

November 17, 2008

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*Note: Totten Sims Hubicki Associates now operates as AECOM and AECOM Canada Architects Ltd. Reference to AECOM is made throughout this report.*

*This report has been jointly prepared by AECOM and dma Planning & Management Services.*

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# 1.0 Executive Summary

AECOM was retained by the Township of Brock to prepare a feasibility study to consider the accommodation of a new library branch in the Cannington urban area. Three outcomes from the study were to be anticipated:

- The library branch program to be accommodated
- The condition of potential sites and facilities
- The extent of renovations and associated budgets to accommodate the library program at each location

Five sites were to be considered. The approach for each site was understood as follows:

- McCaskill’s Mills Public School – renovate
- Cannington Town Hall – renovate
- Existing Library – replace
- Former Cannington Chrysler – replace (potential collaboration with the Brock Community Health Centre)
- Vacant Land – Parking Lot at 46 Cameron Street West – new facility

Following is a summary of budgets and highlights for the sites:

Site	Budget (\$)	Highlights
McCaskill’s Mills School	980,000	Excludes property purchase; no street frontage Cost-effective renovation for library program
Cannington Town Hall	1,330,000	Reuses heritage building in high profile; central location Requires two levels and a lift; owned by Township
Existing Library Building	1,190,000	Central location; single level layout; owned by Township Demolition adds cost and materials / soils to be quantified
Former Cannington Chrysler	1,190,000	Subject to negotiation with the building owner Site remediation and materials testing required
Vacant Land – Parking Lot	1,050,000	Central location; allows for single level layout Soils to be confirmed; owned by Township

*some parking space  
 central hi profile location  
 parking not so much*

## 2.0 Study Overview

In terms of program, the study has considered both prior information prepared on behalf of the Brock Township Public Library Board, and also prepared a summary of comparative design parameters for a branch library facility. This information has provided the basis for determining the building requirements at each of the sites under consideration.

In physical terms, the goal of the study has been to gain a better understanding of the demolition, construction and / or renovations, and related expenditures that would be required at each of the sites to accommodate the library branch program.

## 3.0 Library Program

As background to this study, the *Cannington Branch Relocation Study* prepared by CGS Consulting and dated December 13, 2006 was reviewed by dmA Planning & Management Services. dmA specialize in operational reviews, service assessments, master plans and feasibility studies for libraries across Ontario and Nova Scotia. Consultation was also held with library administrative personnel.

For this assignment, dmA has provided input regarding branch library program, size and best practice guidelines for the design of a contemporary, fully functional library.

For the purposes of determining the area anticipated for the library branch, a unit value of 0.7 gross square feet per person has been adopted. This is generally considered to be a minimum unit rate for rural library facilities.

For the Cannington urban area, the population is projected to be 3,330 by 2031. Using the 0.7 unit rate, this generates an area calculation of 2,330 square feet, a preliminary estimate of the required space for the basic library branch requirements. Best practice would recommend integrating a further 500 square feet to accommodate programming area to support the core library operation. In addition, architectural planning practice would also recommend in the order of an additional 500 square feet to accommodate allied programs. For example, the assignment of such space to the local historical society, Brock Information or other like organizations is noted as having been discussed.

In summary, considering library facility best practice and related architectural planning guidelines, a library branch with an area including allied space of 3,500

square feet is recommended. The program for such a facility in an urban areas such as Cannington would typically be as follows:

Program Area	Area (square feet)
Lobby / circulation / customer information	200
Administration / Staff	200
Collections	1,000
Reading / Working	450
Program / Assembly	500
Service Areas	150
Allied Program Area	500
Sub-total (net area)	3,000
<b>TOTAL (gross area, including structure and circulation)</b>	<b>3,500</b>

The above space breakdown is intended to illustrate the areas required for library services in Cannington. Space for allied programming such as the historical society or Brock Information has also been incorporated. These types of uses would generally complement library services and a supportable in a co-location arrangement. Actual area and associated costs for a specific program and use would need to be determined. It is also important to note that the space as defined in the breakdown specifically allocated for library functions is recognized as core area, and that allied space be added to it so as to not compromise basic library services through the use of defined space for other purposes.

Details of each core library program area from the above breakdown are provided as follows:

- Lobby / Circulation / Customer Information: includes circulation desk, display areas, social space, notice boards, public washrooms and other like purposes.
- Administration / Staff: staff office, working and sorting areas, staff room.
- Collections: Children and adult collections; popular.
- Reading / Working: study tables, comfortable reading areas, study/listening/viewing carrels.
- Program / Assembly: program room, training room, presentation space, storage.
- Service Areas: storage and mechanical.

Programming area supporting the core library spaces would include such functions as computer lab/training space.

The above is intended as background for the design of a library branch in a community such as Cannington. The area allocations have been used as guidelines for considering the accommodation of the library and allied space at the locations in Cannington under review in this study.

