

# Central Library Project

## Study for the Halifax Regional Library



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*with*

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# Executive Summary





## Executive Summary

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### **The Need for a Central Library**

The need for a new Central Library facility in Halifax has been well established for several years and is documented in previous studies for the Halifax Library system. With the creation of the Halifax Regional Municipality and the Halifax Regional Library system in 1996, the need for a Central Library has become even more pronounced because centralized service needs to be provided for an even larger population base.

### **Study Purpose**

The purpose of the Architectural Consultation Study for the Central Library Project has been to address preliminary planning, design and implementation issues so that a decision can be made to proceed with design and construction of the Central Library. The following issues have been addressed:

- the role and goals and objectives for a new Central Library in the Halifax Regional Municipality;
- the size of facility and preliminary program components required for the Central Library;
- the costs and feasibility of reusing or replacing the Spring Garden Road Library facility;
- an analysis of potential development sites and selection of an appropriate site for the Central Library;
- the costs associated with developing and operating the new Central Library;
- an implementation schedule to coincide with the celebration of the City's 250th Anniversary in 1999;
- a process for selecting an architectural design team for the new Central Library.

### **Role of the Central Library**

A new Central Library will play a key role in the organization and provision of services for the Halifax Regional Library.

- The Central Library will consolidate service and employees providing central functions and will create a strong core from which new services can be developed and supported.
- The Central Library will serve as a resource centre to business, government and the public, providing the opportunity to consolidate rather than duplicate expensive technologies and collections to meet local community needs.
- The Central Library also stands as a testament to the importance the City places on its civic institutions, and its commitment to provide excellent education resources and information services to its citizens.

## Executive Summary

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### Program for the Central Library

Based on the current and projected population of the Halifax Regional Municipality and standards from other Canadian cities of similar size, the City can justify provision of an additional 140,000 square feet of system-wide library space. Through a consideration of program requirements, the study has concluded that the Central Library needs a floor area of approximately 95,000 square feet. This leaves a margin of justified future service expansion of approximately 45,000 square feet over the next twenty years. Because the population of the Regional Municipality is dispersed across a large area, this service expansion can be dedicated to provision of additional branch library services in the future.

### Evaluation of the Spring Garden Road Library

The Spring Garden Road Library is unable to meet the needs of its current catchment area. The building is in desperate need of renovation if it is to remain in service as a public library facility. The study analysed several different options for renovation, renovation and expansion, and demolition and replacement of the Spring Garden Road facility and developed cost estimates for each option. The conclusions of the analysis are not to use the Spring Garden Road site for the new Central Library:

- simple renovation of the existing Library does not address the need for a Central Library, while the construction of a Central Library in the vicinity of the Spring Garden Road facility could accommodate the current branch functions of the existing Library. The costs of renovating the existing facility are very high.
- renovation of the existing Library and expansion to accommodate the space needs of the Central Library on the site does not result in significant cost savings, and would create a facility that is less efficient than a completely new Central Library building.
- demolition and rebuilding a new Central Library on the existing site is a more expensive option than construction on adjacent available sites because the Library would have to relocate temporarily for an approximate two year period and move twice - an additional cost that could approach \$1.8 million. It would also not address deficiencies such as the lack of public parking surrounding the site.

### Site Selection Analysis

The development site analysis evaluated and compared six sites in the central Halifax area. These include a waterfront site owned by the Waterfront Development Corporation; a North Halifax site on Gottingen Street; a site at Barrington and George Streets, the existing Spring Garden Road Library site; a site at Spring Garden Road and Queen Street; and an adjacent site at Queen and Clyde Streets.

## Executive Summary

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The selected site for the Central Library is at Queen and Clyde Street, currently occupied by a municipal parking lot.

### Capital Costs

The costs of construction and implementation of the new Central Library were defined as follows:

construction cost: (including site work and contingencies)	\$16,309,000
other costs: (furniture, fixtures & equipment, fees, escalation and HST)	\$6,436,000
collection expansion	\$1,250,000
<b>Total Costs</b>	<b>\$23,995,000</b>

### Operating Costs

Projected operating costs at the new Central Library compare very favourably with current operating costs at the Spring Garden Road facility. The total annual operating cost will be approximately \$2,784,000 (\$29.30 per square foot) compared with current operating costs of \$2,023,244 (\$53.24 per square foot) for the Spring Garden Road Library and technical services at 32 Glendale Avenue, both of which will be replaced by the new facility. This means the municipality will have a building that provides 150% more floor area for only a 37% increase in operating costs.

The major savings in operating costs come from a reduction of required staff per square foot because of improved building organization and efficiency, and from reduced building maintenance costs. Additional savings will result from the reorganization of library system services through reduced travel time, reduced vehicle maintenance costs and generally improved efficiency.

### Implementation Plan and Schedule

The implementation plan and schedule outlines a process for selecting the architect and consulting team required for the project, as well as an estimated design and construction schedule to meet the HRL's proposed deadline for beginning construction of the facility in 1999. The ground breaking ceremony could take place in mid-April 1999 as part of the City's 250th Anniversary Celebrations. The building opening is planned for August 2000.





# Report





## Project Scope and Purpose

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### **The Need for a Central Library**

The Halifax Regional Library Board issued their request for architectural consultation to undertake this study to help define the design, cost and program parameters for a new central library. The need for a Central Library was considered in a number of earlier studies: *A Site Analysis Study*, by Duffus Romans Kundzins Rounsfell Ltd. (1987), the architects of the 1973-74 expansion of the Spring Garden Road Library, considered the capacity of the existing Spring Garden Road site to accommodate a library expansion to 100,000 gross square feet (gsf). *The Halifax City Regional Library Space and Services: Needs Assessment Study*, by Beckman and Associates (1994), provided a program analysis for a Central Library to service the City of Halifax library system. *Towards a New Central Library: Use and Limitations of the Spring Garden Road Library and Projected Needs for a New Central Facility*, was a staff report prepared in 1996 that considered the demand for a new Central Library based on the newly amalgamated Halifax Regional Library system and a survey of HRL system users.

### **Study Purpose**

Each of these reports made effective arguments concerning the need for a central library facility and the inadequacy of the existing Spring Garden Road facility in meeting those needs. This report accepts the conclusions of the earlier reports and takes the next step in the development process considering the need for a new Central Library from a site specific perspective - ie: how large does it need to be? where should it be built? and, how much will it cost? Answers to these questions will support a funding request to City Council, and a subsequent request for proposals to provide architectural services for the new Central Library.

### **Evaluation of the Existing Library**

One of the key issues to be addressed in the study concerns the use of the existing Spring Garden Road Library. Issues include: the condition of the existing Library building and the costs associated with renovation; the potential for expansion on the existing site and the potential qualities of an old/new facility; the potential for redevelopment of the existing site and its comparative qualities with other potential sites; and, the operational and capital costs associated with these various options.

### **Program for a New Central Library**

The study then considers the issue of program requirements based on both a consideration of the appropriate gross square foot size based on the population being served, and a consideration of the space needs for the various program components to be included in the new facility. The defined program provides both a quantitative and qualitative guide to the proposed program for the new Central Library.

## Project Scope and Purpose

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### Site Selection Analysis

A major component of the study is a site selection analysis of a wide variety of potential sites in the Halifax core area. The purpose of the analysis is to establish a systematic method of comparing sites with widely varying characteristics and to select one preferred site for a detailed cost and building massing evaluation.

### Implementation Plan and Schedule

The final subject of the study is a description of an implementation plan and schedule that should be followed once funding has been approved by the municipality. The report outlines a recommended process for selecting the architect and consulting team required for the project, as well as an estimated design and construction schedule to meet the HRL's proposed deadline for beginning construction of the facility in 1999.

### Project Goals and Objectives

One of the first steps in the study process was to identify goals and objectives for the new Central Library building. These goals and objectives have helped to inform the program analysis, the site selection process and the massing and design directives on the preferred site. The goals and objectives are as follows:

#### *General*

- To create a new Central Library for the HRL with space and technology that meets all of the needs, standards and norms for the population being served.
- To develop a building program that meets the special needs of the Halifax population.

#### *Budget Related*

- To develop a cost effective strategy for re-using or replacing the existing Spring Garden Library.
- To take full advantage of the building endowment and other funding opportunities to realize the library.
- To schedule implementation to coincide with the celebration of the City's 250th Anniversary in 1999.
- To create a Central Library of a civic stature and quality that represents the history, present and future of the municipality in celebration of the 250th Anniversary.
- To create a Central Library that serves as both a provincial and municipal reference resource - this is appropriate since 40% of the provincial population resides in the HRM.

## Project Scope and Purpose

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- To select a development site within the Halifax core area that best meets site selection criteria.
- To create a Central Library with low operating costs

### *Building Characteristics*

- To improve access to parking for Central Library users
- To create a Central Library that offers the flexibility to respond to future technology requirements and usage patterns.
- To create a building that is environmentally benign.
- To create a barrier free design.
- To centralize Library Administration services.

## Program for a Central Library

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### Program Description

The consultants approached the definition of the program for the new Central Library facility from two different perspectives. The first is a calculation of gross square footage based on the population being served according to accepted national standards for central library construction. Different formulae were tested on this basis with varying results.

The second approach has been to consider the various program requirements of the new Central Library and to try to assign reasonable and proportional square foot figures to the program. The purpose is to test a gross square foot figure and develop a qualitative understanding of the project as a basis for a preliminary cost evaluation in order to procure funding for the project. It is the consultant's conclusion that a Central Library of approximately 95,000 gsf will meet the needs of the HRL. The actual space program will be written through a collaborative process between the Central Library building committee and the architect, once the architect has been selected.

### I - Population Based Space Programs

Population for the Halifax Regional Municipality is as follows:

	1996	2016
Halifax Regional Municipality	342,966	366,000

In all the population based formulae, the population to be considered should be the projected 20 year population because the Library is being designed to serve the need for a Central Library over at least 20 years.

Because the Halifax Regional Municipality covers a wide geographical area, the need for the Central Library does not necessarily follow the same criteria as that for a more traditional, uncentred city. Based on a projected population of 366,000, several traditional formulae would suggest that the Central Library should have a floor area over 150,000 square feet. Because many of the HRL residents may use the former City of Halifax as a centre for public services on an irregular basis, it is reasonable to argue that the Central Library could be reduced in size from 150,000 gsf to 95,000 gsf.

## Program for a Central Library

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### System Based Population Model

Rather than considering the Central Library as a stand alone facility, it is important to view it within the context of the overall HRL system. The following formulae looks at the requirement for Libraries across the Library system with a certain amount of space that should be dedicated to the needs of a Central Library. This approach seems to best reflect the actual Halifax Regional Municipality context where distance makes the Central Library a less accessible centre for some residents, and where, as a result, the branch libraries must duplicate some of the roles and services of the Central Library.

Through a consideration of other larger cities across Canada, the factor of 0.6 to 0.7 gross sq.ft. (gsf) per capita emerges as a representative figure to calculate the space needs of a regional library system. In most of these other cities the Central Library accounts for 0.2 to 0.4 of the total 0.6 gsf. A 95,000 gsf building for Halifax Regional Library will account for 0.26 of the total gross square footage. In the case of Halifax, taking the 20 year projected population, the system-wide floor area requirement is:

$$366,000 \times 0.6 = 219,600 \text{ gsf}$$

$$366,000 \times 0.7 = 256,200 \text{ gsf}$$

The existing library system square footage is as follows:

1. Spring Garden Road (to be taken out of service)	(38,000 gsf)
2. Alderney Gate	32,510 gsf
3. Sackville	13,500 gsf
4. Halifax North	12,000 gsf
5. Cole Harbour	10,200 gsf
6. Thomas Raddall	10,200 gsf
7. Capt. William Spry	10,016 gsf
8. Bedford	5,382 gsf
9. Woodlawn	4,000 gsf
10. Musquodoboit Harbour	3,900 gsf
11. J.D. Shatford	2,700 gsf
12. Sheet Harbour	2,500 gsf
13. Dartmouth North	2,000 gsf

**Total GSF (not including Spring Garden Road) 108,908 gsf**

**Total system library needs (219,600 - 108,908) = 110,692 gsf**  
**(256,200 - 108,908) = 147,292 gsf**



## Program for a Central Library

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According to this formulae, the system will require an additional 110,692 to 147,292 gsf of library space to accommodate library needs over the next 20 years. If the new Central Library houses approximately 95,000 gsf (0.26 gsf per capita) of that demand, there will still be residual demand for approximately 15,000 to 52,000 gsf of branch library space that can also be justified within the 20-year time period.

The figure of 95,000 gsf, although modest according to the directives of some spatial analysis formulae, seems to meet the needs of the Halifax Regional Library system, and has been selected as a target floor area for the new Central Library facility. It also justifies the construction of additional new branch library facilities over the coming years that may be required in newly developing areas of the HRM.

### 2 - Space Program Requirements

#### *Program Needs*

The second approach to defining the area of the new Central Library has been to consider program requirements and apply appropriate square foot figures to the various program elements.

The new library will function as a Central Library and provincial resource centre and will include the following functions:

#### *Functions*

- serve as a branch Library for the downtown peninsula;
- house the systems and central administration office;
- serve as a Provincial and Federal Depository Library;
- be the source for municipal documents;
- be a business reference centre;
- provide access to electronic information resources;
- provide quiet study areas that have privacy, and that are wired for portable computers and internet access;
- contain collection space and services for adult, youth and children;
- provide community gathering space with special lighting and AV technical equipment;
- have meeting rooms and a Board Room.

## Program for a Central Library

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### *Character*

- utilize a quality of materials appropriate to a major public building (stone and/or masonry construction);
- provide an entrance that is welcoming, barrier free and user friendly;
- provide a special ambiance in reception and public areas (natural woods and comfortable seating)
- provide a civic focal point

Some of these component functions and other potential components found in other Central Libraries are described below. Many of these components are variations on a theme and could be combined. Some of these potential activities and functions provide the opportunity for the Library to establish funding partnerships that can offset the costs associated with the particular services.

The central library of the future needs to be more than the central library of the past. Some quotes from a recent paper published in the United States entitled *Buildings, books and bytes - libraries and communities in the digital age* (Benton Foundation, 1996) provides food for thought:

- *"As a central and valued community meeting space, the library will become more of a civic integrator and a locus of community information on health, education, government and other local services"*
- *"Libraries are civic integrators. They are community nerve centres. They constitute along with other vital local institutions, the basis of civic life."*
- *"With the onset of the digital age, many library leaders say libraries must expand beyond the confines of the traditional library building. Because of the electronic revolution, libraries can now embrace government archives, business databases, and electronic sound and film collections that previously were not considered part of the libraries' own collections."*

### *Information and Research Centre*

In addition to providing reference and information services, the library could provide enhanced services in an information and research centre (including specialized market research and other services which might be provided on a fee for service basis). Such a centre could be targeted to the needs of small business for example. The Information and Research Centre could be the hub of the library's facility-based services as well as its on-line services. Potential services which could be offered at this location include:

## Program for a Central Library

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- Customized computerized searches of commercial databases
- Current awareness services
- Small business information
- Company profiles
- Industry profiles
- Customized mailing lists.

Vancouver's InfoAction Centre provides these types of services as does Metro Toronto Reference Library's Custom Research Service. There may be opportunities to partner with other levels of government in the provision of these services.

### *Career Resource Centre*

Some libraries centralize the information available on careers, employment, education and training in a career resource centre. The target audience are individuals entering or re-entering the workforce. The Hamilton Public Library has a career resource centre at its central library. This may be an area where there are opportunities to partner with federal partners such as Human Resources Development Canada or with provincial partners.

### *Local Government Archives and Information*

Some central libraries, in addition to providing a full depository reference collection of Canadian and provincial government publications, also provide government and community information services and may be a location for electronic kiosks for electronically-based government information and services. This service also represents an opportunity to partner.

### *Government/Community Information Services*

An extension of the government information services which could either be co-located or separately located with other government information are local government archives and/or municipal information. There is the potential for the library acting as the municipal archives and housing all urban and municipal information of relevance both to the region and to the province. North York Central Library and Metropolitan Toronto reference Library for example house specialized "Urban Affairs" collections.

### *Consumer Health Information Centre*

Some central libraries such as the Metropolitan Toronto Reference Library house collections of specialized consumer health books and electronic databases and resources including health information and patent drug information. This is an area of growing consumer interest in communities across the country. Again, this is an area where there may be opportunities for partnerships with provincial and local health organizations.

## Program for a Central Library

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### *Literacy Centres/ Language Labs*

Some libraries house literacy programs and provide facilities for literacy training and specialized collections to support literacy training. Literacy services are often provided in cooperation with community-based organizations. Other central libraries provide language training. For example the Vancouver Central Library houses a Language Lab. The regional community needs are key to determining whether these are appropriate roles.

### *Technology/User Training Centres*

Central libraries often accommodate specialized training centres including space for user education as well as public access to the Internet and also technology-based services. For example, the Vancouver Public Library has a public computer lab. The Metro Toronto Reference Library has a user education centre where staff are available to introduce patrons to the library and show them how to use various systems. North York's Gateway Services provide user education sessions, and have a Training Centre with instruction guides to learn research techniques. Other libraries provide computer workstations which the public can book for personal use. This may be an area where the Library could pursue corporate sponsorship with major hardware/software manufacturers or support from foundations.

### *Centre for Persons with Disabilities*

Depending on the local population, some central libraries provide a special centre where equipment is available to enable users with visual, physical or hearing disabilities to access the resources of the library. These centres often provide broader information about disabilities and services available for people with disabilities. This could be developed in partnership with a provincial or regional association to ensure that all services and collections are fully accessible to all users.

### *Library Store*

A number of central libraries house a library store of sorts. In some cases such as "Bookmark", the library store of the Vancouver Central Library, the store is a project of the friends of the library. Proceeds from the sales of the store are returned to the library system. Items for sale can include both used books as well as a broad variety of gifts materials, souvenirs, etc.

### *Coffee Shop/Café*

Some libraries such as the Richmond Hill Public Library have commercial services such as a "Second Cup" internal to the library. This may or may not be co-located with a browsing area for specialized materials such as videos, AV materials, CD, etc. A café provides a service for staff and patrons and may also be a net revenue generator.

## Program for a Central Library

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### *Cultural/Performing Arts Space*

Central libraries can also serve as an important place for events and the display of the arts. Some central libraries house or are co-located with art galleries of various sizes. Many central libraries house auditoriums or large flexible meeting spaces.

Many of these components are variations on a theme and could be combined for efficiency in defining the space program for the Library.

