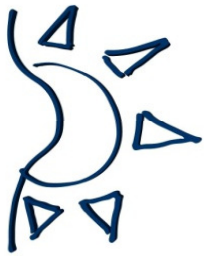
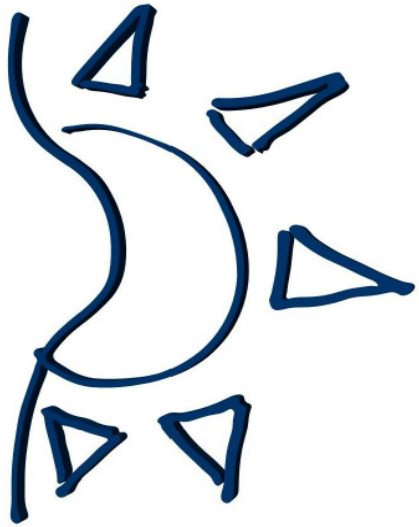
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



Marabastad Trader's Centre for Arts

Facilitating the transformation of a new Marabastad through Architecture

C. Adams

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Abstract

The branding and logo designed by the author represents quality, sustainability, community spirit and pride. It is a symbol the author envisions as being part of the restoration and rehabilitation of the vibrant Marabastad neighbourhood. The symbol can be seen as a catalyst for sustainable development in Marabastad, as well as representing the future and the restoration of the Marabastad community as a whole.

The City of Tshwane Metropolitan Municipality is currently investing in the Marabastad neighbourhood. A Jazz Centre is being built on the curve where Bloed Street enters the neighbourhood; this is the focus and study area of this thesis document. In the future this area will be a place where people can meet and gather freely, a freedom previously denied by the Apartheid government. South Africa's democracy is so recent that the signs of fragmented communities can still be seen throughout the country. This fact needs to be addressed by town planners, developers and architects. The study area is only the beginning of the restoration process and represents many possibilities and opportunities; it is here where the African sun will always shine, will always create opportunities for its citizens and will always provide for them.

The discourse attempts to provide a design solution that best reflects the current issues of our times. It promotes a sustainable development that is proudly South African. Culture and location is what identifies communities and people from other cities and other countries. It is what binds us as a people. Culture is best illustrated by artworks and performing arts; art is integral to a society and integral to rebuilding it in order for it to identify itself as a community.

Art forms the basis of this exploration and informs the author throughout the design process. Through the use of art as a cultural guiding principle, and through the theoretical understanding of urban design and urban principles, an architectural solution can be found.

ABSTRAK

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Abstrak

Die handelsmerk en -identiteit wat deur die outeur ontwerp is verteenwoordig gehalte, volhoubaarheid, gemeenskapsgees en trots. Die outeur beskou dit as 'n simbool wat deel van die restourasie en rehabilitasie van die lewendige Marabastad-buurt vorm. Die simbool kan gesien word as 'n katalisator vir volhoubare ontwikkeling in Marabastad, en ook as verteenwoordigend van die toekoms en die restourasie van die Marabastad-gemeenskap in geheel.

Die Stad Tshwane Metropolitaanse Munisipaliteit is tans besig om in Marabastad te belê. 'n Jazz-sentrum is in aanbou waar Bloedstraat die buurt binnekom; hierdie gebied vorm die fokus van die skripsie. In die toekoms sal hierdie gebied 'n bymekaarkomplek word waar mense vryelik kan ontmoet, 'n vryheid wat voorheen deur die Apartheid-regering misken is. Suid-Afrika se demokrasie is so jonk dat die tekens van gefragmenteerde gemeenskappe steeds dwarsdeur die land gesien kan word. Hierdie feit moet deur stadsbeplanners, ontwikkelaars en argitekte aangespreek word. Die studiegebied is slegs die begin van die restourasieproses en verteenwoordig vele moontlikhede en geleenthede; dit is hier waar die Afrika-son altyd sal skyn, altyd moontlikhede vir sy burgers sal skep, en altyd vir hulle sal sorg.

Hierdie verhandeling poog om 'n ontwerp-oplossing te bied wat die vraagstukke van ons tyd weerspieël. Dit bevorder volhoubare ontwikkeling wat trots Suid-Afrikaans is. Kultuur en plek bepaal die identiteit van gemeenskappe en van die inwoners van ander stede en lande. As mense word ons daardeur saamgebind. Kultuur word die beste deur die beeldende en uitvoerende kunste toegelig; kuns vorm 'n integrale deel van enige gemeenskap en speel 'n belangrike rol wanneer dit herbou word om 'n eie identiteit te vestig.

Kuns vorm die basis vir hierdie ondersoek en die outeur is dwarsdeur die ontwerpproses daardeur ingelig. Met kuns as leidende beginsel, en deur stadsontwerp en stadsbeginsels teoreties aan te wend, kan 'n argitektoniese oplossing gevind word.

ABSTRACT

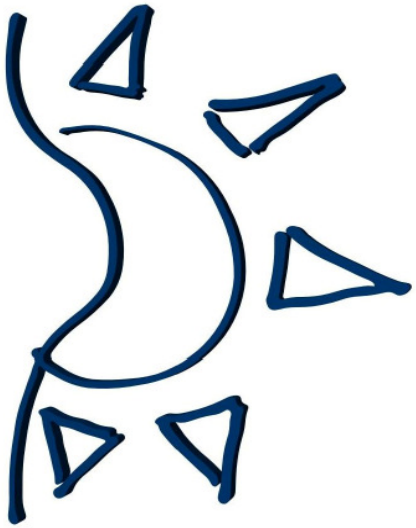
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Dedications

I would like to thank my parents, for without them none of this would be possible. I would also like to thank my study leader Amira Osman for helping out throughout the year and guiding me; Piet Vosloo for his practical and yet creative expertise; and I would also like to thank Gary White and Jacques Laubscher for their time and patience.

"…For I know the plans I have for you,"
declares the Lord,
"plans to prosper you and not to harm you,
plans to give you hope and a future." (Jeremiah 29:11)

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



Marabastad Trader's Centre for Arts

Facilitating the transformation of a new Marabastad through Architecture

C. Adams 28423144

Study leaders: A. Osman & G. White

Submitted in fulfilment of part of the requirements for the degree Magister in Architecture (Professional) in the faculty of Engineering, Built Environment and Information Technology, University of Pretoria, South Africa.

2009 Marabastad Group work team: Carl Adams (architect), Kuziva Muyaka (architect) and Gina Christie (landscape architect)

Partial funding by NRF

TABLE OF CONTENTS

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

TABLE OF CONTENTS

TABLE OF CONTENTS

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

TABLE OF CONTENTS

TABLE OF CONTENTS

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

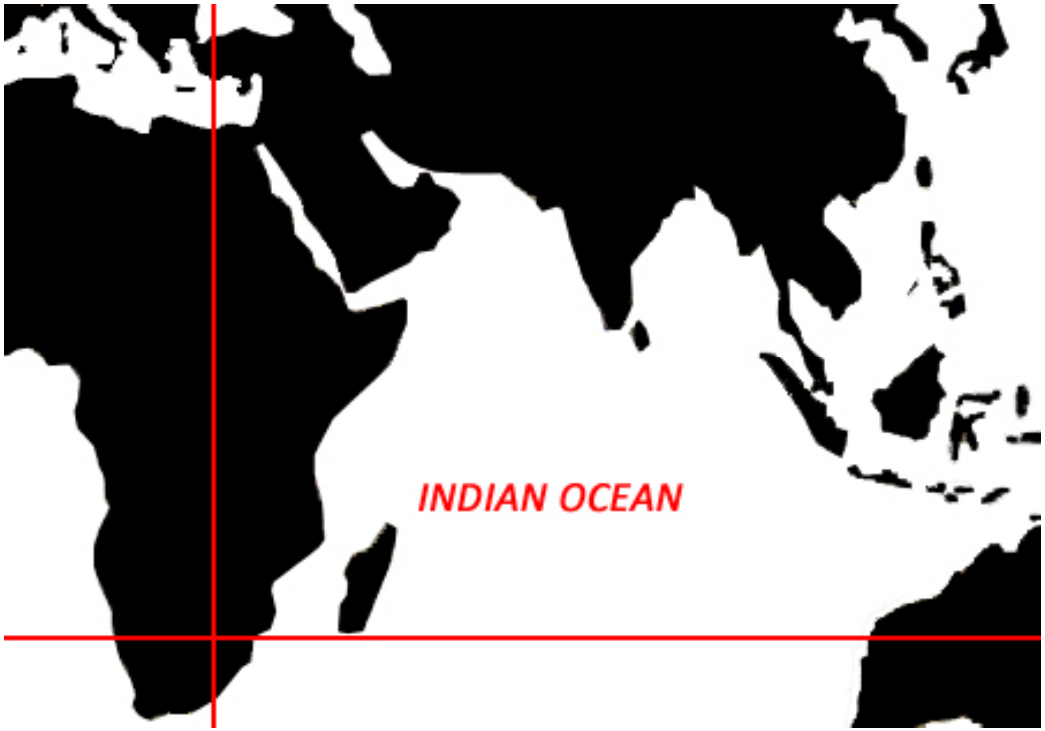
TABLE OF CONTENTS

LIST OF FIGURES

LIST OF FIGURES

LIST OF FIGURES

LIST OF FIGURES



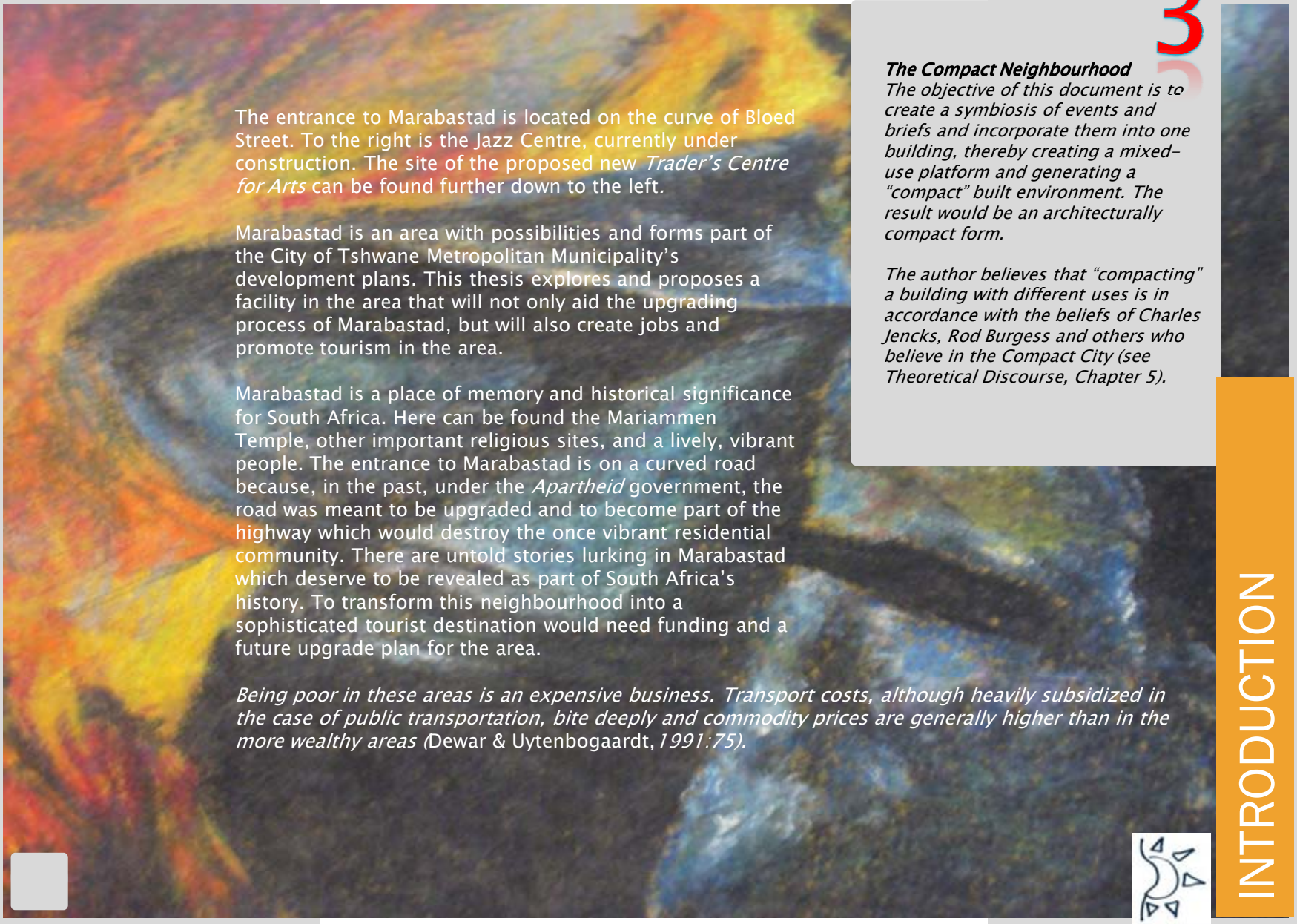
…we will have to re-examine the kind of modern world we have imposed upon the planet -- economic, technological, artistic. We will have to re-examine, and rebuild, the decaying foundations of our own modern culture (Salingaros, 2002).

INTRODUCTION

(Fig 002): The possible original location of Chief Maraba's Kraal at the Daspoort water care facility, Marabastad (Author, 2009).

Introduction

INTRODUCTION



The entrance to Marabastad is located on the curve of Bloed Street. To the right is the Jazz Centre, currently under construction. The site of the proposed new *Trader's Centre for Arts* can be found further down to the left.

Marabastad is an area with possibilities and forms part of the City of Tshwane Metropolitan Municipality's development plans. This thesis explores and proposes a facility in the area that will not only aid the upgrading process of Marabastad, but will also create jobs and promote tourism in the area.

Marabastad is a place of memory and historical significance for South Africa. Here can be found the Mariammen Temple, other important religious sites, and a lively, vibrant people. The entrance to Marabastad is on a curved road because, in the past, under the *Apartheid* government, the road was meant to be upgraded and to become part of the highway which would destroy the once vibrant residential community. There are untold stories lurking in Marabastad which deserve to be revealed as part of South Africa's history. To transform this neighbourhood into a sophisticated tourist destination would need funding and a future upgrade plan for the area.

*Being poor in these areas is an expensive business. Transport costs, although heavily subsidized in the case of public transportation, bite deeply and commodity prices are generally higher than in the more wealthy areas (*Dewar & Uytenbogaardt, *1991:75).*

The Compact Neighbourhood
The objective of this document is to create a symbiosis of events and briefs and incorporate them into one building, thereby creating a mixed-use platform and generating a "compact" built environment. The result would be an architecturally compact form.

The author believes that "compacting" a building with different uses is in accordance with the beliefs of Charles Jencks, Rod Burgess and others who believe in the Compact City (see Theoretical Discourse, Chapter 5).

INTRODUCTION

The theme of this dissertation is to transform the Marabastad community through *Architecture*. The thesis explores the possibility that art and architecture are inextricably linked and that both form part of human culture, especially African culture. The facility explores ways of transforming an area rich in history into a sustainable community for the future. Community integration is important and if a community works together a "compact neighbourhood" can be promoted. The thesis document acknowledges the current living conditions in Marabastad and proposes a facility that will help create opportunities and jobs in the area. Marabastad has many unskilled people and equipping them with skills such as carpentry, metalwork, pottery or art would enable them to have a better life, especially if a platform to sell their products is included in the proposal.

The Tshwane municipality has an obligation to develop Marabastad and this study will suggest ways of using an architectural solution to begin the rebuilding process of a poor community. The proposed facility will help to create a sense of progress and will help to generate skills development in the area. The architecture should also enrich the community and provide facilities that the community can access and benefit from.

art, n.: **1** creative activity, esp. painting and drawing resulting in visual representation. **2** a (in pl.; prec. by the) the various branches of creative activity concerned with the production of imaginative designs, sounds, or ideas (*Concise Oxford English Dictionary*, 1995).
architecture, n.: **1** the art or science of designing and constructing buildings. **2** the style of a building as regards to design and construction (*Concise Oxford English Dictionary*, 1995).

A community grows once the lives of its individual members are improved. This is achieved through education and skills. Education and skills development are among the 6 selected areas of intervention as identified under the Accelerated and Shared Growth Initiative of South Africa (ASGI-SA). This initiative was launched in 2005 to address the concerns of inequitable national growth. The facility should provide educational facilities where the user can receive skills training in order to obtain a descent education.

The direction of change should be towards creating a compact, intensive and convenient city which operates as an integrated system, which works well at the level of the lowest common denominator (people on foot), which makes maximum use of limited resources, and which is respectful of its beautiful natural setting (Dewar & Uytenbogaardt, *1991:79).*

INTRODUCTION

This document alerts policy-makers at the highest level to the reality that there can be no growth without skills and education. To stimulate the future economy of the area, arts and crafts markets targeting tourists can provide a platform for citizens to sell their products. There needs to be a recognisable community structure that will enable the survival of the project, as well as planning that will be sustainable long after the project's inception. This dissertation explores the possibility of building an arts and crafts facility that can take a person off the street, teach that person a skill such as carpentry, and then provide a platform for that person to make a living. It will also provide a platform for sourcing local artistic talent. This process will take time but the results would benefit the entire community. The proposal would also promote tourism in the area and a tourist route led by a community tour guide or *'Marabi Tour'* is proposed. This tour of the area can be done either on foot, by bicycle, or by public or vehicular transportation.

The Tshwane Integrated Development Plan (TIDP) 2006-2011, Third Revision March 2009 Section 2.3.2, states:

2.3.2 ACCELERATED AND SHARED GROWTH INITIATIVE- SOUTH AFRICA (ASGISA)
ASGISA focuses on growing the economy and creating jobs, and states that growth should be government led. National growth since 2004 has averaged 4%; however, the second economy has been excluded from growth except through remittances and social grants. ASGISA identifies six key levers for economic growth, namely:

- Macro-eco intervention;
- Infrastructure development;
- Skills development;
- Strengthening of public institutions;
- Sectorial investments; and
- Interventions in the second economy.

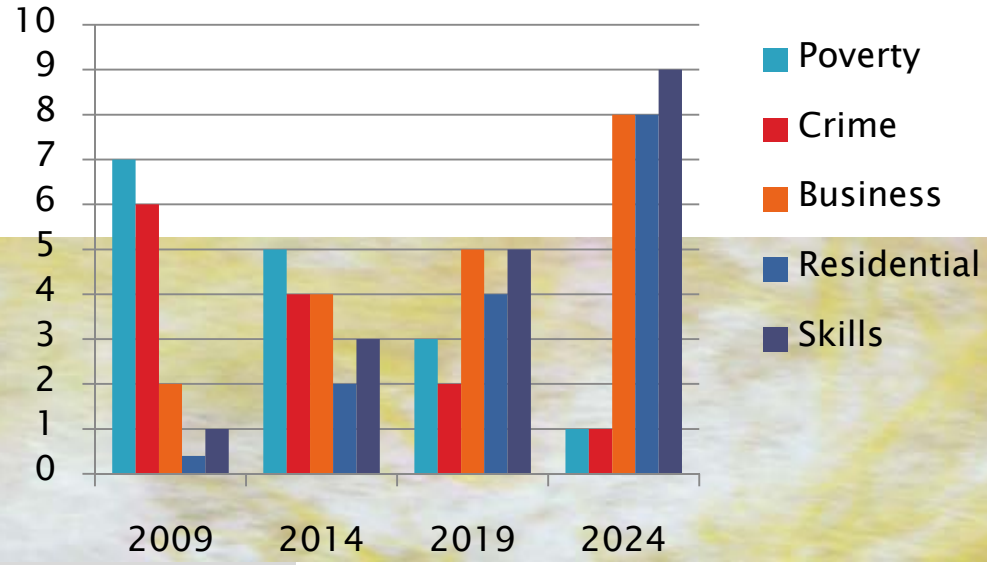
Strategies for growth and development include investment in transport infrastructure, support of SMME's (small, medium and micro enterprises) and labour intensive projects, prioritising social and economic infrastructure, and building partnerships.

INTRODUCTION

The Problems

When studying the South African city of Tshwane (formerly Pretoria) it is easy to see that one part of it is isolated from the rest of the city, and that part is Marabastad. Marabastad is a place of great historical and cultural significance as well as a place of depression and poverty. The area has problems with squatters, illegal immigrants and high numbers of hawkers. Marabastad is a poor community comprised of a major transportation hub as well as a business platform with mixed uses fragmented throughout the existing fabric. It is an area that needs funding to generate growth. Through observations of the area it was noted that Marabastad lacks educational facilities and a skilled workforce, and that these factors have a negative impact on the growth patterns of the community. The proposed new *Trader's Centre for Arts* will cater for education and skills development, including business skills development.

(Fig 003): Chart showing the author's future plans in terms of reducing poverty and crime and increasing business, residential and skills for the area (Author, 2009).



Independent Research

At the beginning of the year the author and fellow students visited Laura Lourens at the Tshwane municipality to find out what the municipality plans for the future Marabastad.

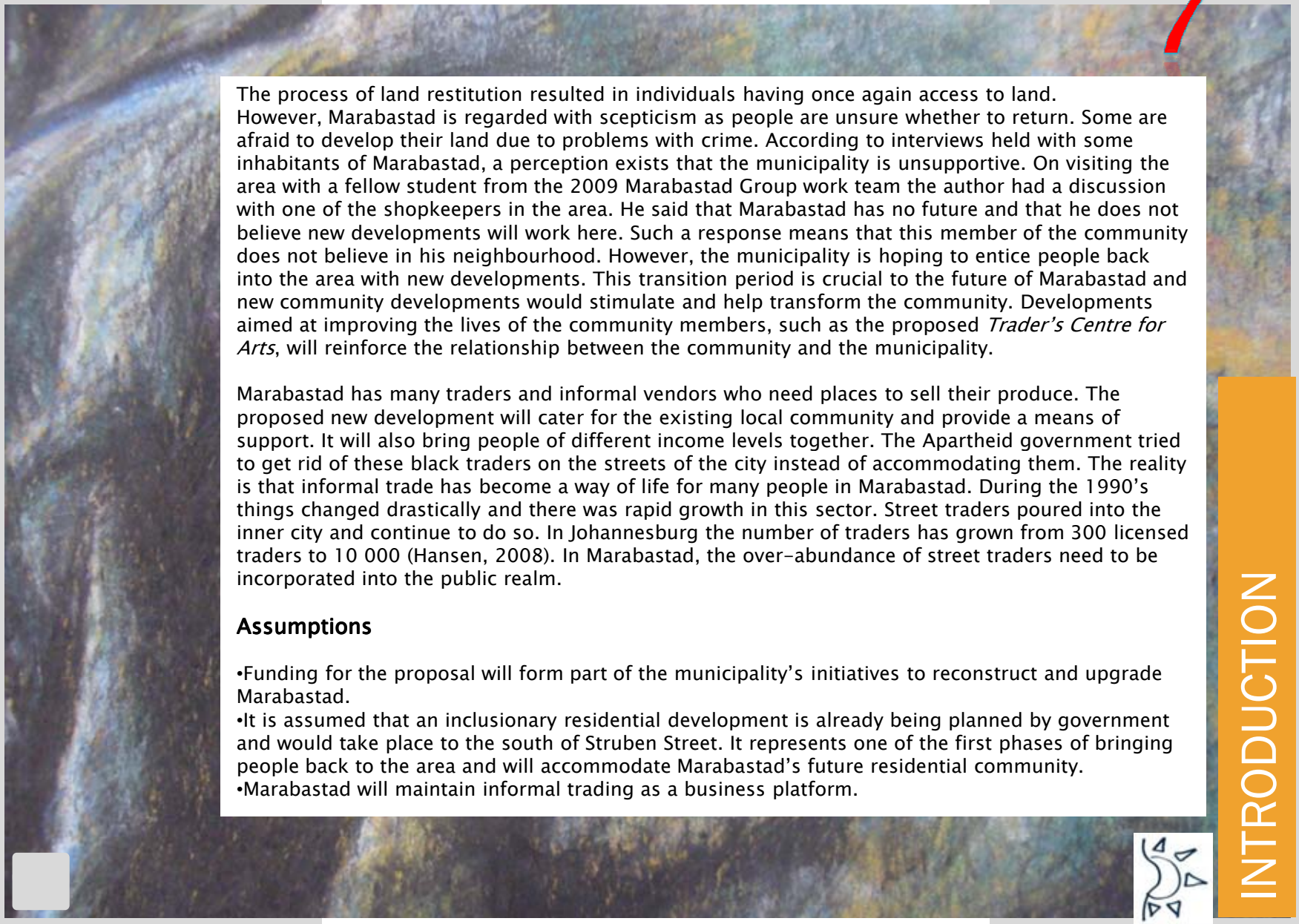
During the interview it was envisaged that government is keen to inject capital into the area and thus improve the built environment.

During the course of the year construction of a new Jazz Centre and park along Bloed Street began. The expiration of the PUTCO bus lease means that land would become available for the proposed development.

The author considered this land (also along Bloed Street) to be an important part of reconstructing Marabastad and improving the overall dynamics of the area.

The chosen site is located on 5th Street which is proposed by the 2009 Marabastad Group work team to become a pedestrian spine. It focuses on the pedestrian as the highest common denominator (HCD) in the area (Dewar & Uytenbogaardt,1991).

INTRODUCTION



The process of land restitution resulted in individuals having once again access to land. However, Marabastad is regarded with scepticism as people are unsure whether to return. Some are afraid to develop their land due to problems with crime. According to interviews held with some inhabitants of Marabastad, a perception exists that the municipality is unsupportive. On visiting the area with a fellow student from the 2009 Marabastad Group work team the author had a discussion with one of the shopkeepers in the area. He said that Marabastad has no future and that he does not believe new developments will work here. Such a response means that this member of the community does not believe in his neighbourhood. However, the municipality is hoping to entice people back into the area with new developments. This transition period is crucial to the future of Marabastad and new community developments would stimulate and help transform the community. Developments aimed at improving the lives of the community members, such as the proposed *Trader's Centre for Arts*, will reinforce the relationship between the community and the municipality.

Marabastad has many traders and informal vendors who need places to sell their produce. The proposed new development will cater for the existing local community and provide a means of support. It will also bring people of different income levels together. The Apartheid government tried to get rid of these black traders on the streets of the city instead of accommodating them. The reality is that informal trade has become a way of life for many people in Marabastad. During the 1990's things changed drastically and there was rapid growth in this sector. Street traders poured into the inner city and continue to do so. In Johannesburg the number of traders has grown from 300 licensed traders to 10 000 (Hansen, 2008). In Marabastad, the over-abundance of street traders need to be incorporated into the public realm.

Assumptions

•Funding for the proposal will form part of the municipality's initiatives to reconstruct and upgrade Marabastad.
•It is assumed that an inclusionary residential development is already being planned by government and would take place to the south of Struben Street. It represents one of the first phases of bringing people back to the area and will accommodate Marabastad's future residential community.
•Marabastad will maintain informal trading as a business platform.

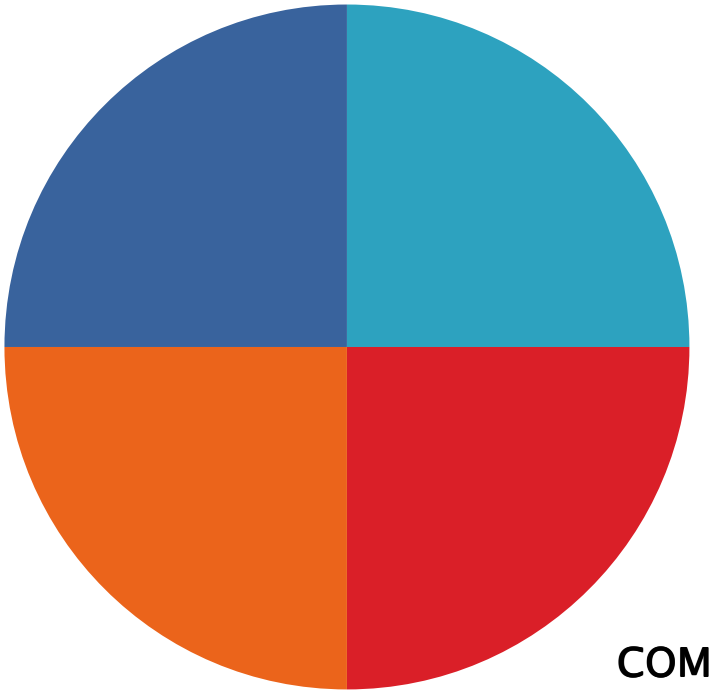
INTRODUCTION

Strategy
Street traders need a sense of *identity* and *ownership;* the thesis project aims to encourage this by providing facilities for their use. Education and skills development will also be accommodated and to further sustain the proposal, a niche in the tourism market will be sought and rentable units will provide income.

identity, n. (pl. -ies) 1 individuality, personality (felt he had lost his identity). (The *Concise Oxford English dictionary* definition, 1995)

ownership, n. 1 a person who owns something. (*Concise Oxford English Dictionary*, 1995).

(Fig 004): Pie chart showing the author's intention of creating a sense of ownership and identity as well as improving the local infrastructure and creating more resources that the community can access. This will help in creating more skills in the area and improve the 'Community Spirit'. A community needs a balance of all these elements (Author, 2009).

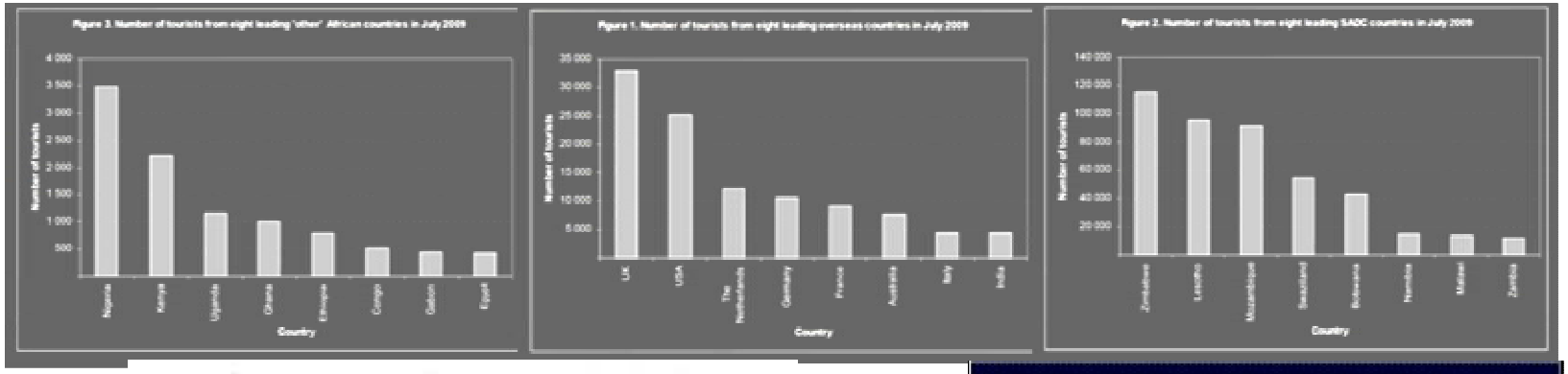


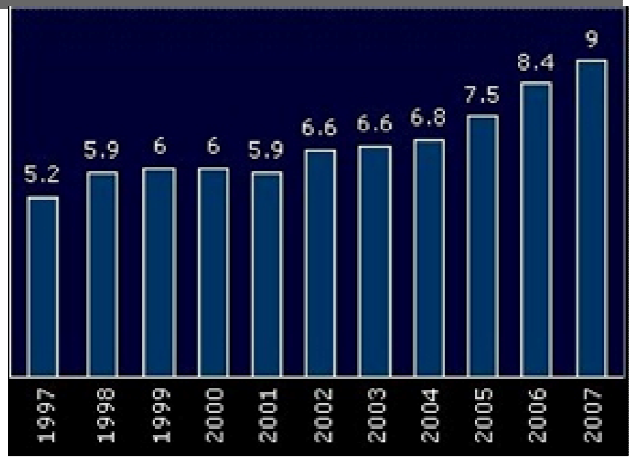
COMMUNITY SPIRIT

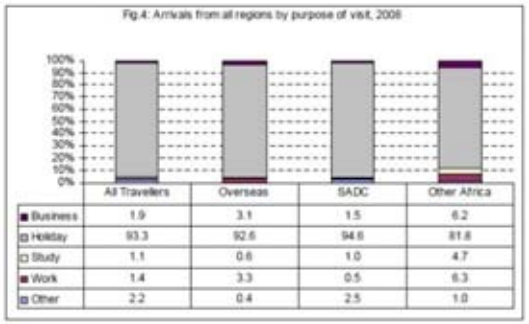
INTRODUCTION

Tourism Statistics

Despite the current 2009 recession the tourism statistics of South Africa still remain strong. Therefore government investing in the tourism sector would be beneficial to the entire economy.

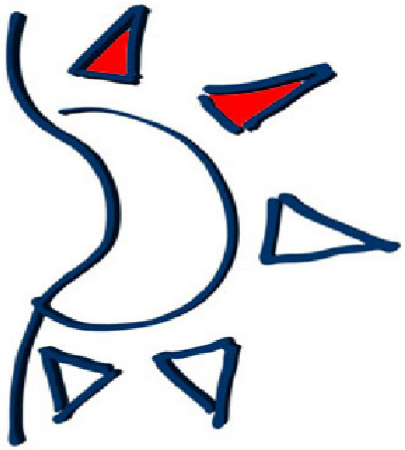






(Fig 005-010): Statistics of the South African Tourism industry show a rise in this sector despite the world economic recession. (Statistics South Africa, 2009).

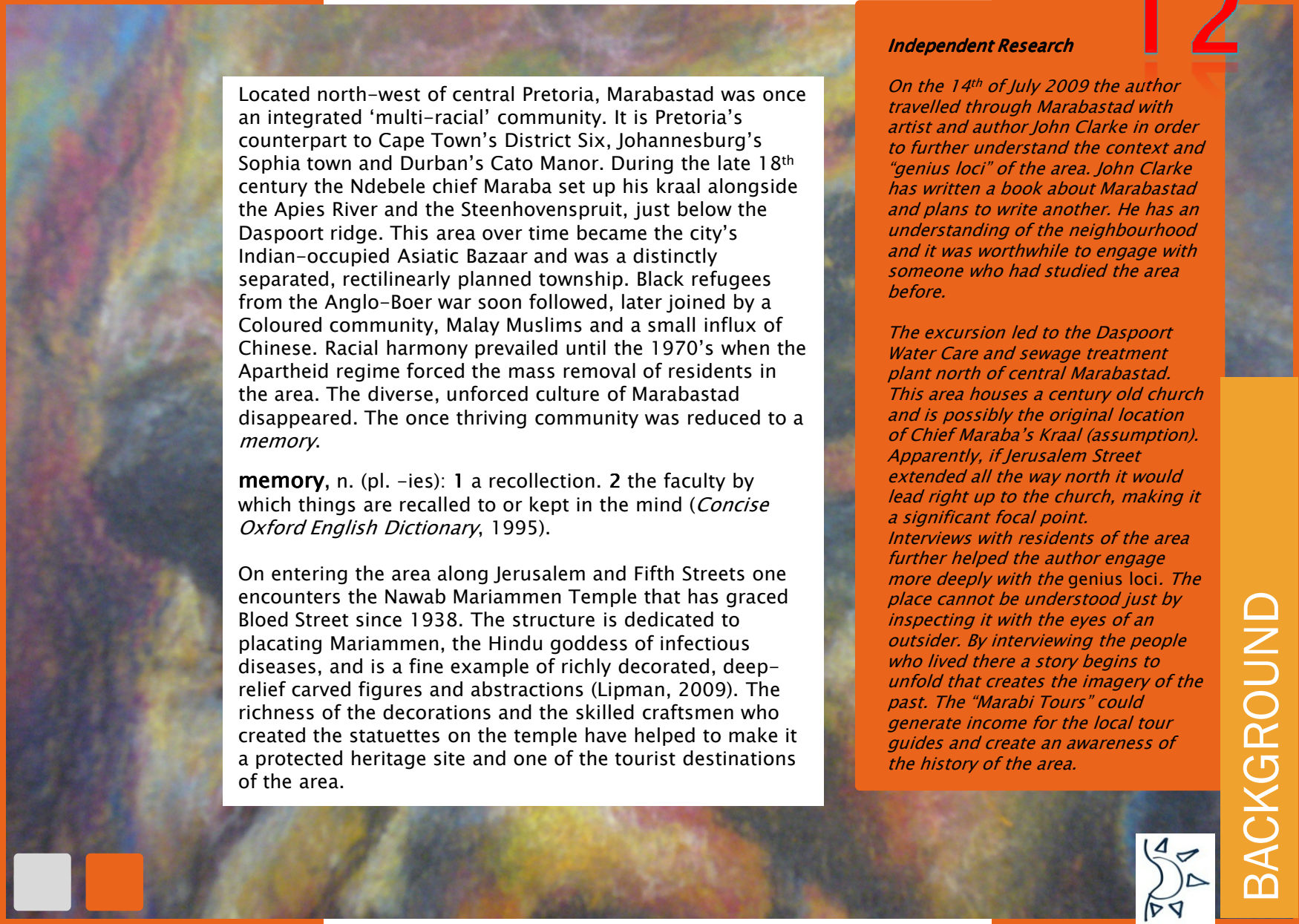
(Fig 011 and 012): Photographs showing the influences from the past: Southern Ndebele styled walls and handicrafts in Central Marabastad. The traditions and heritage of the area are not lost as Ndebele styled beads and bags are being sold here. This heritage dates from the times of Chief Maraba, and is associated with the culture and memory of the neighbourhood (Author, 2009).



Background

It is essential to manage the growth of South African cities so they work well for the lowest common denominator: people who are dependent on pedestrian and public transportation movement and those who are forced to seek a livelihood in small-scale, self-generated employment (Dewar & Uytenbogaardt, *1991:88)*

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



Located north-west of central Pretoria, Marabastad was once an integrated 'multi-racial' community. It is Pretoria's counterpart to Cape Town's District Six, Johannesburg's Sophia town and Durban's Cato Manor. During the late 18th century the Ndebele chief Maraba set up his kraal alongside the Apies River and the Steenhovenspruit, just below the Daspoort ridge. This area over time became the city's Indian-occupied Asiatic Bazaar and was a distinctly separated, rectilinearly planned township. Black refugees from the Anglo-Boer war soon followed, later joined by a Coloured community, Malay Muslims and a small influx of Chinese. Racial harmony prevailed until the 1970's when the Apartheid regime forced the mass removal of residents in the area. The diverse, unforced culture of Marabastad disappeared. The once thriving community was reduced to a *memory*.

memory, n. (pl. -ies): **1** a recollection. **2** the faculty by which things are recalled to or kept in the mind (*Concise Oxford English Dictionary*, 1995).

On entering the area along Jerusalem and Fifth Streets one encounters the Nawab Mariammen Temple that has graced Bloed Street since 1938. The structure is dedicated to placating Mariammen, the Hindu goddess of infectious diseases, and is a fine example of richly decorated, deep-relief carved figures and abstractions (Lipman, 2009). The richness of the decorations and the skilled craftsmen who created the statuettes on the temple have helped to make it a protected heritage site and one of the tourist destinations of the area.

Independent Research

On the 14th of July 2009 the author travelled through Marabastad with artist and author John Clarke in order to further understand the context and "genius loci" of the area. John Clarke has written a book about Marabastad and plans to write another. He has an understanding of the neighbourhood and it was worthwhile to engage with someone who had studied the area before.

The excursion led to the Daspoort Water Care and sewage treatment plant north of central Marabastad. This area houses a century old church and is possibly the original location of Chief Maraba's Kraal (assumption). Apparently, if Jerusalem Street extended all the way north it would lead right up to the church, making it a significant focal point.
Interviews with residents of the area further helped the author engage more deeply with the genius loci. *The place cannot be understood just by inspecting it with the eyes of an outsider. By interviewing the people who lived there a story begins to unfold that creates the imagery of the past. The "Marabi Tours" could generate income for the local tour guides and create an awareness of the history of the area.*

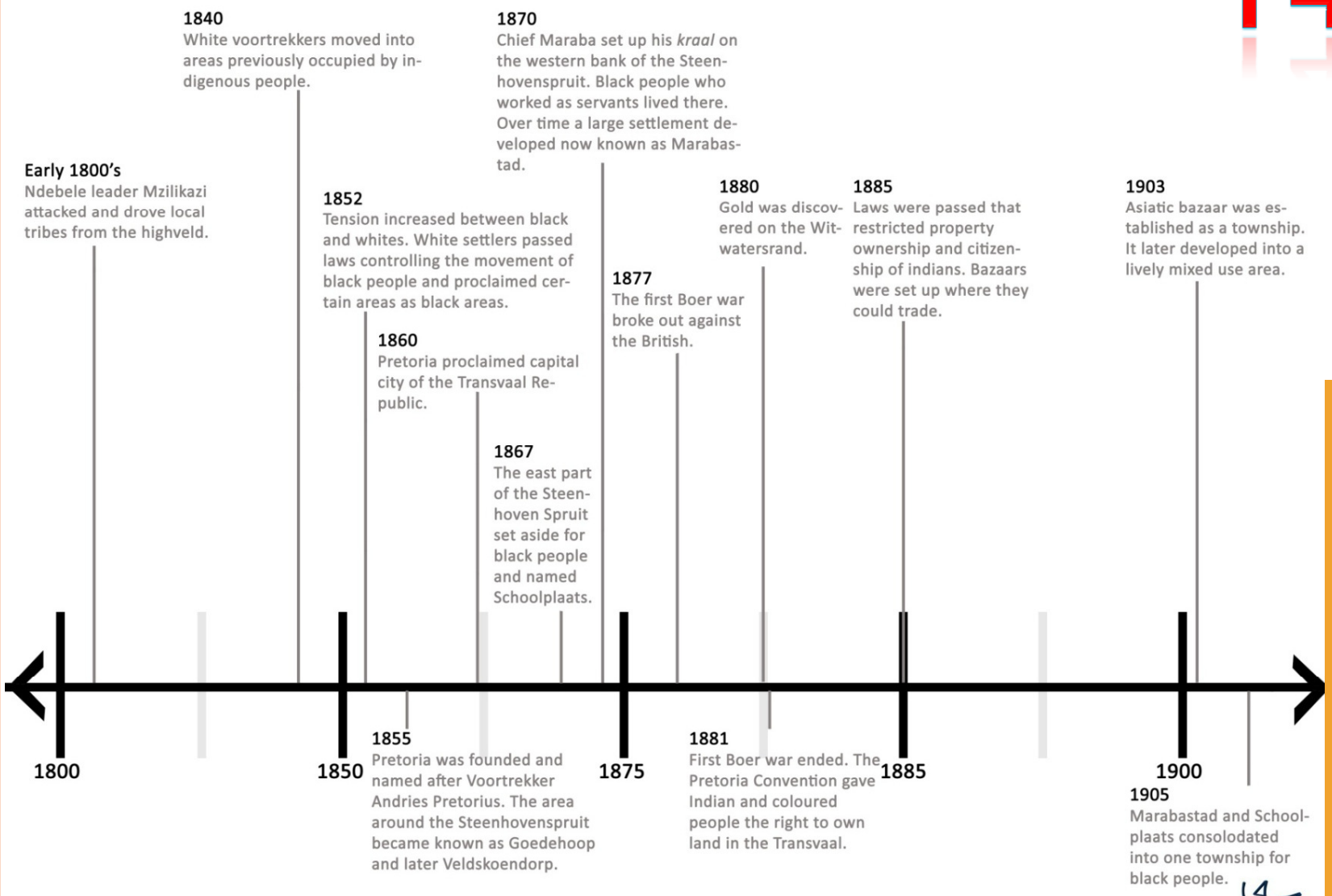
The current context of Marabastad is reminiscent of a once thriving local community. The author visited the site numerous times (January 2009–September 2009) to find: damaged building structures, littered streets and vacant lots, uncollected garbage, buildings in need of repair and replacement and in need of fresh paintwork. The area is in urgent need of attention and especially funding. Many have reclaimed their land through the Gauteng Land Claims Commission but there are still unresolved claims and areas of which the zoning is still undetermined. The author visited the Tshwane Metropolitan Municipality to get zoning information for the chosen sites and learned that the municipality is still unclear about what to do with the site. Now it is up to architects, planners, developers and the inhabitants to come up with a scheme that will benefit the entire community.

All around Marabastad there are pockets of shopkeepers and traders, but there are few residential areas. The once vibrant residential community of the area is long gone. The author believes that through proper planning this vibrant neighbourhood can be restored.

The neighbourhood is alive during the day with bus and train commuters; with people passing through who shop at the numerous informal food and clothing stalls in the area. There is music emanating from inviting pavement shelters where one can have a meal; there are medical surgeries, motor repair shops and high levels of energy in the area. The community is slowly rebuilding itself.

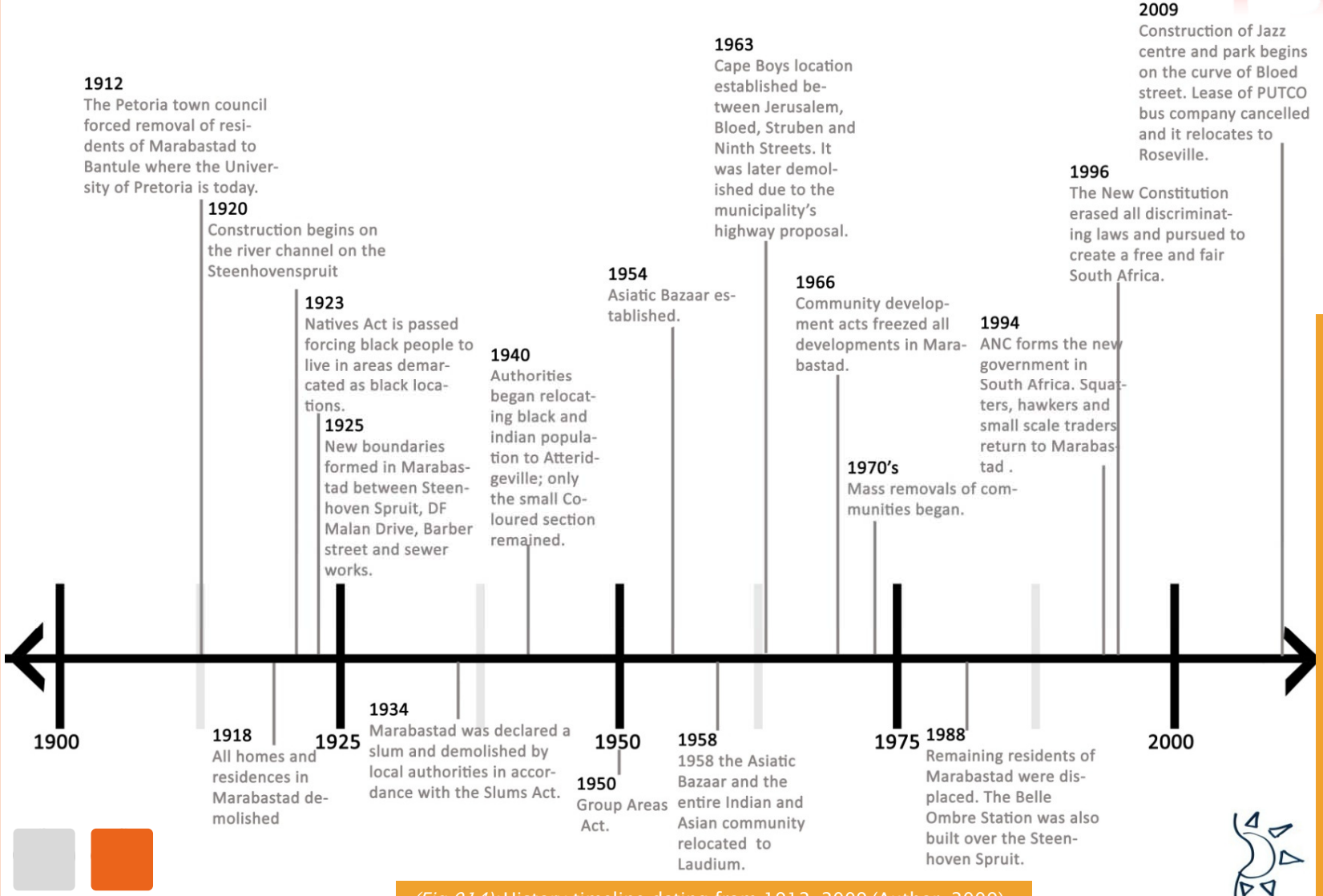
There is also a history of icons that have originated in the area, including the venerated sage Es'kia Mphahlele, the renowned journalist Can Themba, author Jay Naidoo, the fine artist Thabang Noto Matseke, writers Darryl Accone and Johnny Masilela and the Mamelodi Sundowns soccer club that grew out of the parochial Sundowns of the 1940's.

BACKGROUND



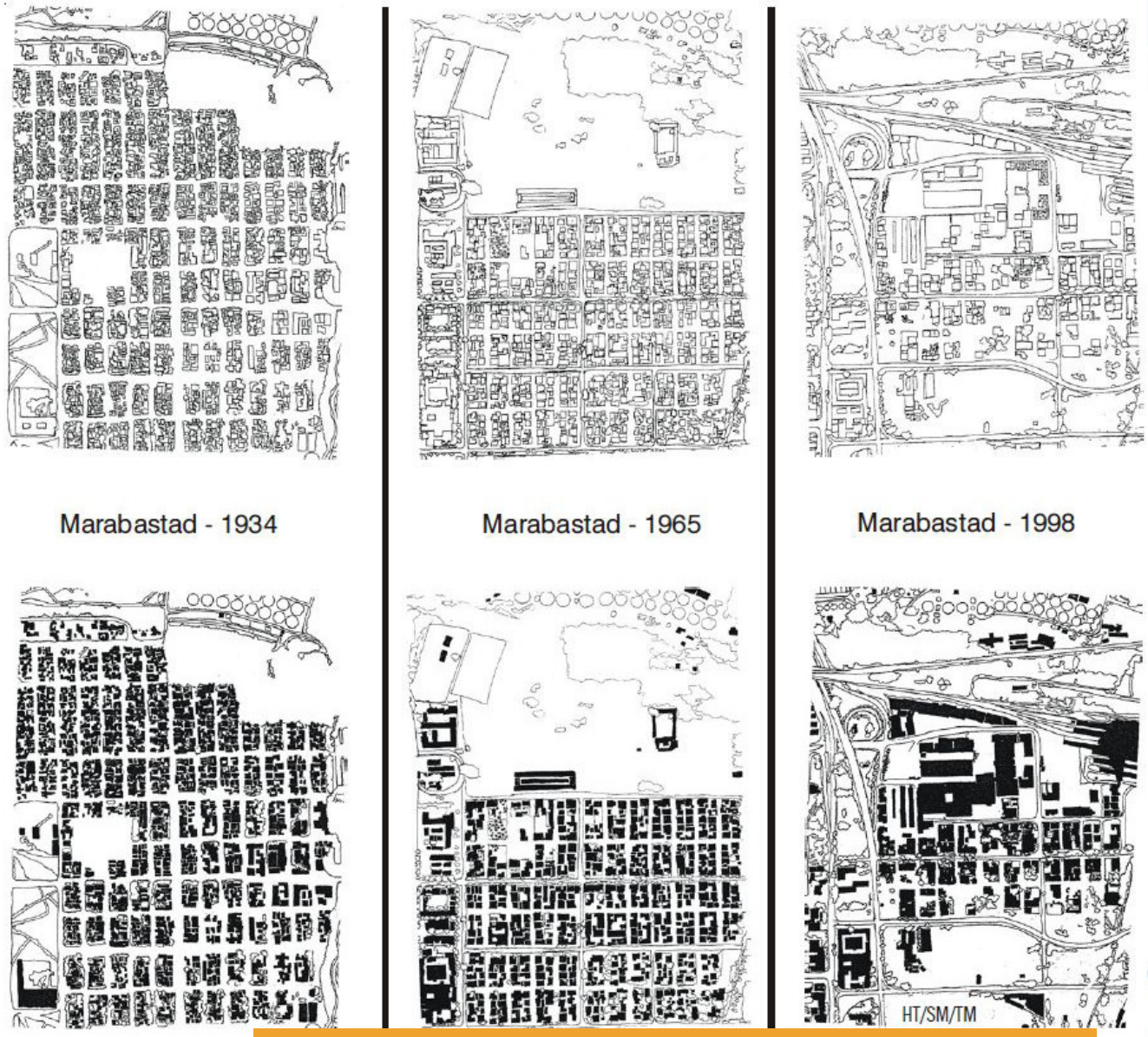
(Fig 013): History timeline dating from 1800–1905 (Author, 2009).

