print materials room will contain specific reference materials as well as reserve materials for Pharmacy courses. This room is not imagined to duplicate what is already offered in the library system, but to supplement it.

The Resource Centre is expected to be a hub of activity at all hours. As such it is intended to have limited access 24 hours a day, 7 days a week, the help desk staffed by student workers. Security (personal safety as well as security of materials and equipment) is an issue that will need to be addressed in the design of the Centre in terms of location within the building and in terms of access and surveillance. The Centre is intended for use by the pharmacy students. While other U of T students will not be turned away, access may be restricted during critical periods of the academic year. The Resource Centre is also to be available to practising pharmacists.

Student Use and Common Space

Student Use and Common Space includes office and meeting space for student associations and student clubs. This category also includes undergraduate student lounges and recreation facilities and service. The space programme provides 276 nasm. The COU calculation, based on student enrolment, generates 574 nasm of Student Use and Common Space which would suggest

a deficiency of 298 nasm. Neither this space nor the library/study space mentioned previously, however, is necessarily meant to all be provided on site; rather, it is space that is provided across campus for use by the general student population. The pharmacy students are entitled to use such spaces found elsewhere on campus. The Student Use and Common Space rooms in the space programme are rooms requested by the Pharmacy students.

Pharm. D. Space

The Doctor of Pharmacy (Pharm. D.) Programme is a post-baccalaureate practice-based advanced pharmacy degree. The programme is privately funded by prominent pharmaceutical companies, a large community pharmacy chain, Pharmacy alumni and the Ontario College of Pharmacists, in addition to the tuition charged to the students. The current full-time Pharm. D. Programme is 23 months (consecutive) in duration comprising 12 months of on-campus course related work, followed by 11 one month practice-based rotations in various teaching hospitals, the pharmaceutical industry and pharmacy consulting practices. The student enrolment for the current programme is set at 18 full-time students over both years.

The full-time Pharm. D. programme currently occupies 78.48 nasm of space. In addition to office space for faculty and administrative staff, this allocation provides a single room for seminars, group work and individual study. The space programme for the new facility includes 221 nasm for the existing Pharm. D. programme plus the flex or distance learning Pharm. D. programme that is being developed. The programmed space includes separate rooms for seminars, group work and individual study as well as more adequate space for faculty.