### **Functional Space Program**

The following functional space program for the Central Library is based on several examples of programs for similar library types and provides a guideline for a reasonable distribution of space in the new building. The first step in the design process, once the architectural selection has been completed, will be the development of a need-based building program for the Halifax Central Library.

	<b>gross s.f.</b>
1. Public Service Area	3,755
1.1 Lobby	
1.2 Circulation Workroom	
1.3 Circulation Desk	
1.4 Supervisor's Office	
1.5 Book Drop-off	
1.6 Cloak Room	
1.7 Library Shop	
2. Public Access Rooms	6,685
2.1 Multi-purpose Room	
2.2 Meeting/Conference Room	
2.3 Meeting/Conference Room	
2.4 Kitchen Facilities	
3. Adult Services	34,795
3.1 Browsing Area	
3.2 Adult Fiction Collection	
3.3 Adult Non-Fiction Collection	
3.4 Local History Room	
3.5 Adult Periodicals	
3.6 Informal Reading Area	
3.7 Quiet Study Room	

## Program for a Central Library

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4. Information Services	16,020
4.1 Staff Office/Workroom	
4.2 Department Head Office	
4.3 Information Desk	
4.4 Reference Collection	
4.5 Study Area	
4.6 Photocopier	
4.7 Microfilm Readers and Storage	
4.8 OPAC Computer Index	
4.9 MapCabinet/Dictionary/Atlas Stand	
4.10 CD Rom Workstations	
4.11 Tele/Bus&Gov'tDoc/Abstr/VertFiles	
5. Audio Visual Services	5,060
5.1 Viewing/Listening Station	
5.2 Video Collection Area	
5.3 CD Collection Area	
5.4 Audio Tape Collection Area	
6. Children's Services	19,340
6.1 Picture Book Area	
6.2 Reading Area	
6.3 Non-Fiction Area	
6.4 Fiction Area	
6.5 Information Desk	
6.6 Reference Area	
6.7 Computer (PAC) Terminals	
6.8 Study Area	
6.9 Program Area	
6.10 Staff Office - Workroom	
6.11 Department Head Office	
6.12 Coat Racks/ Cubby Holes	
6.13 Young Adult Fiction	
6.14 Young Adult Non-fiction	
6.15 New Books/Display Area	
6.16 Children's AV	
6.17 Storage	

## Program for a Central Library

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7. Administration	5,270
7.1 Administrative Reception Area	
7.2 Chief Executive Officer's Office	
7.3 Dir. of Public Services/Deputy CEO's Office	
7.4 Executive Assistant's Office	
7.5 Administration Office	
7.6 Mailroom/Photocopier/Storage	
7.7 Kitchen	
7.8 Boardroom / Cloakroom & Kitchenette	
8. Service Space	4,130
8.1 Computer Room	
8.2 Storage	
8.3 Loading Bay and Shipping	
8.4 Staff Room	
8.5 Building Maintenance	
<b>Gross Total</b>	<b>95,055</b>

## Evaluation of the Existing Library

### Description

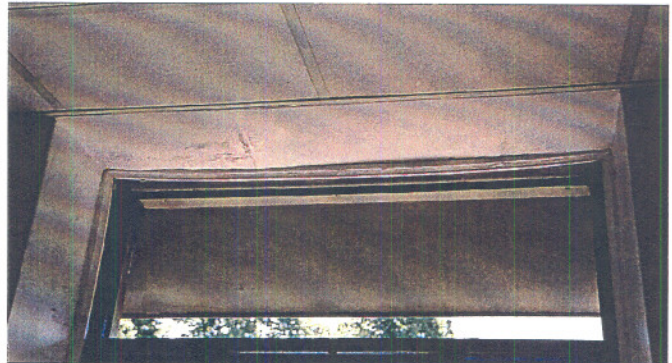
The existing Spring Garden Road Library, known as the Halifax Memorial Library Building, is a 38,000 gsf facility consisting of a 25,000 gsf main building, completed in 1951 and a 13,000 gsf book stack addition completed in 1974.



The original building consists of a three-storey steel frame structure clad with stone facing. The building plan is "T"-shaped with three wings extending from a large central staircase. The 1974 addition fills in one corner of the "T" - shaped plan with a four-storey steel frame structure clad in pre-cast concrete. At the time of the addition a number of changes were made to the spatial configuration of the existing building. An elevator was included as part of the addition providing disabled access to both the existing building and the new structure from a new entrance at the basement level. Children's services were moved to the basement level along with technical services and a number of community service facilities. The reading/circulation room on the main floor was retained, but the north and south wings were altered to provide expanded reference and administrative space. Over subsequent years minor alterations and repairs have been made in response to specific problems (the central stair has been closed in for security; bathrooms have been converted to needed office space, etc.) to create a "crazy-quilt" of inadequate and isolated service functions throughout the facility. **The building defies almost every aspect of current standards and building codes regulating this type of public facility.**



## Evaluation of the Existing Library



*top left: work areas are crowded and fit into residual areas. top right: stacks and reading areas are crowded. bottom left: computer services for library users are inadequate; bottom right: water damage around interior window frames.*

The building has suffered extensive water damage through leaks in the stone cladding at the upper level. While the active leaks appear to have been sealed through patching the seams in the exterior cladding, there has been extensive damage to the walls at the building perimeter because of the leaking. This is particularly evident around interior windows in the original building. Individuals responsible for building maintenance suggest that there is a major mould problem in the building as a result of the water damage.

## Evaluation of the Existing Library

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### **Mechanical and Electrical Systems**

Mechanical and electrical systems are generally in need of replacement with many of the mechanical systems and electrical panels dating back to the construction of the original building almost 50 years ago. The building has no automatic sprinkler system. The original building has no air conditioning system, although the stack area is air-conditioned and equipped with a rooftop heating and air conditioning unit. This is a concern in the conservation of the collection. The electrical system is functioning but incapable of supporting the new and future electrical loads that the Library will require with increased computer activity. The building also contains asbestos insulation in the heating duct system and as a result would require special environmental handling which would add to the cost of any renovation process.

The building site is in a highly visible location on Spring Garden Road. The Library marks the east end of the street's commercial corridor, and has a diagonal walkway across the facade of the building that serves as a major pedestrian connection between the Spring Garden Road commercial area and the Halifax central business district.

The site is approximately 52,000 sf in area, however over 10,000 sf of that area is permanently dedicated to the use of Grafton Park at the corner of Spring Garden Road and Grafton Street.

### **Alternatives for Renovation and Expansion**

Several options for the renovation or expansion of the Spring Garden Road Library have been considered.

- 1) Do nothing
- 2) Renovation of the 1951 building as a separate branch library (demolition of the 1974 building addition).
- 3) Renovation of the 1951 building and 1974 building addition as a branch library.
- 4) Renovation of the existing building and expansion to a total of 95,000 gsf to provide branch and central library services.
- 5) Demolition of the existing building and construction of a new Central Library facility on the same site.

## Evaluation of the Existing Library

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**1) Do nothing.**

The do nothing scenario is not a viable long term strategy because the building is in such a poor state of repair and is inadequate to meet the needs of current users let alone the needs for a Central Library in Halifax. Because of the configuration of the existing building the library is highly inefficient as a working space. Three circulation desks are required; maintaining the stacks is very labour intensive because of the configuration in the 1974 addition; office and administration space is tucked into every conceivable corner of the building simply to house staff, creating a highly disorganized delivery of service. Annual building maintenance and repair costs as well as service costs are extremely high for this size of facility. The 38,000 gsf facility is inadequately trying to service the need for a 95,000 gsf facility warranted by the population of the Halifax Regional Municipality.

**2) Renovation of the 1951 building as a branch library**

Renovation of the 23,000 gsf 1951 building would require a total gutting and rebuilding of the facility because of the state of all structural, mechanical and electrical systems in the building. The total construction costs for renovation is estimated at \$3,542,000. (This estimate does not include professional fees, furniture fixtures and equipment, inflation or HST). These additional costs would raise the price of renovation to approximately \$4,940,000. This option is assumed to involve the following tasks:

*Substructure*

- No work for existing

*Roof*

- Remove existing roofing
- apply new insulation
- Apply new built up roof
- Rework and repair existing parapets
- Reflash all roof flashings
- Rework and caulk all penetrations

*Walls above Ground Floor*

- Remove all existing pointing between stone cladding
- Repair attachment of existing stone cladding to 40% of area
- Replace existing stone cladding to 10% of area
- Repoint all existing stone cladding

## Evaluation of the Existing Library

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### *Windows*

- Remove all interior plaster casing work
- Remove all exterior single glazed windows
- Replace with clear anodised aluminium operable window wall double glazed, Low E, argon filled, clear 6mm float glass

### *Interior Partitions and Doors*

- Replace and reconfigure

### *Vertical Movement*

- New hydraulic elevator with 3 stops, cab size

### *Floor Finishes*

- Remove all vinyl asbestos tile using appropriate decontamination procedures. Allow for 60% of floor area. Some tile is covered in carpet.
- Remove all carpet Allow for 50% of building floor area.
- Level and base finish all existing floors to accept new resilient roll goods to 40% of floor area and carpet to 60% of floor area.
- Refinish Terrazzo floors to 5% of floor area
- Provide new vinyl base to 60% of floor area
- Provide new hardwood base to 30% of floor area
- Provide new aluminium base to 10% of floor area

### *Ceiling Finishes*

- Remove all plaster ceilings to 30% of ceiling area to allow for decontamination, removal of existing mechanical and replacement.
- Replace with suspended GWB ceiling to 40% of ceiling area
- 20% of the building is currently exposed structure
- Remove all suspended tile ceilings to 50% of ceiling area to allow for decontamination, removal of existing mechanical and replacement. Allow for 50% of ceiling tile to be asbestos removed using appropriate decontamination methods
- Replace with suspended acoustic tile ceiling to 60% of ceiling area. Allow for thin T bar with Celotex 'Cashmere' tiles. Allow for 20% of ceiling area to be rated assembly

## Evaluation of the Existing Library

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### *Wall Finishes*

- Remove lead painted plaster work throughout
- Insulate from interior exterior wall
- apply continuous air barrier
- lap air barrier to new windows
- fur and apply new 5/8" GWB throughout
- paint with 4 coats latex throughout.

### *Fittings and Equipment*

#### *Services*

#### *Electrical*

#### *Plumbing*

#### *Fire Protection*

#### *Heating, Ventilating and Air Conditioning*

- Replace/asbestos insulation to be removed using appropriate decontamination methods

### *Site Development*

- Repair existing stairs
- Repoint and repair existing stone low walls
- Replace 50% of existing handrail
- Repair 50% of existing handrails and attachments to existing structure

### **3) *Renovation of the 1951 building and 1974 addition as a branch library.***

Renovation of the existing building would involve the same work to the 1951 building as noted above. Renovation of the 1974 addition would cost less on a square foot basis because the systems and structure are in better condition than the older building. The primary structural change would involve reinforcing the structure of stacks on three floors to reduce vibration and increase load capacity. The estimated construction cost for the 37,000 gsf renovation is \$5,287,000. Including design fees, furniture, fixtures and equipment, HST and inflation the total cost would be approximately \$7,373,000.

## Evaluation of the Existing Library

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**4) *Renovation of the existing building and expansion to a total of 95,000 gsf to provide branch and central library services.***

An expansion on the site that included the existing structures would provide a complicated collage of buildings designed to serve very different functions. The overall efficiency of the project, even with a reconfiguration of spaces within the existing building would be compromised in comparison with a well-designed new facility. The expansion would have to be an "L" shaped structure built along the north and west perimeter of the site. The construction cost estimate in this scenario would be \$15,702,000. Including fixtures, furniture and equipment, design fees, HST, inflation and \$1,250,000 for collection expansion the total cost would be approximately \$23,148,000.

Although the site has the capacity to accommodate the expansion within view plane guidelines, it is difficult to see a significant advantage to this approach in meeting Library needs. There are no significant cost savings and compromised service in a facility that will always be perceived as an expanded branch library rather than a Central Library.

**5) *Demolition of the existing building and construction of a new Central Library facility on the same site.***

The final alternative on the existing site would involve demolition of the existing building and construction of a new Central Library on the site. With the exception of demolition costs and the costs of Library relocation during construction, the construction costs for the 95,000 gsf facility would be similar as on all other available sites under consideration for the Library. On this basis, the site is compared to other potential sites in the site selection analysis in Section 4 of this report. The estimated construction cost is \$16,309,000. Including fixtures, furniture and equipment, design fees, HST, inflation and \$1,250,000 for collection expansion the total cost would be approximately \$23,995,000.

More detailed information prepared by Vermeulens Inc. Cost Consultants on the above cost estimates is included in Appendix A of this report.

## Evaluation of the Existing Library

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None of these scenarios and cost estimates include the necessary expense of either relocating the Library during the construction period, or carrying out construction phasing to allow the Library to stay in operation throughout the construction period. The costs of relocation would be significant, estimated at approximately \$1.8 million for moves in and out, and improvement and rental of an adequate replacement space for a two year period. This would be the only option in alternative 2), 3) and 5). The phased construction option to allow for continuous operation would only be possible in alternative 4) where the new addition would be completed first, the collection moved into the expansion space on a temporary basis and the renovation completed second. This approach would still add a significant premium to square foot construction costs.

### Summary and Conclusion

In conclusion, the do nothing alternative is not considered a viable option in the long term. Even if the need for a Central Library is ignored, the existing library has serious structural, mechanical, electrical and operational problems that need to be addressed and that make it unnecessarily expensive to maintain and operate.

The renovation alternatives 2) and 3) do not address the need for a Central Library. This suggests that in order to meet the needs of the Halifax Regional Municipality, a Central Library might be built as an independent new building on a separate site. Because the needs of the branch library component of the expanded program would be met in the renovated Spring Garden Road facility, the new Central Library as a separate facility would require a smaller program area than 95,000 gsf. This option is very attractive in many ways until the fact of operating costs is considered. There is no way around the fact that it will take significantly more staff to operate two separate Library facilities in the Halifax core area than to combine services in one facility. The long term operating expenses in this regard are a serious economic consideration for the HRL.

Alternative 4) which combines the renovation of the existing building (37,000 gsf) with a new addition (58,000 gsf) to provide the 95,000 gsf Central Library is possible, but would lack the coherence and functional organization that could be achieved with a completely new building. If the existing library was classified as a heritage building, or if there was a significant cost saving in renovating the existing building, there could be a valid argument for sacrificing some potential

## Evaluation of the Existing Library

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level of functionality. The costs of the renovation/expansion alternative are only 3.5% less than the costs of constructing a completely new facility, while the advantages of a new facility in terms of organization, building quality and operating costs are substantial.

Alternative 5, demolishing the existing Library and rebuilding on the same site, would have the same costs as most of the other sites under consideration with the exception of the \$1.8 million premium of relocating Library operations temporarily during the time of construction. This alternative needs to be considered on a comparative basis with the other potential sites for the new Central Library.

The overall conclusion of the evaluation of the existing facility is that there is no apparent justification for renovation. The site itself is one of several potential sites for a new Central Library in the same area.



## Site Selection Analysis

### The Existing Site

The existing site is approximately 42,000 sf facing Spring Garden Road between Grafton and Brunswick Streets. The site is shared with Grafton Park on the corner of Spring Garden Road and Grafton. For the purposes of comparison, it is assumed that the existing library building will be demolished and that the new facility will be a completely new building on the site.



### Costs

<ul style="list-style-type: none"> <li>• availability</li> </ul>	<p>The site is available to the Library for demolition and replacement.</p>
<ul style="list-style-type: none"> <li>• acquisition cost</li> </ul>	<p>The site belongs to the HRM. There will be no acquisition costs. Building demolition costs (estimate \$185,000) and relocation costs (estimate \$1.8 million) during the construction period will be significant additional costs in this option.</p>
<ul style="list-style-type: none"> <li>• site development requirements</li> </ul>	<p>Once demolition has occurred, the site will be open for new construction. Grafton Park must be maintained. The potential for development below grade under Grafton Park is unlikely given historic land use designations and the location of a mass grave on the site.</p>

## Site Selection Analysis

	The Existing Site	
<b>Functional Requirements</b>	<ul style="list-style-type: none"> <li>• <b>consistency with municipal planning</b></li> </ul>	The site is currently zoned for the library and meets the official plan preference that established institutions maintain current locations. There will be no density restrictions, however the site is regulated by the view plane ordinance that limits the height of construction on the site. The building cannot exceed four floors.
	<ul style="list-style-type: none"> <li>• <b>pedestrian access</b></li> </ul>	The site is a linkage point between the Central Business District and the Spring Garden Road commercial area. It has a high level of pedestrian traffic and the diagonal walkway along the facade of the library is a major pedestrian route in the downtown area.
	<ul style="list-style-type: none"> <li>• <b>transit access</b></li> </ul>	Spring Garden Road is a major bus route within the downtown core and there are bus stops within one block of the existing library site.
	<ul style="list-style-type: none"> <li>• <b>local parking</b></li> </ul>	Spring Garden Road commercial area has extensive parking for shoppers in both surface and structured parking facilities within two blocks of the Library site. The Central Business District has a limited public parking that can be used by Library users.
	<ul style="list-style-type: none"> <li>• <b>on-site parking</b></li> </ul>	There is limited metered street parking on both Brunswick and Grafton Streets. The site itself has approximately 10 parking spaces for employees and no public parking.
	<ul style="list-style-type: none"> <li>• <b>site area / building form / expansion</b></li> </ul>	The existing site area is approximately 41,200 sq.ft. not including Grafton Park. Street frontages are approximately 247 ft. on Brunswick; 50 ft. on Spring Garden Road; and, 80 ft. on Grafton Street, making an irregular shaped lot in a basically triangular configuration. There is sufficient lot area to construct a new library on the site but the form would be restricted to a triangular shape.
<b>Qualitative Criteria</b>	<ul style="list-style-type: none"> <li>• <b>visibility / landmark potential</b></li> </ul>	The site is highly visible and has high potential as a significant landmark in Halifax. The existing building, despite its technical problems as a library, does achieve a degree of landmark status in the urban fabric.
	<ul style="list-style-type: none"> <li>• <b>potential for community focus</b></li> </ul>	The high accessibility of the site and its location as a link between the CBD and the Spring Garden Road commercial area give it high potential as a focal point for community services and activities.
	<ul style="list-style-type: none"> <li>• <b>library as development catalyst</b></li> </ul>	The site offers limited potential to use the new library as a development catalyst because the catalytic effects of the Library in this location can already be seen. There is little room for additional commercial development in this segment of Spring Garden Road.
	<ul style="list-style-type: none"> <li>• <b>functional linkages and adjacency</b></li> </ul>	The surface public parking facility within 2 - 3 blocks; the location across the street from the TUNS campus; the nearby pedestrian-oriented commercial area; are all strong and compatible functional adjacencies for the Library
	<ul style="list-style-type: none"> <li>• <b>safety / security</b></li> </ul>	There are some concerns about safety in the area of the library primarily related to Grafton Park. The park isolates the building from the street.