BACKGROUND



(Fig 014): History timeline dating from 1912–2009 (Author, 2009).

BACKGROUND

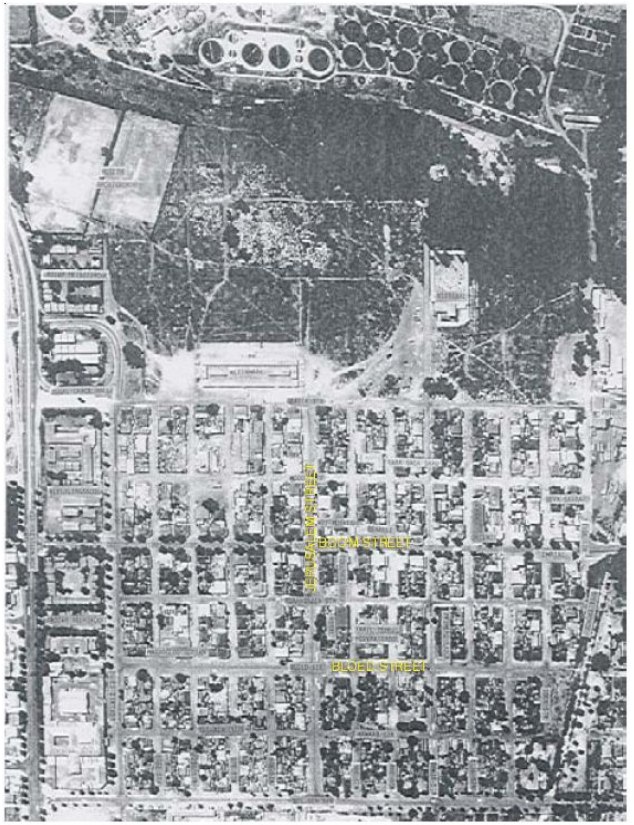


(Fig 015): Figure ground study dating from 1934 to 1998 (Tayob & Malan, 2002).

BACKGROUND

1934

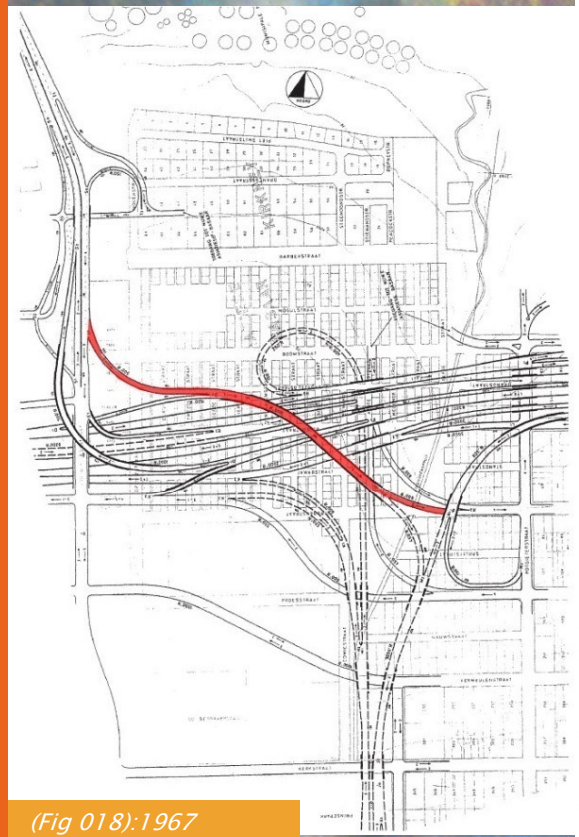
1965



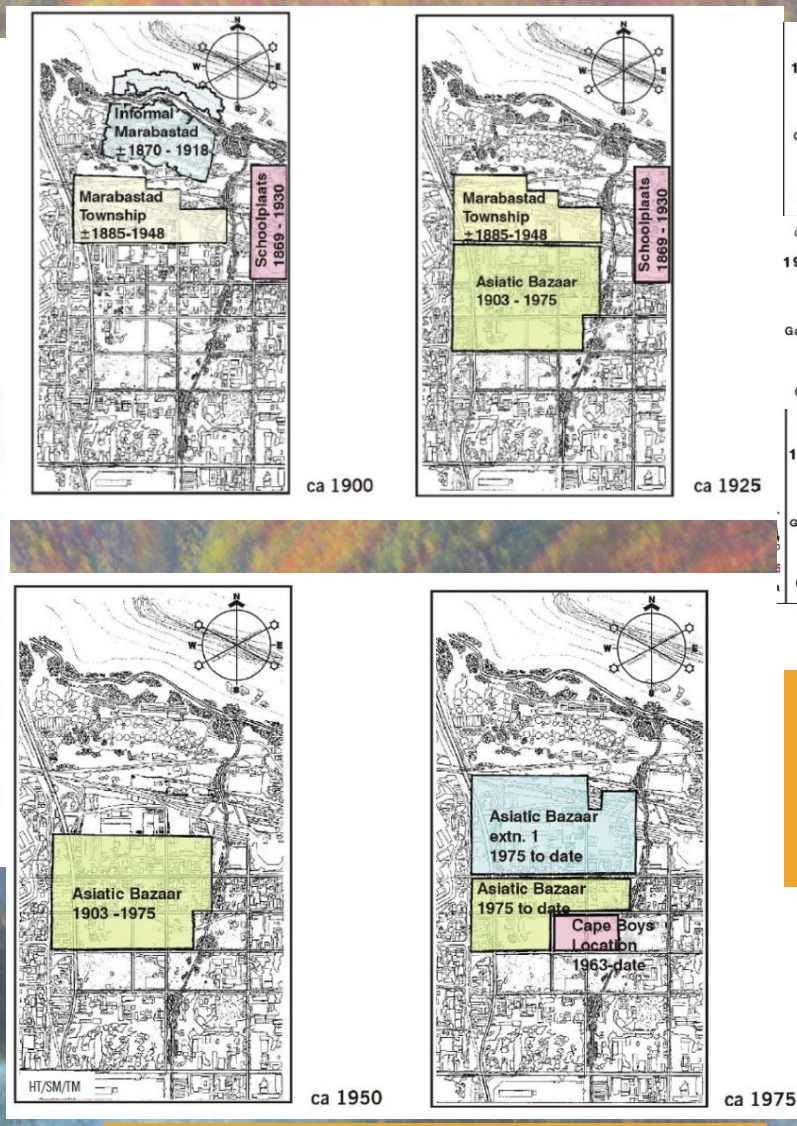
(Fig 016 & 017) : Arial photograph of Marabastad in 1934 and 1965 (Tayob & Malan, 2002).

BACKGROUND

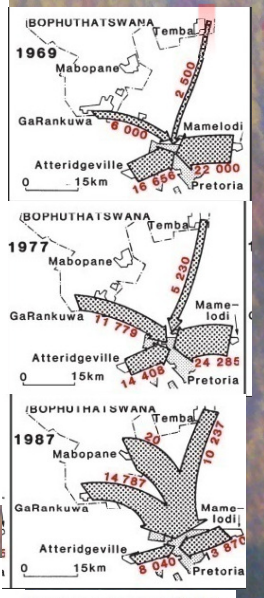
Why Bloed Street curves:



(Fig 018):1967 freeway proposal for Pretoria: Interchange over the Asiatic Bazaar (Tayob & Malan, 2002).



(Fig 019): The changing configuration of Marabastad (Tayob & Malan, 2002).

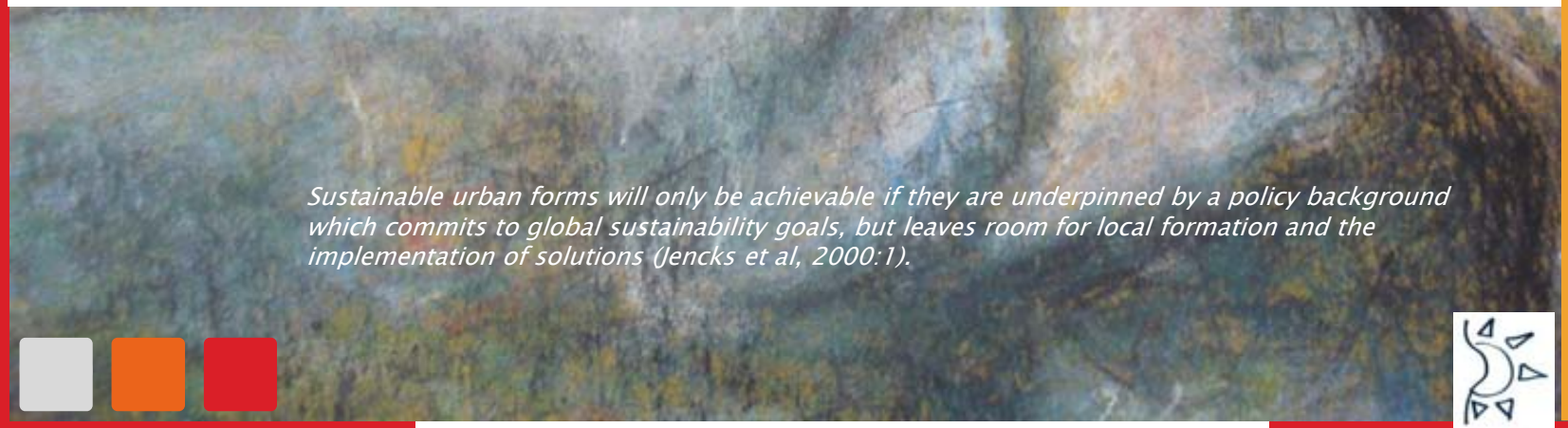


Train passengers commuting into Pretoria
(Source: Christopher, A.J. 1994)

(Fig 020):Diagrams showing the increasing number of train commuting into Pretoria (Tayob & Malan, 2002).

BACKGROUND

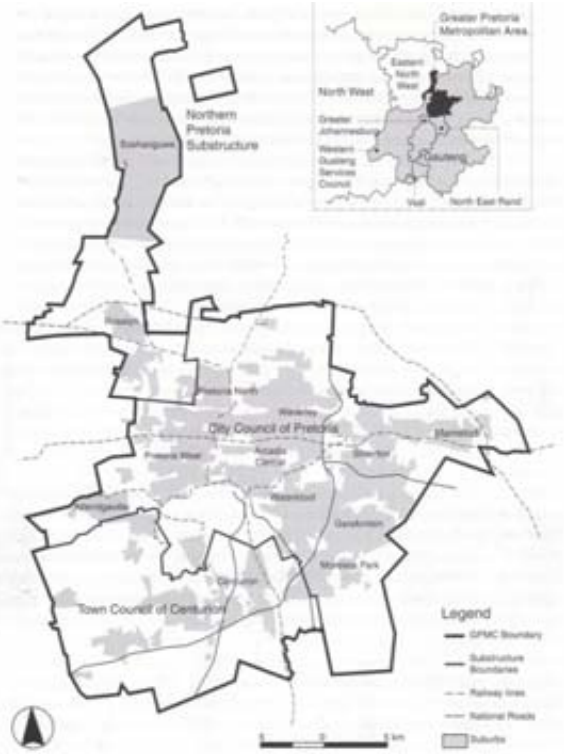
Site and Context

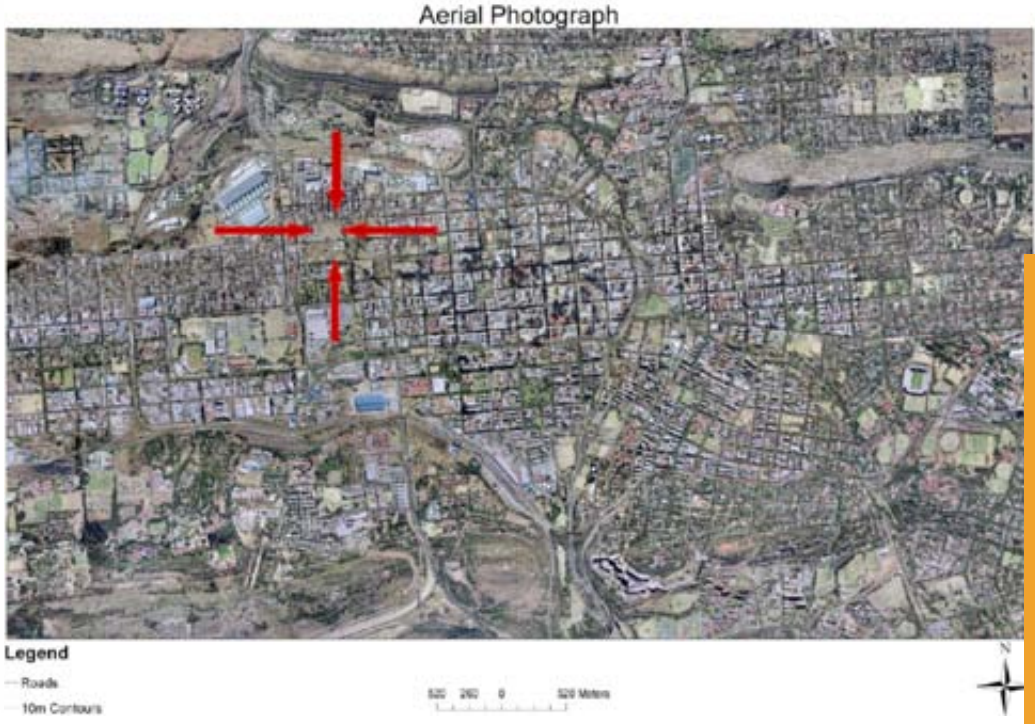


SITE AND CONTEXT

(Fig 021): During the first quarter of 2009, the PUTCO bus company's lease expired and the company relocated to Roseville. This created a vacant site which overlooks the Jazz Centre across from Bloed Street (Author, 2009).

SITE AND CONTEXT





(Fig 022): Locality map of the Greater Tshwane Metropolitan Council area (Jenks, 1995). (Fig 023): Aerial photograph of Tshwane with study area indicated by red arrows (City of Tshwane, 2009).

SITE AND CONTEXT

Fig: 024

Fig: 025

Fig: 026

Fig: 027

Fig: 028

Fig: 029

(Fig 024): Market place near Maraba Shopping Complex (Author, 2009). (Fig 025-029): Photographs of the Marabastad streetscape taken on Boom street (Author, 2009).

SITE AND CONTEXT

The site chosen for this thesis project was originally a residential zone in the Asiatic Bazaar and Cape Boy's location since 1903. The Asiatic Bazaar originally displayed the layout of the typical Transvaal town with its grid of streets around major intersecting axes. The area eventually housed about 60 percent of South Africa's Indian population (Tayob & Malan, 2002).

After the Anglo-Boer War, Blacks migrated to Pretoria. The report of the South African Native Affairs Commission of 1905 allowed other races to buy property; however, freehold ownership was never granted in the Marabastad and Asiatic Bazaar areas. The community was only allowed to erect buildings on their individual stands. The Asiatic Bazaar developed into a vibrant mixed-use urban environment. In 1950 the Group Areas Act came into being. This legislation severely affected the community at large, and in 1958 the Asiatic Bazaar and the entire Indian and Asian communities were relocated to Laudium, some 12 kilometres south-west of central Pretoria. This spelt the end for the once vibrant community of Marabastad.

Site Information

Zone: Northern Transvaal *(Holm, 1996. P.69)*

Altitude: 1372m above sea level *(Holm, 1996. P.69)*

	Summer	Winter
Average day temperature	29 °C	20 °C
Average night temperature	17 °C	5 °C

Table 1: Temperature (Holm, 1996. P.69)

380mm - 700mm	November to March (peaks in January)

Table 2: Rainfall (Holm, 1996. P.69)

(Fig 030): Aerial photograph (not to scale) showing Marabastad focus area (yellow) and site location (red) (City of Tshwane, 2009).

SITE AND CONTEXT

Summer	*North-Easterly to South-Easterly*
Winter	*Predominantly South westerly, occasional north-east*

Table 3: Wind (Holm, 1996. P.69)

Coverage: Not set *Height Restriction:* Undetermined *FAR:* Not set

Parking: 1 bay per teacher/instructor. Business: 2 bays per 100m²/floor area

Site Area: 2827m²

(Fig 031): Aerial photograph (not to scale) with site location (red) (City of Tshwane, 2009).

SITE AND CONTEXT

(Fig 032): Municipal drawing (not to scale) showing Marabastad city planning with site location (red arrows) (City of Tshwane, 2009).

SITE AND CONTEXT

(Fig 033): (Figure-ground (not to scale) with site location (red) and Steenhovenspruit (blue). There are high building densities to the eastern quadrant of the city and much lower densities to the west. The site is situated in an area with low densities except to the north where the greater part of Marabastad is visible. The figure-ground study shows how poorly linked and integrated Marabastad is with the rest of the city. Other areas are also marked including the Maraba shopping complex and Belle Ombre station (2009 Marabastad Group work team). (Figure 034) The Self-Help Skills Training Centre (Author, 2009) and (Figure 035) Church Square (Author, 2009).

SITE AND CONTEXT

Fig: 036

Fig: 037

Fig: 038

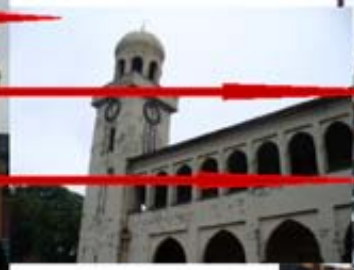


Fig: 039

Fig: 040

Fig: 042

Fig: 041

Clockwise: (Figure 036) Aerial photograph with site (red) (Author, 2009), (Figure 037) The Islamic Mosque (Author, 2009), (Figure 038) The 'Saracenic' campanile (Author, 2009), (Figure 039). The Mariammen Temple (Author, 2009), (Figure 040) The PUTCO bus stop (Author, 2009), (Figure 041) A dilapidated wholesale centre (Author, 2009) and (figure 042) The Tshwane University of Technology (TUT) (Author, 2009).

SITE AND CONTEXT

(Figure 043) Group framework (Marabastad Group work team, 2009).

- park & recreation
- linking pedestrian nodes
- future residential community
- mixed use zone
- bus, taxi and rail hubs

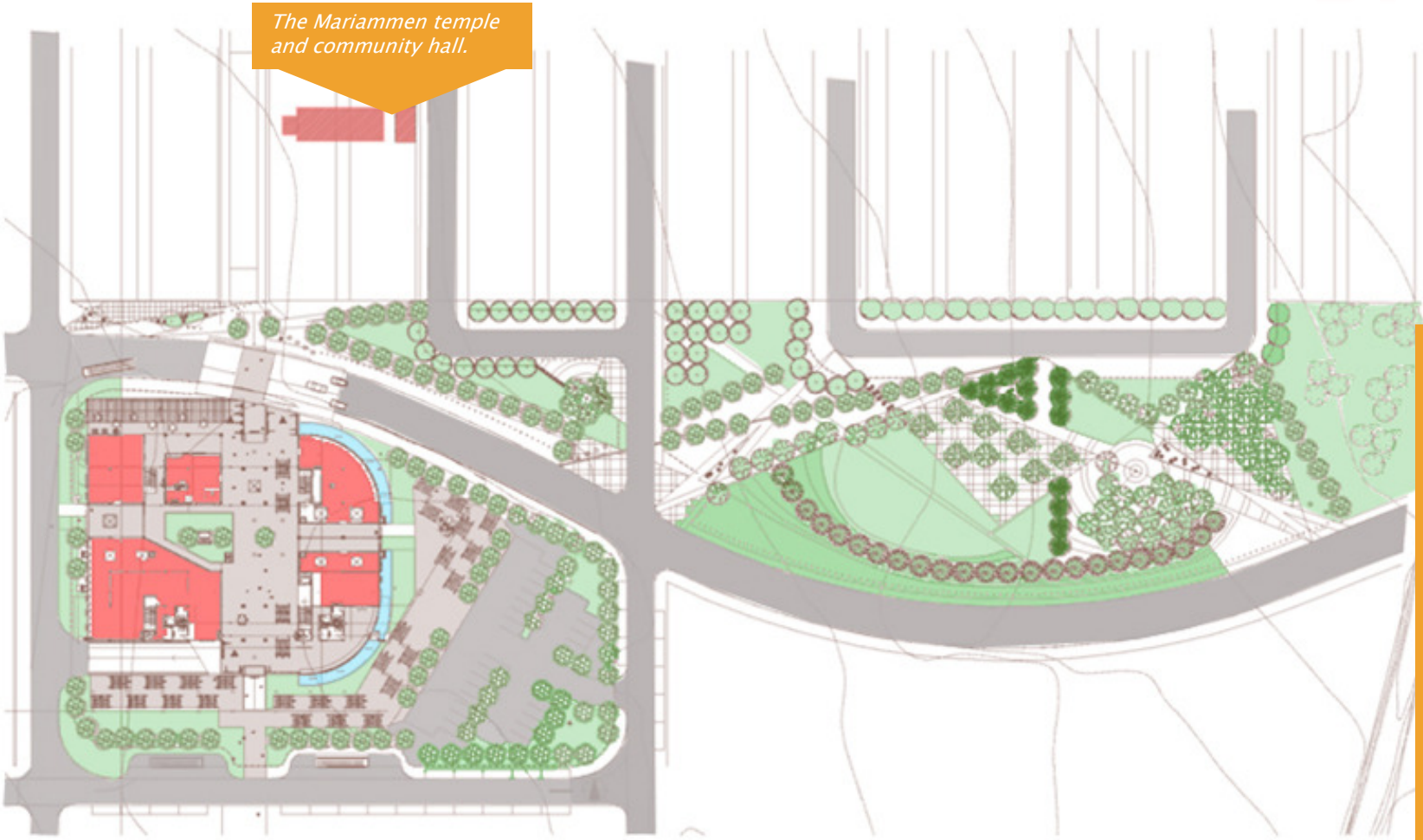
SITE AND CONTEXT

The Jazz Centre

While this thesis was being prepared the City of Tshwane Metropolitan Municipality began to rehabilitate Marabastad by introducing a landscaped park proposal on the curve of Bloed Street. This marks the entrance to Marabastad and the park will be known as the Jazz Centre (2009). On 14 July 2009, the author visited the site and found that construction of the Jazz Centre had already begun.

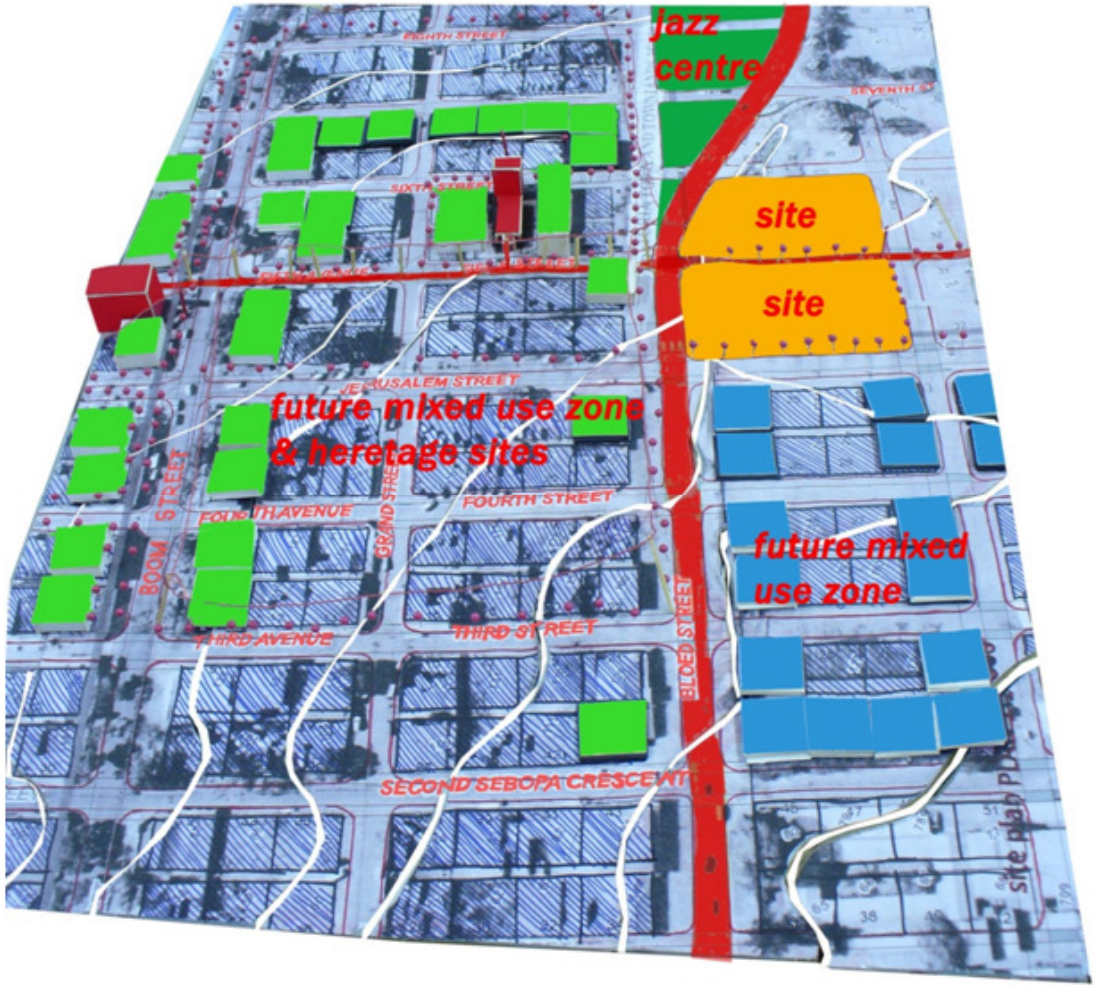
(Figure 044 & 045) The proposed site for the Jazz Centre. Images show that construction for the project has already begun. Photographs taken in July (Author, 2009).

SITE AND CONTEXT



(Figure 046) Preliminary master plan of the Jazz Centre (City of Tshwane, 2009) with the proposed Trader's Centre for Arts plan superimposed on it. The Trader's Centre for Arts is located to the south of Bloed Street. The Mariammen Temple and community hall are located further north (Author, 2009).

SITE AND CONTEXT

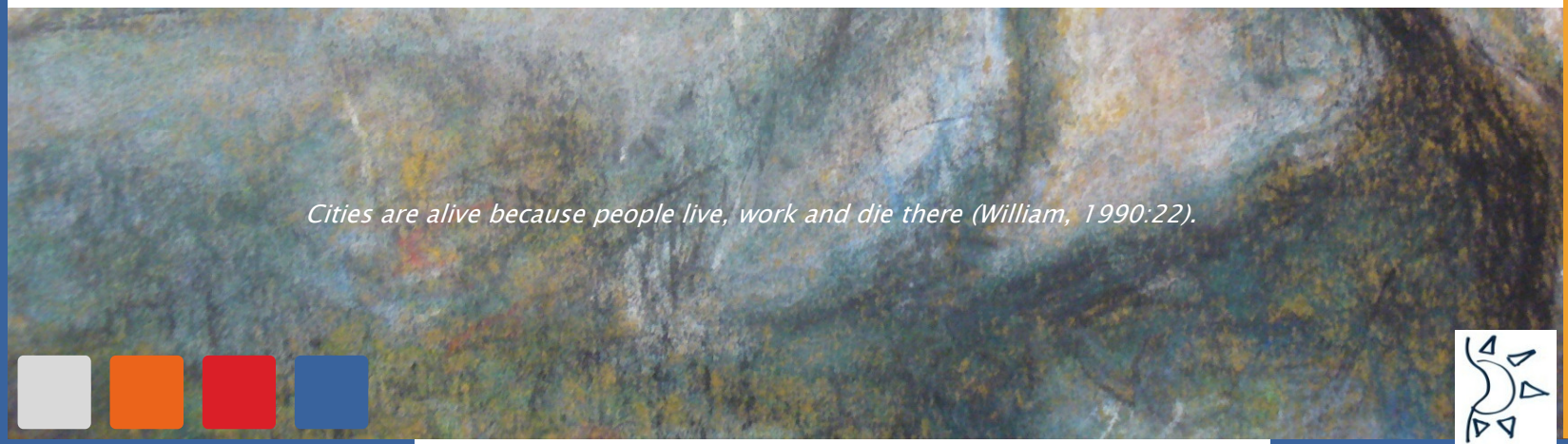


new building
Jazz Centre
Road Barriers
Mixed use
The Site

(Figure 047) Context model showing the proposed site, proposed new buildings to be built, the Jazz Centre location, road barriers and the proposed future mixed use zone (Author, 2009).

PROBLEM STATEMENT

Problem Statement



PROBLEM STATEMENT

(Figure 048) Daily shopping in Maraba shopping complex (Author, 2009).

Can Architecture, Planning and Art serve as tools to strengthen communities?

The thesis proposal is a *Trader's Centre for Arts* which will address skills and education development in the Marabastad area.

Can a new skill being introduced into a community such as Art help in facilitating the transformation of a new Marabastad? The facility will train craftsmen who will then sell their products to local and tourist markets. The future of Marabastad can also be improved by promoting a *compact* and mixed-use neighbourhood for the area. Marabastad has neither proper educational facilities for the greater community, nor adequate infrastructure; site visits confirmed that there are insufficient social gathering spaces (this was before the construction of the Jazz Centre had begun). After the completion of the Jazz Centre the area will be improved but the need for job creation will still exist. The development of the proposed new facility should prove to be economically viable and beneficial to the entire community.

Therefore the proposal should constitute a necessary step in reconstructing Marabastad in order for it to become a self-organising and self-financing neighbourhood. The first step would be to address skills and workforce shortages, as this would promote growth in the area. The thesis document will explore the possibility of whether architecture, planning and art can serve as tools to strengthen communities.

compact, *adj., v., & n.*: **1** closely or neatly packed together. **2** condensed (*Concise Oxford English Dictionary*, 1995).

PROBLEM STATEMENT

The proposal promotes a compact environment to increase densities and encourage urban systems to develop. Compaction of the city would be one way to generate small-scale economic growth and this document supports the ideology of improving the local economy. The more compact a system, the greater the range of services that can easily be reached and supported on foot (Dewar & Uytenbogaardt, 1991).

Although Marabastad is essentially a transport hub and a business platform, its most important aspect is its people. Many are commuters who set up their businesses on the sidewalks; their main clientele are the very commuters who board the trains and taxis on their way to work in the CBD. Marabastad also has a varied history and memory which means that it has the opportunity to target the tourist market. The economic consequences of the Apartheid city has left a huge scar on the people of Marabastad. This scar is severe as there is still a huge imbalance between the rich and poor people of Tshwane. Skills development and education would bridge this economical imbalance. The need also exists for a viable business strategy, and by educating tourists and locals, a facility such as the Trader's Centre for Arts can serve **as a repository for the memory of the area.**

education, *n.*: **1** the act or process of educating or being educated; systematic instruction. **2** development of character or mental powers. (*Concise Oxford English Dictionary*, 1995).

What- Trader's centre focused on skills development in the area.
Why- Shortage of skills within the community, poverty, the lives of the community members needs to be improved.
When- The proposal is designed to be implemented into the current Marabastad context as well as including the proposals and zoning plans of the 2009 Marabastad Groupwork framework.
How- The proposal will be built as part of the Tshwane Metropolitan Municipality's community development plans for the rehabilitation of the Marabastad community.
Where- The proposal is situated just south of central Marabastad on the previous site location for the PUTCO bus company which has relocated to Roseville.
Who- The facility is designed for the informal and less fortunate members of the Marabastad community.
Product- The facility will produce works of artwork, pottery, carpentry, mosaics, sculpture, african handicrafts and beadwork, music training, computer literacy, computer aided design workshops and business skills training. The products sold at the centre will be hand crafted by disadvantaged community members who have been given a platform and opportunity to develop their skills and make a living at the centre.

PROBLEM STATEMENT

(Figure 049 & 050) The Self-Help Skills Training Centre. (Author, 2009).

The client + sources of funding

The facility will cater for skills development and will also provide facilities for local artists. It will encompass crafts, business skills, carpentry and the arts. It is hoped that the City of Tshwane Metropolitan Municipality will give the first initial injection of capital into the project and after that it would become a self-financing proposal through other sources and markets. Since the development focuses on skills training in crafts and arts, there are numerous other possible sources of independent funding such as: the Accelerated and Shared Growth Initiative of South Africa (ASGI-SA), DAC (National Department of Arts & Culture), National Arts Council of South Africa, AFFA, Africalia, African Cultural Heritage Trust, Arts Alive, Arts and Culture Trust, ARUP, BASA (Business and Arts South Africa), the National Heritage Council and numerous other private sector donors.

The needs of the area

Housing and the integration of mixed uses would be beneficial to the community as well as a skills development proposal within the area. There are homeless people as well as immigrants living in Schubart Park and Kruger Park, a situation which poses a security risk. To create a compact neighbourhood people need to live in the area, and densification will help rejuvenate it and bring it to life. However, the people moving in to the area need to be skilled in order to help strengthen the community.

The Self-Help Skills Training Centre (*figure 049 & 050)* on Proes Street is one of the existing skills development initiatives in the area. It caters for the following: typing of letters and documents, writing a thesis, design and printing of letterheads, photocopying, faxes, business plans and typing of CV's, as well as training in computer repairs, computer courses and how to run a business. However, there are still no tourist information centres, cultural facilities and facilities of an arts and crafts nature. If the *Trader's Centre for Arts* were built, jobs would be created for the locals who could become guides who can relate Marabastad's rich history and memory to tourists.

To the south of Bloed Street lies abundant vacant land which is under-utilised. The PUTCO bus company leases this land and parks its busses there. This creates a great barrier between Marabastad and possible future developments. After an interview with a City of Tshwane representative, it was

PROBLEM STATEMENT

discovered that the municipality is set to terminate PUTCO's lease agreement as there are plans for the land. Marabastad is not a big community and can benefit from utilising this vacant land, which is important for its growth and for connecting it to the rest of the city. The current area is subject to decay, poverty, unpleasant odours, dirt and the general unsanitary hygienic standards of the area. This is because there exists no proper planning, funding or services which aid the community as a whole. The Tshwane municipality needs to serve this part of the city for the betterment of the entire city. After a site inspection it was brought to the author's attention that the municipality needs to provide sanitation facilities and public ablutions for the people. The proposal would encourage the upgrading of the public spaces of Marabastad such as all the streetscapes and green areas.

The streetscape should be properly defined with street furniture, paving patterns and attractive materials. A public square or courtyard where people can relax could possibly be centred within the scheme. Marabastad also experiences stormwater problems and there are no transitional spaces within the area. The quality of future developments and architecture needs to be improved and building guidelines need to be enforced in areas of which the zoning is undetermined.

It was also discovered that the majority of the land claims in central Marabastad have been approved by government; hence the land is now owned by the people. This would encourage owners to move into Marabastad in future and the proposed new inclusionary housing scheme to the south of Struben Street will also create higher densities in the area. It is up to the people of Marabastad to improve the urban fabric themselves as they own the land now. This would be a long-term process (Alexander, 1977).

The new housing development is proposed to have 750 residential units; these units are said to be part of an Inclusionary Development Scheme and it can be assumed that it would cater for different income levels and different races living together. This brings a residential component to the scheme located far south of central Marabastad.

PROBLEM STATEMENT

Job Opportunities

The proposal will target the local and tourist markets. Skills training will be available to all community members. After a person has acquired or developed a skill, that person will be given the opportunity to sell his or her products to markets at the facility. The centre also targets local artists and would invite new and upcoming artists and local authors to apply their skills at the centre. Musicians can also benefit from using the facility and a music studio is included in the development proposal.

The requirements of a Trader's Centre for the Arts – Brief and Programme:

The facility designed for this dissertation integrates several briefs fundamentally divided into units: an arts and crafts facility, retail trader's stalls, and residential spaces (which can also be rented out to educational sectors sponsoring visiting lecturers and professors at the facility). The design of these different briefs also corresponds with the author's understanding of a 'compact environment' which integrates and promotes mixed uses within one area. Overall, the Trader's Centre for Arts should be incorporated easily within the context of the Jazz Centre which it overlooks to the north-east. With this in mind, sufficient parking areas need to be provided to cater for persons visiting the Jazz Centre when a concert is being held. The facility proposes basement parking as well as surface parking. The multi-functional surface parking space can also be used as a *weekend trader's market,* in which case visitors can use the basement parking. The w*eekend trader's market* can also host music events.

Brief and Programme: Trader's Centre for Arts:

Basement Floor Plan:

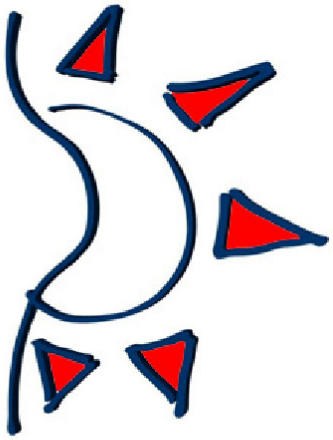
Total floor area (excl. ramp & rooms)	3250.5m²
Grey water pump room	39.4m²
Water reticulation pump room	39.4m²
Art Department storage	168.2m²
Trader storage	29.5m²
HVAC	31.3m²
Solar battery room	29.5m²

PROBLEM STATEMENT

Ground Floor Plan:	
Pottery workshop	275.6m²
Tourist Information Centre/Book Store and Kiosk	138.2m²
Art Workshop	194.9m²
Gallery	551.6m²
Product packaging department	193.4m²
Ablutions/kitchen/bin area	66.3m²
First Floor Plan:	
Internet café/I.T. room/Printer & copy room	96.4m²
Poetry and literature room	85.8m²
Carpentry and furniture design workshop	285.9m²
Public sculpture design workshop	241.6m²
African handicrafts and motifs studios	171.9m²
Art studio 1	149.7m²
Art Studio 2	184.2m²
Mosaic design workshop	173.1m²
Music studio	98.9m²
Ablutions/kitchen/bin area	99.5m²
First Floor Plan:	
Unit A	139.2m²
Unit B	116.8m²
Unit C	52.4m²
Unit D	104.2m²
Unit E	112.5m²
GRAND TOTAL	7120m²

PROBLEM STATEMENT

(Figure 051) South African Artist Andrew Walford demonstrates his artistic talent on a wall panel (Andrew Walford, 2009).



Art+ Expression: the basis of the exploration

Groak (1996:61) quotes John Ruskin: "No person who is not a great sculptor or painter can be an architect. If he is not a sculptor or painter, he can only be a builder"

(Figure 052) Artwork on wall at Talking Beads Academy along Proes Street, Marabastad (Author, 2009).

Art forms the basis of the thesis exploration. The author identified it as a skill which could be used in the facilitation and transformation of the community.

Since the facility will cater for art, skills, resources and crafts, the author investigated art and its influences, the expression it can create, and the memory it can harness forever.

Architecture is an art form. Art is a form of expression and the influence it has on architecture deserves to be explored. Artists are able to generate feeling and emotion in their work; they need no words. The author uses his own artistic portfolio *(page 44-47)* that captures the feelings and emotions of the subject matter; the portraits are colourful as well as dark. The portfolio contains a humanist interpretation of the subject matter and the relationship between colour and technique create the character of the portrait. Expression is captured in a person's face or voice, and this expression can be seen in the faces of the people living in Marabastad; these people have lived and experienced the city. The growth of a community can be seen in the quality of its architecture.

Architecture can benefit from the same techniques that artists use to generate the emotion and memory of place, and art can benefit from buildings that encourage and support art. Subjective and objective art can be interpreted in so many ways and by so many people. Architecture is much the same. The people of Marabastad are vibrant and colourful and busy; the architecture of Marabastad needs to be improved and needs to reflect the lively people living there.

Fig: 053

(Figure 053) Photograph foreground showing a Mapog decorated wall utilizing Ndebele-style painting, taxis, buildings in need of repair and the Nawab Mariammen Temple with the high-rise buildings of central Pretoria in the background (Lipman, 2009).

(Figure 054 & 055) Artwork on wall at Talking Beads Academy along Proes Street, Marabastad (Author, 2009).

Fig: 054

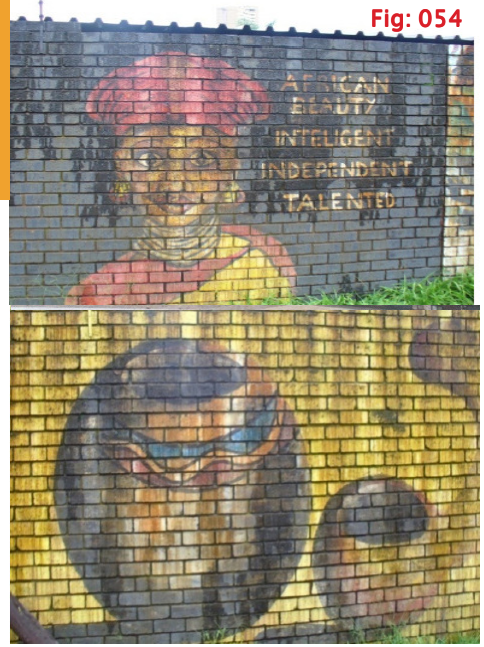


Fig: 055

Artists differ from other humanists because they manage to create works that reveal real values; they present works that are clearer than non-artistic reality. Artists are sensitive to the important concerns and values of their society and portray these concerns in their subject matter. Artists create forms that clarify a society's values (Martin & Jacobus, 2004:457). Architecture acts as a container for these values.

A painting can convey colour, shape, space, form and feelings of joy; just by manipulating the use of colour, which in architecture can be linked to the use of light, material or painted finishes (e.g. Mapog decorated walls, *Figure 053)*. The people of Marabastad need to feel and experience their neighbourhood and need to become part of their environment and culture. Architecture has the power to improve people's lives and create communal unity. Art and Architecture are expressions of culture and the artistic theory underpinning this project relates to South African cultural heritage. Art has been useful to archaeologists in understanding social structures and religious beliefs, and is important in African culture.

ART+ EXPRESSION

(Figure 056 & 057) Artwork on wall at Talking Beads Academy on Proes Street, Marabastad (Author, 2009).

(Figure 058) Mosaics in the city centre at Strijdom Square (Author, 2009).

Fig: 056


Fig: 057

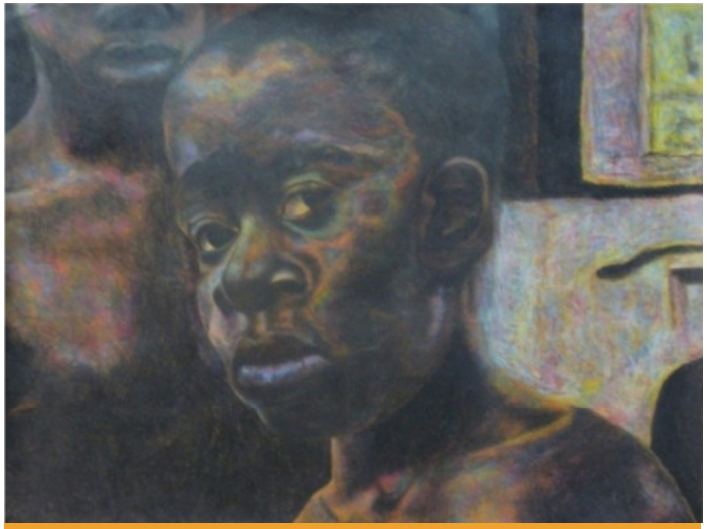

Fig: 058

Art has the potential to humanise a building, as illustrated by *figures 056-058*. The Mapog decorated wall *(figure 053)* is both culturally and aesthetically pleasing and yet the building is both low-cost and simple. The decorated wall is linked to patterns. Patterns can be seen in an artists "signature technique" of manipulating his palette, and in architecture and urbanism a complex hierarchical pattern of order is pursued to allow richer developments over time (Dewar & Uytenbogaardt, 1991). Notice how the brickwork *(054-055)* wall forms bits and pieces of the entire painted canvas, much like a jigsaw puzzle after completion.

The Romantic artists understood arts in a qualitative way and placed great emphasis on explaining life in terms of visual forms. Artwork has a strong relationship with light and technique and architecture shares this relationship.

The colourful murals and mosaics in *figures 056-058* promote a lively 'community architecture' feeling to the environment. They can also provide a decorative element to humanise architecture. They are visually stimulating and improve the character of their harsh surroundings. Notice how the mosaic displays a humanist interpretation of the subject matter. The proposed new *Trader's Centre for Arts* will promote participation between the artist and the building by allowing artists the opportunity to decorate columns with mosaics and the creation of 'art walls' to inform the public.

The artists in the facility would also be encouraged to create public sculptures that can be placed in the Jazz Centre as well as gathering spaces throughout Tshwane.

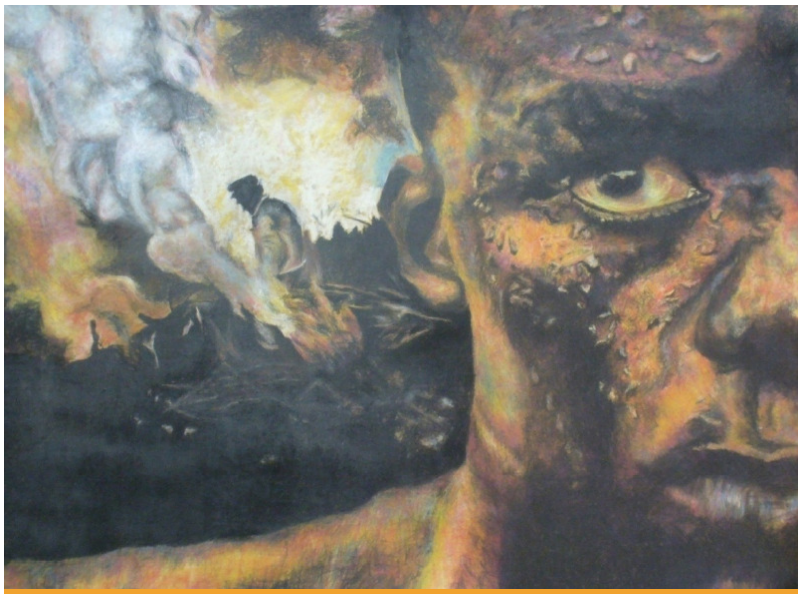


(Figure 059) The Sibling (2001-2002). Dimensions: 841 x 1189 , medium: conté *(Author).*

The humanistic qualities that can be generated by art are depicted by the author's conté portraits of African male subjects aged between 13 and 40 years of age. The subjects are young to middle aged black African males who have been scarred by events and policies out of their control. The author manipulates light and dark in these works that are symbolic of the struggle that African men and children experienced before and after the Apartheid era. He tried to capture this struggle in the expressions on the faces, which also reveal the memories and experiences of the subjects. These memories can be deeply routed to memories of generations of past Marabastad inhabitants who were forced out of their homes and community.

Figure 059, *The Sibling (2001-2002),* depicts a curious but sad side of depression and is symbolic of those who lost their parents in the struggle. The boy symbolises street children, the homeless and the young people affected by Apartheid. *Figure 060*, *The Caretaker (2001-2002),* is symbolic of slavery and depicts a strong African male, a hard worker as can be seen from the sweat dripping down his forehead, who submits to the orders of a white male who is seen in the background. Anger is expressed in the face of the African male, his feelings reinforced by the burning cane in the background. He looks accusingly at the viewer of the artwork. The viewer is drawn to the African face and features by its sheer size and is then drawn to the background and an outline of a man near a small fire which produces a cloud of smoke. The background is deliberately dark and the viewer cannot really see what is there.

Figure 063, *The Man (2001-2002),* shows a topless man looking over his shoulder and is symbolic of the way forward; the subject waits for what's next in his life with curiosity.



(Figure 060) The Caretaker (2001-2002). Dimensions: 841 x 1189 , medium: conté. *(Author).*

The relevance of the author's portfolio is that it relates to the influence of Apartheid and the psychological effect it may have made on the people who lived in Marabastad. A reason perhaps why after interviewing the local inhabitants a perception still exists that there is no future for the area. There are however countless opportunities and the future of the neighbourhood also depends on the mindset of the people. The people need to be willing to help improve the neighbourhood in order to achieve results. To achieve this the people need to see investments and growth in their neighbourhood. The Jazz Centre can be seen as a starting point and the building of the proposed new *Traders Centre for Arts* can reinforce the perception and faith in the peoples mindset that there is a future with infinite possibilities.

Alvar Aalto: *Nothing old is ever reborn. But it never completely disappears either. And everything that has ever been always re-emerges in a new form* (Porphyrios, 1982:25).

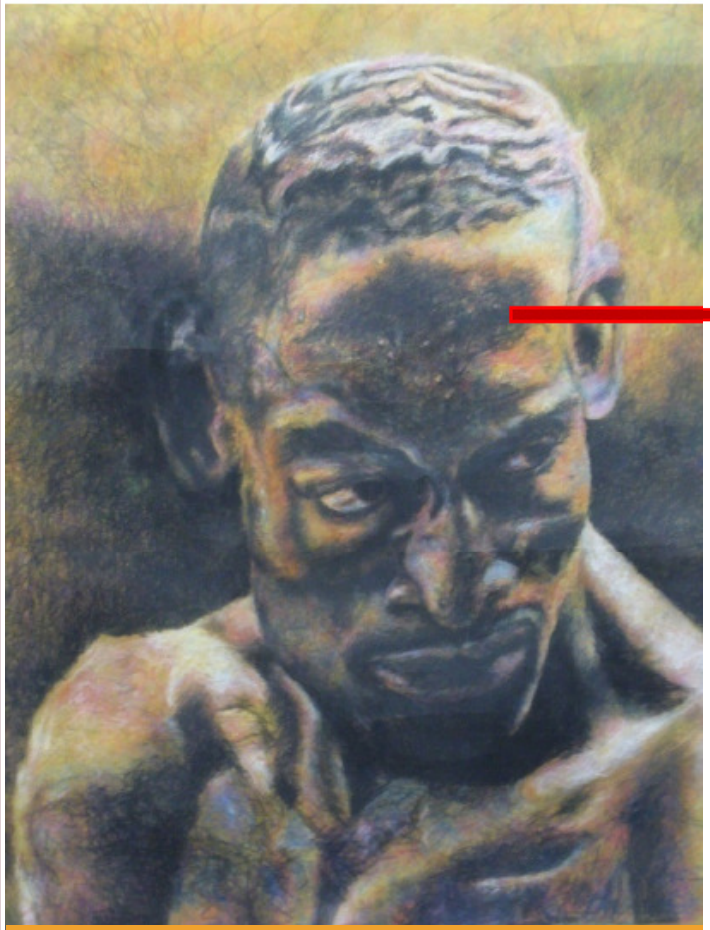
The above quote by Aalto suggests a typological conception of design based upon the retrieval of memory. The author's artwork shares this typology in terms of the historical memory of the past and the effects of the Apartheid era. Aalto experimented with this concept of memory in his architecture.

(Figure 061 & 062) Canecutter (2001-2002). Dimensions: 1189 x 841 , medium: conté *(Author).*

The artworks entitled *Canecutter (2001-2002)* and *The Man (2001-2002)* both symbolically refer to humanism and expression. Bright colours were chosen for the background of *Canecutter (figure 061 & 062)* to symbolize the danger of the burning cane. The bright colours in the face of the subject portray his strong character and personality.

Emotion and expression is captured on the face of the subject.