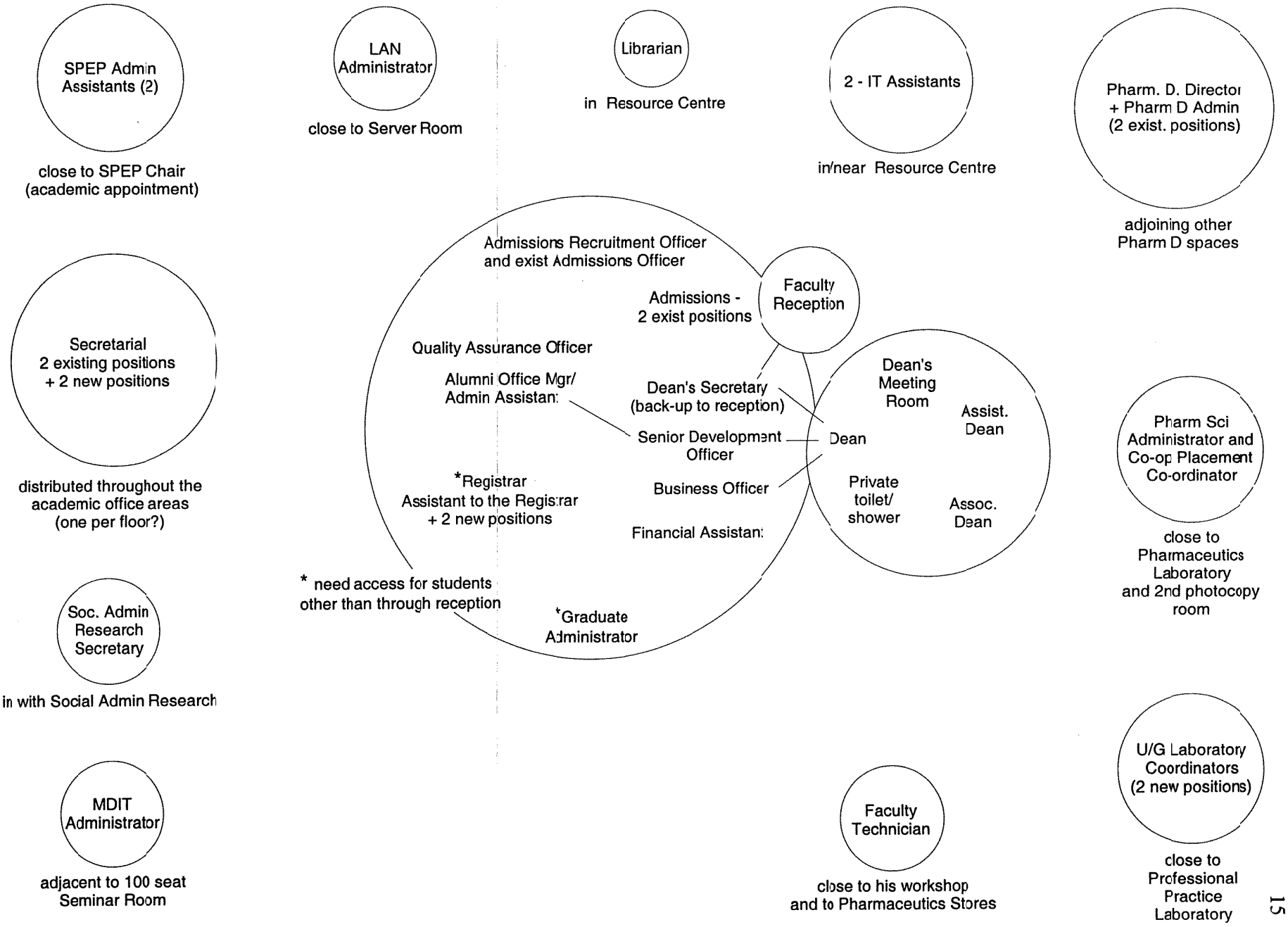
VI. FUNCTIONAL PLAN

RELATIONSHIP BETWEEN ACTIVITIES

The more public areas of the building will include the instructional spaces, the Resource Centre, the undergraduate student spaces and the spaces comprising the 'face' that the Faculty presents to the outside world. These spaces would include the Faculty Reception area and the Pharmacy Museum. As a discrete academic programme, Pharm. D. would need a presence in the public area but the majority if its space could be somewhat removed. The main administrative cluster would be near the main Faculty Reception but there would be administrative and departmental support spaces spread throughout the building (see diagram). Due to the nature of the materials used in the teaching labs and the security issues involved with these materials, these rooms would best be the most remotely located of the instructional spaces. The research areas and faculty offices would be removed from the public areas of the building.

FUNCTIONAL SPACE ALLOCATION DIAGRAM

See diagram next page.



Functional Adjacencies - Administrative Staff

VII. SPECIAL CONSIDERATIONS

ACCESSIBILITY, ACCESS AND SECURITY

The University of Toronto is fully committed to ensure that its buildings and services are accessible to persons with disabilities. Although existing building regulations (Ontario Building Code) clearly define the minimally acceptable level of accommodating persons with disabilities, the design team must consider enhancements with their design wherever possible.

The Pharmacy Building will be located on a prominent site and will accommodate undergraduate lecture and laboratory facilities, research laboratories, faculty offices, and administration; this building will need to readily receive a significant flow of students, faculty, staff and visitors. The site and the building will need to be easily accessed by pedestrians and its entrances must be clearly identified. As this building will experience considerable activities throughout the day, week and year, its users and visitors must be able to access and leave this building at any time safely and easily.