## Site Selection Analysis

### Spring Garden Road and Queen Street

The Spring Garden Road and Queen Street site is located on the south east corner of the intersection and is currently a surface parking lot that was used in association with The Infirmary building to the south of the site. The Infirmary is now closed and will be demolished. The site belongs to the province but current plans are to transfer ownership of the property to Dalhousie University as part of the arrangement merging Dalhousie with the Technical University of Nova Scotia. The site is bounded on the Spring Garden Road frontage by a 40 foot landscaped setback that serves as a public park.



<b>Costs</b>	• <b>availability</b>	The site is owned by the Province but is due to be transferred to Dalhousie University through the amalgamation with TUNS(now Dal Tech). HRL Board Chairman John Kitz has met with the President of Dalhousie and the University will be unable to decide on the future of the property within the Library's development time frame.
	• <b>acquisition cost</b>	The site belongs to the Province. The potential terms for a transfer of the property have not been discussed, but as it is promised to Dalhousie University it will be difficult to acquire.
	• <b>site development requirements</b>	The site is currently operated as a surface parking lot for Dal Tech. Replacement parking would likely have to be provided on an adjacent site as part of the development agreement on the site.

## Site Selection Analysis

<b>Spring Garden Road and Queen Street</b>		
<b>Functional Requirements</b>	<ul style="list-style-type: none"> <li>• <b>consistency with municipal planning</b></li> </ul>	The site is currently zoned for University uses. Although a rezoning would be required, it is unlikely to involve an official plan amendment because the two uses are functionally parallel. Community opposition to the location would likely be minimal.
	<ul style="list-style-type: none"> <li>• <b>pedestrian access</b></li> </ul>	Pedestrian access is very good, equivalent to the accessibility of the existing library site across the street.
	<ul style="list-style-type: none"> <li>• <b>transit access</b></li> </ul>	Spring Garden Road is a major bus route within the downtown core and there are bus stops within one block of the site.
	<ul style="list-style-type: none"> <li>• <b>local parking</b></li> </ul>	The site has close access to the municipal parking lot across Queen Street.
	<ul style="list-style-type: none"> <li>• <b>on-site parking</b></li> </ul>	The site has room to develop on-site parking and the development agreement for replacement parking on an adjacent site could also accommodate the Library's parking requirements.
	<ul style="list-style-type: none"> <li>• <b>site area / building form / expansion</b></li> </ul>	The site area exceeds 50,000 sq.ft. not including the landscaped setback along Spring Garden Road. The setback established by the neighbouring Dal Tech buildings provides the opportunity for a landscaped forecourt to the building and an attractive principal entrance from Spring Garden Road. There is sufficient lot area to construct a new library on the site within a three storey structure.
<b>Qualitative Criteria</b>	<ul style="list-style-type: none"> <li>• <b>visibility / landmark potential</b></li> </ul>	The site is highly visible and has high potential as a significant landmark in Halifax. It has potential equivalent to the existing site for a landmark building.
	<ul style="list-style-type: none"> <li>• <b>potential for community focus</b></li> </ul>	The high accessibility of the site and its visibility along Spring Garden Road, combined with functional linkages make it a good site for community focus. It is the site for occasional public events in Halifax including the DuMaurier Jazz Festival.
	<ul style="list-style-type: none"> <li>• <b>library as development catalyst</b></li> </ul>	The site fills in an open stretch of Spring Garden Road frontage making it more pedestrian friendly and improving the urban fabric of the street. There is little room for additional commercial development in this segment of Spring Garden Road.
	<ul style="list-style-type: none"> <li>• <b>functional linkages and adjacency</b></li> </ul>	The surface public parking facility across the street; the location next to the Dal Tech campus; the nearby pedestrian-oriented commercial area; are all strong and compatible functional adjacencies for the Library
	<ul style="list-style-type: none"> <li>• <b>safety / security</b></li> </ul>	There are some concerns about personal safety in this area although there is little evidence to support the concern.

## Site Selection Analysis

### Queen and Clyde Streets

The site at Queen and Clyde Streets is on the north west corner of the intersection and is currently used as a municipal surface parking lot for the use of patrons of the Spring Garden Road commercial area. The site includes three older houses facing Queen Street, currently occupied by a mix of commercial and residential uses. The two houses closest to Spring Garden Road are privately owned. With demolition of the three existing houses, the site will be ready for development.



<b>Costs</b>	<ul style="list-style-type: none"> <li>• <b>availability</b></li> </ul>	The site is owned by HRM and is currently used primarily as a public parking lot in support of retail activities on Spring Garden Road. The site would also include additional properties facing Queen Street which are currently privately owned.
	<ul style="list-style-type: none"> <li>• <b>acquisition cost</b></li> </ul>	Terms of property transfer from the municipality have yet to be addressed. Acquisition of the properties facing Queen Street has yet to be determined but is estimated to amount to approximately \$390,000. Land use bylaws require that parking spaces be replaced.
	<ul style="list-style-type: none"> <li>• <b>site development requirements</b></li> </ul>	Replacement parking will have to be provided either below grade or as a parking structure on the surface parking lot to the east as part of the development agreement on the site. Buildings facing Queen Street would also have to be demolished.

## Site Selection Analysis

		Queen and Clyde Streets
<b>Functional Requirements</b>	• consistency with municipal planning	The site is currently zoned commercial with residential on upper floors. The change to institutional use will require an official plan amendment. Opposition from merchants on Spring Garden Road will likely be mitigated if parking is replaced. There is potential for opposition from neighboring residential properties to the south concerning issues of scale.
	• pedestrian access	Pedestrian access is very good because of proximity to Spring Garden Road, but will be perceived as separate from the commercial area because of the Queen Street frontage.
	• transit access	Spring Garden Road is a major bus route within the downtown core and there are bus stops within one block of the existing library site.
	• local parking	The site has close access to the municipal parking lot across Birmingham Street.
	• on-site parking	On-site parking could be developed below grade to replace surface parking removed for the building, or surface parking could be maintained on part of the site not used for the library building.
	• site area / building form / expansion	The site area including the three properties facing Queen Street amounts to approximately 45,000 sq. ft.. There is sufficient lot area to construct a new library on the site within a three storey structure. The site will have an L-shape with the longest frontage along the likely principal facade facing Queen Street.
<b>Qualitative Criteria</b>	• visibility / landmark potential	The site is highly visible and has potential as a significant landmark in Halifax, however it will be perceived as less visible than the sites facing Spring Garden Road.
	• potential for community focus	The high accessibility of the site combined with good functional linkages make it a good site for community focus. Again, because it faces a side street rather than Spring Garden Road it would be less effective than those sites at this level.
	• library as development catalyst	Construction of the site will make a vast improvement in the quality of the urban fabric on the south side of Spring Garden Road in this area and will serve to link the residential neighbourhood more directly with the commercial area.
	• functional linkages and adjacency	The public parking facility across the street; the nearby pedestrian-oriented commercial area; and the nearby Dal Tech campus are all strong and compatible functional adjacencies for the Library.
	• safety / security	There are some concerns about personal safety in this area although there is little evidence to support the concern.

## Site Selection Analysis

### Barrington and George Street

The site is located at the southeast corner of Barrington and George Streets and extends through to Granville Street. The site is planned to include a provincially owned office building (approximately 36,000 sf) at the corner of George and Granville Streets.



<b>Costs</b>	• <b>availability</b>	The site is owned by Trust Can Corporation, repossessed in a bankruptcy case, and has been for sale for several years. It is available for sale.
	• <b>acquisition cost</b>	Actual acquisition cost has not been explored but the assessed value is \$990,000.
	• <b>site development requirements</b>	The site is currently vacant, and wraps around a provincially owned historic office building on the south east corner of Granville and George Streets. The historic office building is vacant and might be restored as an associated development with the new Library for use by municipal offices (approx 36,000 sf on 7 floors). The site location across from the parade grounds and City Hall would allow the Library to become a key component in a municipal campus.

## Site Selection Analysis

		<b>Barrington and George Street</b>
<b>Functional Requirements</b>	• <b>consistency with municipal planning</b>	The site is part of the CBD and would allow for Library use. Development of this site would gain strong support from the HRM and likely the Province.
	• <b>pedestrian access</b>	As part of the CBD with direct linkages to major pedestrian routes in the core, the site is highly accessible to pedestrians.
	• <b>transit access</b>	Barrington Street is the main bus transit route through the CBD. This site is highly accessible by public transit.
	• <b>local parking</b>	The site has close access to the full range of public parking facilities in the CBD. Public parking in this area is more expensive than in the other sites under consideration and would not be considered as accessible as in other sites.
	• <b>on-site parking</b>	Because of limitations in site size, any on-site parking would be structured below grade. Parking is not required by the HRM in the CBD.
	• <b>site area / building form / expansion</b>	The site area is 13,352 sq.ft.. This means the Library would likely be built on 7 or 8 floors unless some of the program components could be incorporated into the historic provincial office building.
<b>Qualitative Criteria</b>	• <b>visibility / landmark potential</b>	The site is highly visible and is in the heart of historic Halifax. As a new component in a potential municipal government campus with frontage on three of downtown's major streets, it has great potential as a landmark building.
	• <b>potential for community focus</b>	The high accessibility of the site and its visibility in the downtown core among a variety of historic landmark buildings give it potential as a community focus. The area lacks a significant residential population to support the "local branch" character of the existing Library.
	• <b>library as development catalyst</b>	Development of the site would fill in an important gap in the urban fabric of the downtown core and could have many significant urban design benefits. The Library development could stimulate a related redevelopment of the adjacent historic provincial office building.
	• <b>functional linkages and adjacency</b>	The Library in this location could establish a significant set of functional linkages with adjacent uses. The connection with City Hall, the proximity to the provincial archives across Granville Street and businesses in the CBD could mean a significant new role for the Library.
	• <b>safety / security</b>	The CBD is less populated outside of regular business hours and the site may be perceived as less safe than other locations outside those hours.



## Site Selection Analysis

### Waterfront Site

The site is located on the Halifax waterfront between Lower Water Street and the waterfront promenade. The land in this area is owned by the Waterfront Development Corporation. This three acre land parcel is the last site available in this CBD portion of the waterfront since open lands to the south have recently been dedicated to residential development.



### Costs

- availability

The site is owned by the Waterfront Development Corporation. It is among the last parcels of available land owned by the Corporation and is anticipated to be a key commercial site on the waterfront as the demand for development grows.

- acquisition cost

The cost of the land would be prohibitive. Land in this last parcel of development property is priced at a premium. The Waterfront Development Corporation anticipates sales prices in the order of \$125 per sq.ft. meaning a land cost in the order of \$5 million for a land area comparable to other sites being considered in this comparison.

- site development requirements

The three acre site would have to be subdivided if the Library was developed as a free-standing structure. Although the Waterfront Development Corp. recognizes the potential benefits of the Library as a development catalyst, they would prefer to see the Library as a component part of a larger mixed use commercial development that would occupy the entire site.

## Site Selection Analysis

	<b>Waterfront Site</b>	
<b>Functional Requirements</b>	<ul style="list-style-type: none"> <li>• <b>consistency with municipal planning</b></li> </ul>	As a pedestrian generating use within a mixed use development, the Library would meet the land use and official plan objectives for the CBD Waterfront area.
	<ul style="list-style-type: none"> <li>• <b>pedestrian access</b></li> </ul>	Pedestrian access is a problem in this area because it is perceived to be separate from primary pedestrian routes in the CBD and the Spring Garden Road area. The actual distances are very short, however the steep slope down to the waterfront increases the sense of isolation.
	<ul style="list-style-type: none"> <li>• <b>transit access</b></li> </ul>	Primary bus transit routes do not extend down to the waterfront in this area. The closest bus routes are up-hill on Barrington Street and Spring Garden Road.
	<ul style="list-style-type: none"> <li>• <b>local parking</b></li> </ul>	The site is bordered to the south by extensive surface parking lots. As these lots are developed, the HRM has plans to replace the surface parking with structured parking on the east side of Water Street across from the site.
	<ul style="list-style-type: none"> <li>• <b>on-site parking</b></li> </ul>	The potential for on-site parking would be a factor of the cost of land for surface parking or the cost of structured parking. Good local parking would likely make on-site parking unnecessary.
	<ul style="list-style-type: none"> <li>• <b>site area / building form / expansion</b></li> </ul>	The site area is approximately three acres (130,680 sq.ft.). As a free-standing structure, the Library would likely occupy a corner of the total site. Because of long-range commercial objectives for the site, the actual site area and potential location of the Library on the site has yet to be discussed.
	<b>Qualitative Criteria</b>	<ul style="list-style-type: none"> <li>• <b>visibility / landmark potential</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>potential for community focus</b></li> </ul>		The site is slightly outside the range of regular community activities and an existing neighbourhood context, however its location is well known and may have long-term potential as a focal point for community activity.
<ul style="list-style-type: none"> <li>• <b>library as development catalyst</b></li> </ul>		The Library would be a significant development catalyst in this location and this is its primary attraction for the Waterfront Development Corp. who are eager to have this area of the waterfront perceived as a vibrant part of the downtown core.
<ul style="list-style-type: none"> <li>• <b>functional linkages and adjacency</b></li> </ul>		As a "pioneer" institution along this less-developed part of the waterfront, the Library would not have the strong functional linkages that make the Spring Garden Road sites so attractive. Actual distances are much shorter than perceived distances in this location.
<ul style="list-style-type: none"> <li>• <b>safety / security</b></li> </ul>		The relative isolation of the site in relation to primary pedestrian activities may make the site appear less safe than other sites under consideration.

## Site Selection Analysis

### Gottingen Street

The site is located on the west side of Gottingen Street between Gerrish and Cunard Streets, across the street from the HRL North Branch. The site is currently used as a surface parking lot for local services and businesses, prime among these being the North Branch Library. The total lot area is approximately 45,000 sf. The frontage on Gottingen Street is very long (approximately 360 feet) and shallow (approximately 120 feet). This includes the surface parking lot currently used by patrons of the library and neighbourhood retailers, and a vacant lot south of the parking lot. A piece of the property also extends west through the block to Creighton Street, and this area could be used as an associated surface parking lot/book drop-off area



<b>Costs</b>	• <b>availability</b>	The site is vacant. Part of the site is used as a surface parking lot. The site is owned by Sobeys, a local grocery store chain.
	• <b>acquisition cost</b>	The site would have to be purchased from Sobeys to be made available for the HRL. Although no inquiries have been made, there is no indication that Sobeys intends to build on the site, real estate prices are relatively low in the neighbourhood, and it is assumed the property could be acquired for a reasonable price.
	• <b>site development requirements</b>	The site is currently vacant and available for development. The surface parking provided on the lot would likely have to be replaced both to satisfy local merchants and to meet the needs of the Central Library.

## Site Selection Analysis

		<b>Gottingen Street</b>
<b>Functional Requirements</b>	• <b>consistency with municipal planning</b>	The area is currently zoned for commercial development and the Library would be a consistent use with that designation. Official planning criteria suggests that a Central Library meeting the needs of the HRM might be better located with closer access to the CBD.
	• <b>pedestrian access</b>	Pedestrian access for many primary users is a problem in this area because it is separate from primary pedestrian routes in the CBD.
	• <b>transit access</b>	Gottingen Street has a major bus route from the CBD.
	• <b>local parking</b>	As the building site provides the only local source for parking, additional parking would have to be provided on part of the site. There are no other major vacant properties immediately surrounding to be used for parking.
	• <b>on-site parking</b>	On-site parking would be provided as part of the program in this location.
	• <b>site area / building form / expansion</b>	The site area is approximately 45,000 sf. This is adequate to accommodate the library program on three floors and provide some surface parking on the part of the lot facing Creighton Street. The long, narrow lot would mean a thin rectangular building form with a very long street frontage, which is not the most efficient organization for the Library
<b>Qualitative Criteria</b>	• <b>visibility / landmark potential</b>	The site is located in the North End of Halifax and is more appropriate to providing a neighbourhood service than a regional service. It is not a highly visible site within the greater Halifax context and would not provide landmark status that the Central Library requires
	• <b>potential for community focus</b>	The site has potential as a community focus for the North End neighbourhood. However, the Central Library program is designed to replace the Spring Garden Road branch and provide branch services in that area. The northern community is already well-served by the HRL North Branch facility.
	• <b>library as development catalyst</b>	The north Halifax area is in need of major community investment and improvement. There is no evidence in this context that the Library itself could serve as the catalyst to turn the neighbourhood around and make this a desirable development location.
	• <b>functional linkages and adjacency</b>	There are few if any functional adjacencies that make this an attractive site for the Central Library. The site is outside the range of activities of many people in the CBD that would make use of the Central Library.
	• <b>safety / security</b>	There are some concerns about personal safety in this area. The area is perceived to be remote from major pedestrian traffic routes.

## Comparison of Preferred Sites

### Preferred Sites

Three sites emerge from the site selection analysis as having the capacity and characteristics desirable for the new Central Library - Spring Garden Road and Queen Street, Queen and Clyde Street and Barrington and George Streets. Each has particular advantages and disadvantages as noted in the preceding section. This section explores the advantages and disadvantages of locating the program on each site.

### Spring Garden Road and Queen Street

The Spring Garden Road and Queen Street site provides many advantages in terms of building massing and design. It provides a natural forecourt for the building with the landscaped setback from Spring Garden Road and high visibility and accessibility for the front entrance. The building would be built within a context of institutional buildings of a similar scale and presence on Spring Garden Road. The site itself is open and provides no significant barriers to the layout of the building. As a corner building on a prominent site it provides the opportunity to create a landmark building of appropriate significance for the Central Library.

