



CHAPTER **5**  
*Precedent Studies*

## CHAPTER 5: Precedent Studies

### 5.1 Introduction

The following relevant precedents will be studied and used as inspiration to aid in formulating principles and guidelines that will inform and guide the decision-making throughout the design development process.

By studying different successful precedents, ideas on how to design creative educational facilities and encourage sustainability and recycling by means of innovative landscape design methods will be discovered.

### 5.2 Evergreen Brick Works

Evergreen Brick Works (Refer to Fig. 74) is a community environmental centre “featuring innovative programs that are inclusive and accessible to anyone wanting to explore how to live, work and play more sustainably” (Evergreen, 2012).

**Location:** 550 Bayview Ave, Toronto, Ontario, Canada

**Designers:** Master Plan: Toronto-based planning Alliance

Detailed design: du Toit Allsopp Hillier and du Toit Architects Limited (architecture and landscape architecture) (project lead); Claude Cormier Architects Paysagistes Incorporated (Landscape architecture)

**Description:** Evergreen Brick Works, previously known as Don Valley Brick Works, functioned as a brickyard from 1889 to the 1980s. The factory was closed during 1984 and after numerous restorations opened as a community environmental centre in 1996, managed by Toronto Parks, Forestry and Recreation (Evergreen, 2012).

The Environmental Centre (Evergreen, 2012) offers a wide variety of innovative programs and facilities such as:

- **The Young Welcome Centre** exhibits of art and the environment takes place in the entrance facility of Evergreen Brick Works;
- **Evergreen Garden Market** is located directly next to the Welcome centre and is a sheltered outdoor space where 13 garden beds (demonstration mounds) showcase different ‘themes’ such as wildflowers, edible plants etc. (Refer to Fig. 75). This garden centre and market provides an interactive and educational experience;
- **The Kilns** building are rich in industrial heritage and houses the Holcim Gallery where large-scale art installations are displayed;
- **Koerner Gardens** also acts as a demonstration space where visitors are inspired to create their own gardens at home (Refer to Fig. 76). The visitors are also encouraged to take part in the “planting, care and maintenance of the garden mounds”;



Fig. 74: Evergreen Brick Works (Young, 2011 modified by Author, 2012)



*Fig. 75: Evergreen Garden Market (Young, 2011)*



*Fig. 76: Koerner Gardens (Young, 2011)*

- **The Pavilions** - gatherings and festivals take place in this centralised outdoor space. The pavilions are covered and host Evergreen Brick works' Farmers' Market on Saturdays and Sundays;
- **The Centre for Green Cities** - the LEED rated building consists of meeting and office space, a large kitchen, classrooms and a green roof;
- **Café Belong** is about “creating a connection between the natural food from our land, the farmers that nourish and harvest it, and ultimately, the people who enjoy it” (Long, 2012) (Refer to Fig. 77);
- **Chimney Court** is a dynamic outdoor space (Refer to Fig. 78) where creativity, hands-on play and discovery are encouraged during the unique programs and workshops offered at the Chimney Court.



*Fig. 77: Café Belong (Evergreen, 2012)*



*Fig. 78: Chimney Court (Young, 2011 modified by Author, 2012)*



*Fig. 79: WEST Parking lot at Evergreen Brick Works (Young, 2011)*

### **Opportunities and ideas:**

Evergreen Brick Works (EBW) is a very successful and inspiring precedent study with various activities, elements and functions applicable to Berea Park.

The landscape architectural role in the project is evident in the planning and strategic development of EBW in terms of the enhancement of the environment by reducing the carbon footprint of the project.

This was achieved, for example, by adaptively reusing older buildings as far as possible and collecting water from parking lots by using greenways (swales) (Refer to Fig. 79 and 80).

Above-ground cisterns with the capacity of 20 000 litres are used to harvest rainwater running off the buildings' rooftops (Refer to Fig. 81). The water is then reused in the gardens and toilets.



*Fig. 80: Greenways at Evergreen Brick Works (Young, 2011)*



*Fig. 81: Water tanks (Young, 2011)*

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These ideas can be applied at Berea Park by collecting water from parking lots and other hard surfaces and 'transporting' the water by means of swales and channels to wetlands (retention dam in EBW's case) in order to filter the sediments from water before it is sent back to a storage dam.

