

# A story of Re-integration

---

of the People and Place  
of Marabastad

Nicola Patrick





**Special Thanks to:**

Dr Edna Peres and Dr Arthur Barker for their guidance, knowledge and support.

My parents, Helen and Philip Patrick, for their unwavering support.

Kevin and Nicola Twyford, for their encouragement.

Patricia Theron (more than just an editor), Dominic Horne, Simone Maree and Claudia Filipe.

Ally, Roxy and friends for tea.

The studio team: “Bollard Management”.

**A story of **Re-integration**: of the People and Place of Marabastad**

By: Nicola Cecilia Patrick

Study Leader: Dr Edna Peres

Year Co-ordinator: Dr Arthur Barker

Study Field: Regenerative Architecture

Submitted in fulfilment of part of the requirements for the degree of Magister in Architecture (Professional) in the Faculty of Engineering, Built Environment and Information Technology

University of Pretoria, October 2016

## **Preamble**

This dissertation is intended to be read in conjunction with:

Marabastad: A Legacy of Utopias  
by Sandeep Nicha, David Hough and Nicola Patrick

## **Project Summary**

Programme: A drug rehabilitation centre within a larger network of ancillary programmes.

Site: 25°44'24.63"S 28°10'43.86"E

The setting is bounded by Boom Street to the north and Grand Street to the south (on either side of Steenhovenspruit). To the east there is a cluster of buildings that terminate on Kgosi Mapuru Street. To the west an historic fine-grain block contains the old Empire Theatre and other buildings, and is bounded by 10th Street.

Research Fields: Regenerative Architecture, Human Settlements and Urbanism, and Heritage and Cultural Landscapes.

# Samevatting

Die verhandeling bestaan uit 'n ondersoekende narratief, wat die regte wêreldse probleem van dwelmverslawing benader, 'n probleem wat net 'n klein deel van die komplekse kwessie van haweloosheid verteenwoordig. Die verhaal kyk na dietransformerende herlewings van Marabastad, wat, volgens die skrywer, 'n noodsaaklike rol speel in die herintegrasië van mens en plek. Storievertelling was in die vooruitsig gestel as 'n tegniek om die potensiele regeneratiewe aard van argitektuur, binne die konteks van die groter stedelike raamwerk, te openbaar. Met dié benadering word die komplekse situasie van 'n ontwikkelende gemeenskap met beperkte infrastruktuur en die sosiale kwessies wat daarmee gepaard gaan, beter deur die leser begryp, omdat daar verby die meer abstrakte kwessies gekyk word, na die persoonlike kwessies.

In die skema neem die 'ontwerper' nie die rol van die kenner aan nie, maar plaas haarself in 'n wedersydse rol, wat die behoeftes van die plaaslike bevolking in ag neem. Die naratiewe benadering word 'n middel om beide die ontwerper en die leser in die situasie te plaas, op so manier dat die projek meer toeganklik raak op 'n humanitêre vlak. Die benadering gaan teen die "bo-na-onder" benadering waarvolgens argitektuur en stedelike beplanning so dikwels in 'n gemeenskap toegepas word deur eksterne partye.

Herlewing, as 'n manier om na die potensiaal van 'n omgewing te kyk, gaan verder as gentrifikasie, deur dat die gesondheid en die welstand van die onmiddellike gemeenskap, asook die veerkragtigheid van die landskap, deur die argument as die hoof dialek geopenbaar word.

# Abstract

This dissertation comprises an investigative narrative that approaches the real world issue of drug addiction, which represents only a small part of the complex issue of homelessness. The story looks at the transformative regeneration of Marabastad, which the author feels is essential to the re-integration of people and place. The technique of narration was envisaged to best reveal the potentially regenerative nature of the architecture within the greater urban framework of the area. With this approach, the complex situation of a developing community with limited infrastructure and its associated social problems, is better assimilated by the reader as it looks beyond the more abstract issues, at the personal.

In this scheme, the 'designer' is not assuming the role of expert but is adopting a more reciprocal role, receptive to the needs of the local population. The narrative approach becomes a means of putting both designer and reader into the situation, in such a way that the project can be better accessed on a humanitarian level. This counters the 'top-down' approach to architecture and urban planning that is so often superimposed on a community from the outside. Regeneration as a way of looking at the potential of an environment, goes beyond gentrification in that the health and well being of the immediate community, as well as the resilience of the landscape, becomes the major dialectic revealed by the argument.



# Table of Contents

	<b>Prologue</b>	The Narrative: Introduction	pg 13
	<b>One</b>	The People: Characters of the Narrative	pg 15
	<b>Two</b>	Marabastad: A Legacy of Utopias: Historical Context	pg 17
	<b>Three</b>	From Dystopia's Perspective: Current Context	pg 27
	<b>Four</b>	Networks of Support: Current Social Networks in Context	pg 29
	<b>Five</b>	Regenerative Development: Theoretical Approach to Architecture	pg 35
	<b>Six</b>	Heterotopia: Project Proposal	pg 45
	<b>Seven</b>	Designing for Heterotopia: Urban Context	pg 47
	<b>Eight</b>	The Re-integration of Place: Site Context & Analysis	pg 57
	<b>Nine</b>	The Re-integration of the People: Definition of Client & Approach to Treatment	pg 67
	<b>Ten</b>	The Re-integration of the People: Programme(s) Definition: Spatial & Quality	pg 75
	<b>Eleven</b>	Conceptualising Re-integration: Initial Conceptual Development	pg 91
	<b>Twelve</b>	Designing for Re-integration: Design Development	pg 105
	<b>Thirteen</b>	Realising Re-integration: Final Design & Technical Development	pg 145
	<b>Fourteen</b>	Re-integrated: Conclusion	pg 175
	<b>Epilogue</b>	The Narrative: Reflection	pg 201
	<b>Bibliography</b>	Figures and References	pg 203
	<b>Appendices</b>		pg 215