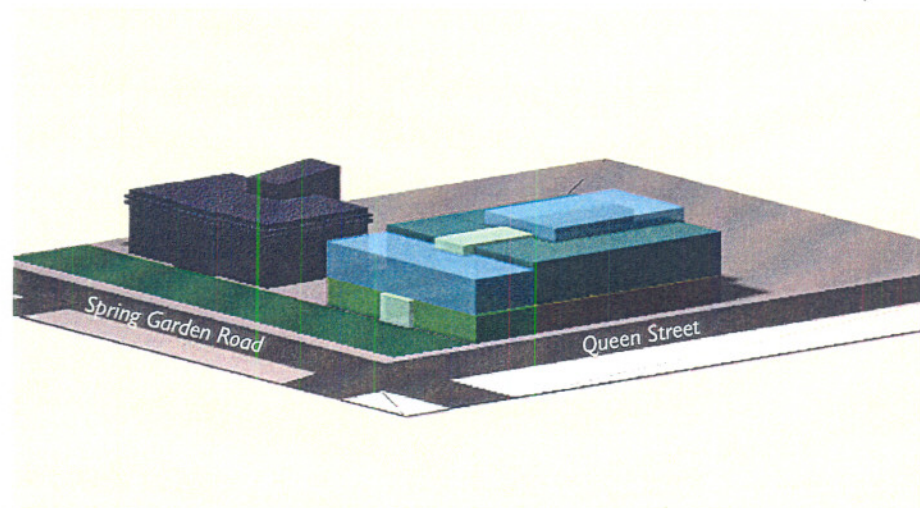
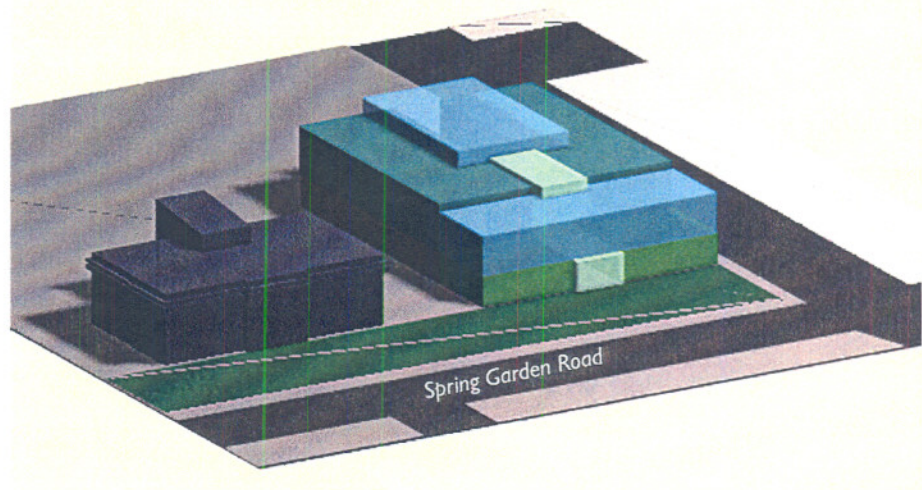
### Spring Garden Road and Queen Street - Plan



## Comparison of Preferred Sites

The entry faces the park and Spring Garden Road and is flanked by program space. The primary staff and service space is at grade behind the public circulation and program areas. Collection space and stacks line a major interior volume of user space on the upper two floors. Further user space is found as a reading room overlooking the park at the front of the building in a tall second floor. The building face is aligned to the adjacent Nova Scotia Technical school but is clearly separated by further developed park area. Parking is off the site at the rear of the building and across Queen Street.

**Spring Garden Road  
and Queen Street  
- Massing Model Views**

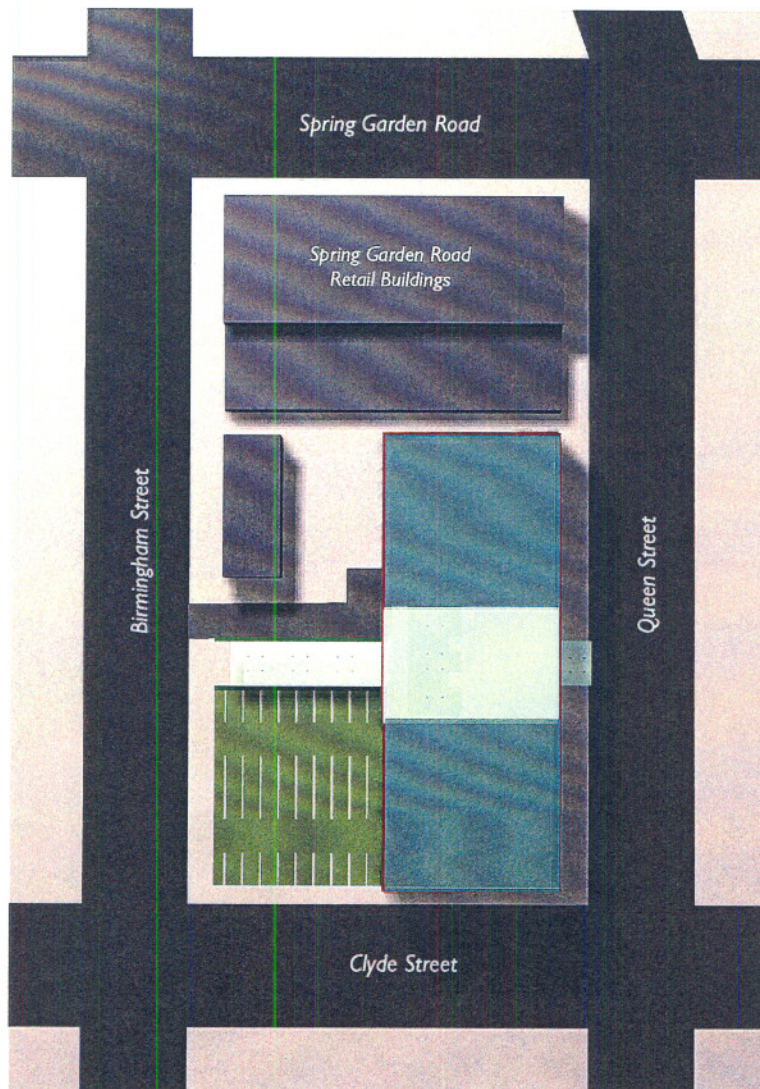


## Comparison of Preferred Sites

### Queen and Clyde Streets

The Queen and Clyde Street site offers a clear development area bounded on three sides by public streets. The orientation and principal entrance of the Library faces Queen Street, however the facades on all three sides are very important to the design of the building. A secondary entrance or access route needs to be provided to address the surface parking and drop-off on the west side of the site and the municipal parking facility on the opposite side of Birmingham Street.

### Queen and Clyde Streets - Plan

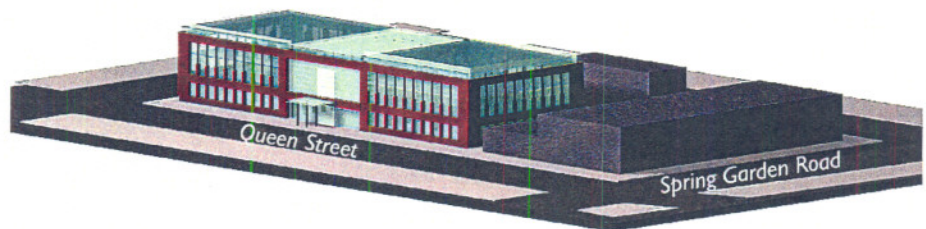
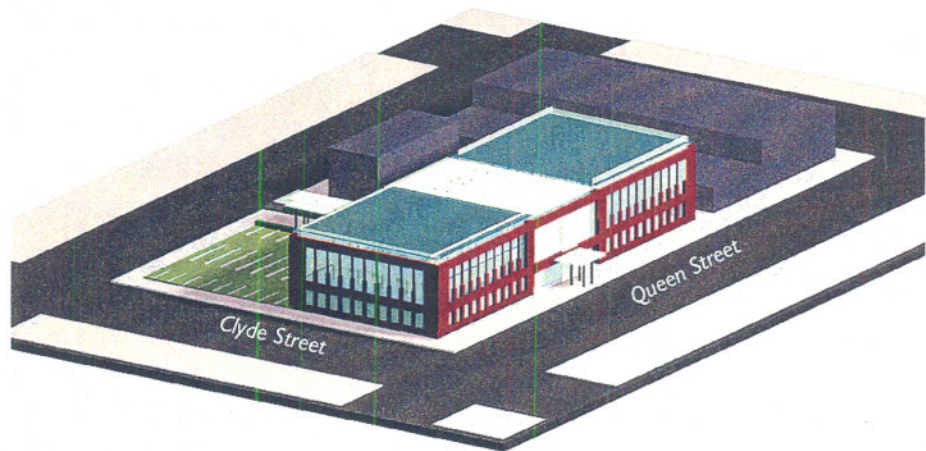


## Comparison of Preferred Sites

In the massing model, the Queen Street entrance is clearly visible from Spring Garden Road, and is flanked by public program and administration space. A central atrium space crosses the building allowing access from either the parking and drop-off area on the west side of the building, or from the principal pedestrian entrance facing Queen Street. Collection space, reading rooms, computer facilities, a double height reference area and book stacks are located on the second and third floors. The building faces are aligned to adjacent buildings along Queen Street.

This configuration addresses many of the key design concerns for the Library on the Queen and Clyde site.

Queen and Clyde  
Streets - Massing  
Model Views





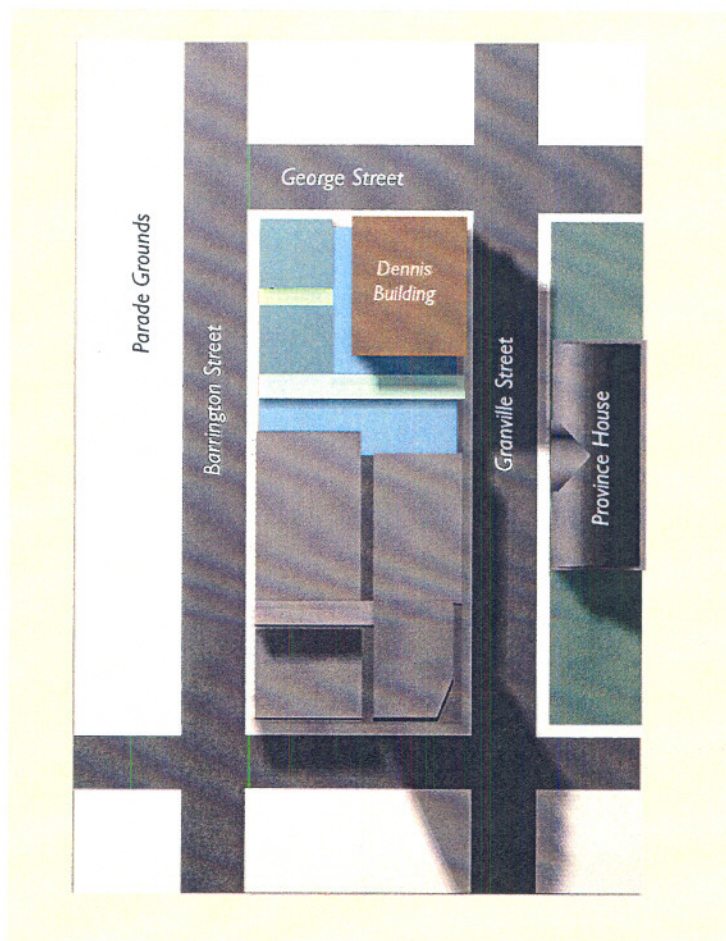
## Comparison of Preferred Sites

### Barrington and George Streets

The Barrington and George Street site is in a key location between the Halifax City Hall and Province House. The site offers the Central Library a prominent position in the downtown fabric of the City and in effect helps to define an expanded municipal campus for the City of Halifax.

In the massing model the building spans between Barrington and Granville, and wraps around the Dennis Building at Granville and George Streets. Primary circulation is through a glazed multi-storey link between Granville and Barrington. This provides major entries on each street and a through block connection between Province House and the Parade Grounds. The Dennis Building is utilised as staff and service area, while the collection and stack spaces sit on the upper floors at the corner of Barrington and George. The collection

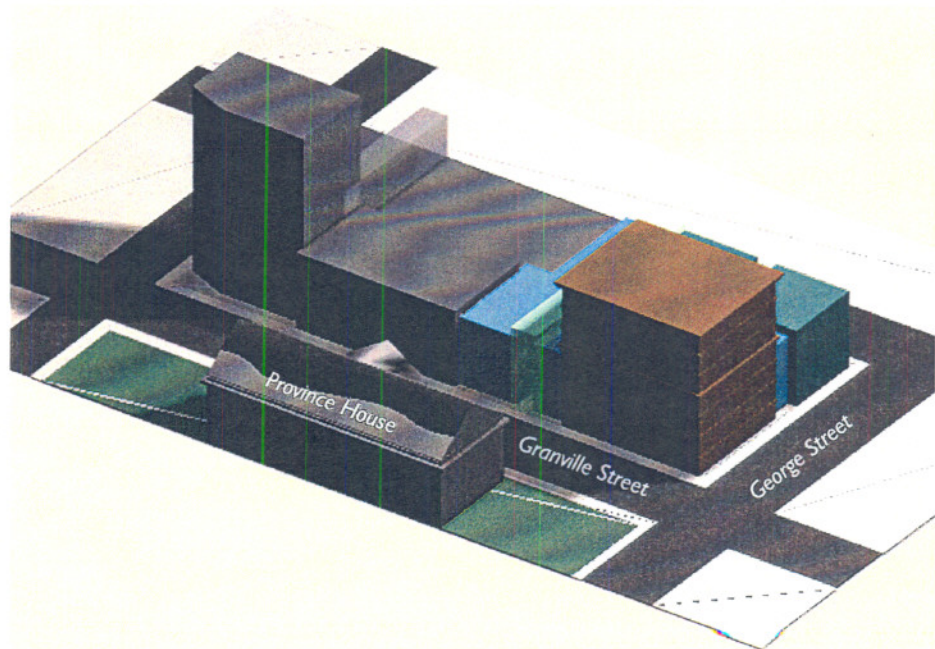
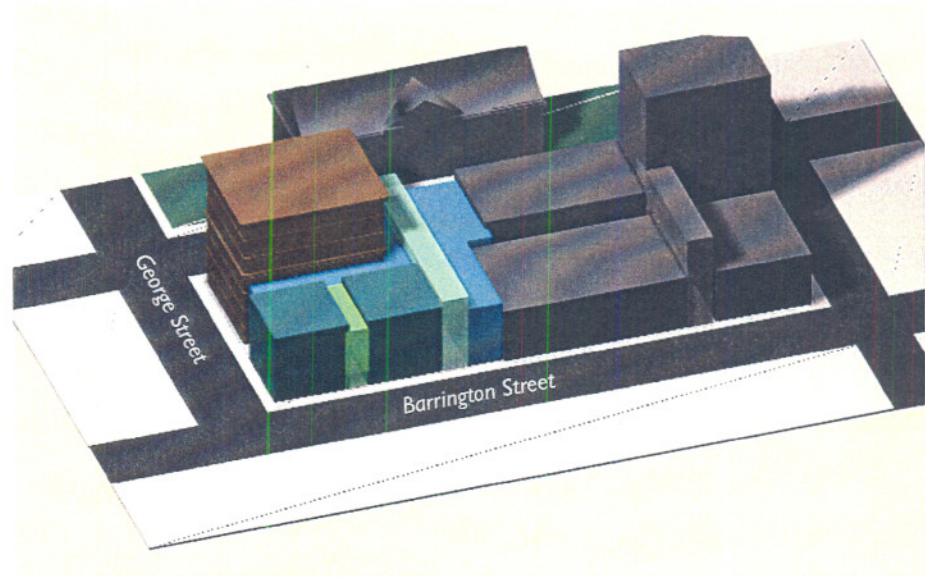
### Barrington and George Streets - Plan



## Comparison of Preferred Sites

and stack spaces are centrally divided into two areas separated by program and user space. The Primary user spaces are in a volume separating the inside edges of the Dennis Building within the library and on the other side of the glazed circulation spine from the Dennis Building.

**Barrington and  
George Streets  
- Massing Model Views**



## Design Issues - Selected Site

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### Preferred Site

The preferred site for the project is the Spring Garden Road and Queen site. The site has all the attributes of an ideal location for the Central Library, however it is owned by the Province and the current plans for the property are to transfer ownership to Dalhousie University as a component of the agreement to merge the former Technical University of Nova Scotia with Dalhousie University. The Library recognizes that current plans negate further consideration of the site unless there is a formal change in decision by the Province.

### Selected Site

The selected site is at Queen and Clyde Street, with the proviso that if the Spring Garden Road and Queen site can be made available for the Library within the development schedule required by the Library, it will become the selected site.

The Queen and Clyde site also has many attributes that make it an ideal choice as a Central Library location. It has all the locational advantages of the Spring Garden Road and Queen Street site with the exception that it is not located directly on Spring Garden Road.

The following issues are a preliminary consideration of design issues as they will affect the eventual architectural design on the site. The massing model illustrates how some of the issues might be addressed in relating the program to the site. This modelling exercise in no way constitutes an architectural design for the building.

### Urban Design Issues

- The project should be built to the streetlines of the site. The Central Library is a distinctly urban institution in an urban setting and the building should respond to and take its form from the street fabric of the city.
- The building should be compatible in height and scale with surrounding development. This means limiting heights on the property to three or a maximum of four floors. This approach will take full advantage of the site area and will help to justify the development of the Library in this location through the Official Plan Amendment process.
- The building should minimize perimeter walls and provide an efficient building envelope. This approach has been a basic assumption in the cost estimates for the building, and is a reflection of the urban aesthetic that should inform the overall design of the facility.

## Design Issues - Selected Site

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### Building Image and Profile

- The building should be finished in materials that are appropriate to the public profile and importance of the institution in the City. The cost estimate allows for good quality exterior and interior materials and finishes.
- The building and the building entrance should be visible from Spring Garden Road. As the source of most pedestrian traffic to the Library, this visual connection will be an important component of the Library's success in this location.
- The building should have an institutional impact on Queen Street. The siting of the Library in this location will have an impact on the perceived character of Queen Street. As the principal address, the Library should be designed with a strong relationship to the street.