EBW used demonstration mounds to showcase native plants, edible plants etc (Refer to Fig. 82). It is an effective way of creating awareness and interest in the natural environment and its processes.



*Fig. 82: Demonstration mounds (Young, 2011)*

EBW is proof that outdoor workshops and activities work well to create an interactive and educational experience.

Another achievement of EBW was to transform a clay and shale quarry into a thriving green space known today as the Weston Family quarry garden (Refer to Fig. 83). This was accomplished by planting native species and wildflower meadows, contributing to the protection and restoration of this important ecosystem (Evergreen, 2012).



*Fig. 83: Retention dam at Evergreen Brick Works (Young, 2011)*

### 5.3 The Owl House (Helen Martins)

The Owl House, according to SA-venues (2012), is a Karoo cottage and yard set deep in the Sneeu Berg Mountains in the small village of Nieu-Bethesda in the Eastern Cape. The cottage and yard were transformed into a glass-encrusted wonderland and statue garden between 1950 and 1976 by Helen Martins.

**Location:** Nieu-Bethesda, Eastern Cape, South Africa

**Designers:** Helen Martins

**Description:** Helen Martins inherited the house in December 1897 after her parents died. During 1945 she started an “obsessive project to decorate her home and garden” she wanted “to transform the environment around her” (Hanekom, 2010) (Refer to Fig. 84).



*Fig. 84: Helen Martin's Owl House (Williams, 2011)*



*Fig. 85: Inside Glass walls (Boddy-Evans, 2006)*



*Fig. 86: Sculptures (Boddy-Evans, 2006)*

She decorated the interior of her house, the walls and ceilings, using wire and decorative coloured glass (Refer to Fig. 85).

Helen Martins also built sculptures of owls, camels and people out of cement and recycled materials such as glass bottles and vehicle headlights for her garden (Refer to Figs. 86 - 90).

Sadly, she committed suicide on August 8, 1976 and today her house is a well-known museum called the Owl House (Hanekom, 2010).





**Opportunities and ideas:**

Even though Helen Martins' work received very little support and enthusiasm while she was still alive, the museum is very popular today. This could be ascribed to her unique creativity and ability to build something, an artwork, from what most would view as waste.

There's an opportunity to apply Helen Martins' creative ideas to Berea Park, for example: visitors can use recycled waste as a resource and create artworks during workshops. The crushed glass idea can be used by artists as a finish or to 'paint' pictures against retaining walls. Recycled materials can be used to create street furniture and signage throughout the park. It might also be used for paving and building blocks. The fencing around the agriculture can also be made from recycled objects such as old bicycles, plastic pipes, etc.



*Fig. 87 - 90: Owls, camels and people out of cement and recycled materials (Boddy-Evans, 2006)*

## 5.4 Somarelang Tikologo

Somarelang Tikologo is a community park and “showcase for sustainable urban living and environmental technologies. It includes a recycling facility, Green Shop, community vegetable garden, new play area and drought-tolerant indigenous planting” (Askew Nelson, 2012).

**Location:** Gaborone, Botswana

**Designers:** Initiated in 1991 by three lecturers of the University of Botswana. Somarelang Tikologo is a member-based environmental non-governmental organization (NGO).

Max Askew, managing director of Askew Nelson Landscape Architecture also worked closely with Somarelang Tikologo to create a new Eco Park in Gaborone (Askew Nelson, 2012).

agement with the aim to promote sustainable environmental protection in Botswana (Wikipedia, 2012).

### Opportunities and ideas:

The park provides the opportunity for environmentally friendly initiatives to be showcased in one location while “providing a public space for all citizens of Gaborone to learn about how easy it is to adopt sustainability and go green” (Somarelang Tikologo, 2009).

The park is made up of different components, namely: An ecological garden to educate the public on how to grow their own vegetables, an Eco Café offering guests a wide selection of organic and all-natural snacks, a Green Shop that sells products made from recycled materials provided by local people in Gaborone and a recycling drop-off centre (Refer to Fig. 91).



Children's Playground

Somarelang Tikologo Community Park has very good intentions, but unlike Evergreen Brick Works it is still lacking creative and innovative methods of applying and dealing with important programs such as environmental planning, resource conservation, environmental education and recycling.



