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THE ROLE OF ADAPTIVE REUSE IN BUILDING RESILIENCE URBAN COMMUNITIES: A CASE-BASED  
REVIEW OF PRAXIS IN TORONTO, ONTARIO

By

Katherine Faria, B.Sc. (Hons.), York University, 2008

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# **THE ROLE OF ADAPTIVE REUSE IN BUILDING RESILIENCE URBAN COMMUNITIES: A CASE-BASED REVIEW OF PRAXIS IN TORONTO, ONTARIO**

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## **ABSTRACT**

Support for adaptive reuse as an urban sustainability strategy has been strengthened in response to recent discussions concerning resource management, environmental protection, and urban revitalization. Studies conducted throughout Europe, North America and Australasia have demonstrated the advantages and procedural barriers of successful adaptive reuse. This study explores the praxis of adaptive reuse in Toronto, Canada, through an analysis of three project case studies: the Distillery Historic District, the Don Valley Brick works, and Wychwood Barns. In addition to a review of site history and function, this study assesses the roles of stakeholders, the diversity and distribution of benefits, project inclusivity, and community impact. This research confirms the role of adaptive reuse in achieving cost savings, ecological preservation, heritage conservation, equity and empowerment, while noted barriers include complexities, funding uncertainty, and design and safety concerns. Finally, options for public incentive programs are included as a strategy for streamlining the reuse process.

**Key Words:** Adaptive reuse, heritage preservation, Toronto, green design, post-industrial revitalization



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## **1.0 INTRODUCTION: WHAT IS ADAPTIVE REUSE?**

The fields of design, architecture and urban planning have witnessed a strengthened enthusiasm in sustainability and environmental responsibility. Consciousness of the effects of environmental degradation, including deterioration of natural ecosystems, climate change, air pollution, and depletion of natural resources has called attention to traditional development and construction practices (Swaback, 2007). As urbanization increases and the proportion of the world's population living in urban centres expands, the role of building design, construction, management and use in advancing the goals of sustainability will become increasingly salient. The concentration of built form and the reality of rapid development in and around urban centres suggest that an integration of sustainable development practices is capable of driving global change in major urban centres. The relevance of this focus within the development community is further strengthened by the inclusion of economic and social considerations as components of a holistic framework for sustainability and resilience; this three-pillared approach to urban sustainability, while most notably concerning environmental vitality, also emphasizes the development of a robust economic environment and promotion of social equity (Pitts, 2004).

The development industry, based on conventional modes of construction and building management, exerts a considerable strain on resource stocks and generates large amounts of waste and emissions (Fournier and Zimnicki, 2004; Pitts, 2004). Many urban structures have been built to construction standards that require a consistent and intensive input of resources for maintenance and operation; moreover, the absence of flexible design in existing building stock renders many single-use structures obsolete when their function is no longer required. These concerns have highlighted the need to establish sustainable construction design best practice measures and enhance public and professional awareness. Urban sustainability, there, has been promoted through stringent building standards,

technologies promising greater energy efficiency and financial savings, compact urban form, bolstering transit capacity, social policy, and local waste and resource management systems (Pitts, 2004).

Support for the advancement of urban environmental, social, and economic sustainability has been garnered from private stakeholders, residents, public agencies, and significantly, by planners. In addition to developing environmentally responsible methods of construction and urban development that support the pillars of sustainability, including standardized rating systems and new technologies, a lucrative and valuable movement is aimed at capitalizing on existing building stock in a way that improves the long-term sustainability of urban regions. Tools for advancing urban sustainability, which remain in a constant state of development, have been found in public policy, strategic planning, and the private sector via voluntary programs (Pitts, 2004).

The integration of sustainable practices in the field of urban development is both profitable and rewarding. One of the clearest efforts of attempting to capitalize on existing building stock is the process of adaptive reuse. Adaptive reuse provides a means of extending the functional life of a structure through a combination of structural improvement and conversion. Broadly defined, adaptive reuse represents a process through which the structural framework of the building is retained, while the building, which may include the exterior and/or the interior, is renovated or modified in order to perform a new function or support a new use (Bullen, 2007; Burchell and Listoken, 1981). One study suggests that almost one half of global construction output involves existing structures, reflecting a shift from reliance on new construction to rehabilitation and reuse (Love and Bullen, 2009).

The adaptive reuse option is especially attractive in cases where the costs of adapting the framework of an aging or obsolete building are lower than the financial expenditures of demolition or reconstruction (Shen and Langston, 2010). Closely linked to economic benefits, utilization of the embodied energy invested into existing buildings, including energy expended through raw material



extraction, production, and construction, represents a key environmental argument for exploring adaptive reuse (Carroon, 2010). As a complement to financial savings and environmental considerations, adaptive reuse of an existing structure offers the benefit of locating within an established urban fabric, local economy, and community (Hamin, Geigis, and Silka, 2007; Shen and Langston, 2010). Adaptive reuse of historical buildings, in particular, offers an added advantage of architectural heritage preservation and aesthetic improvement of aging or deteriorating built form (Hamin, Geigis, and Silka, 2007). Nevertheless, concerns regarding maintenance costs, health and safety codes, design restrictions and financial risk continue to present barriers to the success of adaptive reuse projects within the development community (Bullen and Love, 2010).

International enthusiasm for adaptive reuse stems from the multiplicity of advantages by which existing architecture can be recycled in order to enhance the social, environmental and economic performance of urban building stock (Bullen and Love, 2010). Importantly, global market shifts and the obsolescence of manufacturing centres in North America and Europe have highlighted the value of urban renewal in post-industrial cities (Widner, 1986). Adaptive reuse has been explored throughout the world's largest urban centres in the United States, Canada, Asia, Europe, and Australia. Adaptive reuse has been adopted as a strategy for revitalization of outdated industrial buildings, such as mills, workshops, warehouses and factories, accommodation of religious, institutional or cultural facilities, and temporary or flexible housing provisions (Zhang, 2007). Municipal agencies throughout the United States, such as Los Angeles, New York, and San Francisco, have recognized the multi-layered social, environmental, and economic benefits of adaptive reuse. Adaptive reuse thus supports a suite of policy objectives, including sustainability, urban regeneration, Smart Growth, and heritage preservation (Bullen and Love, 2009). Public interest in adaptive reuse as a viable approach to urban regeneration and cultural preservation has also occurred in Australia (Bullen, 2007; Bullen and Love, 2009) and Western Europe (Kurul, 2007).



## **2.0 RESEARCH RATIONALE AND PURPOSE STATEMENT**

A wealth of studies and reviews have been conducted to date concerning the analysis of adaptive reuse project case studies in Europe, Asia, and the United States. Such research has examined the feasibility of adaptive reuse, barriers to effective implementation, policy tools and strategic planning, building selection criteria, and best practices for architects and planners. The findings from these publications provide valuable information for private developers, non-profit organizations and local decision-makers regarding best practices for implementation and effective policy tools for advancing sustainability, cultural preservation, and urban regeneration.

Although a number of studies exploring the selection of historic buildings (Wang and Zeng, 2010), the process of adaptive reuse (Kurul, 2007), field experiences (Bullen and Love, 2009), and issues and strategies for green adaptive reuse (Langston, 2011) have been published, comparatively little has been produced to assess the economics, environmental performance, planning process, and social impacts of adaptive reuse projects in Canada's urban centres. In one case-based study by Shipley, Utz, and Parsons (2006a), the characteristics of and barriers to successful adaptive reuse projects in Ontario, Canada were explored. In a second study Shipley, Utz, and Parsons (2006b) provided a project analysis of heritage reuse projects in Ontario, Canada and assess the characteristics of success and barriers to architectural heritage preservation. Thus, analyses of the existing collection of work on adaptive reuse and post-industrial revitalization across the globe suggests that additional studies exploring the planning process and stakeholder involvement in Canadian adaptive reuse projects would be well received and serve to complement work done to date regarding Canadian adaptive reuse projects.

Although at least two studies have explored the experiences associated with adaptive reuse and heritage projects in the context of Ontario, Canada (Shipley, Utz, and Parsons, 2006a,b), there is an opportunity for a detailed and case-based examination of the nature of local adaptive reuse projects,

the existing challenges to successful project completion, and the social impacts of the projects and roles within the surrounding community. This review paper is intended to explore the praxis of adaptive reuse projects in the City of Toronto, with an emphasis on stakeholder involvement, community building, environmental performance, and barriers to project planning. The focus of this study will hinge on several key questions including the following:

- Who are the named stakeholders?
- How are costs and benefits distributed throughout the larger community?
- Does the project encourage social inclusion, both through its construction and current use?
- Has the project influenced the nature of the surrounding community?

This research will serve as the foundation for identifying a framework of best practices, including participatory and community engagement strategies, project financing mechanisms, and ‘greening’ techniques that may be used to inform and advance future adaptive reuse projects in Canadian cities. The rationale for this research stems from the significance of facilitating a dialogue between stakeholders and decision-makers, while building a knowledge base of best practices, opportunities and an understanding of challenges. It is hoped that a critical review of projects within the City of Toronto will demonstrate the potential economic, social and environmental advantages of innovative adaptive reuse projects, opportunities for planned projects, and strategies for addressing barriers to project planning. Furthermore, recognition of the indispensable roles of adaptive reuse projects in supporting resilient communities and capitalizing on decommissioned structures will assist in the recommendation of adaptive reuse as a viable public strategy. As such, the findings of this paper and similar collections of research will represent an integral step towards the development of municipal and provincial policy that supports adaptive reuse in the public and private sectors.

### **3.0 RESEARCH METHODS**

This project was conducted with a focus on three adaptive reuse projects within the City of Toronto, including Wychwood Barns, Don Valley Brick Works, and the Distillery Historic District. The City of Toronto was selected as an appropriate research area due to the availability of materials regarding case studies; locating the study within Toronto also allowed research to be conducted on-site through walking tours and photography. Second and most important, the examination of project cases within the same political framework and similar economic and social climate was intended to facilitate meaningful comparisons and summary of results.

Initial research was used to identify a list of ten to twelve potential project example that represent both the private and public sectors and a range of current uses, histories, sizes, and locations. The selected projects include cases where abandoned, vacant or otherwise decommissioned industrial structures have been converted, through adaptive reuse, to perform a range of social, commercial, and environmental functions within the surrounding community and beyond. This preliminary group of potential cases was then narrowed down to three final projects . These three projects, Wychwood Barns, Don Valley Brick Works, and the Distillery Historic District, were chosen in order to represent a range of site histories, functions, and characteristics. More specifically, the final three projects were chosen in order to reflect a focus on the areas of environmental performance, community involvement and cohesion, design and heritage preservation, and economic revitalization. Lastly, the richness and accessibility of available relevant data was also a significant consideration in the selection of these projects. Resources will be gathered from a range of data sources, including archive materials, peer-reviewed publications, books, policy documents, promotional materials, and site visits.

This research paper is divided into three primary categories: a review of the benefits and challenges of successful adaptive reuse projects, case studies, and a discussion of key findings and

options for policy. The first section, or literature review, focuses on relevant findings published in existing literature as well as providing a review of the advantages and drawbacks of adaptive reuse. The purpose of this review is to offer a contextual background of research and projects completed to date, identify gaps in existing research, and provide a framework for subsequent case study analysis. The second section consists of in-depth case studies involving the three Toronto adaptive reuse projects. Each case study includes an account of the history of the building, site and community, a review of historical uses, architectural and design features, the social or cultural roles of the project, and the planning process, including incentives, financing mechanisms, stakeholder involvement and the role of public policy. Lastly, this report includes a discussion of key findings from the case studies, which is followed by recommendations for streamlining and incentivizing adaptive reuse in Toronto. The discussion and recommendations are intended to reflect the findings of previous studies in addition to the results from the case study review.

## **4.0 WHAT WE KNOW: A SUMMARY OF INTERNATIONAL PRAXIS**

Adaptive reuse provides an attractive means of utilizing decommissioned, obsolete, and aging architectural infrastructure as local demographics, habits, needs, and markets evolve. A large portion of these trends can be attributed to global, national and regional patterns of social and economic restructuring. Throughout Europe, many commercial and manufacturing facilities built during the industrial revolution now face obsolescence due to the relocation of global manufacturing centres (Loures, 2009; Zhang, 2007). Interestingly, many of these zones of industrial legacy have been designated as world heritage sites on the World Heritage List (Zhang, 2007). Changes in North American demographic trends as well as global and national markets have led to large stocks of decommissioned structures, particularly public facilities and industrial districts that were assembled throughout the latter 19<sup>th</sup> Century and early 20<sup>th</sup> Century (Loures, 2009). Many industrial structures built during this period were modeled to meet the demands of a Fordist, production-line economy. This Fordist economic climate featured a melding of utility and architectural character, the location of manufacturing warehouses within urban centres, and an emphasis on permanence and stability in urban architecture (Kohn, 2010). Combined with the characteristics listed above, the location of industrial facilities in proximity to waterways, infrastructure, and established residential communities (Loures, 2009) serve to recommend older industrial facilities for adaptive reuse.

More recently, functional obsolescence has been driven by the construction boom during the 1980s (Gause, 1996; Urban Land Institute, 1992) and the subsequent economic recession, corporate downsizing, shifts in housing preference, and technological innovations that have altered traditional modes of industry (Gause, 1996). As a result, surplus facilities and districts have begun to exhibit signs of deterioration and vacancy (Bullen and love, 2010; Gause, 1996) with the potential to reverberate

throughout the community, affecting property values, neighbourhood vitality, and collective community pride (Loures, 2009).

Adaptive reuse strategies, if planned and applied appropriately, are instrumental in protecting local community resources, dramatically reducing land acquisition and construction costs, revitalizing communities, and supporting intensification (Bullen, 2007). Adaptive reuse, while applied to buildings, may comprise a broader conservational strategy that includes neighbourhoods, districts, public spaces and streetscapes (Schmertz, 1982). While adaptive reuse projects once represented speculative ventures and were, thus, primarily considered the domain of developers, interest in adaptive reuse has extended to user organizations, building owners, public agencies, and institutions. The range of stakeholders involved in a project from planning to completion may include developers, owners, asset management firms, real estate firms, banks, and public agencies (Gause, 1996).

The following section will summarize the findings of adaptive reuse studies throughout the world, including prerequisite conditions for a successful project, advantages of pursuing adaptive reuse as a strategy, and practical challenges to project success and implementation. As will become clear from the analysis below, while the advantages and strengths of recycling buildings are interdependent and mutually reinforcing (Wang and Zeng, 2010), potential conflicts may arise amongst competing local interests (Bullen and Love, 2010). Literature suggests that there is a suite of actions that are conducive to achieving project success, which may be summarized as establishment of a market niche, designing to accommodate a mix of uses, sharing financial risks, and ensuring collaboration amongst stakeholders throughout the project process (Gause, 1996). *Figure 1* illustrates the range of potential considerations that may become relevant in the decision to explore adaptive reuse.



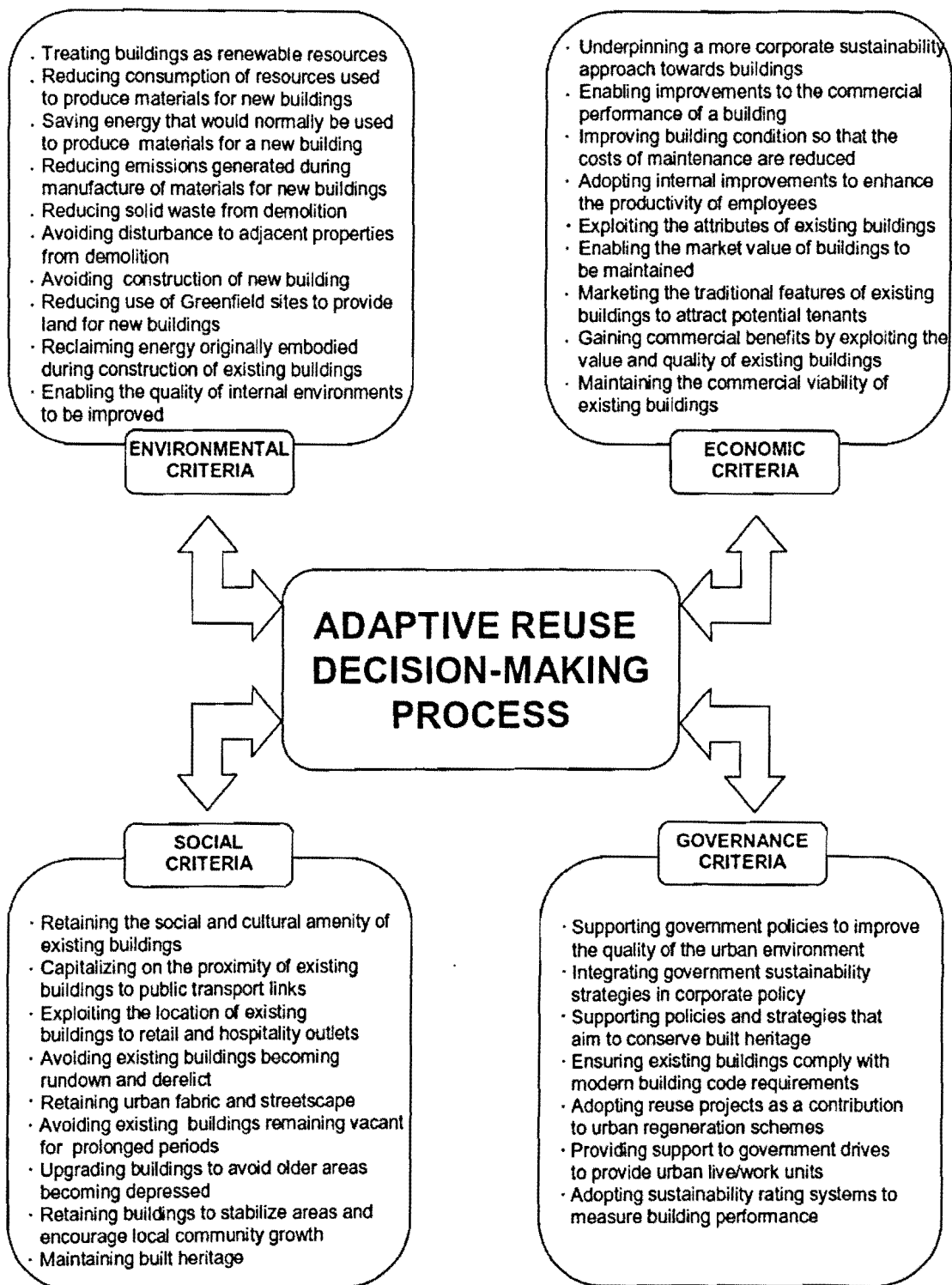


Figure 1. Model of considerations in the adaptive reuse decision-making process. [Source: Bullen, P.A., & Love, P.E.D. (2010). The rhetoric of adaptive reuse or reality of demolition: Views from the field. *Cities*, 27, 215-224].

## 4.1 ADAPTIVE REUSE AS AN OPPORTUNITY AND ADVANTAGE

### 4.1.1 *Community Revitalization*

The need for necessary social and commercial infrastructure shifts in accordance with evolving demographics, market and social trends. As such, public schools, offices, warehouses, long-term care facilities, and housing may become obsolete and be replaced by a new set of infrastructural requirements (Northcountry Cooperative Foundation, n.d). The evolution of markets and social trends creates new niches and opportunities for social and economic development to match the availability of surplus building stock. Although adaptive reuse has been explored in suburban communities, this turnover of use and function is well supported by the inherent fluidity and diversity of urban environments (Gause, 1996).

