

**beckman associates
library consultants inc.**

LAKEHEAD UNIVERSITY
Library Space Needs Study

August, 1990

Beckman Associates
Library Consultants Incorporated

TABLE OF CONTENTS

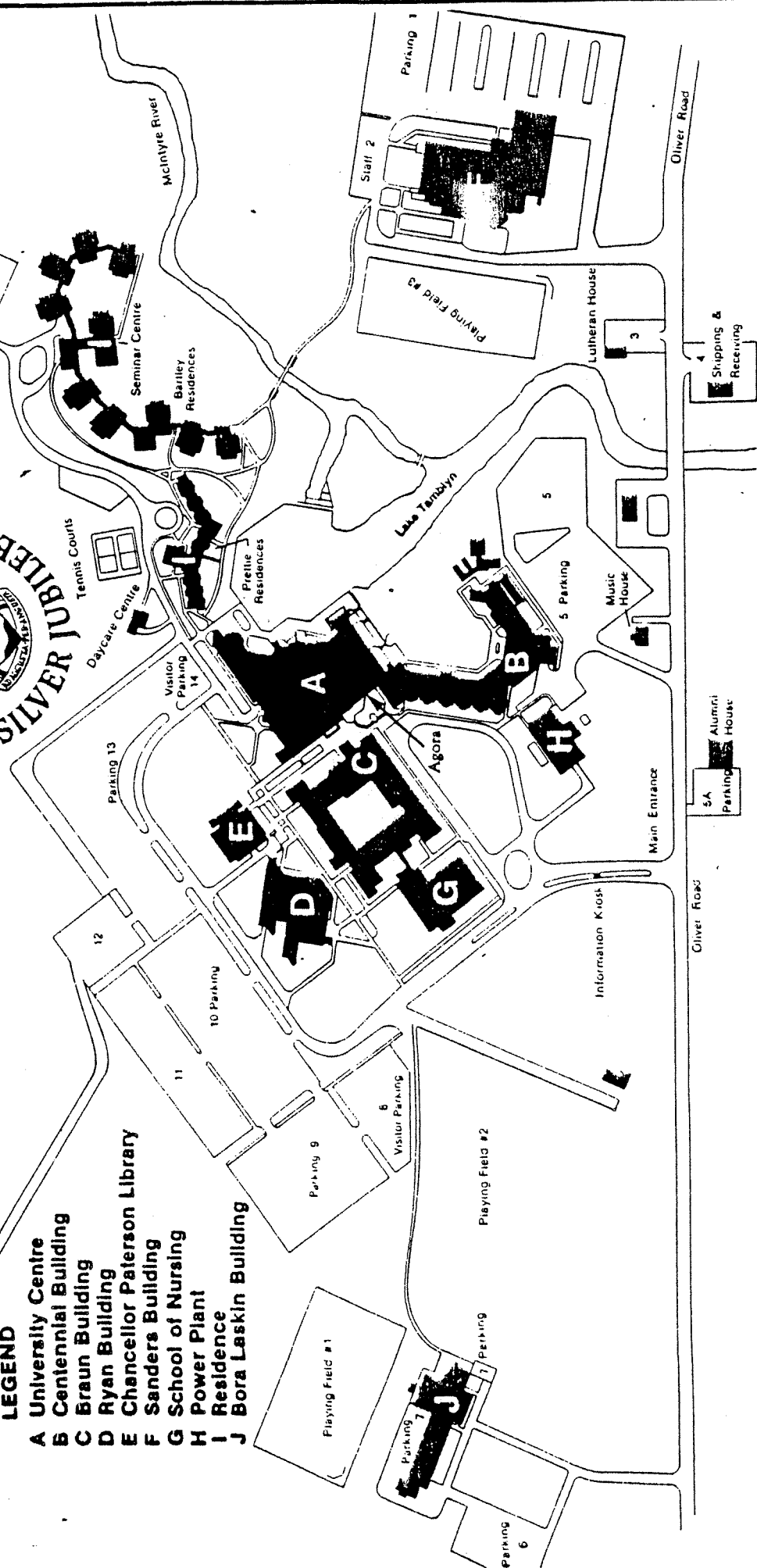
I.	INTRODUCTION	1
	1. Terms of Reference	1
	2. Methodology and acknowledgements	2
II.	LAKEHEAD UNIVERSITY AND THE LIBRARY SYSTEM	3
III.	CHANCELLOR PATERSON LIBRARY: ASSESSMENT	5
	1. General Review	5
IV.	IDENTIFICATION OF SPECIFIC PROBLEMS	23
	1. Effectiveness of present space usage	23
	2. Collections	28
	3. Library study space	32
	4. Staff work space efficiency	33
V.	FACULTY OF EDUCATION LIBRARY	35
	1. General assessment	35
	2. Space requirements	36
VI.	SPACE REQUIREMENTS	39
	1. Space standards and formula	39
	2. Space requirements to 2000	41
VII.	RECOMMENDATIONS: SHORT TERM	45
VIII.	RENOVATION PLANS: SHORT TERM	49
	1. Functional plans	49
	2. Comparison of user/collection accommodation	56
	3. Comparison of staff space	56
IX.	SOLUTIONS: LONG TERM	61
	References	62



Balmoral Ave.

LEGEND

- A University Centre
- B Centennial Building
- C Braun Building
- D Ryan Building
- E Chancellor Paterson Library
- F Sanders Building
- G School of Nursing
- H Power Plant
- I Residence
- J Bora Laskin Building



Lakehead University Campus

MAP 1.

Lakehead University
Library Space Needs Study

July, 1990

I. INTRODUCTION.

1. Terms of Reference.

A consultancy was requested by Lakehead University in February, 1990, which would examine the present allocation and use of library space on the campus, including both the Chancellor Paterson and Education Libraries. At the same time, library space requirements to the year 2000 were to be defined for collections, student seating and staff work areas. Both short and long term solutions were sought.

The Consultants' report was to address the following specific issues:

1. Effectiveness of current space usage.
2. Present overcrowding of the current issues, newspapers, back issues, microforms and equipment on the 2nd floor.
3. Evaluation of the layout and space needs of the following areas:
 - 4th floor stack area;
 - archives;
 - 3rd floor stack area;
 - CODOC collection;
 - reference collection;
 - DOC collection;
 - Northern Studies Resource Centre;

- Rare Book Room.

4. Consider the library needs of the School of Education and suggest how they might be most effectively met.

5. Evaluate and recommend as to the quantity, location and types of library study space required in relation to student mix and current and projected enrolments.

6. Evaluate and recommend the most efficient use of staff work space.

7. Make specific recommendations as to how space on the 5th floor, which will become available to the Library in 1991, might be most effectively utilized.

Beckman Associates, Library Consultants Inc., responded to the Terms of Reference, and their proposal was formally accepted on March 16, 1990. Margaret Beckman was to be principal consultant for the project.

2. Methodology and acknowledgements.

Library staff supplied a wealth of information - floor plans and analyses of space allocations; data on library collections and use; the Lakehead University academic plan; enrolment statistics, etc., - all of which were reviewed prior to a site visit to the University on April 30 - May 1, 1990. At that time the Consultant met with Library staff members, both formally and informally, and with academic officers of the University. Appreciation is expressed for the time and insights provided by Dr. Geoffrey Weller, Vice-President, Academic; Dr. Alan Bowd, Director of Education; Jim Arnot, Education Librarian; The Senate Library Committee, represented by Professors Richardson, Pannu, Isotalo and Rappon; and the Library Space Coordinating Committee: Shirley Boneca, Anne Deighton and Frank Sebesta. Particular gratitude is expressed to Fred McIntosh, Chief Librarian and Chair, Library Space Coordination Committee.

A site visit was also made by Stephen Langmead of Beckman Associates, who visited the campus on May 29, 1990 to gather additional information about the libraries from a structural and electrical/mechanical perspective.

II. LAKEHEAD UNIVERSITY AND THE LIBRARY SYSTEM.

Description of collections, users, services and staffing.

Lakehead University provides library services from two facilities: the Chancellor Paterson Library, which houses the University's main library collections, staff and services; and the Education Library, which serves the Education faculty and students in the Bora Laskin Building. (See Map 1) In 1988/89, the University offered courses in some 20 major areas within the Faculty of Arts and Science, and eight professional disciplines within the Faculty of Professional Studies. Enrolment for that period and comparisons with the previous year, is shown in Table 1.

Table 1
Enrolment data ¹

Sector	1988/89	1989/90
Education		
Undergrad	1,106.88	1,098
Master's	113.80	128
Fine Arts, Humanities, Social Sciences		
Undergrad	1,983.67	2,187.22
Master's	151.00	190
Agri/B.Sci, Math and Phys. Sciences		
Undergrad	394.51	331.01
Master's	58.60	62
Engineering and Applied Sciences		
Undergrad	676.12	657
Master's	54.40	61
Health Professions and Occupations		
Undergrad	260.38	220
Other		
Undergrad	15.29	0
TOTALS		
Undergrad	4,436.85	4,493.23
Master's	377.80	441
Total	4,814.65	4,934.23

Continuing Education programs, both on and off campus, enrolled a further 1262 students in 1988 fall/winter and spring/summer sessions.

In 1989/90 the University library collections comprised some 682,515 volumes and 205,781 microforms, with 3,200 paid subscriptions to periodicals. The collection size in volume equivalents was 695,525. The libraries loaned some 115,516 items from the libraries and 45,097 were circulated through reserve systems. As well, 28,063 reference queries were answered, 4,948 books or articles were received on interlibrary loan, and 157 faculty or students were provided with online searches.

III. CHANCELLOR PATERSON LIBRARY: ASSESSMENT.

1. General Review.

There are several recognized criteria in addition to space which can be used to assess the efficiency or effectiveness of a library building in meeting its functional requirements.

CRITERIA

(i) Flexibility. Changing patterns of library use make it imperative that the library include the capability for internal change. Building spaces should be simple, not monumental, and adaptable to a range of functions whether for collections or users. Sufficient structural support to accommodate bookstacks placed in any configuration throughout the building is a requirement, (150 pounds per square feet live load), as is electrical and communications cabling for equipment installations in mid-floor locations. This latter criterion has assumed increased importance with the integration of technology into basic library functions.

Although a decrease in print publishing is not forecast in the immediate future, non-print resources - electronic, optical disk, etc., - are expected to supplement, not supplant, those resources and lead to an increasing collection complexity. The most important impact of these new formats will not be in their required space, but in the demands which the necessary equipment and electrical/mechanical features will make on user facilities and the space, furnishings and locations assigned to them. With rapid change in this latter area, the need for flexibility, or the capability to accommodate change in the library building, becomes paramount.

(ii) Structure. In addition to the structural floor loading capacity, attention must also be given to the bay size (the space contained by four columns). Column spacing should be based on a three foot module to complement library shelving, and should be a minimum of 21 feet. As well, the pattern of columns or bays should be consistent (the same measurement in each direction so that each bay is a square) with no irregularities introduced for design effect.

(iii) Location and access. An academic library should be located at a visible point of high student (pedestrian) traffic, as near the centre of the function which it serves - university or faculty - as possible. Access should be direct and at grade level, so that no obstacle is placed in the way of student use. Special access facilities for the handicapped should be available, but level access to the main level of the library reduces the features which may need to be provided.

(iv) Ease of use. Convenience of the user should be given primary consideration starting with a conspicuous entrance and continuing to seating arrangements which meet a variety of reading, research and study habits. A typical range of academic library user facilities, of which 70 per cent should be individual tables or carrels, would include the following:

individual tables	(2½ x 4' work surface)
undergraduate study carrels	(2' x 3' work surface)
graduate study carrels	(2½ x 4' work surface)
AV and microcomputer carrels	(2½ x 4' work surface)
reference tables for 4	(4' x 6' work surface)
periodical index tables	
group study rooms	
informal seating	
orientation/seminar room	
microform and CD-ROM stations	
film preview and viewing rooms	
light tables (for maps or slides)	

Service points and traffic patterns which can be easily identified, with the functional layout of the library both implicit and explicit in the planning and design, also contribute to the ease of use of a library.

(v) Security/control. Control of both library materials and use of space and facilities is an essential feature of any library building. A single entrance/exit, equipped with a mechanical detection system, is mandatory. As well, the library staff need to be able to see and be aware of what users are doing or what assistance they may need. Library design should avoid creating areas which are not easily visible from central staff positions or oversight.

(vi) Functional relationships. Since staff costs are the major expense in any library operation, the building must be planned to permit staff efficiency in all functions. The various elements of a library - collections, user services, staff areas - and the organization and access to these elements must be arranged so that they are convenient to the user and in functional relationships which permit economical operation of the library.

(vii) Lighting. The quantity and quality of lighting within a library are of primary importance, with recommended minimum light levels as follows:

work surface: staff or user	65	foot	candles
bookstack aisle	30	"	"
seminar/orientation room	65	"	"
meeting room	50	"	"
rare book room (task lighting)	70	"	"

The capability to modulate lighting is required in rooms or areas where non-print media are being used: audio-visual, microcomputer software, microforms, etc. The addition of computer terminals and viewing screens to standard library equipment results in the need for glare, whether from overhead lighting or perimeter windows, to be controlled and minimized. Task lighting (see also Furnishings) assumes increased importance for both user and staff work stations.

(viii) Acoustics. The distractions of noise must be kept to a minimum in a library if an environment which is conducive to research, study and learning is to be achieved. This can be accomplished through the separation of noisy activities such as photocopy, staff work areas, and excessive traffic; the use of sound absorbent materials; carpet and acoustic ceiling tiles; and the avoidance of hard surfaces.

(ix) Environment. Heating, ventilation (including filtering) and air conditioning (HVAC) are important factors in determining the environment which the library seeks to provide for its users, staff and collections. A library is a public building with long hours of use, and concern about the now recognized 'sick building syndrome' emphasizes the need for attention to the details of the mechanical systems. A library presents an additional need for good HVAC systems: library collections are particularly vulnerable to

conditions of high heat, low humidity, and unfiltered air, with paper - particularly in books, newspapers and periodicals from the late nineteenth and early twentieth centuries - deteriorating at an alarming rate. Stability in both temperature and humidity are essential for preservation, with the following ranges recommended as reasonable for both books and people.