Other considerations for contemporary branch library design include the following attributes:

- A preference for single floor facilities; easier to supervise, particularly at non-peak times when fewer staff are required in the library; single levels are also more economical; additional circulation space for stairs and a lift are required in a two storey arrangement; operating costs will generally be higher because both floors will be staffed at all times.
- Open floor plan with unobstructed views and large functional areas; a large, open rectangular space is generally preferred for a small library because it maximizes flexibility and staff efficiencies; supervision is easier and patrons require less assistance to find materials because internal signage, visual displays and the organization of functional areas is immediately apparent to the user.
- Natural light is preferred both for the enjoyment of users and to control energy costs.
- Facilities should be fully capable of accommodating new technologies; wireless capabilities and sufficient capacity for various task-oriented lighting levels are examples.
- High visibility in the community – ideally on a major street and with a relationship to other major public buildings or facilities that are frequently used by the community.
- A relationship to outdoor areas, such as a civic square space, a reading garden or street orientation.
- Adequate parking and barrier-free access through the site and facility.

### Community Focal Points

Increasingly, libraries are thought of as the focal point of a community. They are spacious, welcoming, highly visible, accessible places where people come together to gather information and exchange ideas. They can also provide a quiet refuge from the demands of everyday life, an “oasis” for quiet reading, rest and relaxation. They are becoming community gathering places.

## High Profile Civic Institutions

Canadians have a high awareness of libraries, and libraries are important to the fabric of Canadian cultural and economic life. Contemporary libraries are attractive, functional, flexible, barrier-free, high profile public spaces. They increasingly incorporate heritage, art and cultural displays and presentation spaces to promote learning, debate and exchange of ideas in the community. Libraries and other cultural institutions provide “cultural capital” to their communities. As knowledge institutions, they contribute vitality to community life through their civic, creative, economic, architectural and cultural presence. The outside environment is as important. Ample parking, accessible pathways, reading gardens and attractive landscaping are considerations that add to an enjoyable, rewarding destination.

## Multi-Service Providers

Lifelong learning, adult literacy and reading readiness are examples of some of the traditional contributions libraries have made in communities. Libraries today provide an expanded range of benefits and services. They are emerging as forums for community learning and expression, serving as technological, employment, business development, cultural, art and heritage centres.

In terms of research, they have been a cornerstone, and today provide an expanded research function with links to educational, institutional and business databases in Canada and around the world. A recent planning document prepared for the Administrators of Rural and Urban Public Libraries of Ontario (ARUPLO) noted that public libraries are taking on a greater municipal, provincial and federal services delivery role. Public libraries are called upon to act as a physical service outlet or presence for many government services.

## Interactive Communication

While libraries have always been disseminators of information, innovative libraries are now fostering dialogue and exchange with library users. They are ideal locations for civic events, celebrations, fairs, festivals, “brown bag” lectures, political debates and mid-day concerts. Local historical or geneological displays also help libraries establish a setting for social interaction, encouraging people to gather, talk and learn.

## Centres for Technology and Innovation

The advent of the “Virtual Library” and technology in general has changed the way in which library services are being delivered and will continue to have a major impact on future services. Libraries are offering more services online and doing so at an accelerated rate. These include virtual/digital reference services, electronic databases and e-books. The internet is reported to have become a

catalyst for change, with substantially higher use of the library resulting online. Libraries are also providing training in computer literacy, e-technology and navigation through the information age. ARUPLO has also noted that much of the new rural employment must be supported by technology, making connectivity, information and communications infrastructure very important.

Today's libraries will also be built to focus on energy efficiency and sustainability. Libraries can be more compatible with the ecology of the site, local and recycled or historic materials incorporated, passive solar features considered, energy efficient interior fixtures and equipment installed, green building technologies employed for heating, wastewater treatment and energy generation, and the project can be measured for environmental performance using tools such as the LEED green building rating system.

### Active Streetscape

In terms of community design, libraries are also increasingly connected to sidewalk networks, bikeways and pathways, generating a critical mass of pedestrians and providing an economic boost to retailers. The support street-side or market fairs and contribute to an active streetscape. They can improve retail locations as positions for one-stop shopping and can even attract customers that may be outside the "typical" shopper profile, increasing spending during non-peak periods through daily and yearly cycles.

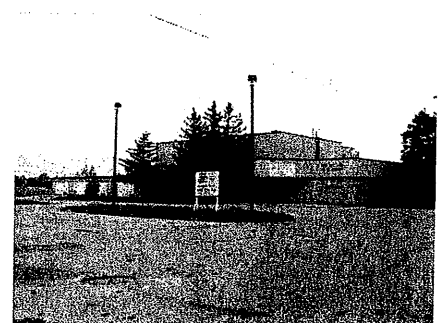
Finally, today's libraries are adopting a customer-first focus. Examples include more convenient hours of operation, self-checkout technology, online booking systems to register for programs and computers, and renew and reserve items. Light refreshments are available, staff "walk the floor" to increase service to patrons and a range of interior spaces provide for more options to accommodate both quiet study and socializing. Not only do these improvements better serve library patrons, they also result in an operationally efficient library and a functional work environment for staff.