Adaptive reuse offers a plethora of opportunities to accommodate a range of needs and functional niches. Potential uses for adapted structures include cooperative housing, shelter for special populations (United States Conference of Mayors, 1986), religious facilities, or cultural centres, as well as urban marketplaces, theatres, recreational facilities, civic centres, post-secondary campuses, public schools (National Institute of Building Sciences, 2003), restaurants (Schmertz, 1982), museums, and offices (Smeallie and Smith, 1990) within the frameworks of obsolete architecture (Kurul, 2007). The structural robustness of heritage buildings and narrow floor designs, which permit natural interior lighting, are especially suited for reuse as apartments (Hickey, 2005). Adaptive reuse may offer vital opportunities for start-up businesses, due to the relative affordability of recycled buildings in comparison to new construction (Gause, 1996). Furthermore, reuse of decommissioned buildings for educational purposes may help to alleviate overcrowding in schools due to a lack of public funding, limited expansion capacity or enrolment fluctuations (National Institute of Building Sciences, 2003). Rejuvenation of a derelict structure also serves a crucial reaffirming role in anchoring a struggling

community and reinforcing a sense of place (Northcountry Cooperative Foundation, n.d). This process of highlighting and preserving architectural heritage stock represents an integrated component of local tourism, thus generating local revenue in addition to the strengthening of collective identify (Nasser, 2003; Wang and Zeng, 2010).

The presence of aging institutional, industrial, and residential structures represents an opportunity to capitalize on previous investments, while injecting new life into communities struggling to remain competitive and self-sufficient. More specifically, the reuse of prominent and structurally-sound older buildings offers an economically feasible method of retaining local architectural heritage and enhancing the character of the urban fabric (Northcountry Cooperative Foundation, n.d). More recently, the interest from the public and private sectors in diminishing the social, environmental and financial costs of sprawl have highlighted the links between environmental responsibility, Smart Growth and adaptive reuse (Bullen and Love, 2009; Loures, 2009).

#### *4.1.2 Locational Advantage*

Adaptive reuse projects exhibit the potential to create extremely lucrative development ventures, partially as a result of the location of an existing structure within an established community and market (Smeallie and Smith, 1990). The locational value attached to an existing structure may include proximity to a main thoroughfare, public transit infrastructure, a commercial hub, or situation within a vibrant and expanding residential community; moreover, existing buildings within urban and suburban settings tend to be pre-serviced by existing necessary utilities and “hard” infrastructure (Northcountry Cooperative Foundation, n.d).

#### *4.1.3 Economic Viability*

Selecting a decommissioned or obsolete structure for restoration and reuse can be viewed as a somewhat risky and yet potentially profitable investment. When the performance or functionality of a building approaches the point of decline, the structure may be demolished and rebuilt, the use may be relocated or the existing building may be adapted to accommodate an alternative use or number of possible functions. In instances where the residual value of the original structure is not recognized or left ignored, demolition and reconstruction may prove wasteful (Bullen and Love, 2010). In capitalizing on prior labour and financial investment, adaptive reuse is often noted for its capacity to provide cost savings in comparison to demolition and reconstruction. In addition to project-based economic savings, adaptive reuse, through enhancing the aesthetic qualities and functionality of the built form, may help to improve local property values and stimulate local investment (Bullen, 2007).

Perhaps not surprisingly, estimations of project profitability and lifetime commercial performance represent pivotal factors in determining the attractiveness of adaptive reuse to developers and property owners. Key considerations include capacity to attract tenants or buyers, costs of maintenance and operation, investment return forecasts, satisfying employee needs, and market value of the project. A number of studies completed to date have attempted to assess the relative cost effectiveness of demolition and adaptive reuse. Overall, evidence suggests that adaptive reuse typically produces considerable cost savings when compared to the practice of demolition and rebuilding; however, results remain somewhat variable and contingent upon local markets and building conditions (Bullen and Love, 2010; Cunningham, 1988). Field estimates of returns on investments remain equally nebulous (Shipley, Utz, and Parsons, 2006b). Shen and Langston (2010) have devised a measure of Adaptive Reuse Potential (ADP). The ADP index provides individual scores on the basis of such factors as

environmental, political, social, technological and structural conditions, in an attempt to estimate the feasibility and forecasted risk associated with a particular candidate site (Shen and Langston, 2010).

Not all potential projects may prove economically viable (Langston, 2011; Wojno, 1991). In order for a building life extension to be cost-effective, the project must demonstrate both utility and economic viability. The new function must be convenient and more specifically, the community which the function will serve must demonstrate a need or market for the use. The efficiency of the project is likewise dependent upon the availability of a market for the planned use that is capable of supplying the required returns (Cunnington, 1988; Nasser, 2003). Closely linked to the presence of available markets, successful projects must be supported by a compatible urban fabric, an adequate network of amenities, and a suitable local environment (Wang and Zeng, 2010).

Furthermore, the project must be cost-effective on relative terms. In many cases where adaptive reuse is considered, reuse of an existing building offers multiple cost savings as it allows the developer to utilize the invested materials and labour, particularly in cases where the original building is robust and architecturally sound (Nasser, 2003). Thus, reuse allows the value of existing construction materials to be harnessed through a extension of the structure's functional lifetime following the application of rehabilitation measures and refurbishment (Love and Bullen, 2009). On the basis of the above considerations, the success of a reuse project is dependent upon appropriate timing (Gause, 1996) and an understanding of forces indicating the end of functionality for a particular use (Langston, 2011).

#### *4.1.4 Heritage Preservation*

Historic preservation has recently been recognized as a mode of linking the celebration of local cultural and architectural heritage to economic revitalization initiatives (Wojno, 1991). Preservation refers to the maintenance of the existing urban fabric, while conservation can be defined as an active

effort to retain the cultural significance of a place (Rodwell, 2007). Industrial heritage, which is tightly linked to architectural heritage in post-industrial centres, pertains to decommissioned structures, machinery, workshops, mills and factories that are considered to exhibit historical, scientific, architectural or social value (Zhang, 2007). In the North American context, heritage conservation and the refurbishment of historical architectural landmarks tends to be regarded as an economic commodity and as a community resource (Nasser, 2003).

Preserving a range of visible architectural styles within the urban fabric affords a degree of visual interest and character along streetscapes and within neighbourhoods (Langston, 2011; Shipley, Utz, and Parsons, 2006b). Furthermore, a historical structure and unique architectural style can offer an invaluable source of identity for an institution or specialized organization occupying the adapted structure (Smeallie and Smith, 1990). The caveat of these findings is that in order for a facility to be worth salvaging, the building must exhibit real and identifiable cultural, historical or environmental value; justifying conservation on the basis of building age alone may not lead to expected financial or cultural benefits (Langston, 2011). Determination of a building's suitability for adaptive reuse has been achieved through various models and scoring systems that are used to assess an existing structure on the basis of weighted criteria. Among these criteria are considerations of local demographic and social context, existing infrastructural support, potential conflict with planning legislation, the condition and stability of structural and mechanical components, and architectural integrity (Wang and Zeng, 2010).

The growing consciousness and perception of the pervasive advancement of suburban sprawl and unchecked greenfield development lends further support to heritage preservation initiatives (Loures, 2009). A celebration of architectural heritage has been tied to the notion of "spirit of place", or *genius loci*, as well as preservation of structural diversity in light of the 'cookie-cutter' reputation of new development (Nasser, 2003). In light of bland and generic developments of the 1960s and 1970s, efforts

to conserve remaining architectural heirlooms appear especially central to preserving local character (Cunnington, 1988).

#### *4.1.5 Sustainability*

Buildings are typically constructed from materials that may potentially outlast the longevity of the intended original function (Wang and Jiang, 2007). Interestingly, a study by Shen and Langston (2010) referred to the embodied energy contained in existing buildings as a form of “urban ore”, thus emphasizing the significance of embodied resource potential. Moreover, reusing existing structures introduces a temporal dimension to the field of sustainable development. As such, regarding buildings as reusable capacity has been named as a key step towards building urban sustainability (Bullen and Love, 2010). The value of recycling existing building stock and channelling financial resources into upgrades of existing infrastructure can be illustrated within annual construction statistics. In many developed countries, the number of new buildings constructed each year accounts for between 1.5% and 2% of the total existing building stock; thus, a total replacement of all existing buildings would require at least 50 to 100 years if the current rate were maintained (Bullen, 2007).

In contrast to mitigation strategies, adaptive reuse represents a mode of active adaptation to evolving urban social and economic conditions (Love and Bullen, 2009). On par with conservation of the natural environment, conservation of historical structures is a critical step in promoting efficient use of limited natural resources, emissions reduction, and energy use, in addition to the social, economic and cultural advantages of architectural heritage preservation (Bullen, 2007; Zhang, 2007; Wang and Jiang, 2007). It has been estimated that diverting construction efforts towards rehabilitation of existing stock may substantially ameliorate the unsustainable resource drain of the construction industry within the upcoming decades (Bullen, 2007).

The familiar argument for adaptive reuse as a strategy for urban sustainability is founded on the notion of embodied energy. Embodied energy is defined as the energy required to produce the materials that includes extraction, processing, manufacturing, and delivery, and assemble the components into the finished product (Sawhill, 1981). Reusing materials that exist *in-situ* is viewed as a sustainable option as the embodied energy incorporated into existing buildings is not wasted or thrown away in lieu of new construction. Notably, as construction practices and building operations improve with regard to efficiency, the embodied energy investments will represent an increasingly greater proportion of the total energy use considerations (Sawhill, 1981).

The amount of energy invested in existing building stock is immense. Replacement of the entire building stock in the United States would require more than the global annual energy output (Sawhill, 1981). Opting to refurbish and reuse an existing structure also provides the opportunity to improve the operating performance of existing building stock via the installation of environmentally responsible systems and materials (Fournier and Zimnicki, 2004). In some cases, historical buildings may exhibit comparable performance efficiencies in comparison to more modern structures due to the insulation and heat-conservation benefits of robust materials (Sawhill, 1981). Where applied, upgrades to the operational performance of the structure are associated with environmental advantages as well as cost and energy savings, which can be accounted for in estimating life-cycle operating costs (Langston, 2011).

## 4.2 BARRIERS TO THE REUSE APPROACH

### 4.2.1 Site Remediation

One of the most cited economic barriers to successful adaptive reuse projects is the cumulative cost of site remediation and structural renovation. The presence of harmful substances, such as lead and asbestos, in original building materials may lead to exorbitant remediation costs. As such, additional



costs required to cover expenses pertaining to structural cleanup, stability or accessibility should be factored into the project budget (Northcountry Cooperative Foundation, n.d). In a study exploring survey responses of project stakeholders in Western Australia, responders noted the financial uncertainty in accurately estimating reuse project costs in comparison to planning new construction. This uncertainty likely results from the uniqueness of individual projects and an absence of comparable precedents in the field (Bullen, 2007).

Facilities such as military bases and industrial facilities may require extensive cleanup operations to prepare the site for an alternate use (Gause, 1996). In planning an adaptive reuse project, the careful removal of harmful materials is necessary to render the structure both safe and environmentally sound. Particularly in the case of aging buildings, toxic levels of lead can be found in construction materials such as paint, tanks and pipes, while historically, asbestos was a common addition to plaster and tiling. Design schemes involving solar access, insulation, weather resistance, fire safety, stairway access (Smeallie and Smith, 1990), and ventilation that adequately suited the original use may present further challenges in upgrading the structure to support a new function (Langston, 2011; Smeallie and Smith, 1990).

#### *4.2.2 Project Uncertainty*

One study indicated that a key barrier to the success of adaptive reuse is the perceived complexity and financial risk associated with potential projects. An analysis of case studies reveals that commitment to a particular project requires substantial risk on the part of the developer. Due, in part, to lengthy planning processes, design and project contracts must be made in the absence of confirmed planning consents, implying a level of uncertainty for which developers and investors must account. The risk and complexity of a project is proportional to the number of active stakeholders, the costs and size

of the project, the distribution of financial risk, and the presence of additional considerations, such as location on a brownfield site or proximity to sensitive uses (Kurul, 2007).

Ensuring that operating systems within the building are capable of meeting conventional energy savings and safety standards implies another financial challenge (Bullen, 2007). Where traditional construction materials and practices represent less costly options, developers may be reluctant to consider a “green” approach to adaptive reuse or may forgo reuse altogether (Langston, 2011). Moreover, in cases where buildings were originally designed for immediate profit and short life-cycles, such as makeshift commercial facilities, strip malls and single-family housing, preserving the safety and integrity of the structure may be economically unviable (Bullen, 2007).

As a result of the inherent risk associated with adaptive reuse projects, long-term bank loans are often difficult to secure or are provided with a number of restrictive conditions. In response, developers may be apt to seek private funding sources (Shipley, Utz, and Parsons, 2006b; Synyshyn, 1985). Complexities regarding the risk and budget requirements for reuse projects are further confounded by the typical practices of conducting cost-benefit analyses to measure profitability. Developers and project planners often encounter difficulties in translating expected social and environmental advantages into terms that can be used effectively in a cost-benefit analysis (Langston, 2011). This challenge is particularly salient, since the failure to recognize key positive externalities as tangible benefits may skew perceptions of adaptive reuse with regard to profitability and long-term value.

#### *4.2.3 Structural Soundness*

Planning a project for adaptive reuse requires rigorous attention to the flexibility (Shipley, Utz, and Parsons, 2006a), safety, and long-term durability of the adapted structure. While adaptive reuse is an attractive option in many instances, severely deteriorated or damaged structures are typically unsuited for reuse. Besides cost and hazard assessments, explicit consideration must be granted to the

building layout and suitability for future use and the condition of functional components in feasibility studies (Bullen and Love, 2010). Efforts must be made to ensure that the project is planned to comply with applicable building standards and operating criteria (Shipley, Utz, and Parsons, 2006a; Wang and Zeng, 2010).

A detailed review of structural safety is necessary prior to the commencement of any building recycling project (Northcountry Cooperative Foundation, n.d). An obvious challenge is the conversion of an original building, such as a warehouse or factory, into a facility that will accommodate sensitive uses. For instance, reuse as a school, residential apartments, or a medical facility may require specialized interior, mechanical, and structural alterations to meet standards of comfort and occupant safety (Smeallie and Smith, 1990). Moreover, modernizing an outdated structure may also require a number of additions to improve the accessibility features of the site (Shipley, Utz, and Parsons, 2006; Smeallie and Smith, 1990).

#### *4.2.4 Local Context*

While the presence of an established urban fabric might be considered an asset and a motivating factor in recommending adaptive reuse, the location of the site may present challenges if the proposed functional upgrades or design attributes are not consistent with current zoning or urban design regulations. Thus, a lengthy and challenging planning process due to zoning and design incompatibilities may represent a disincentive for developers seeking quick-win projects (Shipley, Parsons, and Utz, 2006a,b). Secondly, the relationship of the project to the surrounding urban fabric with regard to size, angle, style, setback, and impacts on safety are critical in determining the local impacts of the adapted structure (Smeallie and Smith, 1990).

Sufficient consideration must be given during the planning phase of a reuse project to issues of surface parking, pedestrian and vehicular traffic, noise, the proximity to sensitive land uses, and

neighbourhood character. As such, location of the structure within a brownfield site or a neighbourhood that is experiencing signs of economic, physical and social decline implies a unique set of planning challenges (Northcountry Cooperative Foundation, n.d). To a lesser degree, projects should be planned with consideration of appropriate signage, streetscape character, microclimate, and the presence of public art (Smeallie and Smith, 1990). Finally, while adaptive reuse is commonly associated with intensification initiatives, views from the field indicate that building reuse may present a barrier to maximizing urban density in cases where the original structure is incapable of supporting target densities (Bullen, 2007).

#### 4.3 THE ROLE OF POLICY AND FINANCING STRATEGIES

The financial and market challenges of planning successful reuse projects indicate that there is a strong case for bolstering government support for reuse practices in the private sector. In essence, this support must address both the real and perceived challenges of reuse and aim to frame reuse as a viable alternative to demolition and greenfield development (Langston, 2011). A diverse toolkit of legislation and public financial incentives has emerged in response to a growing international enthusiasm for adaptive reuse strategies. This collective toolkit is comprised of planning policy incentives and funding assistance opportunities for developers and property owners involved in adaptive reuse ventures. Current public incentives include designations under heritage legislation, project cost assistance programs, such as tax abatements, grants, Tax Increment Financing (TIF), low-interest loans, and subsidies (Northcountry Cooperative Foundation, n.d), and planning ordinances, such as density “bonusing” (Shipley, Utz, and Parsons, 2006b), streamlining, and easements (Bullen and Love, 2009).

In order to enhance the collective value of reuse as a profitable strategy, there is a clear role for the public sector to link incentives for “green” development with recommendations for adaptive reuse. Besides a range of financial incentives, engagement strategies and educational resources are needed as

a complement to the carrot-and-stick policy approach. Due to the complexity of reuse projects, technical expertise and sophisticated cost and impact modelling capacities must be available to developers, architects and planners considering reuse (Langston, 2011). A study by Shipley, Utz, and Parsons (2006b) concluded that the absence of experienced professionals who demonstrate the necessary understanding of heritage preservation and reuse represents a considerable barrier to adaptive reuse.

Wide acceptance of adaptive reuse as a viable strategy calls for greater leveraging of broader community, political and stakeholder support prior to commencement of the project. In addition to public incentives, community support is crucial for an expedient planning process as well as raising the needed funds and resources. Partnerships involving both the public and private sectors, including non-profit organizations, permit a pooling of resources and expertise in achieving local revitalization and development goals that meet stakeholder needs (Gause, 1996). By extension, without the support from stakeholders and community members, garnering the needed financial returns on the project investment may prove challenging (Northcountry Cooperative Foundation, n.d).

#### *4.3.1 International Incentive Programs*

Public support for adaptive reuse has been demonstrated in the USA, the UK, North Africa, Hong Kong, Australia, and Canada (Shen and Langston, 2010). The support for adaptive reuse has been given weight, in part, through the strong interest in heritage preservation and public commitments to social, economic, and environmental sustainability. For instance, Shanghai has recently committed to the preservation of significant cultural landmarks and industrial heritage, including warehouses that offer opportunities for a range of potential uses (Zhang, 2007). Furthermore, the Government of Western Australia has received praise from the World Business Council for Sustainable Development for innovative and progressive policy directions (Bullen, 2007).

Developers aiming to complete an adaptive reuse project in the United States enjoy access to a myriad of public and private financing strategies. Heritage preservation in the United States has been supported by the federal government through the *National Historic Preservation Act* (NHPA) and tax incentives (Wojno, 1991). At the municipal level, common funding mechanisms include Tax Increment Financing (TIF) or tax abatement, by which a portion of the property taxes are earmarked for project funding and local property taxes are partially or fully waived, respectively. Similarly, tax credits may be granted in cases where developers have agreed to advance community redevelopment initiatives, brownfield cleanup, affordable housing provision, or historic preservation through adaptive reuse projects. Governmental financial support may alternately be granted through low-interest loans or bonds. In another arrangement, a public agency may choose to purchase a property that has been identified as a candidate for structural rehabilitation, which can be sold at a minimal charge to a developer. In some cases, the agency may fund site cleanup in part or in full in order to encourage the property sale, particularly if the property is located on a brownfield or within a decommissioned manufacturing zone. The purpose of this form of subsidy is to encourage community revitalization and attract the interest of private sector investors (Northcountry Cooperative Foundation, n.d).