ART+ EXPRESSION



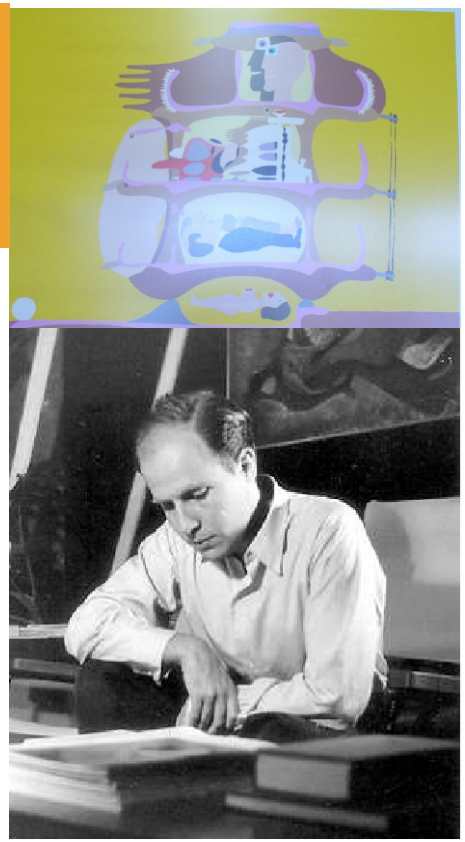
(Figure 063 & 064) The Man (2001-2002). Dimensions: 1189 x 841 , medium: conté *(Author).*

The Man (2001-2002) (figure 063 & 064) makes use of dark colours as the dominant feature behind the subject which then suddenly transforms into light. The moment is captured as the subject looks forward to what is next in his life and the past appears like a shadow behind him.

Emotion and expression are the author's technique of mastering patterns and getting the message across to the viewer that the subject is in deep thought.

(Figure 065) Painting based on 'Smiling Lion' apartment section-1982 (Guedes, 2009).

(Figure 066) Photograph of Pancho Guedes in 1953 (Guedes 2009).



The work of Pancho Guedes

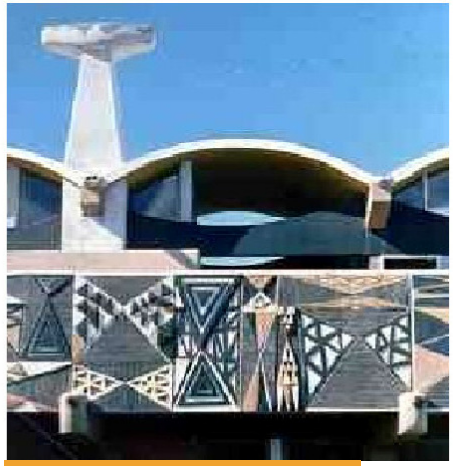
The author asked the question: *How can an architectural solution be created based on Art?* This question led to a well-known architect known as Pancho Guedes. The author discovered that this architect proves that Art and Architecture are inextricably linked. A few of his artworks entitled *'Smiling Lion'* and *'A hotel for S. Martinho do Bilene'* can be found in the architectural reading room at the *Boukunde* building, University of Pretoria, South Africa. This is where the author saw Pancho Guedes' artistic work for the first time.

Professor Pancho Guedes is an architect, painter, urban designer, sculptor, writer and academic. His entire portfolio of architectural work exceeds six hundred projects and ranges from domestic to industrial scales. His work in Mozambique demonstrates *'a strong link in creating architecture of our subcontinent by responding to local technology and skills* (South African Architect, 1999).

Guedes has found an architectural solution based on art and his paintings illustrate the passion he has for Art and Architecture.

(Figure 067) Photograph of The Smiling Lion apartment blocks (Guedes 2009).

The Smiling Lion is covered with relief murals in triangulated metric patterns in soft oranges, white and black, influenced by the painted walls of Ndebele women (South African Architect, 1999).



(Figure 068) Photograph of The Smiling Lion apartment block showing the detailing of relief murals influenced by Ndebele culture (Guedes, 2009).

ART+ EXPRESSION

(Figure 069) Casal dos Olhos, Eugarioa, Sintra, Portugal (1972-1990) (Guedes, 2009).

(Figure 070) Photograph of painting 'A hotel for S. Martinho do Bilene',(Author 2009)

(Figure 071) Painting :'Dredger in dry dock (1947) (Guedes, 2009)

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Theory + Urbanism

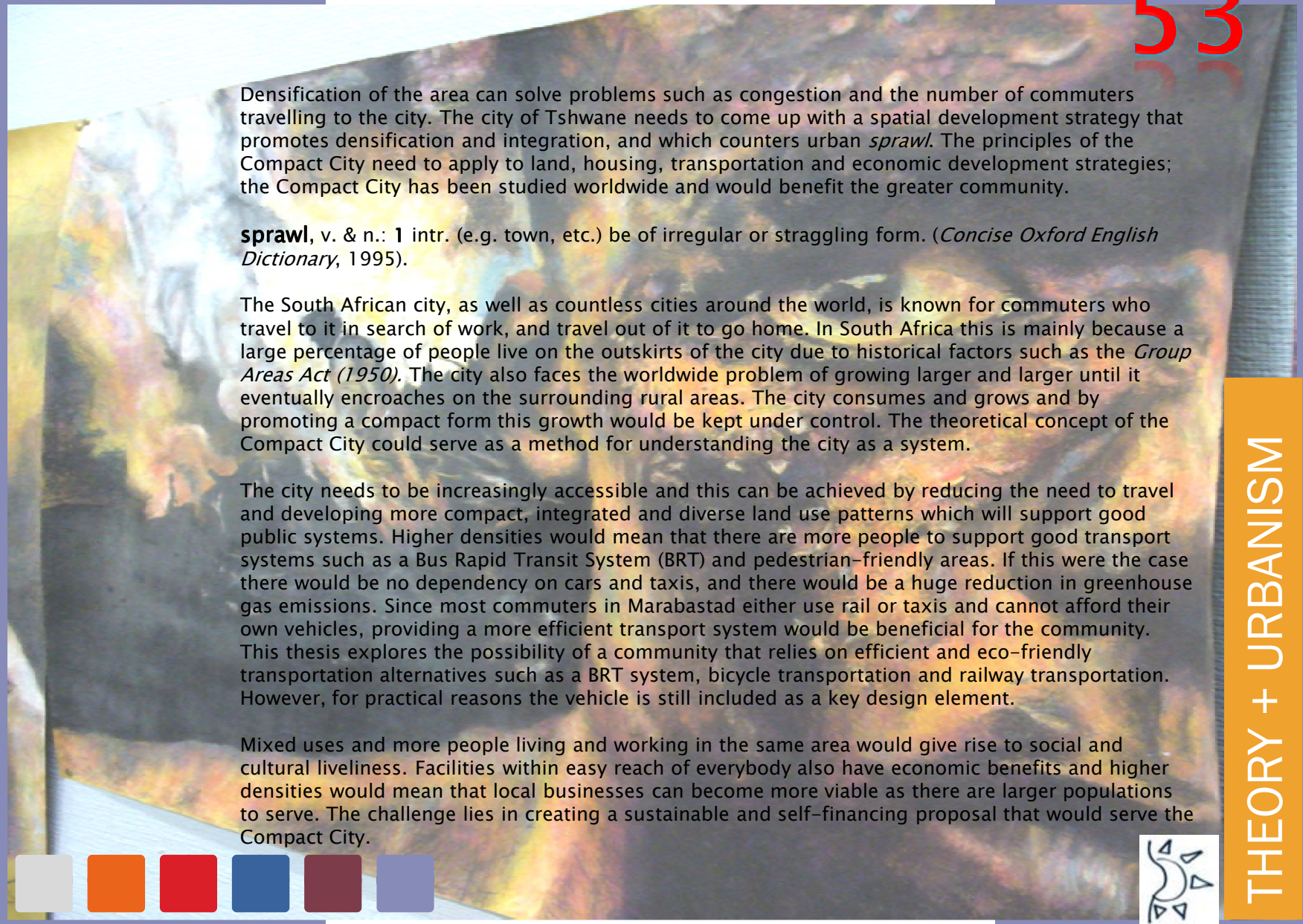
This chapter will focus on the formulation of a theory. The modern world has reached a point of crisis that can only be solved by making drastic changes. The world is faced with a food crisis, a freshwater shortage, fuel depletion and countless other problems. To curb these problems the attitudes and lifestyles of every member of society needs to change and cities and buildings need to be planned better by architects, town planners and the like. South African cities are unique to the world as political policies influenced the segregated and fragmented patterns of its planning. The structure of South African cities needs to change radically integrating the South African city is supported by the Development and Planning Commission (DPC) of Tshwane Land Affairs. There needs to be an 'outright rejection of the low density, sprawling, fragmented and largely mono-functional forms of development' that characterized the Apartheid city (Jencks, 1996:219).

The Compact City

compact city, n. (pl. -ies): **1** a high density, mixed-use compact urban form (Porter, 2004).

The idea of the Compact City was first promulgated by the New Urbanist and Smart Growth movements. It is based on the belief that the physical form of towns and cities can have a major effect on sustainability. The European Commission (CEC, 1990) was an early supporter of this concept. Theoretically, the Compact City aims to reduce urban sprawl, it leads to a more efficient use of existing urban land, and ensures that the functions of work, leisure and living are in close proximity to each other. The Compact City would also provide benefits in terms of environmental, social and economic sustainability. There will also be less need to travel and hence it would be much easier to walk and cycle to areas than using a motor vehicle. Marabastad presently relies on motor transport because of the previous planning of Pretoria, which was designed for people not living in the city; as a result the city has become fragmented. Promoting the Compact City would lead to densification.

The City of Tshwane directly and indirectly continues to suffer the consequences of funding low-density developments on the periphery of the city. This is forcing people (mostly poor) to live outside the city. They bear the burden of high transport costs since their income derives from jobs they hold in the city. The author discovered that it costs R9.00 (April, 2009) for a student to travel from the University of Pretoria to Marabastad and that works out to around R558.00 per month (62 trips which equates to 2 trips a day for a 31 month period).



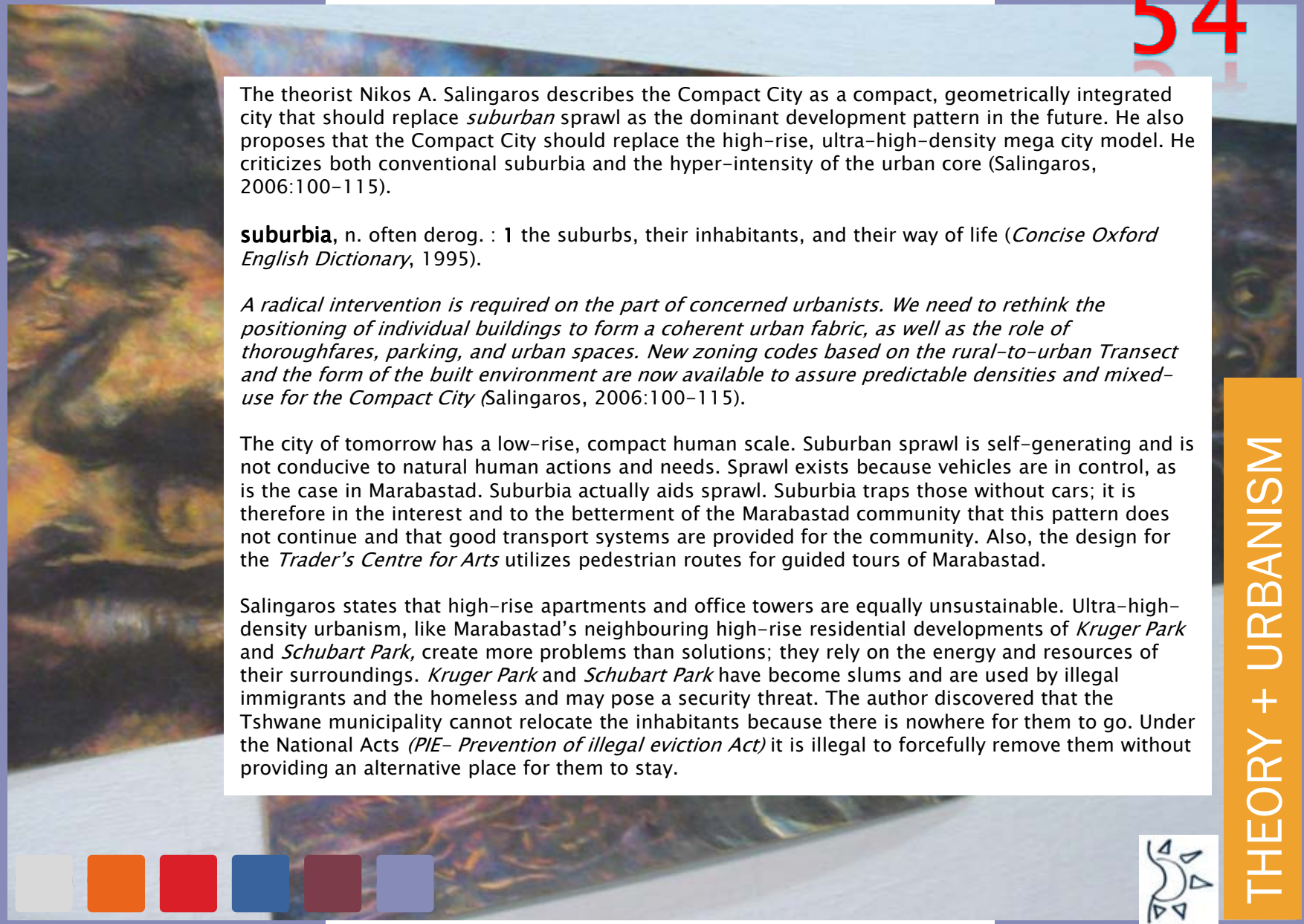
Densification of the area can solve problems such as congestion and the number of commuters travelling to the city. The city of Tshwane needs to come up with a spatial development strategy that promotes densification and integration, and which counters urban *sprawl*. The principles of the Compact City need to apply to land, housing, transportation and economic development strategies; the Compact City has been studied worldwide and would benefit the greater community.

sprawl, v. & n.: **1** intr. (e.g. town, etc.) be of irregular or straggling form. (*Concise Oxford English Dictionary*, 1995).

The South African city, as well as countless cities around the world, is known for commuters who travel to it in search of work, and travel out of it to go home. In South Africa this is mainly because a large percentage of people live on the outskirts of the city due to historical factors such as the *Group Areas Act (1950)*. The city also faces the worldwide problem of growing larger and larger until it eventually encroaches on the surrounding rural areas. The city consumes and grows and by promoting a compact form this growth would be kept under control. The theoretical concept of the Compact City could serve as a method for understanding the city as a system.

The city needs to be increasingly accessible and this can be achieved by reducing the need to travel and developing more compact, integrated and diverse land use patterns which will support good public systems. Higher densities would mean that there are more people to support good transport systems such as a Bus Rapid Transit System (BRT) and pedestrian-friendly areas. If this were the case there would be no dependency on cars and taxis, and there would be a huge reduction in greenhouse gas emissions. Since most commuters in Marabastad either use rail or taxis and cannot afford their own vehicles, providing a more efficient transport system would be beneficial for the community. This thesis explores the possibility of a community that relies on efficient and eco-friendly transportation alternatives such as a BRT system, bicycle transportation and railway transportation. However, for practical reasons the vehicle is still included as a key design element.

Mixed uses and more people living and working in the same area would give rise to social and cultural liveliness. Facilities within easy reach of everybody also have economic benefits and higher densities would mean that local businesses can become more viable as there are larger populations to serve. The challenge lies in creating a sustainable and self-financing proposal that would serve the Compact City.



The theorist Nikos A. Salingaros describes the Compact City as a compact, geometrically integrated city that should replace *suburban* sprawl as the dominant development pattern in the future. He also proposes that the Compact City should replace the high-rise, ultra-high-density mega city model. He criticizes both conventional suburbia and the hyper-intensity of the urban core (Salingaros, 2006:100-115).

suburbia, n. often derog. : **1** the suburbs, their inhabitants, and their way of life (*Concise Oxford English Dictionary*, 1995).

A radical intervention is required on the part of concerned urbanists. We need to rethink the positioning of individual buildings to form a coherent urban fabric, as well as the role of thoroughfares, parking, and urban spaces. New zoning codes based on the rural-to-urban Transect and the form of the built environment are now available to assure predictable densities and mixed-use for the Compact City (Salingaros, 2006:100-115).

The city of tomorrow has a low-rise, compact human scale. Suburban sprawl is self-generating and is not conducive to natural human actions and needs. Sprawl exists because vehicles are in control, as is the case in Marabastad. Suburbia actually aids sprawl. Suburbia traps those without cars; it is therefore in the interest and to the betterment of the Marabastad community that this pattern does not continue and that good transport systems are provided for the community. Also, the design for the *Trader's Centre for Arts* utilizes pedestrian routes for guided tours of Marabastad.

Salingaros states that high-rise apartments and office towers are equally unsustainable. Ultra-high-density urbanism, like Marabastad's neighbouring high-rise residential developments of *Kruger Park* and *Schubart Park,* create more problems than solutions; they rely on the energy and resources of their surroundings. *Kruger Park* and *Schubart Park* have become slums and are used by illegal immigrants and the homeless and may pose a security threat. The author discovered that the Tshwane municipality cannot relocate the inhabitants because there is nowhere for them to go. Under the National Acts *(PIE- Prevention of illegal eviction Act)* it is illegal to forcefully remove them without providing an alternative place for them to stay.

THEORY + URBANISM

Successful suburban growth (a low-density phenomenon) occurs due to genuine and powerful socio-economic forces. The Compact City can use these forces and become integrated with the region of Marabastad. There is nothing wrong with high-density or low-density, just as long as there is not too much of the same thing in the same neighbourhood. Single-use zoning is destructive for cities, as office skyscrapers, mass housing and massive plazas are the result. Zoning determines the patterns of urbanism. A housing zone on a master-plan will become mass housing only, whilst a mixed-use zone will display an integration of parts. Thus, the Compact City is sustainable, whilst sprawl and a high-rise mega city are not.

The Compact City is the exact opposite to what Marabastad is now. Not enough people are living in Marabastad to support the idea of the Compact City. For a mixed-use neighbourhood to exist, corner stores and restaurants need to be located within walking distance of residences. High-rise buildings and vast open parking lots also destroy the desired human scale of the area (Salingaros, 2006:100-115). Suburbia requires constant travel whilst a healthy mix of uses in an area ensures that the area is not dead after business hours; this is a common phenomenon which happens in Marabastad and parts of Tshwane's inner city.

Sprawl accommodates the vehicle as the highest common denominator (HCD) in cities and thus reduces people to the lowest common denominator (LCD). Treelike dendritic patterns of roads exist throughout the city and are excellent for the vehicle but their large scale are a major problem for people. None of the patterns of sprawl encourage walking. Marabastad can benefit from a pedestrian-orientated neighbourhood and designers therefore need to promote a pedestrian urban fabric which would also reinforce the tourism market of the area.

Theorists such as Christopher Alexander and Nikos Salingaros have stated many times in their work that people need to be given preference over cars. Urban and suburban morphologies of the city will become unsustainable when cheap resources become too expensive (as is happening with the price of food and oil in February 2009); thus living in the city would be the more sustainable choice as it would mean less travel.

Salingaros states that a complex urban fabric means: *condensation, connectivity and mixing; the opposite of homogeneity* (Salingaros, 2006:100-115).

Most of today's planning is actually *homogeneous* and replaces the healthy existing urban fabric in compact cities. High-rise building does not belong in the Compact City. Buildings should be three, four, or a maximum of six storeys high (Alexander, 1977).

homogenous, adj. Biol. archaic = homogenetic. : **1** consisting of parts all of the same kind. **2** uniform (*Concise Oxford English Dictionary*, 1995).

The Compact City should have a "low-speed" geometry and hence there should be narrow streets accompanied by pedestrian lanes. There should however be enough space for a fire truck to make a U-turn. A city for people consists of buildings displaying local character. Parking should be the last priority and materials such as gravel or brick can be used to slow cars down. Also, car lanes should be designed around major pedestrian routes. Pedestrian paths are very important as they connect urban nodes and reinforce a connected complex of urban space (Salingaros, 2006:100-115).

Salingaros points out that parking lots should actually become "parking ribbons" located on the sides of the road. Pedestrians still need to be given preference over these "ribbons" and thus there needs to be a raised footpath, possibly with a covered canopy in a vibrant colour to distinguish it from its environment.

Make parking lots small, serving no more than five or seven cars, each lot surrounded by garden walls, hedges, fences, slopes, and trees, so that from the outside the cars are almost invisible... (Alexander, 1977).

The proposed new *Trader's Centre for Arts* utilizes both Salingaros's "parking ribbons" as well as Christopher Alexander's "small parking lots".

The urban environment of Marabastad is degraded, fragmented and anti-human. In his book *A Pattern Language,* Christopher Alexander states that living cities can only come about through an *adaptive process.* Therefore any future proposal for Marabastad must be able to adapt to the conditions of the area over time. This gradual evolution of cities is similar to that of dissipative structures and the Bernard cells discussed on *page 59.*

THEORY + URBANISM

To create a lively neighbourhood people need to move into the area and so there needs to be adequate land for housing. Zoning should encourage integration and mixed uses. The proposal should focus on integration and the pedestrian as the highest common denominator (HCD) within the area.

Chaos theory and complexity

chaos theory, n.: **1** the mathematical study of complex systems whose behaviour is highly sensitive to slight changes in conditions, so that small alterations can give rise to strikingly great consequences (*Concise Oxford English Dictionary*, 1995).

complexity, n. (pl. -ies).: **1** consisting of related parts. **2** complicated (a complex problem) (*Concise Oxford English Dictionary*, 1995).

As the new sciences of complexity are revealing, most of the Universe is self-organising, unpredictable, creative, and self-transforming like a butterfly (Jencks, 1996:11).

(Figure 072) The Fractal Nature of Things (Author, 2009).

20th century artists have used the new science of chaos theory and complexity to inform their paintings and craftwork. Science has always impacted architecture and has helped create technologies – such as concrete – which is used in most modern and contemporary buildings. Art and Science form part of Architecture and in order to understand this "new world view" and "new science" the author explored the concept and pattern-making of *fractals (see Figure 072)*.

Scientists relate complexity to "dynamic systems theory", "network dynamics", "self-organization" and autopoietic networks. *Autopoesis* is the organizational pattern of living systems. To determine whether a system is alive it is important to locate its pattern of organization and make sure it is part of an autopoietic network.

Note: Autopoesis means self-making.

Autopoietic networks must continually regenerate themselves to maintain an optimal level of organization. This is where the whole idea of self-organization comes in. The "new sciences of complexity" – complexity theory, chaos science, self-organizing systems and non-linear dynamics – have broadened our understanding of the Universe. All these theories support the idea that the Universe is a *single, unfolding, creative event that is always reaching new levels of self-organization* (Jencks, 1996:9).

The computer scientist Benoit Mandelbrot developed the concept of *fractals* (Mandelbrot, B.1977) and added to the list of complexity sciences. Fractals entail the study of fractional dimensions and fractures. Around the mid 1970s, all the abovementioned scientific concepts brought about a new view of nature. The universe is now understood to be fundamentally dynamic and self-organizing on every level. Again, this perception and understanding influences artists and their understanding of the world.

A fractal … [is] something considered simple and orderly that is actually composed of repeated patterns no matter how magnified. A fractal is almost infinitely complex. I love fractals, so I put them everywhere (Young, 2008:129).

Self-organizational systems emerge at the important interface between chance and necessity, just at the "edge of chaos". *Julia sets* or *Mandelbrot sets* (developed by Benoit Mandelbrot) are fascinating because what produces such a magnificent and natural pattern is just a simple equation. All questions concerning pattern, order and complexity are essentially mathematical, as the Mandelbot and Julia sets depict by their organic nature. Different systems have their own patterns for creating order and equilibrium.

The author envisions that artistic impressions of fractals can be applied in painting and mosaics onto the walls and columns of the *Trader's Centre for Arts.* The educational nature of the arts facility means that its exterior can be utilised to express new views and new ways of understanding.

Note: The basis of the Julia sets is the simple mapping of $z \rightarrow z^2 + c$
Mandelbrot sets is the collection of all points of the constant c in the complex plane for which the corresponding Julia sets single connected pieces.

Living systems work in different ways because they interact with their environments by continually modifying their structures; therefore the physical structure of living systems contains a record of previous structural changes. The study of patterns is crucial to the understanding of living systems because systemic properties arise from a configuration of ordered relationships. Systemic properties are properties of a pattern. When a cell is damaged, what is actually damaged is part of its pattern. The components are still there but the pattern is destroyed and so the cell dies.

(Figure 073) The artistic impression of Bernard cells shows the relationship that cells have with each other. Each is connected and cannot exist without the other, just as a community is joined together (Author, 2009).

(Figure 074) Close-up of artistic impression of Bernard cells shows that a seemingly complex pattern is actually orderly on closer inspection (Author, 2009).

Patterns in life are linked to networks. The human brain, the spine and the nervous system are interlinked networks, much like the internet is a network of information. The pattern of life is a network pattern capable of self-organisation. Patterns of self-organisation can be seen in Bernard cells *(see Figure 073 & 074)*. Bernard cells are *dissipative structures* and not living systems. Under a microscope a snowflake has a pattern; even microprocessors have patterns on them and so do buildings.

There is a pattern to everything; it is just a matter of understanding what pattern is suited. The real problem lies in complexity and when there is a problem that the designer cannot resolve, he/she ends up resorting to a common formal order. Therefore the designer is not solving the problem but just using a working pattern that does not relate to the starting equation. The true problem thus remains unresolved. Design problems are leading to levels of complexity that cannot be solved quickly or at all. Theorists such as Fritjof Capra and Christopher Alexander both understand the importance of pattern (Capra, 1996 and Alexander, 1977).

Note: Dissipative structures maintain themselves in a stable state far from equilibrium and may even evolve.

Patterns cannot be measured or weighed; they must be mapped. To understand a pattern one must map a configuration of relationships. In other words, structure involves quantities, while pattern involves qualities (Capra, 1996:81).

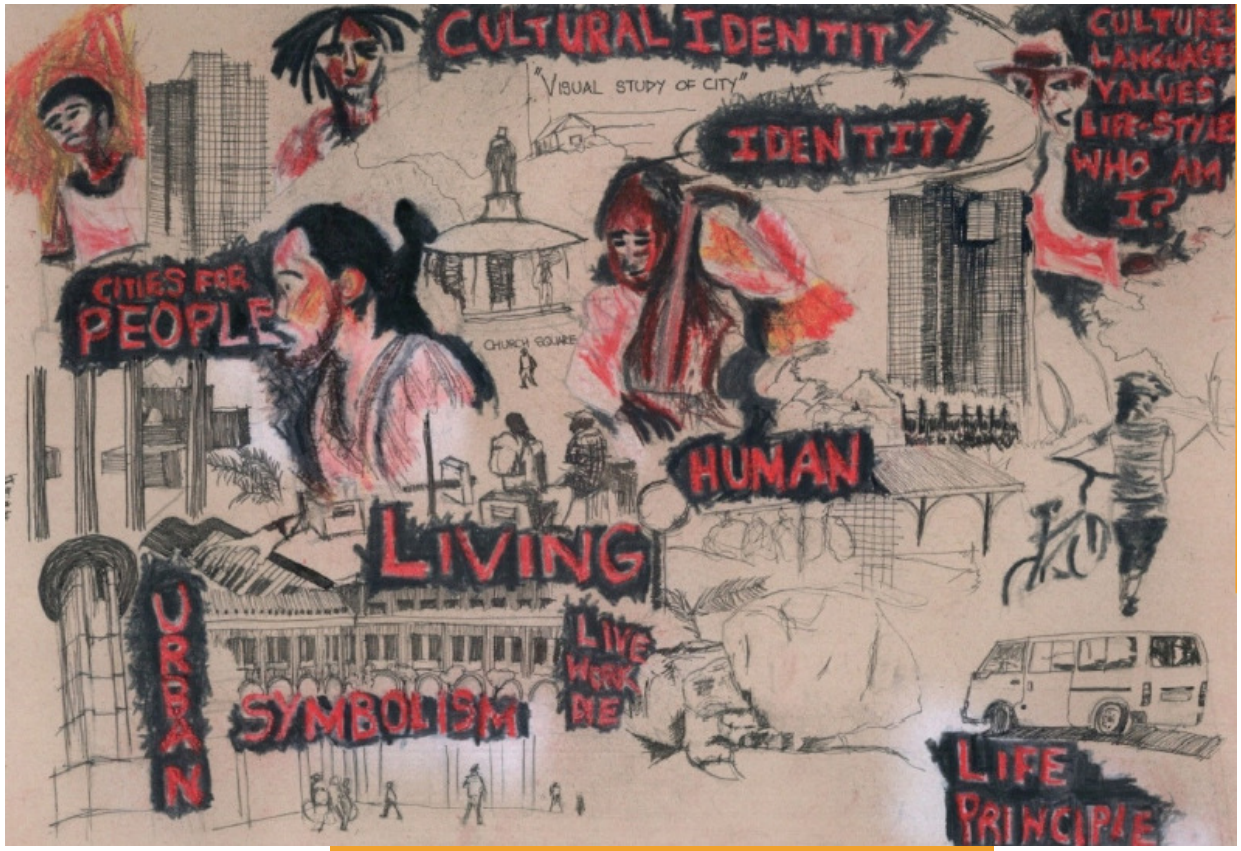
There are infinite patterns in nature and not one is exactly the same as the other. Every pattern goes through its own unique changes and imbalances; hence every pattern has its own story to tell. As in the case of Bernard cells whereby no two cells are the same, they all have their own set of irregularities and thus maintain their differences. In a certain part of Bernard cells there is an irregularity and unique pattern *(see Figure 074)*.

Once again, all these concepts and theories relate to Art and the influence this new way of thinking has on the canvas of a painting. The relevance of chaos and complexity rests in the mindset of the modern way of thinking and new ways of thinking have always influenced the perception of Art (as in the case of Picasso) and continue to inspire artists and architects.

Memory

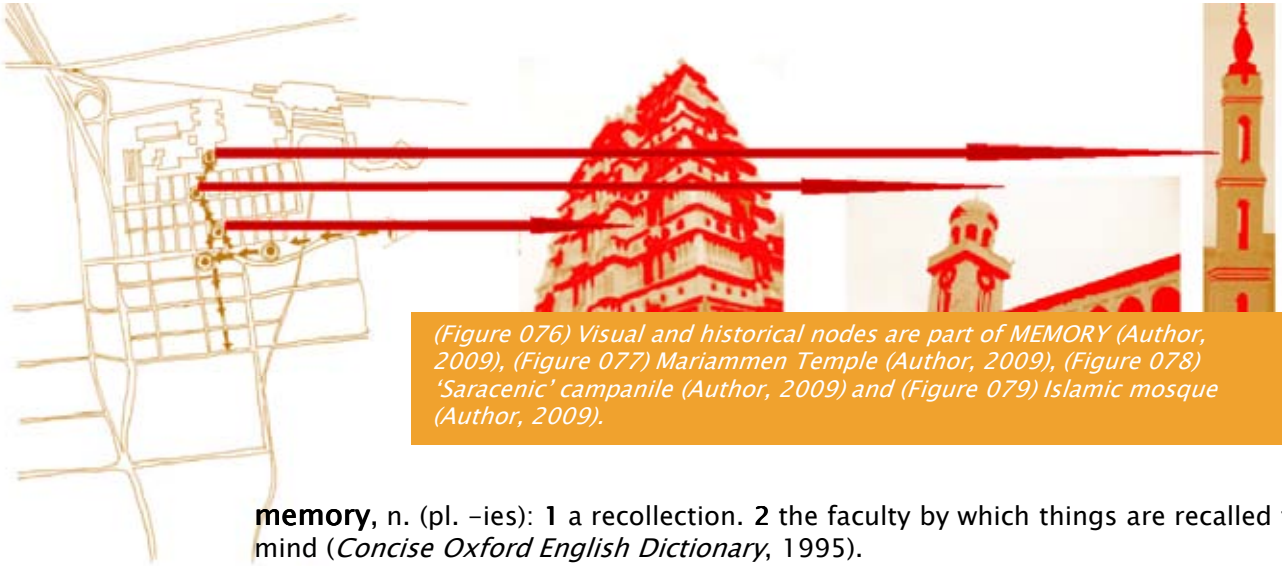
Rather than using words or photographs, it was felt that a visual study of Pretoria would best express the memory and atmosphere of the city *(figure 075)*. The author travelled through the city with fellow students on bicycles and sketched various parts of the city that evoked memories of historical significance (e.g. Church Square), as well as memories generated by experiencing city life (e.g. the rushing and yet efficient taxis transportation).

After sketching and detailing the drawings *(see figure 075)* some key words emerged that were relevant to the subject matter of the visual study and important for generating the memory and feeling of the city. These were: *cultural identity*, *life principle (live, work and die)*, *urban symbolism*, *cities for people* (William, 1990), and *human living* (e.g. *culture*, *values*, *lifestyles* and *identity*).



(Figure 075) Original visual study of Tshwane inner city showing that the experience of the city is strongly linked to memory. The people, the mode of transportation (taxi), the sounds and music of the city, the historical monuments and buildings are all part of the city's experience and memory (Author, 2009).

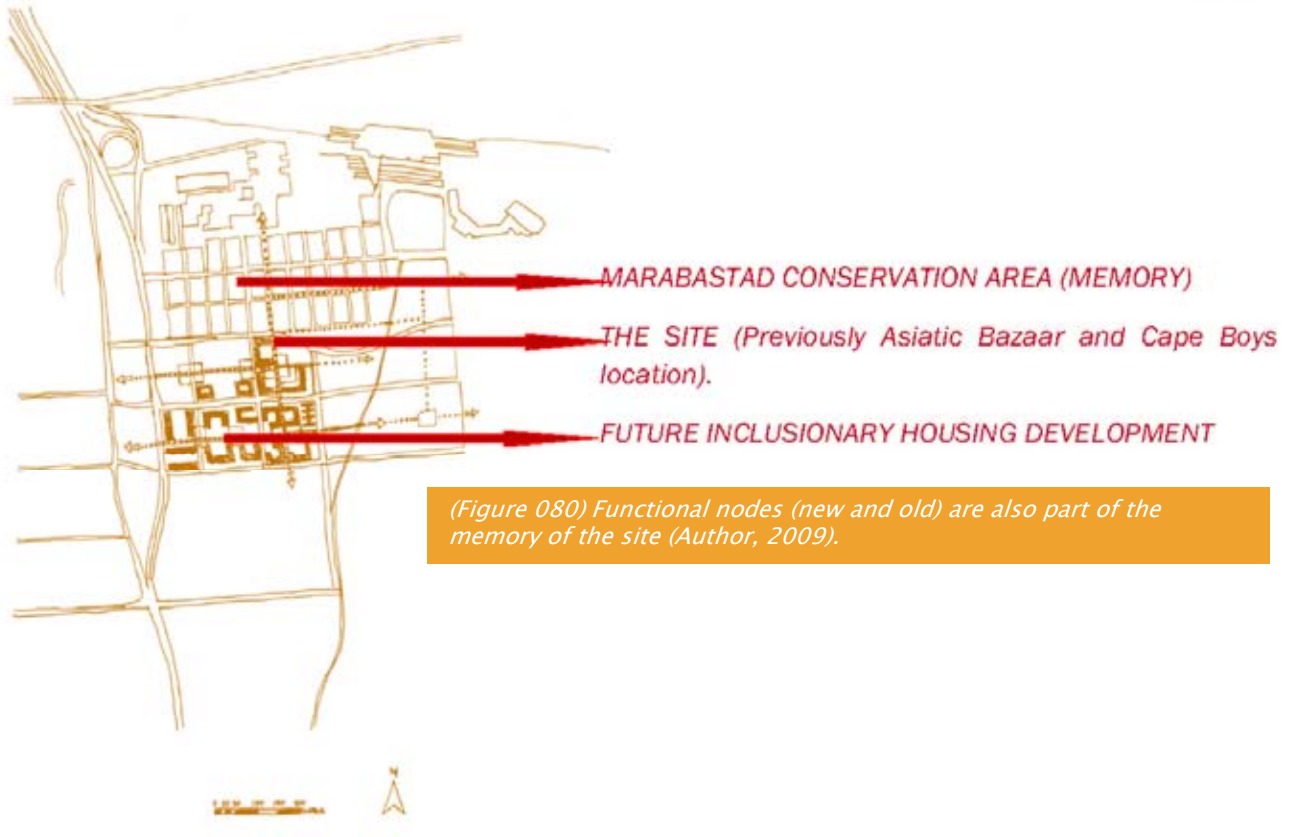
To aid the process of Marabastad changing into a “compact neighbourhood”, the memory of the site should be incorporated. Memory is deeply rooted in the process of building.



(Figure 076) Visual and historical nodes are part of MEMORY (Author, 2009), (Figure 077) Mariammen Temple (Author, 2009), (Figure 078) ‘Saracenic’ campanile (Author, 2009) and (Figure 079) Islamic mosque (Author, 2009).

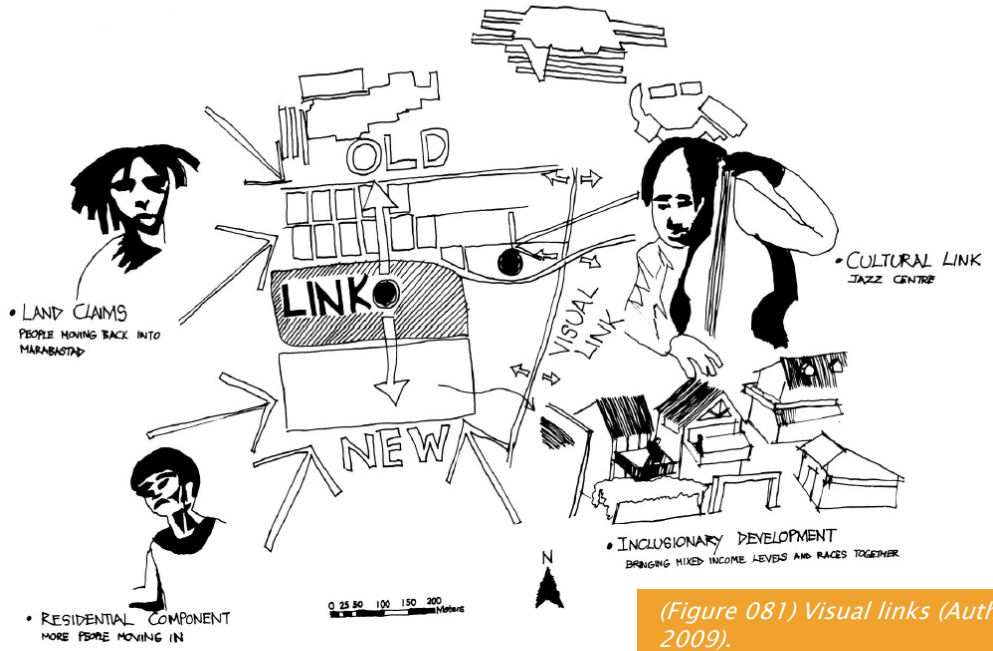
memory, n. (pl. -ies): **1** a recollection. **2** the faculty by which things are recalled to or kept in the mind (*Concise Oxford English Dictionary*, 1995).

The author looked to architectural masters such as Alvar Aalto in order to best encapsulate memory in an architectural form *(see precedent studies page 67).*



(Figure 080) Functional nodes (new and old) are also part of the memory of the site (Author, 2009).

link, n. & v. **1 a** connecting part, esp. a thing or person that unites or provides continuity; one in a series. **b** a state or means of connection (*Concise Oxford English Dictionary*, 1995).



(Figure 081) Visual links (Author, 2009).

In order to preserve the memory of the area, links with the past as well as with future developments should be established. Reinforcing this memory can be done by facilitating the transformation of the old Marabastad into the new by providing a *Trader's Centre for Arts* which will help to develop skills in the area.

This centre also represents a link between the proposed new inclusionary housing development to the south as well as to the rest of Marabastad to the north. It also establishes a link to the memories of the past through guided tours of Marabastad, and through the theme of culture and arts housed in the facility. The vacant land that PUTCO is currently utilizing will form an important *link* between the two areas and will help join them together. It is also important to study possible *functional nodes (figure 080)* and *visual links (figure 081*) such as historic buildings in the area and future landmark sites.

(Figure 082) Context showing the proposed site, proposed new buildings to be built, the Jazz Centre location, road barriers and the proposed future mixed use zone (Author, 2009).

(Figure 083) Conceptual model showing Mariammen temple located between fifth and sixth streets (Author, 2009).

(Figure 084) Conceptual model showing the context (Author, 2009).

(Figure 085) Conceptual model showing the context (Author, 2009).

(Figure 086) Conceptual model showing the context (Author, 2009).

Physically modelling the site and context helps apply theories into practice. The author built a conceptual model of the context and added proposals made by the Marabastad Group work framework. Decisions made in the group framework helped shape the surrounding context and urban planning of the future Marabastad.

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Precedent Study

The memory of site:

Fig: 087

(Figure 087) Sketch showing Saynatsalo Town Hall form and grassed steps (Author, 2009).

Fig: 088

(Figure 088) Sayanatsalo Town Hall (Groak, 1992, p218).

Fig: 089

(Figure 089) Sayanatsalo Town Hall (Porphyrios, 1982:63).

Memory and the work of Alvar Aalto

Memory has also had connotations in architecture, as seen in the work of architectural masters like Alvar Aalto.

The town hall of Saynatsalo, Finland utilizes the *memory of its site*. This community building designed by Alvar Aalto is a single construction containing all the civic elements of a small town and consists of a council chamber, library, medical centre, and local authority offices (Groak,1992, p218).

Aalto's preoccupation with the site and its pedestrian routes employs memory as part of the architectural experience. He had an interest in environmental comfort and a special interest in light which he treated as representative of nature, arising from his concern with a humane and often nature-orientated functionalism (Groak, 1992, p208).

Aalto interpreted functionalism in a humanist way and his buildings are deeply imbedded in nature. This can be seen in the town centre's horizontality and the surrounding towering trees, the variety of the climbing plants, and the grass creeping over the steps of the centre (Porphyrios, 1982:63).

Building, Circulation and Entrance

The orientation of Alvar Aalto's buildings maximises sunlight and natural lighting. He incorporated pedestrian patterns in his designs and defined the entrances to his buildings. These principles were applied to the proposed new *Trader's Centre for Arts.*

(Figure 090) Front façade of African craft market (University of KZN field trip, class of 2005).

The author visited various local precedent studies with similar themes to the proposed building. Also these local projects were chosen as part of the precedent study as the study imposes on a local and African inspired architecture. It is interesting for the author to see how other South African architects interpreted the South African context which is unique to the rest of the world.

African Craft Market, Rosebank:

Architect: Kate Otten Architects

Kate Otten designed this craft market. It is successful both commercially and socially. The building was designed to house street vendors who were seen as a security threat to surrounding businesses. The structure is reminiscent of an African fabric as can be seen by the use of gum poles and detailing. The internal pedestrian street allows movement through the building. The building is a tourist attraction and is reminiscent of markets in Dar es Salaam and Nairobi (Kate Otten Architects, 2009).

The street was previously lined with informal traders and it was seen by Rosebank Mall as a security risk. The mall purchased a portion of the road from the city and the Arts and Crafts Market was constructed in its place. There are a total of 70 stalls on the bottom floor and the top floor is used as a formal trading space and coffee shop. Light falls inside the double volume space through polycarbonate roof sheeting, and is filtered through a reed ceiling.

Fig: 091

Fig: 092

Fig: 093

Clockwise: (Figure 091) View from parking lot (University of KZN field trip, class of 2005*),*

(Figure 092) Entrance from street, top floor with coffee shop and formal trading stalls and more trading stalls at the bottom (University of KZN field trip, class of 2005*)*

(Figure 093) View from parking lot (University of KZN field trip, class of 2005*).*

Understanding the product and what the building 'houses' is key to the proposals development and sustainability. Products such as those sold at the Rosebank African Craft market would probably be very similar to those sold at the proposed new *Traders Centre for Arts* in Marabastad.

product, n. **1** a thing or substance produced by natural process or manufacture. **2** a result (*the product of their labourers*) (*Concise Oxford English Dictionary*, 1995).

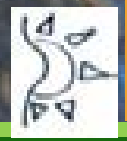
colour, n. & v. **1** the sensation produced on the eye by rays of light. **2** perception of colour; a system of colours (*Concise Oxford English Dictionary*, 1995).

(Figure 094) Products sold at the African Craft Centre (University of KZN field trip, class of 2005).

(Figure 095) Exterior texture and colour of reveal (University of KZN field trip, class of 2005).

Application and Relevance of the Rosebank African Craft Market:

•The building encourages movement through and around.
•The architecture reflects openness and lightness of structure.
•The building forms a backdrop to the parking lot to the east- where it is envisaged that events such as markets and music could take place in this urban square (Digest of South African Architecture, 2001).
•The building meets the needs of developers, the informal traders and the greater community at large.
•Useful to the author was areas such as the 650m² ground level of the market which houses about 70 traders that previously sold informally along Cradock Avenue. The upper floor, which covers 350m² overlooking the ground level, is dedicated to more formal trading, including a colonial style décor and coffee shop (Digest of South African Architecture, 2001).
•The design of the building was intended to be an urban African icon and hence shows Kate Otten's interpretation of an African inspired architecture. This African theme is also meant to be part of the market's attraction. By creating a symbol that can be related to African Art and Architecture would help in tourists and visitors identifying the building as a tourist attraction.
•Conceptually the building is a simple, two-storey structure that responds directly to the site, client and user constraints.
•Light, texture and colour play an important role in the expression of this contemporary building, which is appropriate in its scale and design.
•The site was previously a road and this translates into an internal pedestrian street through the building. This 'street' is a double-volume space with light coming in from above and occasional bridges across. This allows visual contact between the floors and a number of different shopping experiences (Digest of South African Architecture, 2001).
•The building is a narrow building which has rich earth colours accented by the steel structures in charcoal blue (Digest of South African Architecture, 2001).
• The building is bound at the southern end by a cluster of three towers- they are important urban makers of the building. These towers are answered by three light shafts at the northern end, all of which are interpretations of the craft aspect of the market through their steel 'basket' caps, tiled 'necks', textured plaster shafts and bases (Digest of South African Architecture, 2001).
•To the northern end of the building has a large, curvy outside which looks onto and links into a public pedestrian area that connects the craft market and the mall (Digest of South African Architecture, 2001).



Apartheid Museum

Architect: GAPP architects and Urban Designers, Mashubane Rose Architects, The Britz Roodt Partnership and Linda Mvusi Architecture and Design

The Apartheid museum has a strong link with memory and South Africa's history. The project was a collaboration of a consortium of architects. The design merges building with landscape and reminds the visitor of South Africa's history. It is a memorial to the Apartheid era and the lives it affected.

(Figure 096) Entrance signage (University of KZN field trip, class of 2005).

(Figure 097) Reinforced concrete and rusticated metal with the word: 'Freedom' (University of KZN field trip, class of 2005).

(Figure 098) Interior with texts about South Africa's history on the walls (University of KZN field trip, class of 2005).

Fig: 099

texture, n. & v. **1** the feel or appearance of a surface or substance. **2** *Art* the representation of the structure and detail of the objects.(*Concise Oxford English Dictionary*, 1995).

(Figure 099) Exterior view of building (University of KZN field trip, class of 2005).

(Figure 100) Use of gabion walls on the exterior create 'earthy' textures (University of KZN field trip, class of 2005).

*(Figure 101) Panels of text fixed onto walls provides information for viewer (*University of KZN field trip, class of 2005).

Fig: 100

Fig: 101

PRECEDENT STUDY

Application and Relevance of the Johannesburg Apartheid Museum:

•The design and planning of the museum sets to tell a story of South Africa's political struggle and remind the viewer of the past mistakes. It is a history that is so recent that the story is still unfolding. The future is much stronger and the building communicates that together South Africa will achieve more, not divided.
•Architecturally different textures are used from structural concrete, gabion walls, play of lighting and signage as well as brickwork.
•The building sets to make a historic account of the Johannesburg neighbourhood. It tells two stories, one white and one black. It is a passionate story of struggle and one that is identical to the story of Marabastad.
•The story tells of the dispossession of land and the displacement and ultimate segregation of groups of people (gallery in the proposed new Traders Centre for Arts also tries to inform visitors of Marabastad's history by utilizing these very aspects from this precedent study, but showing and interpreting it in art).
•The juxtaposition of colour and texture creates striking features.
•The building works on a layering of space, some spaces are there but one cannot get to them. Different sections look onto the next with mesh cages, glass and visual depictions dividing areas.
•The main material used is structural concrete that is left true to its nature; it is unadorned concrete with no finish (Much similar to the "venturi chimneys" placed in the proposed new Traders Centre for Arts).
•The Apartheid museum becomes a living memory. The proposed new Traders centre for Arts is meant to create a lively memory of things to come and communities to be restored.

Note: The Venturi effect is the reduction in fluid pressure that results when a fluid flows through a constricted section of pipe. The fluid velocity must increase through the constriction to satisfy the equation of continuity while its pressure must decrease due to conservation of energy, the gain in kinetic energy is balanced by a drop in pressure or a pressure gradient force. An equation for the drop in pressure due to the Venturi effect may be derived from a combination of Bernoulli principle and the equation of continuity (Venturi effect 2009).

Fig: 102

Everard Read gallery, Rosebank, Johannesburg:

Architect: Moren Williams Forsythe

The Everard Read gallery is South Africa's most famous commercial art gallery and was established in 1912. Over the years the gallery has grown in size and sophistication. In 1980 the gallery moved from its elegant downtown location to a purpose-built building in the precinct of Rosebank. The post-modern building surrounds a 1920´s house, which is the gallery's administrative centre. The building comprises of protected sculpture courtyards and four exhibition areas of various proportions with clerestory windows that bring in daylight. The sculpture courtyards and indigenous gardens draw the outdoors in, creating an inviting space.

Everard Read has become synonymous with the finest art emanating from southern Africa. Many of this region's most celebrated painters and sculptors, both traditional artists of the past and emerging talent, exhibit with Everard Read which is also the agent for fine artists from elsewhere in the world.

(Figure 102) Use of gabion walls and pergola (University of KZN field trip, class of 2005).

(Figure 103) Use of natural light from clerestory window in gallery space (University of KZN field trip, class of 2005).

Fig: 103

Application and Relevance of the Johannesburg Everard Read Gallery:

•Building identifies with LIGHT.
•Lighting is important to gallery spaces and this gallery highlights ways of making use of natural lighting which is also important in the proposed Trader's Centre for Arts gallery space.
•The brief called for a low cost project that would be both functional and practical.
Jeremy Williams (the architect),used the existing house as pivot, walls as ordered "plates", undulating organic elements and columns. He explored these concepts mixing it with "first world" and African elements and imagery (Building, 1993).
•Sculptured columns were used to reinforce the galleries African identity.
•Windows were removed to create maximum wall area and provide a controlled lighting level.
•Use of light grey and white was used in the interior to not deter the viewer away from the artwork.
•For flexibility and good colour rendering the interior lighting uses a combination of track mounted metal halide flood and low voltage dichroic lighting. The low voltage track fittings are pendant style and are custom made (Building, 1993).
•Exterior illumination consists of eyelid style bulkhead luminaries with compact fluorescent lamps wall mounted for safety and orientation lighting (Building, 1993).
•Recessed low voltage luminaries encircle the plinth which surrounds the gallery and provide medium beam up-lighting to the structure (Building, 1993).
•The principle structure is illuminated up and down using miniature low voltage spot fittings, all exterior graded (Building, 1993).
The sculpture gardens are illuminated by means of QI and low voltage light sources, both wall mounted and portable (Building, 1993).
•Blue neon circles illuminate each column top (Building, 1993).

Constitutional court, Braamfontein:

Architect: Andrew Makin of OMM design

The design of the building physically and experientially represents the values of South Africa's constitutional democracy. The building has a simple plan and is a highly detailed building. The four major components of the building are the court foyer and chamber, the library, the administration areas, an exhibition space and the judges' chambers (offices) (Digest of South African Architecture, 2004/2005).