Because of the diverse nature of the Pharmacy Building's activities, the design must be sensitive to the needs of each specific user; undergraduate students will need to have full access to the Faculty's classrooms, teaching laboratories, resource centre, amenities, instructors and administration during normal while other areas, most notably research laboratories and support areas, will have hours of operation that not only restrict access by the general public but also limit access to other building users. Appropriate security measures will have to be developed and provided for each room, zone or floor, as required.

COMPUTING AND COMMUNICATIONS SERVICES

In common with other buildings on the St. George Campus, the Pharmacy building will have a 100 Mb service through the University's backbone with individual departments receiving 100 Mb service as well. The University's Computing and Network Services recommends that, at least, one dedicated computer (network) closet be built on each floor (depending on limiting distances, larger floors may require a second closet); these closets should be vertically stacked above each other and be appropriately interconnected with approved conduits. Individual closets will service the classrooms, offices, laboratories and necessary support rooms on each floor through conduit connections. Electrical power supplied to each closet should be as "clean" as possible and be connected to a reliable backup power source.

During design development, the impact of this and surrounding developments will need to be continuously reviewed with Computing and Network Services to ensure that Pharmacy's current and future telecommunication needs can be satisfied.

CAMPUS PLANNING

Existing Building Site

The New Pharmacy Building will be constructed on a relatively tight parcel of land that is bounded by the Fitzgerald Building to the west, the Tanz Neuroscience Building to the north, Queen's Park Circle to the east, and College Street to the south. Currently, the site is dominated by greenhouses and by parking and service access (from College Street) for the Fitzgerald and Tanz Neuroscience Buildings.

The site has relatively little vegetation; a lawn with two small trees and a large, mature maple tree in front of the greenhouse (southeast corner of the site) and another very large ash tree to the east of the greenhouse array. There is a very ornate, cut stone and metal gateway between the Fitzgerald Building and the Tanz Greenhouse (through which the service road passes), and a smaller, pedestrian, ornamental gate between the Fitzgerald and Tanz Neuroscience Buildings.

This development site is close to the Mining Building which is a designated heritage building and is adjacent to the Fitzgerald and Tanz Neuroscience Buildings which are listed heritage structures. The greenhouse is also a listed heritage property, however, permission to build on this site over the area of the greenhouses was obtained during the Part II planning process with the City of Toronto. The greenhouse is discussed in detail in a later section.

Site Planning

The Pharmacy Building will be constructed close to and have connections with the Fitzgerald Building and the Tanz Neuroscience Building. The Pharmacy building will be connected at the southwest corner on the second level to the Fitzgerald Building allowing for vehicular access to the service court. At the north end the stairwell for the Tanz will provide the connection. It is not expected that this connection will allow for continual through access, but rather for convenience when collaboration or servicing is required. Connections at these locations will be the least disruptive to existing programs. The connection planned between the Fitzgerald Building and the Pharmacy Building will allow for through access to the CCBR and to the Medical Sciences and Rosebrugh Buildings.