Daspoort Waste Treatment Plant

Site

Marabastad

Church Square



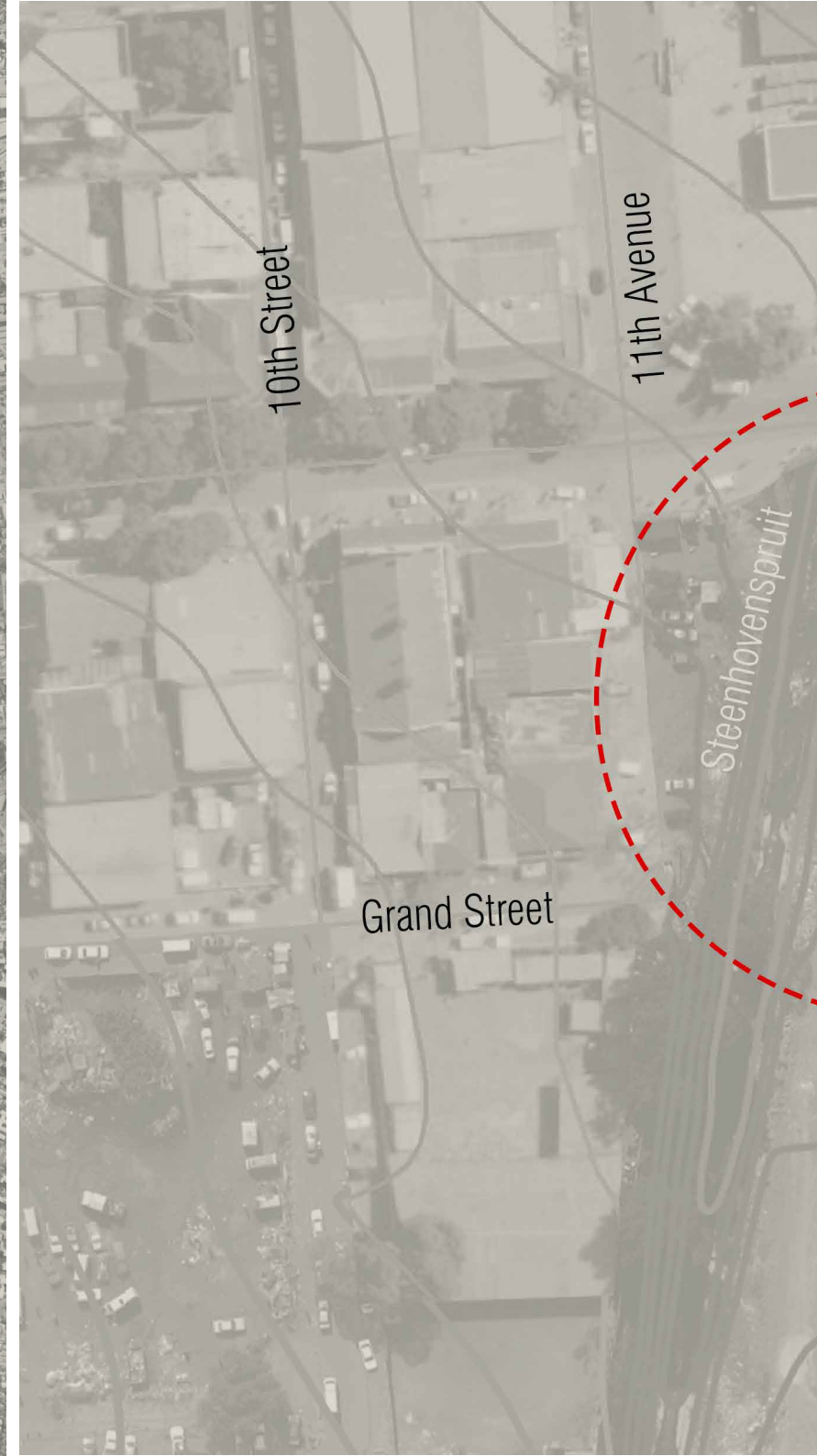
South Africa



Gauteng



Tshwane



10th Street

11th Avenue

Grand Street

Steenhovenspruit

# Prologue

## The Narrative

### Introduction

#### Inspiration:

The motivation for this dissertation came about because of the prevalence of drug addiction in our South African cities. This is a real world issue that affects the urban environment and the people living within it.

#### Approach:

This story takes place in one of the many deteriorating and abandoned spaces and buildings in Marabastad, in the City of Tshwane. Marabastad lies to the north-west of Pretoria's CBD<sup>1</sup>, in the province of Gauteng in South Africa<sup>2</sup>. It is the story of a neglected people living in a place, Marabastad, where transformation is needed to encourage a thriving system, which would provide a prospect and refuge for its people.