The court foyer and chamber are the primary focus of the Constitutional Square. The emblem of the South African Constitutional Court is a tree. In South African rural society, the shade of a tree is used as a place of communal gathering such as in schools, meetings in a community with their elders, or simple social exchange. The library, the repository of knowledge, was placed at the bottom of the slope of the site, at the opposite end from the foyer and chamber. It was designed as the tallest structure on the side of the ridge and is supposed to be a "glowing beacon of knowledge; and to the south the "chamber of wisdom" or court chambers (Digest of South African Architecture, 2004/2005). The building utilizes the use of light and its impact on concrete, timber, steel, stone and glass. The use of light on solids and surfaces reflect the colour, coolness and warmth, show scale, volume, silhouette, relief, soft whiteness and a smooth, undulating shine (Digest of South African Architecture, 2004/2005).

*(Figure 104) Photograph from building taken from the top of a hill (*University of KZN field trip, class of 2005).

(Figure 105) Exterior showing signage that is placed on the front façade of the building (University of KZN field trip, class of 2005).

(Figure 106) Carpentry and woodwork depicting attention to detail and craftsmanship (University of KZN field trip, class of 2005).

(Figure 107) Exterior showing signage that is placed on the front façade of the building (University of KZN field trip, class of 2005).

detail, n., & v. **1** a minor decoration in on a building, in a picture, etc (*Concise Oxford English Dictionary*, 1995).

*(Figure 108) Exterior detailing of façade panels. These detailed tip-up screens are conceived by Andrew Verster and are installed on the west façade (*University of KZN field trip, class of 2005).

*(Figure 109) Interior detailing of tip-up screen panels (*University of KZN field trip, class of 2005).

Application and Relevance of the Braamfontein Constitutional Court:

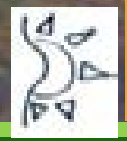
- *The brief called for a building that would represent the value system of democracy as it is contained in the Constitution of the Republic of South Africa. It was required in the brief that people visiting the court should understand and experience these values (Urban Renewal, 2003).*
- *Andrew Makin (architect, OMM design) states: "In our design submission we sought to respond primarily to the values expressed in the Constitution, taking cognisance of the social and political history of the country and of this particular site, as well as the contemporary socio-political context and, importantly within the broader view, the economics of the contemporary building industry. We also, of course, had to work with the constraints and opportunities of this urban site." (Urban Renewal, 2003).*
- *Andrew Makin also states: "*...what makes cities democratic? And the answer here relates to choices. Democratic cities offer people choices- which, in turn, relates to freedom of movement, freedom of access, and appropriate, mixed land use that meets the needs of the people and offers them a range of amenities and opportunities, conveniently." *(Urban Renewal, 2003).*
- *Andrew Makin continues: "*The plan of the building is very simple, it answers to the accommodation brief, the requirements for public and private space, and manages the interface between them. It also responds to the urban design level, as a perimeter building, to interface directly with the public open space around it, while framing a private internal courtyard." *(Urban Renewal, 2003).*

PRECEDENT STUDY

•It is important in the urban environment that buildings convey their purpose through their form and expression (Urban Renewal, 2003).
•The building makes use of detailed, hand-crafted entrance doors, the spaces are formed using concrete, slanted concrete columns are used and the movement of the sun is incorporated within the building form whereby skylights that are cast as slots at various angles in the concrete roof slab (Urban Renewal, 2003).
•Celtis Africana trees are planted along the pathway to offer shade to people on the steps (Urban Renewal, 2003).
•The building uses a limited palette of material. This makes the building more economically viable and a reflection of the current industry and market at present.
•Particular attention has been given to the detailing of the building and to opening opportunities for individual artists and craftsmen to contribute to the making of public building (Urban Renewal, 2003).
•Work by artists can be seen in the timber doors and wrought iron gates, carpets, light fittings, etched panels, mosaics, nose edgings on stair treads, and in emblems designed for the ventilation chimneys (Urban Renewal, 2003).

In terms of sustainability:

•The north / south orientation of the main public spaces is appropriate for passive or low energy climatic controls whilst the east/ west orientation requires more design inventiveness such as the sun-screens placed on the western façade.
•A rock store system is used in the building to provide a low energy means of controlling the internal climate. This system increases the thermal storage capacity of the building (absorbing cold night air in summer or absorbing heat from a warm day in winter) (Urban Renewal, 2003).
•Mechanical fans are used to drive the cooler air in summer or warmer air in winter (Urban Renewal, 2003).
•The mechanical system works in conjunction with ventilation chimneys which are installed to extract hot air from the interior by the natural stack effect. The steel chimneys are fitted with fans to accelerate the release of hot air (Urban Renewal, 2003).
•The internal ventilation shafts house rainwater downpipes and electrical cabling (Urban Renewal, 2003).
•A conventional mechanical air conditioning system is installed to service the basement to ensure a stable environment for archival material (Urban Renewal, 2003).



Woza Woza Tourist Centre, Mpofana

Architect: Bingham Associate Architects assisted by Symmetry

Senior professor at UKZN, Kevin Bingham designed the building as Bingham Associate Architects working in association with a drafting company Symmetry who were the original contacts for the project. Together the two firms won the project in a closed competition.

The building was designed as the restaurant and take-away component of a larger tourist centre that unfortunately, due to funding never happened. The client was the Mpofana Municipality (formerly Mooi River Municipality). The land is owned by Tolcon (the tollgate company) and was given to the municipality for use by all the people of Mooi River. The problem of this is that they could never lease it out to anyone other than the general Tourist Info and so it has remained empty for years.

The budget for the proposal was cut and the contractor had to work with fewer resources. An alternative religious group has currently moved into the building.

*(Figure 110) Exterior photograph of building showing architects use of innovative African inspired forms and local building techniques (*University of KZN field trip, class of 2005).

local, adj., & n. **1** of or belonging to the neighbourhood. **2** belonging to or existing in a particular place or places. (*Concise Oxford English Dictionary*, 1995).

Application and Relevance of the Woza Woza Tourist Centre, Mpofana:

- *Building identifies with LOCAL MATERIAL.*
- *Use of latte applies to material choice selection that is local, thus supporting local businesses in the construction process and remaining "proudly South African".*
- *Use of earthy colours on building shows architects intention and interpretation of an African inspired architecture.*
- *Building generates a type of 'feel' for a tourist market, and buildings like these are associated with tourist market groups. A sense of 'identity' for an African architecture is somewhat achieved.*
- *Play of light is evident in the interior spaces with the use of cylindrical and rectilinear openings which draw in light into the interior spaces.*
- *There is a contrast of materials with the latte and 'adobe' -like and earthy quality of the walls.*
- *Suspended light fittings add to the quality of the architecture.*

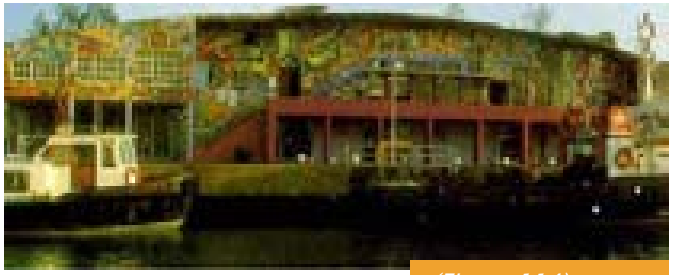
(Figure 111) Exterior photograph of building (University of KZN field trip, class of 2005).

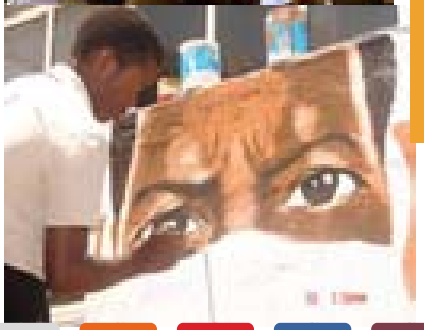
(Figure 112) Interior use of cylindrical 'cut-outs' of wall to bring in light (University of KZN field trip, class of 2005).

(Figure 113) Interior photograph of building (University of KZN field trip, class of 2005).

BAT Centre, Durban

Architect: Collaborative cc assisted by RAP studio





(Figure 114) Exterior photograph of building (BAT Centre, 2009).

(Figure 115) View of Durban's harbour from the deck (BAT Centre, 2009).

(Figure 116) Lively deck area during the day (BAT Centre, 2009).

(Figure 117) Artist at work at the centre (BAT Centre, 2009).

The Bat centre was established in 1995 and it is a place of South African artistic talent. It is a non-profit organisation dedicated to the promotion of music, visual arts, dance, craft and literature of KwaZulu-Natal.

It aims at generating work for artists and establishing new markets. It is an arts and culture community centre found in the small craft harbour, off Durban's Victoria Embankment. Its goal is to celebrate the arts and culture of Durban, KwaZulu-Natal and South Africa by promoting local talent and skills. It also aims at celebrating unique cultures, creates jobs, sources talent, imparts skills and develops markets.

There are short courses, workshops and seminars that take place at the BAT Centre on a continuous basis. Topics of discussion vary from visual arts, music, acting, writing and literature, to discussions on health, politics, business skills and entrepreneurship. Various venues are used, through booking, at the centre such as the Functions Room, Mission Control Room, The Studio Coastal Room, the MBL (Music Business Learnership) Room, the Resource Centre and the Sipho Gumede Hall and the Visual Art Studio). The BAT Centre's Visual Art Studio, galleries & BAT shops allows the BAT patron the value of being part of the art world by offering exhibition space where tourists and art lovers can select and purchase artworks (BAT centre, 2009).

Application and Relevance of the BAT centre, Durban:

- *Building supports local artistic talent and is a platform where artists can develop their skills.*
- *It creates jobs for artists and creates awareness to the community of the importance of art.*
- *It celebrates the arts and crafts of its neighbourhood (Durban) and promotes tourism to the area.*

PRECEDENT STUDY

The architecture of the next precedent studies are already built South African trader's markets and they bring a sense of ownership, identity and possibly *pride* to the traders and street vendor's who use them. South Africa is unique to the world as it is a country divided; there is extreme poverty compared to a small percentage of rich, looking for precedent and learning from successful South African traders markets will only enrich future designs. Street traders are common in Marabastad and are often viewed as perennial economic outcasts. Trader's markets challenge the integration of marginalised communities such as street traders or taxi operator's and helps better integrate them into the public realm.

There is a need to house these street traders and vendors. Retailers see them as unfair competition, motorists see them as an obstruction and unsightly and it has also become unhealthy in certain parts of Marabastad such as the informal butchery and the local authorities themselves blame street traders for the decay of inner cities. On the other hand, these traders are a convenient and a cost-effective way to get goods cheaply and in small quantities (Hansen, 2008:44).

The people who use these traders markets are integrated into the building and decision making process. This integration of people who previously were never involved in the building process has now become part of the building envelope. The architecture expresses the people that it houses.

pride, n. & v. **1** a feeling of elation or satisfaction at achievements or qualities or possessions etc. that do not credit (*Concise Oxford English Dictionary*, 1995).

Rockey Street Trader Market, Yeoville

Architect: Urban Solutions and Urban Designers

This was one of the first markets to be constructed in 1998.The market was planned on a semi-vacant park/ parking site in Rockey Street, Yeoville's high street. The building was a challenge as no precedent was used and this was one of the first designs for a trader's market typology in South Africa. The footprint of the market was discussed at numerous community forums where up to 300 affected end-users were informed. The community design forums have become an important design tool in all the trader buildings that were constructed.

The final footprint was a perimeter lean-to sheds, with flexible trading spaces, opening as much as possible to the street to benefit from bypassing foot traffic. The trader sheds placed on the perimeter define three courtyards, which act as anti-space to the busy trader floors. Within these spaces are wash spaces in the form of fountains, benches with trees, and a performance stage in the back courtyard. The performance courtyard which faces the food traders and cooking areas has become the most successful and popular part of all the markets (Hansen, 2008).

The building is dominated by a high volume trader passage running through the centre. It is the *focal point* to the building. It demarcates the public entrances and links the various trader sheds and courtyards together. It has also become the social spine of the building.

focal point, n. 1 the area of a pictorial composition or a spatial setting to which the eye is drawn and returns most naturally (Porter, 2004).

The volumetric trader passage was the only part of the building that did not speak of utilitarian efficiency and attempted to give them identity and permanence within the urban fabric. The Rockey Street Market while popular and well occupied, suffered due to the lack of bypassing trade. By moving street trader operations into destination markets, a large number of hawkers lost their livelihood. Realising that street traders could not sustain themselves independently of other city functions and activities, projects were initiated which followed a more *integrated* approach (Hansen, 2008).

(Figure 118 & 119) Exterior photograph of building (Hansen, L. pp 44-45).

integrated, v. & adj. **1 a** combine parts into a whole. **b** complete (an imperfect thing) by the addition of parts.(*Concise Oxford English Dictionary*, 1995).

Application and Relevance of the Rockey Street Trader Market, Yeoville:

- *Building is dominated by a high volume trader passage running through the centre.*
- *This ' pedestrian spine' becomes a FOCAL POINT to the building.*
- *The market suffered because it lacked bypassing trade. To better the design the market needs to be focused on the spine of pedestrian routes.*
- *The design process promotes community participation.*

(Figure 120) Internal view of west tower detail (University of KZN field trip, class of 2005).
(Figure 121) Exterior of west tower entrance showing building signage (University of KZN field trip, class of 2005).
(Figure 122) Interior use of natural light (University of KZN field trip, class of 2005).
(Figure 123) Walkway detail (University of KZN field trip, class of 2005).

Metro Mall- Taxi/Bus Rank and Traders Market, Johannesburg

Architect: Urban Solutions and Urban Designers

The building appears to be a traditional Johannesburg inner city development.

The function combines taxi transportation with living, shopping and entertainment and a traders' market. Shopping is placed along interior pedestrian routes and this is reminiscent of Middle eastern Islamic societies. The project serves to relocate the centre of Johannesburg and establishes as a new reference point for the majority of inner-city users. It promotes interaction in an increasingly mobile society due to the Apartheid which segregated black communities far from cities (Digest of South African Architecture, 2004/2005).

During the planning stages of the market over 150 meetings were held with trader and taxi associations (Hansen, 2008). The link between traders and transport operators was made in this design. Taxis are the most popular mode of transport in all urban areas for the majority of South Africa's population and account for 65% of the total. More than 12 000 mini-bus taxi's serve commuters to and from outlying areas of Johannesburg (Hansen, 2008). The taxis have replaced the train and bus as the most important public transporters which make it ever so much harder to implement BRT transportation. The taxi, in South Africa has become the most important mode of public transport; therefore there is a need to provide sufficient parking for taxi owners in Marabastad as the taxi has an important standing with the community.

Until 2000, these taxi operators had no formal facility and used mostly temporary structures and vacant sites or pavements. The taxi's however were not treated as illegal urban citizens and seen to be of higher status to the community (Hansen, 2008).

The Metro Mall design demonstrates a public building which provides' for a sector marginalised in the past. It presents itself with pride and a sense of arrival unlike the stereotype of taxi ranks that are around urban centres. The building displays a sense of permanence, moving away from the temporary treatment the mini-bus, taxis and traders received in the past. A design requirement for the building was to be robust and adaptable. The traders are free to use the spaces as they please, the material for construction had to be durable- thus the choice of off-shutter concrete and face-brick. The design started from an urban planning perspective to a planning one; as well as endless community and stakeholder participation process. The architectural expression occurred without a clear concept in mind and the final result is utilitarian (Hansen, 2008).

The brief asked for a transport interchange which would provide holding space for 25 buses, 2 000 mini-bus taxis and trading space for 800 informal traders. It would welcome and assist 200 000 commuters who pass through the facility daily. Formal retailers, community amenities, crèches, recreation halls and transport association offices were also required (Hansen, 2008).

Metro Mall was primarily designed to make connections with the surrounding city fabric; to complete the street grid to enable continuity and movement; to promote mixed-use within the buildings; to observe street boundaries in construction of perimeter buildings with active street edges; and to acknowledge the street as public space, thereby creating the active edges (Hansen, 2008).

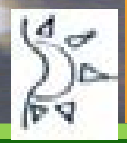
The most commanding features of the building complex are the entrance towers, which act as oversized collection baskets. These dominate the streetscape and have been positioned at important street intersections and opposite existing movement routes to the community halls. They display and speak a language of *celebration*, an acknowledgement that the complex houses and serves an important public amenity (Hansen, 2008).

celebration, n. **1** honour publicly, make widely known.(The *Concise Oxford English Dictionary*, 1995).

The towers lead into wide trader passages along which traders can display goods. Commuters are forced to pass through the colourful trader stands en route to their transport departure point. Leading off the trader passages are quiet courtyard spaces filled with benches, water fountains and sculptures, surrounded by cooking stalls under trees.

Application and Relevance of the Metro Mall- Taxi/Bus Rank and Traders' Market, Johannesburg:

•The building accommodates for close to 800 traders and retailers (Digest of South African Architecture, 2003).
•A large variety of traders spaces are housed along the internal street fronts used by commuters. These trading spaces cater for different trader needs and means. From small, simple-floor-space stalls with concrete counters to large roller-shuttered, lock-up cubicles and to fully serviced outlets to accommodate hairdressing salons and fast food services (Digest of South African Architecture, 2003).
•Urban principles informed the original development framework: making connections with the surrounding city fabric; completing the street grid to enable continuity of movement; supporting public mobility via various transport modes; promoting mixed-use and urban opportunities; observing street boundaries in construction of perimeter buildings with active street edges; and acknowledging the street as public space, allowing equal opportunity and access and freedom of movement (Digest of South African Architecture, 2003).
•This public building provides for a sector of our society marginalized in the past.
•Artworks by local community artists fill the interior walls and streetscape (Digest of South African Architecture, 2003).
•Oversized entrances acting as collection baskets dominate the street landscape (Digest of South African Architecture, 2003).
•Robust materials confront the rigour of its users (Digest of South African Architecture, 2003).
•Activity along its edges regenerates street life (Digest of South African Architecture, 2003).
•Public amenities are provided for all users and visitors (Digest of South African Architecture, 2003).
•Variety in space allocation caters for a variety of stakeholders (Digest of South African Architecture, 2003).
•The building attempts to restores civic pride (Digest of South African Architecture, 2003).



(Figure124) Plan of development (Hansen, L. P47).

(Figure125) Exterior photograph of building (Hansen, L. P47).

Baragwanath Transport Facility and Trader Market

Architect: Urban Solutions and Urban Designers

The design process involved ways of integrating and benefiting the end user, who is usually unemployed and poor, into the construction process. An artist's programme was established to get artists in the community to decorate the buildings. This *participation* process is not only beneficial to the community and artists but provides a means through which the end-users can associate with the building and structures. The artists were trained and directed to complete a variety of mosaics, sculptures and murals. This creates a sense of ownership and adds a personal dimension to the building.

The Baragwanath Transport Facility and Trader Market acts as a gathering point for 60% of the transport routes from Soweto to Johannesburg. The brief required space for 1000 long-and short- distance taxi's, 22 buses and 500 trading spaces and associated amenities. The project site is wedged between the Chris Hani Baragwanath Hospital and the business district of Diepkloof.

The site is 1.3 kilometres long by only 50 metres wide. The project was implemented over a number of stages, stretching the construction process to over six years.

The planning of the design is stretched over the whole length of the site. The plan also shows a series of transport uses wedged between courtyard buildings housing the traders and public amenities, which are linked by a commuter/ trader passage stretching the whole length of the site.

participation, n. **1** (usu. foll. by in) share or take part (in).
2 (foll. by of) literary or archaic have a certain quality (the speech participated of wit).
(Concise Oxford English Dictionary, 1995).

At both ends of the building complex are tall concrete towers richly decorated with mosaics and lights. At every street intersection or break in the building chain, landmark structures were integrated into the buildings or within the trader passages. To ensure a unified building over the 1 300 metres, to address orientation, scale and establish a sense of place, a trader passage is placed to run the whole length: it becomes a feature and unites and links the various functions and amenities together (Hansen, 2008). The tower orientates the user. At every street intersection along the trader passage or major transport facilities, a commuter and trader courtyard building is positioned. Housed within these structures are on-the-ground floor trader shops and public amenities. On the upper levels of these same buildings are the various trader associations, taxi and bus operator offices as well as recreation areas for bored taxi drivers.

The artist Clive van den Berg was tasked with the artworks programme. School children in Soweto were asked to submit artwork proposals, which he then interpreted and implemented in various places and spaces around the site.

Application and Relevance of the Baragwanath Transport Facility and Trader Market:

•Building restores civic pride to those less fortunate.
•Building creates jobs for local artists and demonstrates the role artists have to play in public buildings.

(Figure126) Exterior photograph of building (Murray, 2008).

The Tsoga Environmental Centre and Recycling Depot

Architect: ARG Design Team, city planning and urban design, Cape Town

The award- winning design in Samora Machel, Cape Town was designed and built according to sustainable architectural and urban design principles through community participation. The building uses reused materials often considered waste. It demonstrates simple construction and is ethical and important in terms of *sustainability*. The building was built with the intention to house the Tsoga Environmental Centre, an NGO founded in 1994 to provide environmental education and training that had its headquarters based in Langa. The building is not in use as the NGO collapsed.

The facility utilizes distinct brick walls and vaulted roof forms. It faces onto a public space with tall gum trees and makes use of reused bricks, broken granite tile floor finish and built in timber benches placed between structural bays. The roof structure uses reused beams and gum poles with a bent *Spaanse riet* ('Spanish thatch') ceiling broken only by ventilation and roof light slots (Murray, 2008).

There is a smaller hall that faces the road and uses reused sash-type windows. The building is highly adaptive to maximise sustainability. Heavy structural columns mean that the roof can be easily lifted to accommodate more floors and the columns are designed to take the new load as well as the main conduits for services allowing infill walls to be added or removed with ease.

Solid walls are interspersed with screens of 'latte', water tanks collecting water from the roof are visible. All the simple technologies can be seen. Trees and shrubbery are watered by rainwater channelled off the roofs into ground channels which sustain the gardens. Grape vines screen the north face in summer but in winter allow sunlight into the building. Trees are positioned to enhance space making.


Fig: 127


Fig: 128

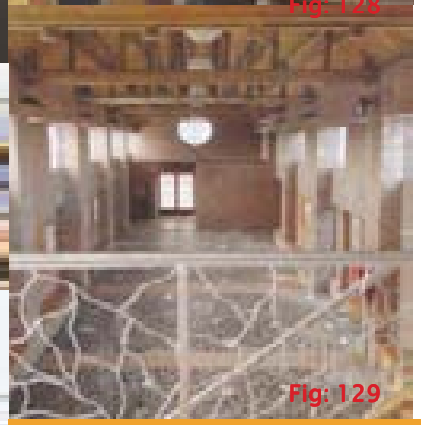


Fig: 129


Fig: 131

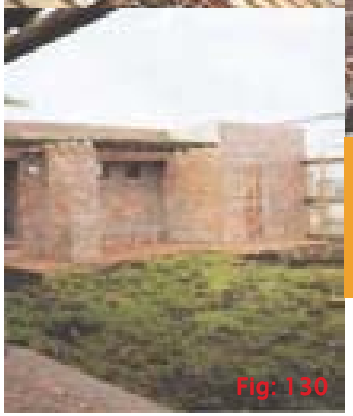


Fig: 130

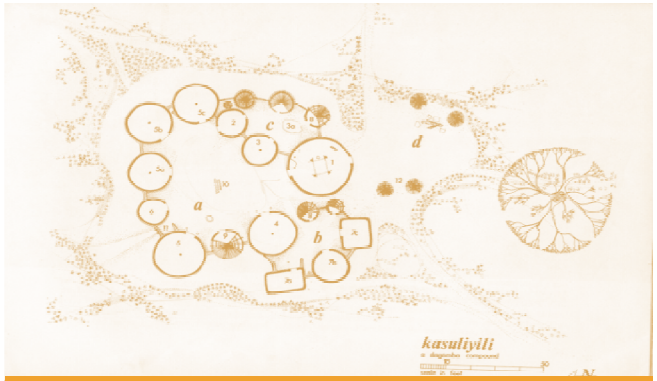
(Figure 127) Interior looking at window and door detail (Murray, L. 2008, p44).
(Figure 128) Interior view showing kitchenette (Murray, L. 2008, p44).
(Figure 129) Interior view (Murray, L. 2008, p44).
(Figure 130) Exterior view (Murray, 2008:45).
(Figure 131) Exterior view showing pergola details (Murray, 2008:46).

sustainability, n. Ecol. **1** Ecol. (esp. of development) which conserves an ecological balance by avoiding depletion of natural resources. (*Concise Oxford English Dictionary*, 1995).

The building is currently not in use as the community has not taken ownership of it. The community thus needs to engage with the building well after the construction process (Murray, 2008 P42).

Application and Relevance of the Tsoga Environmental Centre and Recycling Depot, Cape Town

- *Building promotes sustainable interventions in South Africa.*
- *Design process involves community participation.*
- *Building uses reused materials.*
- *Building uses simple construction that is well known in South Africa. Thereby utilizing local building knowledge and practices to create a sustainable form.*
- *The building is adaptable.*
- *The building makes use of water collection and stores rainwater in tanks. These water tanks sustain the gardens.*



(Figure132) Plan of the Kasuliyili (northern Ghana) shows that African vernacular villages were planned around a central courtyard space (Prussin, 1969).

What is the author's interpretation of an African inspired architecture?

The South African precedents were chosen as most represent traders markets which are very common to the South African context. The author investigated 20th century South African precedents built after the 1994 democracy. The architects in these precedents have shown an interpretation of an African inspired architecture but what is the author's interpretation of African architecture? The author's investigation into this topic concluded in the planning of some African vernacular dwellings which "wrapped" around a central courtyard space. This was best interpreted as "African Courtyard Architecture".

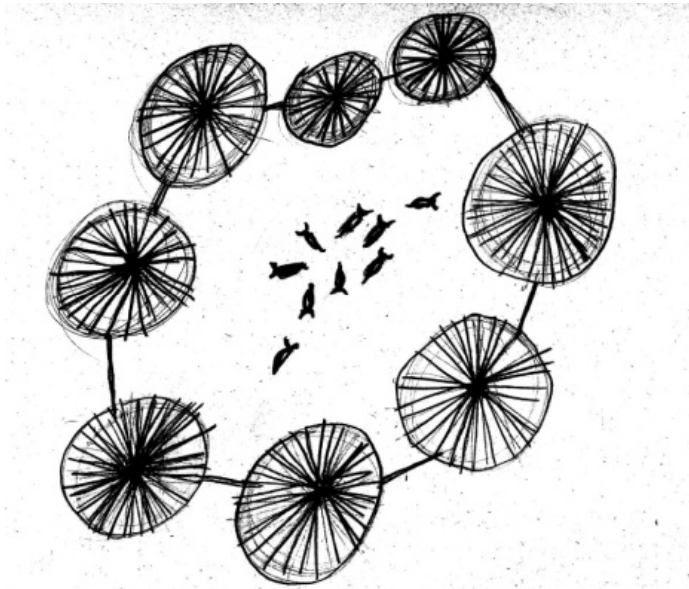
African Courtyard Architecture

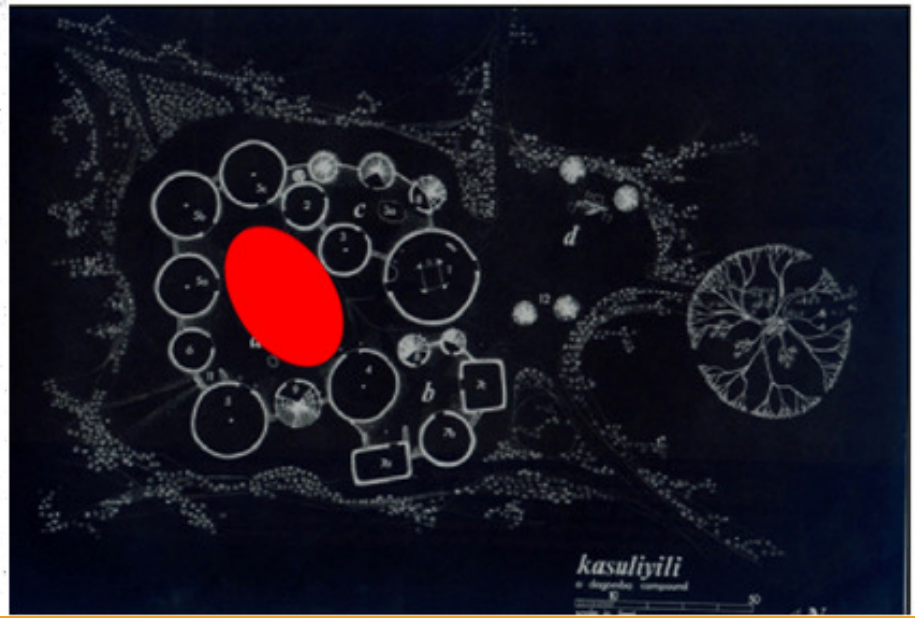
Professor Gerald Steyn of the Tshwane University of Technology conducted research based on African courtyard architecture in his research document: *African Courtyard Architecture: Typology, Art, Science and Relevance.* Steyn investigated traditional African cultural practices that have developed over time and culture. In his research it is noted that most Sub-Saharan vernacular dwellings include a clustering of huts around a central living space. This clustering of houses served as a protection barrier for their cattle as well as a public living space. Compact neighbourhoods which have existed in African culture for centuries are becoming accepted all over the world as an alternative to suburban sprawl. This *type* or *typology* of African culture is the root of our architectural heritage in South Africa. The way African communities were planned before westernisation took over is the root to creating links with the past (Steyn, 2005, African Courtyard architecture).

Quiet courtyard spaces are important to the initial planning of the proposal also sculptures from the art studio can be placed within the courtyard as well as the space being utilised as a stage area when there are gatherings or special events taking place.

Application and Relevance of African Courtyard Architecture:

•Use of a centralized courtyard 'wrapped' by the building envelope.
•The courtyard space is a welcoming but also private part of the proposed building.





(Figure133) Conceptual sketch plan of an African village showing that the central courtyard space is also used as a protected area whereby cattle can be kept safe (author 2009).

(Figure 134) Inverted plan of the Kasuliyili (northern Ghana) shows that African vernacular villages were planned around a central courtyard space. This protected courtyard space can be seen on the plan in red (Prussin, 1969).

(Figure135) House in Museumlaan by Cino Zucchi (Zucchi, 2009).

type, n. Ecol. 1 Ecol. (esp. of development) which conserves an ecological balance by avoiding depletion of natural resources. (*Concise Oxford English Dictionary*, 1995).

typology, n. & v.1 an object, conception, or work of art serving as a model for subsequent artists. (*Concise Oxford English Dictionary*, 1995).

House in Museumlaan

Architect: Cino Zucchi

Contemporary Dutch Architecture- window placement

The author also looked to international precedent to draw inspiration for the final design. The author was intrigued by the window placement that is both cheap and yet architecturally stimulating.

The house to the left is a house in Museumlaan designed by Cino Zucchi. It clearly demonstrates the play of window levels and heights.

Application and Relevance of House in Museumlaan

•Play of window heights and levels.

Design Development

John Maynard Keynes: "Practical men who believe themselves to be quite exempt from any intellectual influences are usually slaves of some defunct economist." (Groak, 1996:163)

DESIGN DEVELOPMENT

Fig: 136

Fig: 137

Fig: 138

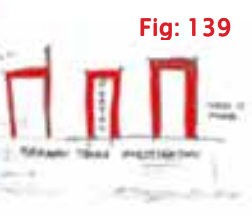


Fig: 139

Fig: 142

Fig: 141

Fig: 140

The Marabastad brand & street life

The future street façade of Marabastad will still have its busy and lively streets, businesses and street traders. Businesses on the ground floor can accommodate residential units on the top floor. Street furniture needs to be constructed by the municipality for the street traders and pedestrian pathways with a threshold (trees, art walls…etc) between the pedestrian route and vehicular road needs to be accommodated for.

Guidelines for developments in inner Marabastad should be mixed-use with both business and residential zones. Advertising could be linked to private business ventures, pedestrian walkways crossing vehicular routes should be raised, hawker facilities should be upgraded and be part of the streetscape and canopies over buildings should shelter pedestrians.

Heritage as guiding design principle: The Mariammen Temple and Southern Ndebele style

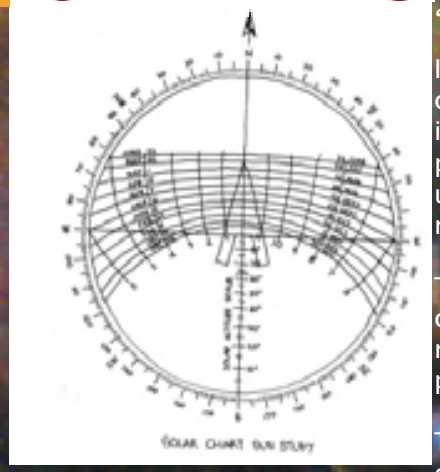
The entrance to any building needs to be clearly demarcated and the author was inspired by the local heritage and architecture of Marabastad, especially the Mariammen Temple as well as chief Maraba's Ndebele kraal.

The Mariammen Temple is fundamentally built up in layers of the vertical temple. The temple is a heritage project within Marabastad, therefore the new architecture should have clean lines as to not obstruct the temple from view and importance. The entrance feature to the proposed new facility should thus be a simple tower that utilizes the layering principle of the vertical temple.

Clockwise: (Figure136) Artistic impression of typical Marabastad streetscape of tomorrow (Author, 2009). (*Figure 137). Conceptual model showing Mariammen temple in its context between sixth street and fifth street (Author 2009). (Figure 138-139) Investigations into entrance portal/feature and technical resolution (Author, 2009). (Figure 140- 141) The Mariammen temple (Author 2009). (Figure 142) Site and context model (Author 2009).*

DESIGN DEVELOPMENT

(Figure143) Understanding wind and sun patterns of Tshwane. Predominant wind is from the north-east and south-east (indicated by red arrow) (Author, 2009).



(Figure 144) Solar chart sun study showing the different movement patterns of the sun throughout the year (Author, 2009).

Orientation: Wind and Sun

The author notices the global trend to be "GREEN" and follow "sustainable" practices. There is a modern global trend to make buildings ever more environmentally sustainable, and it is the architect's job to design buildings in such a way to minimize the carbon footprint of the building as well as the buildings dependency on mechanical ventilation. The author thus adopted a natural ventilation strategy to the building and minimizes the need for HVAC and high municipal energy consumption. This system consists of natural ventilation as well as the occupants option of using mechanical fans powered by solar panels located on the roof.

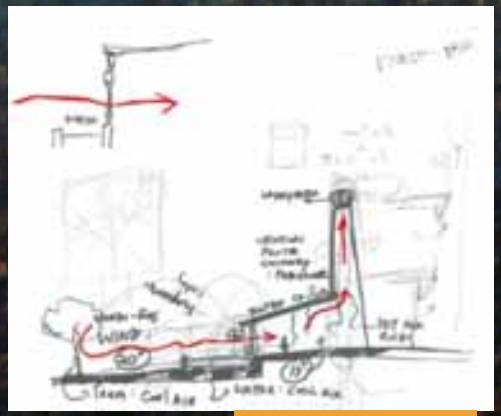
Natural ventilation is dependant on the orientation of the building and the best way to utilize natural ventilation is to understand the wind patterns of the context and the site. In Summer the predominant wind patterns of Marabastad are north-easterly to south-easterly and in Winter largely south-westerly and on occasion *north-easterly (see Site and Context table on page 23-24).*

In the final planning for the facility, the author designed "fins" to help capture gentle wind patterns which would aid the natural ventilation inside the building. Also, it was best to make the building as narrow as possible to minimise large covered spaces where air flow is poor. The use of this strategy is limited and can be used in gentle breezes and in narrow open plan spaces such as the workshop spaces.

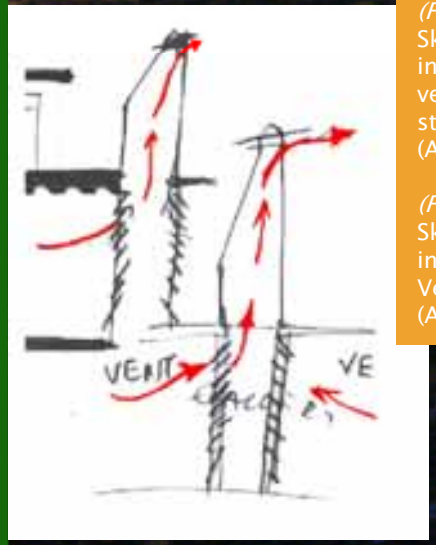
The orientation of the building also affects how the sun impacts internal climates within the building. The author orientated the building northwards in order to capture and make use of the Sun in the best possible way.

To further utilise the wind and utilize cooler air flow, evaporative cooling in the form of a water feature or trees is placed in front of the building. The theory is that wind would pass over the water feature (becoming cooler) and through the building, thus in summer bringer cooler air into the building.

DESIGN DEVELOPMENT



(Figure 145) Sketch investigation into ventilation strategies (Author, 2009).



(Figure 146) Sketch investigation into Venturi chimneys (Author, 2009).

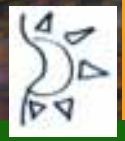
Energy: Photovoltaic Panels

To minimise electrical energy consumption from municipal lines, solar photovoltaic panels are placed on the roof facing north. The ideal orientation for photovoltaic cells in Pretoria is 30˚ for maximum use of the sun. However, the roof for the proposed facility is a mono-pitched roof and to build a roof pitch of 30˚ is neither feasible nor particularly practical and would produce countless economic and structural problems. The author added the photovoltaic cells to the 10˚ roof pitch as the panels would still receive energy because of the northerly orientation. The solar panels are designed to provide power for electrical lighting, heating of geysers, oxygenation (pumping) of water feature and to power the internal mechanical fans.

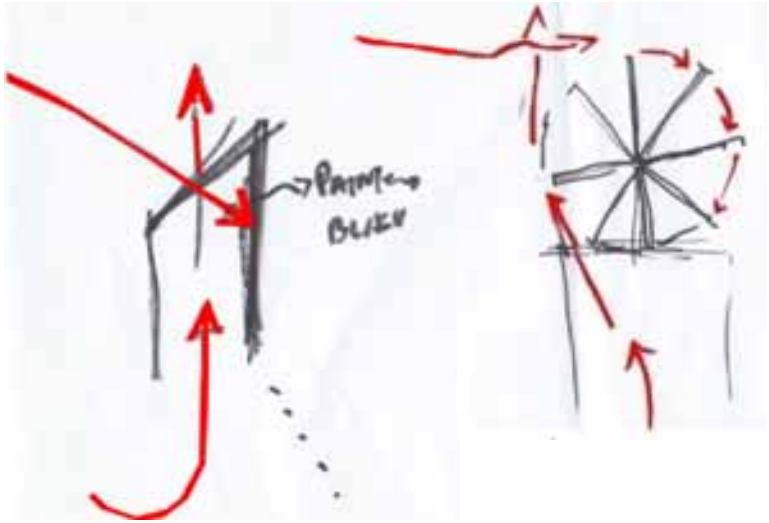
A battery room had to be accommodated for in the accommodation and the author assumes that solar batteries and panels will improve over the course of the next 15 years. It is not the size of the battery that counts but the weight of the battery and the technology used inside the battery. Therefore smaller battery rooms powering large buildings are a possibility for the future. With the advent of electrical cars and improved lithium batteries of our time, solar powered battery rooms would almost certainly become a prominent feature in contemporary sustainable design.

Venturi flute stack chimneys and ventilation strategies for large covered spaces

Areas such as the main gallery space, basement parking and pottery workshops required a different ventilation strategy. These areas are large covered spaces and the gallery and pottery workshop are squeezed between the two towering buildings and hence don't benefit immensely from the predominant south-westerly and north-easterly winds. Therefore combining Venturi's flute principle of a larger base area of the chimney and narrowing as the taller the chimney helps the circulation of air through the space. A whirlybird or roof turbine is placed on the top of these chimneys to reinforce the circulation of air outwards. Internal mechanical fans are also used to control the internal climate.



DESIGN DEVELOPMENT



(Figure 147–149) Sketch investigation into ventilation strategies (Author, 2009).

The ventilation chimneys are a very important key part of the design as it extracts air from the internal ducts. To improve the efficiency of the chimneys, whirlybirds or roof turbines are attached as well as the exterior of the *solar chimneys* protruding from the roof are painted black to maximise hot air moving out of the chimneys (*stack effect).*

Solar chimneys

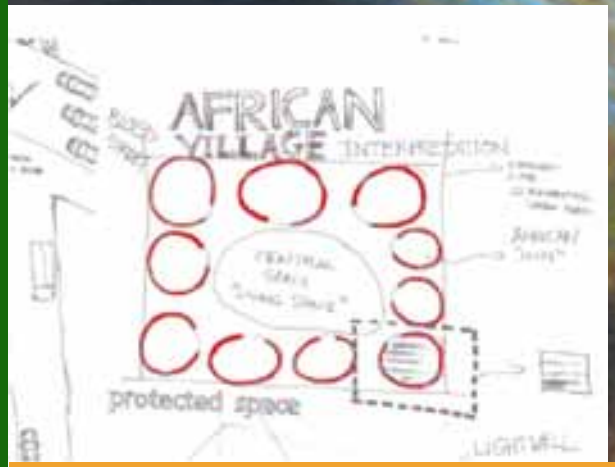
By utilizing the energy of the sun can be used in improving internal climate. Solar chimneys are painted a dark colour, thus absorbing more heat from the sun and allowing warm air to rise much faster.

Natural Gas

As mentioned in the Brief, the building has a residential component to it. In facilitating sustainability in the area means to use sustainable measures and practices. Such as simply using aerated shower nozzles in showers to save water. The author identified that what consumes a lot of energy consumption in buildings is cooking. Therefore the author made provision for natural gas canisters to be placed in the building and used to power the hot plates in the kitchens.

Cooking with gas is more sustainable than cooking with electricity. Using gas for cooking in the residential area will also ease the demand on the lighting requirements of the building and solar battery room. The energy stored from the sun will be reserved for lighting the building and external areas as well as heating the geysers and providing power to the mechanical fans.

DESIGN DEVELOPMENT



Above: (Figure 150) Sketch investigation into central courtyard space (Author, 2009).

Central Courtyard Space

The way African communities planned their vernacular dwellings such as the Kasiyulili village (northern Ghana) influenced the author's decision to place a courtyard central to the building plan. This courtyard is a relaxing space within the scheme and is a semi-private space that is also a protected space by means of surveillance as the surrounding buildings are "wrapped" around that space.

Design and Structural Investigation

The designing of the structure went through a number of phases which aided in building the final product. Namely *sketch plan 1* and *sketch plan 2.*

Above:(Figure 151) Site and context model (Author, 2009).

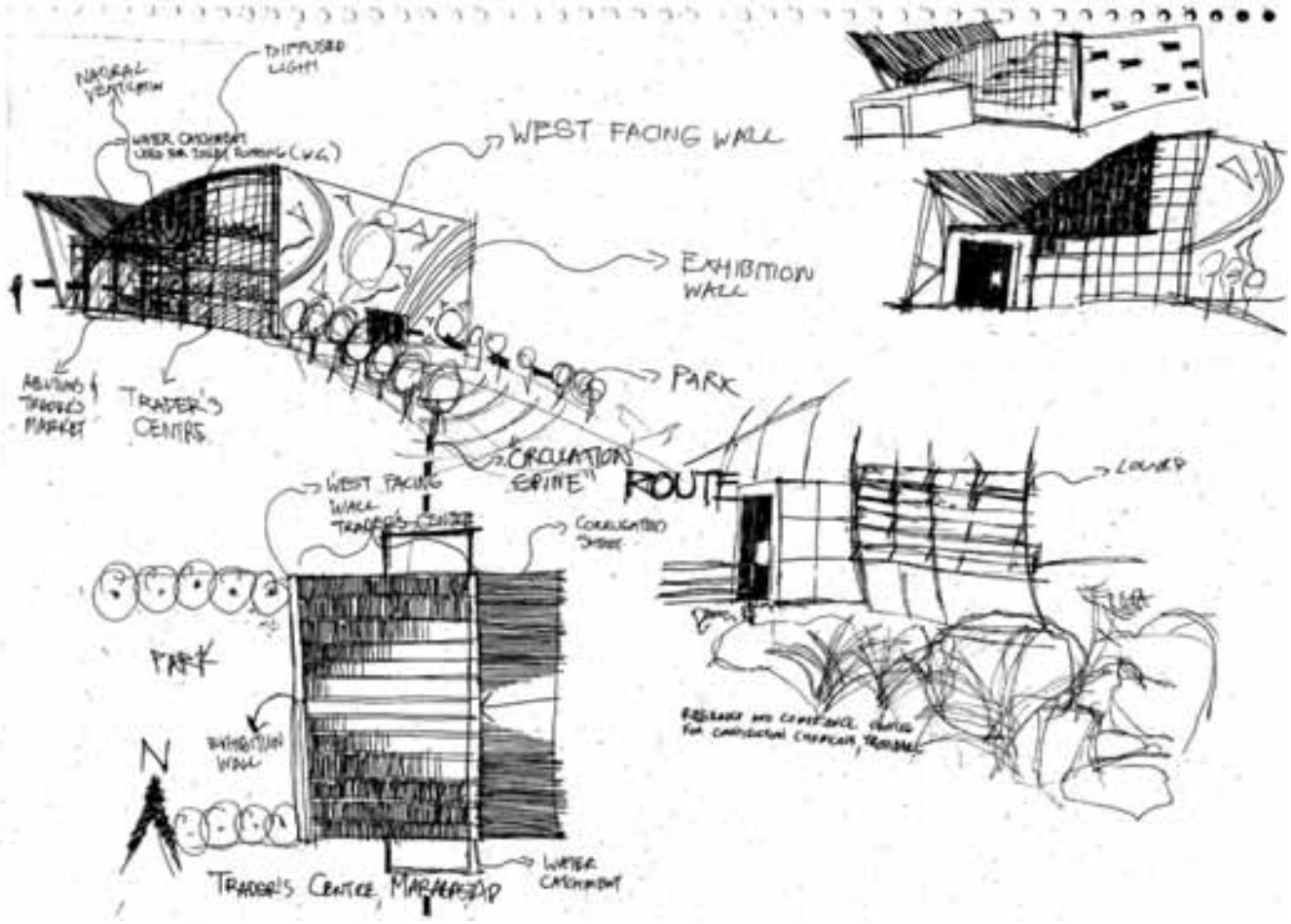
Left and far left: (Figure 152 & 153) Concept sketch plan 1 and interim submission (Author, 2009).

DESIGN DEVELOPMENT

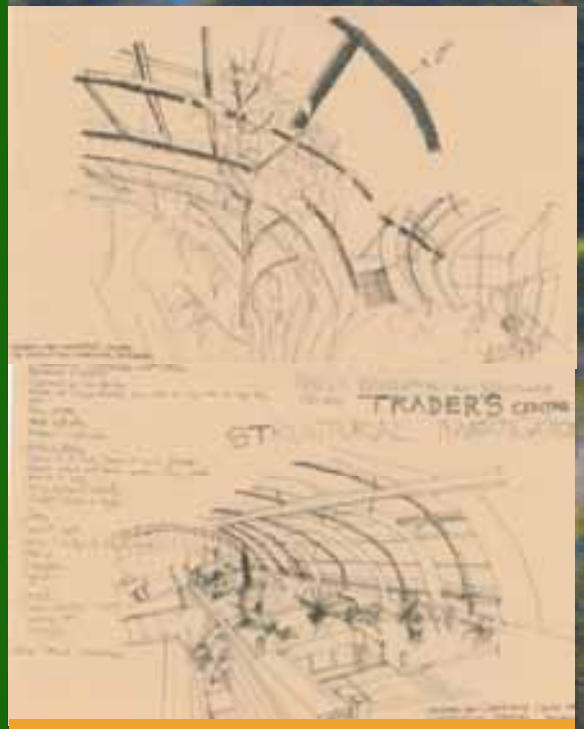
DESIGN DEVELOPMENT

(Figure 154) Collage of conceptual sketch plans 1 & 2 and interim submission (Author, 2009).

(Figure 155) Conceptual sketch plan 2 and interim submission, This proposal turned out to be impractical and did not fit into the context of Marabastad (Author, 2009).



DESIGN DEVELOPMENT



(Figure 156 & 157) Research and concept sketch 2. The precedent used is the Research and Competence Centre for Construction Chemicals, Trostberg (Author, 2009).

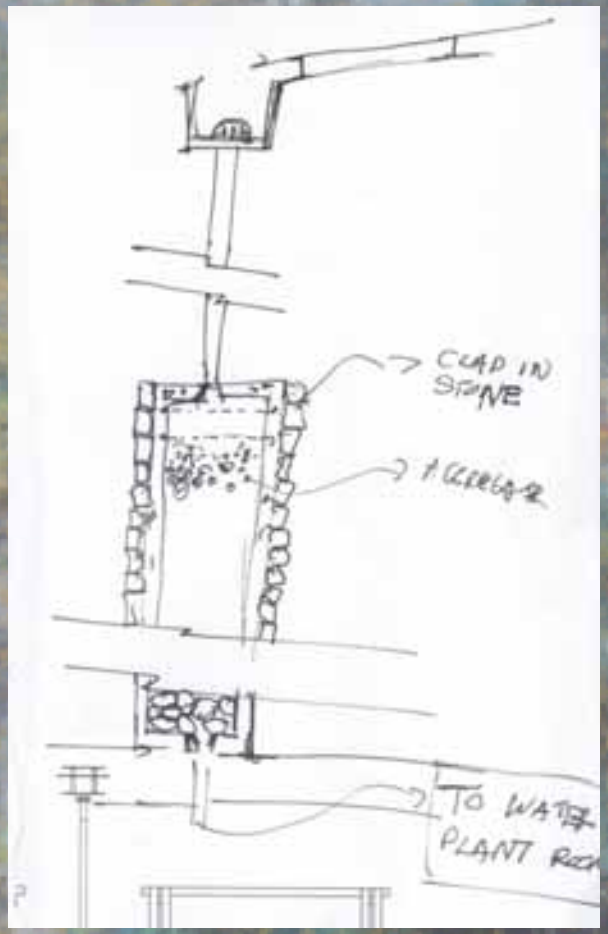
The concept sketch plans followed different paths and have different forms associated with them. The author decided to proceed to the next level of design with concept sketch 1 as it is a design that related to the context of Marabastad better.

Water Reticulation and Stormwater Management

The author thought it best to utilise all the rainwater runoff and stormwater runoff and direct it to on-site stormwater tanks. The rainwater in these tanks would be used in watering landscaping areas as well as in the flushing of toilets. The stormwater will go through a filtering and be purified before re-used in the building. This would equate to sustainable use of grey water as well as minimizing the amount of water leaving the site and entering municipality stormwater drains. The water that is forced to leave site (in the case of tanks reaching their maximum capacity and hence requiring water to be pumped out) and enter the stormwater drains would go through a system that purifies and cleans the water, thereby cleaner water enters the municipality stormwater drains and South Africa's rivers.

The downpipes become internal space features and on the first floor are the filtration unit clad in stone. On the ground floor the 110mm dia. downpipes feed stormwater drains directing stormwater to the basement tanks. Waterproofing is essential and the detailing of the stormwater features are extremely important to prevent flooding of the areas or leakage. When building the structure, supervision of such features needs to be consistently moderated on site by an architect and water proofing specialists. Stormwater from the flat roofs is directed to the courtyard space stormwater drains using appropriate falls. The stormwater passes through a full bore outlet and into a reinforced concrete stormwater channel. From there it reaches the ground floor and a fall directs it to the removable stormwater mentis grating and down to the basement where it is directed to the water reticulation plant room.

The water reticulation plant room can hold a maximum of 40 000 litres (2x 20 000 litre tanks) and the grey water plant room can also hold a maximum of 40 000 litres. This is to maximise the use and collection of rainwater and limit the amount of water leaving site.



(Figure 158) Investigation into filtering of stormwater system Author, 2009).

In the event of heavy rainwater showers and where the tanks have reached their limit, a ball lever placed in the tanks will expel the excess out and pump out the excess water to municipality stormwater drains.