## 4.0 Site and Facility Reviews

Reviews were conducted for each location being considered for the library branch. A profile of each location, the conditions and opportunities to accommodate the library program and related features are discussed below.

### 4.1 McCaskill's Mills Public School

Location: 100 McKay Street  
Owner: Durham District School Board  
Status: Site and facility currently for sale  
Site Area: 5.17 acres



Existing Building: 10,550 square feet (one storey building)

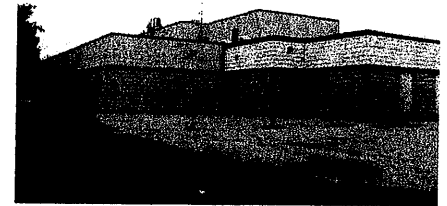
Zoning: Community Facility (CF)

Notes: Property has no frontage on a public road

### General

The intent is to renovate the location to accommodate the library program.

The school facility is approximately 30 years old and in fair condition. In general, this means that systems and components are within 20 years of major retrofit and/or replacement. The Owner has undertaken maintenance to secure the facility now that it is not occupied and also addressed the envelope to protect the facility interior.



### Site

The facility is not directly accessible from a public road. Parking areas are paved and landscaped areas including activity fields are in fair condition, with groundskeeping maintenance required due to the current non-use of the facility. Remarking of asphalt and designation of barrier-free paths of travel to the facility entries also need to be re-established. Chainlink fencing surrounds the property.

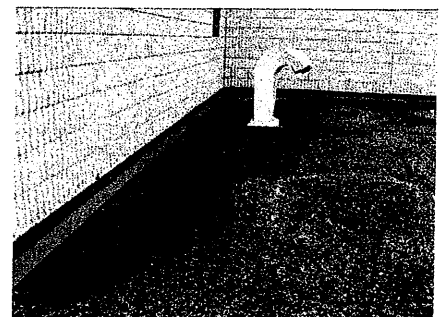


### Envelope

The facility appears to have been constructed in two phases. The original structure contains administration, a gymnasium and classrooms. The construction is masonry cavity wall with built-up roofing which are standard approaches for public school projects. The subsequent phase includes frame construction, cementitious panel exterior and built-up roofing. This later classroom wing is a series of linked portable classrooms set on piers to provide continuous interior space. The life expectancy of this portion of the facility is 10 – 15 years.

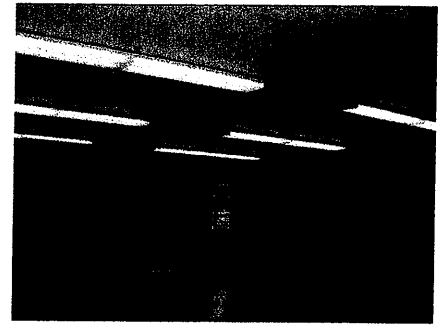


Some rooftop ventilation equipment is located close to roof-wall junctions. This is a common condition resulting in potential leaks resulting from snow drift build-up and subsequent freeze-thaw cycles. Equipment is generally recommended to be located at least 5' from such junctions to increase envelope durability.



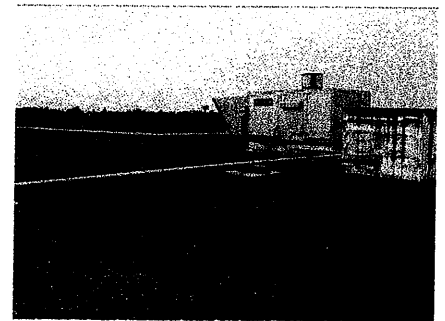
## Interior

Finishes are in fair condition and include vinyl composite tile flooring, painted concrete block partitions in the original building and demountable steel stud and fibreboard panel partitions in the later classroom wing. Lay-in fibreboard acoustic tile is provided in suspended ceiling grids.



## Mechanical / Electrical

Rooftop heating and ventilation equipment is within 10 years of replacement. Domestic hot water systems are within 10 – 15 years of replacement. Consideration should be given to increasing unit efficiencies and also incorporating tankless hot water technology and solar thermal systems for hot water heating in conjunction with natural gas. Plumbing fixtures are within 10 years of replacement. Electrical services are within 10 years of general replacement. Relamping of lighting fixtures is recommended to increase energy efficiency.



## Library Program

Located outside the town core and remote from a public street, the site is limited in terms of public accessibility and profile with regard to the community, two of the key attributes that define the value of libraries as discussed earlier in the report.

The original school building is of more durable construction and the masonry provides greater mass. This assists with passive heating and cooling. Energy is stored in the building masonry mass as it is heated. With upgrades to windows, doors and roofing systems, the energy efficiency of the structural will improve, comfort levels will increase and operating costs will reduce.