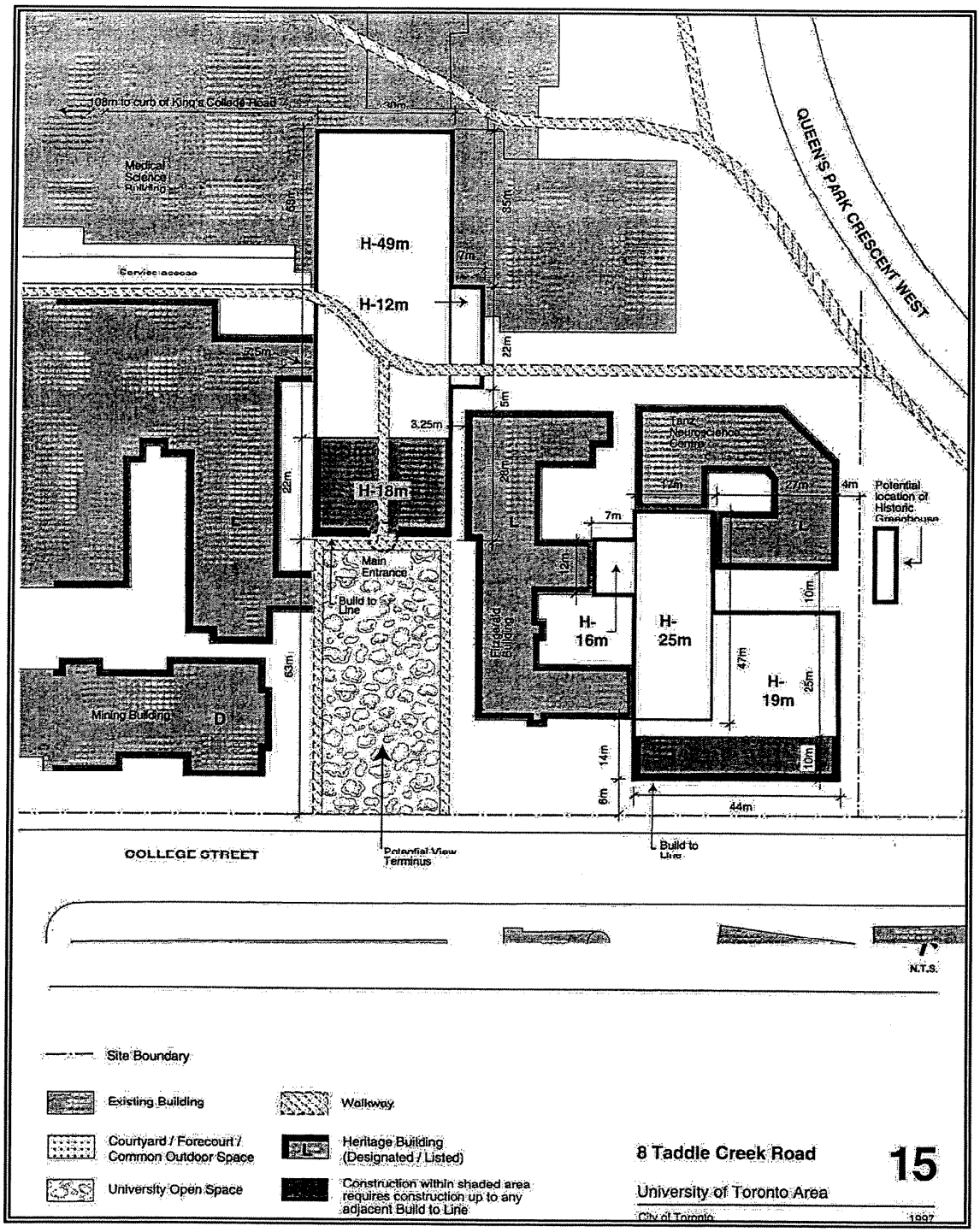
Currently, the Medical Sciences, Mining, Haultain, Rosebrugh and Mechanical Engineering Buildings have delivery and service vehicle access from Taddle Creek Road. The construction of the CCBR and the development of the new landscaped forecourt will eliminate vehicle access at this point for these buildings. A new indoor delivery bay is planned for the Centre for Cellular and Biomolecular Research and the Medical Sciences Building that will be accessed from King's College Road. The Mining, Haultain, Rosebrugh and Mechanical Engineering Buildings will also be accessed from an existing service lane from King's College Road.

The site of the Pharmacy Building is the existing service area for the Fitzgerald and Tanz Neuroscience Buildings. In order to avoid adding vehicular traffic onto King's College Road and to maintain deliveries to the Fitzgerald and Tanz Neuroscience Buildings, the existing service lane from College Street should be retained, improved and incorporated (along with a

new receiving area) into the design of the Pharmacy Building. The existing ornate gateway should be carefully dismantled, preserved and re-installed elsewhere in the project, potentially to demarcate the required setback and open space between the Tanz Building and the new Pharmacy building.

The construction of the Pharmacy Building will also result in the loss of 22 vehicle parking space which will have to be accommodated elsewhere on campus. The two large and mature maple trees near the construction area must be protected. They feature prominently in the landscape plan.