Temperature: 20°C ± 2°
Relative humidity: 40% ± 10%

(x) Ambience. There is a difference of opinion between librarians and architects as to the ambience that should be created within the library space. Too frequently the functional requirements of the library - ease of access, logical collection arrangements, flexibility for lighting, power and communications, efficient functional relationships, etc. - are sacrificed for aesthetic design features. Use of colour and materials can provide elements of delight without compromising library functions; monumental staircases, mezzanines, and atriums should be avoided.

(xi) Furnishings. Library furnishings should complement the library design and be both flexible and functional. Modular service desks, with work space at seating height for staff and counter space at standing height for users, should accommodate new technological equipment with appropriate wire management features. Particular attention must be given to the functional design requirements of student carrels, which comprise the largest item of library furnishings aside from shelving. They should include task lighting and electric outlets, with the capability provided for communications outlets in at least 30 per cent of the carrels. As well, there should be a bookshelf to increase the work space available and shrouds should extend to the chair back to reduce noise and distraction. (See Figure 1)

ASSESSMENT.

Various aspects of the assessment relate to the present library structure and functional space allocations, which are illustrated on Plans 1 - 6.

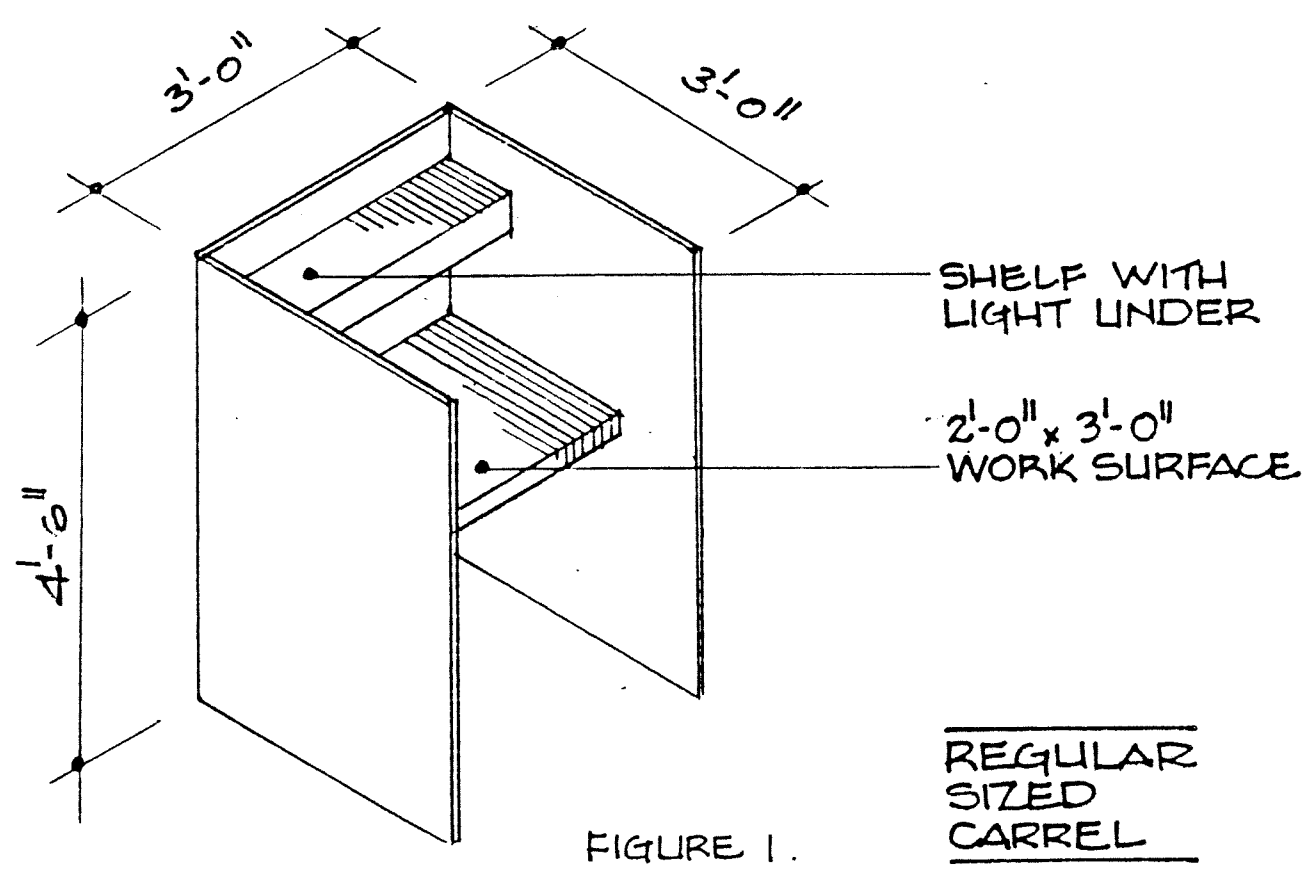
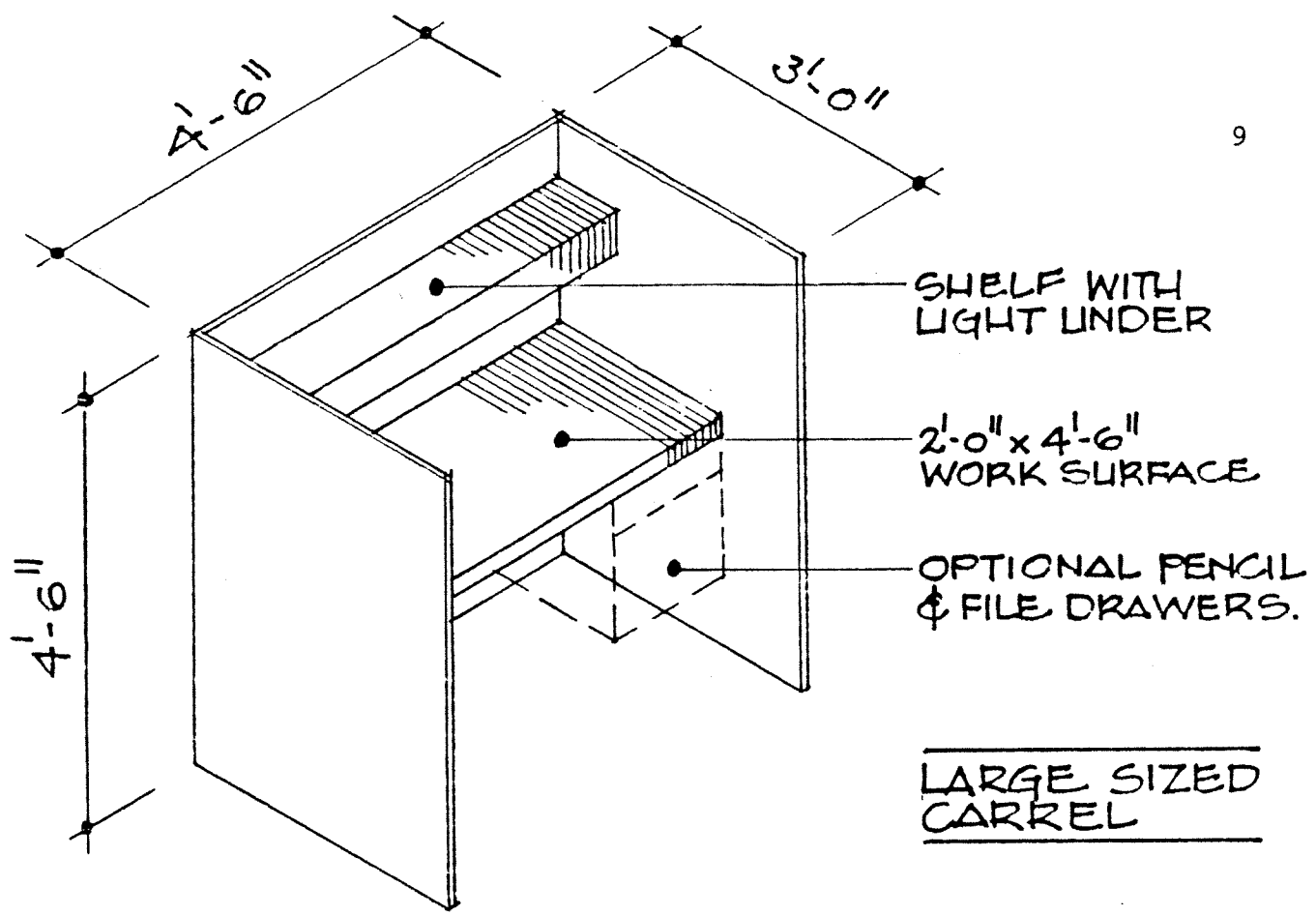
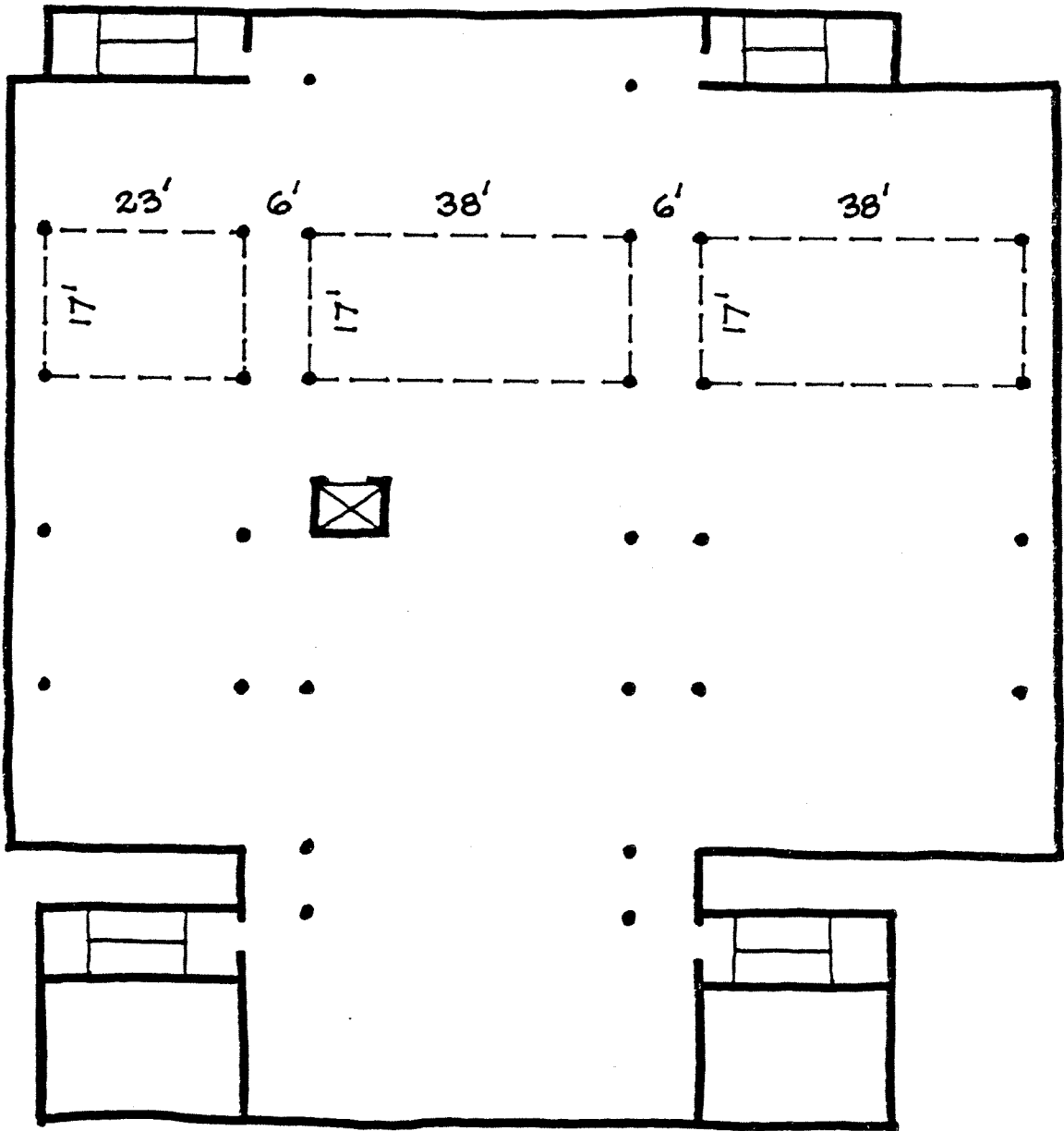


FIGURE 1.