The general arrangement of space in the original building, including the main entry lobby, public washrooms, gymnasium and administration areas are a good fit for the library branch program. With acoustic treatment added (sound panels and recycled carpet tile) and additional high performance windows introduced, the gymnasium in particular could provide an open, inviting multi-functional space suitable for the main library space. One could imagine an indoor garden/conservatory theme that could integrate another community activity to transform the facility.



The adjacent classrooms in the original building would be available for allied programs. The linear / wing arrangement of the layout would also allow for separate exterior accesses for other tenancies. This would enable the Town to consider a mix of uses complementing the core library function.

The later classroom addition is of lower grade construction and lower durability. It is recommended that this portion of the facility could be leased for allied functions.

An alternative arrangement for the accommodation of the library program would be to utilize the administration, classroom and support spaces in the original building. This would leave the gym as a multi-purpose community activity centre and the later classroom wing for allied programs. This would be a less costly approach but would not provide the library the priority profile in the facility or the opportunity to take advantage of the open, high bay space in the gym.

## 4.2 Cannington Town Hall

Location: 38 Laidlaw Street South

Owner: Township of Brock

Status: Site and facility currently owned by the Township

Site Area: 132'FR x 165' (0.50 acres)

Existing Building: 6,530 square feet (two storey building)

Zoning: General Commercial (C1)

Notes: Structural reviews were previously completed In 1991, 1993, 1998, 2006 and 2008. The facility includes a partial basement.



### General

The intent is to renovate the location to accommodate the library program.

The former town hall was built in 1887 and is registered under municipal by-law as a property of architectural and historical interest. Systems and components are within 5 to 10 years of major retrofit and/or replacement. The Township is undertaking maintenance to address the envelope and protect the facility interior.



### Site

The facility occupies a central corner lot in the core of the community. There is negligible space on site for parking. Landscaped areas and related groundskeeping are minimal.



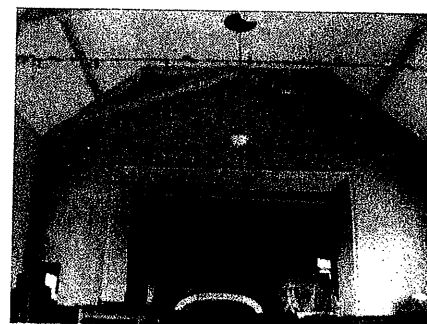
## Envelope

The roof has been recently redone with shakes and snow gems to prevent weather from entering the interior and to minimize the fall of snow and ice. The exterior masonry is in need of general repointing. The tower detailing is deteriorated and due for refurbishment to maintain the historic features. Windows, trims and related architectural details are due for maintenance to preserve detailing and prevent weather infiltration.



## Interior

There are two storeys and a basement / crawl space. The first floor finishes are in poor to fair condition. The portion of the floor system over the basement / crawl space is adequate to support a live load of 100 psf – suitable for a library occupancy except for stacks. This is based on the capacity of the existing floor joist arrangement which are not adequate to support library stack loading. The main portion of the first floor is slab on grade and is capable of supporting stacks.

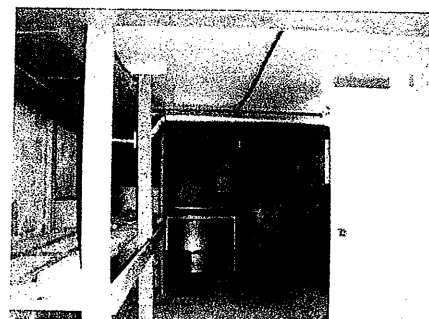


On the upper level, finishes appear in fair condition. Walls and ceilings in the auditorium appear to be plaster finish and require ongoing maintenance to preserve the historic detailing. Evidence of earlier water infiltration and related deterioration was noted. It is expected that the provision of the new roof will greatly assist in preventing further weather infiltration. The second floor joists will accommodate 60 psf, which is suitable for reading and study space. Upgrades to the beams, joists, columns, and likely the footings would be required to enable this level to accommodate library stacks.



## Mechanical / Electrical

Heating and ventilation equipment is within 10 years of replacement. Domestic hot water systems are within 10 years of replacement. Consideration should be given to increasing unit efficiencies and also incorporating tankless hot water technology. Solar thermal systems for hot water heating in conjunction with natural gas is also recommended but would need to be carefully considered in light of the heritage designation. Plumbing fixtures are within 5 years of replacement.



Electrical services are within 10 years of general replacement. Relamping of lighting fixtures is recommended to increase energy efficiency.

### Library Program

Located in the town core on two public streets, the site is very favourable in terms of public accessibility and profile with regard to the community, two of the key attributes that define the value of libraries as discussed earlier in the report. Parking would need to be provided on adjacent streets.

The heritage structure is of durable masonry and timber construction and the masonry provides greater mass. This assists with passive heating and cooling. Energy is stored in the heritage building masonry mass as it is heated. With upgrades to windows, doors and attic insulation, the energy efficiency of the structural will improve, comfort levels will increase and operating costs will reduce.