Although the Pharmacy site does not currently experience much pedestrian traffic, it is anticipated that its role as a campus "gateway", increased student population for Pharmacy at this location, and closeness to public transit will substantially increase pedestrian traffic in the area.



Site Plan from:
University of Toronto Area Plan
Document 3: Site Specific Development Guidelines
City of Toronto, February 1, 1997

Built Form

Because the development site is surrounded by Heritage buildings, the new Pharmacy Building must be compatible with these structures. Scale, building location and organisation, height and setback of structures; relationship of the structure to the open space between it and neighbouring structures; exterior features, such as window sills or header lines, the proportion of window or door openings to the overall façade, and the horizontal or vertical emphasis of major building elements; and the building's finish materials, will be important considerations in the design of the Pharmacy Building. The capital cost estimate has an allowance to upgrade exterior finishes to correspond with this significant gateway site and entrance to the University.

Vertical heights of any built form on the Pharmacy site are currently limited. The main portion of the Pharmacy Building (immediately facing College Street and Queen's Park) is not permitted to be higher than 19 metres from the site's grade elevation. The north-south tower portion of the building can be taller but is limited to 25 metres. The small connecting portion to the centre wing of the Fitzgerald Building cannot be any taller than 16 metres.

The space programme for the Pharmacy Building cannot be accommodated within the existing building envelope as currently approved. Further negotiations with the City are required and underway. The planning and costing included in this report assume that the programme will be accommodated on site with two basement levels.

Landscape Planning

The Centre for Cellular and Biomolecular Research will include the development of the landscaped forecourt within the current Taddle Creek Road, and this development will form the western edge of the open space at the south of the Fitzgerald Building. The Pharmacy project will form the eastern edge of the Fitzgerald open space and will be responsible for the forecourt along its portion of College Street. The Open Master Plan suggests that Pharmacy's forecourt "create a perennial garden and plaza to create visual interest on the College Street streetscape".

As well as these recognised open spaces, this project will create a small open space between the north face of the Pharmacy Building and the south face of the Tanz Neuroscience Building. The Official Plan of the City of Toronto requires that these two buildings be separated by at least 10 metres creating an open area of approximately 10 metres by 27 metres in size. The eastern opening to the new courtyard could be an ideal location for the re-installation of the ornate gateway currently situated over the service lane. This area should provide a tranquil setting for occupants of the Tanz and Pharmacy buildings.

Historic Greenhouse

The conservatory portion of the greenhouse array was constructed in 1931 by Lord & Burnham Company, a pioneering manufacturer of greenhouses and greenhouse systems. It is an excellent example of a Lord & Burnham greenhouse and has been listed in the City of Toronto Inventory

of Historic Properties. One of the conditions for development of the Pharmacy Building site as identified in the City of Toronto's Official Plan (Site 15: 8 Taddle Creek – University of Toronto Area, Document 3, Site Specific Development Guidelines, February 1, 1997) is that the southernmost portion (conservatory) be preserved if possible, and relocated.

To that end, the University is reviewing possible relocation sites and has had a relocation and restoration feasibility study undertaken by a specialist consultant. After detailed inspections of the conservatory, it was concluded that the conservatory could be disassembled.

Because a final relocation site has not been found, the estimate of $350,000 to dismantle, move and temporarily store the conservatory has been included as a secondary effect in this project. This cost estimate does not include the University's own expenses (i.e., initial site work, plant and materiel removal, service disconnects, removal of exterior fixtures, etc.) nor the on-going cost of storage if a suitable site on university-owned property cannot be found.

Utilities and Site Services

Since the original report was issued, the planning for the Centre for Cellular and Biomolecular Research and the Pharmacy Building have progressed. The space programme for the Centre for Cellular and Biomolecular Research has been completed and approved by Governing Council and the programme for the Pharmacy Building has also been determined. During development of the programme for the Centre for Cellular and Biomolecular Research, it was decided that the two-floor extension on top of the Medical Sciences Building would not be practical for the Centre and that the construction of Centre's 12-storey tower would likely prevent this extension from being built in the future. These new developments will add the following amount of space:

CCBR	20,630 GSM
Pharmacy Building	15,631 GSM
Total New Construction	36,260 GSM

The proposed infrastructure costs for this sector that total $9,510,000 (in 2001 dollars) would be distributed as follows:

Pharmacy Building	$2,740,000
CCBR	$3,280,000
Other Projects	$1,990,000
Facilities Renewal	$1,500,000
Total Cost	$9,510,000

To allow for escalation to the fall of 2002, these amounts will be increased by 8%.