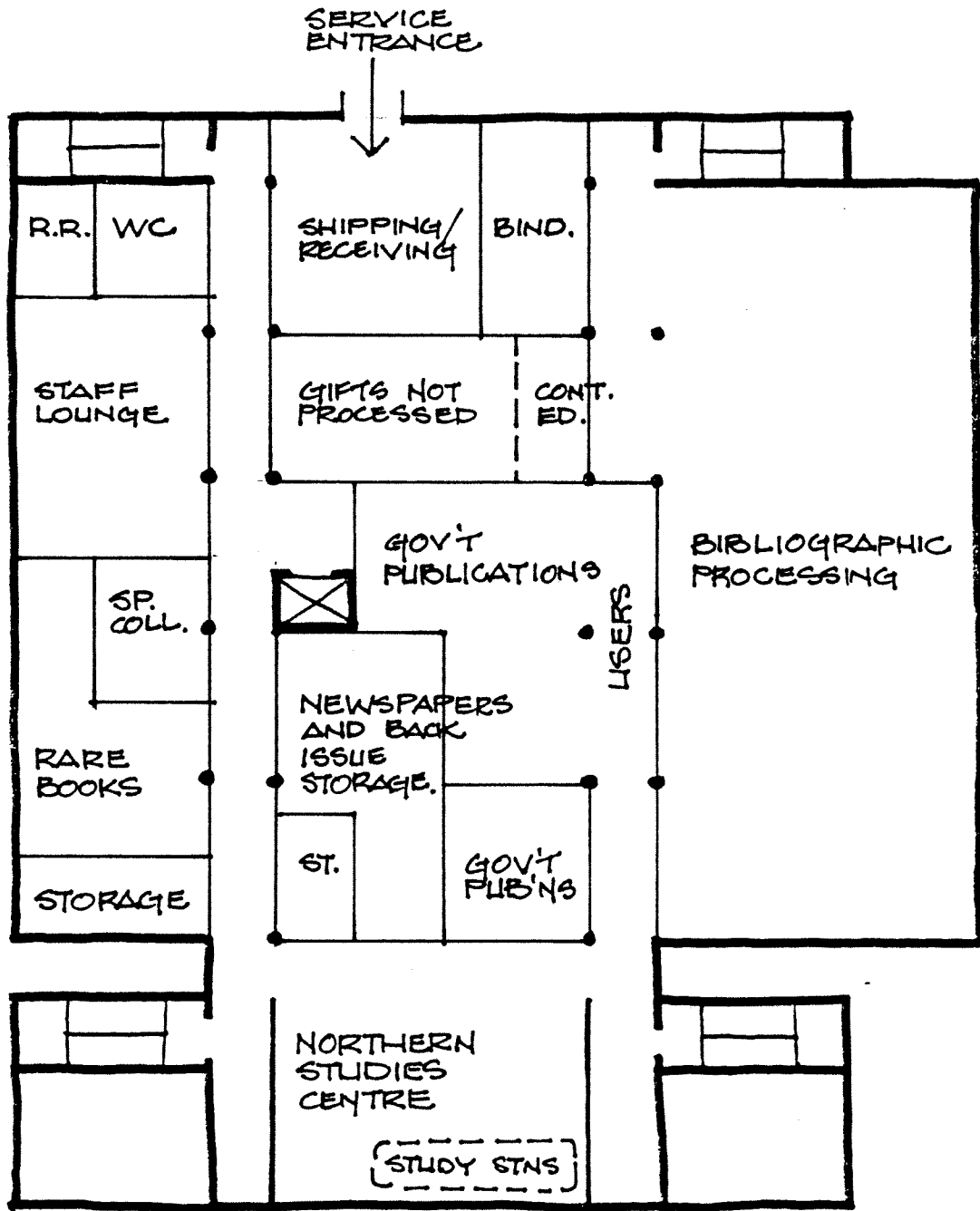


LAKEHEAD UNIVERSITY - LIBRARY

PLAN I.

BAY SIZES: BETWEEN COLUMNS.

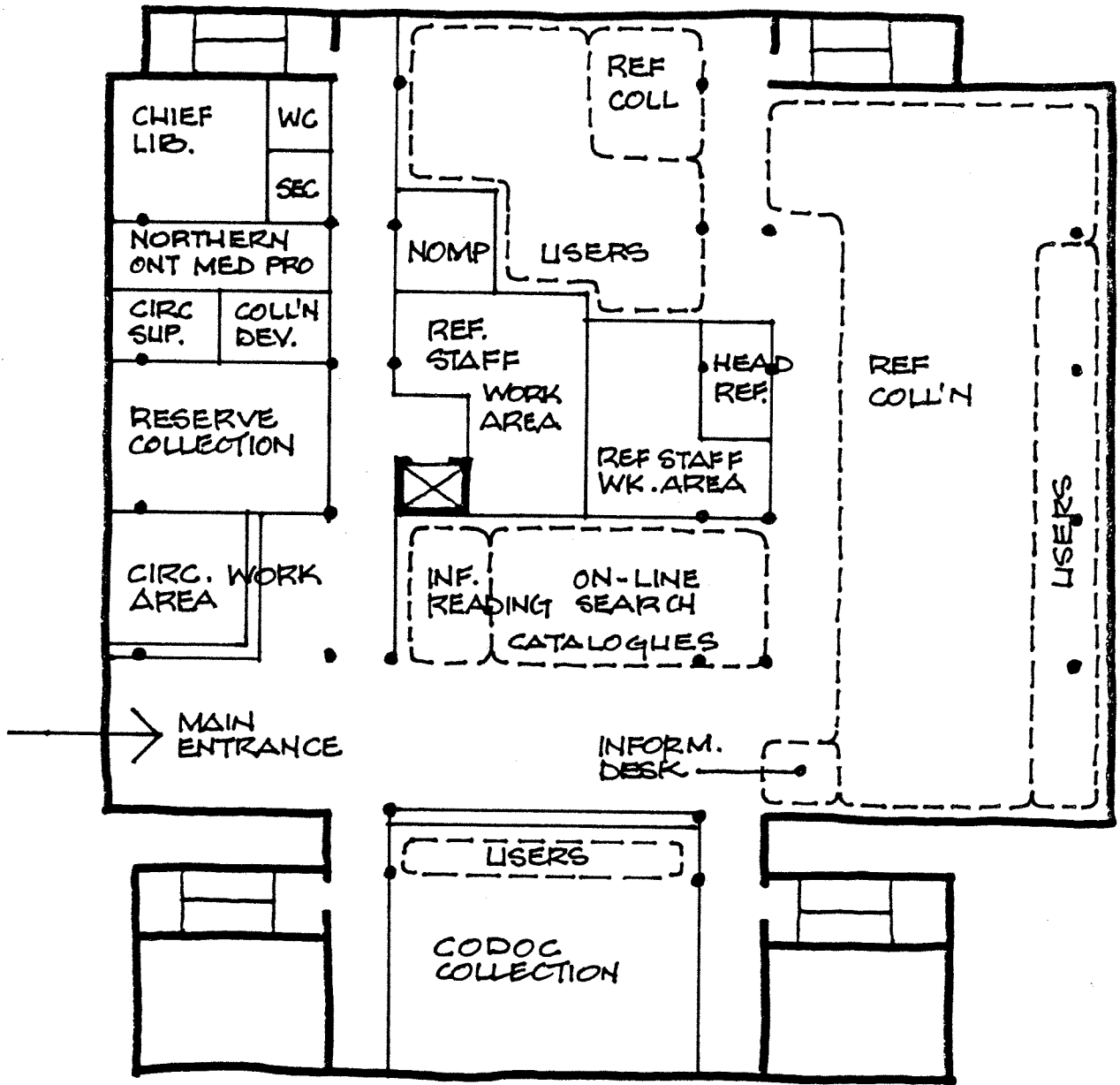
CORRIDOR : BETWEEN COLUMNS.