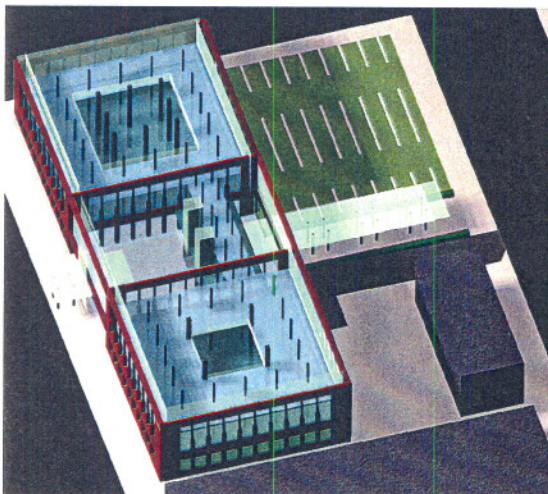
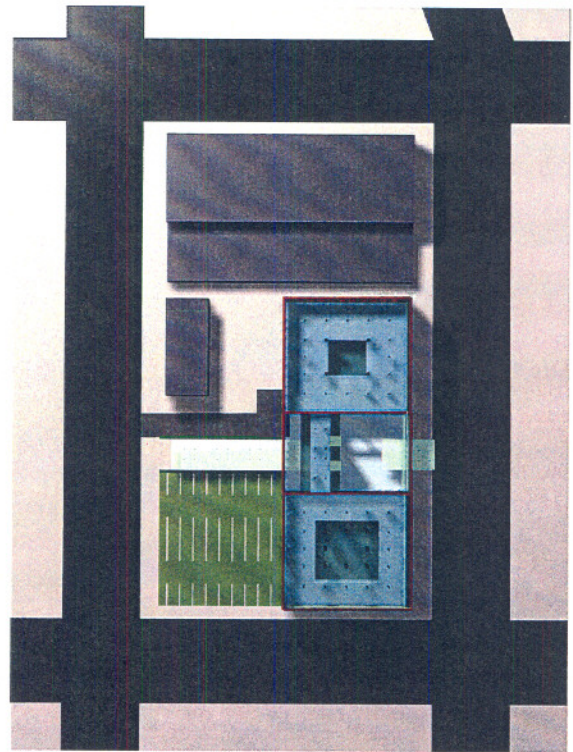
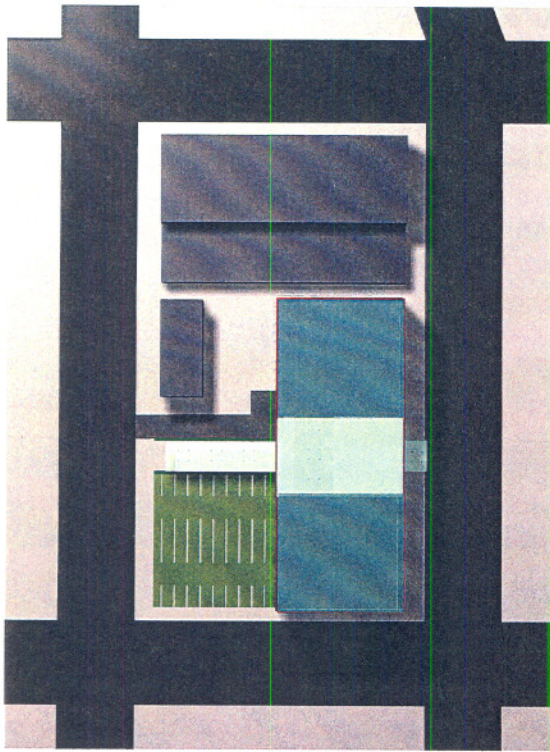
### Site Issues

- The building should allow for a through block connection between Queen Street and Birmingham Street. This connection can provide access to parking facilities along Birmingham Street.
- The building should occupy the full length of the Queen Street frontage both to achieve the urban design objectives noted above and to create a continuous linkage with development along Spring Garden Road. This configuration of the building on the site suggests a rectangular building that leaves the Birmingham Street side of the site open as a potential on-site parking lot and a drive-in drop-off for books and library users. This part of the site also provides room for Central Library expansion in the future.

### Internal Building Organization

- The building should have a controlled single circulation desk to increase efficiency and reduce staffing demands.
- Program activities involving non-circulation related public activities should be located at the grade level of the building.
- The building should be rational and easily understood by users. There should be visual connections between different program areas.
- The building should provide interesting interior spaces such as an atrium, double height reference room, that create a memorable experience for the user and that announce the importance of the Central Library as a civic institution.

## Design Issues - Selected Site

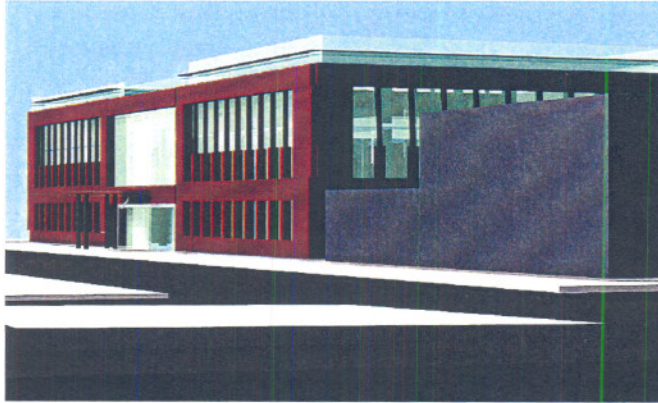


*Upper left: A plan view of the model shows the configuration of the building on the site as it extends the full length of the Queen Street frontage. The residual surface parking area at the corner of Clyde and Birmingham provides on-site parking for Library patrons.*

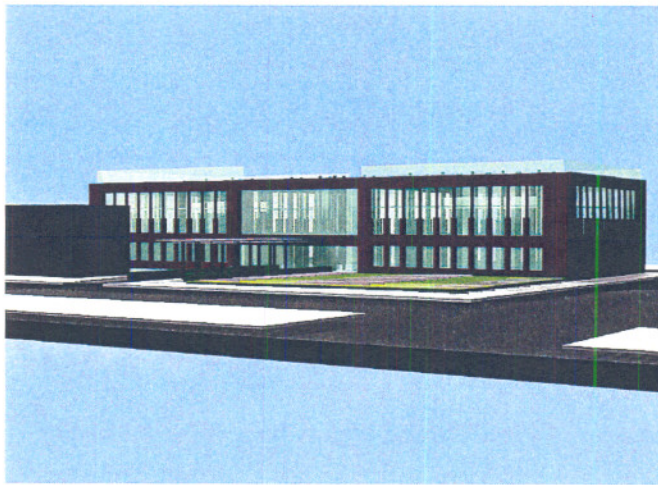
*Upper right: A plan view of the model with the roof removed shows the central atrium area providing a through block connection from Queen Street to Birmingham Street. It also shows how the program might be divided into two major blocks framing the central atrium. In this model, the book stacks area occupies the upper two floors of the north block. A double height reference room is in the centre of the south block on the corner of Queen and Clyde Streets.*

*Lower left: An axonometric view of the model with the roof removed gives a sense of the scale of the central atrium and the reference room.*

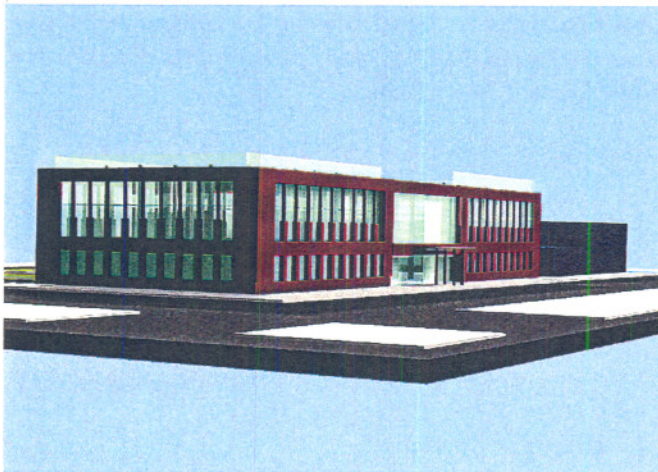
## Design Issues - Selected Site



*Upper left: A perspective view of the model looking south on Queen Street from Spring Garden Road. The building should be highly visible from Spring Garden Road and should change the way Queen Street is perceived by residents in the City.*



*Centre left: A perspective view of the model from Birmingham Street. Each facade of the building is important. The Birmingham Street entrance will be used primarily by Library patrons arriving by car and should be as welcoming and accommodating as the principal pedestrian entrance on Queen Street.*



*Lower left: A perspective view of the model from Queen Street south of Clyde Street looking towards Spring Garden Road. The building should take advantage of natural light at the perimeter. Program areas not related to book circulation or storage can be located in these perimeter areas.*

## Capital and Operating Cost Analysis

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### Capital Cost Analysis

The capital cost estimate for the Central Library program on the Queen and Clyde Street site was completed by Vermeulens Inc.. The estimate includes all direct construction costs, general contractors overhead and profits, design and construction contingencies. The estimate also includes fittings furniture and equipment (FFE), architects and engineers fees, and HST net of the rebate to the Library.

Gross Building Area	95,000 gsf
\$/sf	\$172
Construction Cost (including site work)	\$16,309,000 *
FFE	\$2,609,000
Professional Fees	\$1,631,000
Escalation	\$822,000
HST (6.43%)	\$1,374,000
<b>Total Building Cost</b>	<b>\$22,745,000</b>
Collection Expansion	\$1,250,000
<b>Total Project Cost</b>	<b>\$23,995,000</b>

### Operational Costs

A major argument in support of a new Central Library building is the relative savings in operational costs of a new, efficiently organized facility versus the operational costs associated with an older, deteriorating and inefficient facility such as the Spring Garden Road Library. The following is a comparison of the current operating costs for the Spring Garden Road Library versus the projected operating costs of the new Central Library facility.

*\* The Construction Cost is detailed in Appendix A*

## Capital and Operating Cost Analysis

Costs	Spring Garden Road (1998/99)	New Central Library (2000/01)
<b>Maintenance Costs *</b>		
Salaries - Regular	\$131,934	
Benefits	\$18,471	
Repairs and Maintenance - Equipment	\$9,646	
Building - Repairs and Maintenance	\$43,500	
Photocopier Rental	\$6,309	
Heating Fuel	\$13,000	
Office Supplies	\$4,000	
Cleaning Supplies	\$2,500	
Water	\$800	
Electricity	\$32,741	
<b>Total Maintenance Costs</b>	<b>\$262,901</b>	<b>\$380,000</b>
<b>Public Services</b>		
<b>Information Services (Reference)</b>		
Salaries - Regular	\$364,300	\$591,128
Benefits - Salaries	\$51,002	\$82,758
Repairs and Maintenance - Equipment	\$1,500	\$1,500
Photocopier Rental	\$11,565	\$11,565
Library Materials	\$133,584	\$133,584
Office Supplies	\$4,000	\$6,491
<b>Total Information Services (Reference)</b>	<b>\$565,951</b>	<b>\$827,026</b>
<b>Adult Services</b>		
Salaries - Regular	\$390,968	\$634,401
Benefits - Salaries	\$54,736	\$88,817
Library Materials	\$205,116	\$205,116
Office Supplies	\$9,000	\$14,604
<b>Total Adult Services</b>	<b>\$659,820</b>	<b>\$942,938</b>
<b>Youth Services</b>		
Salaries - Regular	\$247,664	\$401,870
Benefits - Salaries	\$34,673	\$56,262
Photocopier Rental	\$693	\$1,124
Arts & Crafts	\$1,100	\$1,785
Library Materials	\$84,568	\$84,568
Office Supplies	\$2,000	\$3,245
<b>Total Youth Services</b>	<b>\$370,698</b>	<b>\$548,854</b>
<b>Systems Operating Costs Increases</b>		
Telecommunications, New Program requirements, Information, Research, Career, Resource, Consumer Health and Computer Training Centre		\$85,055
<b>Total New Systems Costs</b>		<b>\$85,055</b>

\* Maintenance Costs for the new facility are based on a projected cost of \$4.00 per sq. ft.



## Capital and Operating Cost Analysis

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Costs	Spring Garden Road (1998/99)	New Central Library (2000/01)
Total Operating Costs	\$1,859,370	\$2,783,873
32 Glendale Avenue Operating Costs	\$163,874	
Net Operating Costs	\$2,023,244	\$2,783,873

Based on the net operating costs, the existing Spring Garden Road facility costs \$53.24 per square foot to operate while the new facility will cost approximately \$29.30 per square foot (a little more than half the costs of operations per square foot). This means that the municipality will get a building that provides 150% more floor area for only a 37% increase in operating costs.

The big savings in operating costs come from a reduction in the required staff per square foot because of improved efficiency of operations. Maintenance cost improvements come from the improved thermal performance of the building, increased efficiency in electricity consumption, and materials that are easier to maintain. Because it is a new building, there will also be significantly less expense in building repair and maintenance costs.

### Other Related Operational Cost Savings

The Halifax Regional Municipality will have some reduction in direct maintenance costs because the Supervisory Facilities Management staff will spend less time on a new facility than they do on the Spring Garden Road Library.

The service in branch libraries will not be affected by the new Central Library. The Halifax Regional Library plans to consolidate administrative and technical services in order to reduce costs for leasing, travel, vehicle maintenance and travel time. The rental space at 32 Glendale Avenue is presently occupied by Outreach Services which includes mobile libraries and book by mail; Delivery Services which provides system-wide deliveries; and Technical Services which includes cataloguing, processing, serials and acquisitions.

Outreach Services will be moved to Halifax North Branch (bookmobiles can be housed inside the garage area). Technical Services and Delivery Services will be moved to the Alderney Gate Branch (delivery vans will be parked inside the garage).

## Capital and Operating Cost Analysis

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### *Annual Costs 32 Glendale Avenue*

	<b>operating budget 1998/99</b>
Lease costs per year	\$128,000
Janitorial Service	\$6,800
Buildings - Repair and Maintenance	\$2,500
Electricity	\$16,761
Property Taxes	\$9,013
<b>Total Operating Costs</b>	<b>\$163,874</b>

The first year savings from Glendale will be required to move departments and consolidate services. The second year and thereafter costs from Glendale will be eliminated from the HRL Budget.

Other savings will come from a reduction in staff travel time. The current manager of Outreach Services currently splits her time between North Branch and the Glendale Avenue location.

Further savings will come from a reduction in vehicle maintenance costs. Bookmobiles and delivery vans are currently parked outside 32 Glendale Avenue in all weather. The reorganization will allow for protected interior parking at both North Branch and Alderney Gate Branch locations.

## Architect Selection Process

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### **The Goal of the Architect Selection Process**

The architect selection process should begin directly upon completion and presentation of this study.

The goal for the selection process is to find an architect with the experience and vision to design a library commensurate in significance to the keystone of the Halifax Regional Library system. It is important that the architect demonstrate: experience with projects of similar type and scale; experience at controlling budgets in projects of more than \$20 million; experience in producing work on a tight time schedule; excellent design products with national and/or international recognition; and, a willingness to work collaboratively with the HRL in the programming and design of the project.

If an architect is selected from another location, it will be to the advantage of HRL if the selected architect forms an association with a local architect to undertake the project. A likely association scenario will divide the responsibilities with the lead architect taking responsibility for programming, concept and schematic design and design development. Responsibilities for working drawings would likely be shared between the two firms and the local firm would take primary responsibility for construction administration. The local firm would likely also take primary responsibility for the Official Plan Amendment process and other local planning approvals. For the HRL it is important that both firms maintain involvement with the project through all phases of design and construction so that the initial design intent is carried through to construction.

### **The Design Architect**

The formation of teams of local and other architects has a potential drawback: the client has little control of either the composition of the team or their internal arrangements. Typically, the request for proposals is structured to request that a full consulting team, including the local associate architect and all technical consultants, be presented in the proposal. The client then selects a team for the project with little opportunity for substitution. Such marriages of convenience can cause tensions that are not to the advantage of the project.

Such a procedure and outcome can be avoided by making the first priority the selection of the best lead design architect for the project. Once that architect is selected, if the firm is not from the Halifax area, a second selection process involving both the design architect and the HRL can be undertaken on a more informal basis to identify the local architect and the technical consultants required to round out the design team for the project. This procedure will allow a clear choice for the architect selection committee. In selecting the design

## Architect Selection Process

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### Request for Qualifications

architect the committee will be considering only the qualifications of the architects, not the composition of the teams. In a similar fashion, the committee will be selecting the best possible consultants from each of the supporting disciplines: local associate architect, mechanical, electrical and structural engineers, library consultant, landscape architect, code consultant and cost consultant.

The first stage of the lead architect selection process should be a call for qualifications requesting information demonstrating the firm's experience in each of the key categories of interest:

- experience with projects of similar type and scale;
- experience at controlling budgets in projects of more than \$20 million;
- experience in producing work on a tight time schedule;
- examples of design with national and/or international recognition;
- experience working collaboratively with a client in programming and design;
- resumes for principals and senior architects who will actually work on the project.

The submissions should not include any specific proposals concerning the project, and the time frame allotted for submission should be short. The objective is to receive standard format submissions to assist in making comparisons. 4 or 5 firms should be selected to prepare a more specific and detailed proposal.

The request for qualifications should be advertised nationally and locally. The turnaround time should be two to three weeks.

The committee should distribute the statements of qualification for review and meet soon afterward to select a short list of firms to be invited to submit a proposal and attend an interview.

### Request for Proposals

The request for proposals should outline the general characteristics of the Central Library project including a history of the project, the preliminary program, the design and construction schedule, the budget and site information. The document should specify that the RFP relates only to the lead architect and that the team will be selected through another process. It should also specify that no design concepts or proposals will be considered at this time. It should precisely request information concerning:

## Architect Selection Process

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- the firm's design philosophy and proposed approach to the Central Library project
- information on the qualifications and experience of proposed project principal, project architect and key team members
- summary of three related projects with references and description of how they relate to the Central Library project.

This information should be provided in a concise document of no more than 10 pages.

At the same time as the RFP is circulated, the schedule for interviews should be defined. Interviews should follow closely on the submission of proposals.

### Interviews

Before the interviews, the committee should meet to discuss key questions for each firm arising from the proposal submissions, and references should be checked in advance in order that related questions for each team can be formulated.

Interviews should consist of a 40 minute presentation by the architectural firm with a specific request that the presentation address the same issues requested in the RFP document - design philosophy and approach, information on the architectural team and information on related experience (the number of projects covered in the interview should be left to the discretion of the presenters). The presentation should conclude with a 20 minute question and answer period. Allow a half hour between scheduled interviews for time over-runs and setup for the next presenters.

The interview is the one opportunity that the committee has to judge the personality of the key players that they will be working with on the project over the next two years. It is important that all decision makers be present through all interviews, and it is preferable that the interviews be scheduled on the same day.

### Selecting the Design Architect

Following the interviews, the committee should take a decision concerning its preferred firm. The committee should also internally agree on an alternate second choice in the case that fee negotiations with the preferred firm cannot be resolved. The issue of architectural fees for the project should be concluded before any work proceeds and before a final announcement is made.

## Architect Selection Process

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### Selecting the Consulting Team

Once the selection has been made and the issue of architectural fees resolved, the firm, with the input of the client, should begin identifying sub-consultants for the team. Credentials will be requested from a short-list of recommended local consultants in each category. In some cases the selection can be made on the basis of documentation, in other cases, particularly in the case of the local associate architect, interviews should be conducted with each firm under consideration. A mutually satisfactory decision should be made in each case.