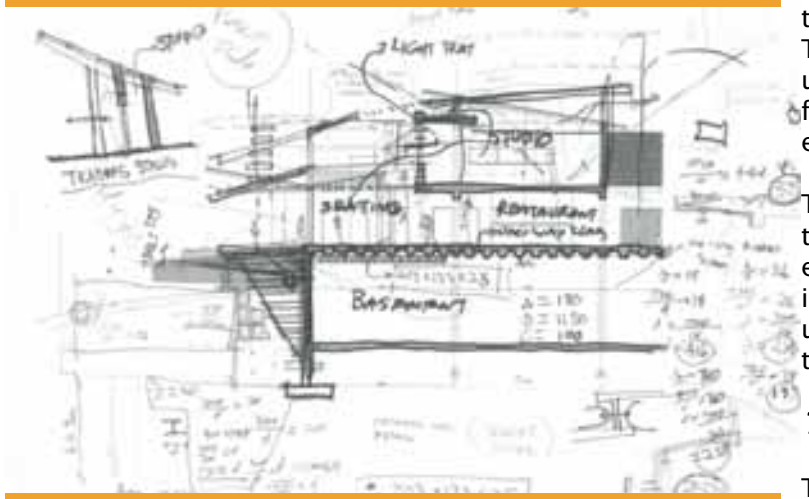
Filtration of the stormwater is important as dust can build up on roofs and cause unsightly darkened water to those wc's (water closet) using grey water for flushing. The stormwater being reticulated to be used for flushing waste thus needs to go through a filtration system to eliminate dust.

In some areas such as the north façade filters access points are limited. A built in ladder is placed in order for easier access to the top of the gutter filters.

Solar water purification system

Stormwater coming from the roof needs to be purified before it enters the water reticulation system. The author investigated another way of purifying the water collected from the roof such as using a solar water purification system. This water purification system would need to be custom built within the actual tanks and be done by a specialist. *[Note: the author however did not use this system in the final design as it is a relatively new system and one that is not well known and practiced in the South African construction industry.]*

Figure 159) Sketch plan 2 investigation into how roof forms can aid the collection of rainwater. This rendering informed the author on the possibilities of form vs. function. Sketch plan 1 was however used in the final design process and the curved roof element was removed (Author, 2009).



(Figure 160) Preliminary section and preliminary calculations of components (Author, 2009).

Which roof is best for rainwater catchment?

The author investigated different roof methods for the proposed facility including a curved roof that would catch water and direct it into a stormwater drain. This however proved to be too expensive, impractical and not a building that would easily 'sit' within the context of Marabastad. The roof of the building should not 'over-empower' the neighbourhood and should 'sit' comfortably in the context of Marabastad.

Sometimes the simplest solutions are the most appropriate solutions and a mono-pitched roof was rather incorporated in the building.

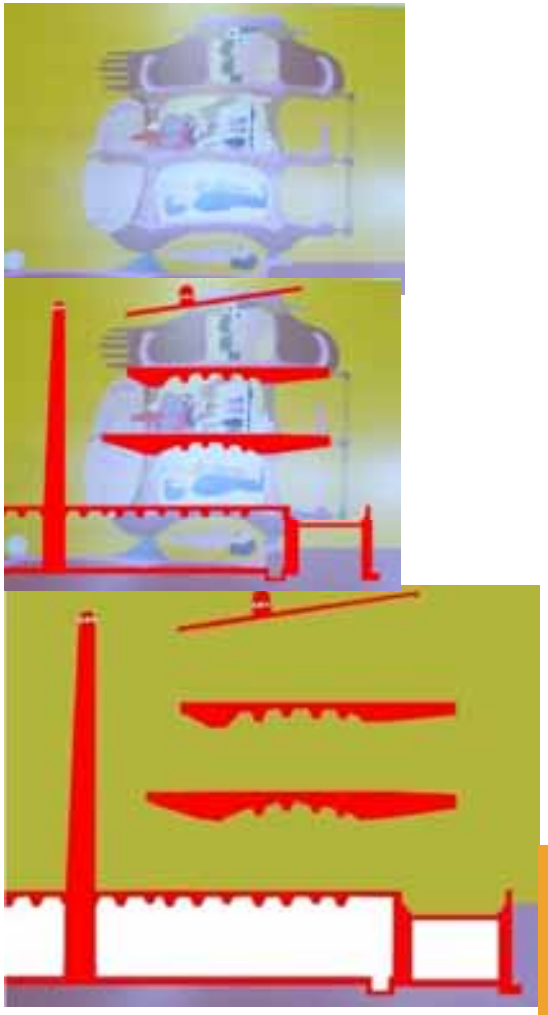
Local Material= Low Embodied Energy of Building

Local materials were only used in the construction of the facility as this utilises the least amount of embodied energy. Therefore there would be an economical saving in the choice of material. This would be beneficial economically as well as reducing the unnecessary ordering of materials from overseas which would further increase costs as well as increasing the buildings embodied energy (transportation costs, fuel usage...etc.).

To further save on costs, calculations were done on the sizes of the members within the building. Local material usage is not enough, the actual relevant sizes of the members is of utmost importance. The calculations were done by the author in order to use the most economical size of each member and thus utilizing the clients budget to the fullest.

The section

The final design depended primarily on the original section and calculations of components *(see figure 160).*



Experiment using the painting of the 'Smiling Lion'

ARTISTIC INTERPRETATIVE FORM TRANSLATED INTO ARCHITECTURAL PHYSICAL FORM. The paintings cantilevered slab section makes structural sense with the thickening and form of the slab in the painting. The author realised that structure can be manipulated into 'EXPRESSIVE' design qualities in building. The authors investigation into Art and Architecture carried through to the section.

How the experiment was conducted:

- *The author started off with Pancho Guedes' painting of The Smiling Lion apartment section-1982 (Guedes, 2009).*
- *The author then created a parti diagram section of the proposed new Marabastad Traders Centre for Arts and superimposed this parti diagram onto the painting.*
- *The author then removed the painting and the parti diagram remained. It was noted by the author that Pancho Guedes's form of the painting is similar to the structural form of the proposed new Traders Centre for Arts.*

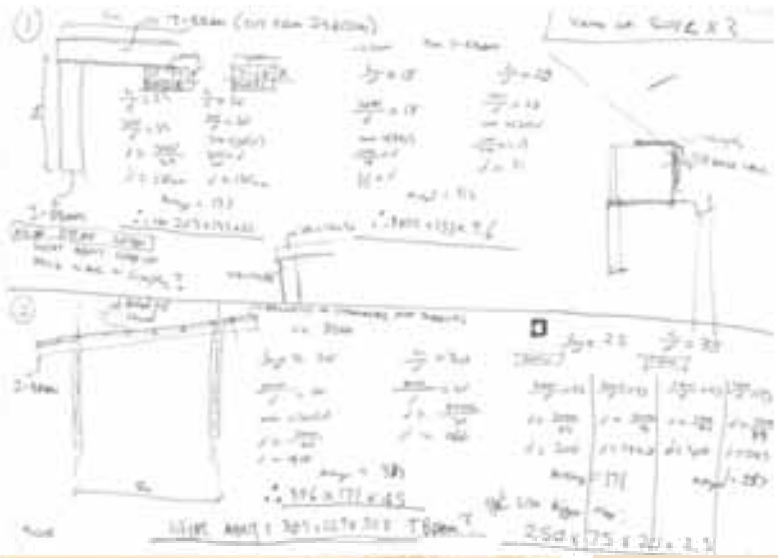
Conclusion:

- *The experiment proves that art can influence the overall structure of an architectural model in terms of form.*

(Figure 161) Painting based on 'Smiling Lion' apartment section-1982 (Guedes, 2009).

(Figure 162) Parti section of Marabastad Traders Centre for Arts superimposed onto the Smiling Lion paining (Author, 2009).

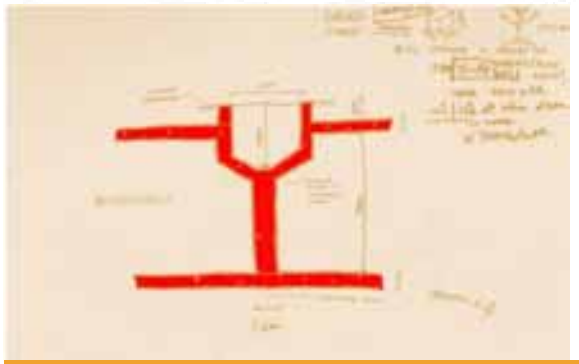
(Figure 163) Parti section of Marabastad Traders Centre for Arts (Author, 2009).

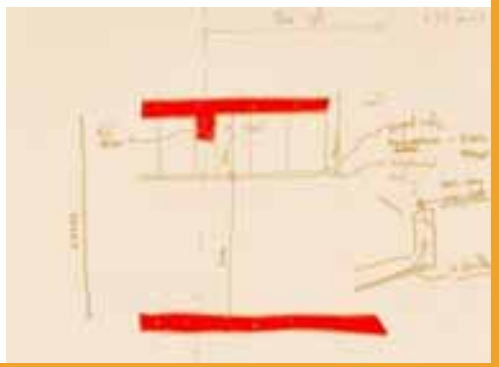


Calculations of components

To maximise the economy of the building. Calculations were made on the member sizes of each component using Andrew Orton's *"The way we build"* method.

It should be noted to the reader that the final calculations are to be done by a qualified engineer or structural engineer. The calculations informed the author on appropriate sizes to use and made the building more structurally and economically sound. The members chosen are both practical and well known by South African contractors which mean that the building would be easier to build and more cost effective.





*(Figure 164-167) Authors calculation of structural component sizes (*Author, 2009).

*(Figure 168) Investigation into skylight detail (*Author, 2009).

*(Figure 169) Investigation into brise-soleil (sunscreen) detail (*Author, 2009).

Acoustic factors

The design is located next to busy roads (Bloed Street and 4th Street Extension). To counteract from noise pollution the author used *double glazing* in windows to reduce the amount of noise coming from the street. Perforated mineral wool acoustic tiles are placed on suspended galvanized steel brandering. These tiles are removable and can be replaced.

Double Glazing

Double glazing is applied to the windows of the centre. The primary function of double glazing is to improve the thermal insulating properties as well contribute to safety, security and acoustics. The building is situated close to the busy Bloed Street and it is essential to combat the noise pollution from the street by using double glazing as a tool (Eagledoor aluminium windows and doors, 2009).

Brise-Soleil (Sun screening)

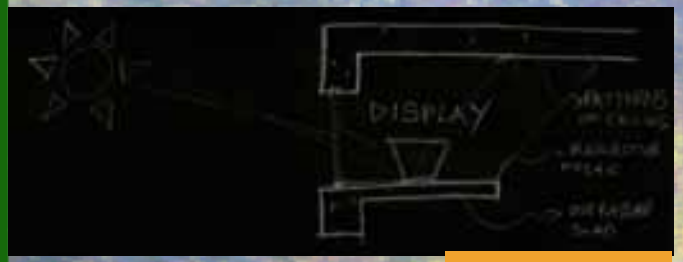
To combat the harsh sun adjustable brise-soleil or sunscreens are placed at the window locations. Angles of the brise-soleil depend on the angle of the sun and on which façade the brise-soleil will be located such as the north façade in comparison to the west façade.

The path of the sun and *azimuth* angle of the sun is much higher during noon whereby the sun is higher up and directs solar rays from a higher angle onto the northern façade of the building. Approaching sunset the suns path and azimuth angle is much lower and thus directing solar rays comparatively lower on the western façade of the building. The treatment of the sunscreen detailing thus needs to change in accordance with the suns path around the building.

Natural Light

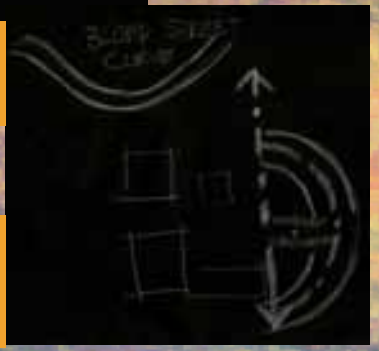
Crucial to work spaces in the building is the quality of light. Large glazed curtain wall panels are placed facing south to bring maximum natural light into the workshop spaces. On the outdoor view ports skylights are placed to bring in natural light into the pottery and gallery spaces.

DESIGN DEVELOPMENT



(Figure 170) Investigation into reflective mosaics on top of light well (Author, 2009).

(Figure 171) 5th street pedestrian spine (Author, 2009).



(Figure 172) Investigation into pedestrian circulation (Author, 2009).

Skylights facing north had to be given a different treatment and needed to be sheltered from the harsh sun. Sun screens were placed in the case.

Light wells *(figure 170)* are placed at the overhead clerestory windows to allow low-angled sun rays to hit the reflective 'coloured' and mosaic patterned overhead slab which will then project coloured patterns on the internal unfinished soffit of the slab, as well as bringing in light. This overhead clerestory also acts as a display to onlookers of the building and this coloured ceiling with patterns will draw the viewer to the items on display.

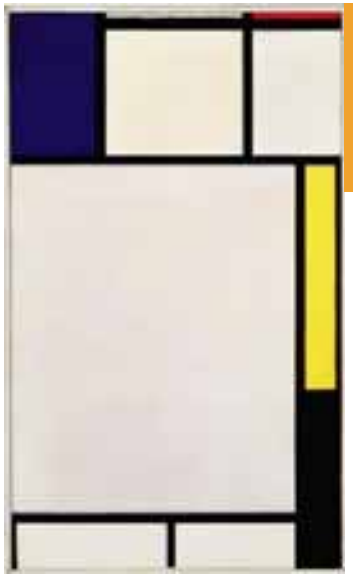
5th Street north-south Axis

One of the most important aspects of the group framework was the 5th Street pedestrian spine. One of the goals for the future planning of Marabastad, as seen by the author, was to create a pedestrian friendly environment. The positioning of the building on site had to relate directly to the new movement patterns of the now pedestrian orientated street. The building had to have a central courtyard and this central courtyard had to be intersected by 5th Street. Therefore the placement of the building related to the pedestrian movement patterns of 5th Street.

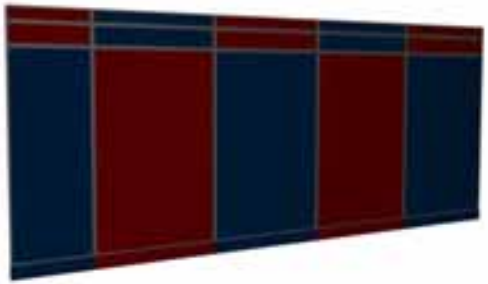
How to capture movement

The entrance to Marabastad is greeted by Bloed Street curving and this curve leads up to the proposed site. The author wanted to emphasize this curve on the ground floor plan as that is the level generally associated with people visiting the building. To capture movement into the pottery spaces and allow tourists to have the opportunity to view how items are made, the curved walls "draw" in the pedestrians and allow them to circulate through the pottery workshops.

The gallery draws in pedestrian movement in a different way by the use of a diagonal line. This wall line directs occupants through the central courtyard and to the entrance of the gallery.



(Figure 173) A composition by the artist Piet Mondrian (Mondrian, 2009).



(Figure 174) Panel details for art screens located at ablutions and gallery spaces (Author, 2009).

Colour is a tool in Art and Architecture

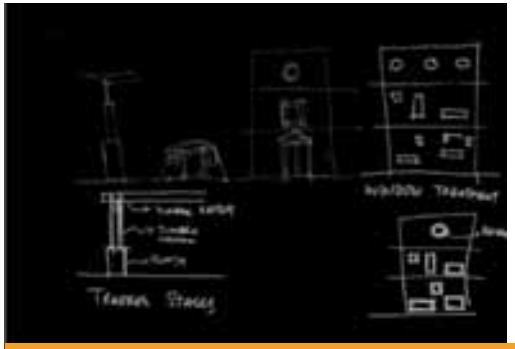
The artist Piet Mondrian inspired the initial choices of colour. The subject matter in his *De Stijl* paintings is coloured rectangles and is a minimalist way of painting using few colours. Colour is important to artwork, the author demonstrated with his own artwork whereby the artworks expressive quality lied fundamentally in the use of colour. The proposed facility also utilizes colour as a tool through expressive use of colour in the painting of the building. The occupants housed in the facility are of a creative nature and the exterior of the building should symbolize that.

The author first experimented with the exterior of the building and the colour co-ordination was inspired by an Ndebele influence and thus the façade was treated as a canvas whereby use of the primary colours: red, blue and orange were chosen by the author to best express use of colour and how it can relate to an architectural form. Applying artistic techniques in architecture such as the simple use of colour can create an awareness to the building that is fun and exciting to the arrival of a visitor to the building.

The author found that the use of these three stark colours brought way too much emphasis on the building and a Minimalist use of colour would be as effective. The author then chose red as the primary colour to draw emphasis to the building *(however still maintaining the use of the other colours).*

Light and colour shape internal environments. North facing skylights such as in the mosaic design studio and African handicrafts and motifs studios are clad with a transparent coloured UV sheet which shapes the internal environment through the use of light and colour. The use of colour of these sheets was inspired by colourful Southern Ndebele styled huts.

The author used the African Craft Market in Rosebank to finally make the final decision for colour for the building. The African Craft Market has rich earth colours which highlights an ‘urban African icon’ (Digest of South African Architecture, 2001) and the ‘feeling for colour association with African’ is what the author is experimenting with. Colour chosen is both earthy, lively, expressive and exciting. Colour can be a tool to portray the lively neighbourhood.



(Figure 175) Sketches of window placement (Author, 2009 + study leader sketches in lighter pen).

(Figure 176) Model showing view port to Jazz Centre (Author, 2009).

Window placement

The placement of windows is crucial to the character of the building. In the case of the facility, an expressive and yet creative manner of placement of the windows would justify the creative and artistic talent housed inside the building. The author decided to draw reference from contemporary Dutch architecture as the placement of these windows are both creative and aesthetically pleasing.

The placement of the contemporary Dutch windows almost resembles a kind of 'order in chaos' where it may seem the windows to be of haphazard placement but are actually placed in order of view, natural lighting or ventilation.

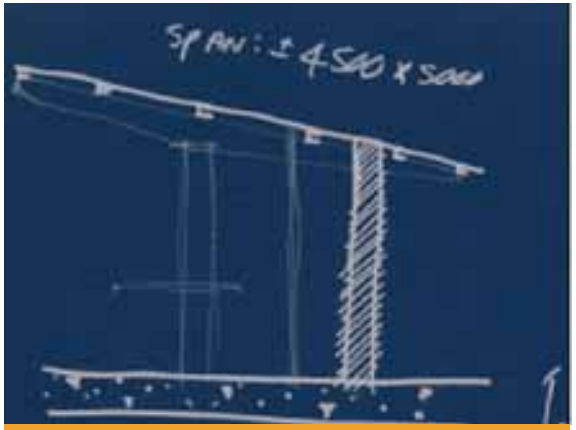
View ports to Jazz centre and inner city

The building is designed so that 'play' areas are located on the first floor. These 'play' areas are recreational space where an artist can leave the study, relax in these spaces and gaze to the Jazz Centre as well as central Marabastad. The spaces also offer views to the city, views to the traders market areas as well as the courtyard space. Since the view ports are located on a higher level such as the first floor, this would allow the viewer to view the Jazz Centre as well as the city unobstructed by trees.

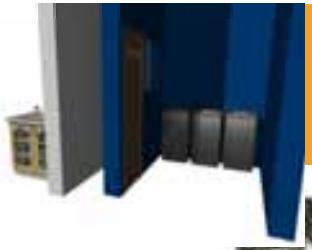
Texture

As shown in the precedents, texture is an important quality in architecture and this can be seen in the use of surface texture such as stone. The author decided to address the curve walls using brick as a surface material because it has a more 'heavier' presence than the 'softer' and 'lighter' primary colours used in the first and second stories. It is also a material that ages well and does not require much maintenance. The brick walls also aid the pedestrian movement patterns as their different texture guides the visitor to the gallery and pottery spaces.

Artist's walls are created where the artists at the centre can start "field trips" around Marabastad and be commissioned to actually paint on the provided artists walls which can be updated regularly.



(Figure 177) Original sketch of trader's stalls (Author, 2009).



(Figure 178) Model showing bin areas, gas canisters for kitchen stoves are also stored in bin areas (Author, 2009).

(Figure 179) Model showing trader's stalls (Author, 2009).

Storage Space

Storage space is necessary for the traders. The author noted that security of these items need to be addressed and lock up units on the ground floor next to their traders spaces would be insufficient security as padlocks can be broken. The author thus decided to place a storage facility in the basement for the traders and there is a storage space under the ramp, where there is enough head room and space for storage of artworks and materials from the art workshops. This storage facility can be accessed at the beginning of the day and locked up at the end of the day.

Storage for excess items made at the arts department can be stored in the basement as well and can be collected by vehicular transportation. The author made provision for occupant storage lockers as well as storage racks for pottery located in the pottery and art workshops.

Bin areas

Although the author strives for an efficient design and maximise use of materials, areas such as the carpentry and furniture workshops generally produce waste such as cut-offs. These workshop spaces need bin areas provided in close proximity and the service of the bin areas needs to be done on a regular basis. Since these particular workshops were located on the first floor a lift had to be placed in the building to service these areas. Ventilation of these bin areas are controlled using whirlybirds and chimneys.

Adaptability of traders stalls

The author designed the trader stalls to be as adaptable as possible. The three important criteria governing the design of the trader stalls were provided shade, water and electricity. To provide shade pergolas with latte screening were used as well as providing seating space and a slab platform for the traders to place their produce on. The next step was to identify key points to place water fountains to be used by the traders and the general public. The last criteria of electricity was to place sufficient workable light levels for the traders if there are functions at night such as a major performance in the Jazz Centre or an art show in the gallery.

(Figure 180) Investigation into stormwater channels (Author, 2009).

(Figure 181) An example of a threshold space. The outdoor seating area facing Bloed street becomes a threshold because of the positioning of the trees as well as the panel detailing between these two spaces (Author, 2009).

Building Services

It is important for the architect to make sure that all building services can be accessed and be placed at suitable locations. Where a duct is deemed necessary for the top floor, the "wet" areas on the floor beneath should be located in close proximity to the duct to minimise costs of separate ducting.

Also in terms of sewerage leaving the building, the author noted that suspended ceiling needed to be placed in order to omit from view these unsightly drain pipes.

Thermal Insulation

Cooling the internal air and natural ventilation strategies is a major priority inside the building. Natural ventilation of roof ceiling spaces (such as relying on wind) may not be the most effective in cooling the air in summer months. Thermal insulation is more effective in protecting the interior from heat gain in summer and loss of heat in winter. The thermal insulation used in the centre is Sisalation 405 multi-purpose grade with all overlaps being taped.

The mono-pitched roof and suspended ceiling is designed so that when hot air rises it will follow the slope of the ceiling and escape through a vent at the top opposite corner of the ceiling.

Oxygenation of water features

The water features designed around the north-eastern, east and south-east façade have become part of a 'threshold' space separating the traders from the workshops. These water features need to have a system that keeps the water healthy. One way to achieve this is to make sure that the water is not stagnant to prevent mosquitoes from nesting there. To make sure there is a continuous flow of water the author envisaged a pump system that would maintain movement of the water powered by a solar power.

(Figure 182) Image showing central courtyard and grassed steps (Author, 2009).

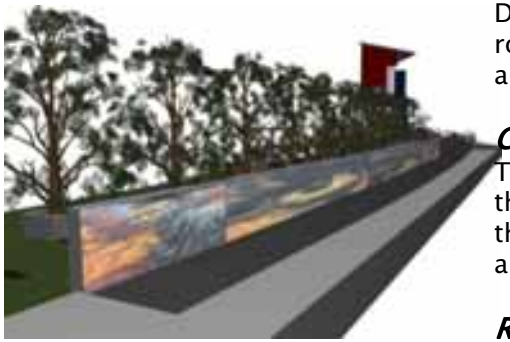
(Figure 183) Detailing of entrance portals (Author, 2009).

Grassed courtyard steps and entrance portals

From the beginning of the design process, the central courtyard was viewed as a 'private' space. The author envisaged this space as a 'break' area or 'threshold space' from the busy north-south pedestrian spine. To accomplish this transition from public to 'private' involved raising the courtyard to a higher level as well as defining the courtyard transition entrance point (in this case the steps). The steps were detailed to become grass steps and marked the entrance into a more natural and 'private' space. These grassed steps symbolize the transition into a natural environment.

Marking the entrance point to the building is important in terms of how pedestrians enter the building. The author used entrance portals with perforated galvanized steel sheets with a pattern detail that resembled Ndebele triangles, rectangles and circles. This detail links back to historical connotations of the context. The detail was also used to create a threshold for the outdoor seating area and 'shelters' the occupants from noise pollution coming from the busy Bloed Street.

The detail also plays with the lines from the Mariammen Temple. The Mariammen Temple has a larger vertical line defined by its height and more detailed horizontal lines. The final design thus has a strong emphasis of the vertical line in the form of the entrance portal and the much more detailed lines borrowed from the Mariammen Temples use of sculpture decoration and detailing on the façade.



(Figure 184) Model showing art walls (Author, 2009).

Art walls

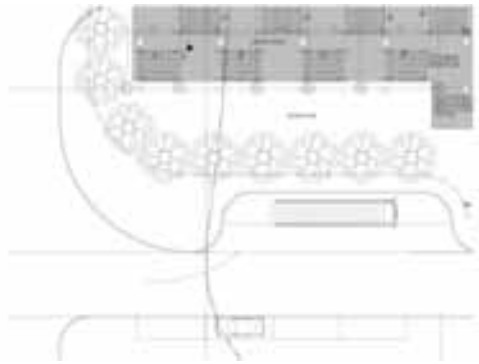
Art walls are placed along Bloed Street which also forms part as being 'barrier' walls to prevent jay-walkers from crossing the street at undesignated points of the road. Designated pedestrian routes are marked with paving and where it crosses a vehicular route it is raised. Pedestrians should use these raised platforms as they are much safer and designed for the pedestrian.

Community participation and Interaction

The author from the beginning of the document set out to improve the quality of life for the whole community and one way of doing this is to create jobs. Paving to all areas of the traders market will be laid by community members under the supervision of the architect.

Restoring a residential community to the neighbourhood

The Marabastad of the past was built up of residential families. Today that aspect is almost lost. The author believes in the Compact City approach and creating a mixed-use environment. In that way a traders market, art studios and workshops are all integrated with residential units at the top floor.



(Figure 185) Plan showing bus stop (Author, 2009).

Tourism

Integral to the economic sustainability of the proposal is tourism. The author designed the site so that it could accommodate tourist buses and the newly implemented BRT system that is taking shape through all South African cities. The tourist buses will come from Bloed Street, enter through the 4th Street extension, and park at the available bus stops on the *New Street*. The exit is *through 7th Street.*

A Marabi Tour of the neighbourhood can become part of the tourist package offered to the tourists. A tour guide can be met at the Tourist Information Centre where maps, books and merchandise of Marabastad can be sold. Tours through the art workshops and facility can be done before the main tour through Marabastad and visiting sites such as the Mariammen Temple, landscaped areas of the parks designed by the landscape architect partner (Marabastad Group work team), Jazz centre, the performance centre designed by an associate architect partner (Marabastad Group work team) and the rest of the Marabastad neighbourhood which should also become part of the municipalities future plans for upgrading the area.

(Figure 186) Plan showing parking space which also opens up to being a 'Weekend Trader's Market' (Author, 2009).

Teamwork and project partners

Important to any large urban project proposal is the interaction between team partners and architects. The 2009 Marabastad Group work team consisted of two architects and one landscape architect. Group work and team meetings were held in order to generate a balanced urban scheme proposal for the study area.

Parking

Marabastad has a problem in terms of insufficient parking which would also serve as a problem when there is a huge performance or gathering at the Jazz Centre. The author designed the facility to accommodate not only tourists and the occupants of the building; but also for those visiting the Jazz Centre for a performance. The group work proposal also accommodates parallel parking on Bloed Street. To prevent the parking from just being a massive span of space, the author looked to the writings of Christopher Alexander and *Pattern Language* whereby trees can be used to prevent a large unsightly parking lot from view. The parking is also multi-functional as it can be used as a *weekend trader's market* as well as an events and performance area.

The trader's stalls are carefully placed on the site. The traders market overlooks the performance or weekend traders market, there are trader's stalls centrally located along the 5th Street pedestrian spine and there are traders stalls to the south which are sheltered from the sun by the building and draw in visitors from the 5th Street pedestrian spine.

Salingaros's "parking ribbons" are placed on the periphery of the site and along roads and Christopher Alexander's "small parking lots" are applied to the surface parking.

(Figure 187) Sketches showing design investigation into product branding and logo for the proposed development and products sold at the facility (Author, 2009).

(Figure 188) Model showing bicycle holders (Author, 2009).

Work, Eat, Play and Sleep environment

Based on theory and the concept of the city as a 'living entity', the author's interpretation of this created 4 zones. A work zone consisting of the workshops and studio's, an eating zone consisting of the kiosk and outdoor seating arrangement, a play zone or relaxation zone at the outdoor view ports and central courtyard space and finally a resting zone consisting of a residential development.

Product Branding & Logo

A recognisable and trustable brand is important for economical sustainability of the products sold in the centre. The items and products developed and designed in the centre are done by creative artists who specialize and develop their skills at the centre. For international recognition into tourist markets the brand would inform that the product was made by skilled craftsmen and in a facility specializing in crafts. The author envisaged this brand as forming part of the building façade so that viewers can immediately associate the brand with the building.

Items sold in the centre will be packaged in recyclable box containers and packaged in the on-site packaging department. From there it can be posted to prospective clients. Clients that have purchased items at the centre can wait at the outdoor seating area while their items are being packaged. Clients will be educated that by purchasing this particular product brand would mean supporting sustainable and poorer communities.

Bicycle lanes

As important as pedestrian routes are bicycle lanes. Outdoor bicycle stands are neatly accommodated in the ground floor plan. The Art walls and light bollards also shield traffic from pedestrian and bicycle lanes. Use of bicycles is a much easier and quicker way from getting about Marabastad and these bicycle lanes need to be incorporated with the rest of the municipalities upgrade plans of the area. In terms of tourism, the "*Marabi Tour",* as it may become known, can incorporate a 'Bicycle Tour' as part of its tourism package to create a much more lively experience and would also allow the tourists to explore the area on much faster sustainable transportation. Bicycle stands are placed on axis with the 5th Street pedestrian routes.

*(Figure 189) Model showing raised pedestrian walkway over Bloed street which aids in slowing traffic down, additional speed humps are placed well before traffic meets the raised platform (*Author, 2009).

Raised walkway and measures to slow down traffic

"Where fast moving cars and pedestrians meet in cities, the cars overwhelm the pedestrians. The car is king, and people are made to feel small." (Alexander, 1977).

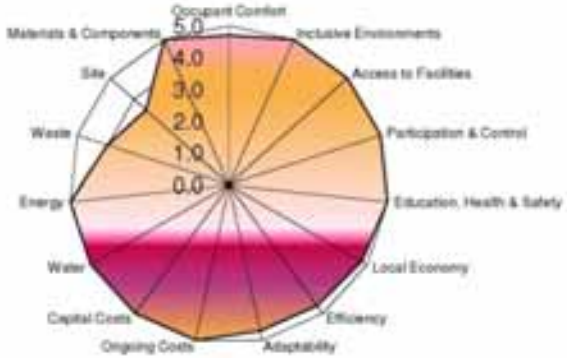
From the first stage of designing and through theory, the author new of the important decision of the pedestrian crossing over Bloed Street. Bloed Street is a very busy street at the moment and it would be too much of a challenge if the traffic in this area was not addressed. The author thus placed a raised walkway over Bloed Street which is in route with the 5th Street pedestrian spine. By doing this the author raised the building to be on the same level as the raised pedestrian route. Creating a raised walkway is not enough in this case as fast moving traffic will not have sufficient time to break. Therefore the traffic needs to be slowed down well before it ever reaches the raised walkway. There are a number of ways to do this such as providing robots at the 7th Street and Bloed Street intersection as well as using speed humps to slow down the traffic.

Employment Opportunities

The whole community can benefit from these facilities and jobs will be created. The traders can be employed by the facility and sell the produce at the trader stalls provided. Jobs for traders can also be created in the packaging department where traders can package products that clients have bought. Artists should be already employed by the facility as well as the lectures and instructors. Funding for these will be allocated by private art sponsors as well as from the national sector.

Security and Surveillance

During one of the site visits in Marabastad one of the group members was robbed and a camera was stolen. This proves that Marabastad is still not safe enough for tourists and needs to be a major concern in the sustainability of the project as the proposal encourages tour guides and potential buyers to come into Marabastad. The building counteracts this by creating proper surveillance in the form of large windows overlooking the central courtyard space. Sufficient lighting is placed outside in the form of street lights and light bollards, this will also improve lighting conditions for instance when there is a performance at the Jazz Centre.



*(Figure 190) SBAT formula results for the proposed new Marabastad Traders Centre for Arts. The formula shows that the prosed facility can still be improved in terms of better waste management systems that can be incorporated into the design as well as the possibility to grow crops on site (*Author, 2009).

Built in seats and built in furniture

" Built-in seats are great. Everybody loves them… place a seat so that a person sitting down is looking at something interesting." (Alexander, 1977).

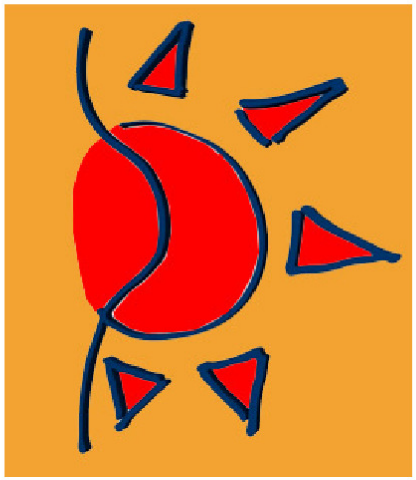
The author used built in seats in the dining room of the residential units, and made them wide enough for the occupant. Workshops have built in lockers and gallery/pottery areas have built in display shelves. The built-in seats in the dining areas are placed next to a window which allows the viewer to look down into the courtyard area and main circulation routes. The built in shelves are placed where the use of light can aid the viewer to see the object on display such as in the pottery workshop. Built-in lockers are also in place to accommodate the occupant.

Rock store system

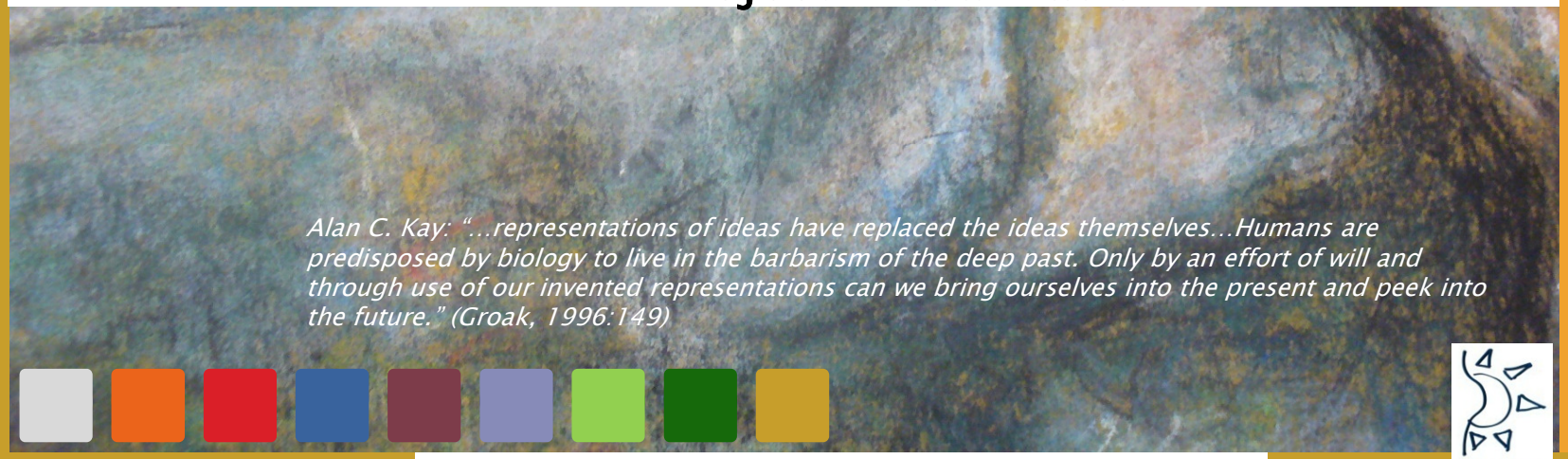
A similar system is used in the storage facilities of the basement as in the Constitutional Court. The precedent informed the author that there would be a need to store some artefacts and these artefacts (such as paintings or books) need to be stored at an ideal room temperature that is not too hot. The author from the onset of the design did not use air-con mechanical systems as this is more expensive and unsustainable practice. The rock system would make the storage areas cool and since it is in the basement an optimum cool average temperature would be maintained; which is further cooled by the rocks absorbing cool air.

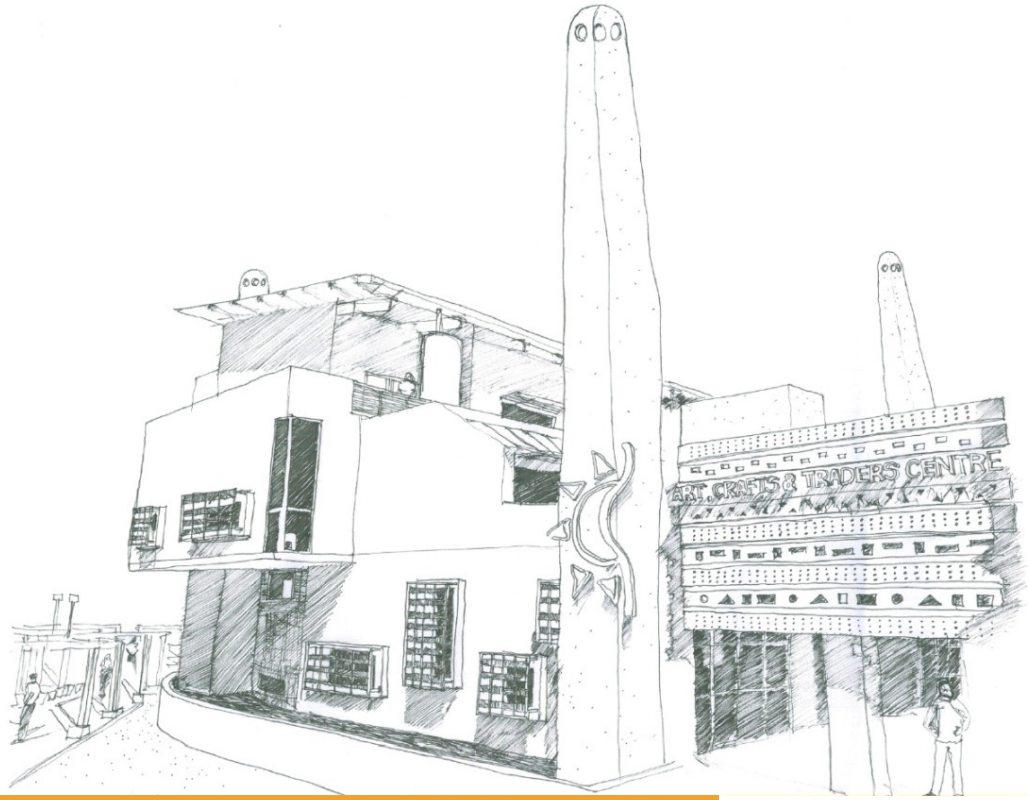
SBAT sustainability formula

To measure the building performance and sustainability of the project the author used the SBAT formula. It was noted after using the formula that the building could still be improved if a recycling sewerage plant was placed on site. Although the author chose not to as this would not be an environment conducive to work in if a sewerage recycling plant was placed close to the building. It was also noted that the landscaping proposed in the project would require a lot of maintenance in the form of lawn cutting. This can however create additional jobs for people looking for a gardening position at the centre or be maintained in unison with Tshwane's Jazz Centre. The development proposal could also have been improved if food gardens were placed on site.

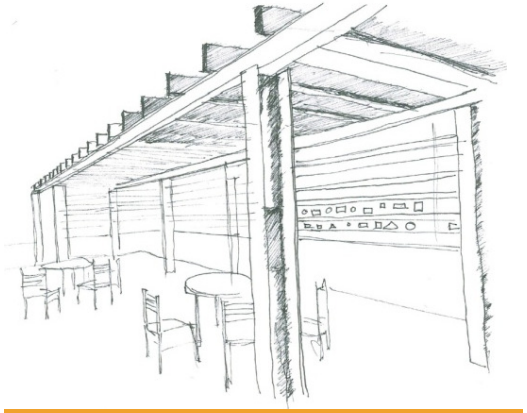


Project Visualization





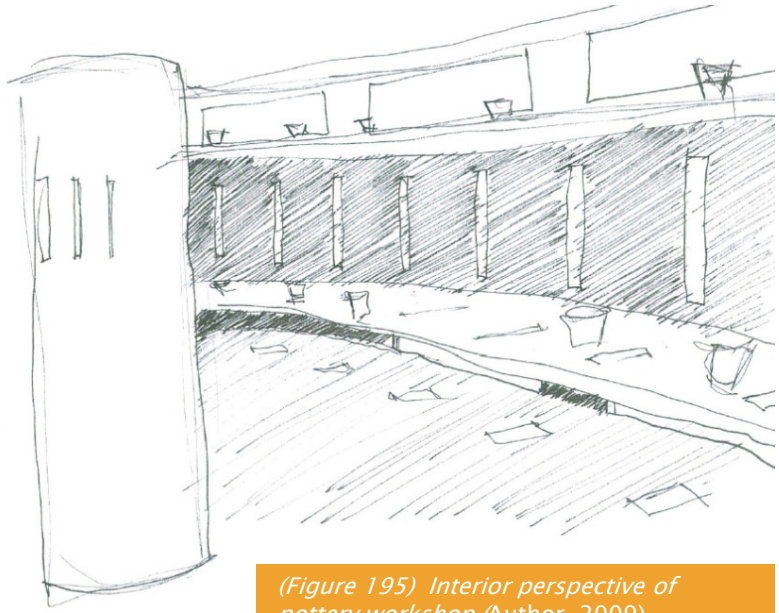
*(Figure 191) Sketch of building façade of proposed new Trader's Centre for Arts (*Author, 2009).



*(Figure 192) Sketch of pergola detail for outdoor seating area (*Author, 2009).

*(Figure 193) Sketch of building façade (*Author, 2009).

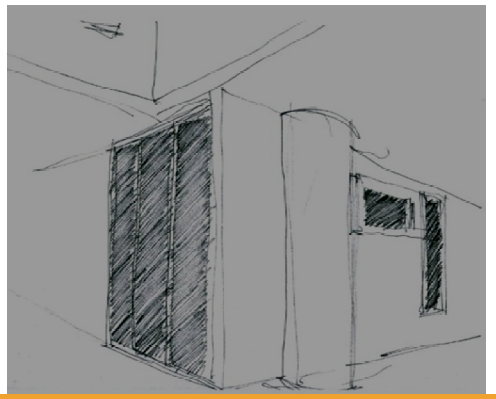
(Figure 194) Sketch of exterior window placement of pottery workshop with water feature in the foreground (Author, 2009).



(Figure 195) Interior perspective of pottery workshop (Author, 2009).

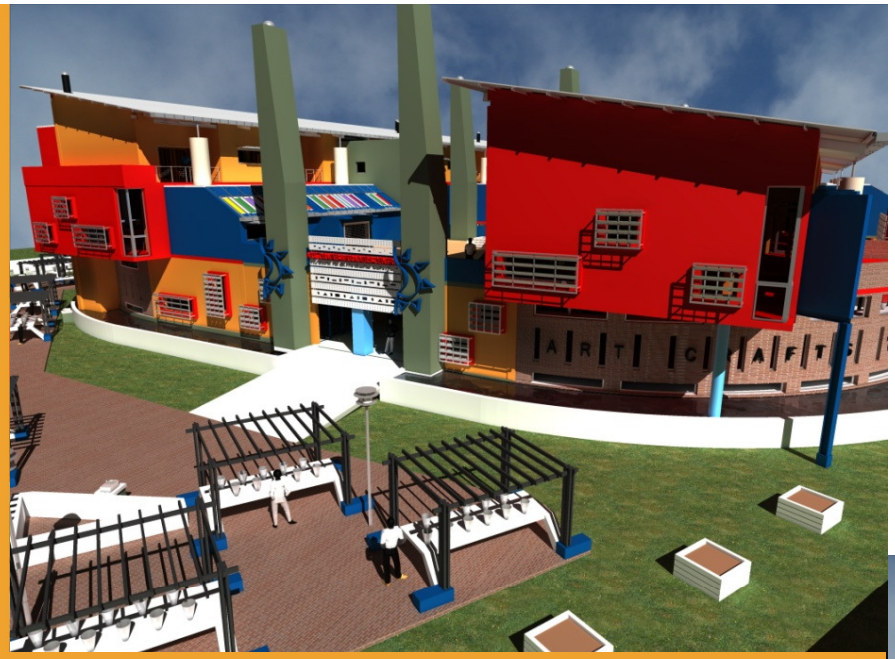
PROJECT VISUALISATION

(Figure 196) Sketch of building façade from central courtyard (Author, 2009).



*(Figure 197) Sketch of building façade at the tourist information centre (*Author, 2009).

PROJECT VISUALISATION



*(Figure 198) Exterior perspective of proposed new Trader's Centre for Arts (*Author, 2009).

*(Figure 199) Exterior perspective of proposed new Trader's Centre for Arts (*Author, 2009).

PROJECT VISUALISATION

*(Figure 200) Exterior perspective of proposed new Trader's Centre for Arts (*Author, 2009).

*(Figure 201) Exterior perspective of proposed new Trader's Centre for Arts (*Author, 2009).

PROJECT VISUALISATION

*(Figure 202) Exterior perspective looking to the proposed new Trader's Centre for Arts from the 5th Street pedestrian spine (*Author, 2009).

*(Figure 203) Interior perspective of workshop area showing the amount of natural light in the early morning (*Author, 2009).

*(Figure 204) Exterior perspective of proposed new Trader's Centre for Arts (*Author, 2009).