The setting is bounded by Boom Street to the north and Grand Street to the south (on either side of Steenhovenspruit)<sup>3</sup>. To the east there is a cluster of buildings that terminate on Kgosi Mapuru Street. To the west an historic fine-grain block contains the old Empire Theatre and other buildings, and is bounded by 10th Street.

The real world issue of drug addiction is of paramount importance and requires the adoption of a holistic approach. The role of Architecture in this dissertation is investigative in the light of a narrative of collaboration between health professionals, architects, shop owners, informal traders and the homeless community of Marabastad. The problem of drug rehabilitation, and a proposed facility, needs to be considered as part of a much larger community support network. This dissertation aims to provide a framework in which to speculate on a potentially regenerative architecture, through the introduction of a narrative with fictional characters living in Marabastad. This would allow for the unlocking of the social and environmental systems in terms of which the community of Marabastad must function.

Figure 1: (far left) Locality of Marabastad within the greater context of Tshwane, Gauteng, South Africa (Patrick: 2016)

Figure 2: (left) Locality of the site for the dissertation within the context of Marabastad (Patrick: 2016)

1 CBD: Central Business District

2 See Figure 1

3 See Figure 2



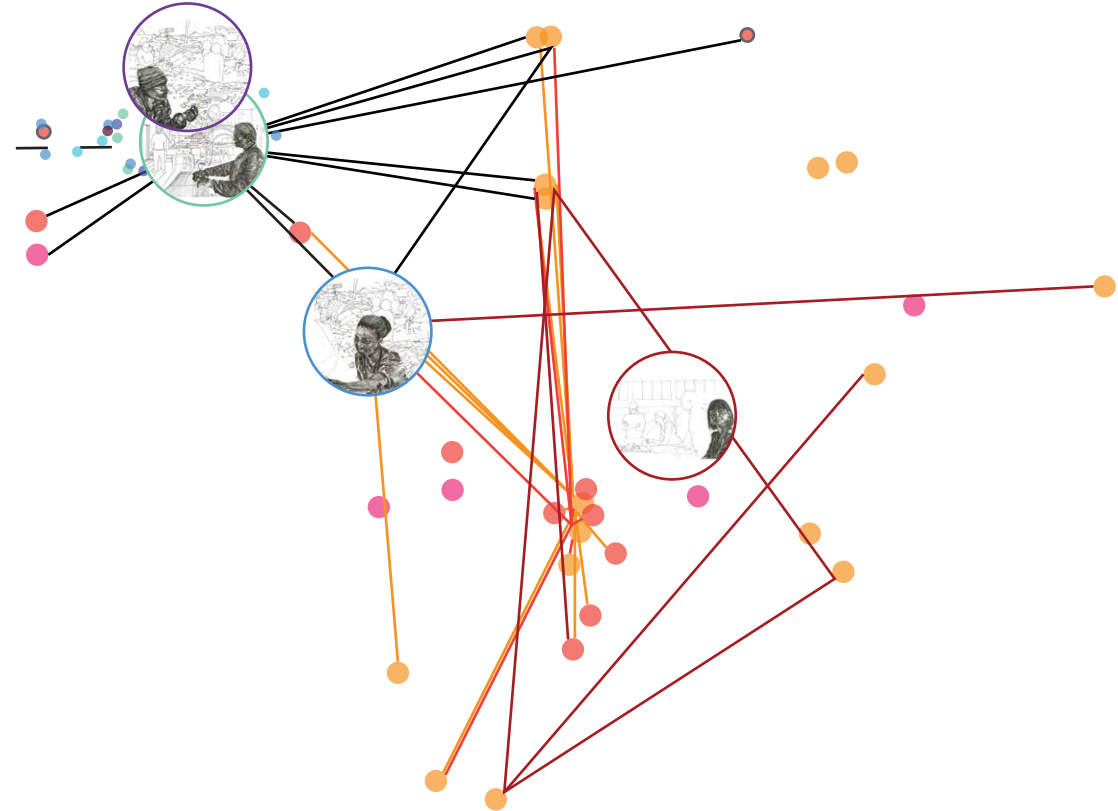
Current Dystopia  
**Katlego**

- Born 1987
- Unemployed
- Dwells in the deteriorated spaces of Marabastad
- Came to Gauteng in search of better work opportunities from a small town in the North-West



Knowledge of Past Utopias  
**Mr Pillay**

- Born 1949
- Shop owner of Pillay Upholsterers
- Resides in Laudium
- Lived with his family in the Asiatic Bazaar until the mid 1960s



# One The People

## Characters of the Narrative



Social Support Networks  
**Dr Radebe**

- Born 1983
- Doctor at Sediba Hope Clinic
- Resides in Sunnyside
- Lived in Mamelodi before she moved closer to work



Regenerative Architect  
**Janeke**

- Born 1971
- Regenerative Architect at a firm in Pretoria
- Lives in Sunnyside
- Lived close to her family in Garsfontein, a suburb of Pretoria East, before moving closer to work

Welcome to Marabastad. The year is 2016 and we are about to meet Katlego, Mr. Pillay, Dr. Radebe and Janeke. These characters are important figures in the social fabric of Marabastad and their lives are intricately connected<sup>1</sup>.

**Katlego** represents the current dystopia of Marabastad. Katlego is numb - he is despondent about the prospect of stepping out of homelessness.

**Mr Pillay** familiarises us with the historically and politically significant suburb of Marabastad as he relays his knowledge of the past utopias (as he calls them) to his son and other characters. Mr. Pillay is deeply concerned for the future of the homeless people of Marabastad, as well as the future of his business.