The general arrangement of space would allow for the main library space and related program areas to be located in the remarkable second floor auditorium. Barrier-free access from the first floor would be required by lift. A portion of the support / staff / program / allied spaces would need to be located on the first floor, which would increase staff supervision requirements and operating costs as compared to a single level arrangement. The location of the allied spaces at grade would allow for direct access from the street and high visibility at this central location in the community.

An alternative arrangement for the accommodation of the library program would be to locate the reception and main library spaces on the first floor and place support / staff / program / allied spaces on the second floor. However, the lift for second floor access would still be required and the allied functions would not have direct access to grade or the higher street-side profile that the ground floor location would afford.

### 4.3 Existing Library Building

Location: 21 Ann Street North  
Owner: Township of Brock  
Status: Site and facility currently owned by the Township  
Site Area: 132'FR x 82.5' (0.25 acres)  
Existing Building: 6,210 square feet (one storey building)  
Zoning: General Commercial (C1)  
Notes: The facility includes a basement.



## General

The intent is to consider the demolition of the existing building and replace it with a new facility.

## Site

The location is in the core area of the community on a public street with good neighbourhood visibility, suitable for the branch library.

The existing facility has a building area of 6,210 square feet and the proposed library program with allied space is anticipated to be 3,500 square feet. The resulting smaller building footprint would allow for additional area on site for outdoor reading areas, landscaping and barrier-free parking / drop-off facilities. Surface treatments could include permeable pavements to increase the retention of stormwater on site.

## Envelope

A contemporary design would allow for a highly efficient exterior that would include shaded porches and roof overhangs to allow for daylighting in the building without direct glare. The smaller building footprint would also allow for consideration of a geo-thermal system on site for heating and cooling. The geo-thermal well field for a single storey facility takes up the same or less area as the building itself. There is adequate land at this address for this arrangement. Solar thermal and solar photo-voltaic systems could also be considered to provide hot water and electricity respectively. In the case of solar pv, it would be worth anticipating in the architectural detailing such a system being added to the roof of the facility in the future.

With energy demand reduced by the highly efficient envelope, the renewable energy technologies will need to provide a reduced amount of energy to operate the facility. This will reduce operating costs and offset the additional capital cost for the renewable technologies. Current return horizons on investments in such facilities in Ontario are in the order of 5 – 10 years. For flat roof locations, planted roof technology could also be introduced to reduce stormwater run-off and assist in cooling the interior.

## Interior

The single level open space arrangement with connections to the exterior is recommended. The library and the surrounding site development becomes a learning centre for environmental design with a flexible layout for various functional configurations, another innovative resource the library is able to offer. Interior spaces would be daylight to reduce the amount of electrical light required.

Radiant heating could be introduced into floors to increase comfort, particularly for children with activity and reading programs conducted on floors.

Materials and finishes would incorporate local, natural products to increase the wellness of the spaces. Recycled material could include local heritage features such as heavy timber from barns in the area that may in the process of being dismantled.

#### Mechanical / Electrical

As noted under Site and Envelope, a high efficiency envelope will reduce energy demand and manage the size and cost of the renewable energy technologies that could be incorporated. With high volume, low velocity interior air ventilation and energy recovery, lower operating costs are realized, interior spaces are quieter and a higher level of comfort is achieved with fewer drafts from air registers. Plumbing fixtures would be specified to conserve water and lighting levels could be lower to create relaxing interior environments and also reduce energy use.

#### **4.4 Former Cannington Chrysler**

Location: 39 Cameron Street West

Owner: Private Ownership (Understood that Brock Community Health Centre (BCHC) (funded by the Province) is in the process of acquiring the property)

Status: Site and facility currently privately owned

Site Area: 121'FR x 132' (0.36 acres)

Existing Building: 4,800 square feet (one storey building)

Zoning: General Commercial (C1)

Notes: Understood the property requires environmental remediation. May provide an opportunity for library to lease space from BCHC within a new building.

#### General

The intent is to consider the demolition of the existing building and replace it with a new facility. Discussion was held with BCHC. Their intent is to consider location of a new community health centre on this site as part of a new multi-storey facility and are interested in arrangements with other parties for other potential space that could be included in the development. This process is in the very early stages and there has been initial correspondence between BCHC and the Public Library Board to discuss the potential for the library to be located at this site as part of the development.

#### Site

The site is on a high profile corner on the main thoroughfare of the community. BCHC noted that the proposed facility would occupy the majority of the site and it is anticipated that opportunities for parking on site would be limited to possible barrier-free stalls and/or pick-up drop-off arrangements. Public parking otherwise would be accommodated with on-street stalls adjacent to the site. There is also a parking lot on the south side of Cameron Street opposite this site, but BCHC noted that crossing this street by BCHC customers is not the preferred arrangement. On-site and adjacent parking arrangements would be subject to review with the Township.

