



# CHAPTER 1

THE PROBLEM AND ITS SETTING

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#### Introduction

The University of Pretoria is celebrating its 100<sup>th</sup> year anniversary. In 2008 the Department of Landscape Architecture has requested that the final year Landscape Architectural students choose a site within the university owned land as a thesis for their dissertation.

#### Site

South Campus is a strip of land lying south of the University of Pretoria's Main Campus. This site will serve as the chosen site for the dissertation. The borders include Lynnwood Road which lies to its north; and Pretoria Boys High sport grounds forms the southern border. The eastern border and western border consists of Pretoria East Primary School and University Road respectively. Formerly the site was used for the CSIR's Coal Research Division. Presently various departments such as, Drama, Fine Arts, Town and City Planning, Chemical Engineering's (division: water utilisation), Biotechnology and Construction



Fig. 1.1 Northern view towards Bioengineering department.



Fig. 1.2 Eastern view towards Building Economics.



Fig. 1.3 Access gate on Lynnwood Road.

Economics have lecture rooms or laboratories on South Campus. Other facilities and activities include, the UP Press, a kiosk, Centre for Electromagnetism, store rooms, and Coin Security administration offices.

As a result of Lynnwood Road the site is isolated and separated from Main Campus. The spaces in between the buildings do not exist as an active social, cultural and ecological resource for neither the University of Pretoria, nor the city. Within the site it is evident that there are a number of spaces between buildings, paths and activity areas, which are underutilised, left open and abandoned. Thus there exist opportunities to apply regenerative methods in order to connect the fragmented pieces by means of embracing ecology and juxtaposing the total industrial opposite. *“These strange places exist outside the city’s effective circuits and productive structures. From the economic point of view, industrial areas, railway stations, ports, unsafe residential neighbourhoods and contaminated places are where the city is no longer.” In short they are foreign to the urban system, mentally exterior in the physical interior of the city, its negative image as much a critique as a possible alternative.”* (Waldheim, C.2003.p35.)