An adaptive reuse program was developed in Los Angeles, USA, in 1999, which aims to revitalize cultural resources in downtown Los Angeles as well as promoting the development of live/work communities. Eligible projects include those located in a designated “Downtown Los Angeles Incentive Area”, buildings constructed to building and zoning codes that were in effect prior to July 1, 1974, structures that are no longer economically viable through their current use, and buildings currently designated under a public heritage registry. The Los Angeles City Government grants an additional incentive in permitting specific planning and building code exceptions as well as streamlining the planning process for adaptive reuse projects. The Los Angeles adaptive reuse strategy is further

supported by financial incentives, including rehabilitation tax credits<sup>1</sup>, conservation easements<sup>2</sup>, Investment Tax Credits<sup>3</sup>, and property tax reductions (City of Los Angeles, 2006; Bullen and Love, 2009). In response to an increase in functionally obsolete buildings and the simultaneous demand increase for rental housing in Manhattan, a similar program was developed in New York, USA, during the mid-1990s. Public support for adaptive reuse in the downtown core included tax-exempt bonds, cash payments, and tax abatements (Gause, 1996).

#### *4.3.2 Incentives for Adaptive Reuse in Ontario, Canada*

A number of municipalities in Ontario offer incentives and provisions for stimulating local interest in adaptive reuse. Like cities in the USA and Australia, urban centres in Ontario face planning challenges pertaining to sprawl, neighbourhood decline, and brownfield revitalization. Among the cities offering incentives for adaptive reuse are Brantford, Hamilton, Waterloo, and Kitchener. In more competitive markets such as Toronto, height and density “bonusing” strategies appears to offer more value to developers than financial incentives (Shipley, Utz, and Parsons, 2006b). Public support for adaptive reuse projects in Toronto will be discussed further below.

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<sup>1</sup> Rehabilitation tax credits offer 20% and 10% tax rebates for projects that revitalize historic structures and non-historic, non-residential buildings, respectively (Bullen and Love, 2009).

<sup>2</sup> Conservation and facade easement incentives offer one-time income tax deductions for private investors when they donate a conservation easement (Bullen and Love, 2009). An easement is an agreement between a government agency and a private land owner that restricts development on a particular parcel of land to that which is consistent with historic conservation standards (Los Angeles Conservancy, 2011).

<sup>3</sup> Property owners may apply for a tax credit for up to 4% annually for projects that involve the provision of rental housing (Bullen and Love, 2009).





## **5.0 A LOOK AT TORONTO, ONTARIO**

The City of Toronto is Canada's international gateway and one of the key economic engines in North America. At a population of approximately 5.4 million, the influence of the Toronto Region can be attributed, in part, to its relative centrality and proximity to a number of major North American hubs. In relation to other large North American cities, such as New York and Chicago, Toronto offers comparatively lower business and skilled labour costs, which allow the Toronto Region to attract new businesses and maintain market sector diversity. Toronto's competitiveness is further aided by the provision of federal, provincial, and municipal business incentives, which include tax credits, rehabilitation grants, and waiving of development charges for industrial projects. Besides industrial, trade and commercial assets, the Toronto Region represents a major centre for innovation and institutional research. Moreover, Toronto boasts a unique cultural strength within its thriving downtown neighbourhoods, cultural and social amenities, dynamic public spaces, urban greenspace, an array of recreational options, and a culturally diverse Regional population (Toronto Economic Development, 2007).

The diversity of Toronto's markets, shifting demographics trends (Bourne, 2003), demand for a mix of housing types, and thriving cultural presence indicate that the City of Toronto offers lucrative opportunities for adaptive reuse as a development strategy. At present, the City of Toronto is home to a number of innovative and prominent adaptive reuse projects. Notable examples include The Suites at King West, once a Dominion Bank Headquarters, the old Carpet Factory building (Shiple, Utz, and Parsons, 2006b), and the John Street Roundhouse (TrizecHahn Corporation, 1999).



## 6.0 POLITICAL SUPPORT FOR ADAPTIVE REUSE IN TORONTO

Development and land use planning within the City of Toronto occurs under the combined authority of both Provincial and Municipal legislation and policy. This framework is anchored by the *Planning Act R.S.O* (1990) and the *Provincial Policy Statement* (2005) as well as the Ontario Building Code and specific land use policy, including the *Places to Grow Act* (2005), the *Growth Plan for the Greater Golden Horseshoe* (2006) and the *Ontario Heritage Act R.S.O* (1990). Development is regulated at the municipal level by *Toronto's Official Plan* (2006), secondary plans, and zoning by-laws. This section will attempt to highlight existing provincial and municipal legislative support for adaptive reuse in the City of Toronto. Furthermore, this analysis will include a review of available incentive tools that are available for developers, owners and organizations planning adaptive reuse projects.

### 6.1 LEGISLATIVE FRAMEWORK

#### 6.1.1 *Provincial Policy Statement (2005)*

The *Provincial Policy Statement* (2005) provides overarching policy direction with regard to matters of “provincial interest”. The scope of the *Statement's* authority concerns the quality of life for Ontario citizens, efficient and responsible resource use, protection of the natural environment, and preservation of public health and safety. Building strong, liveable and healthy communities, preserving cultural heritage, providing a mix of housing types, stimulating intensification, maintaining economic prosperity, and redevelopment and brownfield remediation are amongst the central goals of the *Statement*. Support for adaptive reuse as a component of efficient resource use, heritage preservation, and Smart Growth can be exemplified in sections 1.1.2, 2.6.1, and 1.8.1 (See APPENDIX).

### 6.1.2 *Growth Plan for the Greater Golden Horseshoe (2006)*

The *Growth Plan for the Greater Golden Horseshoe (2006)* has been developed under the authority of the *Places to Grow Act (2005)*. The policies presented in the *Plan* are guided by the objectives of the *Provincial Policy Statement (2005)* and play a role in directing the development of municipal official plans. This *Plan* is intended to direct growth and development within the Greater Golden Horseshoe region until 2031 with regard to a suite of Provincial objectives. More specifically, the *Plan* aims to direct land use planning through policies pertaining to transportation, infrastructure planning, urban and built form, housing, economic prosperity, and natural resource stock. Principles exemplified by this *Plan* include intensification and nodal development, protection of natural capital, heritage preservation, environmental and agricultural resource protection, and community development. Sections 2.2.2, 2.2.3 and 4.2.4 underscore support for adaptive reuse of existing structures as a viable strategy in the Greater Golden Horseshoe (*Places to Grow, 2006*) (See APPENDIX).

### 6.1.3 *Toronto Official Plan (2006)*

*Toronto's Official Plan (2006)* aims to establish a vision for the City and encourage land use and development decision-making that supports the principles of inclusiveness, diversity, economic competitiveness, and long-term urban sustainability. As such, the policies contained in the *Plan* are intended to support the development of vibrant and complete communities, Smart Growth, affordable housing options, physical and social connectivity, celebration of cultural heritage, health and environmental protection, and a strong local economy that offers vital employment and entrepreneurial opportunities. The City's holistic approach and commitment to urban sustainability indicates the potential for adaptive reuse as a critical strategy in supporting heritage preservation, efficient land use, and economic diversity (City of Toronto, 2009). Support for these initiatives is illustrated in the following

policies: section 2.2, policy 2, section 2.2.1, policies 1,3,4,and 5, section 2.2.4, policy 2, section 3.1.5, policies 1, 3, 4, and 7 (City of Toronto, 2009) (See APPENDIX).

## 6.2 FINANCIAL AND PLANNING INCENTIVES

The review of existing literature and research findings presented above indicates the role of financial and planning-based incentives in encouraging private sector interest in adaptive reuse. Provincial sources of funding include the Ontario Heritage Foundation and SuperBuild, while grants, property tax rebates, waived development fees, and density “bonusing” are offered as potential municipal incentives. Funding is also available through the Federal Government through such programs as the Millennium Fund and Infrastructure Canada. Incentive strategies can offer both public and private benefit by leveraging private resources, risk, and investment in achieving municipal and provincial objectives. Development incentives are particularly instrumental in stimulating brownfield development, intensification, facade improvement, and revitalization (Shiple, Parsons, and Utz, 2006b).

A small number of development incentives are available through the City of Toronto, including density “bonusing”, although applicable options for adaptive reuse projects are somewhat limited or may be granted only on the basis of restrictive criteria (Shiple, Parsons, and Utz, 2006b). However, Toronto is committed to advancing urban sustainability and encouraging responsible resource use. According to the Climate Change, Clean Air, and Sustainable Energy Action Plan, the City aims to continue to encourage sustainable practices amongst Toronto’s residents and business owners (City of Toronto, 2007). The programs discussed below are not targeted towards adaptive reuse projects; however, they represent potential sources of funding where the project meets specific eligibility criteria.

Developers have access to a number of grant and funding programs in the City of Toronto, although eligibility is highly contingent upon individual project characteristics. The Toronto Heritage Grant Program, offered through the City Planning Division as part of the Community Partnership

Investment Program, provides funding up to 50% of project costs for properties designated under Parts IV or V of the *Ontario Heritage Act* (City of Toronto, 2011a). Secondly, the Live Green Toronto Grants Program offers both funding and human resources to not-for-profit groups taking action on climate change, air quality, and sustainable energy and resource use. Included under the Live Green Toronto Grants Program are a Community Investment Program, Toronto Capital Fund, and Sustainable Energy Funds, as well as several additional funding programs (City of Toronto, 2011b). For projects involving of large institutional and multi-family structures, the Better Buildings Partnership offers financial assistance and resources for energy-efficient construction or retrofits (Better Building Partnership, 2009).

Organizations, businesses, home owners, and institutions in the City of Toronto may also benefit from external programs offered through the Federal government and private corporations. The ecoENERGY Retrofit program, offered through the Government of Canada, awards financial support to homeowners, businesses, and public institutions aiming to upgrade facility energy efficiency. Available federal programs also include the EcoAction Community Funding Program and the Community Go Green Fund. Evergreen's Greening Communities and Public Spaces Program, Community Power Fund, Community Energy Program, Ontario Trillium Foundation, and Toronto Community Foundation represent examples of funding programs that are sponsored by non-profit organizations and corporations (City of Toronto, 2011b).

## 7.0 CASE STUDIES

The exploration of individual case studies in the following section is intended to offer an in-depth perspective on adaptive reuse praxis within the City of Toronto. The above discussions indicate that there are numerous economic, cultural, political and environmental arguments for pursuing an reuse approach to urban development; however, the research conducted to date has revealed a range of barriers to successful adaptive reuse, due to such concerns as planning restrictions, financial uncertainty, and safety, which are typically encountered by developers, organizations and property owners. Therefore, it is expected that the three cases below will shed light on adaptive reuse of post-industrial properties in Toronto as both a process and a goal, with an emphasis on site history, vision and project planning, development challenges, and function. The three projects, Wychwood Barns, Don Valley Brick Works, and the Distillery Historic District, were selected to represent variation in site history, functional evolution, ownership, location, architecture, and project focus.

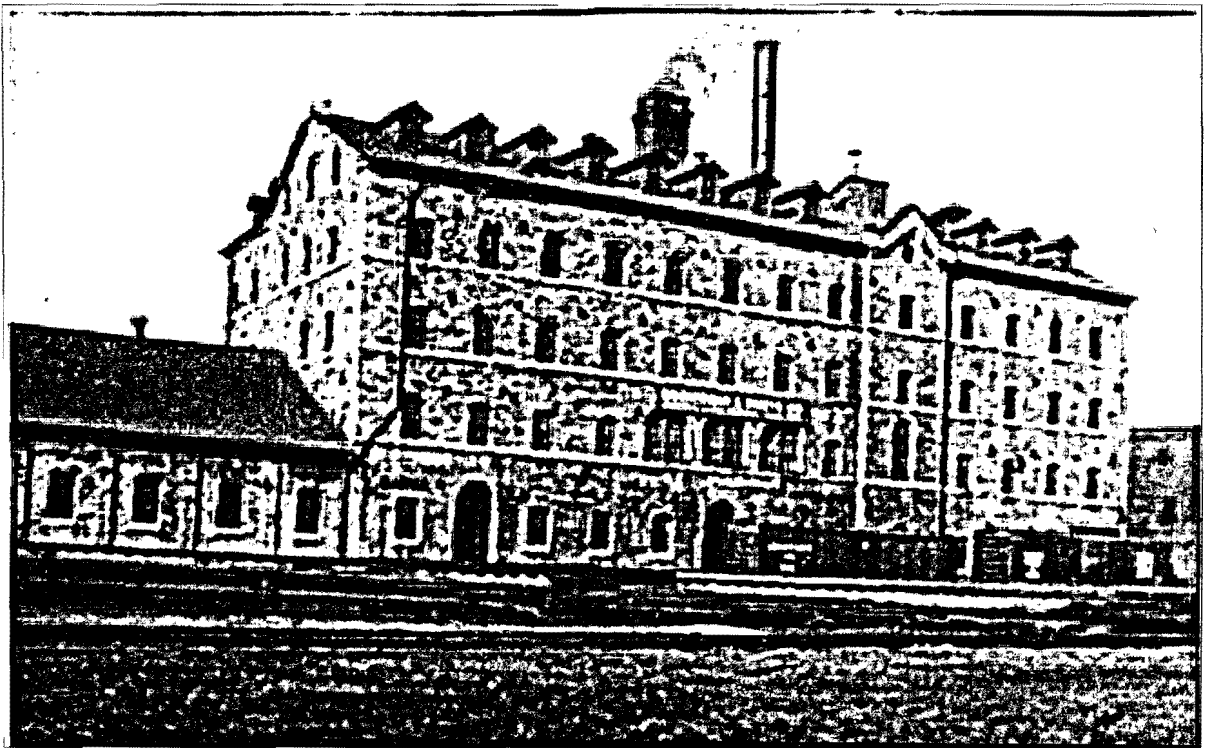
### 7.1 THE DISTILLERY HISTORIC DISTRICT

#### *7.1.1 Site Background and Context*

The Gooderham and Worts Distillery (*Figure 2*) is located in Toronto's historic 13-acre Distillery Historic District, consisting of 47 buildings (Parks Canada, 2008) and situated between Toronto's downtown and the Portlands (Kohn, 2010). The Gooderham and Worts Distillery was co-owned by partners James Worts and William Gooderham (Parks Canada, 2008). The Gooderham and Worts company evolved from a windmill operation to a major spirits distillery between the early 1830s and the 1890s (Artscape, 2011a), when the Gooderham and Worts company had become the largest distillery operation in Canada (Otto, 1988). Although the site remained active until the late 20<sup>th</sup> Century, the types of operations and goods produced at the facility evolved in response to external political and market trends, including Prohibition and the First World War. Thus, at various stages throughout its

history, the original site housed a windmill, a stone flour mill, a mill-distillery, a malting house, a pure spirits building and tank and rack houses (Artscape, 2011a).

The Gooderham and Worts brewing company ceased operations in 1990, after which the District became a prime filming location. The novelty of the Distillery Historic District is its Victorian-style industrial brick buildings, old distilling vats, formation tanks, and other industrial relicts, including pipes, filters, centrifuges, and rotary bottle fillers (Kohn, 2010). Fortunately, rigorous maintenance efforts by the Gooderham and Worts corporation helped to preserve the integrity of the original structures (Otto, 1988), most of which were constructed between 1889 and 1900 (Parks Canada, 2008).



*Figure 2.* Gooderham and Worts Distillery, circa 1950. [Source: Archives of Ontario. (2009). Gooderham and Worts Distillery buildings. Digital Image Number: I0013979.JPG. Queen's Printer for Ontario. Retrieved from <http://ao.minisisinc.com/scripts/mwimain>].

Although the brewery was not decommissioned until 1990, the site was designated as an area of “National Historical Significance” by the Federal Government as early as 1988. Early plans for redevelopment stipulated that the facades of the historic buildings be left intact, while the property



owners at the time recommended that future plans might include a mixed-use residential, commercial and retail development. These original schemes proposed demolitions for some of the original buildings, while integrating several of the warehouses served as base structures for high-rise towers. Incidentally, in the time taken for the plans to be approved, the property market fell into a state of decline and the project was deferred (Kohn, 2010). Thus, the site remained inactive until 2001, when the site was purchased by the local firm Cityscape (Parks Canada, 2008). By 2003, the site had emerged from a decade of dereliction as a locally acclaimed tourist destination that offers art galleries, studios, and restaurants (Kohn, 2010).

#### *7.1.2 Project Vision and Planning Process*

Two key characteristics rendered the Distillery Historic District a lucrative commercial opportunity. The first characteristic was its proximity to the downtown core, which indicated the profitability of high-rise residential and commercial development in the area. Secondly, the architectural heritage features and structural integrity of the buildings offered an opportunity to redevelop the District to reflect an alternative and local-focused neighbourhood character. The redevelopment project, which was led by Cityscape, was accomplished through a partnership with ERA Architects and Artscape, which is a non-profit firm dedicated to linking the arts with cultural resources (Kohn, 2010).

The decision to convert the Case Goods Warehouse into below-market rent studios for local artists was championed by Artscape. The development choice helped to establish the District as a place for local artists and attract additional investment through the recognition of local culture. Importantly, the inclusion of below-market accommodation, represented as a “community benefit”, provided a case for requesting density “bonusing” from the City of Toronto under Section 37 of the *Planning Act*. Achieving this zoning concession through the City planning division permitted the developers to go ahead with high-rise residential towers, although prohibited under original zoning regulations. Although

the definition of an eligible “community benefit” under Section 37 typically referred to the provision of parks or affordable housing, the project represented one of the first instances where the term was expanded to include live/work studios and in other cases, ravine preservation. In the case of the Distillery Historic District, the provision of artist studios served not only as a benefit to the community, but also to the project sponsors as a tool to attract subsequent investment (Kohn, 2010).

Although the project is largely considered a success, the developers faced several critical challenges throughout the project planning phase. First, securing the necessary zoning permissions for the planned high-rise developments represented a major challenge in the initial stages of the project. As previously noted, the project leaders faced difficulties in achieving the needed provisions under Section 37 of the *Planning Act* in addition to leveraging public financial support (Kohn, 2010). Permissions to build the residential towers and retail complex on the Distillery site were appealed before the Ontario Municipal Board, as the City had failed to respond within the prescribed time period. After hearing arguments pertaining to urban design, heritage, and planning and claims that the District’s heritage character would be preserved, the proposal gained conditional approval. The Board’s decision included an Official Plan Amendment, a Section 37 Agreement, and an Amendment to By-Law No. 1994-0396 (Ontario Municipal Board, 2008).

Due to the marginal placement of the District, which is nestled within a notably undesirable industrial zone, the project required an innovative marketing scheme in order to attract interest from high-income residents (Kohn, 2010). Interestingly, some of the developers opted to found restaurants in the District in response to the challenge of securing lease agreements with existing restaurant owners (Parks Canada, 2008). Perhaps the most critical challenge was establishing an effective adaptive reuse scheme while at the same time ensuring marketability, adhering to building and safety codes, and preserving valuable heritage components. Key considerations during the development process included

the refurbishment or replacement of discontinued building materials, the architectural period that would be characterized by the conservation scheme, the availability of expertise, tenant willingness to incorporate the “raw” elements of industrial heritage, and lastly, how best to incorporate industrial heritage into a contemporary development in way that reflected heritage and function (Parks Canada, 2008).