Having grown up in Marabastad until the mid 1960s, Mr. Pillay is full of stories about Marabastad. Although he no longer lives in Marabastad, he has always worked in the shop that he now owns - Pillay Upholsterers.

**Dr Radebe** is part of a social support network in the City of Tshwane that caters to the needs of the homeless and vulnerable. Dr. Radebe is overwhelmed - she does not feel that their efforts will be enough to help the homeless people towards success.

**Janeke** facilitates the process of the re-integration of the people and the place of Marabastad through her regenerative approach to architecture.

Figure 3: (spread left to right) Characters of the narrative and their place in the greater network of support (Patrick: 2016)



# Two

## Marabastad: A Legacy of Utopias

### Historical Context



Mr Pillay<sup>1</sup> is looking out of an east-facing window of his upholstery business, 'Pillay Upholsterers', while he wipes the sawdust from a surface. Business is slow, as usual. A row of taxis is parked along Steenhovenspruit<sup>2</sup>. The buzz of a razor under the shaded gazebo, tells of the barber's work. Boom Street is busy. The river flows under a bridge here, cutting a gash in the landscape that separates the buildings to the east and to the west, including Pillay's shop. The concrete walls of the channel are heaped with brightly coloured litter which falls from the banks and into the river. Between the heaps of rubbish vegetation grows, in quest of water.

From the window he is looking across the river to an open space on the far side, which is filled with heaps of partially burnt rubbish. Between the heaps, small groups of people are sitting on bare mattresses or discarded cardboard boxes. Black smoke lingers over them. Mielies are cooking over open fires in drums, along the high walls of a chicken factory, to be sold elsewhere. Other fires are burning litter or merely providing warmth to huddled groups of people.

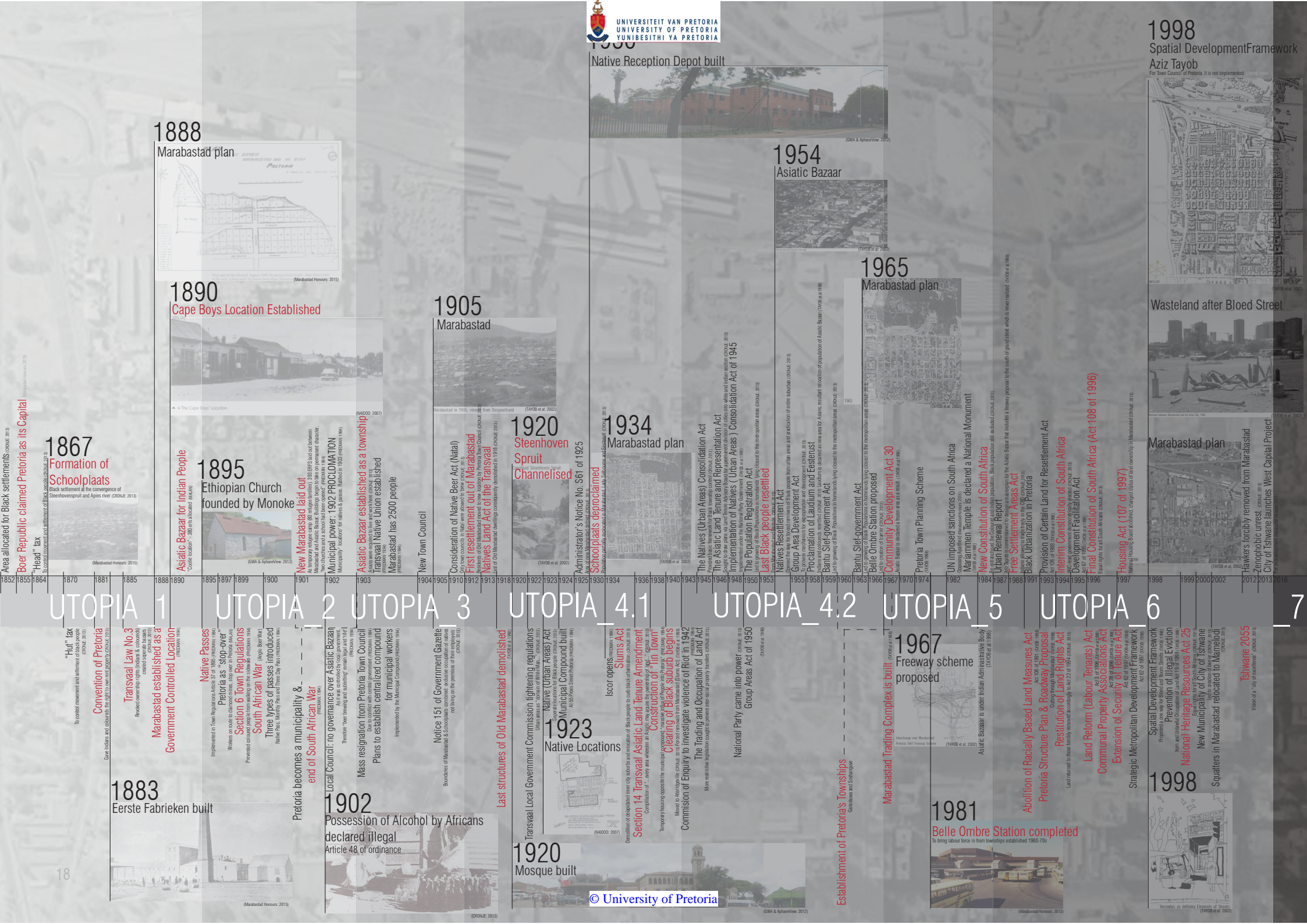
It is lunchtime. Mr Pillay closes the shop and decides to take his son for a walk. He asks his son if he can remember the story of how Marabastad came about - the one he had told him the other day. His son proudly rattles off the story from memory.