Ecological Garden



Recycling Drop-off Centre



Eco Café



Green Shop

Fig. 91: Somarelang Tikologo (Somarelang Tikologo website, 2012)

**Description:** Somarelang Tikologo, meaning ‘Environment Watch Botswana’, is an Ecological Park located in Gaborone, Botswana.

The park is determined to educate, demonstrate and encourage best practices in environmental planning, resource conservation and waste man-

### 5.5 The University of Witwatersrand recycling and composting facility

The University of Witwatersrand has a well-functioning, fully equipped recycling and composting facility on their premises (West campus) for the recycling of all the waste (hard and green waste) produced on campus.

**Location:** The University of Witwatersrand, Johannesburg, South Africa

**Designers:** ORICOL Environmental Services: Recycling Facility & Servest

Landscaping: Composting Facility

Every six weeks a chipper is brought in to chip the green waste. The chipped waste is thrown on heaps, forming five long lines (Refer to Fig. 96).

The lines of waste are constantly watered and turned every six weeks. The last heap of waste is sifted. The sifted material, or compost (Refer to Fig. 97), is then used throughout the campus.



Fig. 92: WITS Recycling Facility (Author, 2012) Fig. 93: Loading waste on conveyor belt (Author, 2012)

Fig. 94: Sorting at Recycling Facility (Author, 2012)

**Description:** The recycling and composting facility of the University of Witwatersrand is process driven. All the waste produced on campus, except for the green waste, is taken to the recycling facility where the waste is hand-sorted and thrown into demarcated bins for glass, plastic, metal and paper (Refer to Fig. 92-94).

The green waste (Refer to Fig. 95) produced on campus is transported to the composting facility (Refer to Chapter 2, Fig. 13), managed by Servest Landscaping.

WITS also recycles food waste by using two different methods, allowing the food waste and some leaves to decompose in an enclosed container (Refer to Fig. 98) and the decomposition of the waste with the help of earthworms (Refer to Fig. 99), but these two methods are still very new and developing concepts at the recycling facility.

**Opportunities and ideas:**

The recycling and composting facility at WITS is a wonderful initiative and ought to be an inspiration to all the campuses in South-Africa.

Berea Park has a big opportunity to act as a recycling facility where all the waste, except for green waste, can be recycled and reused in workshops. Green waste could be transformed into compost. The compost produced on site can be used in the vegetable gardens.



*Fig. 95: Green Waste (Author, 2012)*



*Fig. 96: Heaps of chipped waste (Boshoff, 2012)*



*Fig. 97: WITS Composting Facility (Boshoff, 2012)*



*Fig. 98: Decomposition of food waste in enclosed container (Author, 2012)*



*Fig. 99: Decomposition of food waste with the help of earthworms (Author, 2012)*

## 5.6 Urban agriculture precedents

The following precedents are unique examples of how agriculture can be integrated into the urban ecosystem in a harmonious way, promoting community development and creating learning spaces where high-quality, safe, healthy, affordable and locally-grown produce can be provided.

### Skinner City Farm

“The Skinner City farm is a public agricultural site involving the Eugene community in the process of designing and operating the garden” (Skinnercityfarm, 2013) (Refer to Fig. 100).

**Location:** Skinner Butte Park, Eugene, United States

**Designers:** Jan Vander Tuin – site coordinator; Joanna Lovera – garden project manager; Eugene community

**Description:** The requirements of the Skinner City farm project were to meet the needs of the community, benefit the environmental system of

the Willamette River Greenway and express the sites cultural history (Skinnercityfarm, 2013).

The project not only provides hands-on education for young and old on how to grow and preserve healthy food, but also contributes to maintaining a healthy ecosystem.

Agriculturally-based programs are offered to the community and plot holders, involving them in the design and operation of community garden areas and providing them access to grow great food.

In the patchwork of community plots of the Skinner City farm is a box with thousands of red wigglers (Refer to Fig. 100) “that can turn table scraps into ‘gold’, in the words of the farm’s coordinator, Jan Vander Tuin” (Ross, 2010). All the food waste from area markets and restaurants are thrown into this box where the worms chew through the waste and turn it into castings – the process is called Vermicomposting (Refer to Chapter 2, section 2.2.3.1.1).



