

Canadian Brownfields Case Study

Brock University, Marilyn I. Walker School

QUICK FACTS

Location

St. Catharines, Ontario

Project type

Brownfield Remediation and Heritage Restoration

Site size

0.99 hectares

Land uses

Residential/Institutional

Keywords/special features

St. Catharines, Brock University, Textile Factory, Remediation, Property Expropriation

Project address

198 St. Paul Street,
St. Catharines, Ontario

Author

Claire Semple 

Editors

Christopher De Sousa, Mabel Mai

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If you are aware of any errors or updates to the case studies, please contact chris.desousa@ryerson.ca

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Source: <https://www.canadianarchitect.com/brock-u-marilyn-i-walker-school-of-fine-and-performing-arts/>



The completed redevelopment of the Canada Hair Cloth Company into the Marilyn I. Walker School of Fine and Performing Arts, a satellite campus of Brock University.

PROJECT SUMMARY

After almost 120 years of operation in the City of St. Catharines, the Canada Hair Cloth Company textile factory closed in 2007, leaving the site vacant. Years of heavy manufacturing activities, poor chemical storage techniques and the infilling of the old Welland Canal hydraulic raceway, left the site with wide spread contamination. When the original owner was unwilling to support redevelopment plans proposed by Brock University, the City of St. Catharines moved to expropriate the site. The implementation of hard and soft cap barriers as well as the removal of PAH and mercury impacted soil proved successful at mitigating the risks posed by the contaminants on site. The subsequent redevelopment of the site included the restoration of the textile factory's significant heritage features that are representative of typical 18th century industrial buildings. The innovative partnership between the City of St. Catharines and Brock University enabled the completion of a costly brownfield redevelopment project in a locality without a strong real estate market.

The Canada Hair Cloth brownfield site is located in St. Catharines, Ontario. St. Catharines is a mid-sized city, situated on Lake Ontario and near the United States border. In 1888, James and Hugh McSloy opened the Canada Hair Cloth Company on the site now associated with the municipal address¹, 198 St. Paul Street. The site was ideal for manufacturing activities due to its close proximity to the hydraulic raceway and the first and second Welland Canal, now the route of

Highway 406. The factory manufactured a diverse array of textile products from horse carriage seats, railway seats to the interfacing of fine suits, automobile seats and military parachutes during the war time eras.² After almost 120 years, the factory closed in 2007.³ The closing of the Canada Hair Cloth factory in downtown St. Catharines is indicative of the general deindustrialization trend in Ontario over the past 40 years and a corresponding decline in the manufacturing sector

in St. Catharines and in Niagara.

The City of St. Catharines expropriated 198 St. Paul Street in 2009⁴ from the then owner, Jim Macfarlane, a fifth generation descendant of the original McSloy family.⁵ The Corporation of St. Catharines undertook the required brownfield on-site remediation. Ownership was transferred to Brock University to create a satellite campus downtown.⁶ After extensive renovations, the Marilyn I. Walker School of Fine and Performing Arts was opened in 2015.⁷

Site Characteristics

The site backs onto St. Paul St., historically the main shopping Street in St. Catharines' downtown core. However, the building location is at a much lower elevation than the rest of the street corridor. The building lot runs parallel to Highway 406 and is located near a major highway on-ramp. Prior to redevelopment, the textile factory was the primary structure on the 0.99 hectare lot.⁸ Various industrial activities related to the manufacture of fabric and leather goods, occurred on the site, including tanneries, foundry, chemical storage and the weaving of fabrics as well as commercial activities like cleaners, dyers and service stations. The former Welland Canal hydraulic raceways at the north and south ends of the site⁹ powered the factory's equipment. It was filled in sometime in the early part of the 20th century.¹⁰ A large portion of the lot was paved and served as the parking lot for the factory workers. The original parking areas were removed and then repaved as part of the remediation process.

Cleanup

Contrary to the 'Polluter Pays' Principle, the Corporation of the City of St. Catharines undertook the cleanup and remediation efforts after expropriating the site from the owner, Jim Macfarlane. The site underwent a Phase 1 and Phase 2 ESAs in 2011 and 2012. Exterior boreholes and test pits as well as interior boreholes through the concrete floor slabs were used to sample the soil quality.¹¹ Metals, Polycyclic Aromatic Hydrocarbons (PAH's) and PCE which exceed the established thresholds in O. Reg. 153/04, were found to be widespread throughout the site.¹² Several hot spots of contaminants such as mercury and PAH's were identified in the western portion of the site.¹³ Specifically, under the former boiler area and chemical storage part of the building, Petroleum Hydrocarbons (PHCs) and SCS contaminants over the threshold were identified.¹⁴ Samples



Photo published in the St. Catharines Standard (the local newspaper) in 1943 depicting a female textile worker, Mrs. Marjorie Raby, at the Canada Haircloth Co. in St. Catharines producing cloth for military and essential civilian use during the Second World War.²⁷

taken from the ground water found high levels of Volatile Organic Compounds (VOCs) contaminants.¹⁵ The widespread distribution of contaminants on the site was largely attributed to the infilling of the former canal raceways at the north and south ends of the site with contaminated soil material.¹⁶

A Risk Assessment (RA) was undertaken on the property to establish the risks each contaminant posed for future use and identify appropriate site-specific corrective measures.¹⁷ Ultimately, the risks associated with the contaminants necessitated restrictions on possible future land uses on the site.¹⁸ The construction of buildings or enclosed structures on the southwestern portion of the property was prohibited.¹⁹ Below grade basements or structure on the site was also prohibited.²⁰