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 2

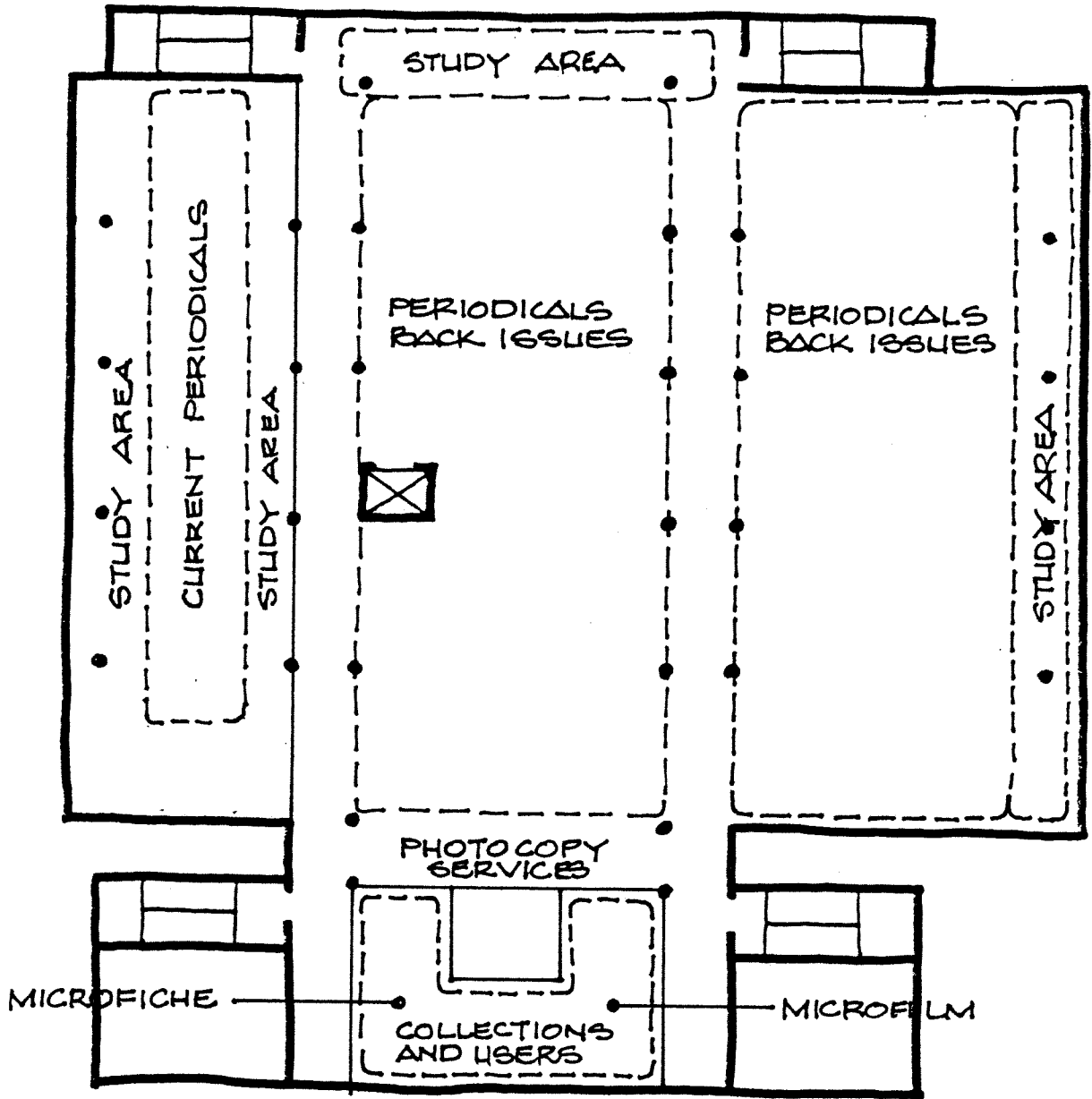
GROUND FLOOR - EXISTING



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 3

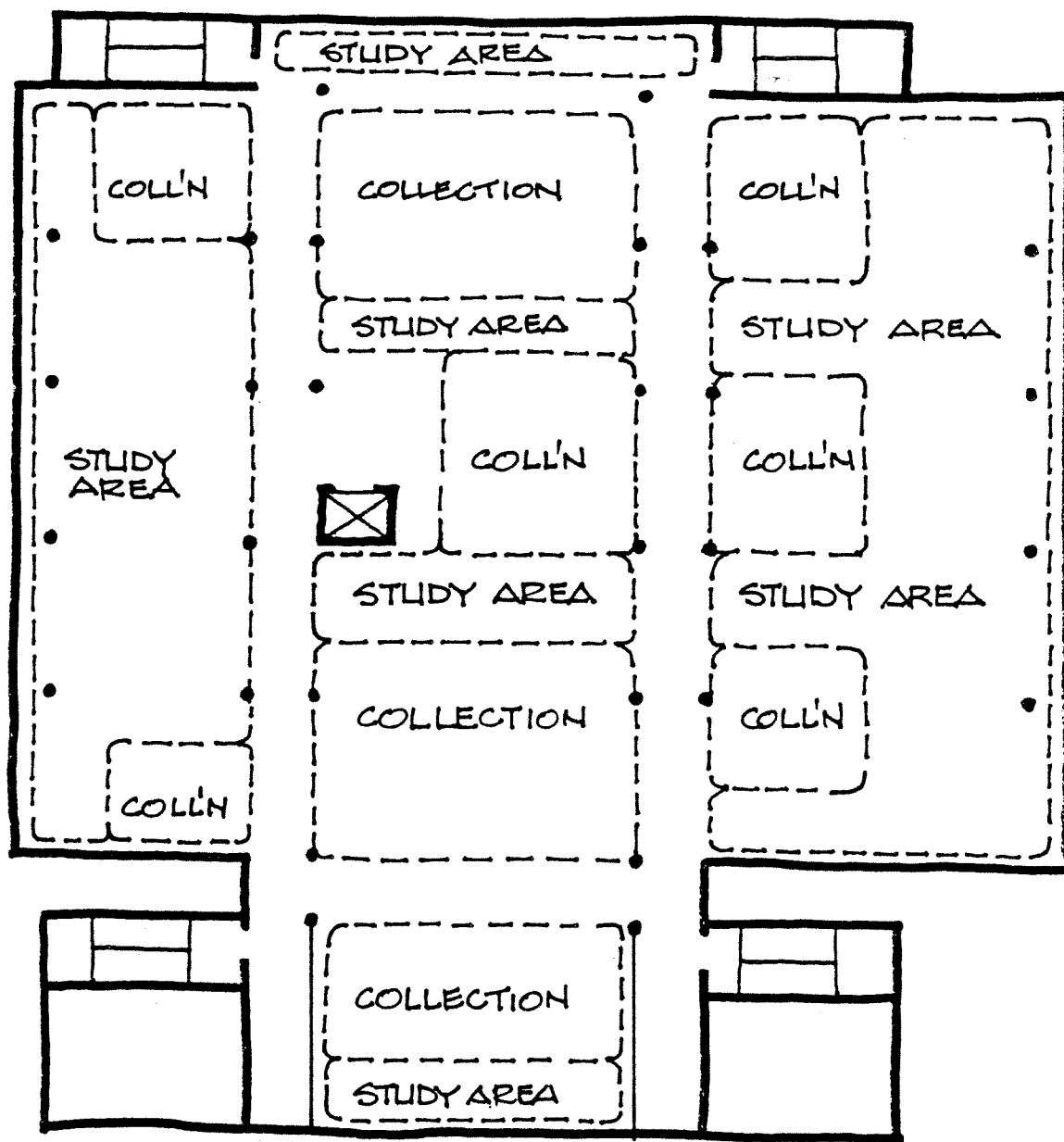
MAIN FLOOR - EXISTING



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 4

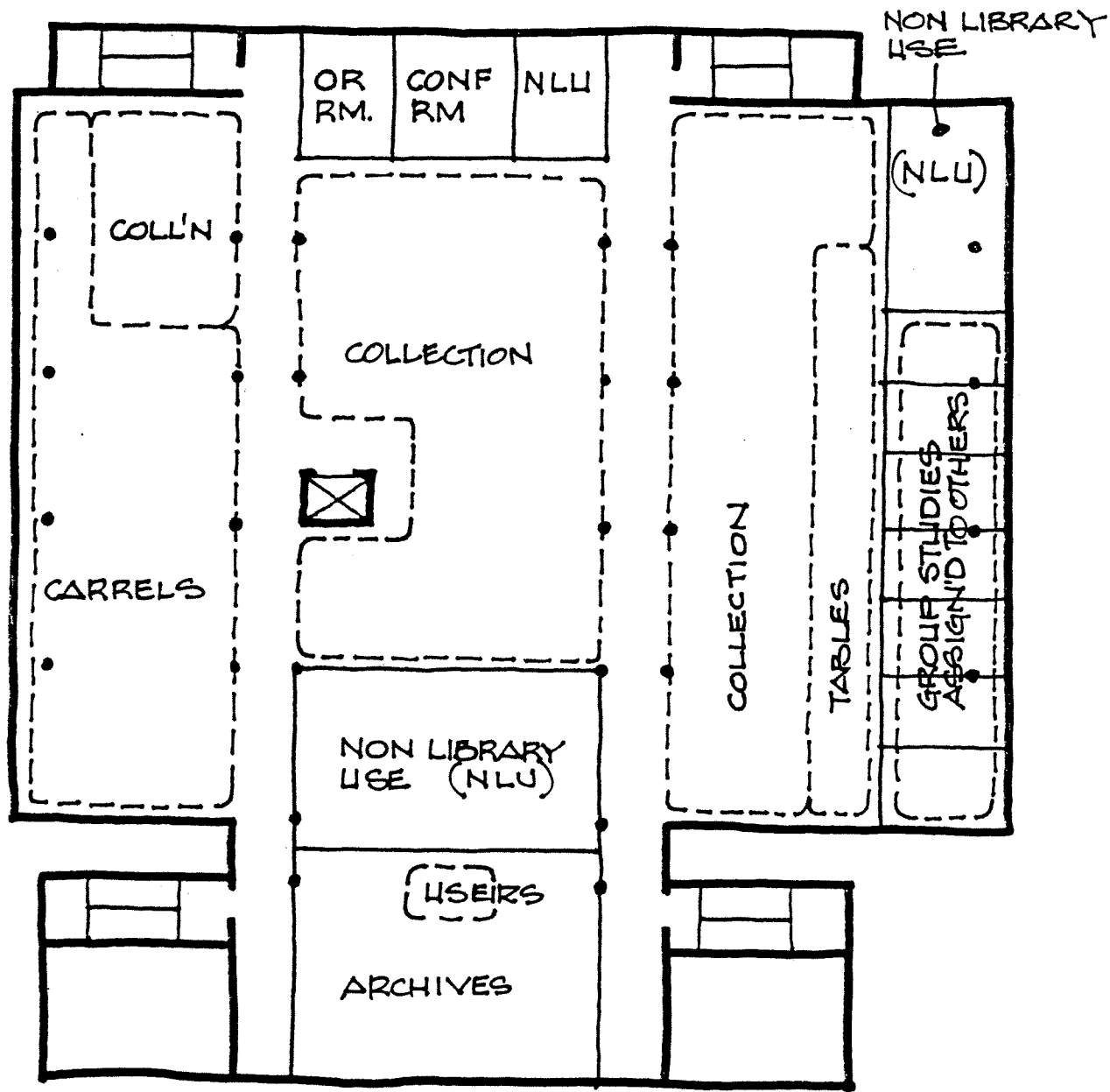
SECOND FLOOR - EXISTING



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 5

THIRD FLOOR - EXISTING



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 6

FOURTH FLOOR - EXISTING

(i) Flexibility.

The structural capacity of the Library has not limited the capacity for collections: the building, unlike many other Ontario academic libraries of the same period, was designed with all floors capable of accommodating bookstacks. However, lack of power and/or communications outlets at mid-floor locations has compromised the capability for the building to meet current and future library functional requirements, particularly for users. Unfortunately placed partition walls, although not load bearing, have led to functional space allocations, particularly on the ground and main levels, which are neither as efficient nor effective as they should be.

(ii) Structure.

The column spacing throughout the building has created further impediments to flexibility and to the provision of efficient services. As illustrated in Plan 1, there are several problems:

- the bay sizes vary from 741 to 456 square feet.
- the between column horizontal space is not always divisible by three, resulting in a waste of one foot at the column in some stack ranges.
- the deliberate pattern of the columns has created corridors which are, at six feet, unnecessarily wide. Cross aisles are normally three feet wide; the definition of what should be cross aisles by both columns and a change in lighting and ceiling height has resulted in a somewhat wasteful layout.
- the building is steel construction with poured concrete floor on metal decking. Columns are steel, clad with clay tile and filled with concrete;
- it appears that there was considerable use of blown-in asbestos fire proofing on the structural elements and in the suspended acoustic tile ceilings.

(iii) Location and access.

As illustrated on Map 1, the Library is not located in the exact centre of the campus, although the location relative to teaching buildings is basically very good. Access is also excellent. The library front entrance is easily identified by the user, and is level; it is also possible to reach the Library through the tunnel system. Handicapped access from the parking lot is through the Library service/staff door, avoiding the several steps from the parking lot level to that of the central campus.

Use of the staff/service entrance by other than handicapped users or library shipping/receiving staff could be a security issue. Many libraries insist that all library patrons and staff use the electronically controlled main entrance as a means of ensuring that books, etc., do not leave the Library through a non-monitored exit. This policy should be adopted when the non-library related tenants vacate the building.

(iv) Ease of use.

The Library is less than successful in this category. The entrance is well placed, and upon entering the Library one is conscious of the Information Desk, where it is assumed one would turn for information if one didn't know what to do or where to go. But this desk is too far away, and there is no map or directory which could explain what is where on the Main or any other level of the Library. The reference collections, which can be seen by the entering student but which are not identified, appear purposeless because there are no visible reading stations adjacent to them. Reading stations to be used in association with the reserve collection are also invisible, hidden in part by the reference collections and the central location of staff work areas.

The layout of the three stack floors (2,3,4) are also confusing, primarily because there is no signage indicating where the various classification categories start. The logical collection sequencing is disrupted by the separation, inconsistently on each floor, of the oversize books.

User stations are inadequate, both in variety and numbers. (This latter varies due to expropriation of seminar or study rooms for university but non-library functions from time to time.) Of the approximately 500 reader stations, 70 per cent are undergraduate carrels and 25 per cent are multi-station tables. There are no larger sized carrels for professional or graduate students, no audio visual carrels, and few (4) informal seats. The room which would be appropriate for orientation or bibliographic instruction is on the fourth floor when a main floor location would be more useful. Study rooms (many expropriated at present) are also located unfortunately far from the service centres on the Main floor.

The carrels themselves, although attractive, do not provide several features which are becoming increasingly important. For example, there should be task lighting in each carrel, so that light levels could be adjusted when equipment, such as a computer, is used. As now designed the book shelf creates considerable shadow on the carrel work surface, and the resulting light level is totally inadequate.

It should be noted that there is considerable waste space in the carrel layouts. In many instances there are only three carrels placed between the perimeter columns when there is adequate space for four.

(v) Security/control.

As indicated above, the unlimited access by staff and faculty to the service entrances is a security problem. As well, the collection layouts, particularly on the main floor, do not allow easy staff oversight of student carrels.

(vi) Functional relationships.

The Library was designed to place staff work areas in close relationship to service points, but this has resulted, to a large extent, in the problems of the Main floor. (Lack of visibility of user stations, etc.) The technical services area, one of the most attractive in the Library, is well located to both service entrance

and elevators, and is efficiently laid out.

The unnecessary partition walls, already identified, and lack of total space on both ground and first levels, has resulted in the splitting of an important collection, documents, and placing it on two levels.

(vii) Lighting.

The energy crisis has magnified lighting problems in the Library. The removal of close to 50 percent of the lighting fixtures in order to meet conservation targets has been done without regard to function. In many instances the fixture at the end of a stack range, the only lighting for two or three adjacent carrels, has been eliminated. Students can cope with lower light levels in the bookstack aisles; they cannot write or study in the light levels that now are provided to many of the perimeter carrels. (see also iv, above)

(viii) Acoustics.

Excessive noise in the Library is a problem of considerable concern to faculty members. The noise from staff work areas is apparent as soon as one enters the building. With both carpet and acoustic ceiling treatment which should provide acoustic control, noise appears to come from two sources: staff work areas which have not been isolated from public space, particularly on the main level; and the layout of reader stations, primarily the multi-station tables, which encourages the students in a group approach to learning rather than individual study.

(ix) Environment.

The Library, when compared to many newer buildings, provides an adequate environment for staff, users and collections.

(x) Ambience.

There are many attractive features of the Library; the beautiful views from the many windows, for example, reduce the impact of many of the problems identified above. The crowded collection areas, lack of signage, inappropriate layout of many reader stations, all contribute to a library ambience which is less inviting or supportive than it could be.

(xi) Furnishings.

It is not expected that 1968 library furnishings would have been designed with wire management features, and new technologies have been accommodated within existing service desks where required. The acoustic or noise problems in the Library could have been reduced if the carrels had been designed with a shroud that extended one foot beyond the work surface. A lighter colour for the table and carrel work surface would have provided relief from the extensive use of dark wood, as well as a work surface more supportive of long periods of concentrated study. (Dark work surfaces creates eye strain through too much contrast with white paper.) The number of multi-station tables, as discussed above, has also compromised the desired library environment.

IV. IDENTIFICATION OF SPECIFIC PROBLEMS.

As already indicated in the general assessment, there are several design criteria which have not been met in the Library. However, the present space allocations or floor layouts for collections, staff and users have in many instances further decreased the Library's effectiveness. The specific problems identified in the Terms of Reference are addressed below under four headings. Possible solutions are suggested and these are illustrated, as appropriate, in the functional drawings which accompany the report.

1. Effectiveness of present space usage.

(a) Main floor.

The entry floor of an academic library is the most important level; if possible, all functions essential to the entering student should be located in an arrangement which makes their purpose and relationships implicit in the layout design. As well, the environment which is created by the combination of furnishings, materials and services should be one that also complements study and learning. There are several factors which detract from that goal on the Main floor of the Library.

(i) Circulation desk.

The staff work area behind the circulation desk is not isolated from the service point. As a result, the first impression of the Library for entering student or faculty member is that of the noise and confusion of the open staff work area. As well, the circulation desk is cluttered with reserve collection catalogues which would more appropriately be placed on separate tables some few feet from the desk. A staff work area, removed from direct proximity to the desk, would solve most of the noise problem. Acoustic barriers and increased awareness that staff are working in a public, and hence quiet, area would provide an inexpensive solution.

(ii) Reference/information layout.

The Reference/Information desk, although visible, is an unfortunate distance from the entrance. As well, the area assigned

to reference tables cannot be seen until one moves through the reference collection bookstacks. The full height bookstacks are intimidating; a percentage of low shelving is almost invariably used for a reference collection, particularly in an undergraduate library.

The layout of other reference tools, such as CD-ROM stations or online catalogues, should be placed in a better relationship to the Reference/Information desk. Other resources for which staff assistance is frequently required for effective use should also be located in the reference area; e.g. the Human Relations Area Files (H.R.A.F.) microfiche collection and related equipment stations.

Space for this collection re-arrangement, including low-shelf ranges, could be achieved through a weeding of the present reference collection and through removal of some lesser used bibliographic items, such as the Library of Congress or British Library catalogues, to non-prime space.

(iii) Staff work areas.

The most difficult problem on the Main floor is the many partition walls, particularly those enclosing the reference staff work areas in the centre of the floor, and separating the government publication collection (CODOC) from the service desk and reference collection area. The central offices not only occupy space which should be available for student carrels to be used in association with the reserve collection; they also block the sight lines to most of the floor.

The assignment of two main floor offices to a non-Library function (Northern Ontario Medical Program) is also unfortunate. These two offices cut off a natural movement of students from reserve collection to carrels.

(b) Other floors: ground, 2nd, 3rd, 4th.

Separate rooms, with no logical functional purpose related to collections and services, are a problem on all other floors except the third. The ground floor, for example, is a series of rooms and wasteful corridors, which make efficient or effective services difficult. Similarly, the separate current periodicals and

microform rooms on the second floor create problems of oversight as well as waste space.

The ground floor also presents a security problem, since it is a mixture of technical services, staff facilities, storage, rare books, Northern Centre material, books in process (donations) and government publications.

The major collection floors, second to fourth, tend to disorient the user since each floor has a slightly different pattern. Oversize books are in a different place; collections start their numbering in a different floor section; user stations are arranged differently. Although floor maps would assist (see below) there should also be some logical pattern to the layout, or some common theme on each floor, which would create a sense of familiarity and ease for the user.

The concept of a "quiet floor" is a concern because it implies that other parts of the library need not be quiet. The entire library building should convey the message that this is a place for quiet study and learning. It should be possible, through a more consistent and effective layout, to encourage this atmosphere throughout the Library.

(c) Signage.

Some of the effectiveness of the library is being reduced by lack of adequate signage. The student is in many instances left to determine, on his own, how collections are arranged, where various classifications are located, how to use government publications or other special materials when staff are not available to provide assistance. Simple measures could rectify this situation:

- Large (at least 1 metre square) colour coded maps should be provided opposite the student elevator on each floor. The maps should indicate:
 - collection areas, format and or subject and LC classification sequence (e.g. periodicals, reserve, reference, etc.);
 - user accommodation (different colours);
 - carrels,
 - multi-station tables,

- group studies,
 - orientation room.
 - service desks or areas;
 - photocopy machines;
 - washrooms (not coloured);
- Lettering on the maps should be large enough to be quickly visible.

- Stairwell and elevator signs should indicate broad subject classifications and call number ranges for each floor.
- Directory of library departments and department heads should be placed next to the floor map on the main level.

(d) Service centres, re-shelving, oversized books.

It is recognized that it is impossible to provide library staff on every floor of the building. However, some mechanism should be provided to create a sense of service even if a desk cannot be staffed. This could be accomplished through a grouping, in the same location on every floor, of common services. Online catalogues, at least two on each floor, photocopiers, dictionary, microfilm readers and reader printers, if required, a display of collection guides, or brochures, etc. This service centre, well-lit, could provide a common element to each floor and provide a more positive service orientation.