### 7.1.3 Current Role

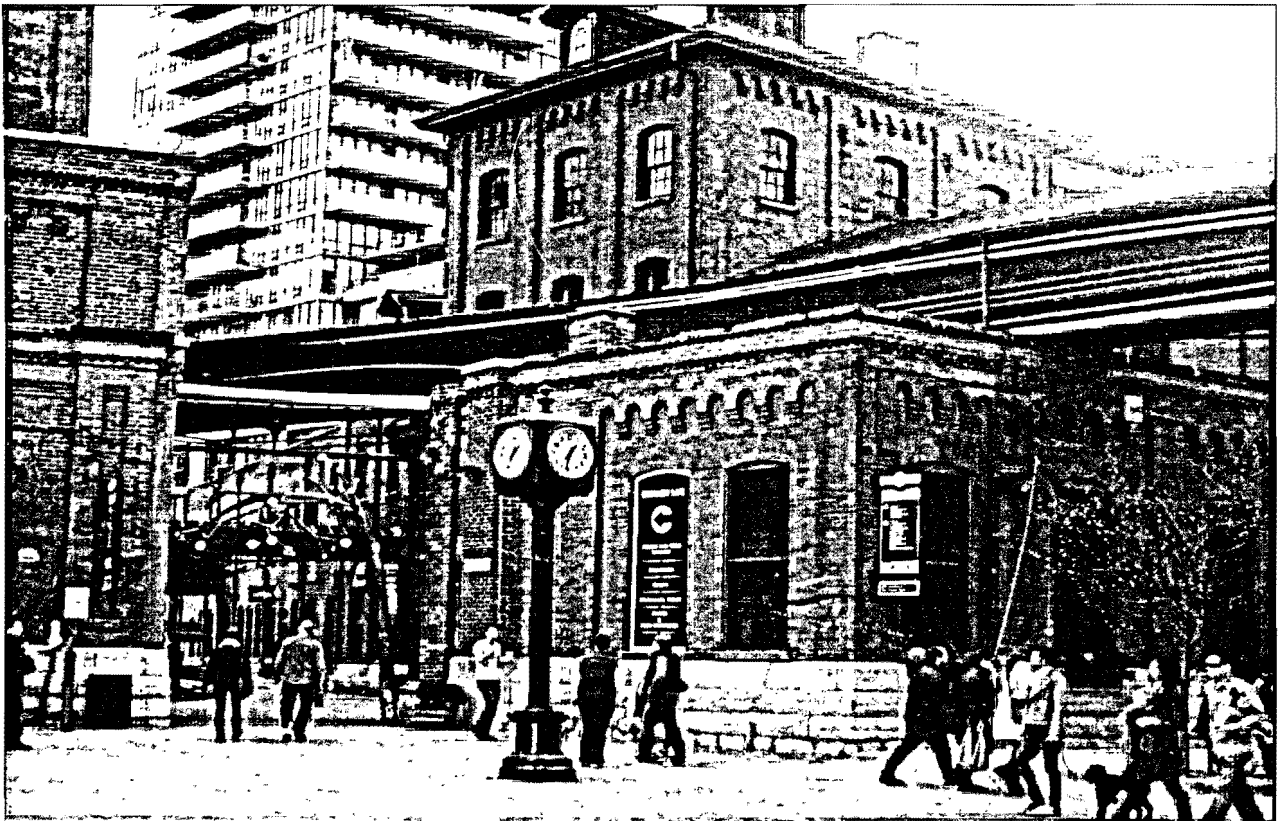
The revitalization of the Distillery Historic District was primarily a commercial endeavour that was intended to boost property values and reap profits within the industrial neighbourhood. However, while profit represented a substantial factor in the equation, the revitalized Distillery Historic District as designed to provide an alternative to the generic character of big box stores and chain corporations (Kohn, 2010). Today, the Distillery Historic District offers an array of locally-sponsored establishments and activities that include jewellery stores, art galleries, ceramic studios, (Figure 3) theatres, dance studios, a farmers market, festivals, speciality food retailers, pedestrian walkways (Figure 4), restaurants and bars (Figure 5), and high-rise residences (Figure 6) (Artscape, 2011a; The Distillery District, 2011).



Figure 3. Building modified for cafes and artisanal shops. [Photographer]. Photographed April 2, 2011].  
Figure 4. One of the pedestrian walkways in the District. [Source (a, b): Faria, K. [Photographer]. Photographed April 2, 2011].



*Figure 5. The main pedestrian promenade within the Distillery Historic District [Source: Faria, K. [Photographer]. Photographed April 2, 2011].*



*Figure 6. High-rise residential towers alongside adapted industrial structures. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].*

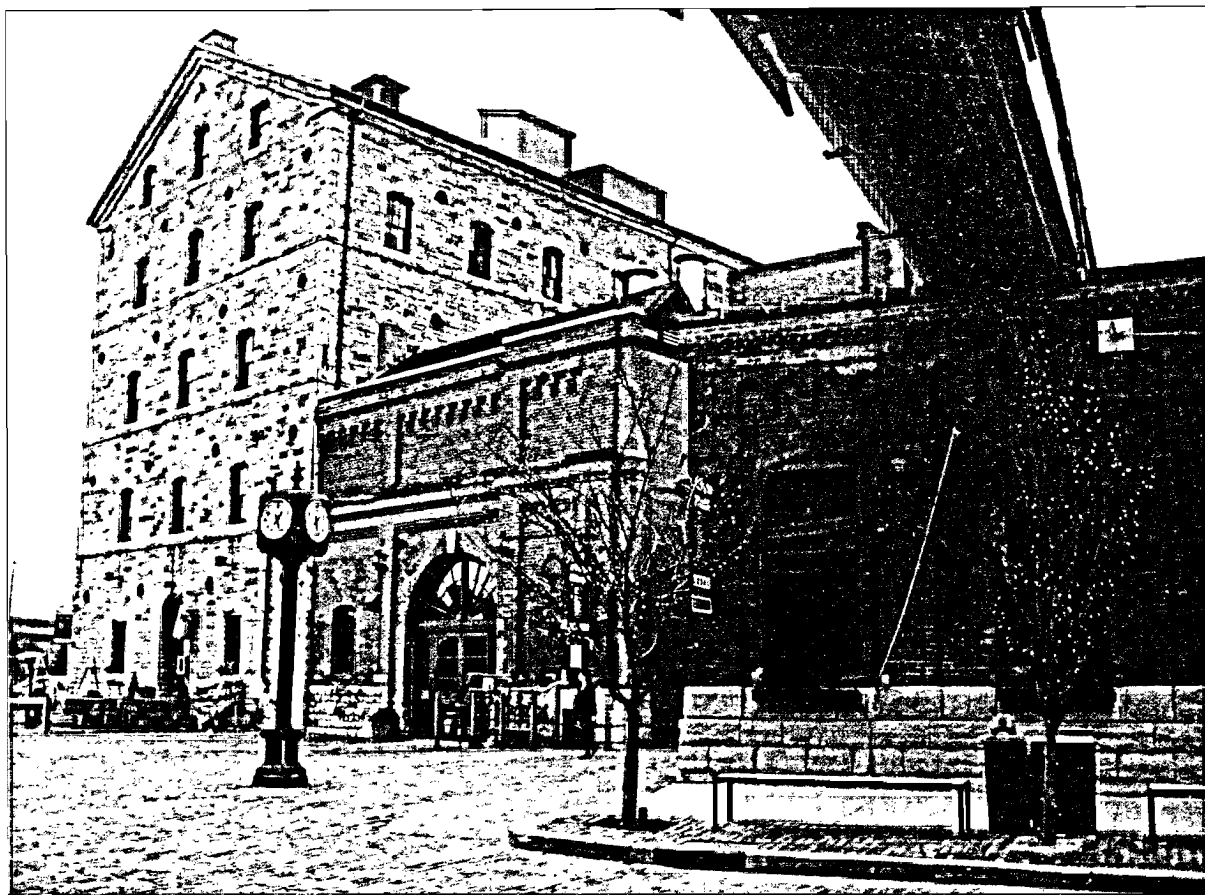
Although the exclusion of corporate retail and commercial chains has received considerable praise, the District has been described by some critics as a gated community, due to the presence of architectural barriers and a layout that may present navigational difficulties for the unfamiliar visitor. Issues have also been raised regarding the effectiveness of mechanical systems and the absence of crowds within the pedestrian streets during off-peak times. Despite the criticisms, the District project was granted the Best Large Project Award from the Canadian Urban Institute as well as the Governor General's Award for Historic Renovation for its combined success in preserving historic character (Figures 7 and 8) and integrating community benefit with profitability (Figure 9) (Kohn, 2010).



Figure 7. Retained architectural detailing along the main pedestrian street. [Source (a, b): Faria, K. [Photographer]. Photographed April 2, 2011].



Figure 8. An original chimney behind the Distillery. . [Source (a, b): Faria, K. [Photographer]. Photographed April 2, 2011].



*Figure 9. The redeveloped Gooderham and Worts Distillery (left). [Source: Faria, K. [Photographer]. Photographed April 2, 2011].*

The developers' success in encouraging a uniqueness of character was partially achieved through support offered to local artisanal communities and local businesses via the provision of below-market studio (Kohn, 2010). The aim of Cityscape to maintain the heritage character and 'feel' of the District is underscored by the tenant application process, which requires all tenants to demonstrate a clear commitment to the preservation and celebration of local heritage through design and activity. According to one source, eight of every ten unit applicants do not meet these heritage criteria and therefore, a large proportion of applications for rental space are declined (Parks Canada, 2008) These efforts to retain highly visible and powerful elements of the local history make the revitalized Distillery Historic District a unique example of adaptive reuse. Unlike many projects that retain the most desirably elements of the original structure, the Distillery Historic District retains the industrial history of the

space, including characteristics associated with production and decay (Kohn, 2010), while permitting a degree of flexibility for future evolution. Furthermore, this case revolved around the revitalization of individual buildings and a particularly keen attention to the context in which they are situated. These characteristics of design have contributed to the re-formation of a space that does not stand as a static historical exhibit, but links current function with the goal of conservation (The Distillery District, 2011).

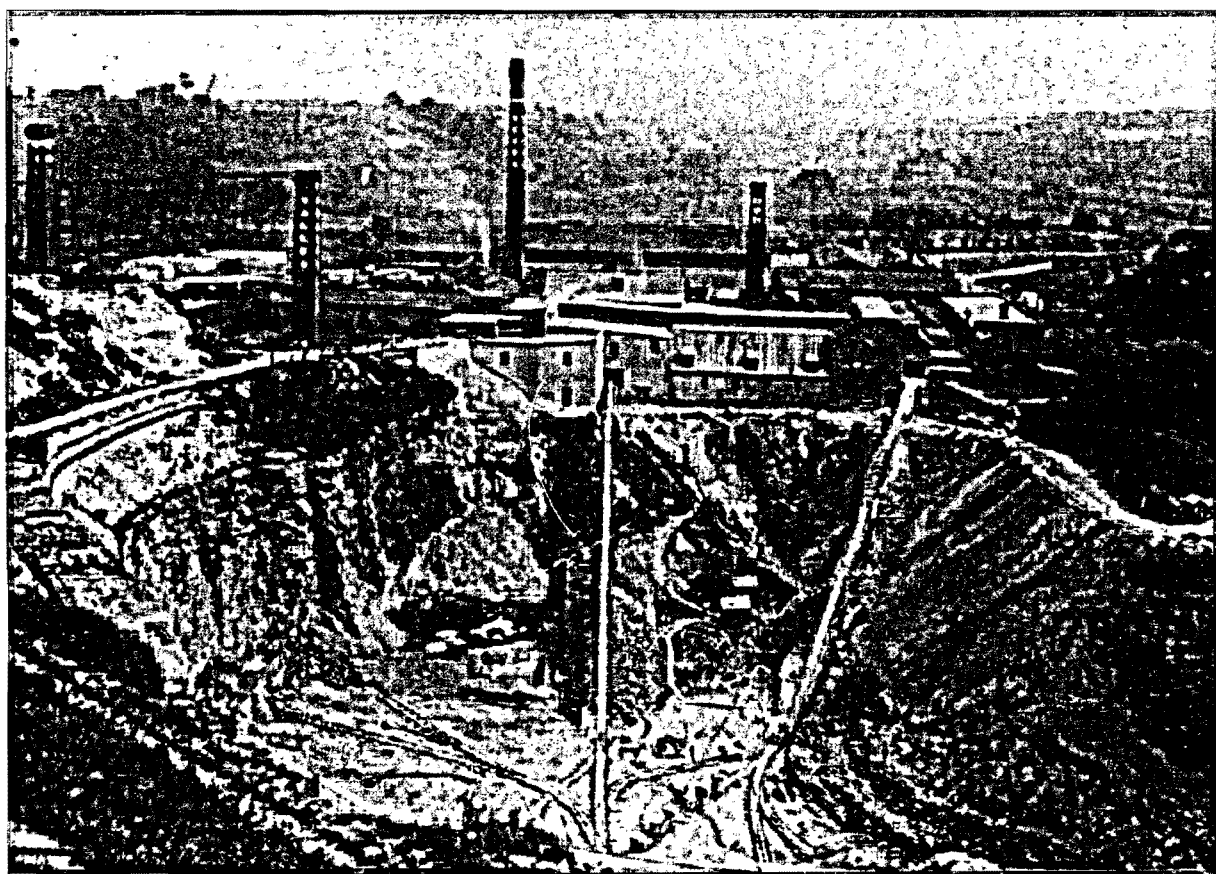
## 7.2 DON VALLEY BRICK WORKS

### 7.2.1 *Site Background and Context*

The Don Valley Brick Works is situated within the lower Don Valley Ravine, which defines the easternmost edge of Toronto's downtown. Due to the central location of the Ravine, this corridor has served as an area of agriculture, industry, recreation, and transportation. As the Town of York (later named the City of Toronto) developed from its nascent beginnings as a trading post, the Don Valley served as an invaluable resource for the region's rapidly expanding industrial base and offered waterway access to Lake Ontario, natural resources, and a source of hydropower. In the late 18<sup>th</sup> Century, the Don Valley was the site of desirable homes and civic institutions, while subsequent development in the corridor brought mills, distilleries, and breweries. During the 1880s, a shipping channel was added to the river, the industrial lands were expanded, and the corridor was fitted with a railway. Later, the construction of the Don Valley Parkway further enhanced the transportation capacity of the corridor. In response to a the development of environmental issues associated with local industrial practices, several prominent regeneration initiatives aimed at restoring the environment of the Don Valley were launched in the mid- to late-20<sup>th</sup> Century (Evergreen, 2006).

One of the most prominent industries within the Don Valley was the Don Valley Brick Works operation, which was founded by the Taylor Brothers in 1889. The location of the facility permitted access to clay, shale, sand, and water from the quarry (*Figure 10*), which was established to the north of

the facility, and nearby waterways. The bricks produced at this facility, which were distributed throughout North America, can be found today in some of Toronto's most well-known buildings. The original brick-making process involved soft-mud that was moulded, dried, and baked. Later processes were diversified to include new types of brick, kiln techniques and automated productions. When the quarry resources were nearing over-extraction in the 1980s, the facility was sold to Torvalley Associates Ltd. The site was temporarily leased to Brampton Brick before closing in 1989 (Evergreen, 2006).



*Figure 10. Historic image of the Brick Works quarry in operation. [Source: Evergreen. (2007, December). Master plan update: Evergreen Brick Works. Retrieved from <http://ebw.evergreen.ca/files/EBW-Master-Plan-Update.pdf>].*

### *7.2.2 Project Vision and Planning Process*

At the time that the property was sold to Torvalley Associates Ltd. in 1984, efforts were underway to fill the quarry and a housing development had been suggested for the decommissioned site. However, in a bid to preserve the environmental and historical integrity of the facility, the site was



purchased by the Toronto Region Conservation Authority (TRCA) in 1990 and rezoned as Open Space/Parkland. Two master planning studies were completed over the following five-year period, which led to the creation of the Western Quarry Garden, a reconnection between the Mud Creek and Don River, and several building and equipment restoration projects (Evergreen, 2006). In particular, the TRCA launched an ecological regeneration project at the site that was intended to facilitate partnerships and community involvement, stimulate jobs, highlight the geological and industrial heritage features, and remediate the Don Watershed (Metropolitan Toronto and Region Conservation Authority, 1993). The Don Valley Brick Works Park, opened in 1996, allowed public access to the natural features of the site (Figure 11). By 2002, the site has been designated as a heritage property under the *Ontario Heritage Act* and by the Province as an Area of Natural and Scientific Interest (Evergreen, 2011a). Despite the \$32 million invested in purchasing, preservation and partial restoration of the property, these efforts were largely piecemeal and thus, were not sufficient to halt the natural deterioration of the facility (Evergreen, 2006).

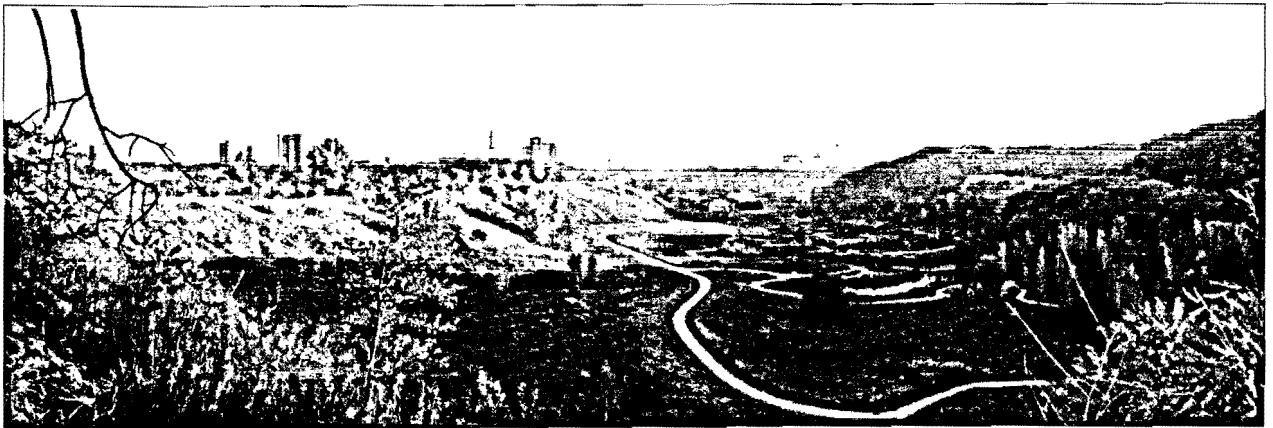


Figure 11. View of the Don Valley Brick Works Park from the north slope. [Source: Evergreen. (2006). Evergreen at the Brickworks: Final master plan. June, 2006. Retrieved from <http://ebw.evergreen.ca/files/EBW-Master-Plan.pdf>].

After a lengthy project planning phase and a proposal to the City of Toronto in 2002, the Evergreen organization was confirmed as the leader for the adaptive reuse of Don Valley Brick Works heritage structures. Initial plans focused on the establishment of a native plant nursery and outreach

programs for youth; however, the project developed into a proposal to create a mixed-use environmental complex that would reflect the natural, industrial, and cultural pasts of the area. The central objectives of the endeavour were the development of an adaptive reuse project that featured effective and visible green design, preservation of local industrial heritage, long-term economic feasibility, and meaningful connection to surrounding community network (Evergreen, 2006).

The vision for the Don Valley Brick Works project was grounded in regard for nature, culture, and community. According to the first theme, or 'nature', the project was intended to represent a living link between industry and economy, cultural activity, the build form, and the local environment (*Figures 12 and 13*). More specifically, visions for the project included plans for hands-on exhibits and programs that demonstrate a cultural connection to the natural environment and sustainable living. Secondly, the emphasis on culture was planned to celebrate local food production, theatre, music, and artisanal activity. Lastly, the project includes a focus on community. According to the theme of community, Evergreen hoped to foster community networks and participation through entertainment, art, and environmental programs (*Figure 14*). The central and synergistic goal of the multi-layered project was to work towards a new future through a re-interpretation of a shared past (Evergreen, 2006).