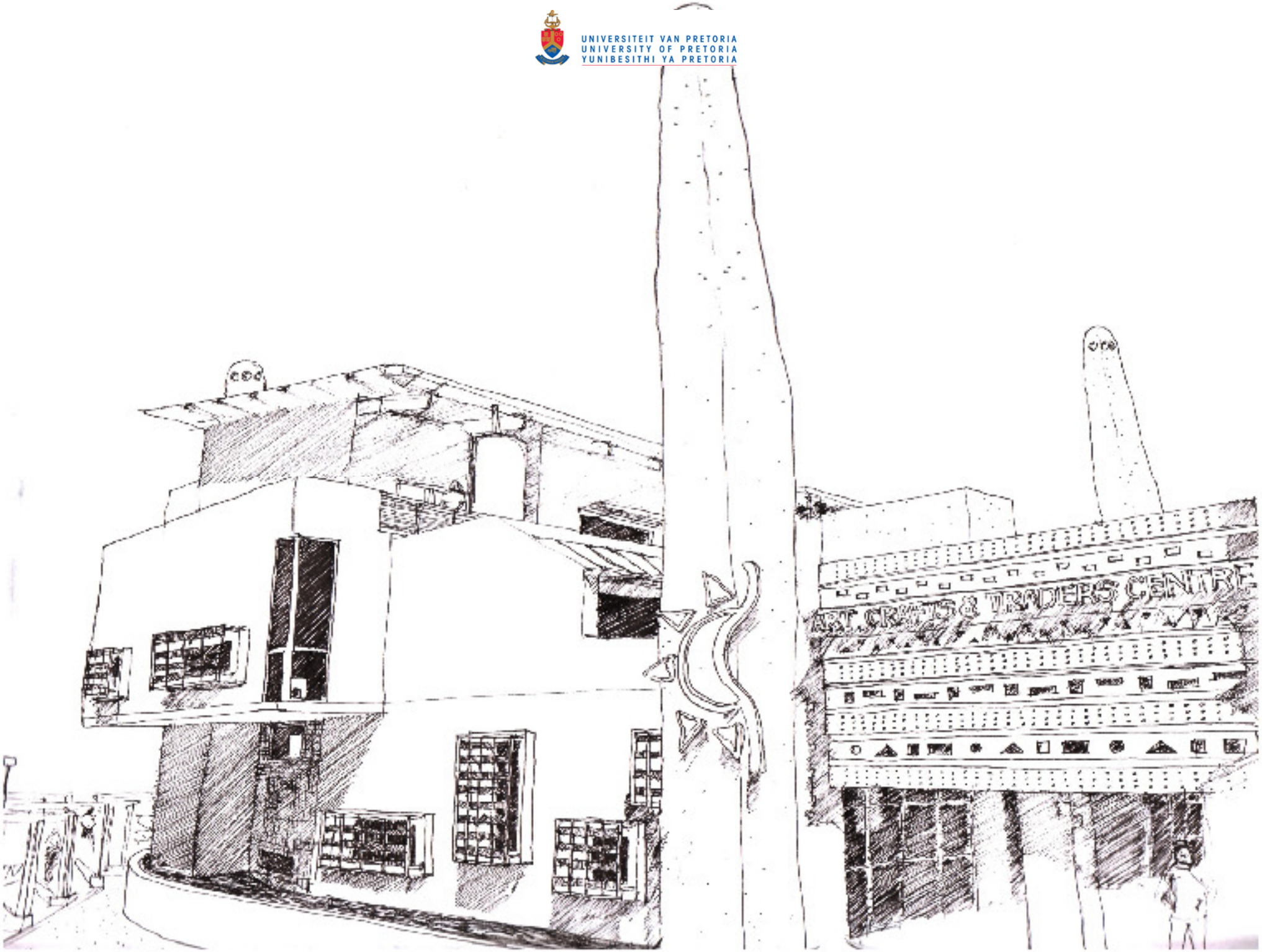
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

ARTISTIC IMPRESSION OF PROPOSED NEW MARABASTAD TRADERS CENTRE FOR ARTS


UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
ARTISTIC IMPRESSION OF PROPOSED NEW
MARABASTAD TRADERS CENTRE FOR ARTS

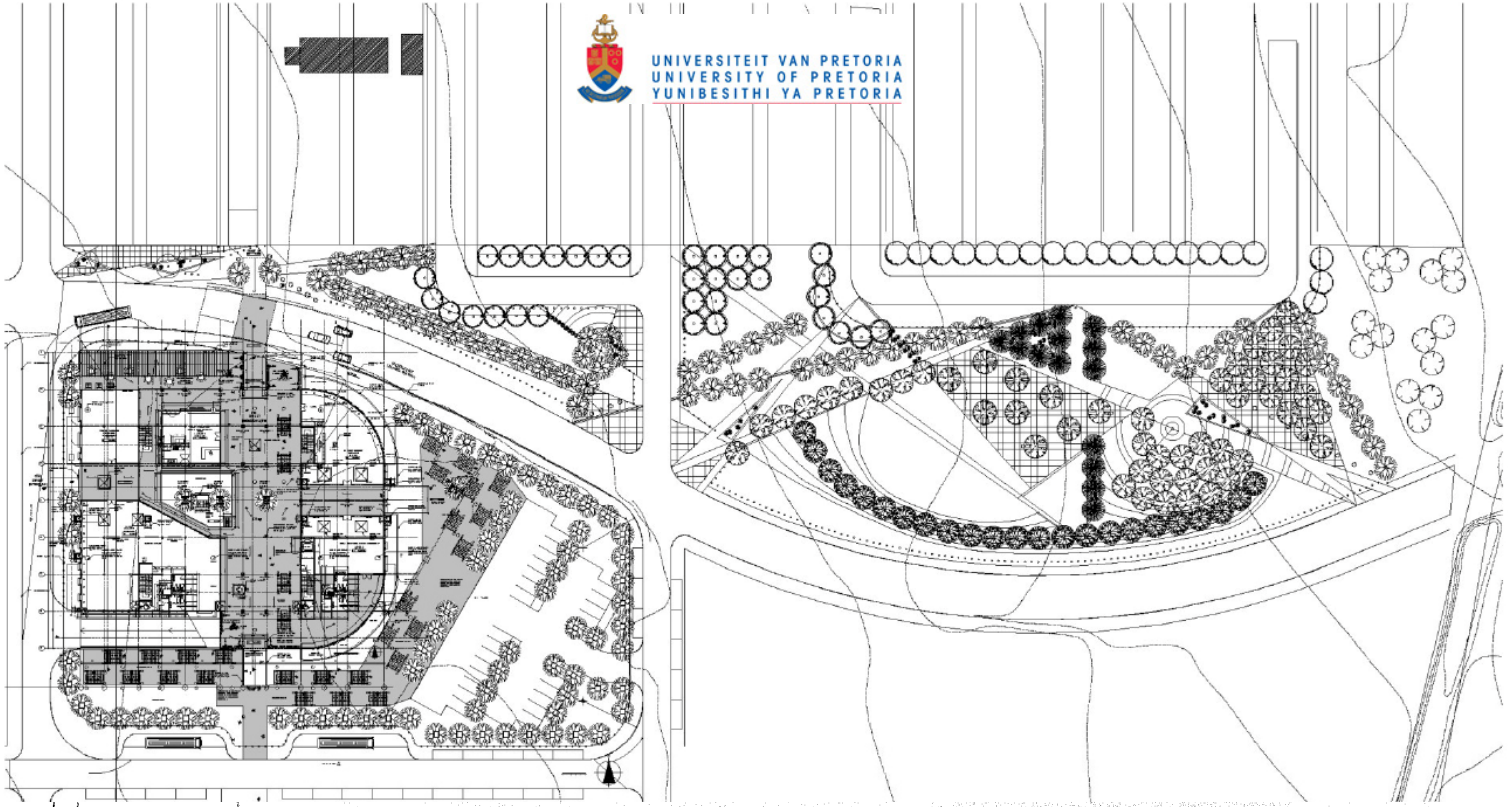

TRADERS


ARTISTS TRADERS

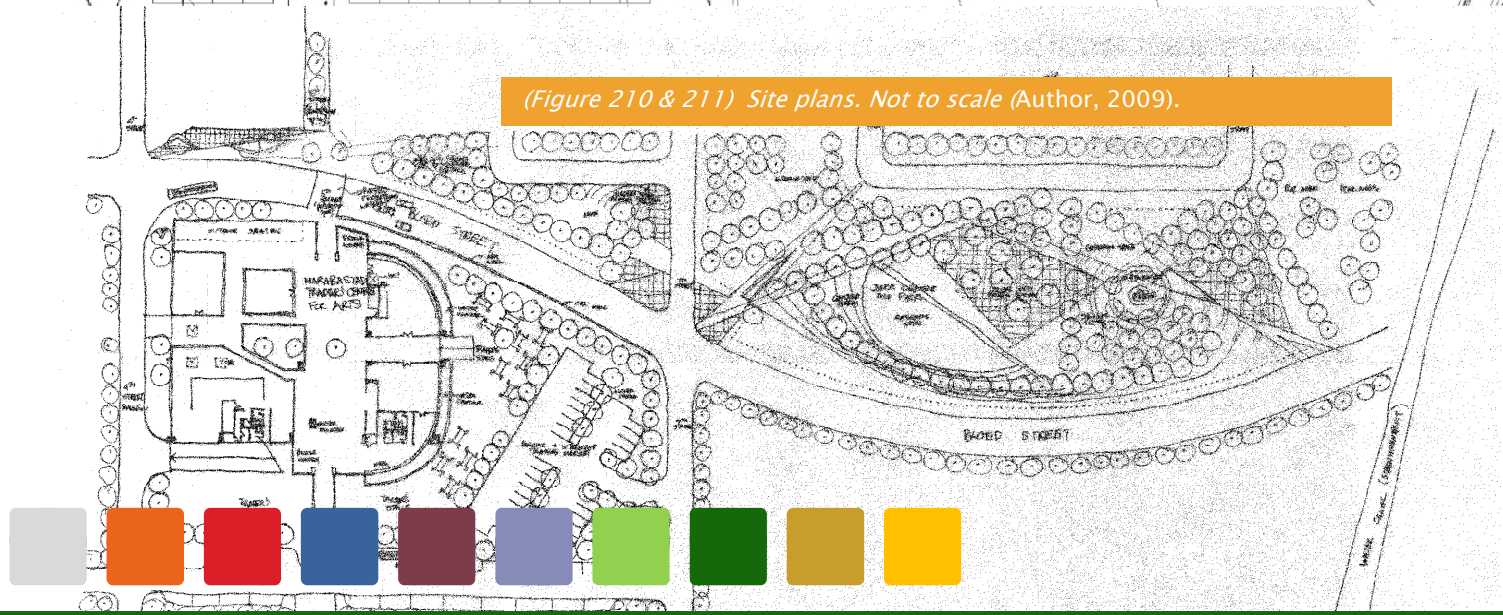


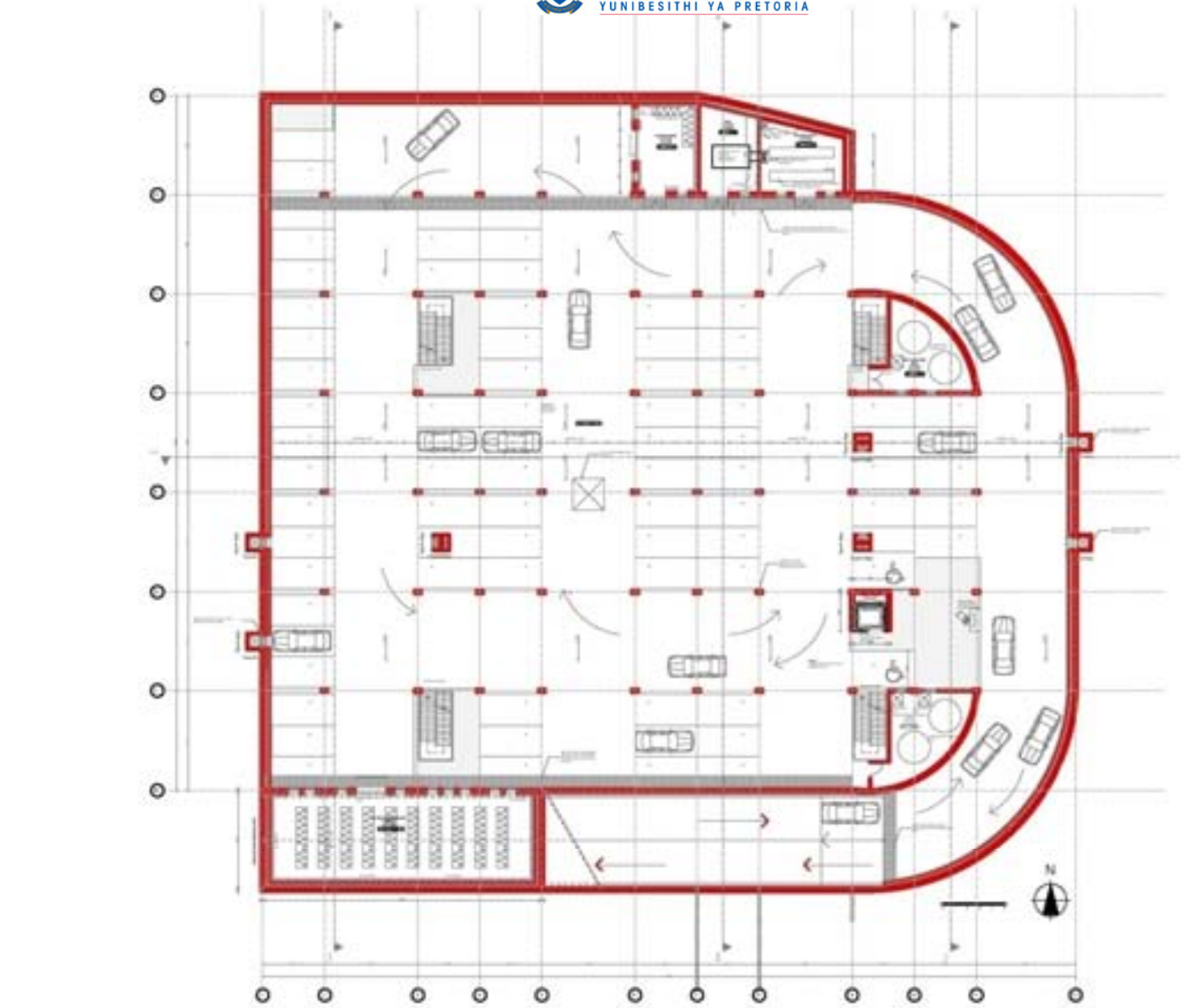
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Technical Report

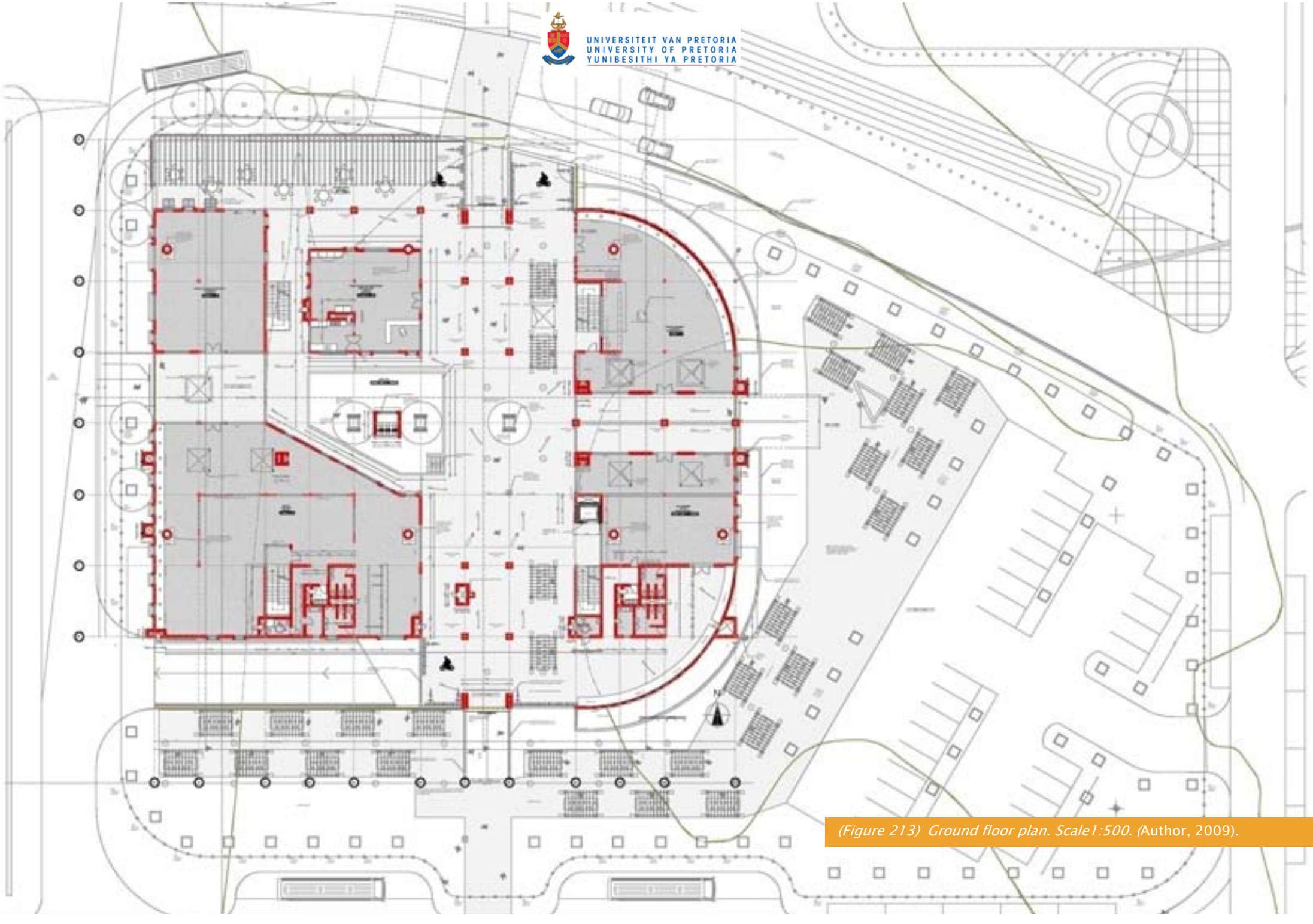


*(Figure 210 & 211) Site plans. Not to scale (*Author, 2009).

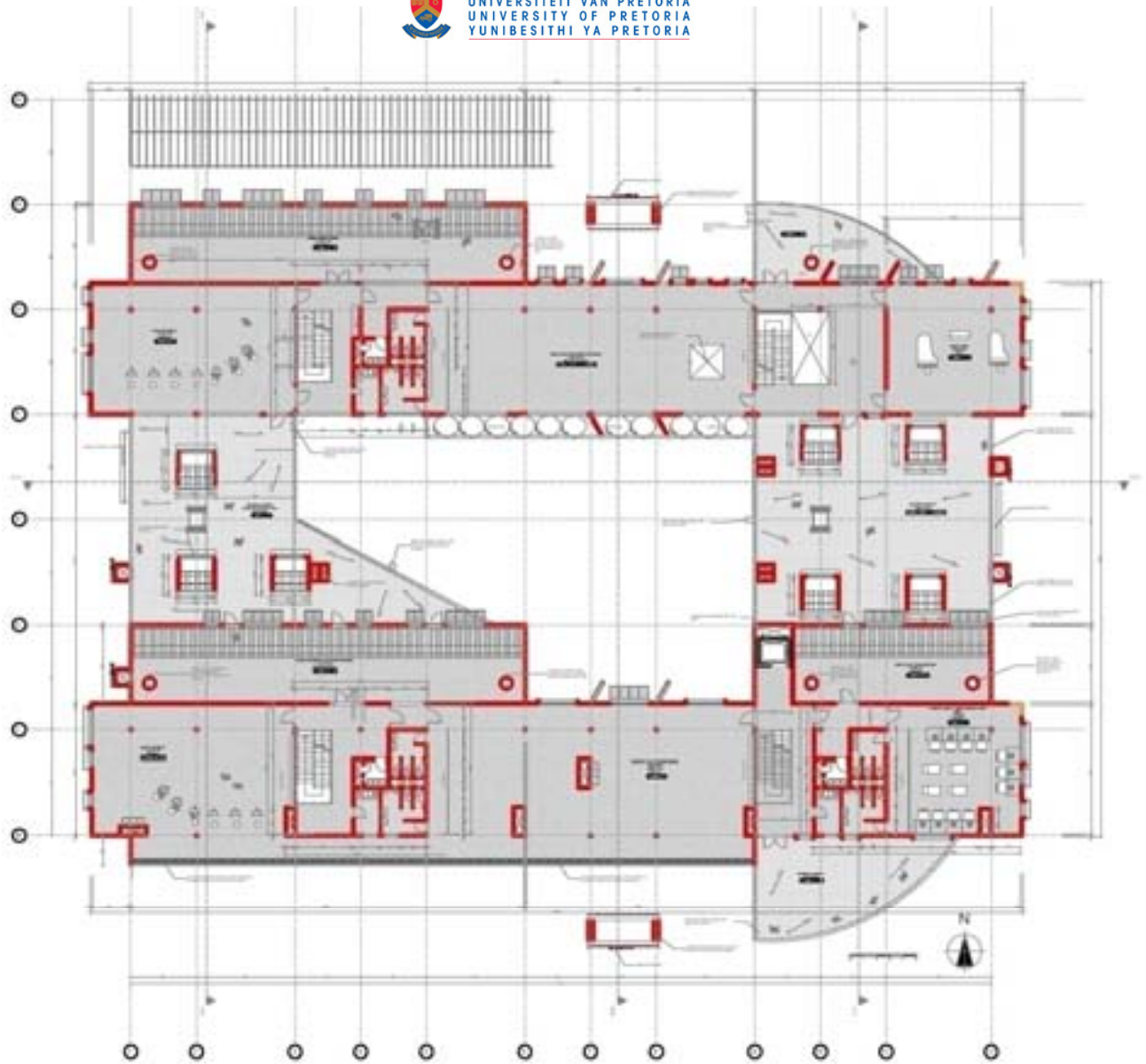




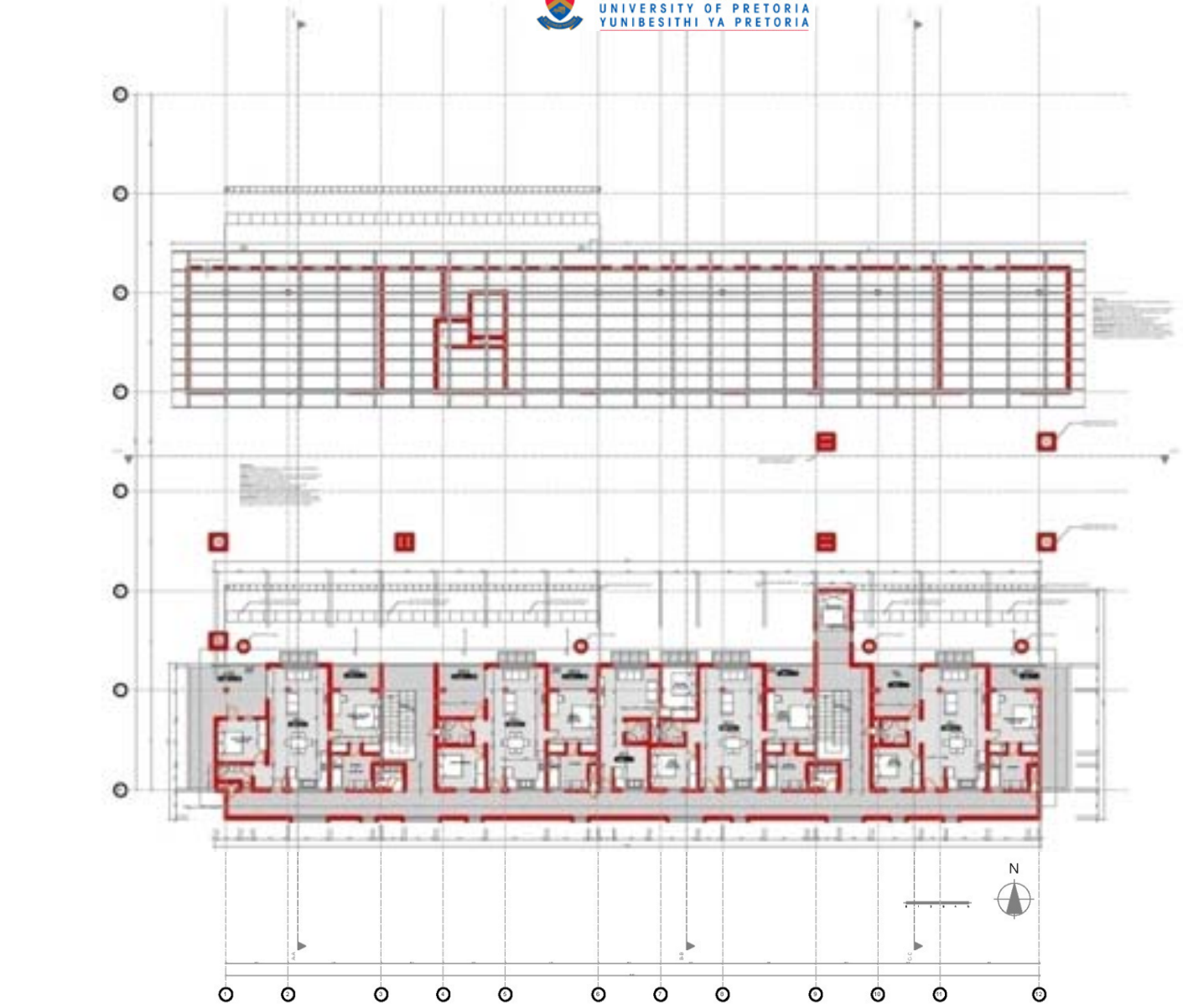
(Figure 212) Basement floor plan. Scale1:500. (Author, 2009).



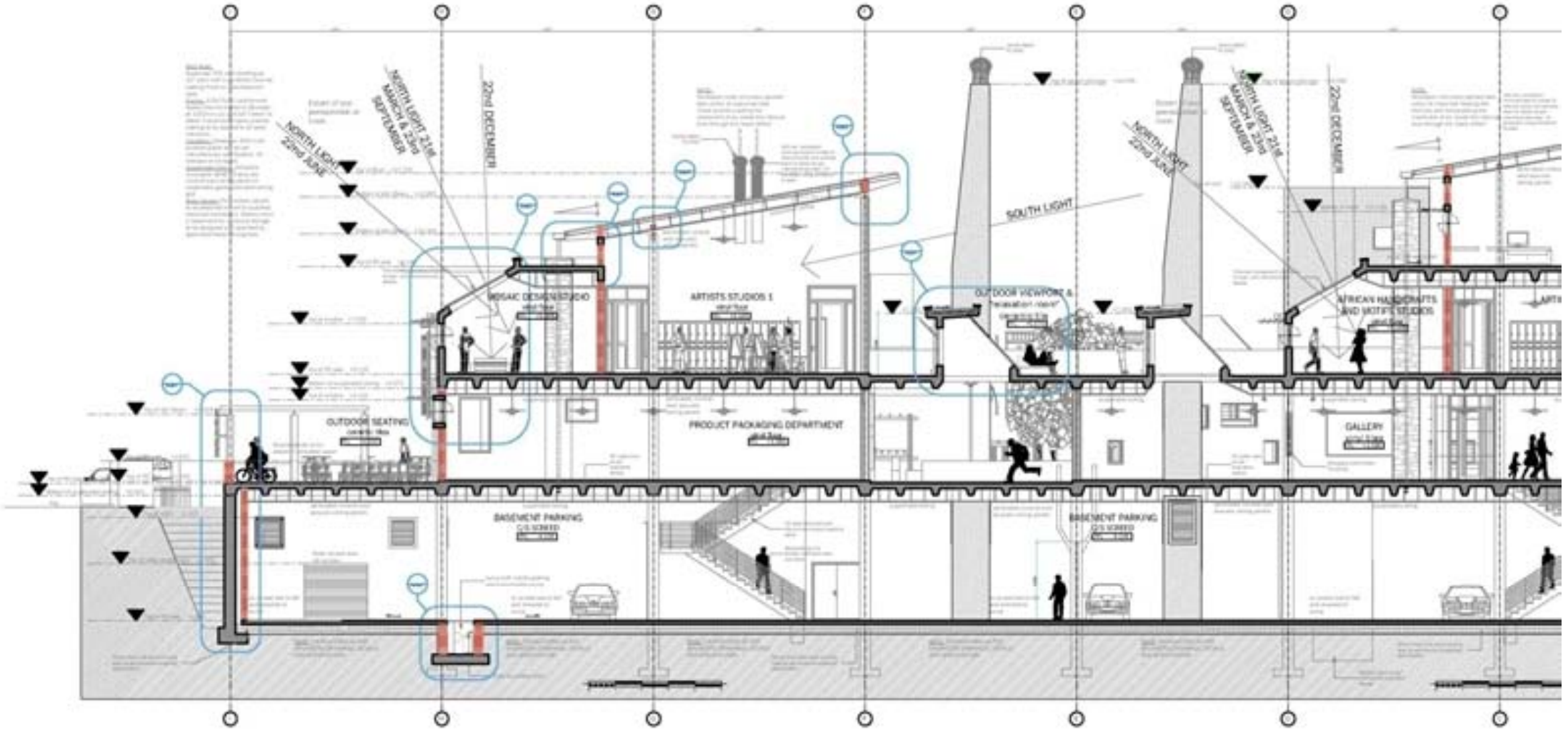
(Figure 213) Ground floor plan. Scale1:500. (Author, 2009).



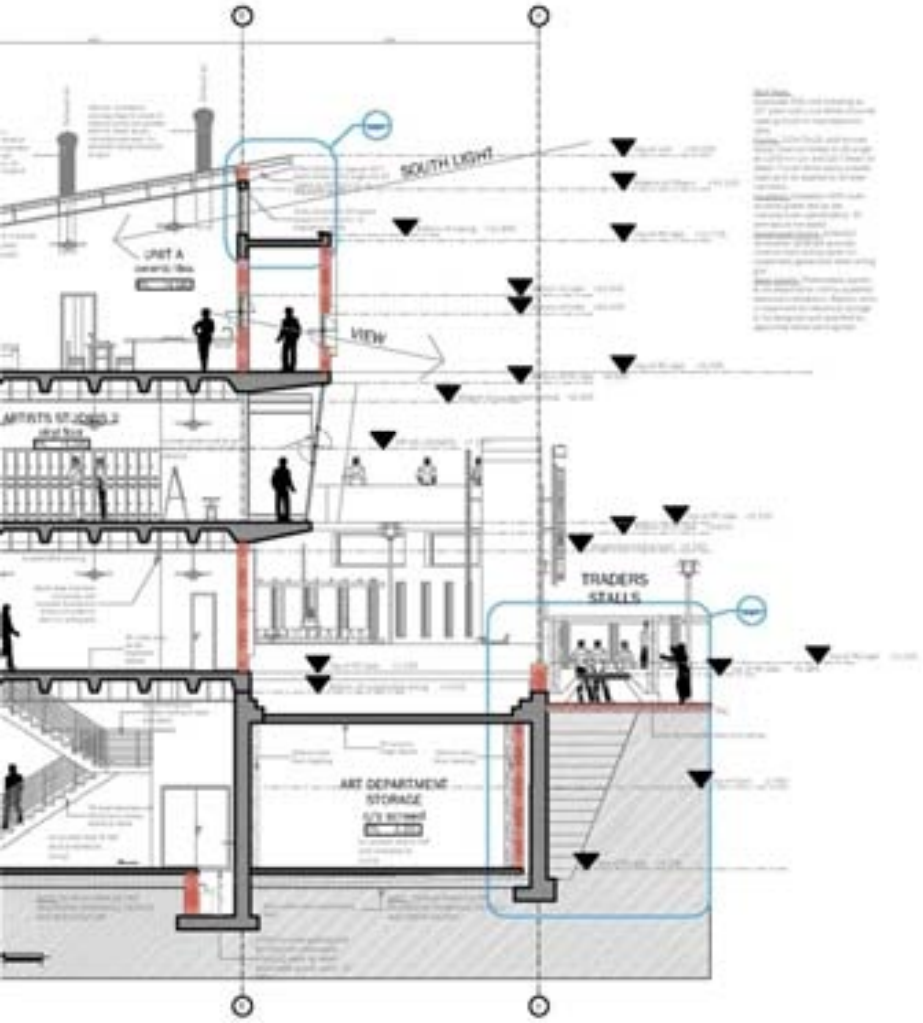
(Figure 214) First floor plan. Scale1:500. (Author, 2009).

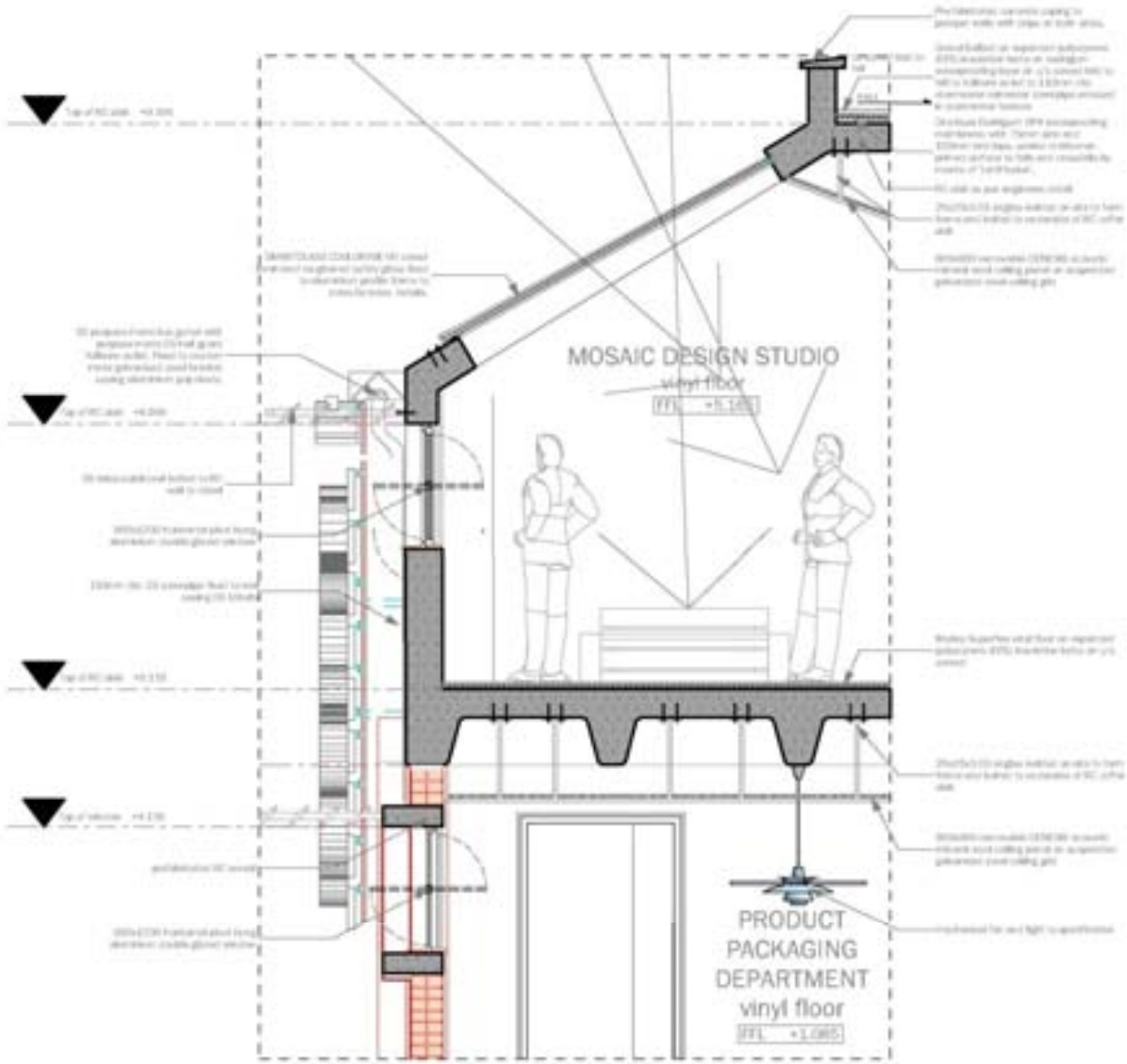


*(Figure 215) Second floor plan. Scale1:500. (*Author, 2009).

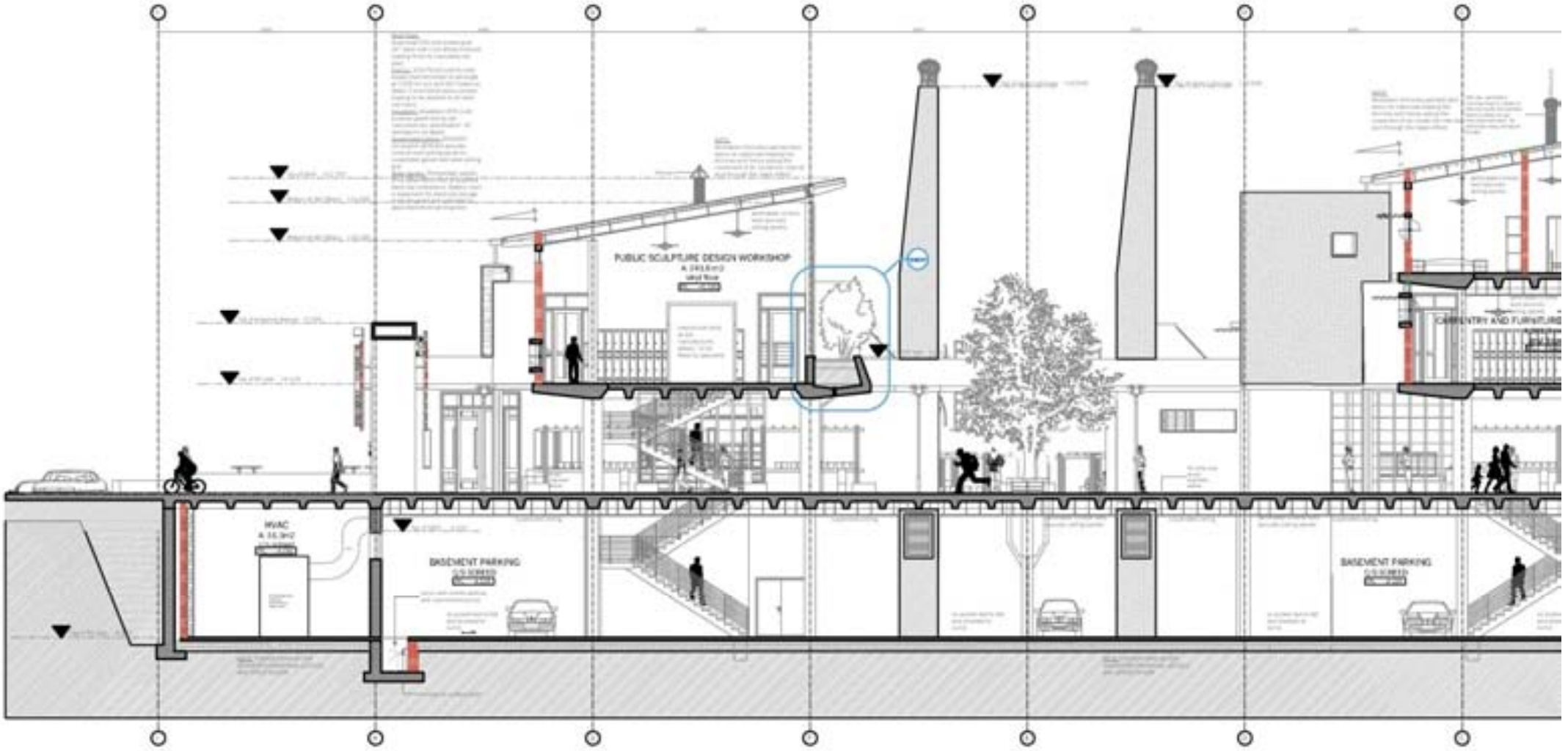


(Figure 216) Section A-A. Scale1:200. (Author, 2009).

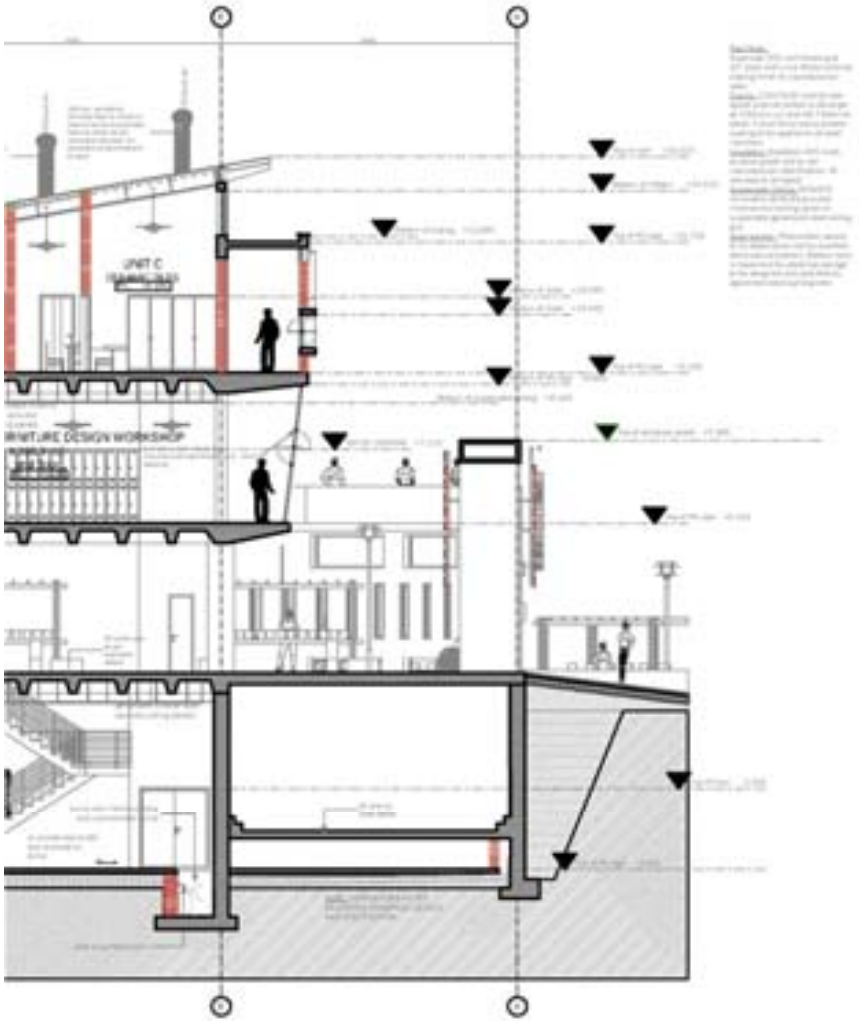




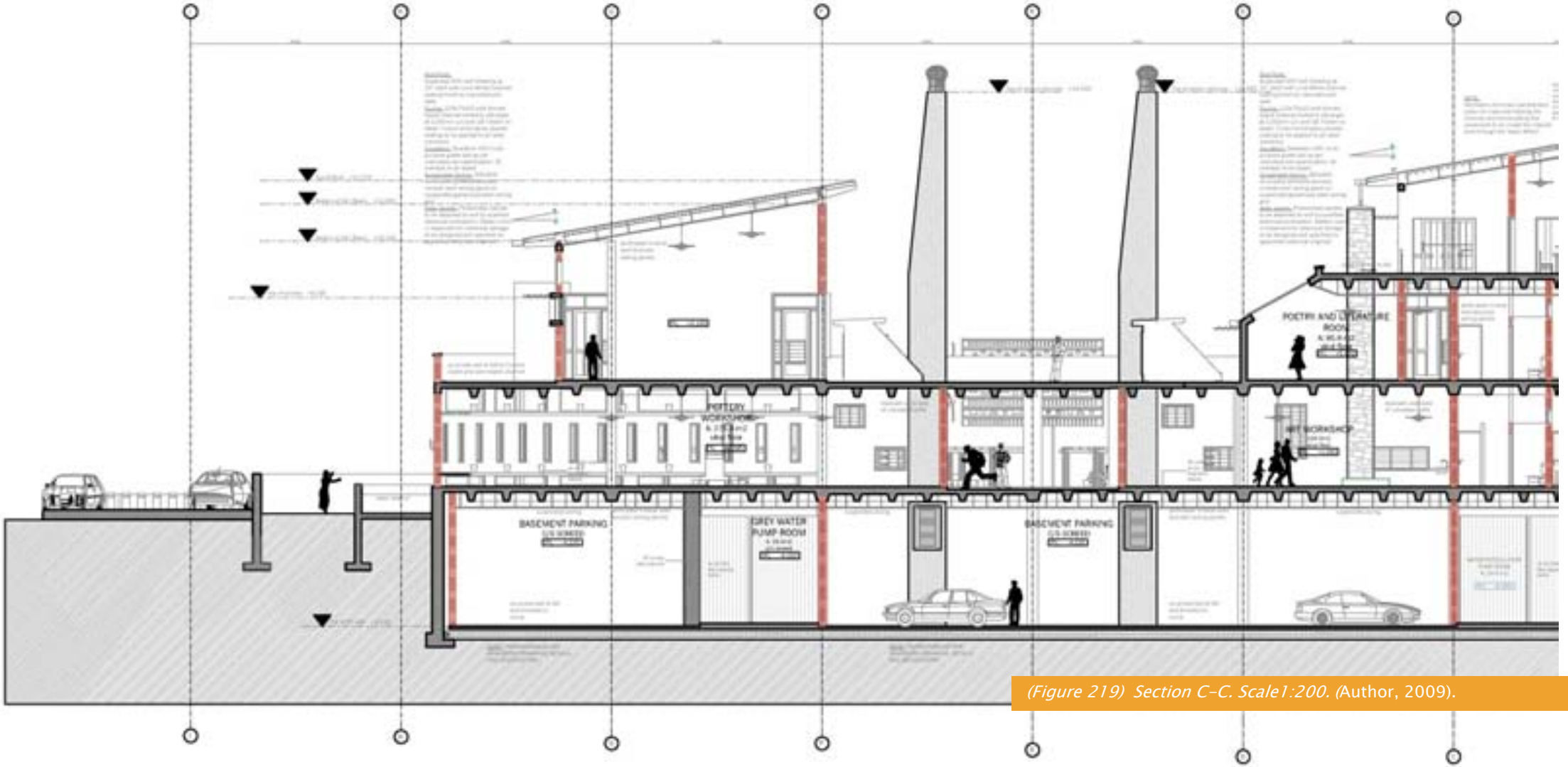
(Figure 217) Detail 1. Scale1:50. (Author, 2009).



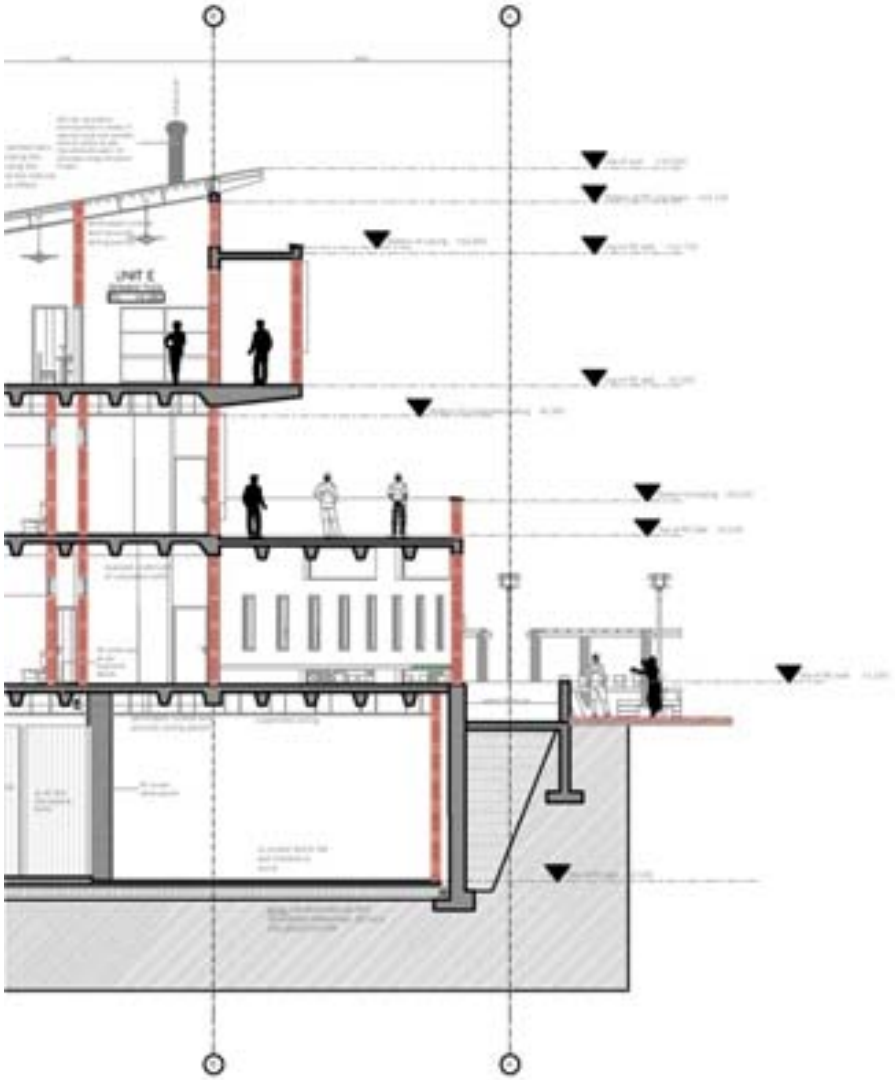
(Figure 218) Section B-B. Scale1:200. (Author, 2009).

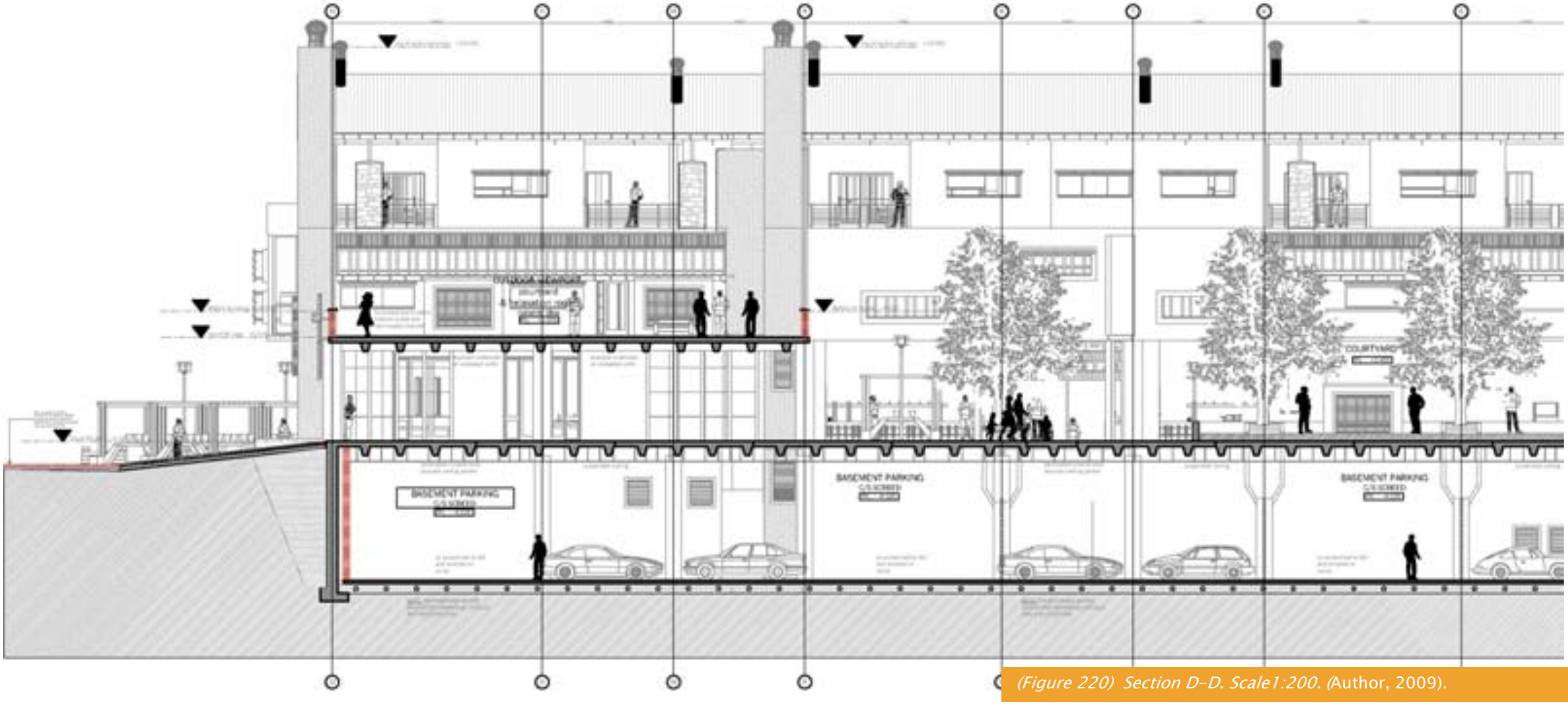


Facilitating the transformation of a new Marabastad through Architecture

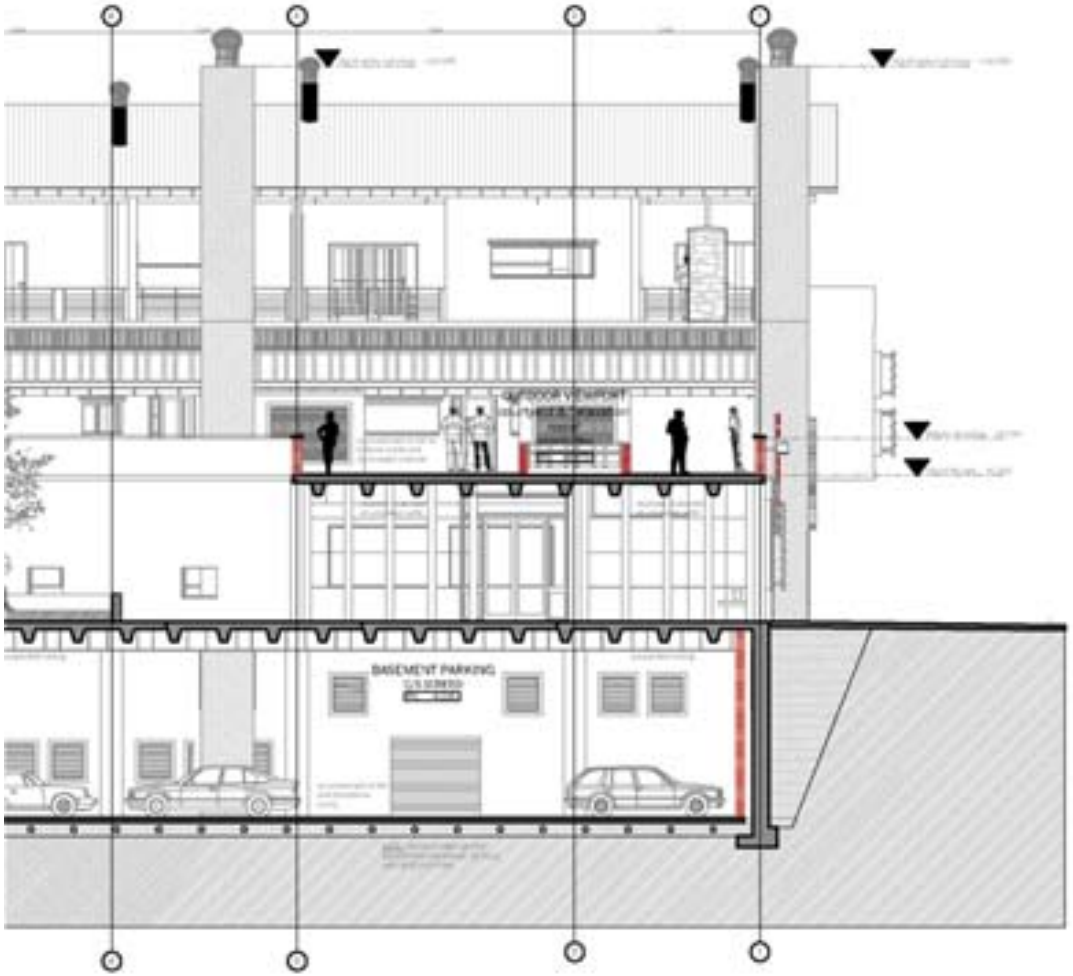


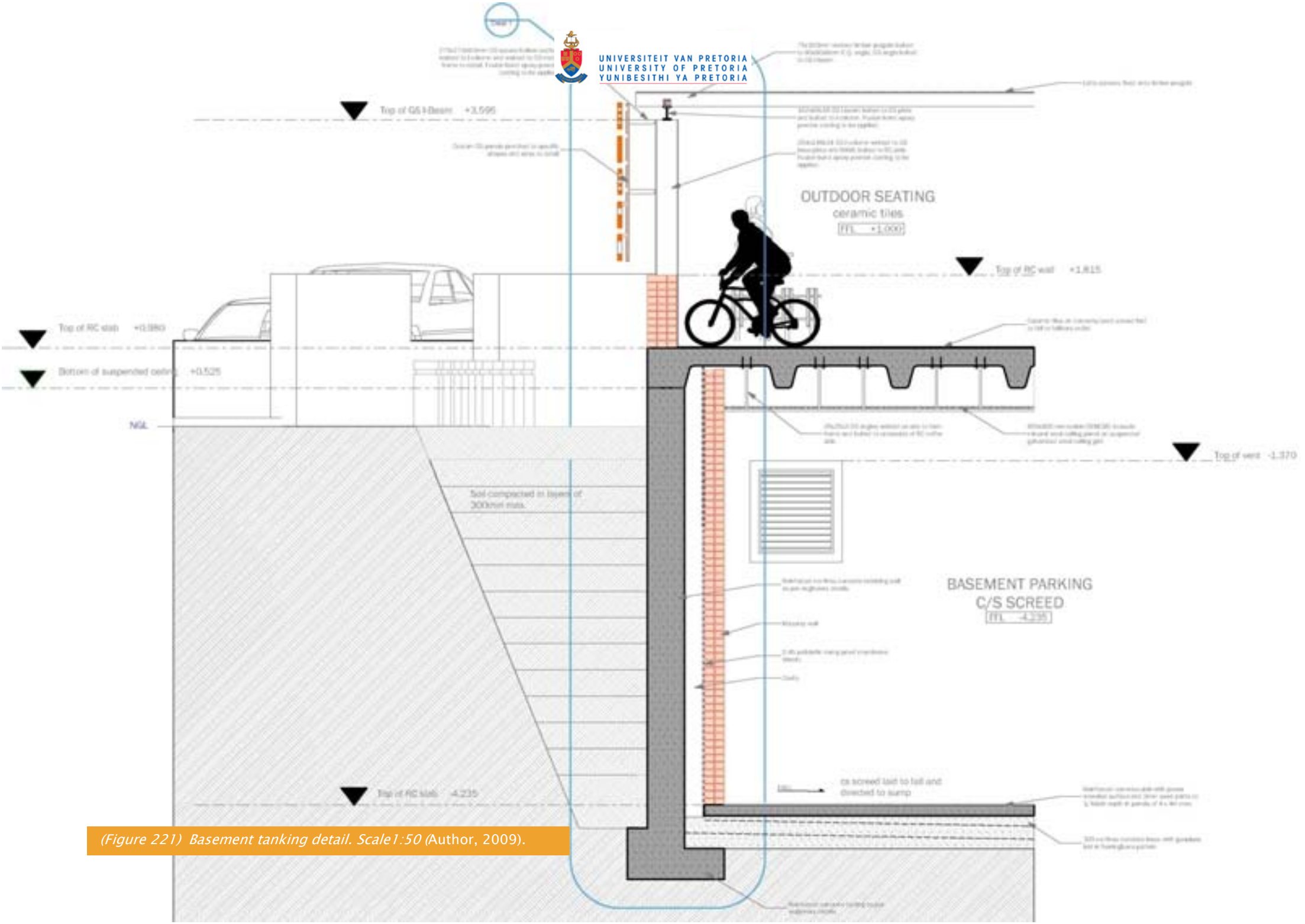
(Figure 219) Section C-C. Scale1:200. (Author, 2009).