*Fig. 100: Skinner city community farm (Skinnercityfarm, 2013)*



*Fig. 101: Hands-on agricultural educational programs (Skinnercityfarm, 2013)*



*Fig. 102: Eugene's soil secret (Ross, 2010 photo by Clark, K.)*

### Opportunities and ideas:

The Skinner City farm has several goals in mind, for example to “demonstrate and educate the general public about sustainable and ecologically-sound agriculture, agricultural ecosystems, and ecologically appropriate agricultural techniques and technologies” (Skinnercityfarm, 2013).

Another goal is to involve everyone, local public and private schools, people from different ethnic backgrounds, young and old to become part of this self-reliant community garden and participate in the hands-on agricultural educational programs.

The vermicomposting process practised at the Skinner City farm teaches the residents of Eugene to use their organic waste wisely. The soil-producing worms are also sold by Skinner City farm.

### Rooftop Haven for Urban agriculture

Rooftop Haven is the roof garden of the Gary Corner Youth Centre in Chicago. The roof garden acts as a haven for the residents who have little access to safe outdoor environments. It's an after-school learning space that provides the students and local restaurants with fresh organic food. “Sleek and graphic, it turns the typical working vegetable garden into a place of beauty and respite” (ASLA, 2010).

**Location:** Chicago, USA

**Designers:** Hoerr Schaudt Landscape Architects

**Description:** For the roof garden to be multi-functional and successful, the landscape architect had to work closely with the architect. The Rooftop Haven is developed to be much more than only a green roof; it is used for horticultural learning, to create environmental awareness and to produce food.



Fig. 103: Rooftop Haven for Urban agriculture (ASLA, 2010 photo by Shigley, S.)



Fig. 104: Rooftop Haven - flower and vegetable garden (ASLA, 2010 photo by Shigley, S.)

Not only does the roof garden act as “a model for using traditionally underutilised space for urban agriculture” (ASLA, 2010) (Refer to Fig. 103 and 104), it also satisfies various practical needs such as the reduction in the costs for climatic control, provision of an outdoor classroom (Refer to Fig. 105) as well as a flower and vegetable garden where children can cut flowers and dig for vegetables with garden tools, at the same time (Refer to Fig. 106).

### Opportunities and ideas:

The Rooftop Haven is an elevated courtyard, because it is built on the roof of the gymnasium, on the second floor. One year the vegetable garden produced almost 460 kg of vegetables for the school children.

The roof garden is designed in such a way that it turns a normal working vegetable garden into a place of beauty with skylights and linear paving strips (made from recycled tires) in-between the different planting rows, framing the garden (ASLA, 2010).

Educational opportunities are created in terms of gardening – cultivating vegetables and fruits and basic business skills by providing the local restaurants with vegetables.

### 5.7 Story board

Several other precedents were considered for inspiration (Refer to Chapter 11, Fig. 131) with regards to the creative application of recycled materials, the success and aesthetics of green walls, arrival plazas and environmental centres.

### 5.8 Summary

Scores of knowledge and insight can be gained by studying successful precedents with similar scenarios and goals in mind.

By implementing the different elements identified in each of the above-



*Fig. 105: Outdoor classroom (ASLA, 2010 photo by Shigley, S.)*

mentioned precedents all or most of the objectives of the design proposal for Berea Park could be achieved.

For example, adaptive reuse, the same opportunity as mentioned at Evergreen Brick works, where the two derelict buildings on site can be restored and given new purposes. The use of storage tanks to harvest rainwater from the buildings' rooftops. The stored rainwater can be reused in the vegetable gardens and toilets.

The use of recyclable materials, inspired by Helen Martins' creative ideas applied to The Owl House, for park furniture, paving, artworks and finishes.

There is also an opportunity at Berea Park to have a restaurant or cafeteria in the existing Northern Club Hall. It would function in a similar way as Somarelang Tikologo's Eco Café: not only catering to the businessmen meeting in the conference hall (above the restaurant), but also the visitors



*Fig. 106: Children planting vegetables (ASLA, 2010 photo by Shigley, S.)*

at the workshops. The restaurant could also be supplied with fresh produce by the community vegetable gardens.

The existing southern building can be used as exhibition space and green shop to display and sell the artworks made at the workshops.

Similar to Somarelang Tikologo, Skinner City farm and Rooftop Haven, environmental education, urban agriculture and recycling are very important aspects in the design proposal for Berea Park.

In essence: designing an all-encompassing waste recycling park where adaptive reuse, rainwater harvesting, environmental education, awareness generation, urban agriculture and recycling are implemented.