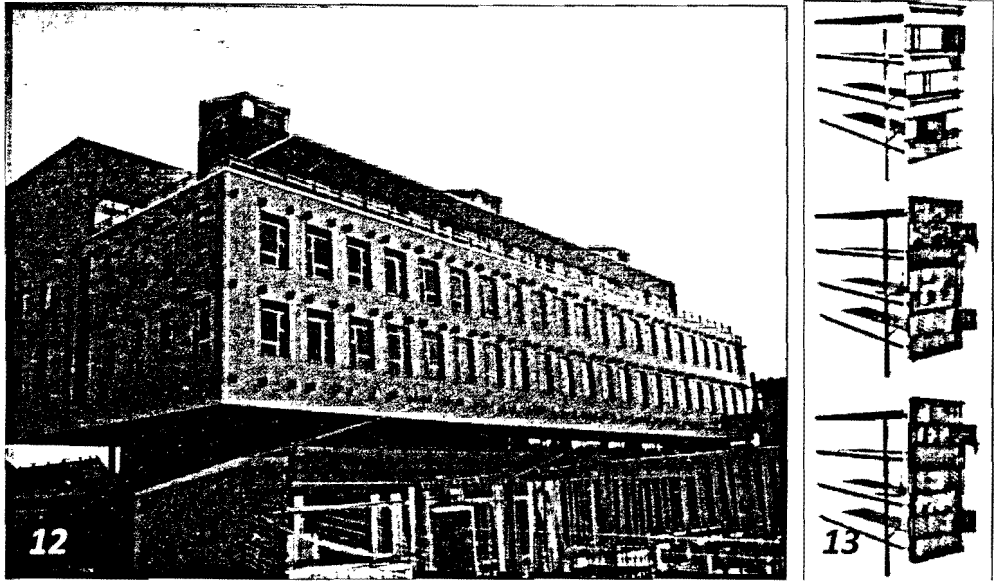


Figure 12. The Centre for Green Cities [Source: Faria, K. [Photographer]. Photographed April 2, 2011].

Figure 13. An exterior "skin" of screens, art, and window boxes. The movable "skin" will be fitted to the exterior of the Centre. [Source: Evergreen. (2007, December). Master plan update: Evergreen Brick Works. Retrieved from <http://ebw.evergreen.ca/files/EBW-Master-Plan-Update.pdf>]

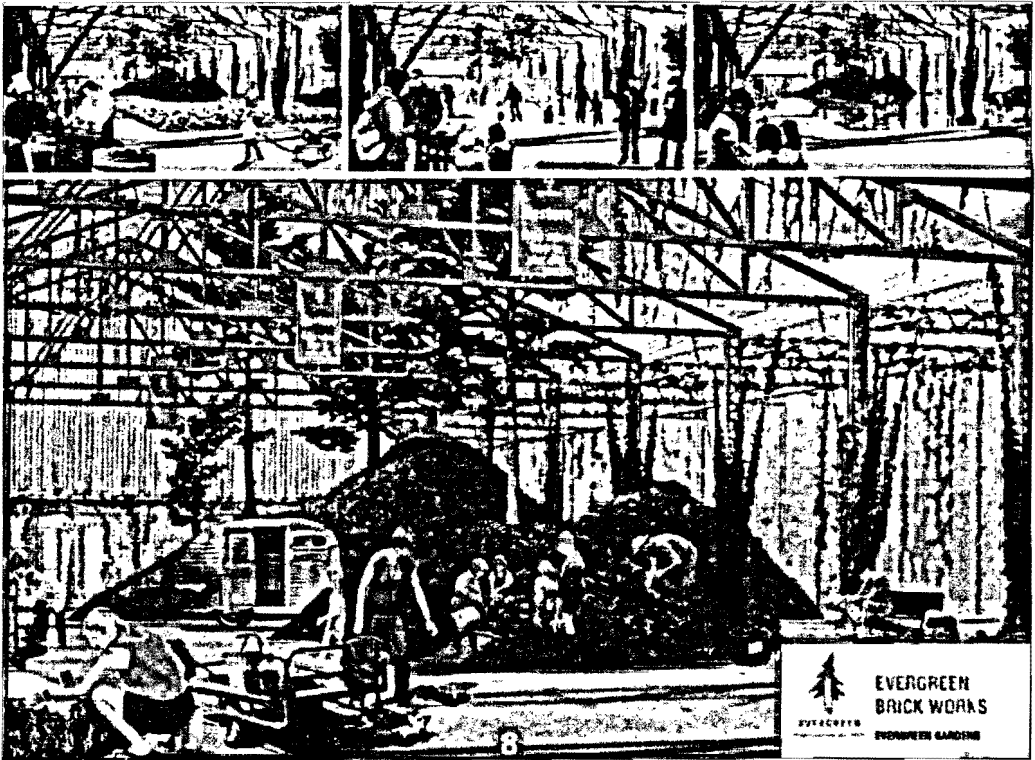


Figure 14. Rendition of potential seasonal programming with the Evergreen Gardens (now Koerner Gardens). [Source: Evergreen. (2007, December). Master plan update: Evergreen Brick Works. Retrieved from <http://ebw.evergreen.ca/files/EBW-Master-Plan-Update.pdf>].

Municipal Board, but were dismissed by the Board following a thorough review of evidence (Ontario Municipal Board, 2007).

The required funds for the project – approximately \$50 million – were derived from a variety of sources, including a \$10 million grant from the Provincial Government and a host of additional sponsors, including the Government of Canada, the Ontario Heritage Trust, the City of Toronto, the TRCA, as well as numerous private, institutional and corporate donors. Payments of the project costs have also been made possible through several capital loans offered by the Toronto Atmospheric Fund, Federation of Canadian Municipalities, Ashoka, and chartered banks (Evergreen, 2006).

### *7.2.3 Current Role*

In 2010, the Don Valley Brick Works was formally opened as a year-round community facility (*Figure 16*) (Evergreen, 2011a). Although portions of the project remain in the planning phase, this endeavour has created a profound impression on Toronto's urban landscape. Unlike the conventional image of a structural project, the Don Valley Brick Works represents a project that will always remain somewhat "unfinished", thus allowing for a constant adaptation of programmatic function as the surrounding community evolves. This revitalized Brick Works has been described as a community centre and living exemplar for urban sustainability programming. The goal of the project is to provide a hands-on and accessible community space for engagement and education for living more sustainably (Evergreen, 2011b). As such, education and outreach at the Brick Works are primarily accomplished via experiential and narrative-based modes of communication (*Figure 17 and 18*). The programmatic organization of the space reflects these communication strategies in community gardens, gardening workshops, camps and youth programs, and local history told through imagery, exhibits, design (*Figure 19*) and tours (Evergreen, 2006).

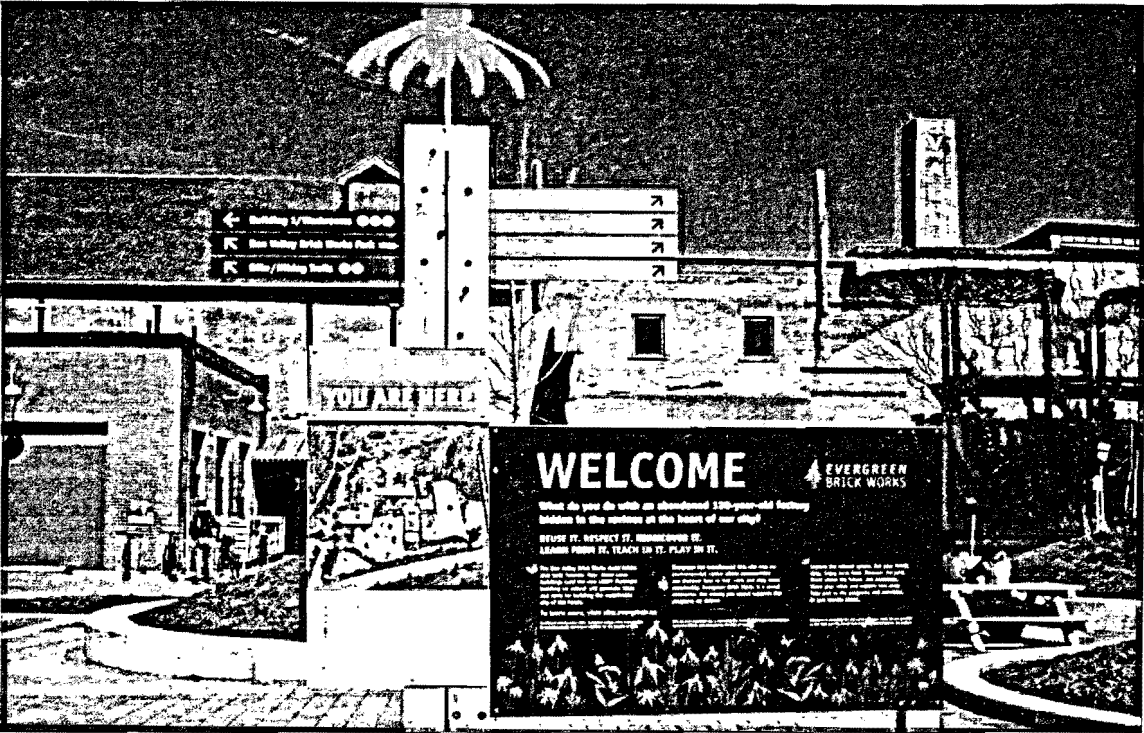


Figure 16. The main public access point to the facility (Brick Works Court). [Source: Faria, K. [Photographer]. Photographed April 2, 2011].

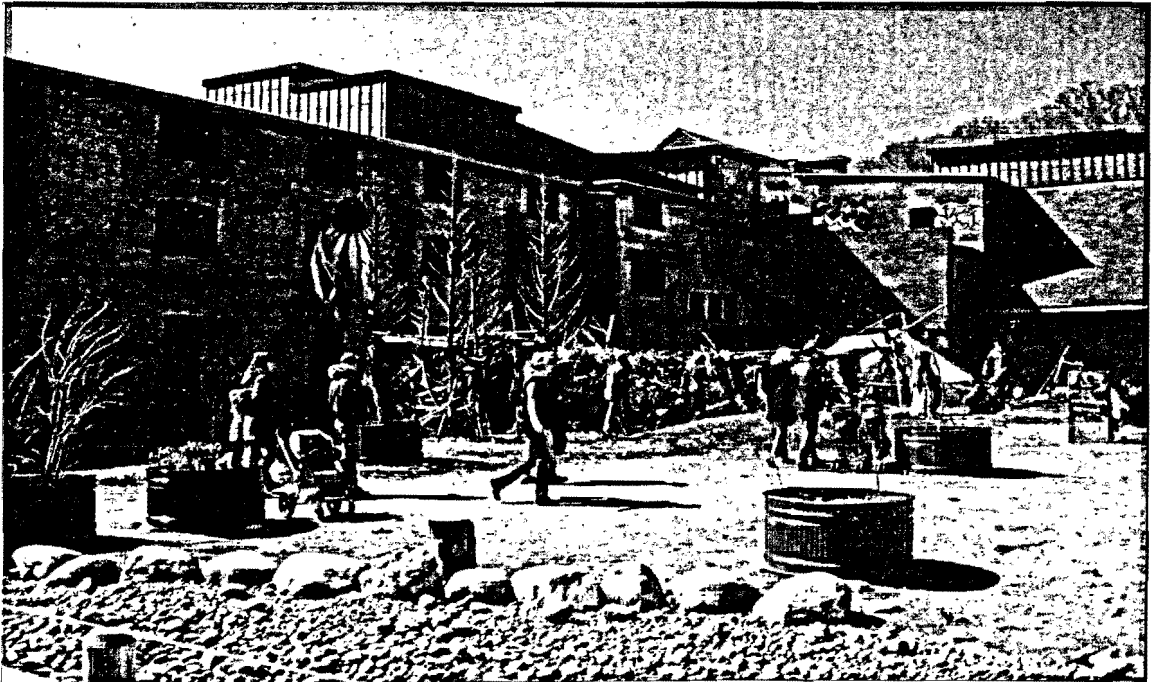


Figure 17. The outdoor children's demonstration space at the north end of the Industrial Pad. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].

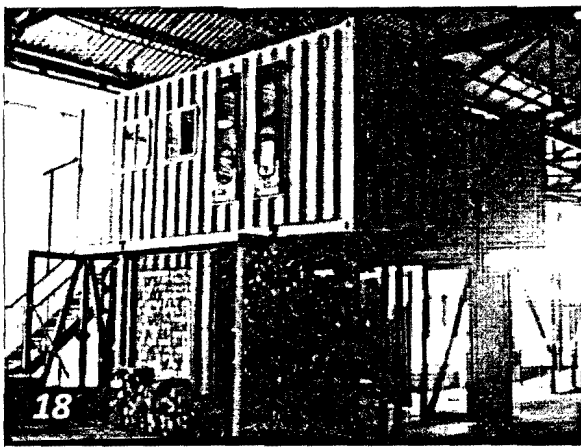


Figure 18. A demonstration shelter made entirely of recycled materials . [Source (a ,b): Faria, K. [Photographer]. Photographed April 2, 2011].

Figure 19. An artistic piece added as the facade for an adapted building [Source (a ,b): Faria, K. [Photographer]. Photographed April 2, 2011].

The project consists of 16 industrial structures, building between 1900 and the 1950s, and a 40-acre Don Valley Brick Works Park (Evergreen, 2011a). Programs and activities planned for the revitalized structures, many of which have been implemented to date, include a Welcome Centre, Evergreen Gardens, a Discovery Centre, gardens, restaurants offering local food products, administrative facilities, studios, and space for festivals and functions (Evergreen, 2007). As the project will be fiscally self-sustaining (Evergreen, 2006), operating costs will be derived from office and program space rentals, sales from the plant nursery and cafes, summer camps, parking revenue, and charitable donation (Evergreen, 2007).

Evergreen has succeeded in linking geological, ecological, and industrial heritage within a coherent project that showcases sustainable reuse approach. Once the site of resource extraction and industry, the building complex has been transformed into a facility that celebrates local culture and responds to community needs. Historical artefacts have been retained and preserved *in-situ*, including original machinery, kilns, chimneys, and buildings that offer both educational and aesthetic functions (Figures 20, 21, 22 and 23). The project's role in the community is delivered, in part, through collaboration amongst non-profit organizations, which include Outward Bound Canada, Jamie Kennedy

Kitchens, YMCA of Toronto, Merchants of Green Coffee, and FoodShare Toronto, which offer educational and outreach programs for families, individuals, and at-risk groups. Although the aim of the centre is to remain accessible and open, all partners and tenants at the facilities must abide by the Brick Works Values Charter in order to ensure that the goals of partners involved are consistent with the environmental and social objectives of the project (Evergreen, 2006).



Figure 20. An original waterway incorporated into the site design [Source: Faria, K. [Photographer]. Photographed April 2, 2011].

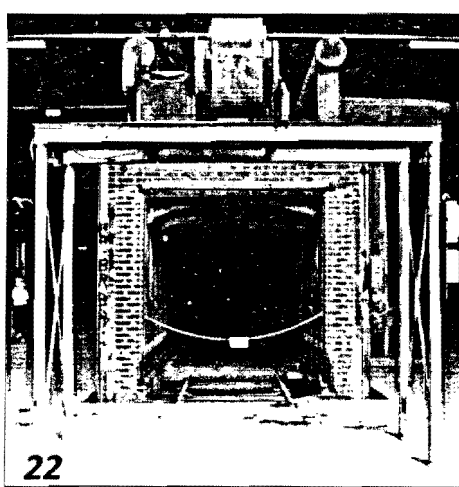
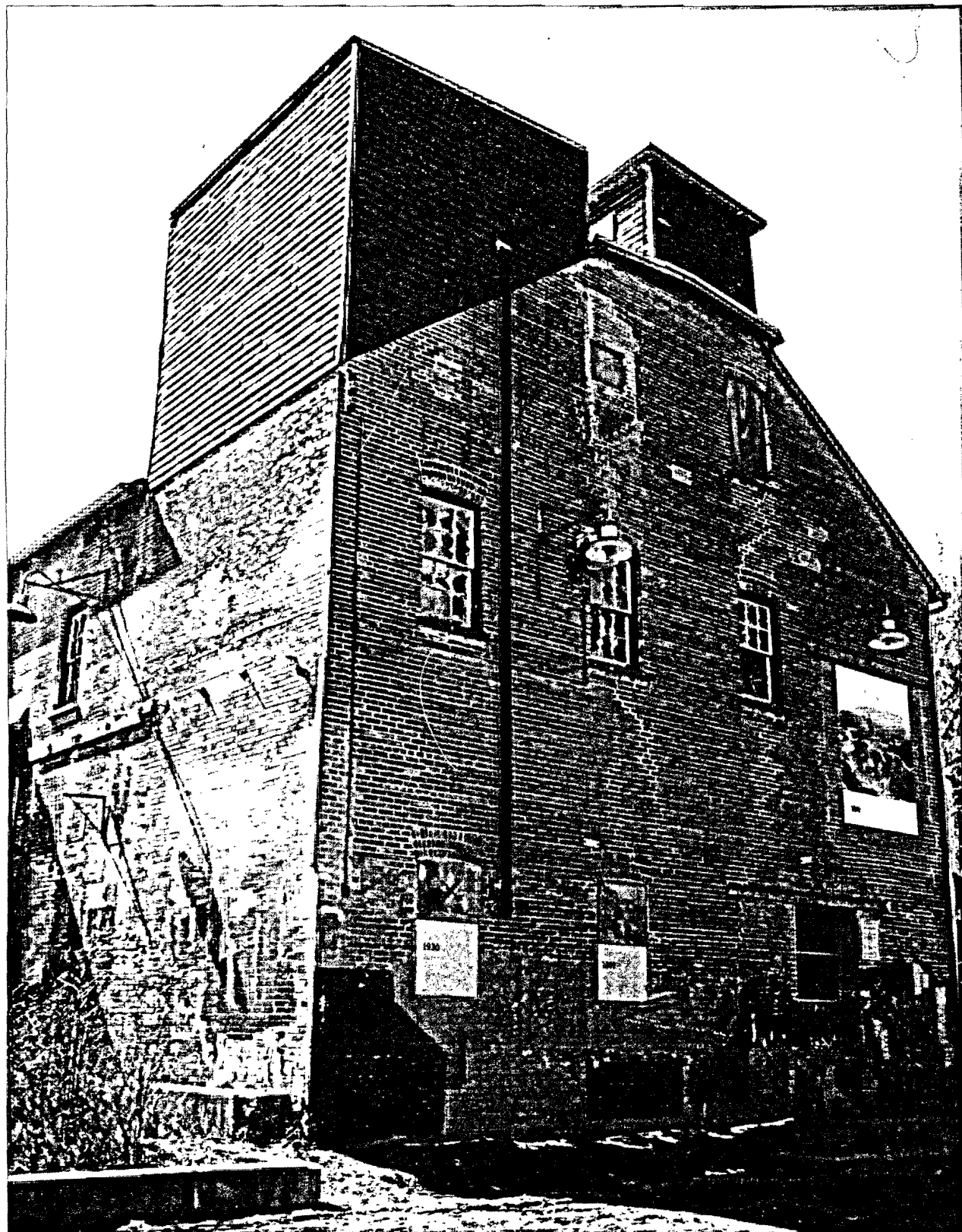


Figure 21. Preserved kilns in the Holcim Gallery, including graffiti that remains from the period between facility closing and redevelopment. [Source (a, b): Faria, K. [Photographer]. Photographed April 2, 2011].

Figure 22. Rows of single-track drying tunnels [Source (a, b): Faria, K. [Photographer]. Photographed April 2, 2011].