VIII. ENVIRONMENTAL IMPACT

ENVIRONMENTAL PROTECTION POLICY

The University of Toronto is strongly committed to the development and maintenance of exemplary strategies that are aimed at enhancing not only the campus but also the global environment. This commitment is set out in the university's *Environmental Protection Policy*, dated 7 March 1994.

On campus, buildings represent the single most important element that affects the environment; they give it a recognisable form and are major consumers of natural resources in their construction and operation. Building design professionals have an inherent responsibility to foster good environmental practices as do building users and university administrators.

Notwithstanding the University's environmental goals, this Users' Committee does want to clarify that the strategies to incorporate environmental design must work in concert with and not compromise the specified requirements of the Faculty of Pharmacy.

ENVIRONMENTAL DESIGN

The new Pharmacy Building represents a significant addition to St. George Campus' building stock. Its large size (in both floor area and building envelope) and intensive pharmaceutical teaching and research activities means that the Pharmacy Building will have significant environmental implications. These will include considerable increases in energy and water consumption, hazardous and non-hazardous waste generation, etc. If done properly, better environmental designs can significantly reduce operating costs over the life of the building.

IX. RESOURCE IMPLICATIONS

SITE SERVICE RELOCATES

The existing sanitary, storm and water lines that serve the Fitzgerald and the Tanz buildings will be required to be relocated, possibly in a temporary way while the new building is under construction. There is an allowance in the Total Project Cost estimate for this purpose.

INFRASTRUCTURE UPGRADES IN THE SECTOR

The details of the proposed infrastructure upgrades for the site and the surrounding buildings are discussed in section VII Special Considerations as a subsection of Campus Planning and also in Appendix G. There is an allowance in the Total Project Cost estimate to cover pharmacy's share of these upgrades.

SECONDARY EFFECTS

There is an allowance of $100,000 for costs for temporary access for loading to the Tanz and Fitgerald buildings. There is also a $350,000 allowance to cover the dismantling, moving and temporary storage of the historic south portion of the existing greenhouse, as described in section VII Special Considerations as a subsection of Campus Planning. Included in the total project cost is a contribution of $1 million towards the construction of the new greenhouses being constructed on the roof of the Earth Sciences building.

CONSTRUCTION COST ESTIMATE

The University retained a professional quantity surveyor to prepare the construction cost of this project. The firm of Helyar and Associates received the room data sheets describing essential equipment, services and space requirements for each room planned to be included in the new Pharmacy Building. Principals of the firm met with the University's Planning and Facilities and Services staff to review this material. The costing assumes that the space programme will be accommodated in a single building with two levels of basement and seven stories above grade (15,631 gross square metres).

The construction costs assume that the project will be procured on a stipulated sum basis and that bids will be received from at least six competitive and pre-qualified general contractors. The construction cost estimate includes a design contingency allowance of 10% to account for increases in cost as a result of the design development process in the implementation stage.

The estimate is priced at current unit rates and reflects current market conditions. An escalation contingency allowance has been added to account for increases in construction costs to the anticipated bid date in February, 2003. A 6% per annum escalation is assumed.

OPERATING COSTS

As per Budget Guidelines, operating costs of net additional space are the responsibility of the associated Faculty.

It is expected that the new Pharmacy facility will result in an increase to the annual facilities operation cost of $850,000 (in 2001 dollars).

TOTAL PROJECT COST ESTIMATE

The Total Project Cost, including all taxes, contingencies, secondary effects, permits and professional fees, furnishings and equipment, landscaping and miscellaneous costs, is estimated to be $70 M.