The problem of mis-shelved books, a complaint of many faculty, could be addressed through the provision of shelving, with unique colour coding, reserved at intervals through the collection stack ranges for books to be reshelved. Signage beside the floor maps should indicate that books should be returned to the 'orange' (for example) shelves for re-shelving, only. These shelves should be marked on the floor maps. Ideally, all volumes used in the Library and not checked out should be 'wanded' back into the system, thus providing a record of in-library use.

Few libraries provide separate shelving, out of sequence, for oversized volumes, because of the confusion created. Many prefer to place them on their fore-edge, in sequence, or at the least, leave one larger shelf within a major sequence of the classification. This practice may take a bit more space but will probably result in more use of the volumes in question.

(e) Orientation.

A larger orientation room, seating up to 25 students would allow the Library staff to expand the present orientation and bibliographic instruction program. Staff members have produced excellent information guides; these should be handed out at the orientation sessions as well as displayed prominently on every library floor. Display holders next to the floor maps or in the service centres would be useful.

(f) Weeding.

As members of the Senate Library Committee indicated, many parts of the collection are in need of weeding of duplicate copies no longer in use. A well managed collection leads to more effective use, and circulation system data should assist in a de-selection project.

(g) Policies.

All library collections are acquired to meet academic teaching or learning requirements, and library policies should encourage their use. It is recognized that some formats are easier to organize and service for use than others, but library staff tasks should facilitate, not discourage, use. The policy of providing only the current day's newspapers for public use, for example, is not appropriate. All academic libraries have problems keeping unbound back issues of newspapers in any semblance of order, but the solution should not be to take them out of circulation. Most libraries fold the older newspapers and place them on shelving near the current newspaper reading area. The permanent record for newspapers is the microfilm which is updated frequently, so that the mishandling of unbound newspapers should not be considered a serious problem.

Microforms are another format that benefit from more visible locations.

(h) Staffing.

It may be that the library staff size at Lakehead University is not of sufficient size to warrant the use of para-professionals on information desks, but this method of increasing public service

hours should be considered. Para-professionals, called variously senior library assistants or library associates, are university graduates without graduate library degrees. With a well planned in-service training program which includes delineation of what is to be referred, to whom, and how, this level of staff can release librarians for advanced work, increasingly related to information technology.

2. Collections.

(a) Rare, archival and Northern Studies collections.

These three special collections, each of which should have a controlled environment (temperature $20^{\circ}\text{C} \pm 2^{\circ}$; RH $35\% \pm 5$) are housed in separate, unrelated rooms on the Ground and Fourth floors, without proper temperature or humidity. The rooms are difficult to find and the collections, arranged in this haphazard fashion, do not convey the wealth of research resources which are available. Placing these collections together, in the proper controlled environment, would greatly enhance their usability. Such an arrangement should also provide for growth, and the potential for recognition of the importance of the collections would encourage donations to them. The emphasis on the northern region of the province is particularly important as is presently recognized, but the collections should have more visibility.

(b) Reference collection.

As indicated above, the reference collections should be weeded, with the most used volumes placed in low shelving with counter-tops and the little used or superseded (by optical disk or microform format) volumes placed in non-prime storage space.

The present layout of the reference collection and its relation to the online catalogues, non-print formats, user stations and the Reference/Information desk is, as previously mentioned, not one that encourages appropriate use. The service desk should be closer to the entrance, and should have the most used tools, such as the online catalogues, in close association with it, as well as the new formats. Service should be provided from the desk, not a reference office. (Hopefully these work areas can be moved.) Major microform collections, such as HRAF, should be moved to the reference area with the necessary equipment, so that proper

assistance can be provided for their use. At the same time, the filing cabinets of unorganized vertical files should be eliminated. If the material is valuable enough to keep in the permanent collection it should be organized for access. Many libraries use the CODOC system or a variation of it to provide such access, filing the pamphlets in coded sequence at the end of the documents collection.

The most serious problem with the reference area is the lack of visibility of facilities for users. The multi-station tables should be placed near the service desk and be bounded by the collections, so that they are seen to be an integral part of the reference collection and its use. The study carrels should be allocated for use with the reserve material or for individual study.

(c) Government publications/CODOC collections.

There are two problems in the handling of government publications: the separation of the collection physically, and its organization. The CODOC system was designed and adopted for use by the Ontario University Libraries' system more than 20 years ago for two distinct and valid reasons: to use automation to provide inexpensive but in-depth organization and access to the government publication collections; and to enhance the sharing of resources by using the same organization/processing system for the collections at each University. The move to online catalogues has not negated the original system concept: the CODOC records can be merged with standard MARC cataloguing records in an online catalogue with little difficulty. There is no question that a few government publications - the hard covered monographs from the Ministry of Defence, for example - should be treated, catalogued and classified in the regular Library of Congress sequence. But the bulk of the collection can be provided with superb access through CODOC. Clerical staff should be responsible for the coding, and the material should be processed for the shelves within a day or two of arrival in the Library.

At Lakehead University, every effort should be made to convert all document records into the CODOC system. (A run against another Library's files might be an inexpensive way to pick up the records.) The simple CODOC records should be used as they exist, with no effort to provide MARC coding or Library of Congress

classification for any but the clearly distinguished important monographs. Many libraries find that more detailed stack end signs, indicating the government jurisdictions as well as CODOC classifications, are useful if there is not a separately staffed government document desk. Ontario academic libraries have found that fully exploiting the CODOC system, without enhancement, leads to government document collections which are heavily used, even by freshman students.

The physical separation of the collection, and the lack of visibility of the CODOC collection even though it is on the main level, are addressed in the proposed layout.

(d) Periodicals.

There are several problems on the periodicals floor.

- the current periodical shelving takes up far too much space. As the latest edition of Metcalf suggests, few academic libraries can afford the luxury of display shelving.² What is recommended is the use of labelled flat shelving for current issues only, with unbound current year issues kept in a pamphlet box on the shelf next to the bound volumes. Such an arrangement would eliminate the need for the present periodicals room. With the wall removed, and less space assigned to current titles, the crowded bound volumes could expand.
- the current newspapers, including unbound back issues, should also be kept in the current periodicals area.
- Informal seating is more appropriate to the use of current periodicals and newspapers than formal carrels and tables.
- In order to create space for expansion on the periodicals floor, more space, in addition to that provided by the change in current periodical shelving, is needed. This can be achieved through weeding little used back issues to ground floor storage.
- More seating should be introduced. The present perimeter seating layout is wasteful; there is room for four carrels where three are placed.

(e) Floors three and four.

The third floor has become a successful library area because of the design of the carrels: the structure provides total privacy. Any new reader stations added to the library should be individual carrels, and if they are stand alone rather than the multi-carrel configurations they should have the features described previously.

The placement of the carrels on floor three could be more sensitive to collection discipline groupings. For instance, ranges of carrels cuts several LC classifications in half: e.g. E, HD.

The collection sequencing is illogical on both floors and the use of oversize shelving compounds the problem.

The fourth floor is not as attractive as the third, with user stations grouped without symmetry on the perimeter of the collection. The use of multi-station tables in such an area is inappropriate, and they should be replaced with carrels. Other fourth floor problems include:

- The assignment of the room intended as a large group study room to a non-library function is unfortunate, although temporary. This could have been used as an orientation room. As soon as the archives can be moved, that room can be used for orientation.
- The group studies/and viewing room are an attractive feature although unfortunately far from the main service floor. However, careful control of a keying system should allow their full use. (At the present, several rooms are assigned to non-library functions.)
- If all the group study rooms were available to the Library, the need for the larger rooms (4001, 2 and 3) can be questioned. The search service demo room should be part of orientation, for example. Until all space is available to the Library, correct allocations cannot be made.

- (f) Non-print collections: audio, video, computer software, etc.

The most efficient way to provide for audio/video etc., collections is to keep them at the reserve desk. Carrels equipped for use of such material, including microcomputers with and without CD-ROM drives, should be in the reserve reader area. Lack of appropriate space for this function near the reserve collection and desk is one of the problems of the Main floor.

3. Library study space.

The need for library study space has been discussed in association with the collections and in the general criteria review. The points can be summarized as follows:

Many of the student study stations which have been provided are not appropriate or are not placed in an appropriate location for the function or service:

- Informal or lounge chairs should be provided in the current periodicals area.
- Multi-station tables are required in the reference area in sight of the Reference/Information Desk. They should not be placed on the non-staffed floors.
- The single carrels should be placed more efficiently and it should be emphasized that they should not be moved. (Attempts to get more light is probably the cause of the moving.) It may be necessary to introduce surveillance patrols from time to time to encourage more appropriate student behaviour. If it is made clear, in orientation sessions and through consistent discipline, that the social atmosphere complained of by faculty on the second and fourth floors is not to be tolerated, these various measures should lead to a more desirable library environment.

4. Staff work space efficiency.

The technical services area appears both attractive and efficient, albeit somewhat spacious. With further implementation of automated systems this space could be reduced slightly. The office and support space provided for the Chief Librarian is very effective, but problems exist with the other staff work areas:

- department head offices are too small.
- offices are scattered on the main floor and elsewhere, with no concept of needed relationships.
- the unfortunate placement of the reference offices in the centre of the main floor has already been mentioned.
- except for department heads, private offices are not required. Systems furnishings or work stations provide the acoustic control and privacy required without wasting so much space.
- the circulation staff should not be working in the open area unless they are on desk duty. They should be behind the reserve collection stacks, or the adjacent offices should be turned into one work area.
- all public service staff should understand that it is incumbent on them to establish the proper library environment; there should be no conversations in a public area unless they relate directly to the work at hand or assistance to a user.
- the CD-ROM and online searching stations should be in the public area, associated more closely with the Reference/Information Desk.
- a more appropriate staff work area is needed in association with the rare, archival and Northern Studies collections; this cannot be allocated until the opportunity exists for merging the collections.

V. FACULTY OF EDUCATION LIBRARY

1. General assessment

The Faculty of Education Library is on the second floor of the Bora Laskin building, serving an estimated 555 f.t.e. undergraduate and 17 f.t.e. Master's students in 1989/90.

The original library space, approximately 2,100 net assignable square feet (nasf), was enlarged to 3,747 nasf with the integration of an adjacent class room. This space is totally inadequate for the provision of library services appropriate to a professional faculty (see below), and there is no opportunity for expansion in the present location.

The lack of space has resulted in problems in every aspect of library service: both collection size and the number of reader facilities are inadequate. As well, the Library is occupying space that was not designed for a library, in that there is very little space structurally capable of sustaining the loading required for bookstacks. Specific comments follow:

- The entrance/exit is in the wrong place so that students almost run into the first bookstack range as they enter.
- The initial impression created by the Library is one of crowded confusion. The excellent and friendly service offered by the staff does much to mitigate this feeling, but it is impossible to disguise the crowded conditions.
- An additional bookstack range has been fitted into the collection area. This has resulted in stack aisles as narrow as 31 inches, with oversize books extending into that space, as well. It should also be noted that some ranges have been expanded upward to eight shelves, a very difficult situation given the extremely narrow aisles.
- Bookstacks for the periodicals and reference collections are equally crowded.
- Lighting is inadequate in both sections of the Library. One aisle in the bookstacks is in total darkness, due to the addition of the extra range. In the reading and non-print

rooms, glare from the windows is excessive. This is counter-productive for study purposes and totally compromises the use of CD-ROM, computer software, video and microform materials.

- Acoustics are equally inadequate; every conversation can be heard throughout the reading room, and a proper research and study environment cannot be created within these crowded conditions.
- Electrical/mechanical systems are appropriate to a library of 20 years ago. The need to have carrels with both power and communications outlets at every location in the library cannot be met. It is particularly important for an education library to be able to provide access to new technology formats, and the present facility is incapable of meeting that requirement.
- User facilities and furnishings are inadequate. The education students are in the professional category, and individual carrels larger than the standard carrel are required. A work surface of 2 feet or 2 1/2 feet by 4 feet would be appropriate, in a carrel with power and communication outlets. Group study rooms should be available to encourage the project orientation of some of the library related assignments, without intruding on the research environment also required.
- Wire management features (i.e. features which hide necessary wires or cables are built into the furnishings) are required in the staff/service desks and work stations.
- The glare from perimeter windows impacts on staff work areas.

2. Physical facility space.

There are no separate standards for library space for the education discipline as there are, for example, for law. However, similar faculties at two other Ontario universities provide a measure of comparison.

The education libraries at the University of Western Ontario (UWO) and at Queen's University have been used in the comparison in Table 2.

Table 2
Comparison of education library facilities

University	Total f.t.e. enrolment	Collection in equiv. vols.	Staff size	Total space nasf
UWO ³	673	139,803	6	11,702
Queen's ⁴	775	113,605	12	15,889
Lakehead	572	55,000	24	3,747

f.t.e.: full time equivalent
equiv. vols.: equivalent volumes
nasf: net assignable square feet

It should also be noted that the University of Western Ontario has identified "a requirement of an additional 27,000 assignable square feet"⁵ for the education library by 2005. Queen's has indicated that they have a space shortage without estimating the specific additional space required for their education library.⁶

Using the comparison in Table 2 as well as the general assessment, it is not difficult to conclude that the present Education Library at Lakehead University is inadequate in many aspects. This is discussed in more detail in Section VI below.

VI. SPACE REQUIREMENTS.

1. Space standards and formula.

(a) COU space standards⁷

Stack: .004 NASM (.04 nasf) per equivalent volume for 10% of total volumes; (This assumes and provides for compact storage.)

.007 NASM (.07 nasf) per equivalent volume for 0-300,000 volumes.

.006 NASM (.06 nasf) per equivalent volume for 300,000 - 600,000 volumes.

.005 NASM (.05 nasf) per equivalent volume for all other volumes.

Study: .5 NASM (5 nasf) per fte undergraduate.
1.0 NASM (10 nasf) FTE professional student.
.7 NASM (7 nasf) per FTE graduate student.

Staff/ service: 25% of (Stack and Study).