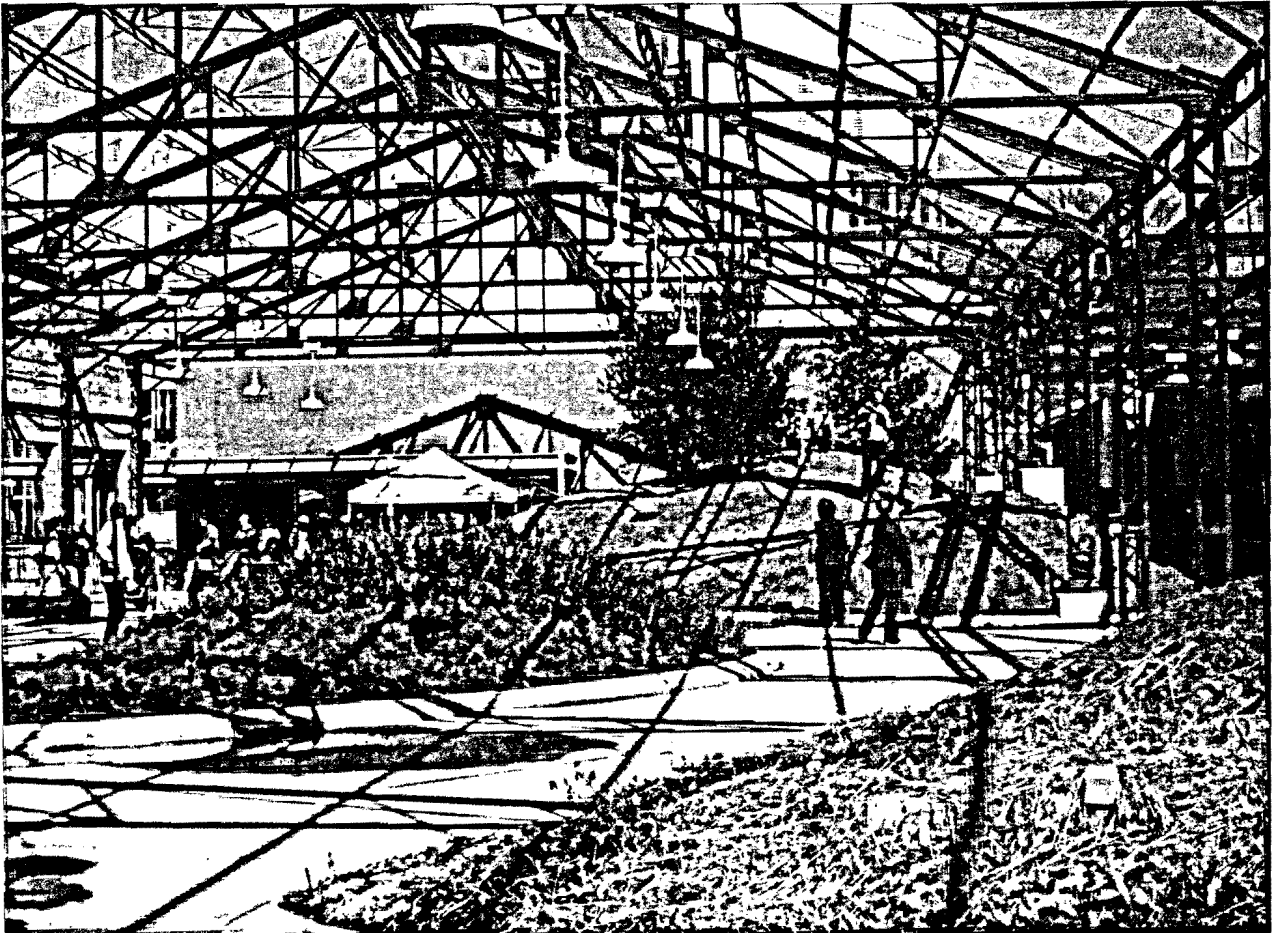
*Figure 23. Historical building with exterior images depicting the site's history. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].*



The inclusion of community gardens allows individuals and families to become involved in local and organic food production; these gardens also include a 20,000 square foot demonstration space that offers ecological education to school and community groups, home owners, and families. Opportunities for seasonal recreational activities including ice-skating (Evergreen, 2011c) and hiking are supported by the revitalized facilities and surrounding Don Valley Brick Works Park (Evergreen, 2011d). Weekly farmers markets, where local produce is available at affordable produce, workshops, and outreach educational programs for children and youth are held at the Pavilions (*Figures 24 and 25*) (Evergreen, 2011e). The Centre for Green Cities will house office space for organizations and researchers working towards innovative urban sustainability solutions, thus anchoring the goals of the project through the inclusion of a research centre (Evergreen, 2011f). Furthermore, the building complex includes meeting and work space for theatre groups, local artists, and woodworkers, as well as the Gardiner Museum of Ceramic Art (Evergreen, 2006). Among future project developments are a cafe, a climbing wall, and a number of garden and educational program expansions (Evergreen, 2011g).



*Figure 24. Weekly farmers market in the Young Welcome Centre. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].*



*Figure 25. The Koerner Gardens. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].*

Evergreen's commitment to incorporating green design into the adaptive reuse project provides a unique and positively reaffirming role in the community. Green features on and around the building complex include energy saving mechanisms, water conservation and storm water management strategies, minimal-impact materials, and waste diversion (*Figure 26*). Furthermore, adaptive reuse initiatives were planned to facilitate accessibility through green transportation methods and public transit. The Centre for Green Cities building will be awarded a LEED Platinum rating, thus making Evergreen an international leader in environmentally sustainable heritage buildings (Evergreen, 2011f).

The combination of energy-efficient systems and water-conservation technologies contributes to a 65% reduction in fossil fuel use and 60% reduction in municipal water consumption, respectively, in comparison to conventional systems and designs. Green design of the building complex includes high-

efficiency building envelopes, windows and solar chimneys that mitigate reliance on mechanical air conditioning, capturing of waste heat energy, solar heating and electricity generation, night building cooling (Evergreen, 2011h), green roofs, and smart lighting systems that minimize energy waste. Efforts to minimize storm runoff impacts and conserve water resources are achieved through porous pavement instalments (Evergreen, 2006), minimal-impact storm water channels and rainwater tanks that collect roof precipitation runoff for facility operations. The adaptive reuse of 95% of on-site structures represents a key conservation feature of the project. Moreover, building retrofits involve a combination of recycled, local, and biodegradable materials that attempt to minimize the embodied energy of the project. On-site wastes are curtailed through a “zero-waste” program. All on-site green features are accompanied by consistent performance benchmarking and monitoring strategies (Evergreen, 2011h).



Figure 26. Brick Works green design plan. [Source: Evergreen. (2006). Evergreen at the Brickworks: Final master plan. June, 2006. Retrieved from <http://ebw.evergreen.ca/files/EBW-Master-Plan.pdf>]

The green features of the Don Valley Brick Works facility are extended to the Brick Works Park (*Figure 27*). The ecological management strategy includes plans for the designation of 13 habitat zones, in which requirements and management activities will be designed to reflect the individual ecological and physical conditions of each zone. Appropriate types and intensities of use will be effectively managed through the establishment of use zones; thus, activities such as dog-walking and mountain biking will be discouraged throughout the entire site, while hiking will be permitted in two of the three use zones. Access points and Learning Stations have also been established within the Park in order to minimize unintended impacts of use and community engagement, respectively (Evergreen, 2006).



*Figure 27.* View of the Don Valley Brick Works Park and trail from the Industrial Pad. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].



## 7.3 WYCHWOOD BARNS

### *7.3.1 Site Background and Context*

The 53,000 square foot Wychwood Barns facility is located on a 4.3-acre property, which is bordered by St. Clair Avenue West to the North and comprises five decommissioned TTC streetcar maintenance facilities. The neighbourhood in which the barn facility is situated consists primarily of early 20<sup>th</sup> Century single-detached and duplex dwellings. The facility and surrounding residential community are located in close proximity to the commercial corridors of St. Clair Avenue, Bathurst Avenue, and Vaughan Road (Artscape, 2002). The neighbourhood also features the Wychwood Park residential community, once built as an artisanal garden suburb (Berland and Hanke, 2002) in 1892, that is made up of around 60 dwellings and a small ravine park (Artscape, 2002).

The five car barns were constructed between 1913 and 1921, initially planned to accompany the St. Clair and Landsdowne streetcar railway transit routes. The architectural features of the facilities, such as grand entranceways and arches, reflect early 20<sup>th</sup> Century classic revival styles. In 1921, the former Toronto Civic Railway (TRC) was merged into the Toronto Transit Commission (TTC). During its operating years, the Wychwood Barns served 10 transit routes and 167 streetcars; however, shifts in the predominant modes of transportation during the 1960s and 1970s, which included the rise of the private automobile, led to the closing of the car barns by the mid-1980s (Artscape, 2002).

In response to the appearance of neglect and deterioration of abandoned barns, plans to demolish the five car barns were put forth by the Toronto Transit Commission in 1996 (Berland and Hanke, 2002). However, following strong community recommendation to retain the structures for their heritage and architectural value, as well as the need to preserve the site from private development, the City of Toronto submitted a proposal to list the Wychwood Barns under the City Inventory of Heritage Properties in 1998. Later that year, the property was expropriated by the City of Toronto. By May of

2000, the City and the Wychwood Carhouse Working Committee, a local community group, had prepared several potential redevelopment schemes, which were presented for selection to a group of community stakeholders. The results of the public consultation indicated that the preferred scheme featured preservation and reuse of the 1913 building and dedication of the remaining land for private residences and a public park (Artscape, 2002).

### *7.3.2 Project Vision and Planning Process*

After the redevelopment scheme had been prepared, both an environmental assessment and architectural assessment for the site, commissioned by the City of Toronto in 2000, indicated that the property would require minimal remediation and the structures were suitable for adaptive reuse. Owing to the presence and integrity of unique heritage features at the site, the architectural report recommended that all five car barns should be preserved to the extent possible. In 2001, through collaboration amongst politicians and community members, Artscape was confirmed as the firm that would lead the reuse project (Artscape, 2002).

The direction of the adaptive reuse project for the Wychwood Barns, led by Artscape, was largely guided by a review of community needs and desires. In essence, the nascent project relied more on the identification of questions than on a deterministic vision for the site. As such, redevelopment options for the barns and surrounding urban park were developed through a transparent and accessible community consultation program (Artscape, 2002), the extent of which was previously unprecedented (Berland and Hanke, 2002). In addition to community consultation and on-site assessments, a critical review of case study was conducted to examine project precedents in European and other North American contexts (Artscape, 2011b).

The objectives of the consultation process included determining neighbourhood needs, encouraging engagement and dialogue, engage private and community cultural and financial resources,

and importantly, to establish a collective vision. The consultation program was guided by the Wychwood Barns Advisory Council, which was established to offer recommendation and leadership. A City Working Group was also launched to provide guidance on City planning matters; fund raising activities were managed by the Fundraising Advisory Panel. Components of the consultation process included collaborations with Councillor Joe Mihevc, a needs assessment survey involving non-profit and community arts representatives, charrettes, public meetings, and site tours (Artscape, 2002).

Among the results of the consultation phase were recommendations for a wading pool, sports courts (Berland and Hanke, 2002), transit museum, a skateboard facility, recreational space, retail, and performance and amphitheatre space. The majority of responses involved recommendations for live/work studios, while additional and compatible recommendations included a greenhouse or green barn, playground, community centre; a number of responses endorsed either the omission of live/work studios in the reuse project or conversion of the facility to urban green space. The aggregation of consultation survey responses led to proposals for several specific and feasible program components that offered space to live, work, play, and learn. The developed scheme offered a proposal for the inclusion of a Community Arts Barn, which would house office and programming space, studios, housing artist live/work units, an environmental centre within the Green Barn, and both a “covered street” and children’s play space (Artscape, 2002). Following a review and compilation of responses, each proposal for use was evaluated in regards to its intended and residual impact on local communities, fulfillment of the public interest, capital fundraising potential, and operating sustainability (Artscape, 2002; Berland and Hanke, 2002).

The four criteria described above are linked to a set of clear goals and objectives. The first objective calls for community programming and activities, which are intended to engage community youth, provide needed programming for seniors, establish a vibrant park environment that offers a

wealth of activities throughout the day and year, and forge lively connections between the external neighbourhood and facility activities. With regard for the character of the surrounding neighbourhood, the barns will be designed to minimize issues from excessive vehicular traffic, ensure a safe park environment, and encourage shared stewardship activity. The public interest will be regarded through a commitment to heritage and cultural resource preservation as well as enhancing the environmental and social sustainability of the facility. Objectives include the provision of affordable housing, accessible programmatic space, and support for artist and non-profit organizations. Objectives offered as part of the fund-raising initiative hinge on the long-term capacity to raise necessary funds from a variety of private and governmental sources. Furthermore, ensuring operational sustainability will require consistent support, engagement and risk-sharing, affordable rental rates, and revenues are sufficient to cover operating and capital expenses (Artscape, 2002).

A group of architectural firms and sponsors worked in collaboration towards the completion of the Wychwood Barns project. Although the project was led by du Troit Architects Ltd. the Stop Community Food Centre, The Dalton Company Ltd., Blackwell Bowick Partnership Ltd., Stantec Consulting Ltd., the Planning Partnership, ERA Architects Inc., and Gottschalk + Ash International provided development and operational support. Financial sponsors include the Government of Canada, Canadian Heritage, Canada Ontario Affordable Housing Program, Ontario Ministry of Culture, Ontario Trillium Foundation, Federation of Canadian Municipalities, Toronto and Region Conservation Authority, Canada Mortgage and Housing Corporation, and numerous other private, corporate and public sources (Artscape, 2011c).

The project planning phase did not proceed without debate and contention. Following proposals to demolish the barns, initial discussions involved intense disagreement regarding the meaning and function of an urban park. While some politicians and residents entertained images of a pastoral,



manicured park, results from consultations, design reviews, assessments and the feasibility studies alluded to a broader definition of an urban park and in effect, a direction for site development. More specifically, plans for the redevelopment reflect an interweaving of nature and built form. In later stages of the project, contention amongst NIMBYist stakeholders arose from concerns that patrons of the facility would bring drug use and illicit activity into the community (Berland and Hanke, 2002). Although dismissed as ungrounded, an appeal that challenged the financial viability, design of the urban park, and appropriateness of the live/work studio component was brought to the Ontario Municipal Board by a local resident (Ontario Municipal Board, 2005). However, it was arguably the intensity of public interest and animated discussions around urban theory that lead to a prioritization of public engagement throughout the planning stage and beyond (Berland and Hanke, 2002).

### *7.3.3 Current Role*

The Wychwood Barns complex, under ownership by the City of Toronto, was redeveloped as a 60,000 square foot community hub for cultural, recreational, and educational activities, as well as below-rent residences, cooperative urban agriculture and a model for urban sustainability (*Figure 28*). This multiuse facility is situated within an 127,000 square foot public park (*Figure 29*). Objectives of the barns project hinge on the value of leveraging community and private resources in working towards shared goals (Wychwood Barns Community Association, 2011). Construction on the reuse project commenced in March, 2007 and the revitalized facility was officially opened to the public in November, 2008. The completed facility now houses at least 43 live/work households, 11 artist and environmental groups and rental space for community events (*Figure 30*). Among the groups working within the facility are artistic and cultural organizations, such as The Association for Native Development in the Performing and Visual Arts, Helene Comay Nursery School, Story Telling Toronto, Local Enhancement and

Appreciation of Forests (LEAF), Latino Canadian Cultural Association, and New Adventures in Sound Art (Artscape, 2011b).



Figure 28. The Covered Street Barn. This barn is used to host markets, festivals, and art exhibitions. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].

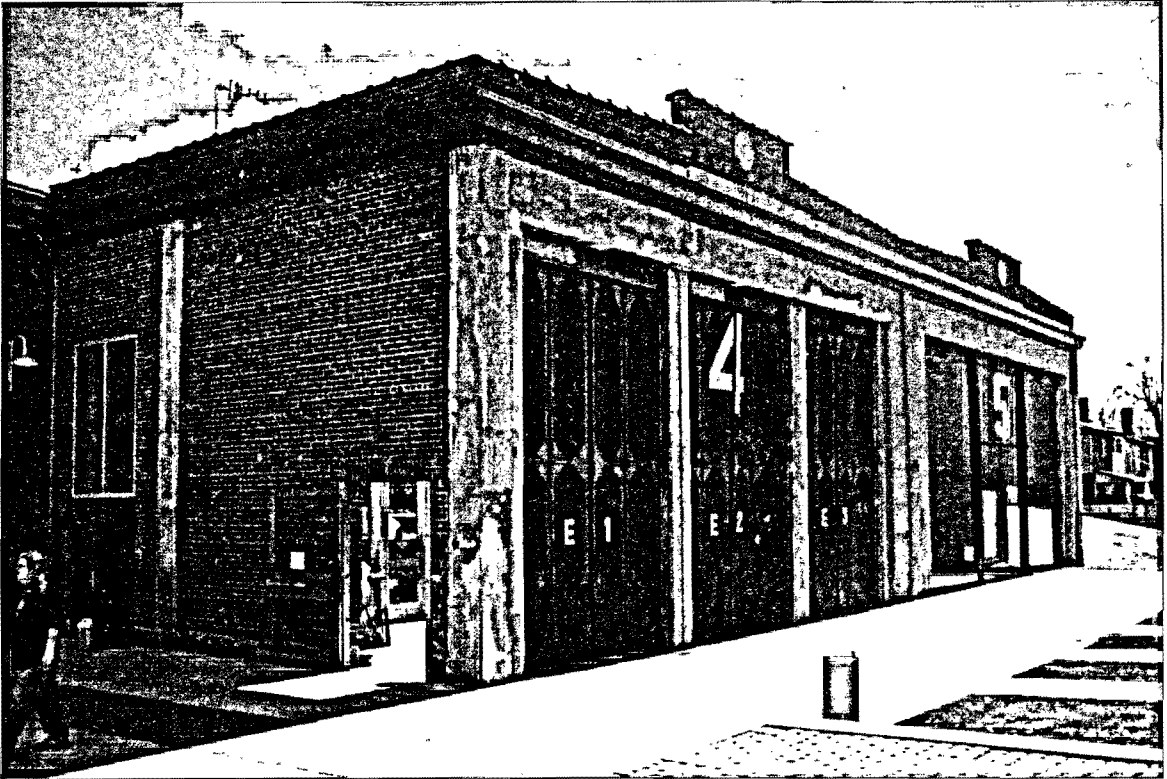


Figure 29. Wychwood Barns Park. The Park includes picnic space, pathways, a volleyball court, and a children's play space. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].



*Figure 30. Weekly farmers market held in the Covered Street Barn. The barn windows have been fitted with dated images depicting the historic of the car barns [Source (a, b): Faria, K. [Photographer]. Photographed April 2, 2011].*

The Wychwood Barns project offers a model for urban sustainability, while building on local histories and responding to evolving social needs. Although the facility has applied for a LEED certification, many historical architectural features associated with the original barn functions and period of development have been retained within the redevelopment (*Figure 31*). A number of innovative design features have been built into the redevelopment project that contribute to energy savings, greenhouse gas emission reductions, water conservation and site remediation. Environmental sustainability features, many of which are consistent with LEED criteria, include a rainwater capture tank and redistribution capacity for on-site operations, low water flow and low volatile organic compounds (VOCs) technologies, a white roof that mitigates the facility's contribution to the urban heat island, geo-thermal heating and cooling, and recycled construction materials (Artscape, 2011d).



*Figure 31.* The adapted fifth and sixth car barns. They have been retained as an outdoor walkway and the Stop Community Food Centre's Green Barn, respectively. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].

Reliable provision of affordable and functional space is one of the key purposes of the redevelopment project. The Wychwood Barns serve a number of not-for-profit groups by providing sufficient meeting and work space for specific operations and functions (Artscape, 2011c); thus, the Wychwood Barns facility plays a keystone role in supporting the activities of grassroots and advocacy groups that are committed to engagement, mentorship and support for the marginalized populations, as well as the surrounding community. The role of the facility also extends to the 'incubation' of various burgeoning organizations that are working towards achieving market or field competitiveness. Individual skill development is likewise supported through community outreach programs and the provision of live/work studios (*Figure 32*) (Artscape, 2011b,c).