Summary:

Total Project Costs	**Millions**
Construction Costs	$50.240
Secondary Effects	1.450
Landscaping	0.500
Furnishings and Equipment	5.400
Moving and Staging	0.100
Professional Fees	7.384
Services to Site	2.959
Permits and Insurance	0.494
Other (telephones, miscellaneous)	1.473
Total Project Cost Estimate	**$70.000**

Note: details can be found in Table 1, attached.

TABLE 1: Total Project Cost Estimates

Column 1 will be completed with the Project Planning Report.
Column 1-5 will be included in the Project Implementation Report.

Items	Project Planning Report	Concept Design	Design Devel't	Drawings @ 90%	Tender	100% Complete
Construction Cost note 1	41,450,000	0	0	0	0	0
Construction Contingency note 2	7,684,482					
Applicable GST	1,105,907					
Total Construction Costs, plus taxes	**$50,240,389**	**$0**	**$0**	**$0**	**$0**	**$0**
Site preparation note 3	500,000					
Services to site note 4	2,959,000					
Secondary Effects note 5	1,450,000					
Demolition	inc					
Landscaping	500,000					
Permits & Insurance	494,260					
Professional Fees	7,384,351					
Computer & Telephone Terminations, moves	130,000					
Moving & Staging	100,000					
Furnishings & Equipment	5,400,000					
Miscellaneous Costs [signage,security..]	212,000					
Commissioning	inc					
Donor Recognition	50,000					
Finance Costs note 6	580,000					
Project Cost Escalation [to feb 2003]	inc					
Total Project Cost Estimate GST included	**$70,000,000**	**$0**	**$0**	**$0**	**$0**	**$0**

Notes:

prepared Oct 30th 2001.

1 Building area 15,631 Gross SQ M., 2 levels of basement, tendered feb 2003.
2 includes architectural premium.
3 covers rearrangement of existing services.
4 includes sector utility upgrades.
5 covers dismantling of south greenhouse ($350K), temporary access from the Tanz ($100K), and $1M contribution to new ESC greenhouse.
6 interest expense based on funding schedule of 30 Oct 2001.

X. FUNDING SOURCES

The early funding for this project has been assembled from a number of sources. A summary of the committed funds and the pledged funds are provided below together with the current shortfall.

Source	Secured	Pledged/Planned	Total
Superbuild	$ 28.800M		$28.800M
Superbuild Interest*	$ 1.639M		$ 1.640M
Leslie Dan contribution		$ 8.000M	$ 8.000M
Herb Binder [Shoppers Contribution]	$ 0.700M	$ 1.300M	$ 2.000M
Apotex Group of Companies		$ 5.000M	$ 5.000M
OIT & CFI applications under consideration, estimated at			
UIIF [original pledge]		$ 7.200M	$ 7.200M
Shortfall [naming possibilities, mortgage]			$17.360M
Total Project Cost			$70.000M

* interest on $28.8 million, SuperBuild allocation to April, 2001.

XI. SCHEDULE

It is projected that the construction of the Pharmacy Building will commence in March, 2003, with construction completion March, 2005, followed by lab fit-up and commissioning, allowing occupancy in July, 2005. Significant site activities, such as service re-routing, excavation and work associated with secondary effects must begin earlier to maintain the projected time line.

Following is the planned schedule:

Governance approval to hire Architects	Jan 2002
Architect selection complete	Mar 2002
Tender package complete	Feb 2003
Governance approval to award contract	Feb 2003
Contract award	Mar 2003
Construction completion	Mar 2005
Lab fit-out, commissioning, move-in	Jul 2005

XII. RECOMMENDATIONS

THAT the Planning and Budget Committee recommend to the Academic Board:

(i) the revised Users' Committee Report (November 1, 2001) for the planning and construction of the Pharmacy Building on the St. George Campus at the University of Toronto be approved in principle,

(ii) the project scope as identified in the revised Users' Committee Report be approved in principle at a cost of $70,000,000 with funding from the sources identified above, and

(iii) the approval of an allocation of $7.200 million from the University Infrastructure Investment Fund towards the construction of the Pharmacy Building.