*Pretoria was declared the capital of the "Boer Republic" in 1860 and black labourers flooded into the city in search of work<sup>3</sup> - and that is why you called this period "A Promised Land for Migrant Labour"<sup>4</sup>, bapu<sup>5</sup>. They settled on the eastern banks of Steenhovenspruit. A few years later this was established as "Schoolplaats"<sup>6</sup> and the Evangelical Lutheran Mission Station provided schooling, housing and land for the people. The Marabi*

- 1 See Figure 5
- 2 "Steenhovenspruit" is the name of a river that flows through Marabastad and joins up with the Apies River further north
- 3 Honours Marabastad, (research from the Honours group of 2015) (University of Pretoria: 2015)
- 4 Utopia 1 [1852-1895]  
Mr. Pillay believes that Marabastad is a result of various utopias - impractical schemes for social improvement (definition according to Merriam Webster, (<http://www.merriam-webster.com/dictionary/utopia>: 2016). This belief was adopted from the Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)  
See Figure 4  
See Timeline with Utopias: Figure 6
- 5 "Bapu" is the word for father in the Gujarati dialect (Indian) according to Wikibooks ([https://en.wikibooks.org/wiki/Gujarati/Family\\_relations](https://en.wikibooks.org/wiki/Gujarati/Family_relations))
- 6 "Schoolplaats" was a settlement that was established in 1867, according to Honours Marabastad, (research from the Honours group of 2015) (University of Pretoria: 2015)

Figure 4: (left) Graphic used from the Urban Vision Book - *Marabastad: A Legacy of Utopias* (Nicha,S., Hough, D. & Patrick, N. : 2016)

Figure 5: (above) Mr Pillay's perspective of events is narrated in this chapter - highlighted within the greater network (Patrick: 2016)



**1888**  
Marabastad plan

(Marabastad Honors: 2015)

**1890**  
Cape Boys Location Established

(NAIDOO: 2007)

**1867**  
Formation of Schoolplaats

Black settlement at the convergence of Steenhovenspruit and Agies River (OROLE: 2013)

**1895**  
Ethiopian Church founded by Monoke

(GWA & AghareView: 2012)

**1895**  
New Marabastad laid out

356 EFFS laid out between Marabastad and the city center (OROLE: 2013)

**1902**  
Municipal power, 1902 PROCLAMATION

Municipality 'located' for mines & maize. Rerouted in 1903 (REZMAN: 1994)

**1905**  
Asiatic Bazaar established as a township

Transvaal Native Union established

Marabastad has 2500 people (REZMAN: 1994)

**1905**  
New Town Council

**1905**  
Marabastad

(TAJOB et al.: 2002)

**1920**  
Steenhoven Spruit Channelised

Administrator's Notice No. 561 of 1925

**1934**  
Marabastad plan

(TAJOB et al.: 2002)

**1920**  
Schoolplaats deproclaimed

Administrators' Notice No. 561 of 1925

**1934**  
The Natives (Urban Areas) Consolidation Act

The Asiatic Land Tenure and Representation Act

Implementation of Natives (Urban Areas) Consolidation Act of 1945

The Population Registration Act

Last Black people resettled

Natives Resettlement Act

Group Area Development Act

Proclamation of Laudium and Easengust

Bantu Self Government Act

Bantu Self Government Act

Belle Ombre Station proposed

Community Development Act 30

Pretoria Town Planning Scheme

UN imposed sanctions on South Africa

Mariarmmen Temple is declared a National Monument

New Constitution of South Africa

Urban Renewal

Free Settlement Areas Act

Black Urbanization in Pretoria

Provision of Certain Land for Resettlement Act

Interim Constitution of South Africa

Development Facilitation Act

Final Constitution of South Africa (Act 108 of 1996)

Housing Act (107 of 1997)

Marabastad Board abolished, changed status of land ownership in Marabastad (OROLE: 2013)

**1954**  
Asiatic Bazaar

(GWA & AghareView: 2012)

**1965**  
Marabastad plan

(TAJOB et al.: 2002)

**1965**  
Marabastad plan

(TAJOB et al.: 2002)

**1967**  
Freeway scheme proposed

(TAJOB et al.: 2002)

**1967**  
Marabastad Trading Complex is built

(TAJOB et al.: 2002)

**1967**  
Abolition of Racially Based Land Measures Act

Pretoria Structure Plan & Roadway Proposal

Restitution of Land Rights Act

Land Reform (Labour Tenants) Act

Communal Property Associations Act

Extension of Security of Tenure Act

Strategic Metropolitan Development Framework

Spatial Development Framework

Prevention of Illegal Eviction from and Unlawful Occupation of Land Act 1998

National Heritage Resources Act 25

New Municipality of City of Tshwane

Squatters in Marabastad relocated to Mamelodi

**1981**  
Belle Ombre Station completed

To bring labour force in from townships established 1960-70s

(Marabastad Honors: 2015)