Following identification of the preferred team, the lead architect should prepare a team fee proposal to be negotiated.

### Schedule

This selection process appears complex, but can be coordinated to proceed efficiently. A proposed schedule is as follows.

1	Announcement of request for qualifications	3 weeks
2	Review of qualifications, selection of short list and distribution of requests for proposals	1 week
3	Preparation of proposals	2 weeks
4	Review of proposals and preparation for interview	1 week
5	Interviews and selection of preferred architect	1 week
6	Review of qualifications and interviews for consulting team	2 weeks
7	Resolution of consulting fees	1 week
	Total time	11 weeks

## Implementation

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### Implementation Plan

The concept for the development of the new Central Library is based on an aggressive design and construction schedule. The initial idea was to open the Library by late 1999 to coincide with the 250th Anniversary of the City of Halifax. The Central Library will be one of the principal components of the City's celebration of the Anniversary and the Anniversary will form one of the central funding arguments for the Library at this time. Upon a more detailed analysis, the late 1999 opening does not appear feasible. The ground breaking, or a cornerstone laying celebration, could easily fall within the 1999 calendar year and might have to serve as the focus for municipal celebrations concerning the Library. On an efficient but realistic schedule, the Library should open in late July or early August, 2000.

The general process will be as follows:

The municipal funding decision will be made in late December 1997. This decision should also include the decision to provide the preferred site for the project. As soon as the funding decision has been made, the HRL should proceed with the architect selection process.

The architect selection should be completed by late February with the complete team assembled with work underway by mid-March. The lead architect should begin immediately with programming for the building upon selection. The Official Plan Amendment process on the selected site should also be initiated immediately.

Once the program has been accepted by the end of March, the architects will begin schematic design. Schematic design should be completed by the end of May (2 months), design development by the end of August (3 months), and construction documents by late February 1999 (6 months). The tendering process will take approximately 6 weeks, 4 weeks for submissions and two weeks to review proposals and take a decision. If none of the tenders are acceptable, the project will have to be re-tendered adding another 6 weeks to the schedule.

Construction will take approximately 14 months. Commissioning of mechanical and other building systems will take 2 months as part of that process. Before opening, the schedule also allows a 6 week period once construction is complete for move in, training of personnel and testing of all building systems.

This means a grand opening in early August 2000.

## Implementation

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### Key Dates

The following are the key dates for design and construction of the project.

municipal funding approval	January 5, 1998
architect selection	January 5, 1998 - Feb. 31, 1998
consulting team selection	Feb. 31, 1998 - March 15, 1998
OPA and planning approvals	March 1, 1998 -
programming / concept development	March 1, 1998 - March 31, 1998
schematic design	April 1, 1998 - May 31, 1998
design development	June 1, 1998 - Aug. 31, 1998
construction documents	September 1, 1998 - Feb. 28, 1999
tendering	March 1, 1999 - April 15, 1999
construction	April 16, 1999 - June 15, 2000
commissioning	April 15, 2000 - June 15, 2000
move-in	June 15, 2000 - July 31, 2000
opening	August 1, 2000



**HALIFAX LIBRARY  
WORKPLAN AND PROJECT SCHEDULE**

A.J. DIAMOND, DONALD SCHMITT AND COMPANY  
4 December 1997

Duration (weeks)	1998												1999												2000											
	Phase Duration			Task Duration			Milestone Date			Contingency			Phase Duration			Task Duration			Milestone Date			Contingency			Phase Duration			Task Duration			Milestone Date			Contingency		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.			
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<b>Consultation and Project Management</b>	[Gantt chart for Consultation and Project Management]																																			
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3	[Gantt chart for Construction]																																			
1	[Gantt chart for Construction]																																			
<b>Post Construction</b>	[Gantt chart for Post Construction]																																			
6	[Gantt chart for Post Construction]																																			
5	[Gantt chart for Post Construction]																																			
1	[Gantt chart for Post Construction]																																			

## Study Participants

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This study was completed through the efforts of a number of dedicated individuals. In conclusion, we would like to recognize the participation of the following people:

### *Halifax Regional Library Working Committee*

John Kitz, Chairman of the HRL Board  
Judith Hare, Chief Executive Officer, HRL  
Susan McLean, Deputy CEO, HRL  
Al Leblanc, Director of Finance, HRL  
Paula Saulnier, Director of Planning and Development, HRL  
Debbie Nicholson, Director of Technical Services and Systems, HRL  
Harold Gaudet, Executive Assistant to the CEO, HRL

### *Halifax Regional Municipality*

Kenneth R. Meech, Chief Administrative Officer, HRM  
Dan R. English, Commissioner of Community Services, HRM  
Bill Campbell, Community Planning, HRM  
Kevin Rideout, Works Supervisor - Facilities Maintenance, HRM

### *Consultants*

*A.J. Diamond, Donald Schmitt and Company*

A.J. Diamond  
Robert Marshall  
Thom Pratt

### *The Randolph Group*

Susan Wright

### *Vermeulens Inc.*

James Vermeulen

### *Morris & Richard*

Victor Thibodeau  
D.A. Morris

### *Others*

Fred Were, Waterfront Development Corporation Ltd.  
John Wright, Waterfront Development Corporation Ltd.  
The staff of the Spring Garden Road Library



# Appendix A

## Cost Consultant Report







**Vermeulens  
Cost Consultants**

335 Renfrew Drive, Suite 301, Unionville, ON Canada L3R 9S9, Tel(905)479-5836 Fax(905)479-5840  
101 Federal Street, Suite 1900, Boston MA 02110 Tel (617) 342 7290

December 2, 1997

A.J. Diamond, Donald Schmitt and Co.  
2 Berkeley Street, Suite 600  
Toronto, ON M5A 2W3

Attention: Rob Marshall

Re: **Halifax Central Library**

Dear Rob,

Please find enclosed our cost estimate for the above project based on preliminary design information.

	Area sf	\$/sf	Constr cost \$000	16% FFE \$000	10% Fees \$000	4% Escal \$000	6.43% HST \$000	Total Project \$000
Option 1 Reno Stand Alone	23,000	154	3542	567	354	179	298	4,940
Option 2 Reno Stand Alone	37,000	143	5287	846	529	266	445	7,373
Option 3 Reno Existing	37,000	140	5183	829	518	261	437	7,228
Option 3 New Addition	58,000	181	10,519	1,683	1,052	530	886	14,670
Option 3 Total	95,000	165	15,702	2,512	1,570	791	1323	21,898
Option 4 New Construction	95,000	172	16,309	2,609	1,631	822	1374	22,745

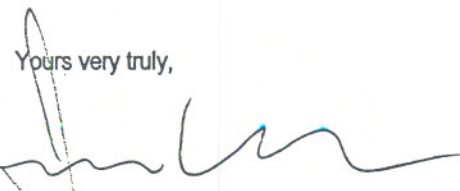
This estimate includes all direct construction costs, general contractor's overhead and profit, design and construction contingencies. Cost escalation assumes a December 1998 construction start. The renovation in Option 3 is assumed to start 18 months after the start of the new addition. We have also included fittings, furniture and equipment (FFE), architects and engineers fees, and HST net of the rebate.

Excluded from the estimate are: moving, administrative and financing costs.

Bidding conditions are expected to reflect 6-8 pre-selected general contractors, open bidding for sub-contractors, open specifications for materials and manufacturers.

The estimate is based on prevailing rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

If you have any questions or require further analysis please do not hesitate to contact us.

Yours very truly,  
  
James F. Vermeulen, PQS  
President

Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
 Unionville, ON L3R 9S9  
 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 1 Renovation - Stand Alone  
 AJ Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 1A  
 Tel: 416 862 8800  
 GFA = 23000 sf  
 333REV 3 or 4 Characters

		Amount	\$/sf	\$/gfa	Total	%	
<b>A SHELL</b>	<b>A1 SUBSTRUCTURE</b>						
	A11 Foundations	0	0.00				
	A12 Basement Excavation	0	0.00	0.00	0	0.00	
	<b>A2 STRUCTURE</b>						
	A21 Lowest Floor Construction	9,000	0.39				
	A22 Upper Floor Construction	112,000	4.87				
	A23 Roof Construction	9,000	0.39	5.65	130,000	3.67	
	<b>A3 EXTERIOR ENCLOSURE</b>						
	A31 Walls Below Grade	13,000	0.57				
	A32 Walls Above Grade-	256,000	11.13				
	A33 Windows & Entrances	128,000	5.57				
	A34 Roof Covering	72,000	3.13				
	A35 Projections	69,000	3.00	23.39	538,000	15.19	
<b>B INTERIORS</b>	<b>B1 PARTITIONS &amp; DOORS</b>						
	B11 Partitions	100,000	4.35				
	B12 Doors	35,000	1.52	5.87	135,000	3.81	
	<b>B2 FINISHES</b>						
	B21 Floor Finishes	126,000	5.48				
	B22 Ceiling Finishes	95,000	4.13				
	B23 Wall Finishes	110,000	4.78	14.39	331,000	9.35	
	<b>B3 FITTINGS &amp; EQUIPMENT</b>						
	B31 Fittings & Fixtures	115,000	5.00				
	B32 Equipment	23,000	1.00				
	B33 Conveying Systems	0	0.00	6.00	138,000	3.90	
<b>C SERVICES</b>	<b>C1 MECHANICAL</b>						
	C11 Plumbing & Drainage	92,000	4.00				
	C12 Fire Protection	46,000	2.00				
	C13 HVAC	460,000	20.00				
	C14 Controls	69,000	3.00	29.00	667,000	18.83	
	<b>C2 ELECTRICAL</b>						
	C21 Service & Distribution	161,000	7.00				
	C22 Lighting , Devices & Heating	253,000	11.00				
	C23 Systems & Ancillaries	69,000	3.00	21.00	483,000	13.64	
<b>D SITE</b>	<b>D1 SITE WORK</b>						
	D11 Site Development	0	0.00				
	D12 Mechanical Site Services	0	0.00				
	D13 Electrical Site Services	0	0.00	0.00	0	0.00	
	<b>D2 ANCILLARY WORK</b>						
	D21 Demolition	213,000	9.26				
	D22 Alterations	69,000	3.00	12.26	282,000	7.96	
		<b>SUBTOTAL DIRECT COSTS</b>			<b>2,704,000</b>		
<b>Z MARKUPS</b>	<b>Z1 GENERAL REQUIREMENTS</b>						
	Z11 General Requirements (8%)	216,000	9.39				
	Z12 Fee (3%)	81,000	3.52	12.91	297,000	8.39	
	<b>Z2 CONTINGENCIES</b>						
	Z21 Design Contingency (15%)	406,000	17.65				
	Z22 Escalation Contingency (0%)	0	0.00				
	Z23 Construction Contingency (5%)	135,000	5.87	23.52	541,000	15.27	
				<b>154.00</b>	<b>3,542,000</b>	<b>100.00</b>	

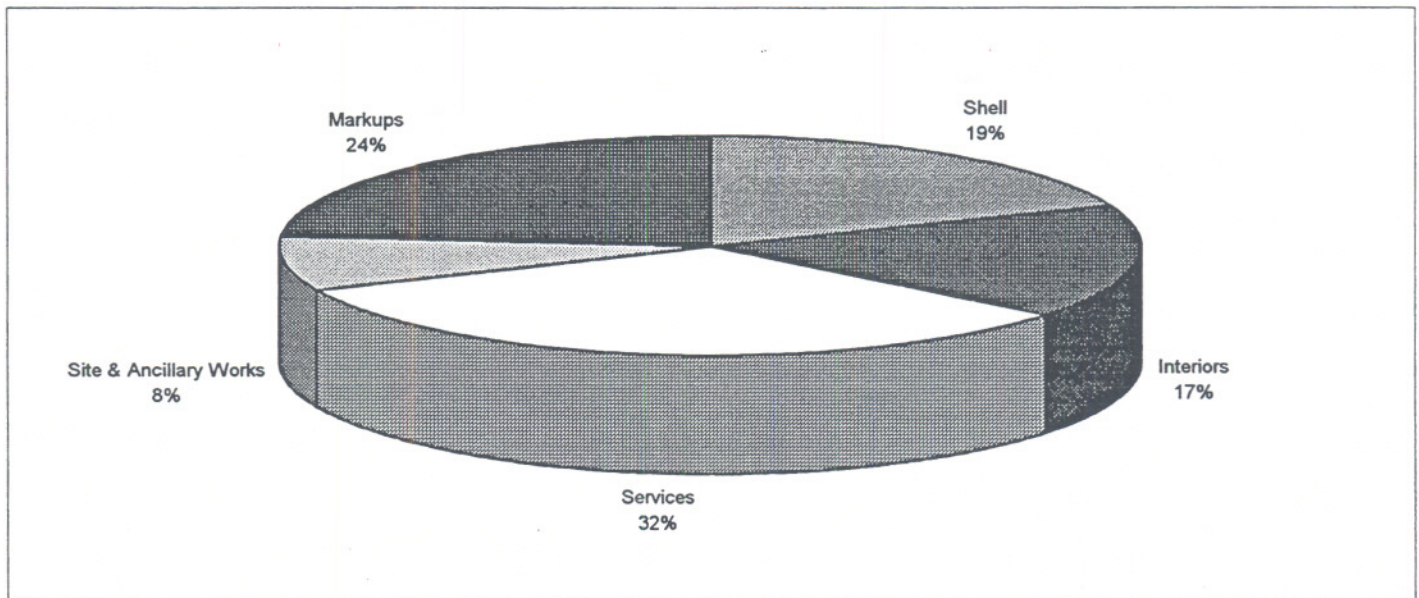
Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
 Unionville, ON L3R 9S9  
 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 1 Renovation - Stand Alone  
 AJ Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 1A  
 Tel: 416 862 8800  
 GFA = 23000 sf  
 333REV 3 or 4 Characters

**Elemental Cost Analysis**

		\$/sf	\$	%
A Shell	A1 Substructure	0.00	0	0
	A2 Structure	5.65	130,000	4
	A3 Exterior Enclosure	23.39	538,000	15
B Interiors	B1 Partitions & Doors	5.87	135,000	4
	B2 Finishes	14.39	331,000	9
	B3 Fittings & Equipment	6.00	138,000	4
C Services	C1 Mechanical	29.00	667,000	19
	C2 Electrical	21.00	483,000	14
D Site	D1 Site Work	0.00	0	0
	D2 Demolition & Ancillary Work	12.26	282,000	8
Z Markups	Z1 General Requirements & Fee	12.91	297,000	8
	Z2 Contingencies	23.52	541,000	15
<b>Total</b>		<b>154.00</b>	<b>3,542,000</b>	<b>100</b>



**GROSS FLOOR AREA**

TOTAL GROSS FLOOR AREA

23,000 sf  
 23,000 sf



Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
 Unionville, ON L3R 9S9  
 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 2 Renovation - Stand Alone  
 AJ Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 2A  
 Tel: 416 862 8800  
 GFA = 37000 sf  
 333REV 3 or 4 Characters

		Amount	\$/sf	\$/gfa	Total	%
<b>A SHELL</b>	<b>A1 SUBSTRUCTURE</b>					
	A11 Foundations	0	0.00			
	A12 Basement Excavation	0	0.00	0.00	0	0.00
	<b>A2 STRUCTURE</b>					
	A21 Lowest Floor Construction	14,000	0.38			
	A22 Upper Floor Construction	188,000	5.08			
	A23 Roof Construction	14,000	0.38	5.84	216,000	4.09
	<b>A3 EXTERIOR ENCLOSURE</b>					
	A31 Walls Below Grade	15,000	0.41			
	A32 Walls Above Grade	272,000	7.35			
	A33 Windows & Entrances	154,000	4.16			
	A34 Roof Covering	108,000	2.92			
	A35 Projections	111,000	3.00	17.84	660,000	12.48
<b>B INTERIORS</b>	<b>B1 PARTITIONS &amp; DOORS</b>					
	B11 Partitions	155,000	4.19			
	B12 Doors	55,000	1.49	5.68	210,000	3.97
	<b>B2 FINISHES</b>					
	B21 Floor Finishes	198,000	5.35			
	B22 Ceiling Finishes	149,000	4.03			
	B23 Wall Finishes	175,000	4.73	14.11	522,000	9.87
	<b>B3 FITTINGS &amp; EQUIPMENT</b>					
	B31 Fittings & Fixtures	185,000	5.00			
	B32 Equipment	37,000	1.00			
	B33 Conveying Systems	60,000	1.62	7.62	282,000	5.33
<b>C SERVICES</b>	<b>C1 MECHANICAL</b>					
	C11 Plumbing & Drainage	148,000	4.00			
	C12 Fire Protection	74,000	2.00			
	C13 HVAC	740,000	20.00			
	C14 Controls	111,000	3.00	29.00	1,073,000	20.30
	<b>C2 ELECTRICAL</b>					
	C21 Service & Distribution	259,000	7.00			
	C22 Lighting, Devices & Heating	407,000	11.00			
	C23 Systems & Ancillaries	111,000	3.00	21.00	777,000	14.70
<b>D SITE</b>	<b>D1 SITE WORK</b>					
	D11 Site Development	0	0.00			
	D12 Mechanical Site Services	0	0.00			
	D13 Electrical Site Services	0	0.00	0.00	0	0.00
	<b>D2 ANCILLARY WORK</b>					
	D21 Demolition	185,000	5.00			
	D22 Alterations	111,000	3.00	8.00	296,000	5.60
	<b>SUBTOTAL DIRECT COSTS</b>				<b>4,036,000</b>	
<b>Z MARKUPS</b>	<b>Z1 GENERAL REQUIREMENTS</b>					
	Z11 General Requirements (8%)	323,000	8.73			
	Z12 Fee (3%)	121,000	3.27	12.00	444,000	8.40
	<b>Z2 CONTINGENCIES</b>					
	Z21 Design Contingency (15%)	605,000	16.35			
	Z22 Escalation Contingency (%)	0	0.00			
	Z23 Construction Contingency (5%)	202,000	5.46	21.81	807,000	15.26
				<b>142.89</b>	<b>5,287,000</b>	<b>100.00</b>