The site area is 15,972 square feet. It is understood that the recommended arrangement for space for the library would be in a single level configuration. In reference to the library design guidelines discussed above, the 3,500 square feet of library program and allied spaces would be most appropriately located at grade level and would need direct access from the street for both the library and the allied program participants. With site setbacks and stormwater retention requirements, and the program of the BCHC to combine, the arrangement of ground level space for the proposed facility will need a comprehensive, collaborative approach.

It also is noted that the site is understood to require environmental remediation. This would be a cost that would need to be quantified and added to the demolition exercise for the site in order to prepare for a new facility.

## Envelope

A contemporary design would allow for a highly efficient exterior that would include shaded devices on the south elevation to allow for daylighting in the building without direct glare. Solar thermal and solar photo-voltaic systems could also be considered to provide hot water and electricity respectively. In the case of solar pv, it would be worth anticipating in the architectural detailing such a system being added to the roof of the facility in the future.

With energy demand reduced by the highly efficient envelope, the renewable energy technologies will need to provide a reduced amount of energy to operate the facility. This will reduce operating costs and offset the additional capital cost for the renewable technologies. Current return horizons on investments in such facilities in Ontario are in the order of 5 – 10 years. For flat roof locations, planted roof technology could also be introduced to reduce stormwater run-off and assist in cooling the interior.

The above strategies are suggestions for the development of the facility at this site and would benefit all occupants in terms of comfort, environmental performance and reduced operating costs which all parties would share.

## Interior

The single level open space arrangement with connections to the exterior is recommended. Access could also be afforded through a common lobby. This type of shared space could encourage patrons to move from one part of the facility to another more conveniently, particularly during inclement weather. Within the library area, an open, flexible layout allowing for various functional configurations would be optimum. Interior spaces would ideally be daylit to reduce the amount of electrical light required. Radiant heating could be introduced into floors to increase comfort, particularly for children with activity and reading programs conducted on floors.

Materials and finishes would incorporate local, natural products to increase the wellness of the spaces. Recycled material could include local heritage features. Such strategies could be part of the tenant fit-up package arranged by the Public Library Board for its dedicated space.

## Mechanical / Electrical

As noted under Site and Envelope, a high efficiency envelope will reduce energy demand and manage the size and cost of the renewable energy technologies that could be incorporated. Such systems, of course would need to be discussed in conjunction with the building owner to ensure compatibility with the remainder of the facility. However, such system arrangements are increasingly demonstrating lower operating costs and so may also be of interest to other tenants. The added advantage of a tenancy in this case would be the reduced amount of exterior wall that each tenant would have. This results in lower exposure to exterior conditions, and lower energy and operating costs. With high volume, low velocity interior air ventilation and energy recovery, lower operating costs are realized, interior spaces are quieter and a higher level of comfort is achieved with fewer drafts from air registers. Plumbing fixtures would be specified to conserve water and lighting levels could be lower to create relaxing interior environments and also reduce energy use.

### **4.5 Vacant Land – Parking Lot**

Location: 46 Cameron Street West

Owner: Township of Brock

Status: Site and facility currently owned by Township of Brock

Site Area: 161'FR x 66' (0.25 acres)

Existing Building: not applicable

Zoning: General Commercial (C1)

## General

The intent is to consider a new facility on the site.

## Site

This is a high profile corner lot in the community core, a preferred location for a library facility. The site area is 10,626 square feet, the same size as the existing library site on Ann Street North, so the same opportunities such as integrating a geothermal system, landscaping features, stormwater retention and some on-site barrier-free parking are available.

## Envelope

A contemporary design would allow for a highly efficient exterior that would include shaded devices on the south elevation to allow for daylighting in the building without direct glare. Solar thermal and solar photo-voltaic systems could also be considered to provide hot water and electricity respectively. In the case of solar pv, it would be worth anticipating in the architectural detailing such a system being added to the roof of the facility in the future.

With energy demand reduced by the highly efficient envelope, the renewable energy technologies will need to provide a reduced amount of energy to operate the facility. This will reduce operating costs and offset the additional capital cost for the renewable technologies. Current return horizons on investments in such facilities in Ontario are in the order of 5 – 10 years. For flat roof locations, planted roof technology could also be introduced to reduce stormwater run-off and assist in cooling the interior.

The above strategies are suggestions for the development of the facility at this site and would benefit library patrons and staff in terms of comfort, environmental performance and reduced operating costs.

## Interior

The single level open space arrangement with connections for the library and allied program uses to the exterior is recommended. Within the library area, an open, flexible layout allowing for various functional configurations would be optimum. Interior spaces would ideally be daylit to reduce the amount of electrical light required. Radiant heating could be introduced into floors to increase comfort, particularly for children with activity and reading programs conducted on floors.

Materials and finishes would incorporate local, natural products to increase the wellness of the spaces. Recycled material could again include local heritage features.

#### Mechanical / Electrical

As noted under Site and Envelope, a high efficiency envelope will reduce energy demand and manage the size and cost of the renewable energy technologies that could be incorporated.