**1981**  
Tshwane 2055

Vision of the City of Tshwane (OROLE: 2013)

**1981**  
Belle Ombre Station completed

(Marabastad Honors: 2015)

**1998**  
Spatial Development Framework

Prevention of Illegal Eviction from and Unlawful Occupation of Land Act 1998

National Heritage Resources Act 25

New Municipality of City of Tshwane

Squatters in Marabastad relocated to Mamelodi

(OROLE: 2013)

**1998**  
Spatial Development Framework

(TAJOB et al.: 2002)

**1998**  
Wasteland after Bloed Street

(TAJOB et al.: 2002)

**1998**  
Marabastad plan

(TAJOB et al.: 2002)

Hawkers forcibly removed from Marabastad

Zenophobic unrest

City of Tshwane launches West Capital Project

(TAJOB et al.: 2002)

UTOPIA 1

UTOPIA 2

UTOPIA 3

UTOPIA 4.1

UTOPIA 4.2

UTOPIA 5

UTOPIA 6

UTOPIA 7

"hut" tax  
To control movement and settlement of black people (OROLE: 1915)

**Convention of Pretoria**  
Gave Indians and coloureds the right to own land property (OROLE: 1921)

**Transvaal Law No. 3**  
Repealed laws that gave Indians & coloureds created separate business districts (OROLE: 1915)

**Marabastad established as a Government Controlled Location**  
(REZMAN: 1994)

**Native Passes**  
Implemented in Town Regulations Act 3 of 1885 (REZMAN: 1994)

Pretoria as "stop-over"  
Worked on roads to planned cities, stop over in Pretoria (MAYAN)

**Section 6 Town Regulations**  
Prevented coloured people from walking on the sidewalks (REZMAN: 1994)

**South African War**  
Anglo Boer War

Three types of passes introduced  
Native Pass, Mofchet Pass and Free Day Pass (REZMAN: 1994)

**Pretoria becomes a municipality & end of South African War**  
(REZMAN: 1994)

**Local Council: no governance over Asiatic Bazaar**  
As it was controlled by the government (REZMAN: 1994)

Thanks for bringing the Asiatic Bazaar to Pretoria (REZMAN: 1994)

**Mass resignation from Pretoria Town Council**  
Due to conflict with central government (REZMAN: 1994)

Plans to establish centralized compound for municipal workers  
Implemented by the Municipal Compound (REZMAN: 1994)

**Notice 151 of Government Gazette**  
Boundaries of Marabastad & Schooneburg, combined, separate occupation of separate land (OROLE: 2013)

**Last structures of Old Marabastad demolished**  
(OROLE: 2013)

**Transvaal Local Government Commission tightening regulations**  
(MAYAN: 2013)

**Native (Urban Areas) Act**  
(MAYAN: 2013)

**Section 14 Transvaal Asiatic Land tenure Amendment**  
Compulsory of... every area within... (OROLE: 2013)

**Construction of 'tin town'**  
Temporary housing opposite the market (OROLE: 2013)

**Clearing of Black suburb begins**  
Moved to Mamelodi (OROLE: 2013)

**Commission of Enquiry to investigate violence of Riot in 1942**  
The Trading and Occupation of Land Act  
More restrictive legislation could be passed to control racial property transfers (OROLE: 2013)

**National Party came into power**  
Group Areas Act of 1950  
(OROLE: 1950)

**Iscor opens Slums Act**  
(REZMAN: 1994)

**Freeway scheme proposed**  
(OROLE: 1967)

**Marabastad Trading Complex is built**  
(OROLE: 1967)

**Abolition of Racially Based Land Measures Act**  
(OROLE: 1967)

**Pretoria Structure Plan & Roadway Proposal**  
(OROLE: 1967)

**Restitution of Land Rights Act**  
(OROLE: 1967)

**Land Reform (Labour Tenants) Act**  
(OROLE: 1967)

**Communal Property Associations Act**  
(OROLE: 1967)

**Extension of Security of Tenure Act**  
(OROLE: 1967)

**Strategic Metropolitan Development Framework**  
(OROLE: 1967)

**Spatial Development Framework**  
(OROLE: 1967)

**Prevention of Illegal Eviction from and Unlawful Occupation of Land Act 1998**  
(OROLE: 1967)

**National Heritage Resources Act 25**  
(OROLE: 1967)

**New Municipality of City of Tshwane**  
(OROLE: 1967)

**Squatters in Marabastad relocated to Mamelodi**  
(OROLE: 1967)

**Tshwane 2055**  
(OROLE: 1967)

**1883**  
Eerste Fabrieken built

(Marabastad Honors: 2015)

**1902**  
Possession of Alcohol by Africans declared illegal

Article 48 of ordinance

(OROLE: 2013)

**1920**  
Mosque built

(GWA & AghareView: 2012)

**1920**  
Mosque built

(GWA & AghareView: 2012)

**1923**  
Native Locations

(NAIDOO: 2007)

**1923**  
Native Locations

(NAIDOO: 2007)

**1967**  
Freeway scheme proposed

(TAJOB et al.: 2002)

**1967**  
Freeway scheme proposed

(TAJOB et al.: 2002)

**1967**  
Freeway scheme proposed

(TAJOB et al.: 2002)

**1883**  
Eerste Fabrieken built

(Marabastad Honors: 2015)

**1902**  
Possession of Alcohol by Africans declared illegal

Article 48 of ordinance

(OROLE: 2013)

**1920**  
Mosque built

(GWA & AghareView: 2012)

**1923**  
Native Locations

(NAIDOO: 2007)

**1923**  
Native Locations

(NAIDOO: 2007)

**1967**  
Freeway scheme proposed

(TAJOB et al.: 2002)

**1967**  
Freeway scheme proposed

(TAJOB et al.: 2002)

**1967**  
Freeway scheme proposed

(TAJOB et al.: 2002)

*Kraal* on the western banks of the river provided housing for an overflow of people from Schoolplaats. It was declared an informal settlement in the 1870s.