Figure 32. The Studio Barn. The Studio Barn houses 26 below-rent live/work studios. [Source: Faria, K. [Photographer]. Photographed April 2, 2011].

Social outreach is achieved through community education, development and learning programs, and opportunities for engagement. Educational opportunities at the Barns include a play-based nursery school, adult food education, theatre programs for children and adults, storytelling courses, and tree-planting workshops. The facility is also host to a cooperative food program, which aims to encourage active participation in local agriculture and enhance access to quality food sources (Figures 33, 34 and 35). The facilities also include a public park, a gallery featuring local art, and available space for festivals and private events (Artscape, 2011b,c; Berland and Hanke, 2002).

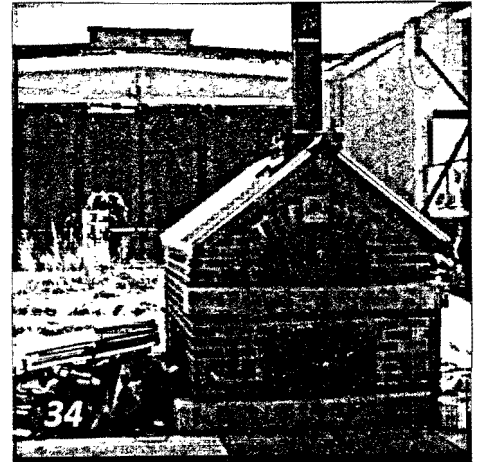
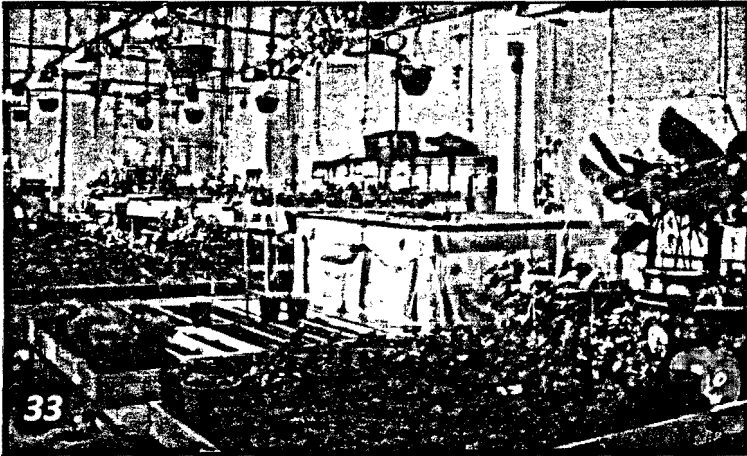


Figure 33. A year-round temperate greenhouse. The greenhouse is used for local food production in the Stop Community Food Centre's Green Barn. [Photographer]. Photographed April 2, 2011]

Figure 34. An outdoor bake oven for on-site food preparation. [Source (a, b): Faria, K. [Photographer]. Photographed April 2, 2011]

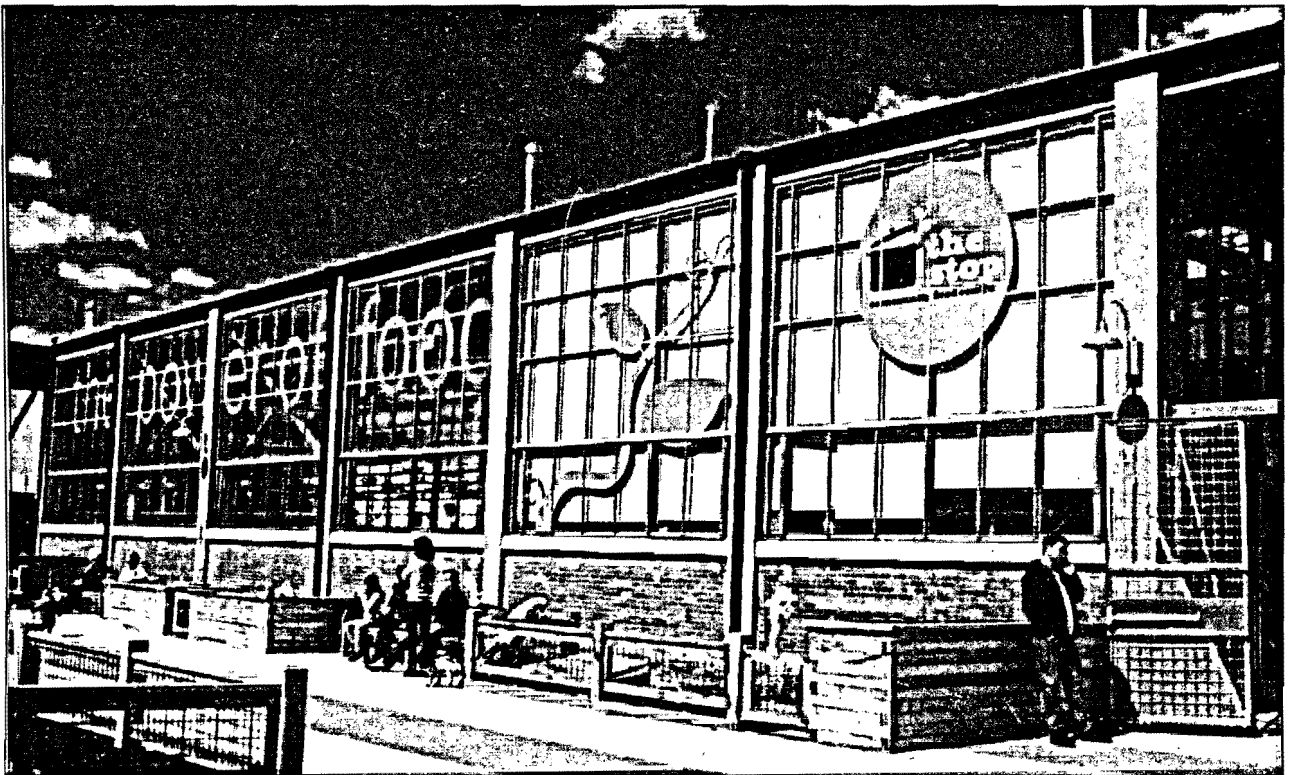


Figure 35. The Stop Community Food Centre's Green Barn [Source: Faria, K. [Photographer]. Photographed April 2, 2011].

## 8.0 DISCUSSION: LESSONS FROM PRECEDENTS

The three case studies and literature explored above provide vital information regarding the praxis of adaptive reuse, barriers to successful implementation, and the social and environmental impacts of adapting existing buildings. Among the most well-cited benefits are lower costs of adapting an existing structure (Shen and Langston, 2010), celebration of architectural heritage, and environmental sustainability by capitalizing on ‘spent’ embodied energy (Bullen and Love, 2010). The case studies offer an experiential illustration of this range of cultural, social, environmental, and financial benefits of adapting sound existing structures. It should be noted, however, that instances exist where the benefits accrue primarily to private organizations and a number of individuals who make use of the facility; thus, the advantages described in this section are intended to illustrate the *potential* of reuse. Table 1 provides a summary of the three Toronto case studies, which includes details of the adaptive reuse project, a snapshot of site history, and a summary of current functions,

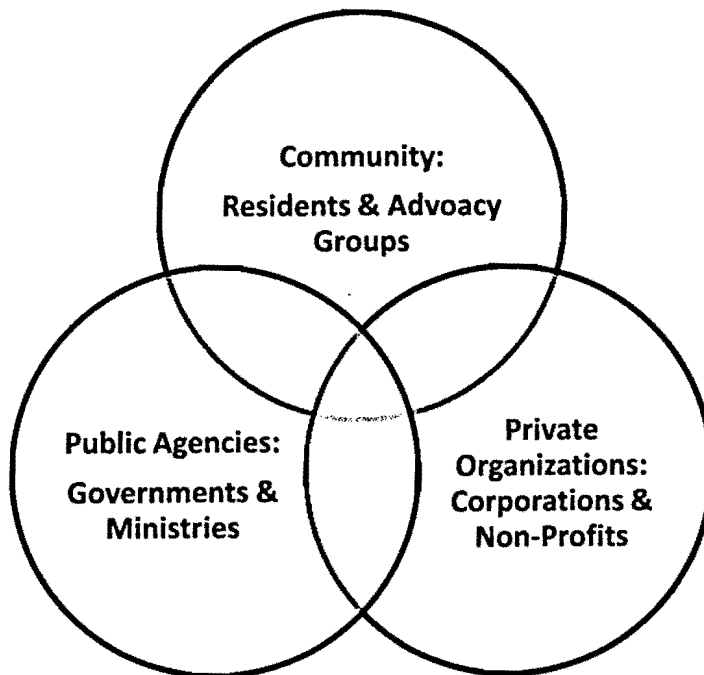
Project	Location	Historical Use(s)	Project Timeline	Project Goals	Current Use
The Distillery Historic District , Artscape & Cityscape	Toronto Lakeshore, West of Toronto Portlands	Windmill Flourmill Malting House Spirits Brewery	1988 – Designated “National Historic Significance”  1990- Brewery operations cease  2001- Purchased by Cityscape  2003- District opens as tourist street	Commercial Venture  Heritage Preservation  Space for: Artisans, Tourists Residents	Vibrant pedestrian street  Shops Studios Restaurants Galleries Apartments Theatres
Don Valley Brick Works, Evergreen	Lower Don Valley Ravine	Brick-Making Facility  Quarry	1980s – Concerns of quarry resource over-extraction  1984– Site sold to Torvalley Associates Ltd.  1989 – Facility closing  1990 – Bought by TCRA  1996- Don Valley Brick Works Park opens  2002 – Designated under <i>Ontario Heritage Act</i>  2010 – Opens as a year-round facility	Heritage Preservation  Model for Sustainable Living  Food Equity  Outreach & Community Engagement  Space for: Artisans Researchers Residents	Accessible, multiuse model for sustainable urban living  Farmers’ Markets Youth Programs Offices Educational Programs Urban Agriculture Restaurants Recreation Special Events Studios
Wychwood Barns, Artscape	Downtown Toronto, Near Bathurst at St. Clair	Streetcar Maintenance Facility (Car barns)	1980s – Car barns close  1996 – City of Toronto proposes demolition of the car barns  1998 – Wychwood Barns listed under Toronto Inventory of Heritage Properties  1998- Site expropriated by the City of Toronto  2008- Opening of the redeveloped site	Community Programming  Engagement  Support for Local Artisans  Heritage Preservation  Accessible Public Space  Food Equity	Community hub for cultural and educational activities  Live/Work Studios  Urban Agriculture  Parks & Nurseries  Meeting Space  Theatres  Galleries

Table 1. A summary of case study key findings.



## 8.1 STAKEHOLDERS AND DISTRIBUTION OF BENEFITS

Stakeholders in the three Toronto examples, both direct and indirect, include local residents and taxpayers, charity and advocacy groups, public agencies, and private corporations (*Figure 36*). Decisions regarding which components will be retained, for whom and how the structure will be designed, allocation of redevelopment costs, distribution of revenues, and who will benefit from the project are determined through interactions amongst the City, private firms, and community associations; however, the weighted importance of each party in directing the project varies considerably between cases. Furthermore, the nature of individual cases differ with regard to the openness and transparency of the planning phase; while some projects are guided by a comparatively rigid set of objectives, others are achieved with substantial contribution from community members and advocacy groups (Berland and Hanke, 2002).



*Figure 36.* Three central groups of stakeholders involved in adaptive reuse decision-making.

The Distillery Historic District project proceeded primarily on the basis of a singular vision and profit-centred goals. Unlike the Don Valley Brick Works and Wychwood Barns, the Distillery project was planned primarily through private direction. The benefits of the project, represented by a self-contained historic ‘village’, below-rent housing and artisanal shops, are arguably intended for a comparatively narrow sub-population, namely, those who identify with or are involved in local arts and heritage preservation (Kohn, 2010). Both the Don Valley Brick Works and Wychwood Barns projects, by contrast, were guided by a set of objectives that reflected the range and fluidity of needs within the surrounding community. Reflecting this commitment to community voice, both projects were guided by a strong community consultation process. Moreover, as programs and services offered at both Brick Works and Wychwood Barns have been geared to provide benefit to multiple publics, revenues generated on-site are redirected into the community in the form of site maintenance, programming, and materials. Thus, unlike the Distillery venture, which is focused on serving a specific sub-population, both the Brick Works and Wychwood Barns projects can be described as reinforcing existing physical and social connections between the sites and the neighbourhood in which they are situated.

## 8.2 THE ROLES OF ADAPTIVE REUSE PROJECTS

The potential for adaptive reuse initiatives to play a cohesive role within the surrounding neighbourhood and advance public policy objectives is clearly demonstrated within the three Toronto examples (*Figure 37*). Within the planning phase, determining the most appropriate use for an existing site stimulates stakeholder dialogue and offers the opportunity to enhance the neighbourhood through a collaborative approach. This opportunity for partnership and cooperation, in facilitating engagement, gives voices to community members who may otherwise be hesitant to participate in matters of planning. This reaffirming opportunity to participate in the planning phase is particularly evident in the redevelopment of Wychwood Barns, where the unprecedented community engagement process

involved collaborations amongst youth, artist groups, cultural associations, private firms, advocacy groups, and local homeowners. The outcome of such intense discussions has produced a community hub that embodies a shared vision for a collective future (Berland and Hanke, 2002). Secondly, stemming from a transparent and accessible project planning phase, adaption of an established building forces a re-evaluation of function, which offers an opportunity to respond proactively to evolving community needs. This opportunity is evidenced in the programmatic flexibility and innovative design features, such as the innovative conversion of industrial space, at both Don Valley Brick Works and Wychwood Barns (Evergreen, 2006; Artscape, 2002).

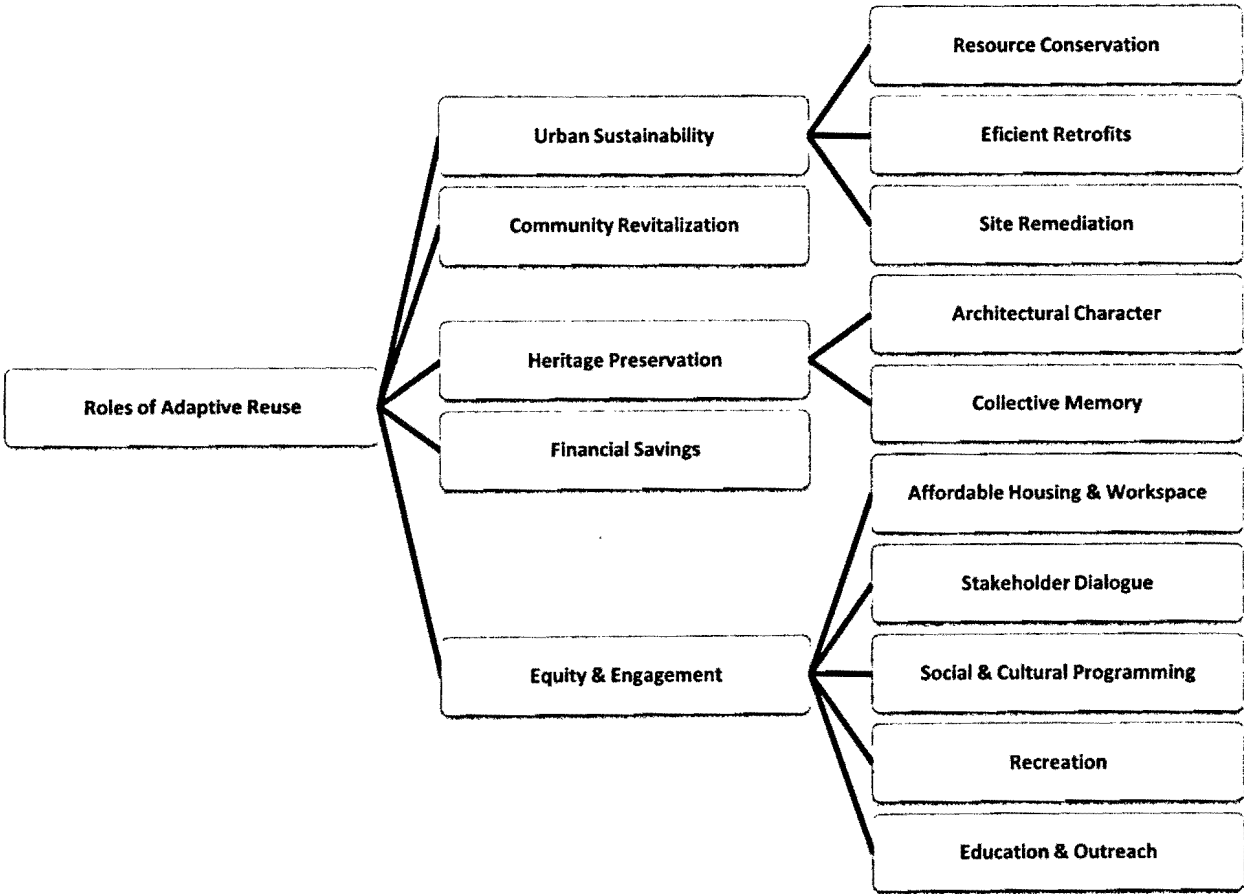


Figure 37. The potential advantages of adaptive reuse as a development strategy.

Provision of social and cultural programs, affordable and cooperative housing, educational resources, recreation facilities, and opportunities for local entrepreneurship were exemplified amongst the three case studies. While it might be argued that new development can offer the same programs as those that have been adapted, the advantage of adaptive reuse lies in the capacity of an established community to identify its own needs and participate in directing local development. Furthermore, adaptive reuse facilitates a strong link between neighbourhood revitalization and preservation of collective memories and local heritage. In Toronto, Evergreen has successfully melded environmental sustainability, community empowerment, and equity with preservation of ecological and architectural heritage at the Don Valley Brick Works (Evergreen, 2006).

### 8.3 PROCEDURAL BARRIERS TO ADAPTIVE REUSE

Despite the practical advantages of adaptive reuse as a strategy for reducing construction costs, advancing urban sustainability, and conserving local heritage, developers continue to cite disincentives for adopting this approach (Bullen and Love, 2010). Barriers revolve around perceptions of cost, complexity and unpredictability (Bullen, 2007; Kurul, 2007), design incompatibilities, and questions of investment return due to an uncertain market (Shipley, Parsons, and Utz, 2006b). Moreover, developers may be hesitant to invest in a site where the existing building will not support profitable densities. It is imperative to recognize that all structures may not be suited to adaptive reuse; structural unsoundness or major contamination issues may not be conducive to long-term reuse. Adapting for a use that is ill-suited to the surrounding neighbourhood may present further challenges (Smeallie and Smith, 1990).

A number of issues and barriers to adaptive reuse have been identified among the cases explored in this paper. Challenges encountered during redevelopment of the Distillery project included both difficulty in attracting resident and corporate investment, re-configuring the structures while maintaining the integrity of heritage features, and obtaining the planning permissions required for a

large-scale residential development (Kohn, 2010). Not unexpectedly, disagreements regarding the design of an urban park and concerns regarding the social impact of the facility emerged during the Wychwood Barns redevelopment community consultation process. However, while disagreements may represent a temporary impediment, these active community discussions served a critical role in the redevelopment of the site as a vital community hub (Berland and Hanke, 2002). The experiences cited under each case study, including both procedural obstacles and positive outcomes, supports the importance of further examination of adaptive reuse as a profitable strategy for Toronto.