Since library space planning is dependent on the dimensions for housing the major component, collections, which at present is dictated by the three foot shelving module, the COU standards have been converted from metres to feet, and modified to respond to technology and long range planning needs.

(b) Volume equivalencies

Volume equivalents are a calculation of the amount of space required to house a collection based on factors which convert materials in various formats into equivalent bound volumes. These are expressed in reference to the assumption that

a standard single faced section of shelving (seven shelves) holds 125 volumes. The COU equivalencies are shown in Table 3.

Table 3

Library Collections (Equivalent Volumes)

<u>Material</u>	<u>Items</u>	<u>Equivalency</u>	
<u>For Material Stored on Horizontal Storage Units</u>			
Volumes - excluding reference	125		125
Computer tapes	125		125
Documents, pamphlets	1,000	(items)	125
Archives	18	(boxes)*	125
Microfilm - boxed on shelves	400	(reels)	125
Microprint - boxed on shelves	50	(boxes)	125
Newspapers - current titles on display	7	(titles)	125
Newspapers - unbound back files	7	(titles)	125
Newspapers - bound back files	9	(volumes)	125
Periodicals - unbound titles on display	18	(titles)	125
Periodicals - boxed current year	50	(boxes)	125
Periodicals - boxed back files	50	(boxes)	125
Periodicals - Abstracts (bound)	50	(volumes)	125
Reference	45	(volumes)	125
Atlases	20		125
Sheet Music	250	(pieces)	125
Instructional kits	45		125
Slides - carousel boxes	75	(carousels)	125
Films	125	(films)	125
Filmstrips (boxed)	2,250	(strips)	125
Videotapes	125		125
*Hollinger Box - Legal Size			
<u>For Material in Vertical Storage Units</u>			
Maps	400		125
Microfilm (reels)	315		125
Microprint	11,000	(cards)	125
Pamphlets	790	(pamphlets)	125
Phonodiscs - records	500		125
- tapes	500		125
- cassettes	650		125
Slides (in cases)			
- bound	2,560	(slides)	125
- unbound	5,120	(slides)	125
Filmstrips	580	(strips)	125
Mounted Photos	790	(photos)	125
Satellite Images/Aerial Photos	7,000		125

(c) Standards adopted for this report

The COU standards have been followed with two adjustments:

- collection formula has been simplified to one measure;
- user station size has been adjusted to recognize the need, recommended by many jurisdictions,⁸ for a larger work surface to accommodate use of technological equipment at 20 or 25 percent of student work stations.

Stack space: 14 equivalent volumes per square foot

User space:

- Undergraduates: 20% to be seated
 - 80% stations at 25 sq.ft.
 - 20% stations at 30 sq.ft.
- Graduates: 32% to be seated
 - 80% stations at 25 sq.ft.
 - 20% stations at 30 sq.ft.
- Professional students: 40% to be seated
 - All stations at 30 sq.ft.

Staff/service space: 25% of (stack and study) space.

2. Space requirements to 2000.

Several factors must be considered in projecting space requirements to the year 2000:

- role of the Education Library
- enrolment projections
- projected collection growth in Chancellor Paterson Library

(i) Education Library

In May, 1990, corridor enrolments for the various disciplines at Lakehead were projected to 2000. In education it is projected that enrolment will increase to 560 under-graduate FTE's and 17 Master's f.t.e.'s by 1992, and stay level at that number to 2000.⁹ The present Education Library collection is approximately 54,000 equivalent volumes which is less than 98 volumes per student,

while comparable provision at UWO is 188 volumes and at Queen's is 135 volumes. Using the Queen's allocation would result in a collection size of approximately 75,000 equivalent volumes. If a curriculum resource library of 10,000 equivalent volumes were subtracted from the total collection, a requirement for 65,000 equivalent volumes would remain for the basic collection. Table 4 has been developed based on these projections.

Table 4
Educational library requirements, 2000

Facility	Collection		Users		Staff/Service	Total
	equiv. vols.	space nasf	#	space nasf	space nasf	
Education Library	65,000	4,643	239	7,170	2,953	14,766

The difference between the existing 3,747 assignable square feet and the required 14,766 assignable square feet is so great that it emphasizes the inadequacy of the present library arrangements for the Faculty of Education.

As well, it is impossible to expand the existing library facility in its present location due to floor loading and access requirements. At the present time, the proposed addition to the Bora Laskin Building projects an increase in library space of only 7,000 square feet.

For the purpose of this space review it is therefore concluded that the students in the Education Faculty have inadequate library collections and facilities, and would be better served if their services were integrated into the Chancellor Paterson Library. At the same time, the space now occupied by the Education Library would provide more effective support for the Faculty of Education if it were used as a Curriculum Resource Centre. (CRC) The impact of such a distribution is shown below.

Table 5
Educational Library and Curriculum Resource Centre, 2000

Facility	Collection		Users		Staff/Service	Total
	equiv. vols.	space nasf	#	space nasf	space nasf	space nasf
Education Library	55,000	3,929	179	5,370	2,324	11,623
C.R.C.	10,000	900	60	2,100	750	3,750
	65,000			4,225	600	15,373

As displayed in Table 5, the impact of the integration proposal would not change the total collection size, with 55,000 volumes integrated into the central collection and 10,000 equivalent volumes of non-print resources remaining in the proposed Curriculum Resource Centre. User numbers have been held constant but the existing library space in the Bora Laskin Library would allow a more generous space allowance for non-print collections and related user stations.

There would be additional benefits for collection and users if the education collections, except for non-print, were integrated into the Chancellor Paterson Library:

- Hours of service are longer;
- Contact with a whole range of library resources, including documents, CD-ROM and microform collections, would be provided;
- Broad inter-disciplinary and reference collection would be available.

(ii) Enrolment projections, Lakehead University

The corridor enrolment projection established by the Ministry of Education for Lakehead University to 2000 is approximately 5,200 f.t.e.'s, of which 500 are Master's students.¹⁰

(iii) Projected collection growth for Lakehead University Library

At present the Library system adds approximately 15,000 equivalent volumes per annum to the collections, including monographs, documents and bound issues of periodicals. At an increase of 15,000 volumes per annum the total collection in the year 2000 will be 845,525 equivalent volumes (built on the 89/90 base of 695,525).

Table 6 reflects these assumptions and projections, using the standards discussed above. As illustrated, the Library requires 111,295 nasf (148,393 gross square feet) by 2000. The existing building, including the entire fifth floor for library use, would provide an estimated 62,170 assignable square feet (77,712 gross square feet). This is far short of the requirement.

Table 6
Library Space requirements, 2000

Function	Numbers	Standard	Space required nasf
Collection	845,525	@ 14 v.p.s.f.	60,395
Users			
undergrad	20% of 4700=940	80% @ 25 s.f. 20% @ 30 s.f.	24,440
grad	32% of 500=160	80% @ 25 s.f. 20% @ 30 s.f.	4,160
Staff/service	25% of (collection and user space)		22,250
Total nasf			<u>111,295</u>

Non-assignable space at 25% of gross = 37,098 square feet
Total gross square feet = 148,393 square feet

(Total gross square metres: 13,786)

VII RECOMMENDATIONS: SHORT TERM

Many suggested changes have been indicated in the report, all of which would improve the effectiveness of the Library. These are summarized below.

As well, several partition walls should be eliminated and functional spaces should be reassigned. These space reorganizations and renovations, as well as assignment of the total building including part of the fifth floor to the Library, would add to library effectiveness and efficiency, and would also relieve the pressure for additional space on a short term basis. Plans 7 - 12 illustrate, in functional layouts, the suggested changes.

Recommendations

1. In order to better serve the Education Faculty, the education collection, except for media resources, should be integrated into the Library.

2. A Curriculum Resource Centre, managed by the Library, should be established in the present Education Library space.

3. All library space, with the initial exception of the library technology program, should be made available to the Library.

4. The objectives of change/renovation should be to improve service to faculty members and students, with minimal cost or disruption.

5. Collections

(i) The Rare, Archival, and Northern Studies collections should be grouped together in a Special Collections area on the 5th floor.

(ii) Reference collections should be weeded, with obsolete volumes placed in storage. Low shelving should be used for the most heavily used titles, and index tables for periodical indexes and abstracts. Pamphlets should be removed from vertical files and either processed (using the CODOC system) or discarded.

(iii) Government publications should be processed in CODOC, with few exceptions. The simple principles and coding of the original system should be followed.

(iv) Periodical back issues should be weeded, with older volumes moved to storage. Unbound back issues should be shelved in pamphlet boxes next to the bound volumes. Current periodicals should be arranged on flat shelving. Current newspapers, except for the latest issue, should be kept on shelving near the current periodicals.

(v) Collection arrangements should follow Library of Congress classifications in logical sequences on each floor.

(vi) Oversize books, if the practice of a separate location is continued, should be in the same place on each floor, or within each major sequence.

(vii) Non-print collections: audio, video, software, slides, etc. should be shelved at the reserve desk. Microform collections should be with the related subject or format; some microform would be more appropriate with reference (e.g. HRAF) others with periodicals and documents.

(viii) Storage collections should be consolidated on the Ground floor, with a possibility for future compact storage.

(ix) Special shelves for material to be re-shelved should be colour coded and located throughout the bookstacks.

6. Study space

(i) Although the projected (to 2000) 1,100 user stations cannot be accommodated in the present Library space, the number and variety of study stations needs to increase and change, with emphasis on individual stations rather than multi-station tables as follows:

- informal seating near current periodicals;
- improved lighting for individual carrels is essential, and more efficient layouts (four between columns, not three) can be achieved;
- any new carrels selected should have extended

- shrouds for acoustic control;
- some larger carrels should be available for graduate students.

(ii) Multi-station tables should be visible in the reference area;

(iii) Reserve seating should be at individual carrels, in close association with the circulation/reserve desk;

(iv) Media carrels, somewhat larger than the standard carrel (work-surface: 2½' x 4') should be at the front of the reserve study space. Head sets, also borrowed from the circulation/reserve desk, will ensure a quiet study area.

7. Staff work areas

(i) The administrative offices should move to the 5th floor.

(ii) The Circulation/reserve work area should be behind the collection area, visible from the supervisor's office.

(iii) Reference work areas should move to the Ground floor, connected through communication devices.

8. Miscellaneous

(i) A service centre (online catalogues, photocopiers, etc.) should be established on the major user/collection floors (2,3,4);

(ii) An expanded signage program should be implemented;

(iii) An expanded orientation program could be implemented with the larger orientation room on the Fourth floor

VIII RENOVATION PLANS: SHORT TERM

1. Functional plans

Plans 7-12 illustrate the concepts and recommendations provided. Internal partition walls are, for the most part, easily removable.

Plan 7 Ground floor

- This floor becomes the major staff work and facilities area for the Library, with a large and efficient space reserved for storage of lesser used collections. Capability for compact storage, which could double or triple the capacity, should be possible. As well, elevators could be keyed so that staff only had access to this floor, if desired.
- The major corridor walls are maintained except those defining technical services. These have been moved to create more storage space. Other internal walls have been eliminated only as necessary to provide logical and efficient storage collection sequences.
- The reference work areas have been moved from the Main floor, providing more space. Although a main floor location would be desirable, priority has been given on that floor to user access and facilities.
- Both rare and Northern Studies Centre collections have been moved to more attractive space on the 5th floor.
- Government documents have been moved to the Main floor, integrated with the CODOC collection (see comments above), and are thus more accessible to students, faculty and reference assistance.

Plan 8: Main floor

- This floor becomes the focus for student use of reserve, media, reference and government publication collections.
- Reserve collection space moves closer to the desk, and is expanded to include, A/V and computer media. Staff work areas are beyond the collections, and include both small offices.
- The NOMP and Chief Librarians office are assigned to reference staff, with a separate office for the head and a shared office for online or other special services.
- The display wall is maintained, enclosing the current

periodical collection (on flat shelving, and informal reader stations.

- All other walls are removed, providing space for AV, Micro, and reserve carrels, more visible reference and government publication collections, and a more prominent reference desk.

Plan 9: Second floor

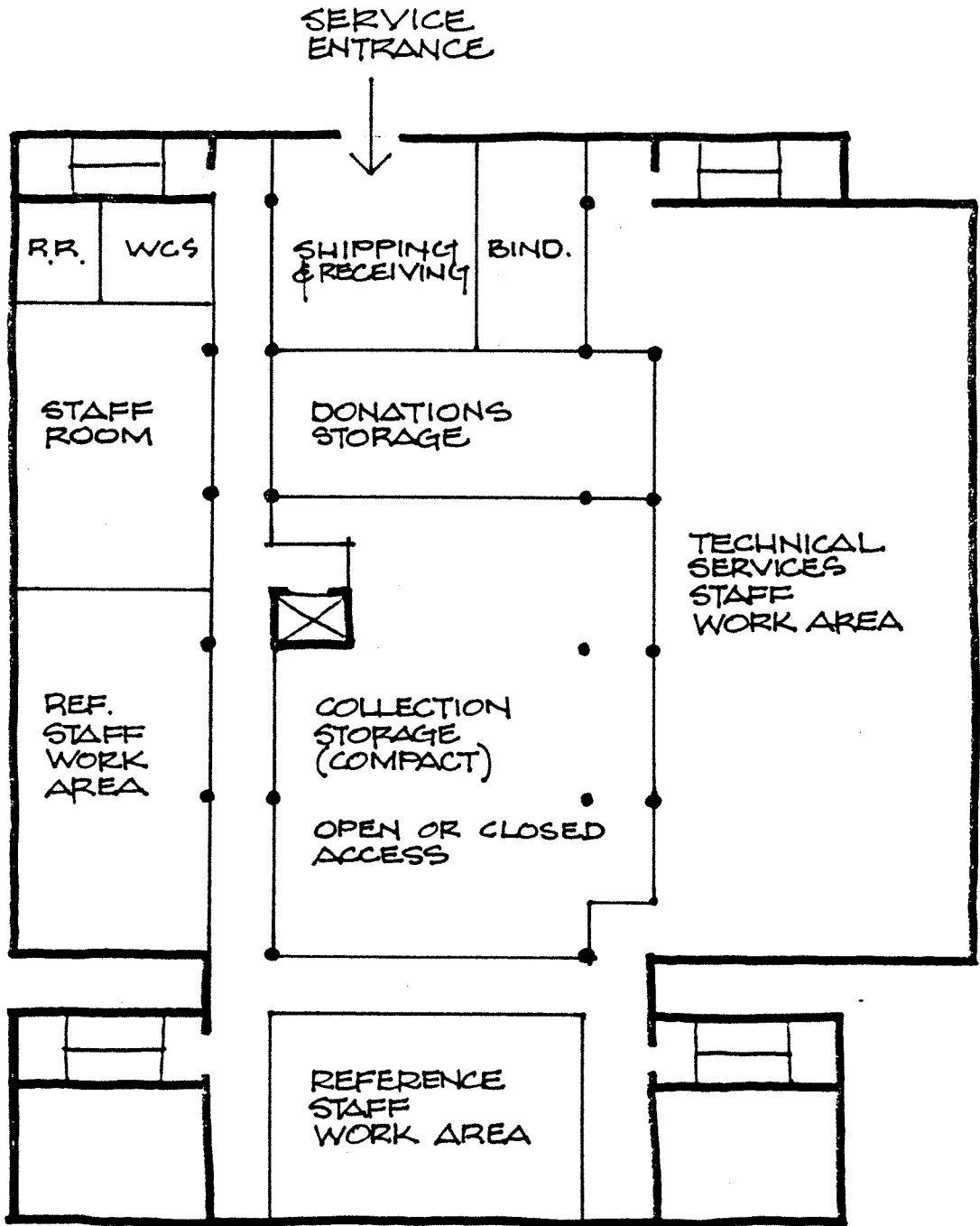
- The objectives of rearrangement of this floor has been to provide more seating, a more visible microform collection, and more collection space.
- The walls "hiding" the microforms have been removed.
- A service area has been introduced as the students leave their elevator.
- N.B. It should be noted that at least some if not all the microfiche collections and their equipment should be accommodated on the Main level. Microfilm of periodicals is more efficiently stored in boxes (holding 12 films) which could be shelved, in classified sequence, with the bound volumes on; the second floor. It may be possible, therefore, to free much of the present microform area for additional reader stations.