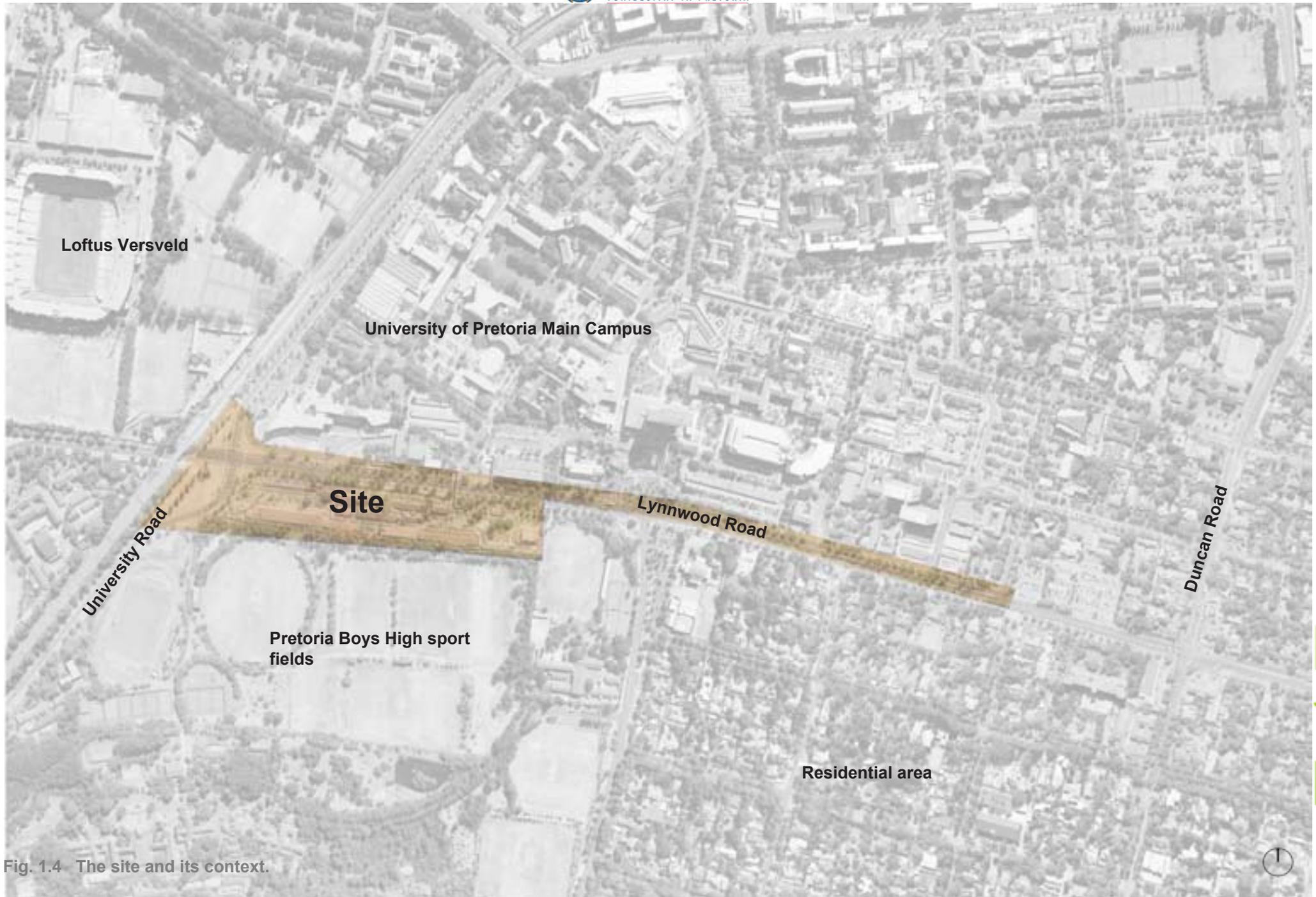


Fig. 1.4 The site and its context.



The chosen site is not an under utilised waste landscape , but it is an analogy of a waste landscape due to the ad hoc placement of buildings and numerous shifts between program and users. The site will be viewed as a **microcosm** of the larger environment, thus the evolved landscape will provide a model for future urban development.



Fig. 1.5 The site as a microcosm.

## Clients

- University of Pretoria

The client for the proposed new landscape design on the South Campus of the University of Pretoria can be described as a partnership of a number of role players. It will be a collaboration of various facilities of the University of Pretoria, especially the Engineering, Built Environment and Fine Arts departments.

- The City of Tshwane

The City of Tshwane's Municipality will be the main client of design proposals outside of university owned land.

## Background

Left over spaces in between buildings or spaces left abandoned by previous industrial or economic activities do not contribute to the cities health, because they are derelict, fragmented parcels of land. Adaptively reusing waste spaces figures to be one of the present as well as the future's great design challenges for Landscape Architects. The term "*dross*" has been used to explain these left over, in between wasted areas, evident in most cities throughout the world.

*"It is no longer seen as an evil, it has merits and productive possibilities and it is a link in the continuous flow of matter and energy."* (Waldheim, C.2003.p35.) The formal city landscapes imposed over the original natural diversity are the areas in need of rehabilitation. (Hough, M. 2004). The concept of recovering and rehabilitating fragmented sites is not new (Cerver, F.A 1996?). Landscape Architects seized the initiative of adapting to changing conditions and constructed new forms of space. The recovery of

landscape began by the creation of the “filter of vegetation”; landscape was here promoted as a palliative to modern urbanization. After this period, Landscape Architects began to look more intensely and creatively at the unique specificity of sites, especially at the borders and edges, the areas neglected by architects. By doing this, Landscape Architects took advantage of any opportunity to repair the damage and to create a sense of place. The recognition of a dialectical relationship between landscape and public space, emphasise the significance of recovery. (Marot, S.1999.)

As humans we are the steward of the biosphere, therefore we have an obligation and must start dealing with these issues within the city environment, focusing on sites which are in need of remediation and regeneration. It is for these reasons, that we should re-establish some connections which were lost by industrialization and commemorate them through design. (Lyle, J.T.1994.)

Urban environments, just like humans are not separate from nature and it is vital that we see ourselves as a central part of the living community (Royal Commission on the Future of the Waterfront.1992.) Traditional design values which have shaped the landscape have only slightly contributed to our environmental well being. Most well known urban design principles, from theorists and designers such as Lynch, Trancick and Bentley have little connection with living systems and natural or ecological processes. Although these principles are fundamental for urban design, they still fail in making the connection. It is fundamental for society to understand basic ecology and enable them to maintain ecological quality (Nassauer, J.I. 1995). Sadly this view is, to a large extend, mostly evident in some developed countries which started addressing such issues prior to developing countries.

As landscape architects we should visually communicate a healthy environmental ethic, as Robert Thayer states “transparent landscapes – the ability to see into and understand the inner workings of a landscape.” (Corner, J.1999.p189.) Visible ecological function must be actively

represented for human experience, these left over spaces in between buildings and in the city gives us the ideal opportunity to illustrate such functions. It is important to first understand the city as part of nature before we can begin to cure the wounds inflicted on it and restore its flows, and design its forms so that the landscape function as a regenerative system. (Royal Commission on the Future of the Waterfront.1992)

Lyle refers to Odum (1993) “Current cities are parasites that, unlike successful parasites in nature, have not evolved mutual aid relationships with their life support host landscape that prevent the parasite from killing off its host and thereby itself.” (Lyle, J.T.1994.p5) This situation is implying that human design processes have linear time dimensions, unlike nature’s recycling flow. Ultimately this one way system will destroy the landscape on which it depends (Lyle, J.T.1994.)

City elements decrease the function and the mixture of the natural ecosystem. (Ruff, A.1982.) We can’t eliminate cities, nor would we want to, but we must realise that cities separate us from nature and each other. They exist by draining resources from the planet, while distributing toxic materials and waste, therefore we must find design methods to minimize these impacts (Cerver, F. A 1996?) .