With high volume, low velocity interior air ventilation and energy recovery, lower operating costs are realized, interior spaces are quieter and a higher level of comfort is achieved with fewer drafts from air registers. Plumbing fixtures would be specified to conserve water and lighting levels could be lower to create relaxing interior environments and also reduce energy use.

## 5.0 Summary of Findings and Budgets

Following is a summary of locations, features and budgets associated with the intended action to accommodate the library and allied program areas.

### 5.1 McCaskill's Mills Public School

Overview: Interior renovation of portions of the original entry, administration area, gymnasium, classrooms and support spaces to accommodate the 3,500 square foot program.

#### Advantages / Features:

- On-site parking
- Single level layout
- Masonry construction capable of radiant heating and cooling to assist with reducing energy costs over the facility life cycle (30 years)
- Provision of new energy efficient windows in existing openings and new locations, particularly the gymnasium to transform the space to accommodate the main library area
- Provision of new high efficiency heating, ventilating and cooling equipment for interior comfort and energy reductions 10% improved over the existing conventional equipment for the area of the facility to be occupied by the library and allied programs.
- Provision of new electrical systems including energy efficient lighting for library and allied spaces.

#### Disadvantages:

- Site and facility need to be purchased
- Site is not in the community core and not on a public street.
- Later classroom addition would need to be maintained. Tenants would need to be arranged to reduce operating costs.
- Asbestos survey to be obtained and effects on renovation costs determined and incorporated.

Budget: 3,500 sq ft x \$280 = \$980,000\*

\*Includes design, engineering, approvals, construction, IT cabling, motion detection security system, site repairs to asphalt and landscaped areas adjacent to the original building, and outdoor landscaped reading area. Excludes property purchase costs, equipment, furnishings and GST.

## 5.2 Cannington Town Hall

Overview: Interior renovations to the first floor for library entry / reception and access to a new lift which is also included in the budget. Renovations on the second level to accommodate the 3,500 square foot program.

#### Advantages / Features:

- Site and facility owned by the Township
- Central, high profile location in a heritage structure.
- Masonry construction capable of radiant heating and cooling to assist with reducing energy costs over the facility life cycle (30 years)
- Provision of new energy efficient windows detailed to heritage structure restoration standards; sealing of envelope with foam sealant and caulking to reduce heat loss and air infiltration.
- General refurbishment to the upper level with minimal disturbance to heritage features in order to accommodate library program.
- Provision of new high efficiency heating, ventilating and cooling equipment for interior comfort and energy reductions 10% improved over the existing conventional equipment for the area of the facility to be occupied by the library and allied programs.
- Provision of new electrical systems including energy efficient lighting for library and allied spaces.
- Barrier-free access between floors with a new vertical lift

#### Disadvantages:

- No on-site parking
- Two level layout
- Minimal opportunity for outdoor reading areas

- Golder report dated July 29, 2008 confirms locations of asbestos-containing materials in the building; adjustment to the budget need to be made to allow for removal of such materials in areas to be disturbed by the renovations
- Ongoing maintenance of the envelope is required and would be a cost in addition to this project budget.
- Remainder of the space would need to be maintained. Tenants may be arranged to offset costs.

Budget: 3,500 sq ft x \$380 = \$1,330,000\*

\*Includes design, engineering, approvals, construction, vertical lift, IT cabling, motion detection security system and site improvements to provide barrier-free access to entry. Excludes equipment, furnishings and GST.

### **5.3 Existing Library Building**

Overview: New facility with contemporary library program on a single level, high efficiency building envelope, renewable energy system, some on-site barrier-free parking, landscaping, and outdoor reading area.

Advantages / Features:

- Central location, single level facility
- Site and facility owned by the Township
- Some on-site parking
- Masonry construction capable of radiant heating and cooling to assist with reducing energy costs over the facility life cycle (30 years)
- Provision of new energy efficient windows, shading features and increased insulation in a high efficiency building envelope
- Provision of new geo-thermal system with high efficiency heating, ventilating and cooling equipment for interior comfort and energy reductions of 30% compared to conventional equipment with a 7 year payback. Federal funding is available for the renewable energy system.
- Provision of new electrical systems including energy efficient lighting for library and allied spaces.

Disadvantages:

- Existing library would need to be temporarily accommodated during demolition and construction of the new facility
- Cost of demolition to be added to the budget and will depend on the amount of removal work that is required related to asbestos-containing materials (refer to next item)
- Existing building materials have been tested (Golder report dated July 29, 2008) to confirm locations of asbestos-containing content; current budget

would need to be adjusted to add for additional costs related to removal of asbestos-containing materials prior to demolition

Budget: 3,500 sq ft x \$340 = \$1,190,000\*

\*Includes design, engineering, approvals, construction, IT cabling, motion detection security system, pavement and landscaped areas, and outdoor landscaped reading area. Excludes equipment, furnishings and GST.