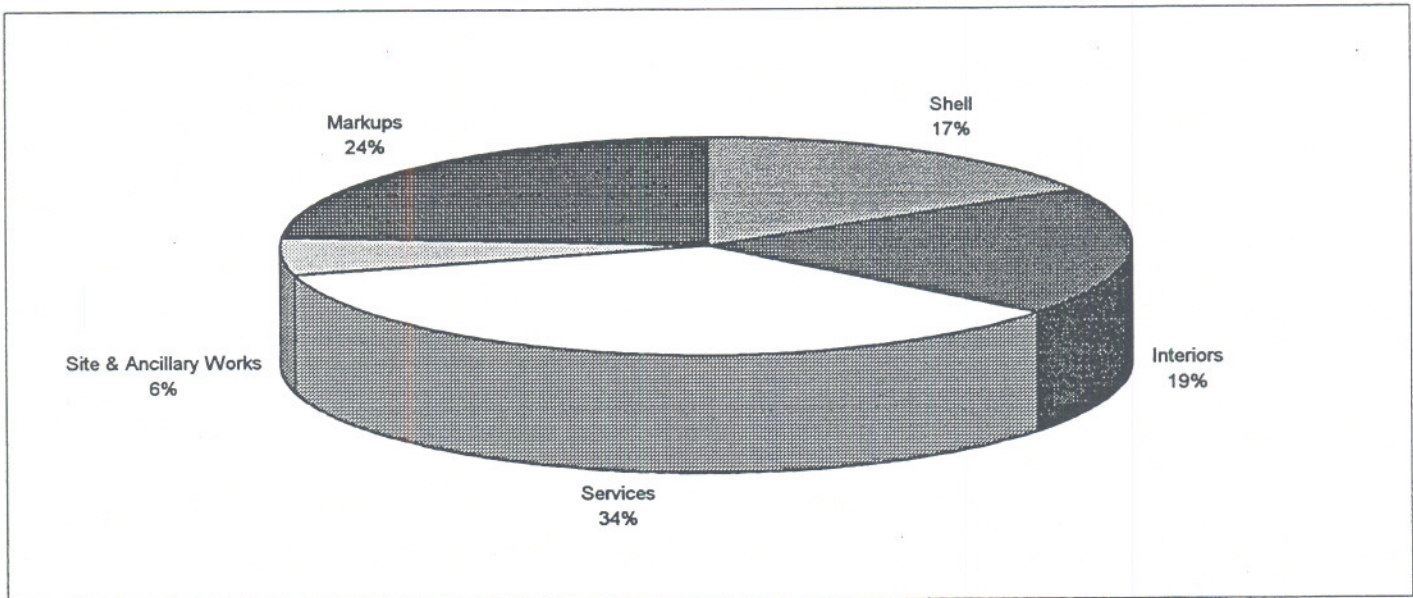
Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
 Unionville, ON L3R 9S9  
 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 2 Renovation - Stand Alone  
 AJ Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 2A  
 Tel: 416 862 8800  
 GFA = 37000 sf  
 333REV 3 or 4 Characters

**Elemental Cost Analysis**

		\$/sf	\$	%
A Shell	A1 Substructure	0.00	0	0
	A2 Structure	5.84	216,000	4
	A3 Exterior Enclosure	17.84	660,000	12
B Interiors	B1 Partitions & Doors	5.68	210,000	4
	B2 Finishes	14.11	522,000	10
	B3 Fittings & Equipment	7.62	282,000	5
C Services	C1 Mechanical	29.00	1,073,000	20
	C2 Electrical	21.00	777,000	15
D Site	D1 Site Work	0.00	0	0
	D2 Demolition & Ancillary Work	8.00	296,000	6
Z Markups	Z1 General Requirements & Fee	12.00	444,000	8
	Z2 Contingencies	21.81	807,000	15
<b>Total</b>		<b>142.89</b>	<b>5,287,000</b>	<b>100</b>



**GROSS FLOOR AREA**

TOTAL GROSS FLOOR AREA

37,000 sf  
 37,000 sf

Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
 Unionville, ON L3R 9S9  
 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 3 Renovation - Non Stand Alone  
 A.J Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 3A  
 Tel: 416 862 8800  
 GFA = 37000 sf  
 333REV 3 or 4 Characters

		Amount	\$/sf	\$/gfa	Total	%
<b>A SHELL</b>	<b>A1 SUBSTRUCTURE</b>					
	A11 Foundations	0	0.00			
	A12 Basement Excavation	0	0.00	0.00	0	0.00
	<b>A2 STRUCTURE</b>					
	A21 Lowest Floor Construction	14,000	0.38			
	A22 Upper Floor Construction	188,000	5.08			
	A23 Roof Construction	14,000	0.38	5.84	216,000	4.17
	<b>A3 EXTERIOR ENCLOSURE</b>					
	A31 Walls Below Grade	15,000	0.41			
	A32 Walls Above Grade	272,000	7.35			
	A33 Windows & Entrances	154,000	4.16			
	A34 Roof Covering	108,000	2.92			
	A35 Projections	111,000	3.00	17.84	660,000	12.73
<b>B INTERIORS</b>	<b>B1 PARTITIONS &amp; DOORS</b>					
	B11 Partitions	155,000	4.19			
	B12 Doors	55,000	1.49	5.68	210,000	4.05
	<b>B2 FINISHES</b>					
	B21 Floor Finishes	198,000	5.35			
	B22 Ceiling Finishes	149,000	4.03			
	B23 Wall Finishes	175,000	4.73	14.11	522,000	10.07
	<b>B3 FITTINGS &amp; EQUIPMENT</b>					
	B31 Fittings & Fixtures	185,000	5.00			
	B32 Equipment	37,000	1.00			
	B33 Conveying Systems	60,000	1.62	7.62	282,000	5.44
<b>C SERVICES</b>	<b>C1 MECHANICAL</b>					
	C11 Plumbing & Drainage	148,000	4.00			
	C12 Fire Protection	74,000	2.00			
	C13 HVAC	555,000	15.00			
	C14 Controls	111,000	3.00	24.00	888,000	17.13
	<b>C2 ELECTRICAL</b>					
	C21 Service & Distribution	111,000	3.00			
	C22 Lighting , Devices & Heating	407,000	11.00			
	C23 Systems & Ancillaries	111,000	3.00	17.00	629,000	12.14
<b>D SITE</b>	<b>D1 SITE WORK</b>					
	D11 Site Development	0	0.00			
	D12 Mechanical Site Services	0	0.00			
	D13 Electrical Site Services	0	0.00	0.00	0	0.00
	<b>D2 ANCILLARY WORK</b>					
	D21 Demolition	185,000	5.00			
	D22 Alterations	111,000	3.00	8.00	296,000	5.71
		<b>SUBTOTAL DIRECT COSTS</b>			<b>3,703,000</b>	
<b>Z MARKUPS</b>	<b>Z1 GENERAL REQUIREMENTS</b>					
	Z11 General Requirements (8%)	296,000	8.00			
	Z12 Fee (3%)	111,000	3.00	11.00	407,000	7.85
	<b>Z2 CONTINGENCIES</b>					
	Z21 Design Contingency (15%)	555,000	15.00			
	Z22 Escalation Contingency (9%)	333,000	9.00			
	Z23 Construction Contingency (5%)	185,000	5.00			
				29.00	1,073,000	20.70
				<b>140.08</b>	<b>5,183,000</b>	<b>100.00</b>

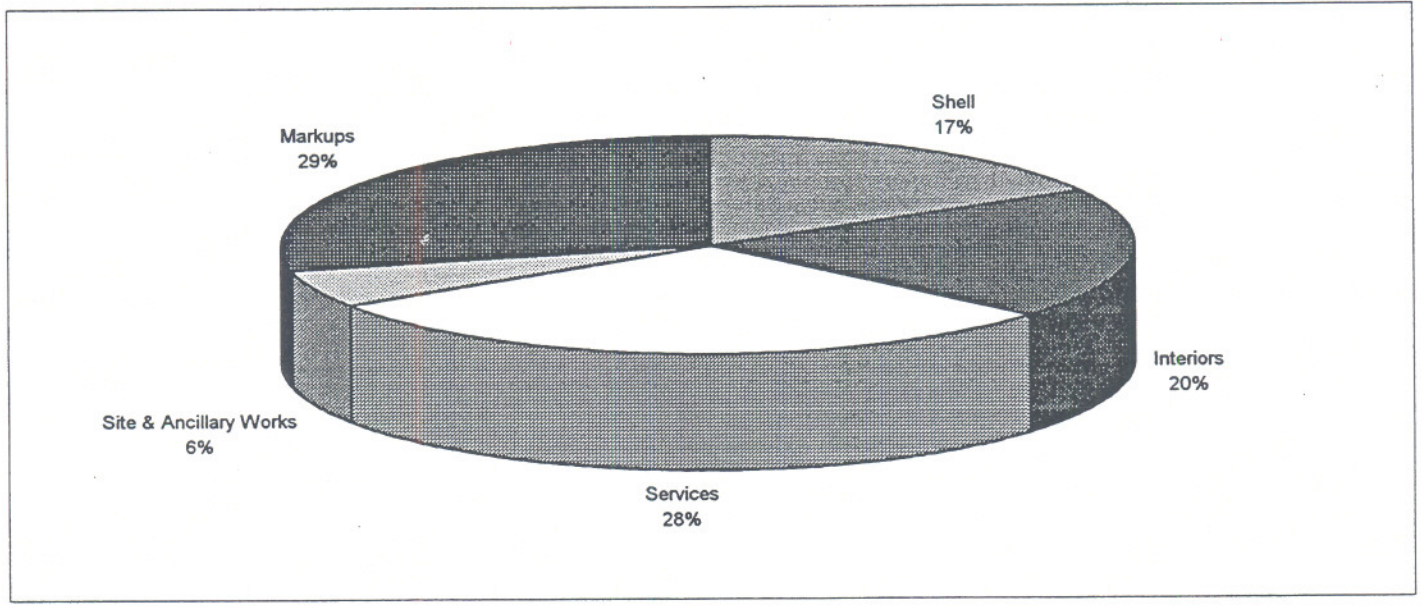
Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
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 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 3 Renovation - Non Stand Alone  
 AJ Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 3A  
 Tel: 416 862 8800  
 GFA = 37000 sf  
 333REV 3 or 4 Characters

**Elemental Cost Analysis**

		\$/sf	\$	%
A Shell	A1 Substructure	0.00	0	0
	A2 Structure	5.84	216,000	4
	A3 Exterior Enclosure	17.84	660,000	13
B Interiors	B1 Partitions & Doors	5.68	210,000	4
	B2 Finishes	14.11	522,000	10
	B3 Fittings & Equipment	7.62	282,000	5
C Services	C1 Mechanical	24.00	888,000	17
	C2 Electrical	17.00	629,000	12
D Site	D1 Site Work	0.00	0	0
	D2 Demolition & Ancillary Work	8.00	296,000	6
Z Markups	Z1 General Requirements & Fee	11.00	407,000	8
	Z2 Contingencies	29.00	1,073,000	21
<b>Total</b>		<b>140.08</b>	<b>5,183,000</b>	<b>100</b>



**GROSS FLOOR AREA**

TOTAL GROSS FLOOR AREA

37,000 sf  
 37,000 sf

Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
 Unionville, ON L3R 9S9  
 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 3 - New Addition  
 AJ Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 3B  
 Tel: 416 862 8800  
 GFA = 58000 sf

		Amount	\$/sf	\$/gfa	Total	%
<b>A SHELL</b>	<b>A1 SUBSTRUCTURE</b>					
	A11 Foundations	87,000	1.50			
	A12 Basement Excavation	29,000	0.50	2.00	116,000	1.10
	<b>A2 STRUCTURE</b>					
	A21 Lowest Floor Construction	58,000	1.00			
	A22 Upper Floor Construction	870,000	15.00			
	A23 Roof Construction	247,000	4.26	20.26	1,175,000	11.17
	<b>A3 EXTERIOR ENCLOSURE</b>					
	A31 Walls Below Grade	73,000	1.26			
	A32 Walls Above Grade	1,015,000	17.50			
	A33 Windows & Entrances	435,000	7.50			
	A34 Roof Covering	261,000	4.50			
	A35 Projections	290,000	5.00	35.76	2,074,000	19.72
<b>B INTERIORS</b>	<b>B1 PARTITIONS &amp; DOORS</b>					
	B11 Partitions	343,000	5.91			
	B12 Doors	131,000	2.26	8.17	474,000	4.51
	<b>B2 FINISHES</b>					
	B21 Floor Finishes	260,000	4.48			
	B22 Ceiling Finishes	182,000	3.14			
	B23 Wall Finishes	220,000	3.79	11.41	662,000	6.29
	<b>B3 FITTINGS &amp; EQUIPMENT</b>					
	B31 Fittings & Fixtures	290,000	5.00			
	B32 Equipment	58,000	1.00			
	B33 Conveying Systems	200,000	3.45	9.45	548,000	5.21
<b>C SERVICES</b>	<b>C1 MECHANICAL</b>					
	C11 Plumbing & Drainage	232,000	4.00			
	C12 Fire Protection	116,000	2.00			
	C13 HVAC	1,345,000	23.19			
	C14 Controls	174,000	3.00	32.19	1,867,000	17.75
	<b>C2 ELECTRICAL</b>					
	C21 Service & Distribution	554,000	9.55			
	C22 Lighting, Devices & Heating	638,000	11.00			
	C23 Systems & Ancillaries	174,000	3.00	23.55	1,366,000	12.99
<b>D SITE</b>	<b>D1 SITE WORK</b>					
	D11 Site Development	200,000	3.45			
	D12 Mechanical Site Services	50,000	0.86			
	D13 Electrical Site Services	50,000	0.86	5.17	300,000	2.85
	<b>D2 ANCILLARY WORK</b>					
	D21 Demolition	0	0.00			
	D22 Alterations	111,000	1.91	1.91	111,000	1.06
		<b>SUBTOTAL DIRECT COSTS</b>			8,693,000	
<b>Z MARKUPS</b>	<b>Z1 GENERAL REQUIREMENTS</b>					
	Z11 General Requirements (8%)	695,000	11.98			
	Z12 Fee (3%)	261,000	4.50	16.48	956,000	9.09
	<b>Z2 CONTINGENCIES</b>					
	Z21 Design Contingency (7%)	609,000	10.50			
	Z22 Escalation Contingency (0%)	0	0.00			
	Z23 Construction Contingency (3%)	261,000	4.50	15.00	870,000	8.27
				<b>181.36</b>	<b>10,519,000</b>	<b>100.00</b>

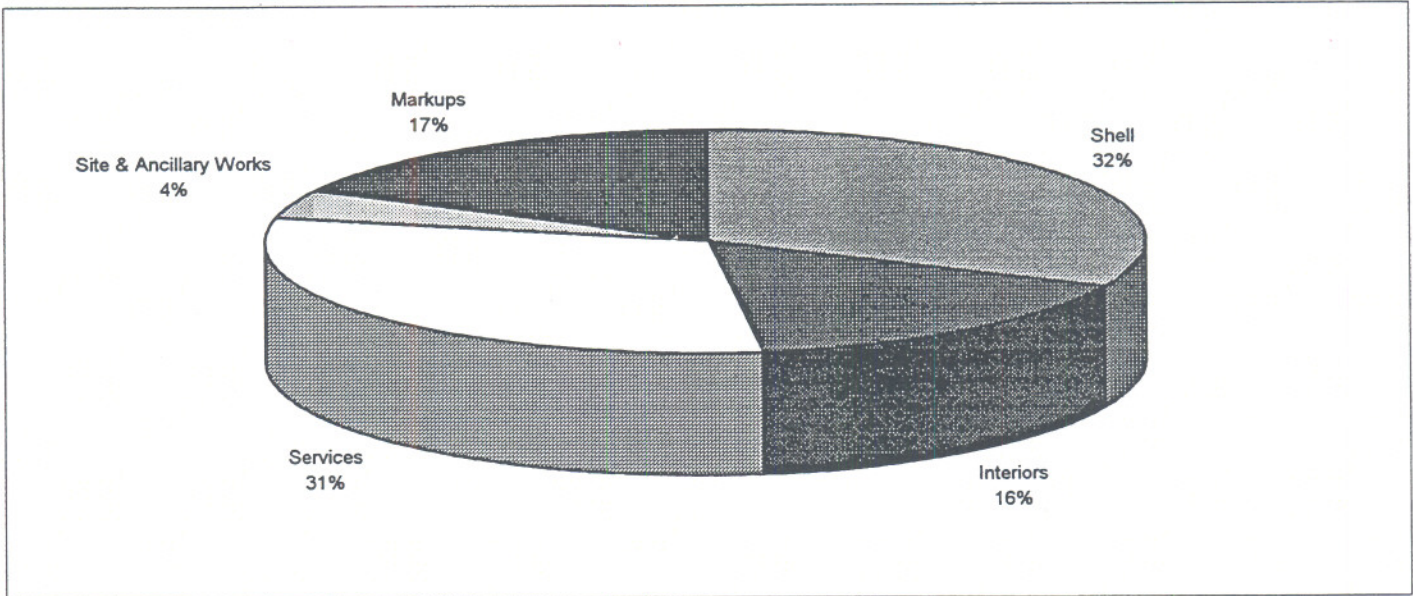
Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
 Unionville, ON L3R 9S9  
 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 3 - New Addition  
 AJ Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 3B  
 Tel: 416 862 8800  
 GFA = 58000 sf

**Elemental Cost Analysis**

		\$/sf	\$	%
A Shell	A1 Substructure	2.00	116,000	1
	A2 Structure	20.26	1,175,000	11
	A3 Exterior Enclosure	35.76	2,074,000	20
B Interiors	B1 Partitions & Doors	8.17	474,000	5
	B2 Finishes	11.41	662,000	6
	B3 Fittings & Equipment	9.45	548,000	5
C Services	C1 Mechanical	32.19	1,867,000	18
	C2 Electrical	23.55	1,366,000	13
D Site	D1 Site Work	5.17	300,000	3
	D2 Demolition & Ancillary Work	1.91	111,000	1
Z Markups	Z1 General Requirements & Fee	16.48	956,000	9
	Z2 Contingencies	15.00	870,000	8
<b>Total</b>		<b>181.36</b>	<b>10,519,000</b>	<b>100</b>



**GROSS FLOOR AREA**

TOTAL GROSS FLOOR AREA

58,000 sf  
 58,000 sf

Vermeulens Cost Consultants  
 335 Renfrew Drive, Suite 301  
 Unionville, ON L3R 9S9  
 Tel: 905-479-5836  
 Fax: 905-479-5840

HALIFAX CENTRAL LIBRARY  
 Option 4 - New Construction  
 AJ Diamond, Donald Schmitt & Co.  
 1-Dec-97