Mr Pillay looks on admiringly as his son finishes the story. They walk past the barber, and cross Boom Street, and then alongside the informal trade stalls on 11<sup>th</sup> Avenue, which line the fence at the substation. There is a pleasant smell of home-cooked chicken from an informal restaurant. Old buildings across the street, house the herbalist, a dentist and formal retail near the Belle Ombre Station. Around the corner, there is a foul odour of coming from the meat market. They can see it set up, nestling in a niche provided by the fenced-off substation. They continue towards the Belle Ombre Station, the smell of partially burnt litter is pervasive. Once inside the station, Mr Pillay guides his son to where they overlook the substation and the greater Marabastad suburb behind it. Leaning against the rough wall, he tells a story.

*So, you were talking about Marabi Kraal - just now at the shop - shall I tell you more about it? His son listens intently. This story is called "influx and opportunity"<sup>8</sup>. Marabi Kraal was established as "Marabastad" in 1888<sup>9</sup> and in the decades that followed much development occurred that influenced the residents' lives. In 1893, three hundred and eighty stands were set out for an Indian location, south of Marabastad, and a New Marabastad mediated between the two locations, with a temporary refugee camp<sup>10</sup>.*

Looking outward from the station, father and son take in the imposing scale of the buildings, and they can see their shop in between a clothing retail store on the Boom Street corner and an auto-body workshop on the Grand Street corner. The row of fenced-in buildings faces Steenhovenspruit. On the opposite side of the block, the Empire Theatre on Boom Street is severely degraded, and there is a restaurant on the Grand Street corner. A number of clothing stores spill from the Empire Theatre onto 10<sup>th</sup> Avenue. Mr Pillay has another story.

*This story is called "Permanency and Expression"<sup>11</sup>. There was a change in municipal authority at the time and Marabastad, the Asiatic Bazaar and the Cape Boy's Location were formally zoned as non-white townships<sup>12</sup>. The Indian settlers, in the Asiatic Bazaar, were allowed more freedom than the other non-white settlers. This created a social barrier between us. The black residents in Marabastad were not allowed alcohol, however, both the coloured and black residents had a strong culture of brewing beer in the home for extra income<sup>13</sup>. Beer containers that were not hidden away in holes in the ground<sup>14</sup>, were destroyed by the police. We were allowed to express our culture through the Aga Kahn Mosque (the white mosque) and the Mariammen Temple, which is the tall colourful structure that we can see over there (Mr Pillay points towards the shrine of the temple). However, cinema was enjoyed by all residents, in the early days of silent movies<sup>15</sup>, up until the time that the*

7 "Kraal" is a traditional African village of huts that is typically enclosed by a fence, according to Oxford Dictionaries (<http://www.oxforddictionaries.com/definition/english/kraal>: 2016)

8 Utopia 2 [1895-1903] adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016) See Timeline with Utopias: Figure 6

9 Honours Marabastad, (research from the Honours group of 2015) (University of Pretoria: 2015)

10 Friedman, M, *A History of Africans in Pretoria with Special Reference to Marabastad: 1902-1923* (Masters Dissertation, University of South Africa: 1994)