UNIT E

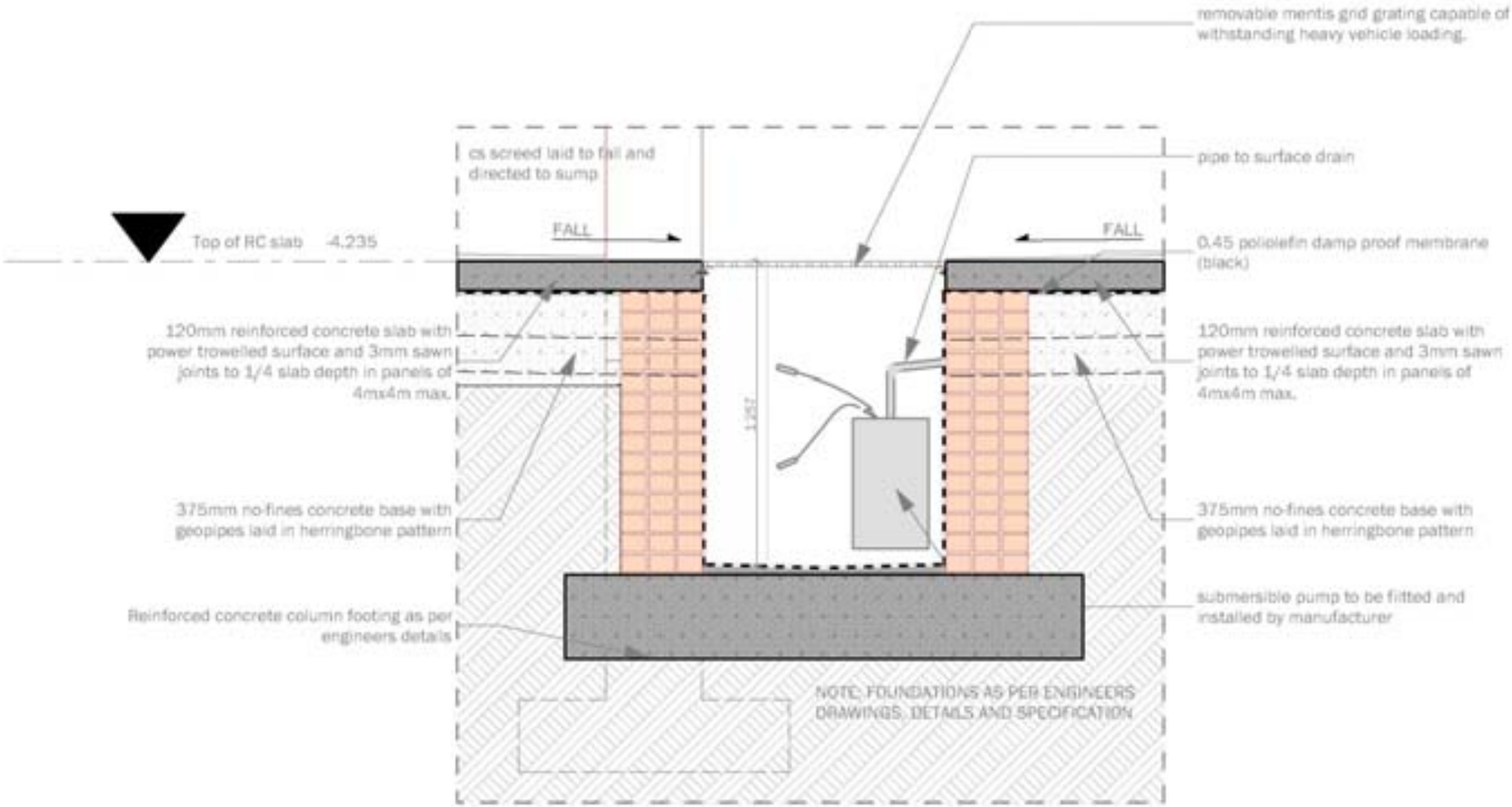


*(Figure 220) Section D-D. Scale1:200. (*Author, 2009).

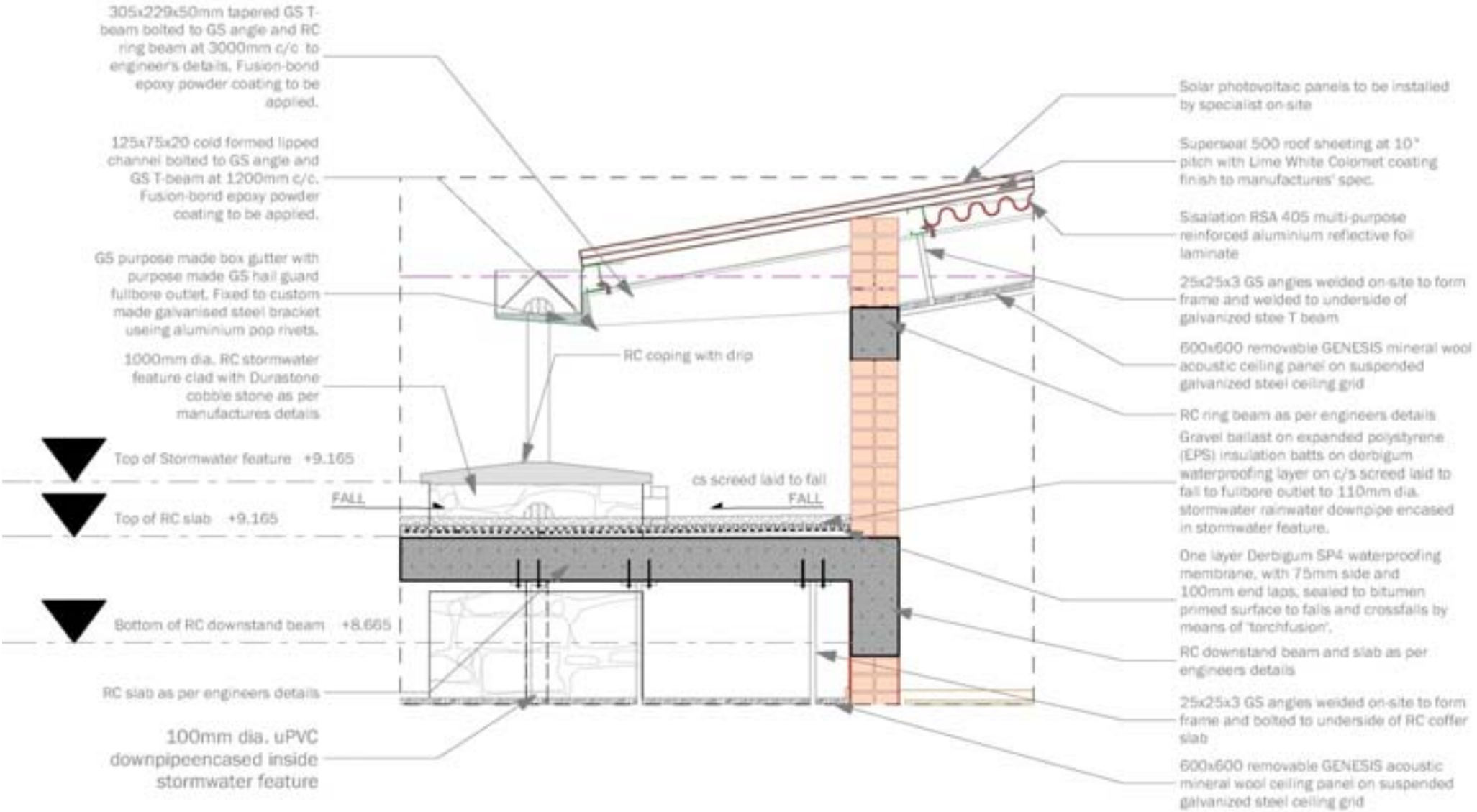

BASEMENT PARKING



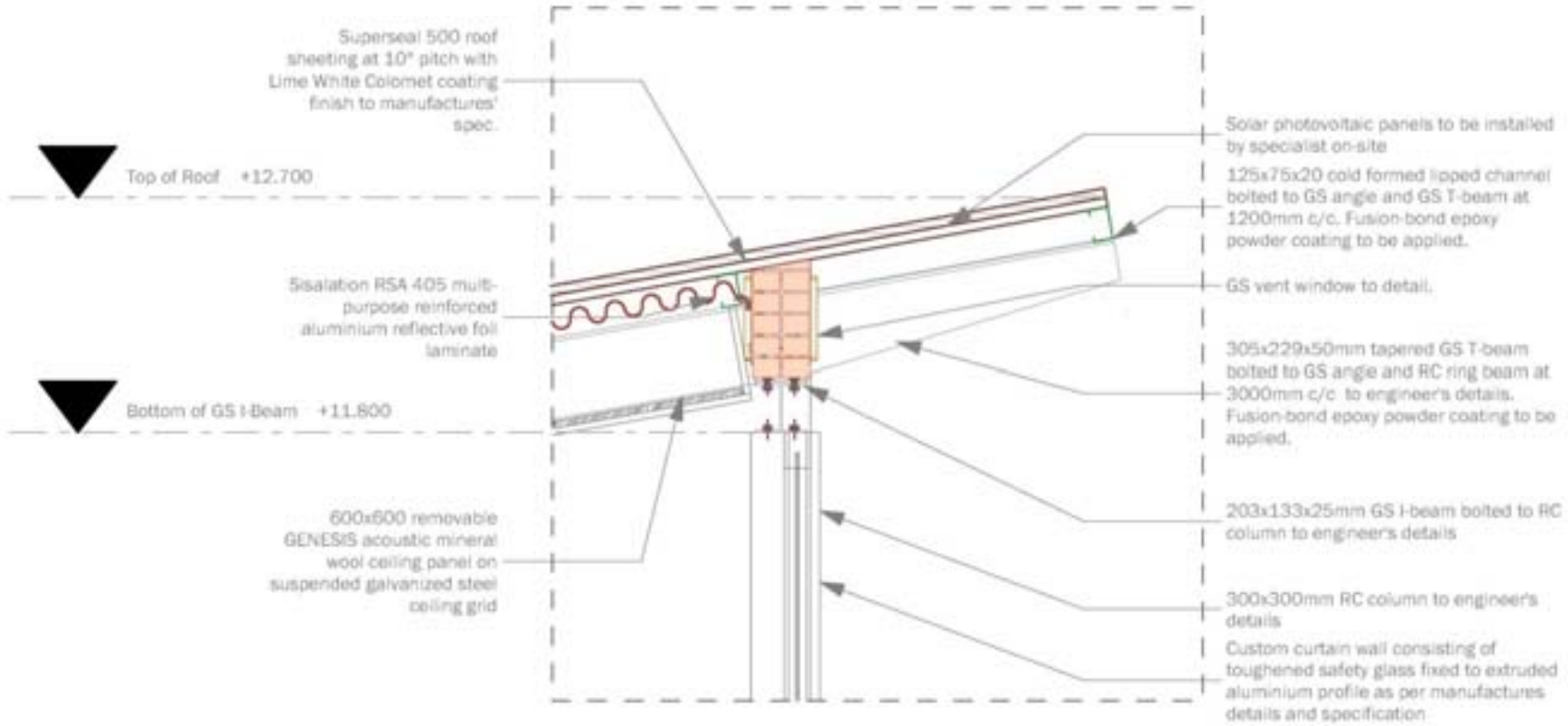
*(Figure 221) Basement tanking detail. Scale1:50 (*Author, 2009).



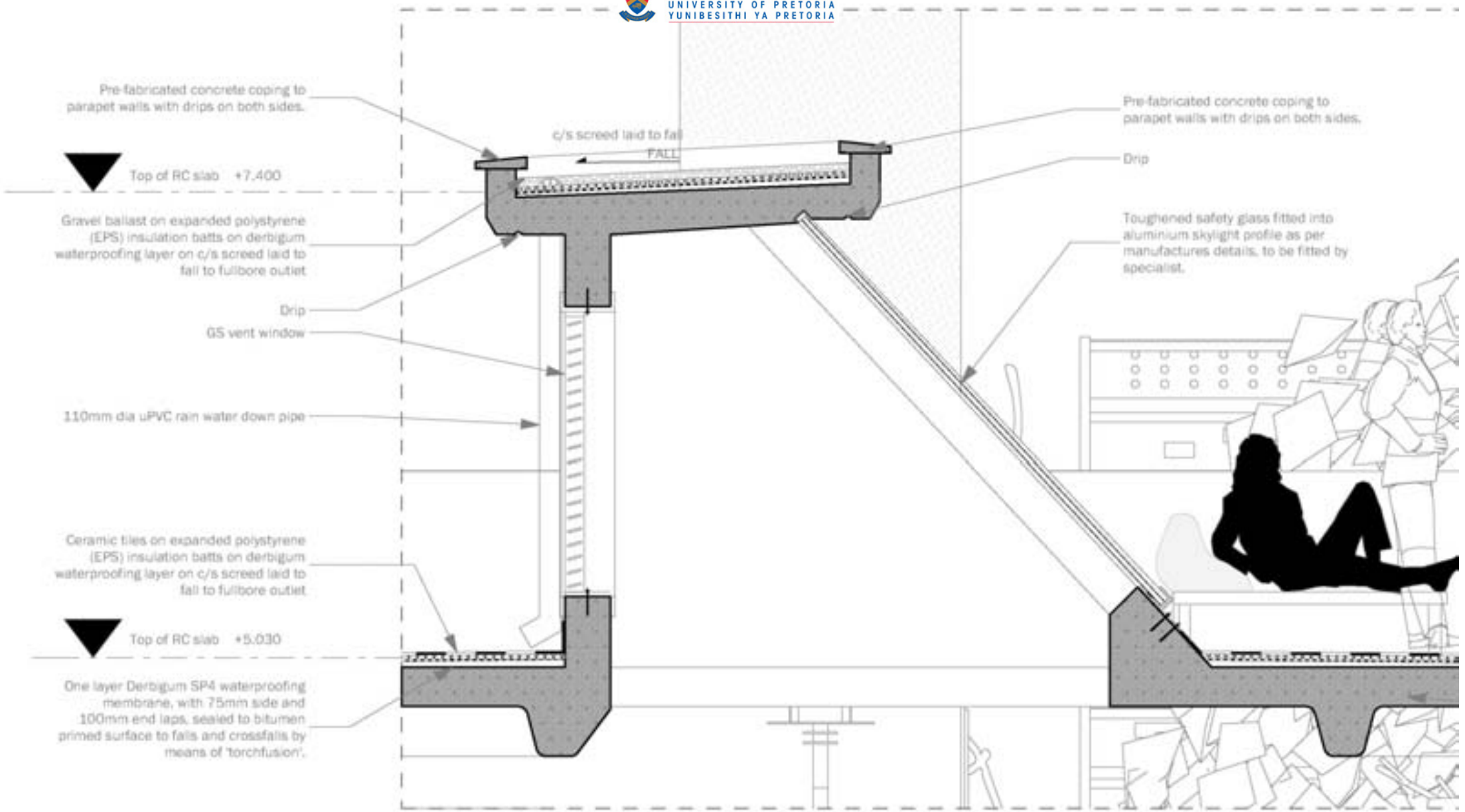
(Figure 222) Sump detail. Scale1:25. (Author, 2009).



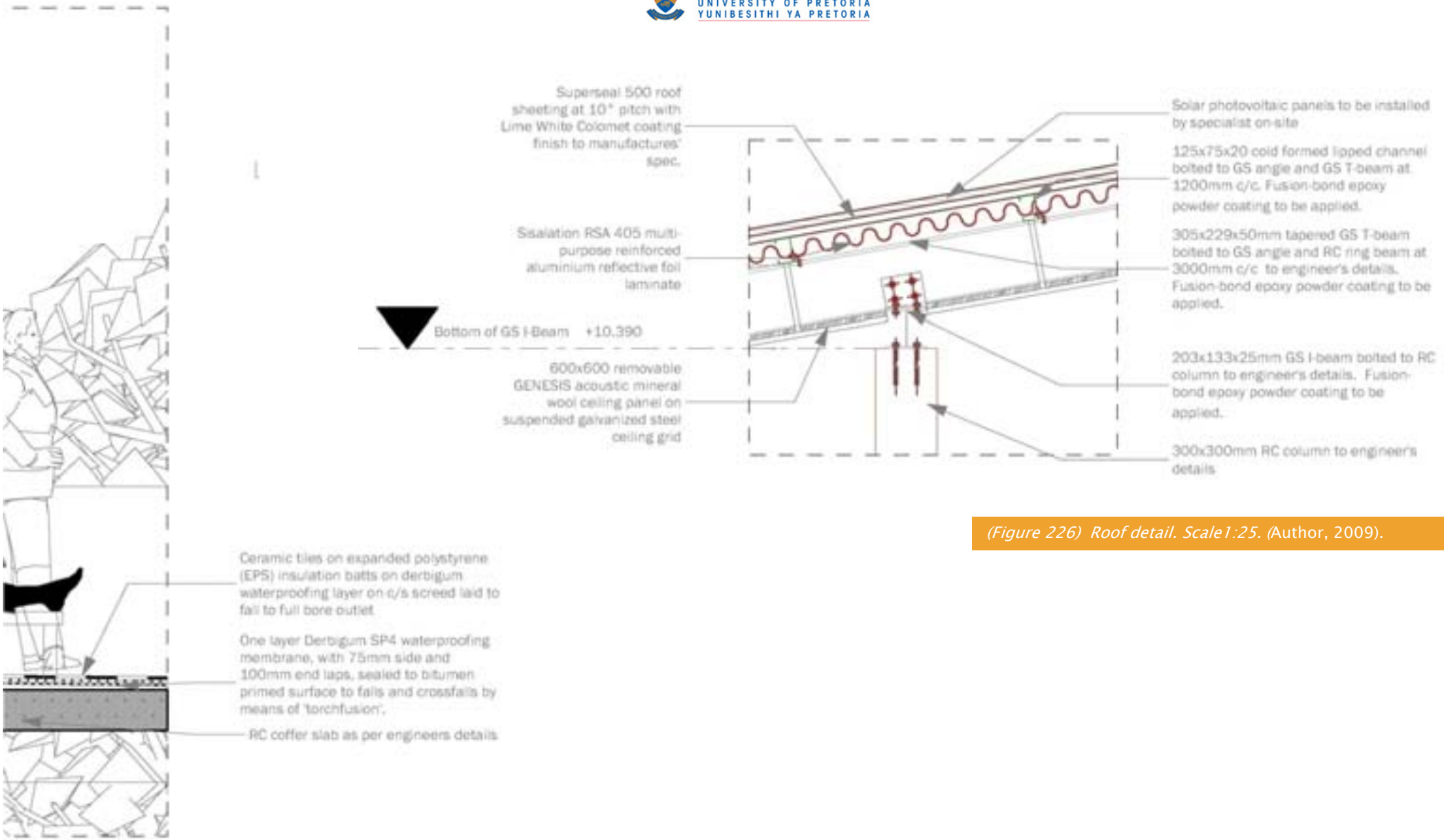
(Figure 223) Roof detail. Scale1:25. (Author, 2009).



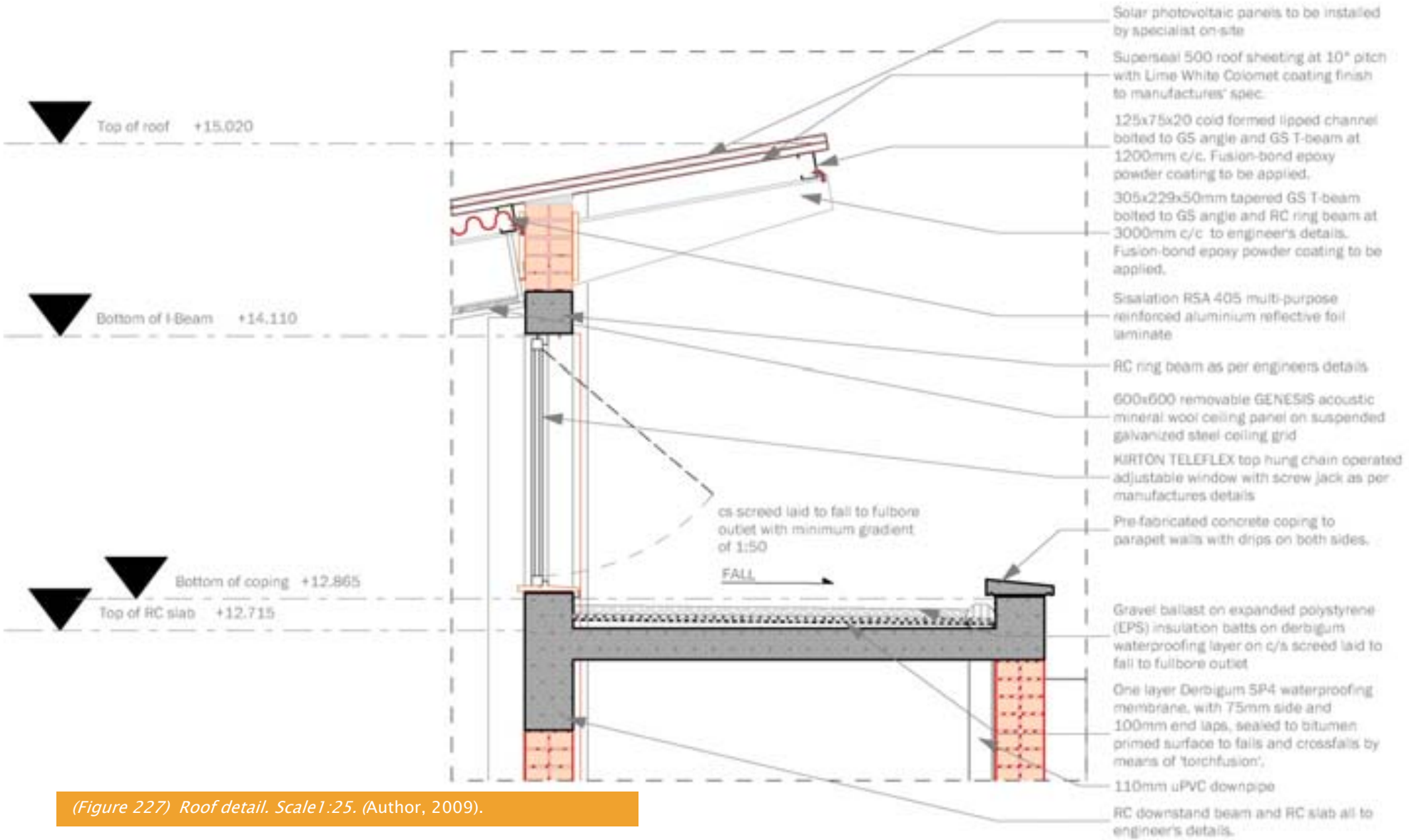
(Figure 224) Roof detail. Scale1:25. (Author, 2009).



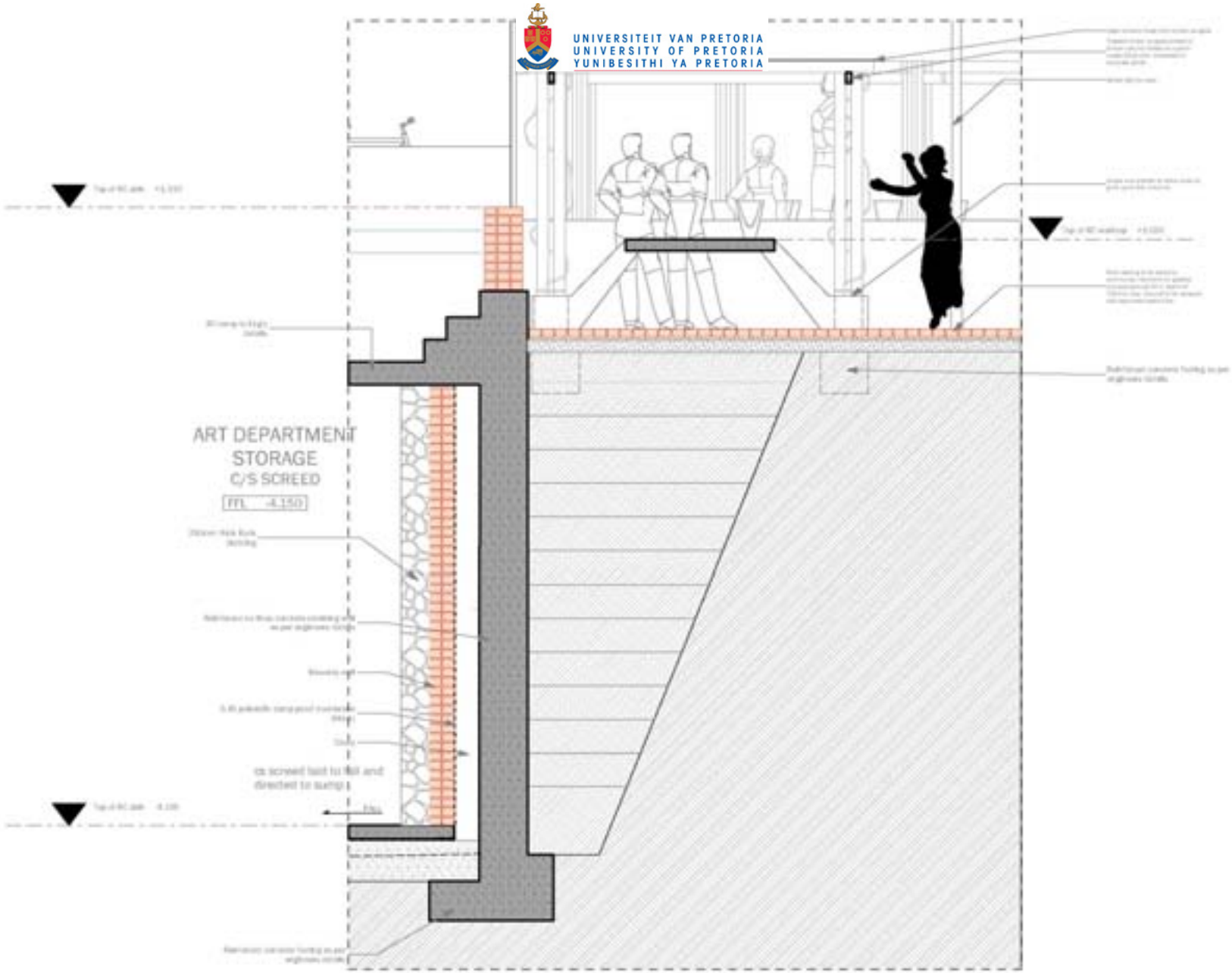
*(Figure 225) Skylight detail. Scale1:25. (*Author, 2009).



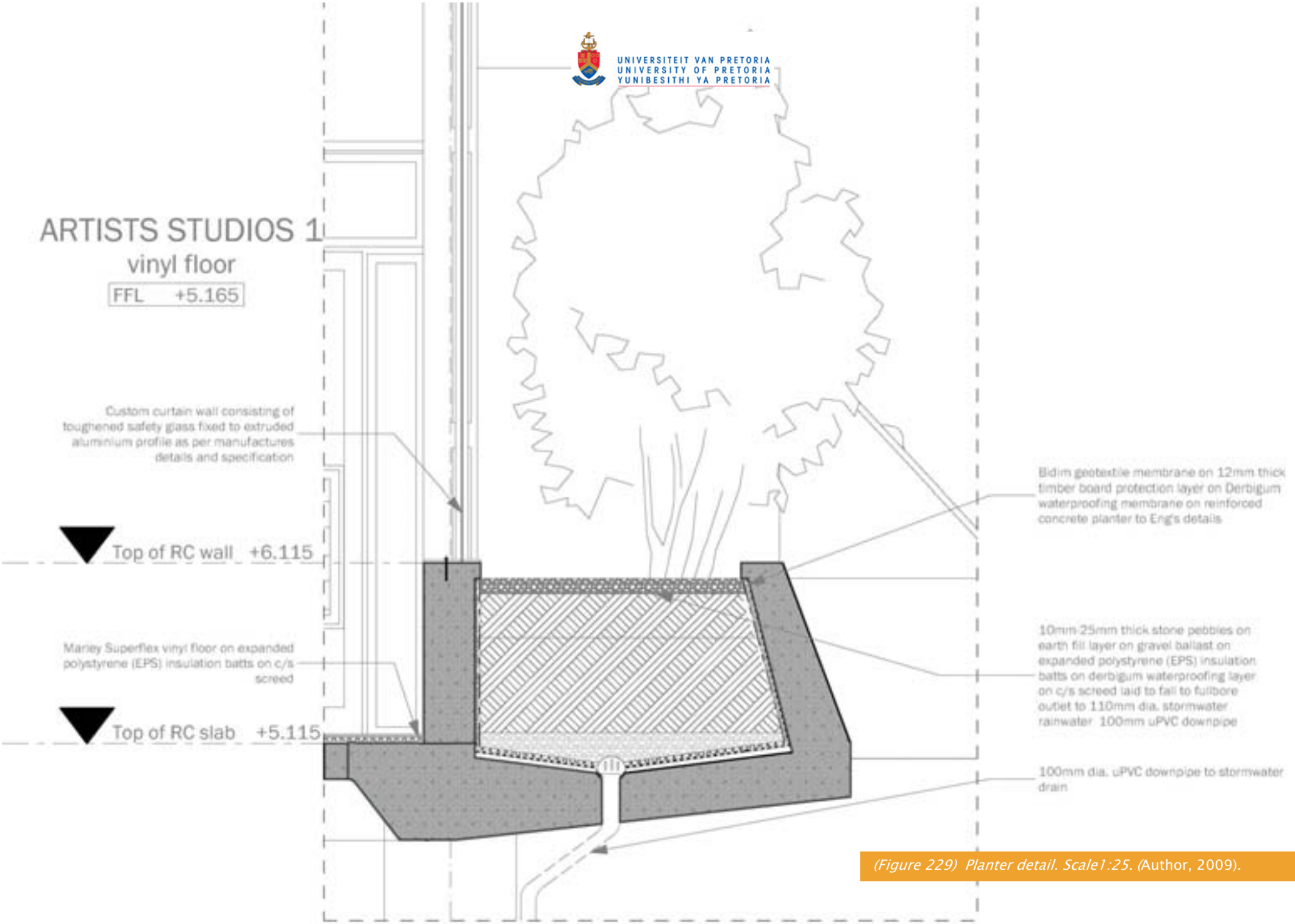
*(Figure 226) Roof detail. Scale1:25. (*Author, 2009).



*(Figure 227) Roof detail. Scale1:25. (*Author, 2009).

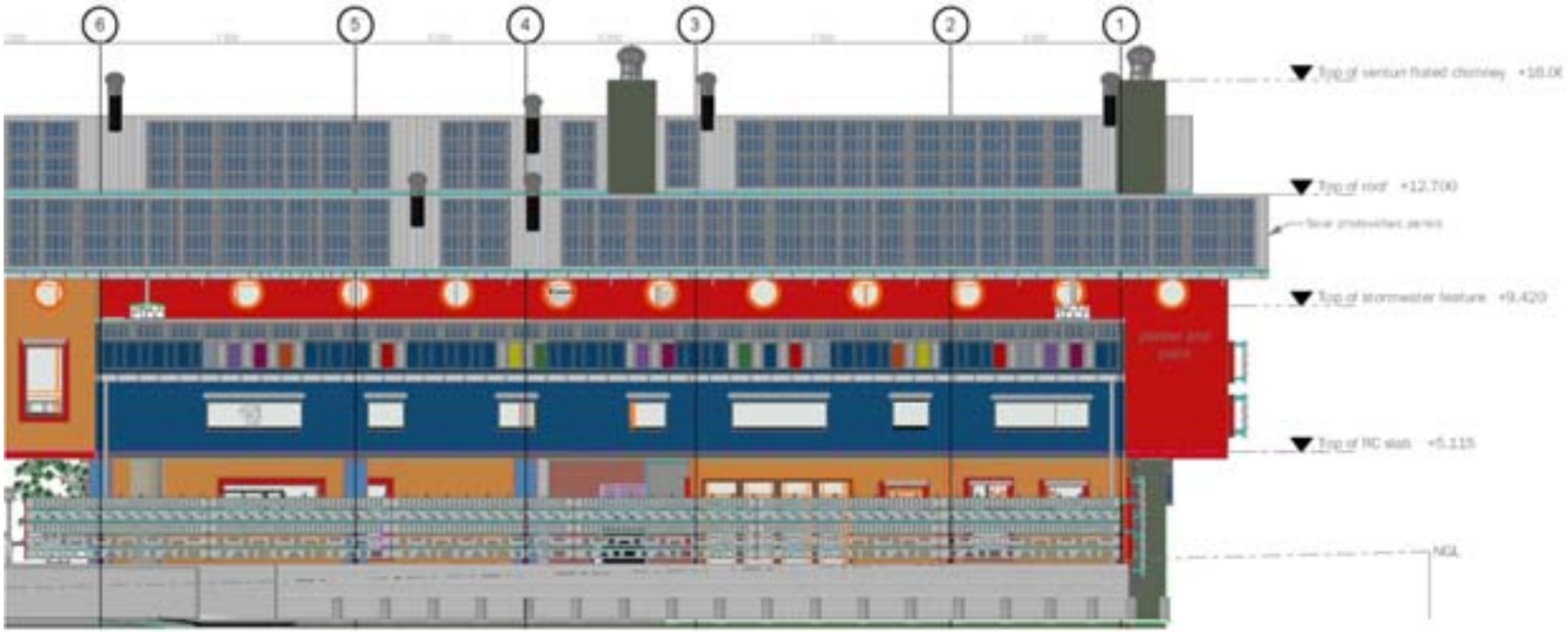


*(Figure 228) Basement tanking detail. Scale1:50. (*Author, 2009).



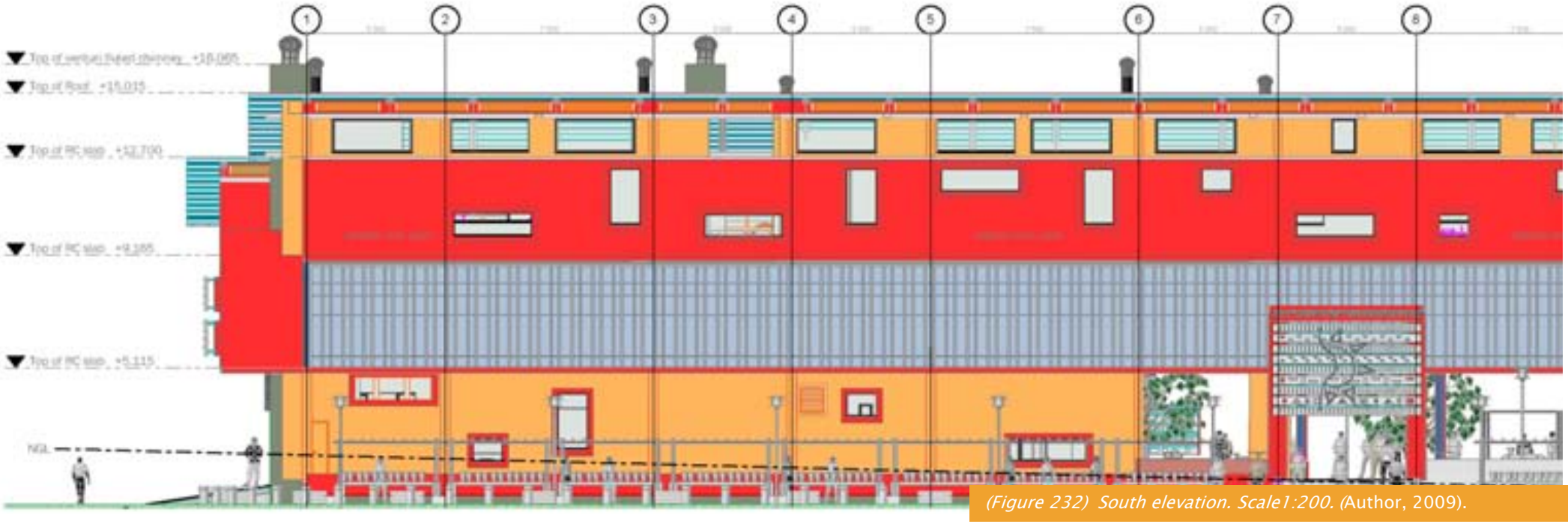
*(Figure 229) Planter detail. Scale1:25. (*Author, 2009).

*(Figure 230) North elevation. Scale1:200. (*Author, 2009).

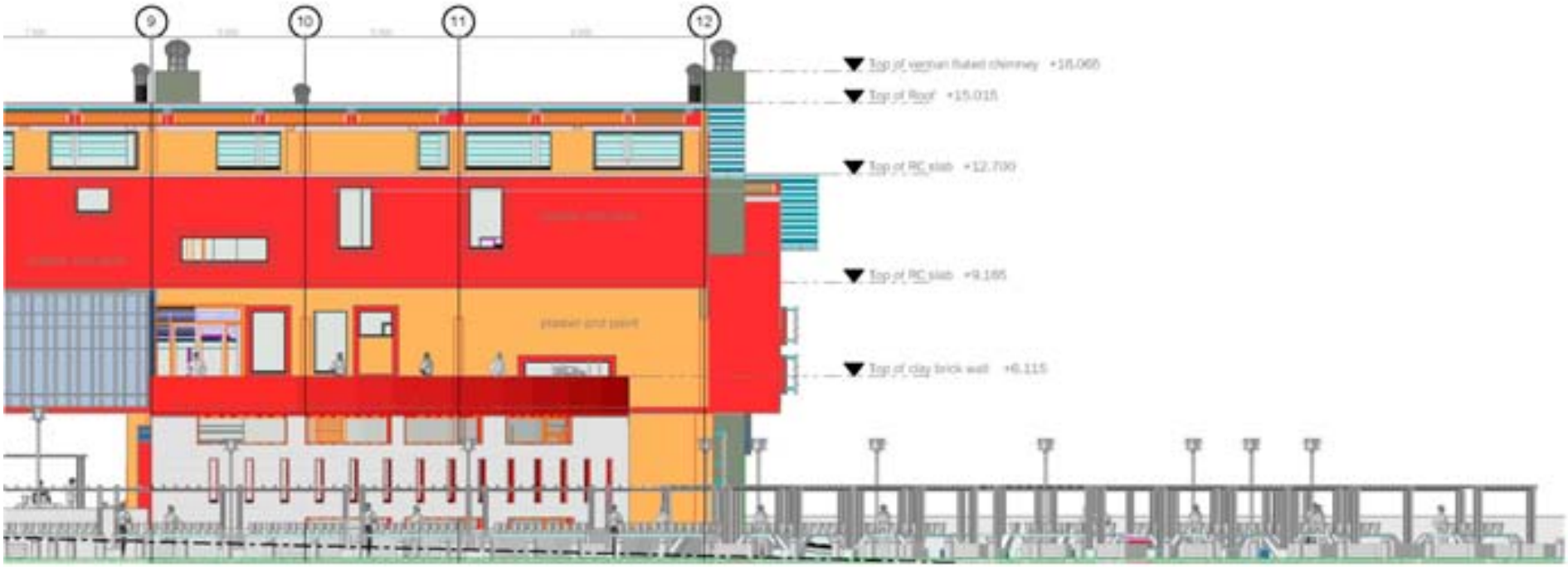

6
5
4
3
2
1
Top of ventum fluted chimney +16.0K
Top of roof +12.700
Top of stormwater feature +9.420
Top of RC slab +5.115
NGL

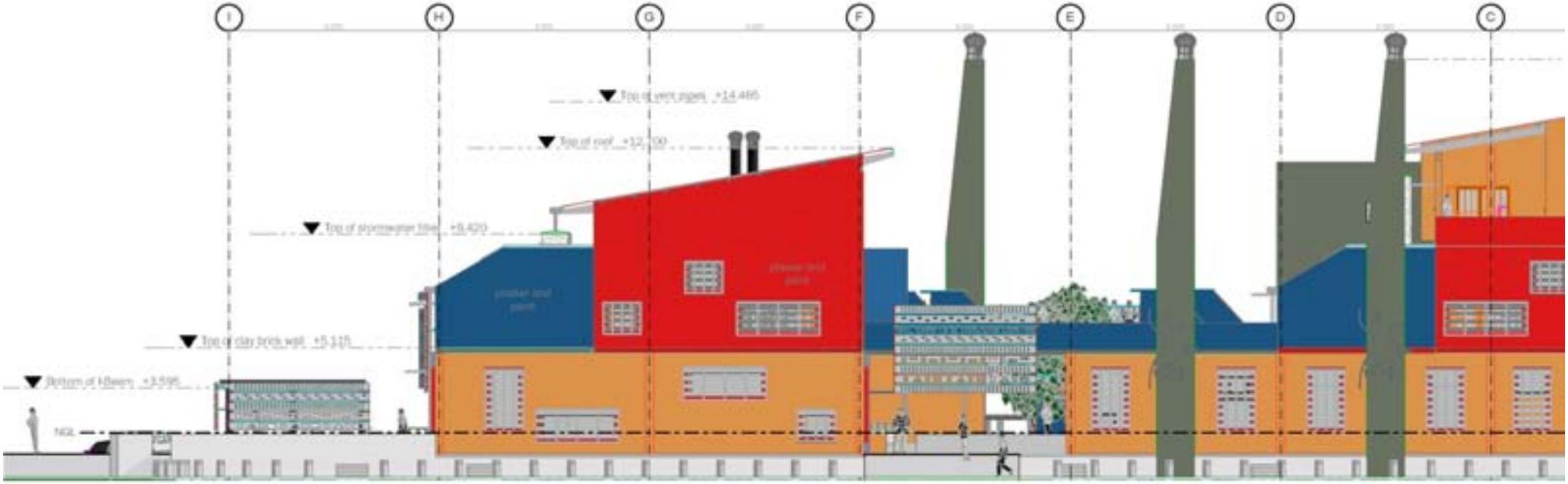
*(Figure 231) East elevation. Scale1:200. (*Author, 2009).


F
G
H
I
Top of vent pipes +14.485
Top of roof +12.700
Top of stormwater filter +9.420
Top of RC slab +5.115
Bottom of I-Beam +3.595

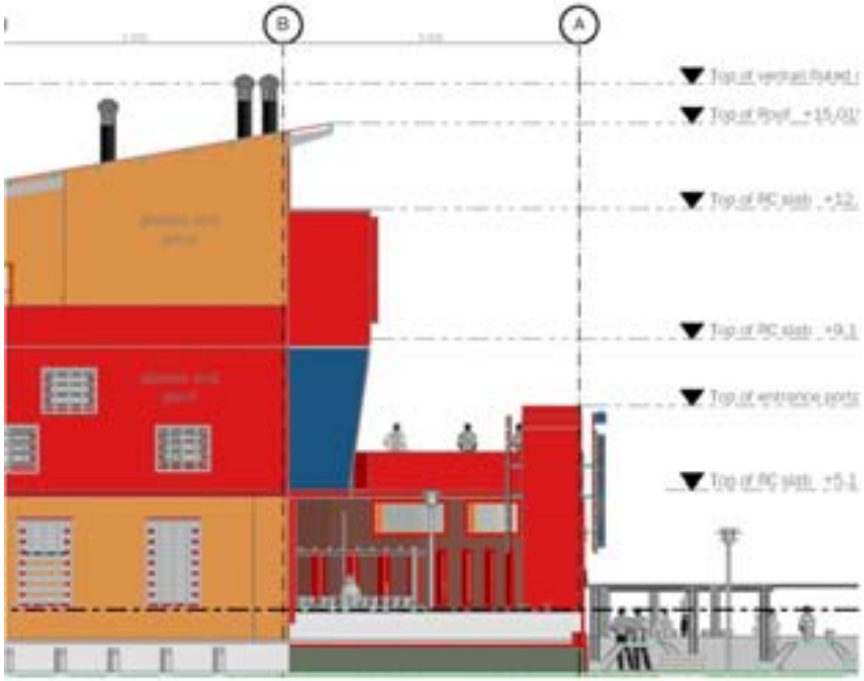


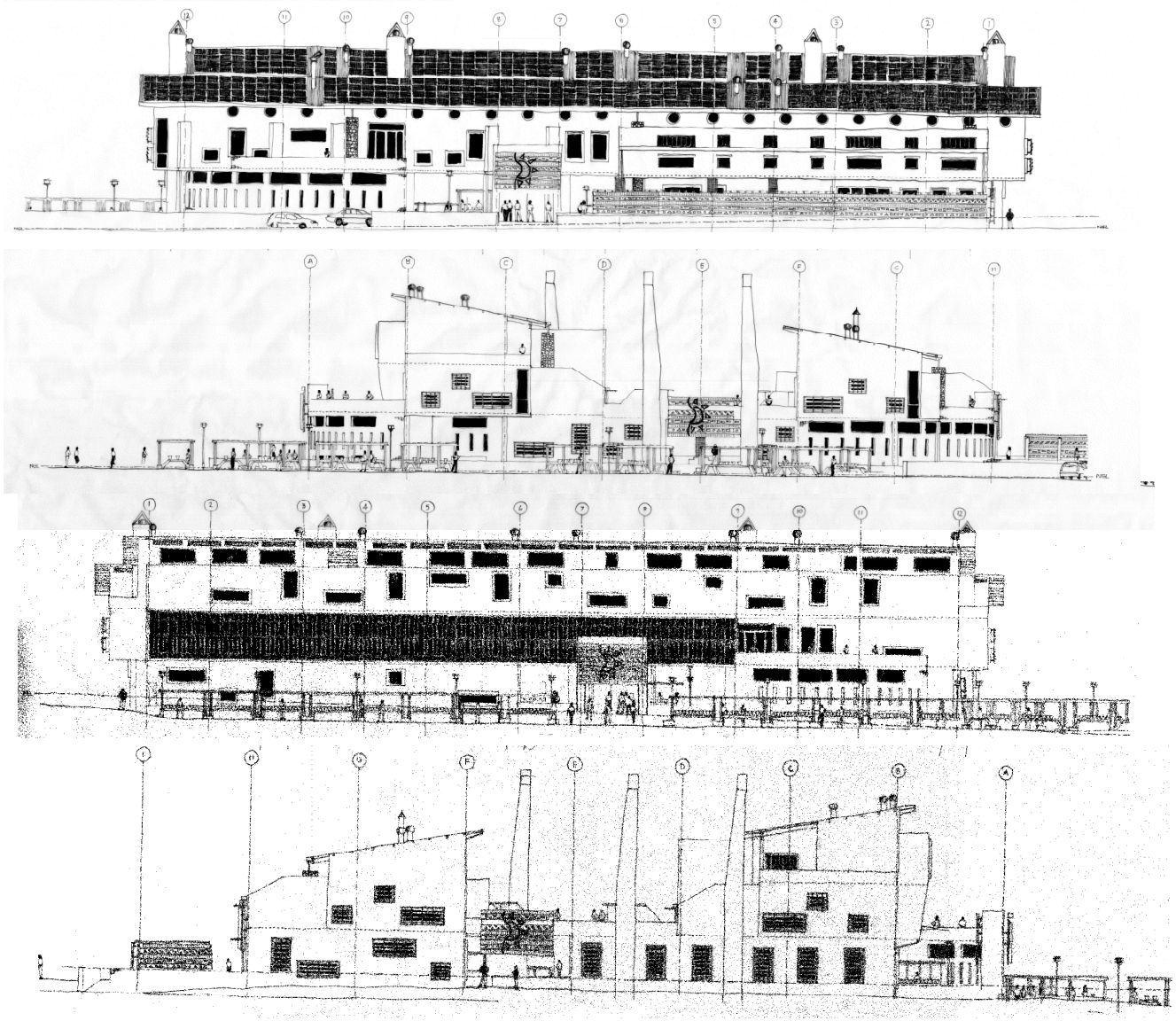
*(Figure 232) South elevation. Scale1:200. (*Author, 2009).


9
10
11
12
Top of Roof +15.015
Top of RC slab +12.700
Top of RC slab +9.185
Top of clay brick wall +6.115



*(Figure 233) West elevation. Scale1:200. (*Author, 2009).