Plan 10: Third floor

- The objectives for the reorganization of the third floor are to provide additional collection space in more logical sequences, without reducing student seating. A service area has been provided.

Plan 11: Fourth floor

- The objective for the fourth floor is to increase the collection area and to provide more student seating, in patterns which are similar to the other two collection/reader floors.
- A service area has been provided
- The present configuration of conference, online search services and donation storage has been removed, with each assigned to more appropriate space on this and other floors:
 - The conference room is relocated in a merging of two group study rooms;

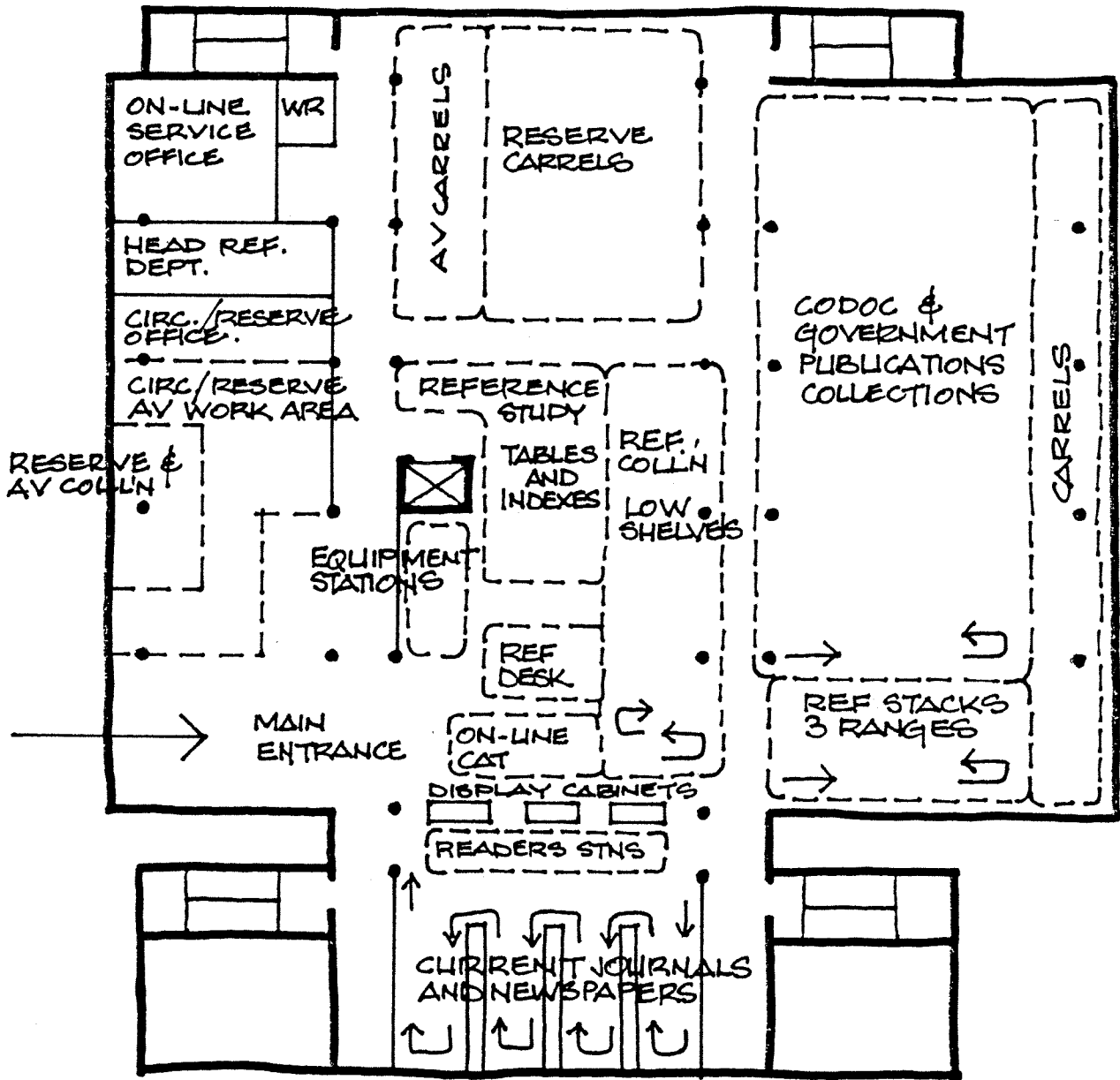


LAKEHEAD UNIVERSITY - LIBRARY

PLAN 7

GROUND FLOOR - PROPOSED

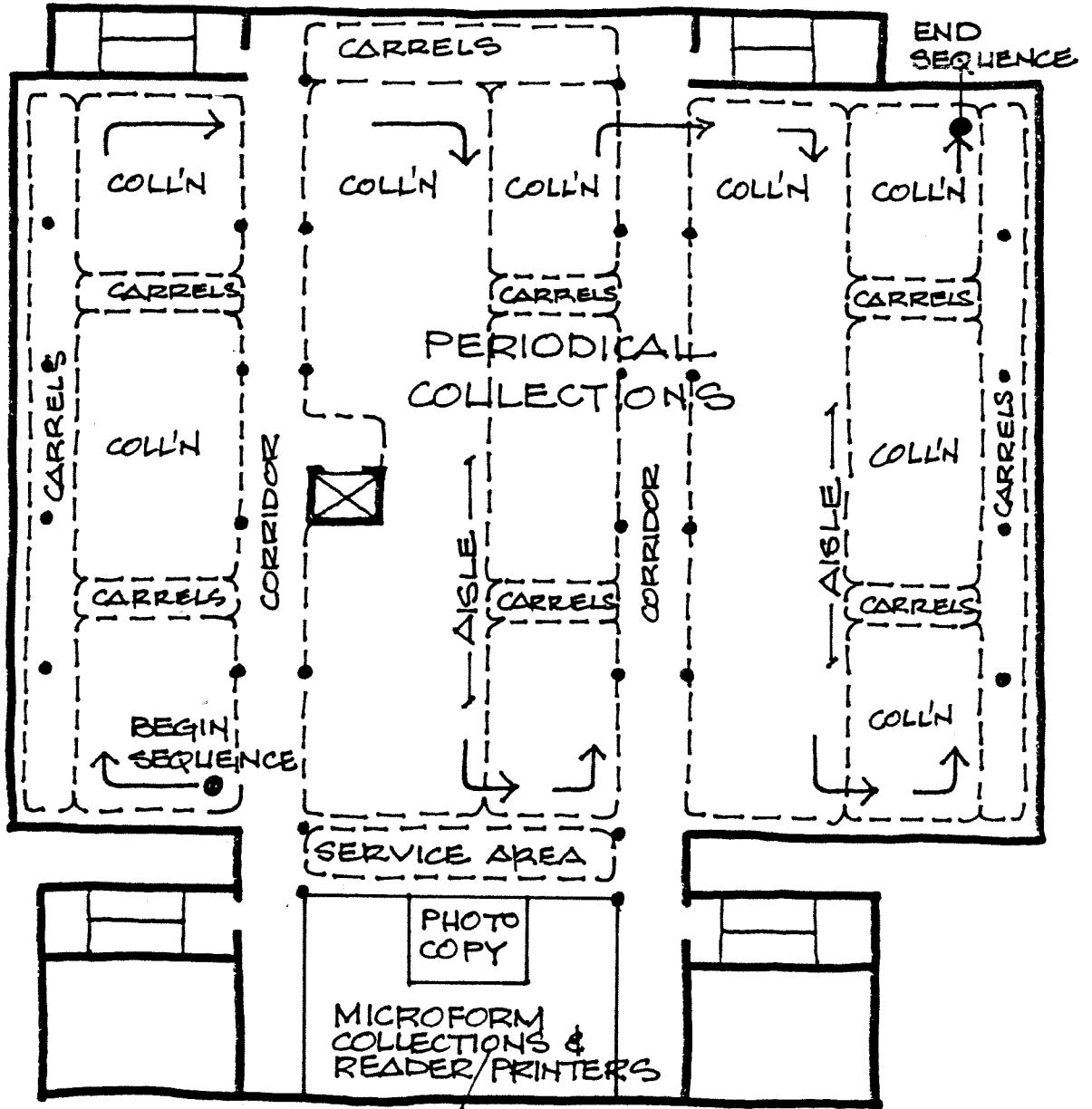
COLLECTION : 235 D.F.S.



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 8

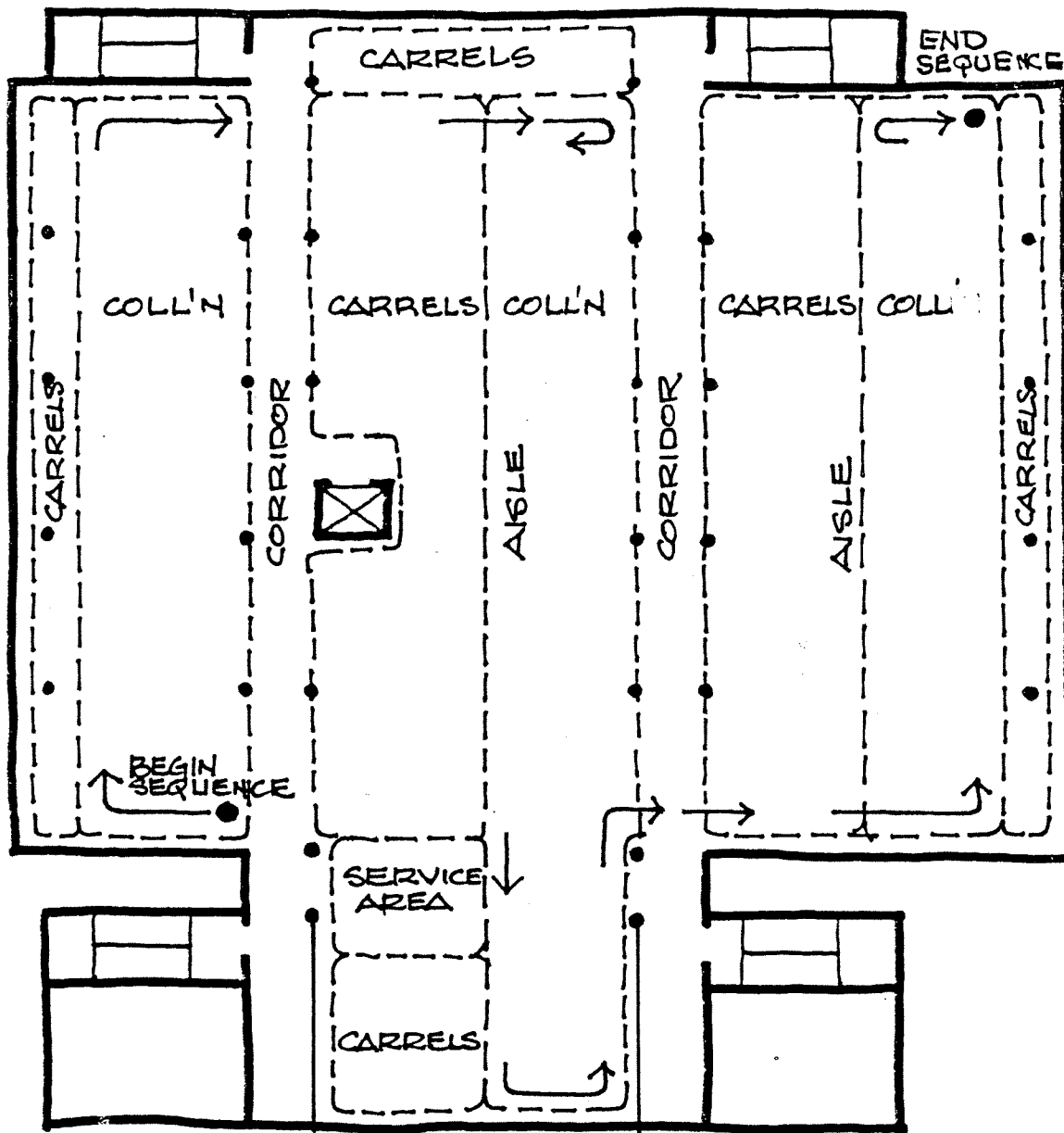
MAIN FLOOR - PROPOSED



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 9

SECOND FLOOR - PROPOSED



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 10

THIRD FLOOR - PROPOSED

- Donations storage has been moved to the secure storage area on the ground floor;
- Search services office has been moved to the Main floor.
- The archival collections have been moved to the fifth floor with the other special collections, providing a room for student orientation and bibliographic instruction.
- The large group study room, now assigned to other purposes, should be removed.
- The remaining group study rooms (8) should be reserved for either group study, viewing or listening. (Individual use of non-print media is accommodated in carrels on the Main floor, and jacks could be used with the carrel stations.)