The majority of remediation efforts were focused on the elimination of potential exposure pathways and contaminant migration. For

An example of a concrete parking lot forming a hard cap barrier to the contaminants below.



example, hard cap barriers (Asphalt or Concrete) 75mm thick were installed over top of Granular A material 150mm thick in the paved parking areas, the building foundation/ floor slab and walkways/ sidewalks.²¹ This was intended to stabilize the contaminated soils and reduce surface water infiltration.²² On landscaped areas, a geotextile/ shallow soil cap barrier was installed with at least 1.0m thick layer of clean soil.²³ Levels of contaminants are monitored and evaluated on an ongoing basis, through a sub-slab monitoring program and a groundwater monitoring program, in accordance with the RA.²⁴

A further remediation effort undertaken was the removal of contaminated soil. In total 328.4 m³ of PAH-impacted soil and 40.44 m³ of mercury-impacted soil was extracted from the site and disposed of in a local landfill facility.²⁵ The contaminated soil was replaced with 363.3 m³ of sand from a local licensed quarry.²⁶ It should be noted that these actions predated the

new legislation, O. Reg 406/19.

Brock University rehabilitated the 70,000 square foot original building and preserved the dramatic heritage features of the textile factory such as the wooden floor beams, metal columns and stone and masonry walls.²⁸ Onto the existing building, a new modern 25,000 square foot addition for a theater and gallery was built.²⁹ Prior to redevelopment, the textile factory was heated by an outside temporary boiler.³⁰ A comprehensive HVAC system was installed to building code requirements in order to mitigate the risk posed by contaminants on site.³¹ The project was awarded the Ecclesiastical Insurance Cornerstone Award in 2016 from the National Trust for Canada, bringing attention to the project's exemplary building restoration, design and adaptive reuse.³²

Planning and Redevelopment

Brock University approached Jim Macfarlane with offers to buy the property upon closure of the Canada Hair Cloth Company.³³ However, all bids were rejected as too low.³⁴ Brock University then entered into a partnership with the City of St. Catharines in order to achieve its vision of

locating a School of Fine and Performing Arts as a satellite campus in the downtown.³⁵ The City expropriated the property on behalf of Brock University in March 2009³⁶ as part of its strategic planning objective to encourage revitalization of the downtown.

Jim Macfarlane requested a 'Hearing of Necessity',³⁷ a right of the property owner under the Expropriations Act.³⁸ The hearing officer determined that expropriation efforts were premature, and the City failed to prove that public ownership of the land was necessary.³⁹ However, City Council was not bound by that ruling and the expropriation process was completed.⁴⁰ In another legal avenue, Macfarlane underwent arbitration with the Ontario Municipal Board (OMB)⁴¹ to determine if the site could have been sold for residential development not institutional uses and thus entitled to increased financial compensation by the City.

While fraught with legal challenges and public scrutiny, the expropriation measures enabled the site to play a key role in the City's Downtown Creative Cluster Master Plan.⁴² Historically, the City of St. Catharines has leaned heavily on Brock University as an economic

anchor. The City sought to counter the decline in the manufacturing sector by supporting a new creative economy through entertainment, tourism and cultural opportunities in the downtown core.⁴³ The Niagara Region identified 198 St. Paul Street as one of Niagara's top redevelopment opportunities under the Smart Growth Framework.⁴⁴

Financing

As the Expropriating Authority⁴⁵ and thereby legal owner of the site, St. Catharines was responsible for the entire clean-up costs associated with the land. The owner, Macfarlane, was given 990,000 dollars in compensation for the property.⁴⁶ The total clean-up costs covered by the City is not publicly available at this time. The City of St. Catharines transferred ownership of the property to the University in 2012.⁴⁷ Building restoration and other redevelopment activities was undertaken by Brock University. The original budget for the project was 39.6 million dollars later increased to 45.5 million in 2013.⁴⁸ In total, the cost of redevelopment exceeded 46.3 million dollars.⁴⁹ The philanthropist, Marilyn I. Walker donated 15 million to the project⁵⁰. The Ontario Government contributed an additional 26.2 million dollars.⁵¹ Numerous private and corporate donors also made this project financially possible.⁵²

Lessons Learned

St. Catharines is a mid-sized city that has experienced relatively low growth rates over the last several decades. St. Catharines' weak real estate market is often prohibitive to remediation projects with extensive contamination due to the associated cost of cleanup efforts. Additionally, the location of the 198 St. Paul St. property was not conducive for conversion to residential land uses, which are often considered the most profitable and marketable redevelopment option.

In this case, a suitable land use was matched to the brownfield in need of remediation. The City of St. Catharines acted as a facilitator, working with Brock University as a partner in this project. In Ontario, municipalities are normally dependent on the private sector to revitalize brownfield sites. The expropriation of this property, the clean-up of this site and the subsequent preservation of a major historical and architectural building represents a significant exception to the norm.



Aerial Photos (1934 above, 2010 below) of the property, illustrating the changing infrastructure in St. Catharines. 198 St. Paul street was originally situated next to the first and second Welland Canal, now Hwy. 406.

Source: <http://www.eraarch.ca/2011/canada-hair-cloth/>

Endnotes

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