97333  
 Rev 4A  
 Tel: 416 862 8800  
 GFA = 95000 sf

		Amount	\$/sf	\$/gfa	Total	%
<b>A SHELL</b>	<b>A1 SUBSTRUCTURE</b>					
	A11 Foundations	216,000	2.27			
	A12 Basement Excavation	48,000	0.51	2.78	264,000	1.62
	<b>A2 STRUCTURE</b>					
	A21 Lowest Floor Construction	144,000	1.52			
	A22 Upper Floor Construction	1,121,000	11.80			
	A23 Roof Construction	612,000	6.44	19.76	1,877,000	11.51
	<b>A3 EXTERIOR ENCLOSURE</b>					
	A31 Walls Below Grade	125,000	1.32			
	A32 Walls Above Grade	1,650,000	17.37			
	A33 Windows & Entrances	700,000	7.37			
	A34 Roof Covering	468,000	4.93			
	A35 Projections	475,000	5.00	35.98	3,418,000	20.96
<b>B INTERIORS</b>	<b>B1 PARTITIONS &amp; DOORS</b>					
	B11 Partitions	567,000	5.97			
	B12 Doors	215,000	2.26	8.23	782,000	4.79
	<b>B2 FINISHES</b>					
	B21 Floor Finishes	430,000	4.53			
	B22 Ceiling Finishes	301,000	3.17			
	B23 Wall Finishes	362,000	3.81	11.51	1,093,000	6.70
	<b>B3 FITTINGS &amp; EQUIPMENT</b>					
	B31 Fittings & Fixtures	475,000	5.00			
	B32 Equipment	95,000	1.00			
	B33 Conveying Systems	225,000	2.37	8.37	795,000	4.87
<b>C SERVICES</b>	<b>C1 MECHANICAL</b>					
	C11 Plumbing & Drainage	380,000	4.00			
	C12 Fire Protection	190,000	2.00			
	C13 HVAC	1,900,000	20.00			
	C14 Controls	285,000	3.00	29.00	2,755,000	16.89
	<b>C2 ELECTRICAL</b>					
	C21 Service & Distribution	665,000	7.00			
	C22 Lighting, Devices & Heating	1,045,000	11.00			
	C23 Systems & Ancillaries	285,000	3.00	21.00	1,995,000	12.23
<b>D SITE</b>	<b>D1 SITE WORK</b>					
	D11 Site Development	350,000	3.68			
	D12 Mechanical Site Services	75,000	0.79			
	D13 Electrical Site Services	75,000	0.79	5.26	500,000	3.07
	<b>D2 ANCILLARY WORK</b>					
	D21 Demolition	0	0.00			
	D22 Alterations	0	0.00	0.00	0	0.00
	<b>SUBTOTAL DIRECT COSTS</b>				13,479,000	
<b>Z MARKUPS</b>	<b>Z1 GENERAL REQUIREMENTS</b>					
	Z11 General Requirements (8%)	1,078,000	11.35			
	Z12 Fee (3%)	404,000	4.25	15.60	1,482,000	9.09
	<b>Z2 CONTINGENCIES</b>					
	Z21 Design Contingency (7%)	944,000	9.94			
	Z22 Escalation Contingency (0%)	0	0.00			
	Z23 Construction Contingency (3%)	404,000	4.25	14.19	1,348,000	8.27
				<b>171.67</b>	<b>16,309,000</b>	<b>100.00</b>

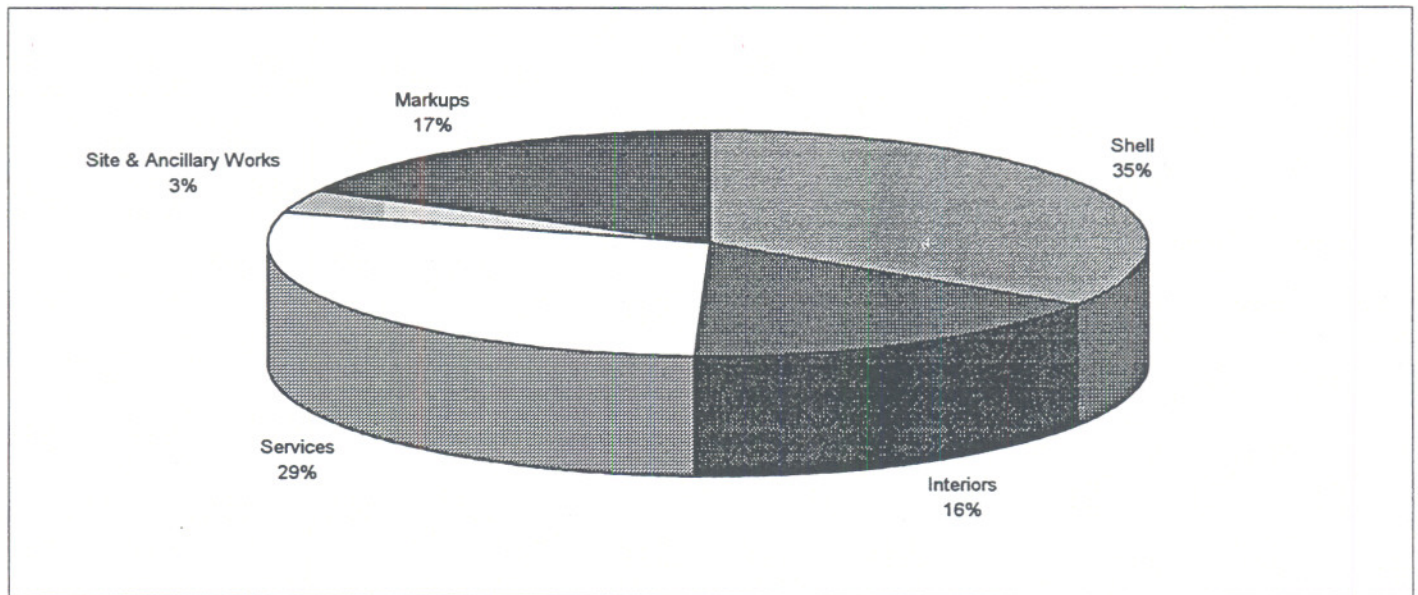
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HALIFAX CENTRAL LIBRARY  
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97333  
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 Tel: 416 862 8800  
 GFA = 95000 sf

**Elemental Cost Analysis**

		\$/sf	\$	%
A Shell	A1 Substructure	2.78	264,000	2
	A2 Structure	19.76	1,877,000	12
	A3 Exterior Enclosure	35.98	3,418,000	21
B Interiors	B1 Partitions & Doors	8.23	782,000	5
	B2 Finishes	11.51	1,093,000	7
	B3 Fittings & Equipment	8.37	795,000	5
C Services	C1 Mechanical	29.00	2,755,000	17
	C2 Electrical	21.00	1,995,000	12
D Site	D1 Site Work	5.26	500,000	3
	D2 Demolition & Ancillary Work	0.00	0	0
Z Markups	Z1 General Requirements & Fee	15.60	1,482,000	9
	Z2 Contingencies	14.19	1,348,000	8
<b>Total</b>		<b>171.67</b>	<b>16,309,000</b>	<b>100</b>



**GROSS FLOOR AREA**

TOTAL GROSS FLOOR AREA

95,000 sf  
 95,000 sf





# Appendix B

## Mechanical & Electrical Engineering Report





HALIFAX REGIONAL MUNICIPALITY  
MAIN BRANCH LIBRARY

SURVEY OF MECHANICAL SYSTEMS

Prepared for

A.J. Diamond, Donald Schmitt and Company

by

Morris & Consulting Engineers Ltd.  
5531 Cornwallis Street  
Halifax, Nova Scotia  
B3K 1B3

Date: December 2, 1997

## **1. INTRODUCTION**

- .1 On August 28, 1997, Morris & Richard Consulting Engineers carried out a walkthrough survey of the Halifax Library Main Branch on Spring Garden Road. The purpose of the review was to observe the type, age and condition of the existing mechanical HVAC, plumbing and fire protection systems.
- .2 Halifax Regional Municipality Operations Staff provided access to mechanical rooms, equipment chases and the roof. They also provided some background on the repair and maintenance history of the mechanical plant equipment.
- .3 This report does not provide detailed descriptions or recommendations on specific deficiencies but rather offers a general opinion on the opportunities for incorporating the existing HVAC plant and distribution systems into a planned upgrade or expansion.

## **2. PLUMBING**

- .1 The building water sewer enters the Boiler Room from the Spring Garden Road direction. It is unclear whether the supply is tied into Brunswick Street or Spring Garden Road.
- .2 The water entrance and meter at present does not comply with Halifax Regional Water Commission standards for cross-contamination.
- .3 Domestic hot water is provided to plumbing fixtures by an oil fired hot water storage heater located in the Boiler Room.
- .4 Domestic hot and cold water distribution piping originate in the Boiler Room and are routed to the various plumbing fixtures throughout the Library. Staff indicate that supply pressure and availability of hot water are adequate.
- .5 Plumbing fixtures are a mixture of old and new. It appears that repairs and replacement work have been carried out over the years resulting in the present variety. All fixtures work and are in reasonable repair.
- .6 Roof drains and rainwater leader piping are in good repair.

**3. FIRE PROTECTION**

- .1 The building is not equipped with an automatic sprinkler system. Construction of the Library pre-dates code requirements for such. However, given the large fuel load (paper), the fact that it is a public building, and the sometimes torturous exit routing, thought should be given to sprinklering the entire building (including the roof attic).
- .2 The building has a series of 1-1/2" fire hose cabinets. The cabinets are generally blocked by shelving of some sort and so the utility and effectiveness is somewhat limited.
- .3 Staff indicate that "Fire Drill" training is offered to Library Staff by the Halifax Fire Department.

**4. HEATING SYSTEM**

- .1 The building heating plant consists of two oil fired, fire tube, low -pressure steam boilers. Units are Volcano 60 BHP (2 million BTU/HR) each. Halifax Regional Municipality Staff advise that building heating demand is met by one boiler; the other is standby. Boilers were new in 1984 and are in fair condition; remaining life of 5-10 years.
- .2 Boiler Plant operating pressure is 12 psi (low pressure). Halifax Regional Municipality advises that the plant is not registered under the Department of Labour Power Engineer's Act; there is no full time attendant or monitoring system.
- .3 Steam is fed from the boilers to two "Tube-in-Shell" heat exchangers which provide hot water for the Library's perimeter heating system. Steam is also fed to a heating coil in the Main Branch Air Handling System.
- .4 Fuel oil for the boilers is stored in a 2,000 gallon underground steel tank located outside North of the Boiler Room. The tank has a sacrificial mode and monitoring system. The installation was done in 1995 and Halifax Regional Municipality Staff advise that Dept. of Environment regulations are meet.

**4. HEATING SYSTEM (Cont'd)**

- .5 The original Library is over 50 years old and is now heated with a hot water perimeter system. Heating elements vary and include a mixture of residential wall fin, industrial baseboard and old style cast-iron heaters set behind walls with "dado" or counter top and wall grilles. In many instances the effectiveness of the heating system is compromised by the location of stacks, racks, storage cabinets and other furniture.
- .6 In the newer section of the Library (now some 25 years old) the heating is accomplished by a combination of hot water baseboard radiation (extended from "old" wing) and warm air heating. The new "stacks" area is fed with ducted air; there are hot water, duct mounted heating coils in the upper level mechanical space..... these ducts are routed to various areas of the "stacks" addition.
- .7 The heating system distribution piping is generally inaccessible but where it is able to be seen (Boiler Room and some chases), it appears in reasonable shape for its age.
- .8 The heating system pumps and condensate return unit pumps appear to be in need of replacement.

**5. VENTILATION AND AIR CONDITIONING**

- .1 The original building is ventilated by a Sheldons Air Handling Unit located in the Boiler Room. The unit has a fresh air/return air mixing section, filters, a steam source force and bypass heating coil and a supply fan. The unit also has a water wash evaporative spray pan which appears to have been abandoned years ago. This unit, therefore, has no cooling capacity other than to provide free cooling as may be available using outside air.
- .2 Supply air is ducted to the old Library in an insulated metal duct. Duct shafts were not accessible for observations. Return air from the old Library is drawn through grilles and ductwork by an in-line return fan mounted from the ceiling of the Boiler Room. A damper system diverts air either to the supply air handling unit or to outside as exhaust.

**5. VENTILATION AND AIR CONDITIONING (Cont'd)**

- .3 The newer section of the Library is served by two ventilation systems. One, a Trane Packaged Rooftop Unit, provides full heating and air conditioning to the stacks area. The other, located in an upper level Mechanical Room provides ventilation and heating air to part of the stacks area and the new portion of the basement.
- .4 Halifax Regional Municipality Staff reported that the new systems were fitted with humidification units. These could not be located during the walkthrough.
- .5 All washrooms were provided with exhaust. There are two exhaust fans located on the roof.

**6. CONTROLS**

- .1 The building has a variety of types of zone valves and thermostats. Each type is peculiar to the era during which it was put in place. All appear to work although none were operating during the site visit as it was summer season.
- .2 The building Boiler Plant and air handling units are monitored by a Landis & Gyr (Staefa) Energy Management System installed approximately 10 years ago. This system apparently acts as a time clock and heating night set-back system. System panel was located in the Boiler Room.

**7. OBSERVATIONS AND RECOMMENDATIONS**

- .1 Existing HVAC systems are still functioning, apparently with some level of efficiency, however most equipment is old, outdated and at or nearing the end of its useful life.
- .2 The building has several zones of heating control which more or less coincide with room layout and exposure. Performance of perimeter heating system is compromised by blockage from shelves and cabinets, etc.
- .3 Cooling systems are single zone type. Lack of diversity controls may be a comfort and conservation concern, (It is not known if this Library contains any rare books requiring conservation conditions).



**7. OBSERVATIONS AND RECOMMENDATIONS (Cont'd)**

- .4 The steam based Boiler Plant is out of date and should be converted to hot water. This would greatly reduce maintenance and repair costs.
- .5 There is space in the Boiler Room to install an enlarged upgraded hot water boiler system. This could be upgraded to match a restored/upgraded or expanded main branch.
- .6 The "old" building air handling unit in the basement should be scrapped; it is original to the building and long pasts its useful life. If the Library is to be upgraded, a new air handling system with modern heating, cooling and humidification should be installed.
- .7 The building water entrance should be brought up to Halifax Regional Municipality's standards.
- .8 The entire building should be fitted with an automatic sprinkler and standpipe system. If water damage is a concern, options for pre-action dry systems should be considered.
- .9 HVAC systems should be zoned and controls integrated to minimize energy use and to offer best flexibility for space requirements. Present systems, although well conceived for their time, simply do not conform to the present operation of the Library.

HALIFAX REGIONAL MUNICIPALITY  
MAIN BRANCH LIBRARY

SURVEY OF ELECTRICAL SYSTEMS

Prepared for

A.J. Diamond, Donald Schmitt and Company

by

Morris & Consulting Engineers Ltd.  
5531 Cornwallis Street  
Halifax, Nova Scotia  
B3K 1B3

Date: December 2, 1997

## 1. INTRODUCTION

- .1 Morris and Richard was requested to carry out a survey of the Electrical Systems of the Main Branch Library. The main purpose of the survey is to provide a status of the existing systems.
- .2 The Survey was carried out on August 28, 1997. HRM Electrical Maintenance Staff assisted with the Survey and provided information on the history of the systems.
- .3 HRM Security Staff provided access to electrical rooms. They also provided general information on the electrical systems.
- .4 Main distribution equipment in the main electrical rooms surveyed. Branch panels in various locations were surveyed.
- .5 Systems which were reviewed included the following:
  - .1 Power Distribution
  - .2 Fire Alarm
  - .3 Emergency and Exit Lighting
  - .4 Lighting
  - .5 Security

## 2. DESCRIPTION OF ELECTRICAL SYSTEMS

### .1 POWER DISTRIBUTION

- .1 The electrical service originates from a Nova Scotia Power padmounted transformer located at grade just north of the building.
- .2 The main electrical room is located on the lowest level in the northeast corner of the building.
- .3 The Main Service Equipment consists of a main switch, a splitter and disconnect switches rated 600 Amps at 120/208 Volt, 3 phase 4 wire. NSPI records indicate a maximum demand of 90kW over the past 15 months. This is 42% of the Service capacity. This equipment was installed when the Library addition was built. The age of the equipment is approximately 20 years old. There is a 200A switch feeding the original building service from the 600A service. The original service is almost 50 years old. This service is rated 400A at 120/240 Volts.
- .4 Lighting fixtures are fed at 120 Volts.

**2. DESCRIPTION OF ELECTRICAL SYSTEMS - Cont'd**

- .1 .5 Motors for mechanical equipment and the elevator are fed at 208 Volts, 3 phase.
- .6 There are a number of branch panels throughout the building of various ages. There are some in the original building which are almost 50 years old. There are some which were installed when the addition was built. There are some newer panels which appear to be in the order of 5 years old.
  
- .2 LIGHTING
  - .1 The lighting source is mainly fluorescent. There are recessed and surface fixtures and incandescent fixtures.
  - .2 The fluorescent fixtures use mainly four foot lamps.
  - .3 There are some recessed high intensity discharge fixtures in the high ceiling area on the main floor.
  - .4 There are some incandescent lighting fixtures in locker rooms and in the lower stack area.
  - .5 Lighting control generally consists of local switches.
  - .6 The high ceiling area on the main floor has a low voltage control system.
  
- .3 FIRE ALARM
  - .1 The fire alarm system consists of an annunciator in the main entrance and a panel in the electrical room.
  - .2 The fire alarm panel and annunciator are approximately one year old.
  - .3 The fire alarm devices such as pull stations, bells and detectors are in the range of 20 years old.
  
- .4 EXIT AND EMERGENCY LIGHTING
  - .1 Exit lighting consists of signs located at stairwells and in corridors.
  - .2 Emergency lighting consists of battery powered units located in stairwells and in corridors.

**2. DESCRIPTION OF ELECTRICAL SYSTEMS - Cont'd**

.5 SECURITY

- .1 The building has a security system. It includes a panel, cameras, a monitor and switches and motion detectors.

**3. OBSERVATIONS**

.1 Power Distribution

.1 Main Electrical Room

- .1 There were some problems with the service equipment some time ago. Repairs were done and the equipment is operating properly.

.2 Lighting

- .1 There are some incandescent fixtures in some areas. These fixtures are very inefficient and do not provide proper illumination levels.

.3 Fire Alarm

- .1 There are no problems with the fire alarm system.

.4 Security

- .1 There are no problems with the security system.

.5 Exit & Emergency Lighting

- .1 Some battery units should be checked.

**4. COMMENTS/RECOMMENDATIONS FOR UPGRADE AND/OR EXPANSION**

- .1 The original main distribution equipment is almost 50 years old. It would need to be replaced.
- .2 The branch wiring serving receptacle loads would have to be upgraded.
- .3 The electrical loads would increase and would require a new service.
- .4 All the incandescent lighting in the building should be replaced.
- .5 The fire alarm system would not be able to accommodate additional requirements and would need to be replaced.