By admitting that we still don’t have enough ecological understanding to complete the job confidently, we must recognise that we have no choice because time is running out (Lyle, J.T. 1985.). By changing our local environment, we should not just rehabilitate but also add natural processes into the existing systems. There is a need to design our cities in a manner which is green and sustainable. A critical purpose in sustainable landscapes is the relationship between environment and society, thus we must start to understand the bioregion its natural processes and how the people affected the natural processes presently as well as in the past.



Fig. 1.6 Remains of the site’s industrial past.

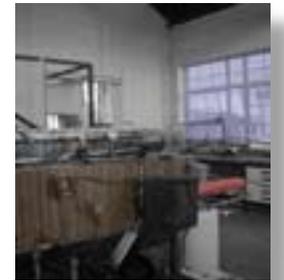


Fig. 1.7 Store room interior.



Fig. 1.8 Remains of the site’s industrial past.

“We are starting to exhaust the capacity of the very systems that sustain us and now we must deal with the consequences.” (J.Zanzot.2007.) Over the last century we have designed the landscape, in ways which are in contrast from nature’s principles. Through writings of Carson (1962), Commoner (1990) and Ehrlich (1987) it became evident that future survival would rely on man’s capacity to work within the limits of the environment. (Ruff, A.1982.)

The environmental crises we are facing are in many ways a design issue, an issue which needs to be addressed holistically. The blending of stability and change will require a specific approach which will reshape the landscape different from those of the past. (Lyle, J.T.1994.)

## Study Objective

Detached, fragmented spaces in between buildings are evident throughout the University of Pretoria’s South Campus. There have been attempts to integrate these, but it has not been dealt with in a sustainable manner. This dissertation proposes to evaluate contemporary and historical theories in order to formulate a theoretical base, a suitable design approach and normative position. It will further investigate the site and its context; establish how local and international precedents have contributed to the recovering of urban landscapes and open spaces, as well as formulating appropriate regenerative design principles. The open fragmented spaces of the University of Pretoria’s South Campus will then be integrated through the application of regenerative design principles to serve as a model for the bigger urban environment.

## Main research question

How can modern, technologically advanced regenerative design principles be applied on a small scale urban site in order to connect fragmented open spaces, and if so, can this site serve as a model for larger scale urban projects?

## Sub research questions

The first sub question: What theories will be investigated to find a suitable design approach?

The second sub question: How will design opportunities be identified?

The third sub question: How have local and international precedents contributed to the recovering and integration of urban spaces and/or landscapes?

The fourth sub question: What are the innovative, regenerative design principles and what do they entail?

The fifth sub question: How can innovative regenerative principles be applied as linking elements in the urban landscape environment?



Fig. 1.9 Centre of Electromagnetism.

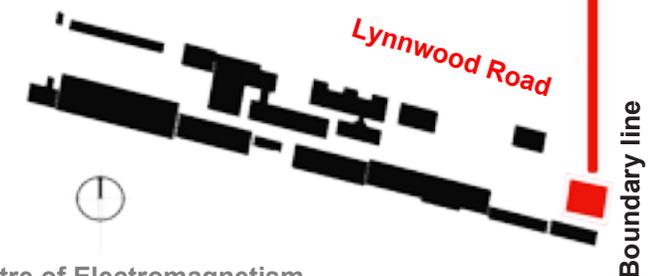


Fig. 1.10 Location of Centre of Electromagnetism.

## Study limitations

The University of Pretoria is celebrating its 100<sup>th</sup> year anniversary; therefore the study can only be done on university property. This is an opportunity as amongst institutions of modern society, the university, with its wide field of expertise and its inquisitive character, offers a unique setting for exploring the technological, aesthetic and social meanings of a regenerative future.

The Centre of Electromagnetism situated on the eastern side of the site has a 15m boundary line around the building, no roads or enclosed structures are allowed within this area.

## Study delimitations

- Regenerative principles as a productive food source are not taken into consideration.
- The treatment of raw sewage.
- The calculations of water quality

## Assumptions

- Pretoria Boys High will agree to sell a portion of land (which is not presently in use) to the University of Pretoria
- The BRT stop will be established on the corner of Lynnwood and University Road within the near future.(Refer to appendix 2)
- The existing activities on the site will remain as they are.
- The University of Pretoria will sell 8m on each side of Lynnwood Road where necessary.

## Research Method

The method of study will be based largely on a qualitative research which “...is typically used to answer questions about the complex nature of phenomena, often with describing and understanding this phenomenon from the participant’s point of view. The qualitative approach is also referred to as the interpretative, constructivist or postpositive approach.”(Leedy, P.D. & Ormrod, J.E. 2005.p94.)

Research Design	Data Collection	Nature of data	Data analysis
<ul style="list-style-type: none"> <li>• Collective case studies, to understand a particular situation</li> </ul>	Appropriate written documents, such as books and published articles in well known journals.	Qualitative data	Organization and categorization of terms in common themes. Synthesis into an overall portrait of the case
<ul style="list-style-type: none"> <li>• Content analysis, to identify specific characteristics of the site.</li> </ul>	Visual observation, interviews and written articles in published journals and books.	Quantitative and qualitative data	Descriptive or inferential analysis.

Fig. 1.11 Research method.