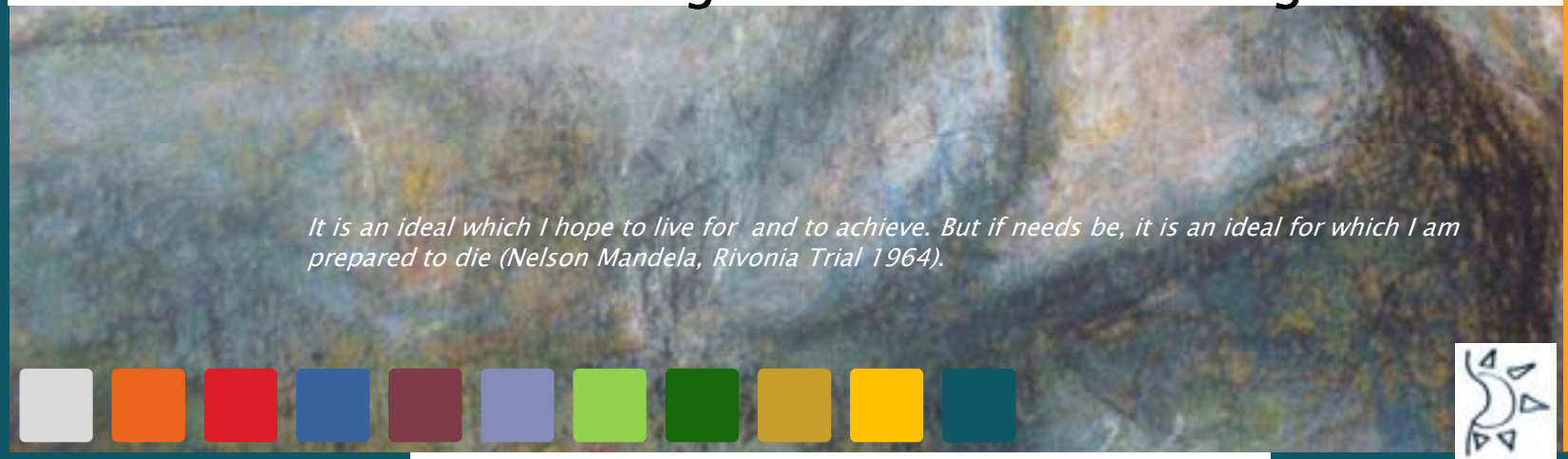

B
A
Top of vertical (fixed)
Top of Roof +15.01
Top of RC slab +12.
Top of RC slab +9.1
Top of entrance ports
Top of RC slab +5.1

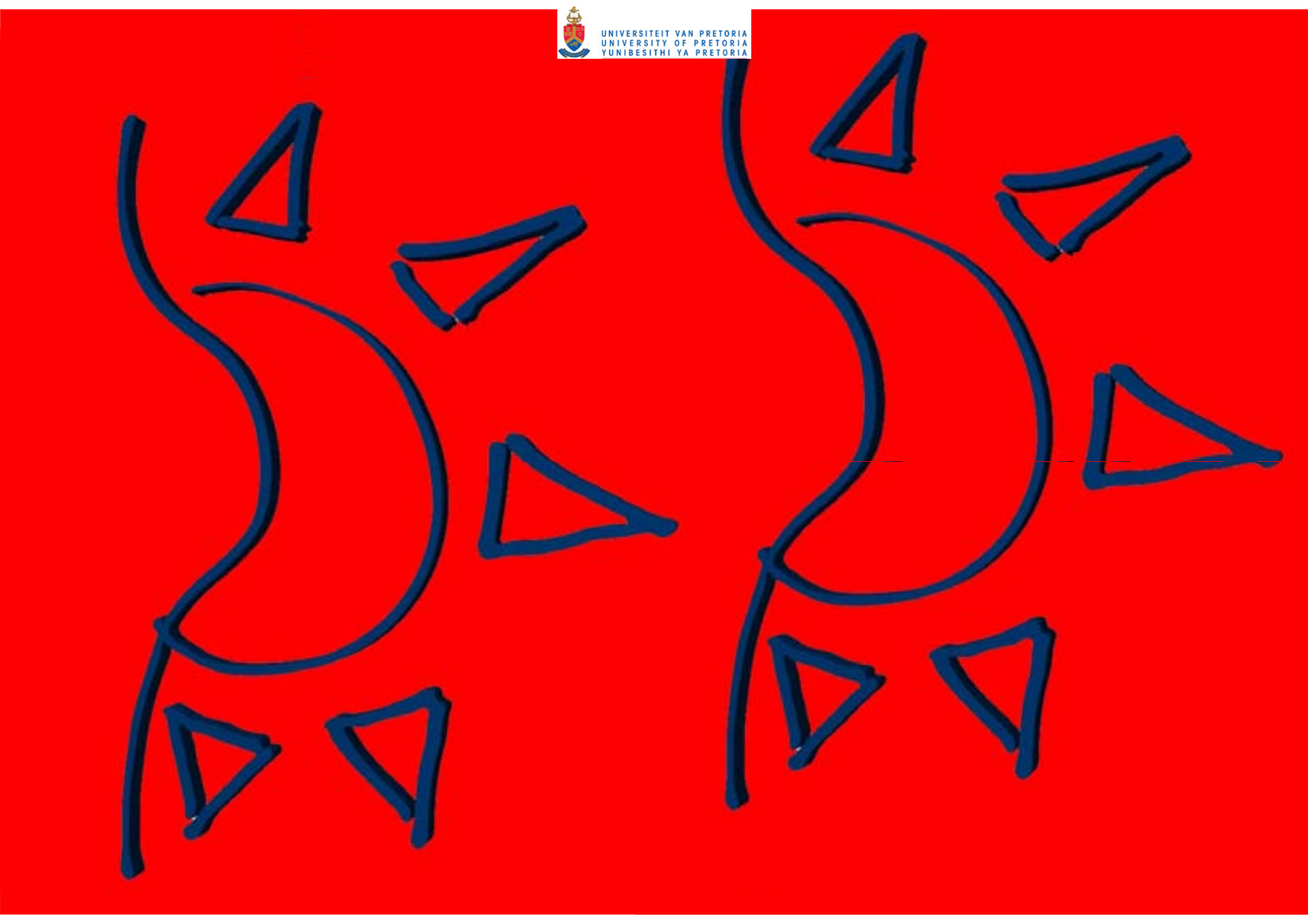


(Figure 234) Hand drawn elevations. Not to scale (Author, 2009).

DESIGN PRESENTATION DRAWINGS

Design Presentation Drawings





UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

MARABASTAD TRADERS CENTRE FOR ARTS

"The success of the whole community depends on the success of its individual members, while the success of each member depends on the success of the community as a whole." Fritjof Capra

...A traders centre focused on improving skills development in a community through the use of Art...

"SEEN AS A CULTURALLY BINDING CONCEPT AND IS UNDERSTOOD AND INTERPRETED ANY DIFFERENT WAYS, BY SO MANY PEOPLE FROM ALL WALKS OF LIFE..."

"THE PROPOSAL IS SEEN AS A SCULPTURAL WORK OF THE PENETRATION OF FORM, IT IS AN EXPRESSION OF FORM AND COLOUR"

MARABASTAD TRADERS CENTRE FOR ARTS

WHAT? WHY? WHEN? HOW? WHERE? WHO? PRODUCT? ECONOMIC SUSTAINABILITY?

WHAT- TRADERS CENTRE FOCUSING ON SKILLS DEVELOPMENT WITHIN THE AREA.

WHY- SHORTAGE OF SKILLS WITHIN COMMUNITY, POVERTY, THE LIVES OF THE COMMUNITY MEMBERS NEEDS TO BE IMPROVED

WHEN- THE PROPOSAL IS DESIGNED TO BE IMPLEMENTED INTO THE CURRENT CONTEXT.

HOW- THE FACILITY WILL BE BUILT AS PART OF THE METROPOLITAN MUNICIPALITY'S COMMUNITY DEVELOPMENT PLANS FOR THE RE-HABILITATION OF THE MARABASTAD COMMUNITY.

WHERE- THE PROPOSAL IS SITUATED IN CENTRAL MARABASTAD ON THE PREVIOUS SITE LOCATION FOR THE PUTCO BUS COMPANY, WHICH HAS BEEN RELOCATED TO ROSEVILLE.

WHO- THE FACILITY IS DESIGNED FOR THE INFORMAL AND LESS FORTUNATE COMMUNITY MEMBERS OF MARABASTAD.

PRODUCT- THE FACILITY WILL PRODUCE WORKS OF ARTWORK, POTTERY, CARPENTRY, MOSAICS, SCULPTURE, AFRICAN HANDICRAFTS AND BEADWORK, MUSIC, COMPUTER LITERACY, COMPUTER AIDED DESIGN WORKSHOPS AND BUSINESS SKILLS TRAINING. THE PRODUCTS SOLD AT THE CENTRE WILL BE HANDCRAFTED BY DISADVANTAGED COMMUNITY MEMBERS WHO HAVE BEEN GIVEN A PLATFORM AND OPPORTUNITY TO DEVELOP THEIR SKILLS AND MAKE A LIVING OUT OF IT AT THE CENTRE.

ECONOMIC SUSTAINABILITY- THE PRODUCTS SOLD AT THE FACILITY IS DESIGNED FOR TOURISM AND TOURIST MARKETS AS WELL AS STRENGTHENING THE HERETAGE ASPECT OF MARABASTAD.

SITE, NEEDS, PROBLEM STATEMENT, CONTRIBUTION, FORM

SITE-SHORTAGE OF SKILLS WITHIN THE CONTEXT

NEEDS-INFORMAL TRADERS NEED TO BE ACCOMODATED FOR IN THE PUBLIC REALM

PROBLEM STATEMENT-CAN A NEW SKILL BEING INTRODUCED INTO MARABASTAD SUCH AS ART HELP IN FACILITATING THE TRANSFORMATION OF A NEW STRENGTHENED COMMUNITY?

WHAT IS THE MARABASTAD TRADERS CENTRE CONTRIBUTING TO THE WORLD OF ARCHITECTURE-ARCHITECTURE NEEDS TO BE COMMUNITY ORIENTATED AND FOCUSED ON IMPROVING THE LIVES OF EACH AND EVERY MEMBER OF THE COMMUNITY. THE MARABASTAD TRADERS CENTRE IS A CONTRIBUTION TO COMMUNITY ARCHITECTURE.

WHAT IS THE FORCE DRIVING AND INFLUENCING THE FORM OF THE BUILDING-ART IS A MANIPULATION AND INTERPRETATION OF FORMS, ARCHITECTURE IS A MANIPULATION OF PUBLIC MASSING AND FORMS. THE FORM OF THE MARABASTAD TRADERS CENTRE FOR ART MANIPULATES FORM WHERBY PENETRATION OF DIFFERENT MECHANICAL ELEMENTS SUCH AS VENTURI CHIMNEYS BECOME AN EXPRESSIVE QUALITY IN THE BUILDING DESIGN.

CONTEXT

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

RECREATION

jazz centre

IDENTITY

CONNECTION

CONTINUOUS SCALE

RESPECT

SAFETY

CIRCULATION

EDUCATION

Pancho Guedes' painting of the smiling lion apartment section makes structural sense as the cantilevered edges of the slab are a structural architectural-form.

CONCEPTUAL DESIGN PAGE

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

SUMMARY:

Abstract LACK OF A SKILLED WORKFORCE IN NEIGHBOURHOOD, PROPOSAL COMPRISES OF IMPROVING SKILLS DEVELOPMENT WITHIN THE COMMUNITY.

The branding and logo designed by the author represents quality, sustainability, community spirit and pride. It is a symbol the author envisions as being part of the restoration and rehabilitation of the vibrant Marabastad neighbourhood. The symbol can be seen as a catalyst for sustainable development in Marabastad, as well as representing the future and the restoration of the Marabastad community as a whole.

The City of Tshwane Metropolitan Municipality is currently investing in the Marabastad neighbourhood. A Jazz Centre is being built on the curve where Blood Street enters the neighbourhood; this is the focus and study area of this thesis document. In the future this area will be a place where people can meet and gather freely, a freedom previously denied by the Apartheid government. South Africa's democracy is so recent that the signs of fragmented communities can still be seen throughout the country. This fact needs to be addressed by town planners, developers and architects. The study area is only the beginning of the restoration process and represents many possibilities and opportunities; it is here where the African sun will always shine, will always create opportunities for its citizens and will always provide for them.

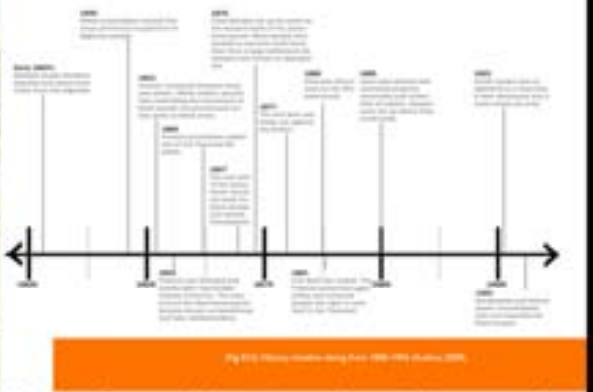
The discourse attempts to provide a design solution that best reflects the current issues of our times. It promotes a sustainable development that is proudly South African. Culture and location is what identifies communities and people from other cities and other countries. It is what binds us as a people. Culture is best illustrated by artworks and performing arts; art is integral to a society and integral to rebuilding it in order for it to identify itself as a community.

Art forms the basis of this exploration and informs the author throughout the design process. Through the use of art as a cultural guiding principle, and through the theoretical understanding of urban design and urban principles, an architectural solution can be found.

...we will have to re-examine the kind of modern world we have imposed upon the planet -- economic, technological, artistic. We will have to re-examine, and rebuild, the decaying foundations of our own modern culture (Sollegaros, 2002).

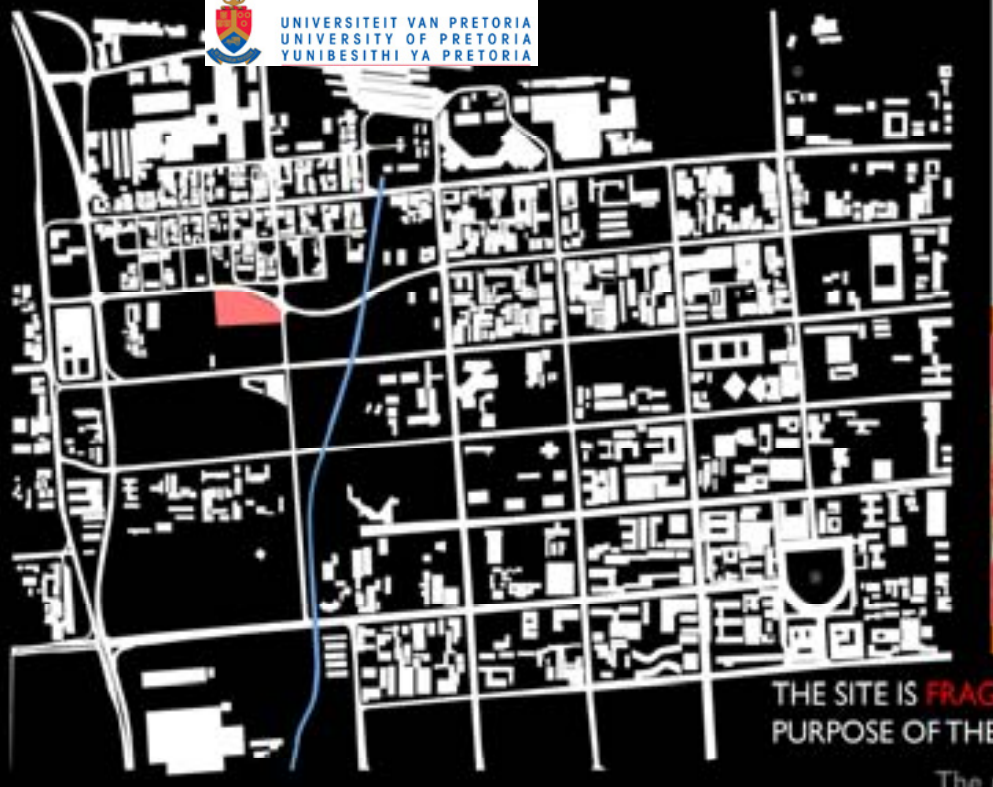
ARTISTIC IMPRESSION OF PROPOSED NEW MARABASTAD TRADERS CENTRE FOR ARTS

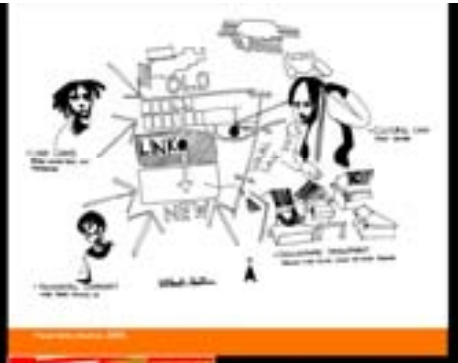
Skills are lost and forgotten, the proposal's goal is to activate and nurture certain cultural skills and provide a platform wherby these skills can survive generations.



"A platform celebrating cultural diversity through skills and the process of acquiring a particular knowledge and translating it into a PRODUCT OF CREATIVITY, a work of ART..."

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



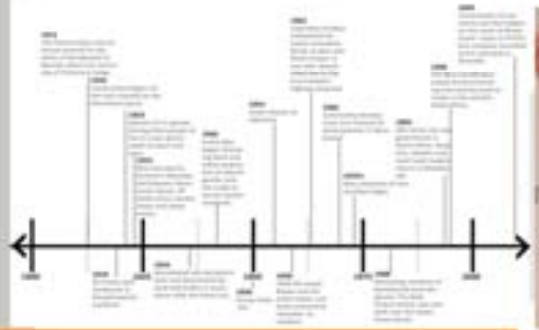


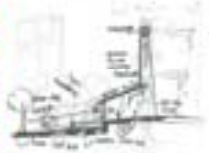
THE SITE IS FRAGMENTED AND THERE IS INSUFFICIENT
PURPOSE OF THE PROPOSAL IS TO ADDRESS THESE PR

The proposal aims at becoming a **repository** for the memory of the area. Art was identified as a skill which can become a culturally binding concept and product in order to strengthen the community.

Can **Architecture**, **Planning** and **Art** serve as tools to strengthen communities? What strengthens communities? Skills?

In order to strengthen a community there needs to be a balance between ownership, identity, **SKILLS**, infrastructure and resources .





CHAOS THEORY AND COMPLEXITY APPLIED TO ARCHITECTURAL MASSING:
Bernard Cells seem to form irregular patterns but on closer inspection are actually orderly.

THE DESIGN OF THE FACILITY MIMICS A SCULPTURAL PLAY OF DIFFERENT FORMS THAT AS A WHOLE BECOME ORDERLY.

MARABASTAD TRADERS CENTRE FOR ARTS

CITY OF TSHWANE

PROUDLY SOUTH AFRICAN

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

ECONOMIC SUSTAINABILITY?– THE PRODUCTS SOLD AT THE FACILITY IS DESIGNED FOR TOURISM AND TOURIST MARKETS AS WELL AS STRENGTHENING THE HERETAGE ASPECT OF MARABASTAD.

SITE?– SHORTAGE OF SKILLS WITHIN CONTEXT.

PROBLEM STATEMENT?– CAN A NEW SKILL BEING INTRODUCED INTO MARABASTAD SUCH AS ART HELP IN FACILITATING THE TRANSFORMATION OF A NEW STRENGTHENED COMMUNITY?

WHAT IS THE MARABASTAD TRADERS CENTRE CONTRIBUTING TO THE WORLD OF ARCHITECTURE?– ARCHITECTURE IN SOUTH AFRICA NEEDS TO BE COMMUNITY ORIENTATED AND FOCUSED ON IMPROVING THE LIVES OF EACH AND EVERY MEMBER OF THE COMMUNITY. THE MARABASTAD TRADERS CENTRE IS A CONTRIBUTION TO COMMUNITY ARCHITECTURE.

WHAT IS THE FORCE DRIVING AND INFLUENCING THE FORM OF THE BUILDING?– ART IS A MANIPULATION AND INTERPRETATION OF FORMS, ARCHITECTURE IS A MANIPULKATION OF PUBLIC MASSING AND FORMS. THE FORM OF THE MARABASTAD TRADERS CENTRE FOR ARTS MANIPULATES FORM WHEREBY PENETRATION OF DIFFERENT MECHANICAL ELEMENTS SUCH AS VENTURI CHIMNEYS BECOME AN EXPRESSIVE QUALITY IN THE BUILDING DESIGN.

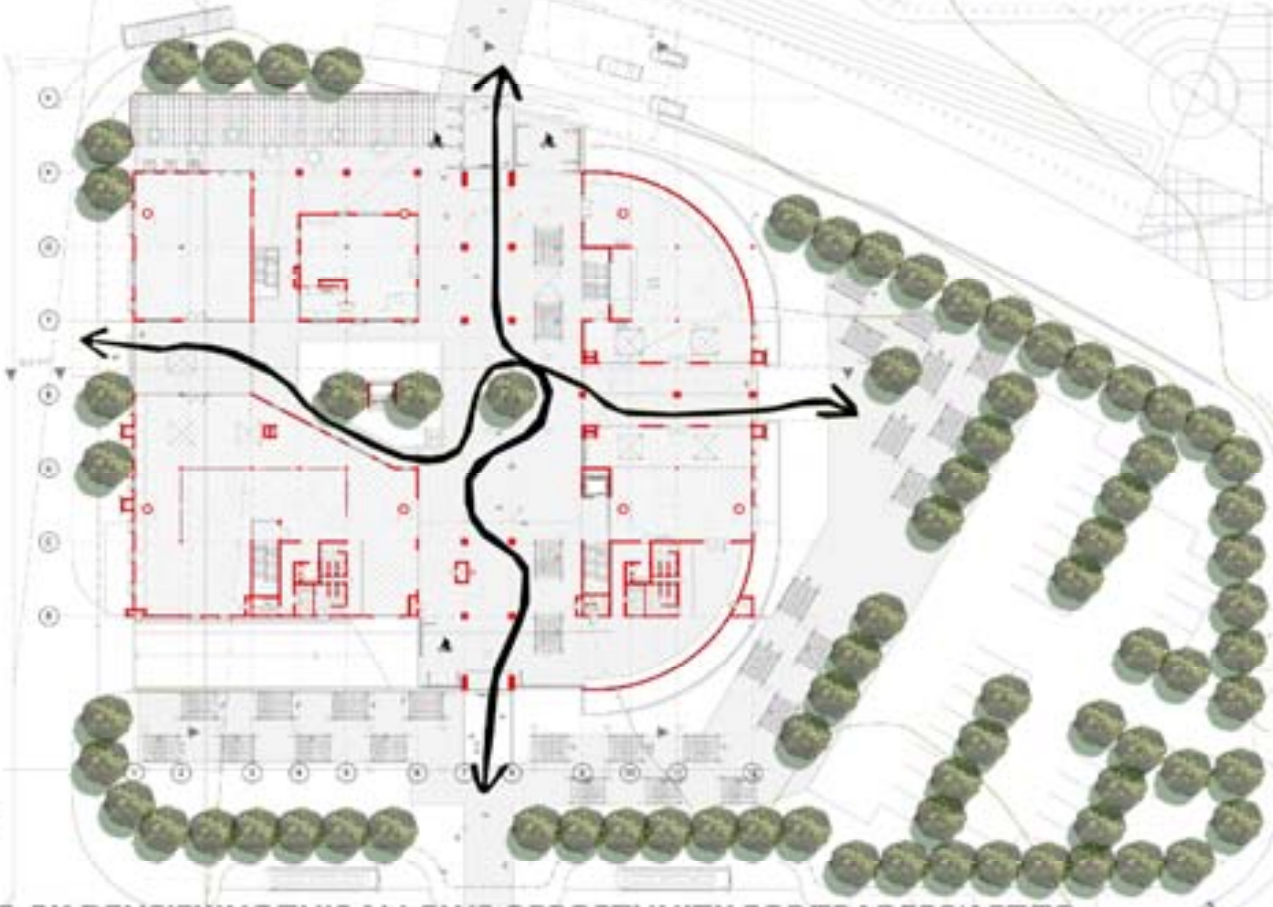
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

OPPORTUNITY THROUGH SKILLS

ARTISTIC IMPRESSION OF PROPOSED NEW MARABASTAD TRADERS CENTRE FOR ARTS

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

CIRCULATION ROUTES 1:200

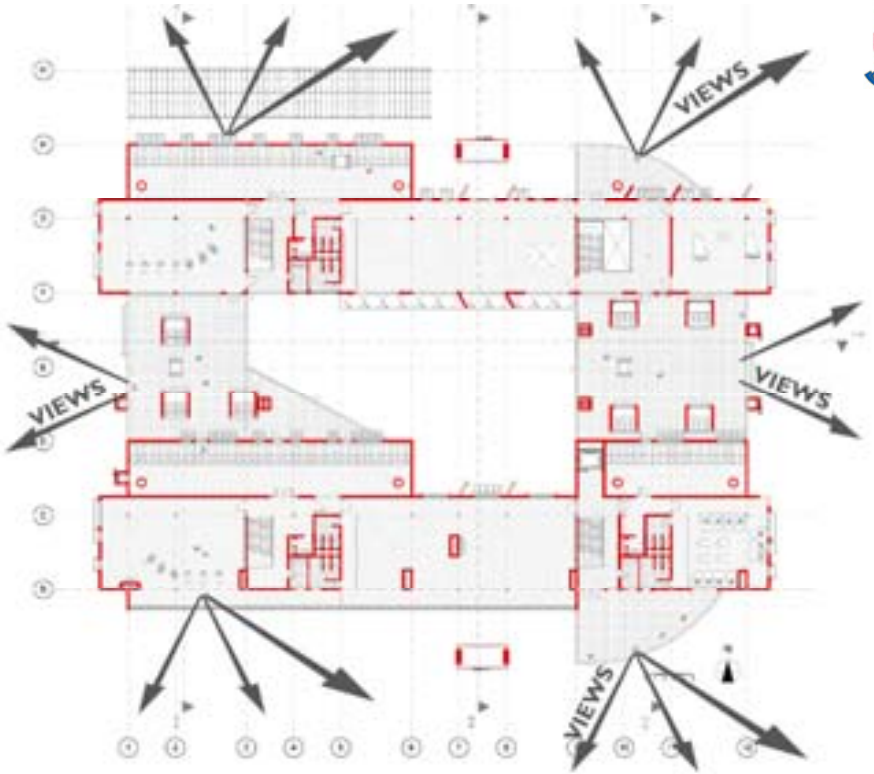


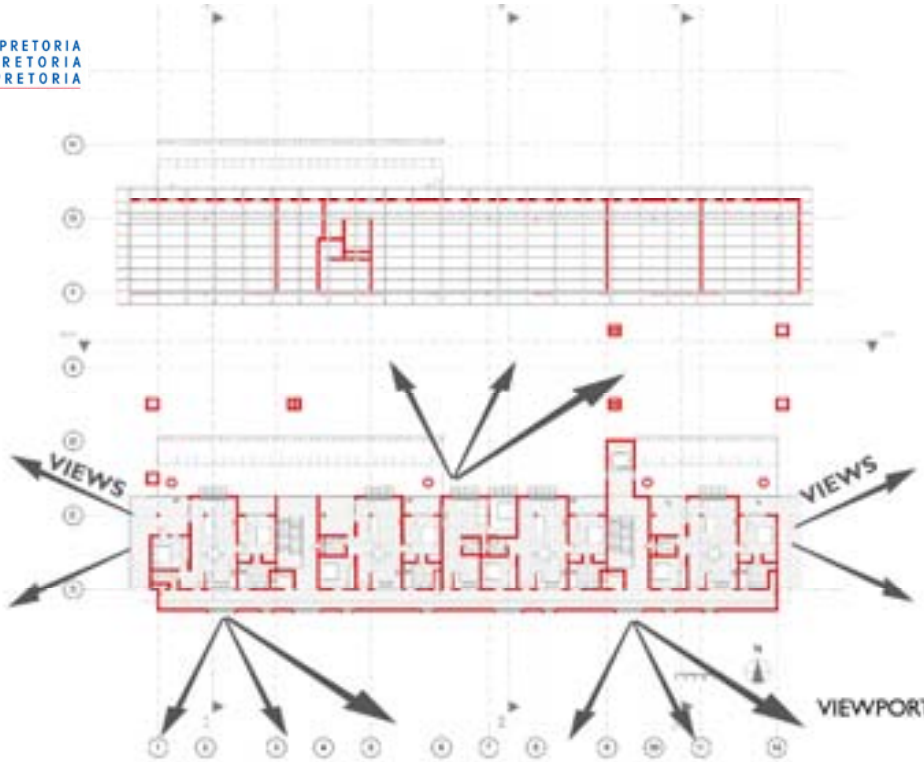
MIXED USES + FUNCTIONAL VARIETY, DENSIFYING; BY DENSIFYING THIS ALLOWS OPPORTUNITY FOR TRADERS/ART TO BE SUPPORTED. THERE IS A SHORTAGE OF SKILLS IN THE AREA AND THE CONTEXT DOESN'T HAVE SUFFICIENT MEETING,

GATHERING, AND TRADING SPACES. THE PROPOSAL CONTRIBUTES TO CREATING A STRONG SENSE OF COMMUNITY AND IDENTITY.

NORTH ELEVATION 1:100

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA





VIEWPORTS 1:200

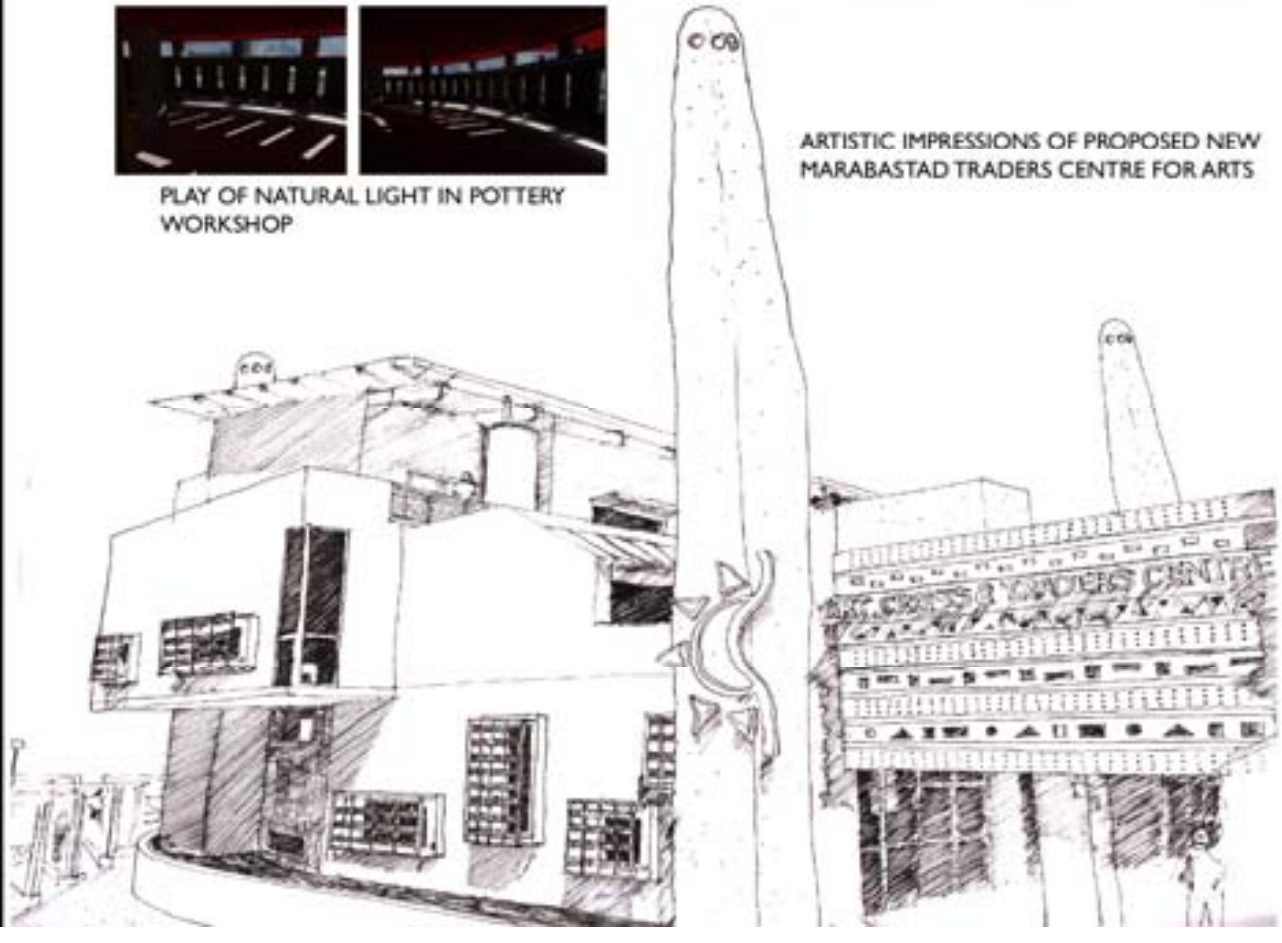
EAST ELEVATION 1:100

SOUTH ELEVATION 1:100

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

PLAY OF NATURAL LIGHT IN POTTERY WORKSHOP

ARTISTIC IMPRESSIONS OF PROPOSED NEW MARABASTAD TRADERS CENTRE FOR ARTS



PANCHO GUEDES PRECEDENT

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

ART + EXPRESSION

MECHANICAL + FUNCTIONAL..... "EXPRESSIVE"

EXPERIMENT USEING PARTI DIAGRAM OF 'SMILING LION' AND SUPERIMPOSING THE SECTION OF THE MARABASTAD TRADERS CENTRE FOR ARTS... **ARTISTIC INTERPRETATIVE FORM TRANSLATED INTO ARCHITECTURAL PHYSICAL FORM**

The author started off with Pancho Guedes' painting of The Smiling Lion apartment section- 1982 (Guedes, 2009).
The author then created a parti diagram section of the proposed new Marabastad Traders Centre for Arts and superimposed this parti diagram onto the painting.
The author then removed the painting and the parti diagram remained. It was noted by the author that Pancho Guedes's form of the painting is similar to the structural form of the proposed new Traders Centre for Arts.

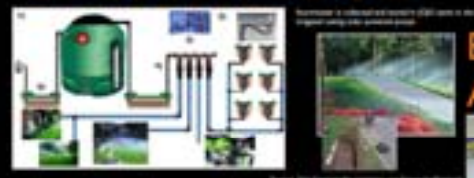
The experiment proves that art can influence the overall structure of an architectural model in terms of form.

How can an Architectural solution be created based on Art? ....Art is an Interpretation of forms.

TECHNICAL INVESTIGATION

MATERIAL SELECTION

GARDEN IRRIGATION



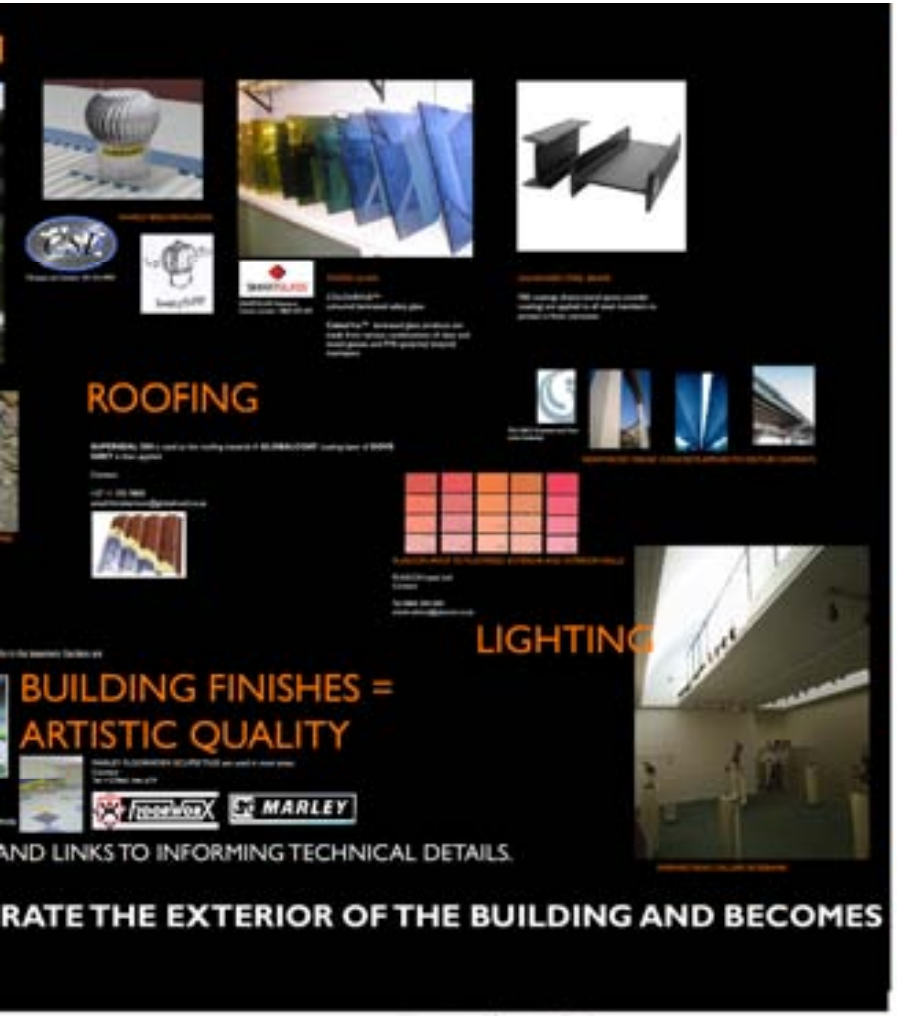
DIFFERENT PARTS OF THE BUILDING ARE INTEGRATED, SECTIONS ARE EXPRESSIVE AN

INTERIOR ELEMENTS, MECHANICAL AND FUNCTIONAL COMPONENTS, **PENETRA**
AN EXPRESSIVIVE FORM.

MARABASTAD TRADERS CENTRE FOR ARTS

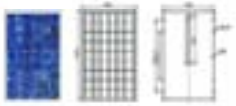
CITY OF TSHWANE

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



THERMAL INSULATION

SOLAR PANELS



ACOUSTIC CONTROL

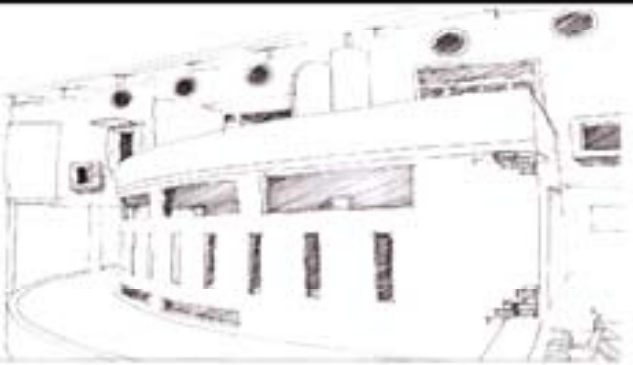
EAGLE

CURTAIN WALL SYSTEM

The curtain wall used in the facility are custom made and are designed and made up of extruded aluminium members.

The curtain wall contribute in providing sufficient **DAYLIGHTING** inside entire the internal space.

STORMWATER TANKS



BATTERY ROOM

HVAC **REGULATE THE TEMPERATURE OF THE BATTERY ROOM.**

PROUDLY SOUTH AFRICAN

A radical intervention is required on the part of concerned urbanists. We need to rethink the positioning of individual buildings to form a coherent urban fabric, as well as the role of thoroughfares, parking, and urban spaces. New zoning codes based on the rural-to-urban Transect and the form of the built environment are now available to assure predictable densities and mixed-use for the Compact City (Salingaros, 2006:100-115).

*(Figure 247) Photograph of final presentation in room 4-3, Boukunde building. University of Pretoria, South Africa.(*Author, 2009).

*(Figure 248) Photograph of final presentation in room 4-3, Boukunde building. University of Pretoria, South Africa.(*Author, 2009).

(Figure 249) Photograph of final presentation in room 4-3, Boukunde building. University of Pretoria, South Africa.(Author, 2009).

Model

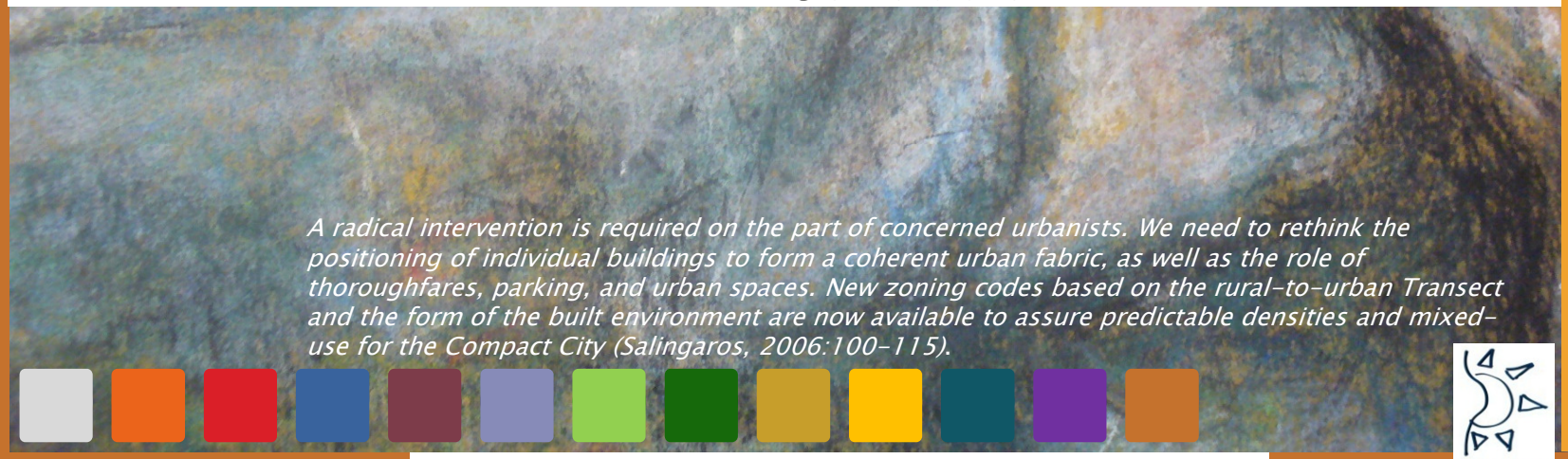

To be free is not merely to cast off ones chains but to live in a way that respects and enhances the freedom of others (Nelson Mandela).

(Figure 250) Photograph of physical model Author, 2009).

(Figure 251) Photograph of physical model Author, 2009).

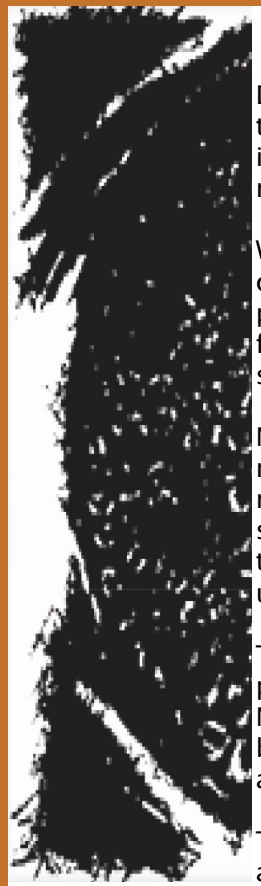
(Figure 252) Photograph of physical model Author, 2009).

Conclusion



A radical intervention is required on the part of concerned urbanists. We need to rethink the positioning of individual buildings to form a coherent urban fabric, as well as the role of thoroughfares, parking, and urban spaces. New zoning codes based on the rural-to-urban Transect and the form of the built environment are now available to assure predictable densities and mixed-use for the Compact City (Salingaros, 2006:100-115).

CONCLUSION



During the course of 2009 Marabastad went through a transformation. The Jazz Centre and park is one of the current projects under way. This shows and proves that the Tshwane Metropolitan Municipality is interested in the well being of the future of the area and has made the effort to reconstruct the neighbourhood.

With the PUTCO bus company being relocated has created an opportunity for developers and architects to come up with a sustainable proposal for the area. The research and design investigations done in this thesis prove that the proposed *Traders Centre for Arts* would be a sustainable project and is an example of possible future developments and practices in the area. The modern shift of contemporary design is shifting towards sustainability and the proposed new centre has been designed to be a sustainable project.

Marabastad is an important part in Pretoria as it connects diverse people and cultures. Commuters, few residents, business people are all there. The future of Marabastad will have to include a much greater residential environment restoring the once vibrant community, areas of conservation, tourism, upgrading of streetscapes and a complete set of guidelines for proposed new buildings in the area. The author is confident that Marabastad will be one of the destination stops of Gauteng. This would require funding and an entire upgrade plan for the whole area and can be *a process that is done over time* (Alexander, 1964).

The proposed new *Traders Centre for Arts* will bring a whole new market to the area. It will serve as a platform to create jobs and skills. It will bring a sense of confidence into the area to the people of Marabastad as well as prospective investors. The proposed facility would only help in rejuvenating and help building the future and create a stronger identity for the people. On these grounds and basis, the proposal is already a success story before it has even been built.

The reconstruction of Marabastad will have to be done by its people. The facility serves as a platform for artists, sculptors, builders, potters, musicians and ordinary citizens to acquire or perfect certain skills in order to help them reshape their environment. Sculptures made in the centre can be placed in the Jazz Centre and parks around Pretoria. Upgrading of street paving and streetscapes can be done in collaboration with architects, builders and artists from the centre. Memorial walls, pottery, education and public awareness can all be done within reach of the centre.

The success of Marabastad depends on providing the right facilities, creating opportunity and providing infrastructures available to all members of the community; from street traders, to artists, to residents, tourists and the corporate ladder. In this way the community as a whole will benefit.

Bibliography

Books:

Aalto, A. 1971. *Band II 1963-1970.* Zurich: Architecture Arteniss.
Alexander, C. 1977. *A Pattern Language*. New York: Oxford University Press.
Alexander, C. 2002. *The Nature of Order: An essay on the art of building and the nature of the universe.* California: California Centre for Environmental Structure.
Alexander, C. 1964. *Notes on the Synthesis of Form*. Cambridge: Harvard University Press.
Briggs, J. 1992. *Fractals: The patterns of chaos.* London: Thames and Hudson.
Callilinicos, L. 1993. *A place within the city: the Rand on the eve of Apartheid: a people's history of South Africa.* Volume three. Johannesburg: Raven Press.
Callilinicos, L. 1987. *Working life 1886-1940.* Johannesburg: Raven Press.
Capra, F. 1996. *The Web of Life: A new scientific understanding of living systems.* New York: Anchor Books.
Dewar, D. and Uytenbogaardt, R. 1991. *South African Cities: a manifesto for change.* Cape Town: University of Cape Town.
Holm, D. 1996. *Manual for energy conscious design.* Pretoria: Department of Minerals and Energy.
Garlake, P. 2002. *Early Art and architecture of Africa.* New York: Oxford University Press.
Groak, S. 1992. *The Idea of Building: thought and action in the design and production of buildings.* London: E & FN Spon.
Jencks, C. 1995. *The Architecture of the Jumping Universe.* London: Academy Editions.
Jenks, M. Borton E, Williams K. 1996. *The Compact City: A sustainable urban form?* London: E and F N Spon
Jenks, M. Burgess, R. 2000. *Compact Cities: Sustainable urban forms for developing countries.* London: Spon Press.
Magubane, P. 2001. Soweto. London: Struik.
Mandelbrot, B. 1977. *Fractals: form, chance and dimension.* California: Freeman.
Martin, D & Jacobus, L. 2004. *The Humanities through the Arts (6/e).* New York: McGraw Hill.
Neufert, E.1975. *Architect's Data.* London: Crosby Lockwood Staples.
Pietgen, H. Jurgens H and Dietmar S.1992. *Chaos and Fractals: New Frontiers of science.* New York: Springer.
Porter, T. 2004. *Archispeak.* New York: Spon Press.
Porphyrios, D, 1982. *Sources of Modern Eclecticism.* London: Academy Editions,
Prussin, L, 1969. *Architecture in northern Ghana.* California: University of California Press,
Salingaros, N. 2006, *Crossover: Architecture, Urbanism, Technology.* Holland: 010 Publishers.
Wegelin, H. 2009. *Construction primer for Southern Africa.*: Pretoria: Visual books.
William, S.W.LIM. 1990. *Cities for People.* Singapore: Select Books.
Young, W.P. 2008. *The Shack.* California. Windblown Media.

Articles, Journals and essays:

Building 1993, *'Three commercial art galleries', Johannesburg- Everard Read Contemporary Gallery, Rosebank'* pp13-14

City of Tshwane Metropolitan Municipality Draft, *'Tshwane Integrated Development Plan (TIDP) 2006-2011', Third Revision: March 2009,* Section 2.3.2 pp12

Digest of South African Architecture 2001, *'Review of work completed in 2000',* pp 160-165

Digest of South African Architecture 2004/2005, *'The Constitutional Court, Johannesburg',* pp 18-21

Digest of South African Architecture 2004/2005, *'The Constitutional Court, Johannesburg',* pp 136-137

Digest of South African Architecture 2004/2005, *'Metro Mall-Taxi/Bus Rank and traders market, Johannesburg'* pp 138-139

Digest of South African Architecture 2004/2005, *'northern Cape Legislature complex, Galeshewe, Kimberly'* pp 140-141

Digest of South African Architecture 2008, *'Nelson Mandela Museum, eastern Cape'* pp 64-67

Dobson, R. & Lees, J. 2008, *'Intuitive Process (es) towards responsive urban architecture',* Architecture South Africa January/February, pp 20-24

Gerneke, G. 1999, *'Amancio d' Alpoim Miranda Guedes',* South African Architect February, pp 27-34

Guedes, A. 1999, *'Simultaneous Stylistic Divergencies',* South African Architect February, pp 18-26

Hansen, L. 2008, *'Integrating Marginalised Urban Users',* Architecture South Africa November/December, pp 44-49

Le Roux, S & Fisher, R. 1999, *'Citation: Tribute to Pancho Guedes',* South African Architect February, pp 17

Lipman, A. 2009, 'Marabastad, Tshwane- *Pretoria's District Six'*, *Architecture South Africa,* March/April, pp 71-72

Murray, N. 2008, *'The Tsoga Environmental Centre and Recycling Depot',* Architecture South Africa July/August 2008, pp 42-45

Salingaros, N. & Mehaffy, M. 2002, 'The end of the modern world', *PLANetizen:*

Sholler, M. 2006, 'Sustainable transport', *ITDP magazine*, Number 18, pp 3-31

Steyn, G. African Courtyard architecture: Typology, art, science and Relevance, Tshwane University of Technology

Tayob, A., Aziz, A. & Malan, C. Integrated urban design framework of Marabastad, Pretoria. Pretoria Tshwane Inner City and Development Strategy, 2006, Abridged version

Urban Green File Nov/Dec 2003, *'Urban Renewal'*, pp 22-25

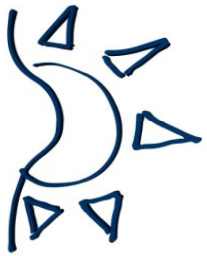
Photographs:

University of Kwazulu Natal. 2005, *Class of 2005 field trip to Gauteng*

Websites:

Andrew Walford, 2009, viewed on the 11 September 2009, http://www.andrewalford.co.za
Anthony Shapiro, 2009, viewed on the 11 September 2009, http://www.28pixels.co.za
Accelerated and Shared Growth Initiative-South Africa 2006, viewed on 24 May 2009, http://www.info.gov.za/asgisa/
Accelerated and Shared Growth Initiative-South Africa 2006, viewed on 24 May 2009, http://www.ecatu.org.za/fileadmin/user_upload/files/asgsi.pdf
BAT Centre official website, 2009, viewed on 24 May 2009, http://www.batcentre.co.za
BAT Centre official website, 2009, viewed on 24 May 2009, http://www.batcentre.co.za/working_space.htm
BAT Centre official website, 2009, viewed on 24 May 2009, http://www.batcentre.co.za/bat_tenants.htm
BAT Centre official website, 2009, viewed on 24 May 2009, http://www.batcentre.co.za/venue_and_bookings.htm
BAT Centre official website, 2009, viewed on 24 May 2009, http://www.batcentre.co.za/about_us.htm
City of Tshwane, 2009, viewed on 12 March 2009, http://tshwane.gov.za
Eagledoor aluminium windows and doors, 2009, viewed on 27 September 2009, http://www.eagledoor.co.za
Everard Read Gallery, 2009, viewed on 25 May 2009, http://everard-read.co.za/home.asp?m=2
Google Earth 2009, viewed on 17 March 2009, http://www.googleearth.com
House in Museumlaan by Cino Zucchi, 2009, viewed on 25 September 2009, http://www.digsdigs.com/photos/contemporary-dutch-house-design-1.jpg
Kate Otten Architects official website, 2009, viewed on 25 May 2009, http://www.kateottenarchitect.com/comm-ret-mix003.html
Mlambo-Ngcuka, P 2006, 'A catalyst for Accelerated and Shared Growth-South Africa (ASGISA)', viewed on 24 May 2009, http://www.info.gov.za/speeches/briefings/asgibackground.pdf
Piet Mondrian, 2009, viewed on 25 September 2009, http://blogs.cotemaison.fr/citydeco/Mondrian-composition%201922.jpg
Statistics South Africa, 2009, viewed on 21 October 2009, http://www.statsa.gov.za/publications/P0351/P0351july2009.pdf
Statistics South Africa, 2009, viewed on 21 October 2009, http://www.statsa.gov.za/publications/Report-03-51-02/Report-03-51-022008.pdf
Venturi effect, 2009, viewed on 29 September 2009, http://www.answers.com/topic/venturi-effect

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



CARL ADAMS
carl.architect@gmail.com

Facilitating the transformation of a new Marabastad through Architecture