#### **5.4 Former Cannington Chrysler**

Overview: New facility with multiple tenancy, high efficiency envelope and mechanical / electrical systems, some on-site barrier-free parking and opportunity for contemporary library layout on a single level

Advantages / Features:

- Central, high profile location
- Some on-site parking
- Masonry construction capable of radiant heating and cooling to assist with reducing energy costs over the facility life cycle (30 years)
- Potential for new energy efficient windows, shading features and increased insulation in a high efficiency building envelope (pending negotiations with the building owner)
- Potential for high efficiency heating, ventilating and cooling equipment for interior comfort and energy reductions of 10% compared to conventional equipment with a 5 year payback (pending negotiations with the building owner)
- Provision of new electrical systems including energy efficient lighting for library and allied spaces.

Disadvantages:

- All arrangements related to this site would be subject to negotiation with the building owner.
- Costs for site remediation and demolition need to be added and negotiated with building owner as part of lease arrangement; materials with asbestos content to be determined; budget would need to be adjusted based on site and materials testing results.

Budget: 3,500 sq ft x \$340 = \$1,190,000\*

\*Includes design, engineering, approvals, construction, IT cabling, motion detection security system, and general site development. Excludes equipment, furnishings and GST.

## 5.5 Vacant Land – Parking Lot

Overview: New facility with contemporary library program on a single level, high efficiency building envelope, renewable energy system, some on-site barrier-free parking, landscaping, and outdoor reading area.

Advantages / Features:

- Central location, single level facility
- Site and facility owned by the Township
- Some on-site parking
- Masonry construction capable of radiant heating and cooling to assist with reducing energy costs over the facility life cycle (30 years)
- Provision of new energy efficient windows, shading features and increased insulation in a high efficiency building envelope
- Provision of new geo-thermal system with high efficiency heating, ventilating and cooling equipment for interior comfort and energy reductions of 30% compared to conventional equipment with a 7 year payback. Federal funding is available for the renewable energy system.
- Provision of new electrical systems including energy efficient lighting for library and allied spaces.
- Township reports that soils on site have already been remediated.

Disadvantages:

- Soil bearing capacity to be confirmed; cost adjustments to the budget may result to account for any soils unsuitable for bearing which would require replacement with engineered granular material.

Budget: 3,500 sq ft x \$300 = \$1,050,000\*

\*Includes design, engineering, approvals, construction, IT cabling, motion detection security system, pavement and landscaped areas, and outdoor landscaped reading area. Excludes equipment, furnishings and GST.

## 5.6 Summary

Following is a summary of budgets, highlights and recommendations for the sites:

Site	Budget (\$)	Highlights
McCaskill's Mills School	980,000	Excludes property purchase; no street frontage Cost-effective renovation for library program
Cannington Town Hall	1,330,000	Reuses heritage building in high profile; central location Requires two levels and a lift; owned by Township

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Existing Library Building	1,190,000	Central location; single level layout; owned by Township Demolition adds cost and materials / soils to be quantified
Former Cannington Chrysler	1,190,000	All items subject to negotiation with the building owner Site remediation and materials testing required
Vacant Land – Parking Lot	1,050,000	Central location; allows for single level layout Soils to be confirmed; owned by Township

**Subject:** Cannington Branch Library Study

**From:** "Wilson, Ted" <Ted.Wilson@aecom.com>

**Date:** Wed, 22 Oct 2008 17:06:57 -0700

**To:** "Thom Gettinby" <tgettinby@townshipofbrock.ca>

Thom: I contacted Ron Ballantyne today. Following are highlights of the discussion. These will be incorporated into the report we are preparing.

- The health centre is in the very early stages; they have submitted an application to the Ministry of Health with a program area of 14,000 sq ft
- The site is 120' x 132' = 15,832 sq ft
- The likely building arrangement on site will be multiple stories; basement area is also being considered
- The health centre is looking for partners for the redevelopment of the former Cannington Chrysler site; a letter in this regard was forwarded to the Library Board
- Parking on site will be very limited – likely, priority will be given to stalls designed for barrier-free access; remaining parking is envisioned to be within close proximity to the site but not on the property; the majority of users will arrive by car; the public parking lot across the street is not considered optimal because elderly users of the health centre would need to cross a busy main street (Cameron)
- 
- The current report by dmA is recommending a 3,000 sq ft program with an additional 500 sq ft for office/training/support space
- The library program is recommended to be on one level to optimize staffing in a branch facility
- High profile, central locations such as the Cannington Chrysler site are recommended for libraries
- It will need to be determined whether the current recommended 3,500 sq ft for the library could be accommodated on one level and whether there would also be flexibility in the building concept to allow for future growth of the library at this site
- TSH will be doing a very preliminary review / analysis of the existing zoning by-law requirements for the property to determine the likely building footprint and parking that could be accommodated on the site

**Ted Wilson, OAA, LEED AP**

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My email has changed to [ted.wilson@aecom.com](mailto:ted.wilson@aecom.com). Please update your email books accordingly.

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