Plan 12: Fifth floor

- The library technology program space has been maintained because there is value in its relationship to the library collections, and appropriate space elsewhere on campus might be difficult to obtain.
- All special collections have been consolidated on the fifth floor, where a more appropriate environment would be possible.
- One staff work room for the three collection areas has been provided.
- All readers for the three special collections would be in the Northern Studies Centre.
- One service desk for staff assistance is assumed in the Northern Studies Centre, with material from the other two collections brought to this room for use. Staff would take shifts providing service/assistance for the three special collections.
- The Chief Librarian and the Collection Development Librarian offices have been moved to this floor, and a small staff meeting room has been placed adjacent to the Chief Librarian's office.
- A small washroom complex would have to be added to this floor for staff and users, since the main washrooms would be cut off in the library technology area.

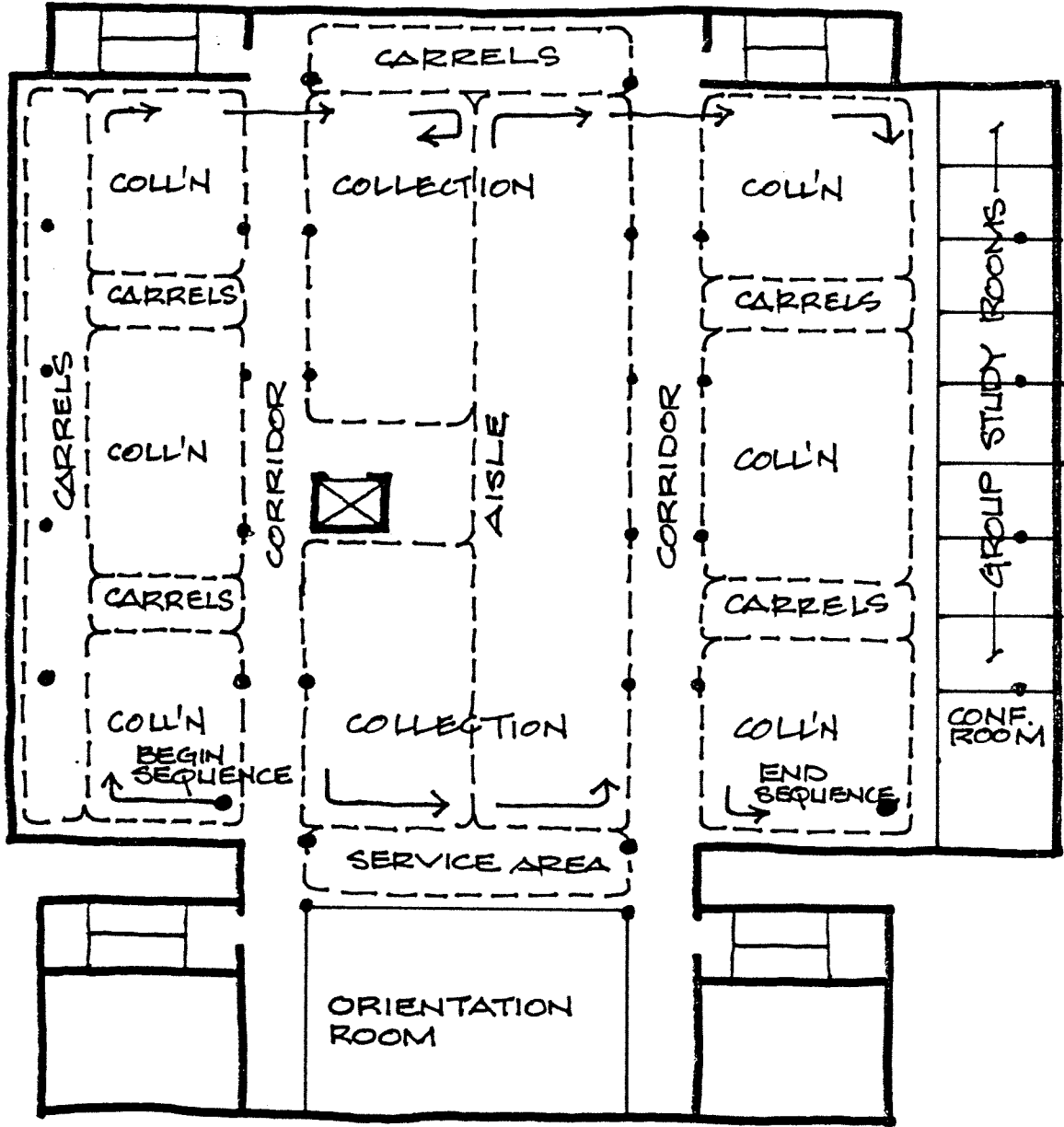
2. Comparison of user/collection accommodation

Table 7 has been developed to illustrate the differences in accommodation for collections and users that the proposed renovations (Plans 7-12) would permit. On the five floors, Ground through Fourth, there is an approximate increase of 250 double faced sections or 75,000 equivalent volumes, and 180 users. (Compact shelving on the Ground floor could increase collection capacity by a further 75,000 volumes.) This indicates that a renovation would permit integration of the education print collection into the central Library without compromising increased provisions for other collections and users.

3. Comparison of staff space

Space for several staff work areas or offices has also been increased.

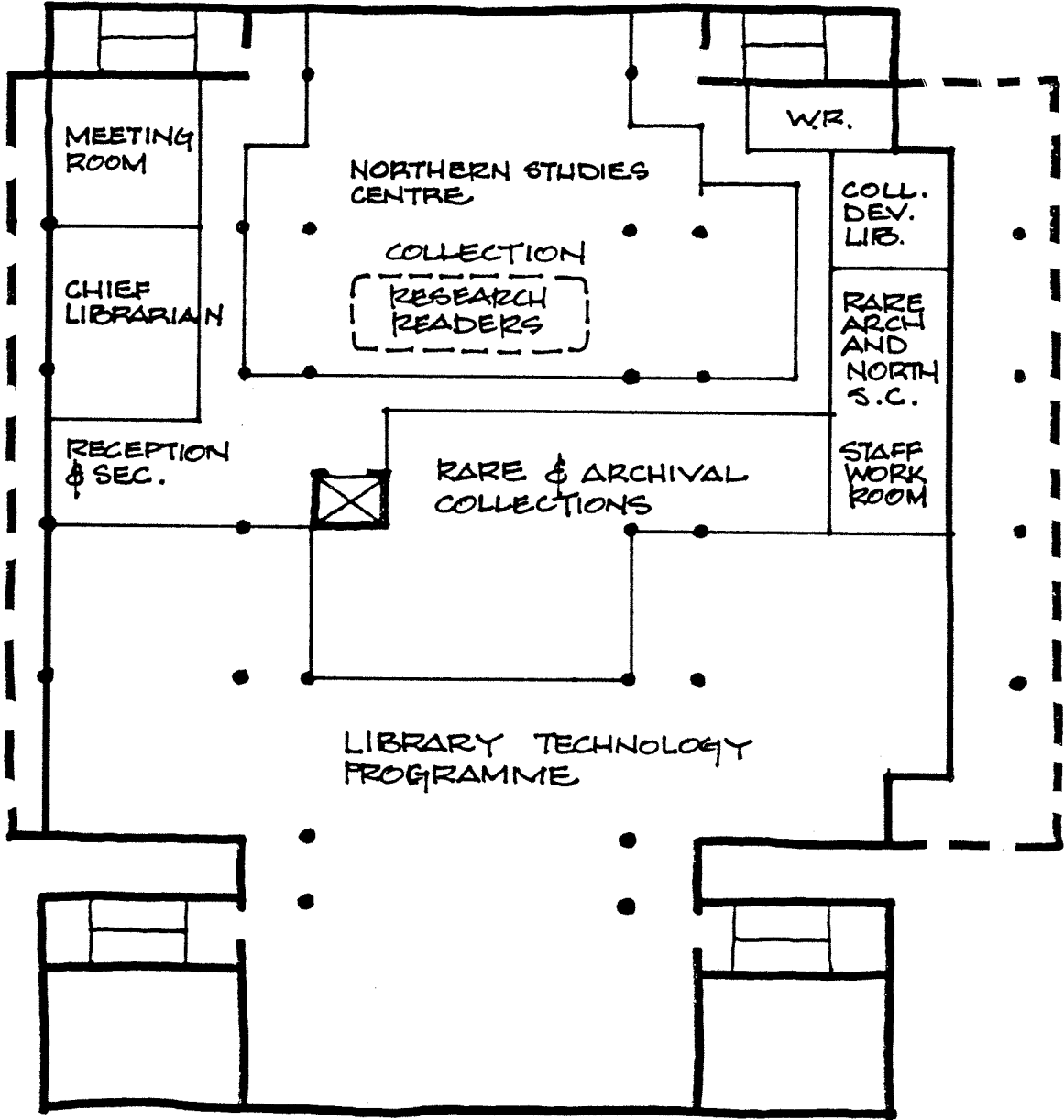
Reference:	from 1075	to 1973	nasf
Circulation:	from 740	to 863	nasf
Coll. dev. office:	from 123	to 154	nasf
Special collections:	from 0	to 528	nasf



LAKEHEAD UNIVERSITY - LIBRARY

PLAN II

FOURTH FLOOR - PROPOSED



LAKEHEAD UNIVERSITY - LIBRARY

PLAN 12

FIFTH FLOOR - PROPOSED

Table 7
Bookstack and user accommodation (approximate)
Collection accommodation (dfs)

Location	Collection (dfs)				User accommodation			
	Present		Proposed		Present		Proposed	
Ground	Gov. docs:	57	storage:	210	carrels:	4	NIL	
	rare, etc.	17			tables(3)	14		
	storage	26						
	cont.ed.	<u>10</u>						
Sub-total		110		<u>210</u>		<u>18</u>		
Main	CODOC:	63	Docs:	176	carrels:	25	carrels:	90
	Ref: high	115	Ref: low	44	tables(6)	24	tables(6)	24
	Ref: low	11	high	33	index	3	informal	10
			current per:	<u>(68 sfs)</u>	CODOC	<u>6</u>	equip/index	<u>13</u>
Sub-total		<u>189</u>		<u>253</u>		<u>55</u>		<u>137</u>
Second	bound		bound		carrels:	53	grad. carrels	20
	period:	425	period:	458	tables(2)	4	carrels:	70
	current per.	<u>(114 sfs)</u>			m'form	<u>11</u>	m'form	<u>11</u>
Sub-total		425		<u>458</u>		<u>68</u>		<u>101</u>
Third	books:	318	books:	337	carrels:	186	carrels:	185
Sub-total		<u>318</u>		<u>337</u>		<u>186</u>		<u>185</u>
Fourth	books:	286	books:	315	carrels:	60	carrels:	115
					tables(8)	32	group: 8 @ 6	48
					conf.	12	conf. 1 @ 12	12
					group: 2/6	<u>24</u>	orientation	<u>40</u>
Sub-total		<u>286</u>		<u>315</u>		<u>128</u>		<u>215</u>
Fifth (Not included in totals)	nasf		nasf		nasf	200	Readers	nasf
	Archives	Ground	Archives:	1020	readers	(8)	Carrels	400
	Rare	to	Rare:	2144				12
	Northern	<u>4th</u>	Northern:	<u>2144</u>				
Sub-total		2384.4		3164				
TOTALS (Ground to 4th)	dfs	1328	dfs	1583	users	458	users	638

dfs: double faced section: a bookstack section which is standard height (6-7 shelves) with shelving on both sides

sfs: single faced section: shelving on one side only.

nasf: net assignable square feet

Gov. docs.: government document collection classified in Library of Congress

CODOC: government document collection classified in a cooperative scheme known as CODOC.

Northern: Northern Studies Centre

IX SOLUTIONS: LONG TERM

With a requirement for 111,295 nasf and a building providing 62,170 nasf, there is no question that expanded space is required. There are two possibilities:

1. Expand the present facility.

Expansion of the Chancellor Paterson Library would not be an easy task, since the building has been hemmed in by the expansion of the Ryan Building on the north and the location of a research facility on the south. The window wall on the east is a special feature of the building.

It would be possible to expand the Library by "wrapping around" the existing building on three sides. This form of expansion is very costly on a square foot basis, and is the most disruptive method of adding to a building since the interface with the existing building is maximum. If extended in this manner, the additions could vary in width between 20 to 40 feet and would extend two or three stories in height.

2. Build a new facility.

The lack of space in the existing building, the difficulties for an expansion noted above, and the building's structural system which is not efficient for a library layout, all suggest that the University would be better served with another solution. That is to make the limited changes suggested in VII, above, in order to relieve the problems identified in the short term, but to plan a totally new library building for the future. This would allow the reassignment of the Chancellor Paterson building for teaching and faculty purposes, for which it is well suited.

A new library building of approximately 145,000-150,000 gross square feet, placed on the present gravel parking lot between the existing academic complex and the Education Faculty, would respond to space, image and academic concerns.

References

1. Lakehead University. Institutional Research. (Recent enrolment trends) 1990.
2. Metcalf, Keyes D. Planning academic and research library buildings. 2d ed. Chicago, American Library Association, 1986. p.176.
3. University of Western Ontario. University Library System. Space planning for the University Libraries. 1988. p.16-25.
4. Queen's University. personal communication.
5. University of Western Ontario. op.cit.
6. Queen's. op.cit.
7. Council of Ontario Universities. Building Blocks. Volume 7: The final report of the Task Force to review COU space standards. January, 1988. p.28-30.
8. Boss, Richard W. Information technologies and space planning for libraries and information centers. Boston, G.K.Hall, 1987. p.90-96.
9. Lakehead. Recent enrolment trends. op.cit.
10. Ibid.