#### 8.4 POLICY OPTIONS FOR INCENTIVIZING ADAPTIVE REUSE

The project precedents in Toronto serve as excellent models for the potential of site reuse in an urban context. As such, the positive outcomes of the three case studies explored above indicate the importance of expanding options for incentivizing adaptive reuse projects at smaller scales and budgets. One method of stimulating market interest in this approach is through planning and financial incentives; in particular, the availability of grants appears especially significant in stimulating private interest in adaptive reuse. As stated above, access to adequate funding is frequently difficult and criteria is often restrictive (Shipley, Parsons, and Utz, 2006b). Thus, the City might explore the expansion of grants to encourage small-scale adaptive reuse, even in the absence of innovative design and additional green features. Other incentive options, aimed at reducing cost, complexity and unpredictability, include approval fast-tracks, public assistance for remediation and assessment, and establishing detailed best practice resources for developers. Furthermore, outreach and education might include workshops that are lead through collaboration amongst the City and knowledgeable private stakeholders.

In addition to short-term market incentives, the City might explore long-term strategies that allow adaptive reuse to be *planned*. Developing in a way that facilitates future adaptive reuse, would transform the option from its current status as an *ad hoc* and somewhat risky business to an accepted

and predictable step in the urban planning framework. One potential strategy for advancing the adaptive reuse option is through development of a flexible construction model, whereby structures are designed with regard for a range of subsequent functions. Such an approach would require partnerships between the development community and public agencies, as well as modification of current legislation, including the *Official Plan* (2006), the Zoning By-law, and the Ontario Building Code. Currently, however, there remains an opportunity to leverage private and public resources in the planning and operation of adapted structures.

## **9.0 MOVING FORWARD: SUGGESTIONS FOR FUTURE RESEARCH**

An examination of the praxis of adaptive reuse in Canadian urban contexts is an essential step in understanding locally-relevant challenges, successes, and opportunities associated with building reuse. Although the discussions offered in this report represents a valuable starting point, there is considerable potential for sequential analyses to expand on current findings to obtain a focused understanding of stakeholder experience and the respective roles of various stakeholder groups. In particular, subsequent studies may pursue questions regarding the names and responsibilities of project champions, the involvement of charitable philanthropic organizations, and the extent of interaction amongst project leaders. Furthermore, similar research frameworks may modify the scope of analysis to include non-industrial facilities and small- to medium-scale projects, including reuse as schools, medical offices, places of worship, and homes.

Due to practical limitations, interviews and surveys were not conducted as part of this research. However, qualitative analyses via interviews and surveys offer an experiential perspective to urban research and are therefore recommended as vital components in future research involving adaptive reuse. Interviews and surveys may gather opinions, knowledge and experiences from professionals, such as developers, project managers, and outreach representatives, as well as community stakeholders, including residents and special interest groups. Interviews and surveys can be used to gain a candid and thorough account of stakeholder experience associated with the planning process, participant interaction, funding strategies, and political dynamics.





## **10.0 CONCLUSION**

In view of the astounding drain on natural resources and energy inflicted through development (Fournier and Zimnicki, 2004; Pitts, 2004), adaptive reuse is an essential consideration in any serious discussion on the sustainability of urban systems. The City of Toronto has made a commitment to advancing such public goals as urban sustainability, equity, efficient use of resources, intensification, and establishing vibrant City neighbourhoods (City of Toronto, 2009). As evidenced in the three case studies, the Distillery Historic District, Don Valley Brick Works, and Wychwood Barns, adaptive reuse of existing industrial structures offers vital opportunities for achieving cost savings, sustainable development, community collaboration, equity and empowerment, and celebration of urban heritage. Demonstration of the community, financial and environmental benefits of structural reuse in the City of Toronto presents a strong case to further expand public incentives and opportunities that support adaptive reuse as a viable and attractive development strategy.



## APPENDIX

### APPENDIX A

#### *Provincial Policy Statement (2005)*

Sufficient land shall be made available through *intensification* and *redevelopment* and, if necessary, *designated growth areas*, to accommodate an appropriate range and mix of employment opportunities, housing and other land uses to meet projected needs for a time horizon of up to 20 years.” (Provincial Policy Statement, 2005, 1.1.2)

Significant built heritage resources and significant cultural heritage landscapes shall be conserved (Provincial Policy Statement, 2005, 2.6.1)

Planning authorities shall support energy efficiency and improved air quality through land use and development patterns which:

- a) promote compact form and a structure of nodes and corridors; (Provincial Policy Statement, 2005, 1.8.1)

### APPENDIX B

#### *Growth Plan for the Greater Golden Horseshoe (2006)*

Population and employment growth will be accommodated by –

- a) directing a significant portion of new growth to the built-up areas of the community through intensification
- b) focusing intensification in intensification areas (Places to Grow, 2006, 2.2.2)

By the year 2015 and for each year thereafter, a minimum of 40 per cent of all residential development occurring annually within each upper- and single-tier municipality will be within the built-up area. (Places to Grow, 2006, 2.2.3)

#### A Culture of Conservation

1. Municipalities will develop and implement official plan policies and other strategies in support of the following conservation objectives:

b) Energy conservation, including –

- i. energy conservation for municipally owned facilities
- ii. identification of opportunities for alternative energy generation and distribution
- iii. energy demand management to reduce energy consumption
- iv. land-use patterns and urban design standards that encourage and support energy-efficient buildings and opportunities for cogeneration.

e) Cultural heritage conservation, including conservation of cultural heritage and archaeological resources where feasible, as built-up areas are intensified. (Places to Grow, 2006, 4.2.4)

## APPENDIX C

### *Toronto Official Plan (2006)*

Growth will be directed to the *Centres, Avenues, Employment Districts* and the *Downtown* as shown on Map 2 in order to:

a) use municipal land, infrastructure and services efficiently; (Toronto Official Plan, 2006, 2.2, Policy 2)

*Downtown* will continue to evolve as a healthy and attractive place to live and work as new development that supports the reurbanization strategy and the goals for *Downtown* is attracted to the area. In particular, the *Downtown* policies of this Plan will shape the City's future by accommodating development that:

- a) builds on the strength of *Downtown* as the premier employment centre in the GTA;
- b) provides a full range of housing opportunities for *Downtown* workers and reduces the demand for in-bound commuting; (Toronto Official Plan, 2006, 2.2.1, Policy 1).

The quality of the *Downtown* will be improved by:

- a) developing programs and activities to maintain and upgrade public amenities and infrastructure; (Toronto Official Plan, 2006, 2.2.1, Policy 3)

A full range of housing opportunities will be encouraged through:

- a) residential intensification in the *Mixed Use Areas* and *Regeneration Areas of Downtown*; and
- b) sensitive infill within *Downtown Neighbourhoods* and *Downtown Apartment Neighbourhoods*.  
(Toronto Official Plan, 2006, 2.2.1, Policy 4)

The architectural and cultural heritage of *Downtown* will be preserved by designating buildings, districts and open spaces with heritage significance and by working with the owners to restore and maintain historical buildings. (Toronto Official Plan, 2006, 2.2.1, Policy 5)

*Employment Districts* will be enhanced to ensure they are attractive and function well, through actions such as:

b) investing in key infrastructure, or facilitating investment through special tools, programs or partnerships, in order to:

i) revitalize *Employment Districts* which may be experiencing decline because of variances and closures, absence of key physical infrastructure, poor accessibility, or poor environmental conditions; (Toronto Official Plan, 2006, 2.2.4, Policy 2)

Significant heritage resources, will be conserved by:

a) listing properties of architectural and/or historic interest on the City's *Inventory of Heritage Properties*, designating them and entering into conservation agreements with owners of designated heritage properties; and

b) designating areas with a concentration of heritage resources as Heritage Conservation Districts and adapting conservation and design guidelines to maintain and improve their character.

(Toronto Official Plan, 2006, 3.1.5, Policy 1)

Public incentives to encourage the conservation and long-term protection of heritage resources will be created." (Toronto Official Plan, 2006, 3.1.5, Policy 3)

All City owned heritage resources will be conserved and maintained in a state of good repair."

(Toronto Official Plan, 2006, 3.1.5, Policy 4)

The reuse of buildings with architectural or historic importance will be considered when selecting buildings to accommodate public functions. (Toronto Official Plan, 2006, 3.1.5, Policy 7)

## REFERENCES

- Archives of Ontario. (2009). *Gooderham and Worts Distillery buildings*. Digital Image Number: I0013979.JPG. Queen's Printer for Ontario. Retrieved from <http://ao.minisisinc.com/scripts/mwimain.dll/2037/2/2/14384?RECORD>
- Artscape. (2002, May, 15). *Wychwood Barns feasibility study*. Toronto, ON.
- Artscape. (2011a). *Distillery District History*. Retrieved from <http://www.torontoartscape.on.ca/places-spaces/artscape-distillery-studios/distillery-district-history>
- Artscape. (2011b). *Artscape Wychwood Barns*. Retrieved from <http://www.torontoartscape.on.ca/places-spaces/artscape-wychwood-barns>
- Artscape (2011c). *Facts*. Retrieved from <http://www.torontoartscape.on.ca/places-spaces/artscape-wychwood-barns/facts>
- Artscape (2011d). *Environmental sustainability*. Retrieved from <http://www.torontoartscape.on.ca/places-spaces/artscape-wychwood-barns/environmental-sustainability>
- Berland, J., and Hanke, B. (2002). Signs of a new park. *Public: Art/Culture/Ideas*, 26, 72-99.
- Better Buildings Partnership. (2009). *Resources*. Retrieved from <http://bbptoronto.ca/resources/>
- Bourne, L. (2003). Social change in the Central Ontario Region. *Smart Growth Issue Papers*. Toronto, ON: Neptis Foundation.
- Bullen, P.A. (2007). Adaptive reuse and sustainability of commercial buildings. *Facilities*, 25(1/2), 20-31.
- Bullen, P.A., & Love, P.E.D. (2009). Residential regeneration and adaptive reuse: learning from the experiences of Los Angeles. *Structural Survey*, 27(5), 351-360.
- Bullen, P.A., & Love, P.E.D. (2010). The rhetoric of adaptive reuse or reality of demolition: Views from the field. *Cities*, 27, 215-224.

- Burchell, R.W., & Listoken, D. (1981). *The adaptive reuse handbook: Procedures to inventory, control, manage, and reemploy surplus municipal properties*. Piscataway, NJ: The Center for urban Policy Research.
- Carroon, J. (2010). *Sustainable preservation: Greening existing buildings*. Hoboken, NJ: John Wiley and Sons, Inc.
- City of Los Angeles. (2006, February). Adaptive reuse program (2<sup>nd</sup> ed.). Mayor's Office of Housing and Economic Development. Retrieved from <http://www.scag.ca.gov/housing/pdfs/summit/housing/Adaptive-Reuse-Book-LA.pdf>
- City of Toronto. (2007, June). *Climate change, clean air and sustainable energy action plan: Moving from framework to action*. Change is in the Air. Highlights.
- City of Toronto. (2006). *Toronto official plan*.
- City of Toronto. (2011a). *Toronto Heritage Grant Program*. Retrieved from <http://www.toronto.ca/heritage-preservation/grants/index.htm>
- City of Toronto. (2011b). *Grants & Incentives*. Retrieved from [http://www.toronto.ca/livegreen/greenneighbourhood\\_rebates.htm](http://www.toronto.ca/livegreen/greenneighbourhood_rebates.htm)
- Cunnington, P. (1988). *Change of Use: The conversion of old buildings*. London, UK: A and C Black Ltd.
- Evergreen. (2006). *Evergreen at the Brickworks: Final master plan*. June, 2006. Retrieved from <http://ebw.evergreen.ca/files/EBW-Master-Plan.pdf>
- Evergreen. (2007, December). *Master plan update: Evergreen Brick Works*. Retrieved from <http://ebw.evergreen.ca/files/EBW-Master-Plan-Update.pdf>
- Evergreen. (2011a). *The site*. Retrieved from <http://ebw.evergreen.ca/about/site/>
- Evergreen. (2011b). *Overview*. Retrieved from <http://ebw.evergreen.ca/about/>
- Evergreen. (2011c). *Koerner park*. Retrieved from <http://ebw.evergreen.ca/whats-here/koerner-gardens/>
- Evergreen. (2011d). *Don Valley Brick Works Park*. Retrieved from <http://ebw.evergreen.ca/whats-here/park/>



- Evergreen. (2011e). *The pavilions*. Retrieved from <http://ebw.evergreen.ca/whats-here/pavilions/>
- Evergreen. (2011f). *The centre for green cities*. Retrieved from <http://ebw.evergreen.ca/whats-here/centre-for-green-cities/>
- Evergreen. (2011g). *Coming soon*. Retrieved from <http://ebw.evergreen.ca/whats-here/coming-soon/>
- Evergreen. (2011h). *Green design*. Retrieved from <http://ebw.evergreen.ca/about/sustainability/green-design/>
- Fournier, D.F., & Zimnicki, K. (2004, May). *Integrating sustainable design principles into the adaptive reuse of historical properties*. US Army Corps of Engineers: Engineer Research and Development centre. Champaign, IL: Construction Engineering Research Laboratory.
- Gause, J.A. (1996). *New uses for obsolete buildings*. Washington, DC: Urban Land Institute.
- Hamin, E.M., Geigis, P., & Silka, L. (Eds.). (2007). *Preserving and enhancing communities: a guide for citizens, planners, and policymakers*. Amherst, MA: University of Massachusetts Press.
- Hickey, B. (2005). Adaptive reuse for multifamily housing. *Implications*, 4(10). InformedDesign. University of Minnesota. Retrieved from [http://www.informedesign.org/\\_news/oct\\_v04r-p.pdf](http://www.informedesign.org/_news/oct_v04r-p.pdf)
- Kohn, M. (2010). Toronto's Distillery District: Consumption and nostalgia in a post-industrial landscape. *Globalizations*, 7(3), 359-369.
- Kurul, E. (2007). A qualitative approach to exploring adaptive re-use processes. *Facilities*, 25(13/14), 554-570.
- Langston, C. (2011). Green adaptive reuse: Issues and strategies for the built environment. *Computational Risk Management*, 5, 199-209.
- Los Angeles Conservancy. (2011). *Conservation easements*. Retrieved from <http://www.laconservancy.org/easements.pdf>
- Loures, L. (2009). (Re)developing post-industrial landscapes: Applying inverted translational researched coupled with the case study research methods. Centre of Spatial Research and Organizations-UALG. Retrieved from [http://www.cityfutures2009.com/PDF/68\\_Loures\\_Luis.pdf](http://www.cityfutures2009.com/PDF/68_Loures_Luis.pdf)

- Love, P., & Bullen, P.A. (2009). Toward the sustainable adaption of existing facilities. *Facilities*, 27(9), 357-367.
- Metro Toronto Parks and Property Development. (1990). *Don Valley master planning study*. Toronto, ON: Hough Stansbury Woodland Ltd.
- Metropolitan Toronto and Region Conservation Authority. (1993, September, 16). *Don Valley Brickworks regeneration project*. jobsOntario Capital Application.
- Nasser, N. (2003). Planning for urban heritage places: Reconciling conservation, tourism, and sustainable development. *Journal of Planning Literature* 17(4), 467-479.
- National Institute of Building Sciences. (2003). *Creating schools and strengthening communities through adaptive reuse*. National Clearinghouse for Educational Facilities. Washington, DC: Spector.
- Northcountry Cooperative Foundation. (n.d). *Too good to throw away: The adaptive reuse of underused buildings*. Minneapolis, NM: Allman, J., Principal, P.E., & Allman & Associates.
- Ontario Municipal Board. (2007, November 1). Decision/Order No: 2850. Case No: PL 070544.
- Ontario Municipal Board. (2008, November 7). Decision/Order No: N/A. Case No: PL070831.
- Ontario Municipal Board. (2005, November 1). Decision/Order No: 2874. Case No: PL050627.
- Otto, S.A. (1988, March). Gooderham & Worts Distillery: A report on the buildings at Gooderham & Worts' Distillery and an assessment of their heritage significance. *Gooderham & Worts Heritage Plan, Report No. 2*.
- Parks Canada. (2008). Gooderham and Worts Distillery. Retrieved from [http://www.pc.gc.ca/culture/proj/urbain/cartes-maps/index\\_e.asp?mapid=3&buildingid=14](http://www.pc.gc.ca/culture/proj/urbain/cartes-maps/index_e.asp?mapid=3&buildingid=14)
- Pitts, A. (2004). *Planning and design strategies for sustainability and profit*. Burlington, MA: Architectural Press.
- Places to Grow (2006). *Growth plan for the Greater Golden Horseshoe*. Ministry of Public Infrastructure Renewal. Province of Ontario.
- Provincial Policy Statement (2005). *Provincial policy statement*. Province of Ontario.

- Rodwell, D. (2007). *Conservation and sustainability in historic cities*. Oxford, UK: Blackwell Publishing.
- Sawhill, J.C. (1981). *New energy from old buildings*. Washington, DC: National Trust for Historic Preservation.
- Schmertz, M.F. (1982). *New life for old buildings*. Toronto, ON: McGraw-Hill Book Company.
- Shen, L., & Langston, C. (2010). Adaptive reuse potential: An examination of differences between urban and non-urban projects. *Facilities*, 28(1/2), 6-16.
- Smeallie, P.H., & Smith, P.H. (1990). *New construction for older buildings: A Design Sourcebook*. Toronto, ON: John Wiley and Sons Inc.
- Swaback, V.D. (2007). *Creating value: Smart development and green design*. Urban Land Institute.
- Synyshyn, C. (1985, June). *Adaptive reuse: A literature review*. Housing Conservation Unit, Ministry of Municipal Affairs and Housing.
- The Distillery District. (2011). *A dream comes true*. Retrieved from <http://www.thedistillerydistrict.com/about.php>
- Toronto Economic Development. (2007). Toronto unlimited opportunities. Retrieved from [http://www.toronto.ca/business\\_publications/pdf/UnlimitedOpps2007\\_small.pdf](http://www.toronto.ca/business_publications/pdf/UnlimitedOpps2007_small.pdf)
- TrizecHahn Corporation. (1999). John Street Roundhouse: A phase reuse and rehabilitation strategy. Toronto, ON: TrizecHahn Corporation, Hotson Bakker & Lord Cultural Resources.
- United States Conference of Mayors. (1986). *Adaptive reuse for elderly housing: Guidebook for mayors and local officials*. Washington, DC: US Conference of Mayors.
- Urban Land Institute. (1992, June). Adaptive reuse of commercial real estate in oversupplied markets. *ULI Research Working Paper Series, Paper 03*. Washington, DC.
- Shipley, R., Utz, S., & Parsons, M. (2006a). Does adaptive reuse pay? A study of the business of building renovation in Ontario, Canada. *International Journal of Heritage Studies*, 12(6), 505-520.
- Shipley, R., Parsons, M., & Utz, S. (2006b). *The Lazarus effect: An exploration of the economics of heritage development in Ontario*. The Architectural Conservancy of Ontario. January, 2006. Retrieved from <http://www.isils.ca/resources/lazarus-jan20-verA.pdf>

- Wang, J., & Jiang, N. (2007). Conservation and adaptive-reuse of historical industrial building in China in the post-industrial era. *Frontiers of Architecture and Civil Engineering in China*, 1(4), 474-480.
- Wang, H-J., & Zeng, Z-T. (2010). A multi-objective decision-making process for reuse selection of historical building. *Expert Systems with Applications*, 37, 1241-1249
- Widner, R.R. (1986). Physical renewal of the industrial city. *The ANNALS of the American Academy of Political and Social Science*, 488,47-57.
- Wojno, C.T. (1991). Historic preservation economic development. *Journal of Planning Literature* 5(3), 296-306.
- Wychwood Barns Community Association. (2011). *About WBCA: History*. Retrieved from <http://www.wychwoodbarnscommunity.ca/pagedisplay.aspx?i=252&pmExp=1368>
- Zhang, S. (2007). Conservation and adaptive reuse of industrial heritage in Shanghai. *Frontiers of Architecture and Civil Engineering in China*, 1(4), 481-490.