11 Utopia 3 [1903-1912] adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016) See Timeline with Utopias: Figure 6

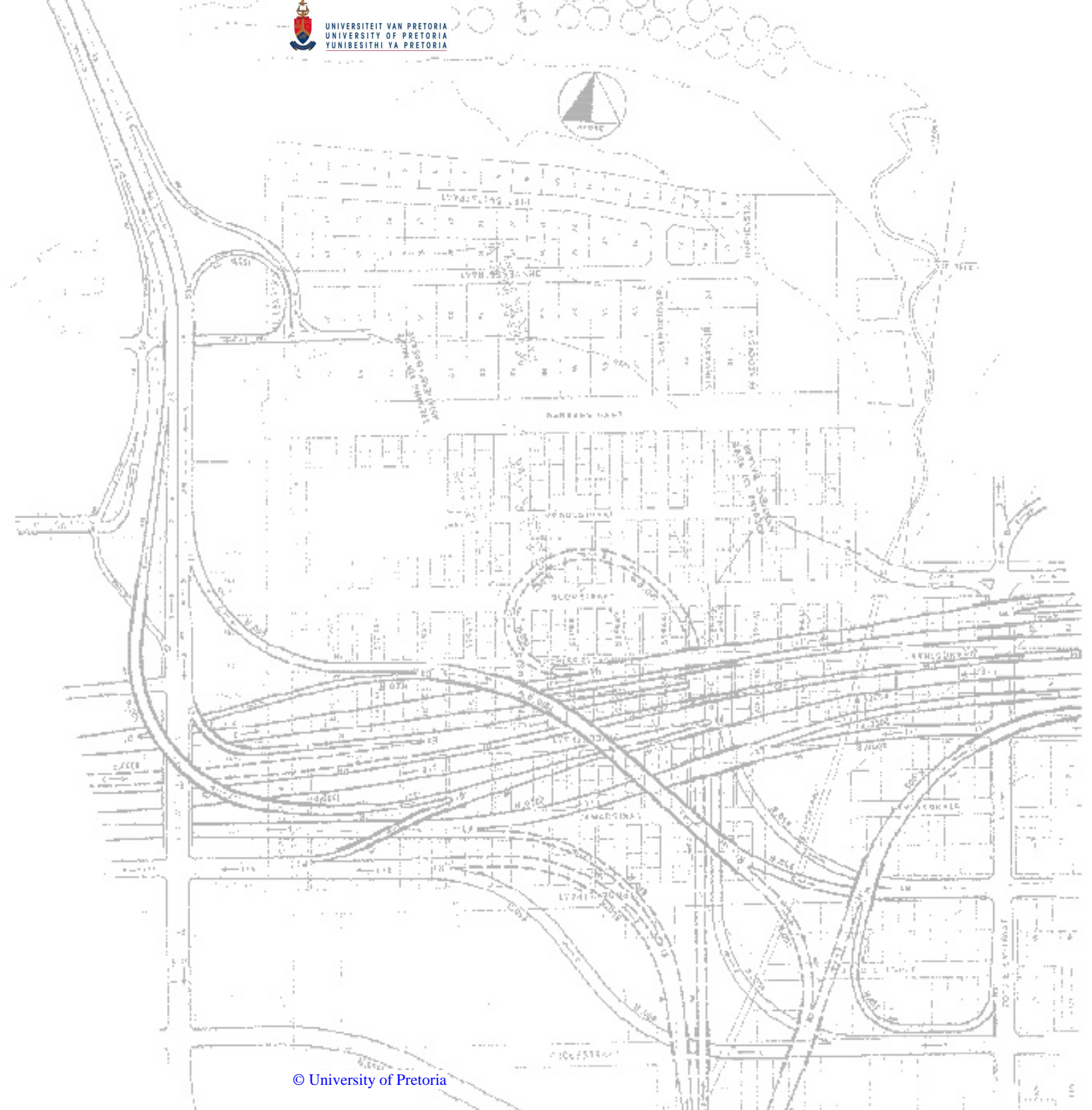
12 Cronje, M.L, *A Brewery in Marabastad* (Masters Dissertation, University of Pretoria: 2013)

13 Mphahlele, E, *Down Second Avenue* (Great Britain: Whitstable Litho Ltd., Whistable, Kent: 1959)

14 Mphahlele, E, *Down Second Avenue* (Great Britain: Whitstable Litho Ltd., Whistable, Kent: 1959), 43

15 Mphahlele, E, *Down Second Avenue* (Great Britain: Whitstable Litho Ltd., Whistable, Kent: 1959), 50

Figure 6: (left) Timeline of the historic development of Marabastad, according to the Utopias that are explained in the Urban Vision Book - *Marabastad: A Legacy of Utopias* (Nicha,S., Hough, D. & Patrick, N. : 2016)



*Star Picture Palace was re-christened as the Empire Theatre<sup>16</sup>.*

*Our next story is called "Control"<sup>17</sup> and tells of a period of great strife<sup>18</sup>. All Old Marabastad dwellings were demolished by 1918<sup>19</sup>. By 1950, we were relocated from the Asiatic Bazaar to Laudium, whereas the residents of Marabastad were relocated to Atteridgeville and Saulsville, and the Cape Boy's Location was moved to Eersterust. This was all because of the Native Land's Act of 1913<sup>20</sup> where people were forcibly removed from their homes. So this story becomes one of "Control and Segregation"<sup>21</sup>. The Daspoort Sewerage Treatment Plant was built just behind where we are now (he points behind the Belle Ombre railway line)<sup>22</sup>. This created a barrier to the north.*

They turn to face the other small blocks, along the colourful Boom Street, which are similar in character to their block. Mr Pillay mentions the contrast between these blocks, with their harsh, blackened surfaces, and the larger vacant blocks further south.

*This story is called "Changing Character"<sup>23</sup> because there was a freeway scheme<sup>24</sup> that was intended to cover Marabastad<sup>25</sup> - as if it were not there! The planned development of the freeway scheme froze all future projects within the Asiatic Bazaar<sup>26</sup>, but the Trading Complex (where your uncle's shop is) and the Goede Hoop complex<sup>27</sup> (those tall buildings closer to town there), were built. Luckily, the freeway scheme was not completed, but you can still see where they began building - you can see the curve on Bloed Street and the fast one-way traffic that cuts us off from the southern blocks. There is also E'skia Mpahlele Drive<sup>28</sup> that goes past the old Native Reception Depot<sup>29</sup> down there. In 1981 this station, Belle Ombre, was built over the river*

- 16 Mphahlele, E, *Down Second Avenue* (Great Britain: Whitstable Litho Ltd., Whitstable, Kent: 1959), 140
- 17 Utopia 4 [1912-1943] adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)  
See Timeline with Utopias: Figure 6, pg 12
- 18 To elaborate on this strife:  
The Slums Act of 1934 declared Schoolplaats a slum and therefore had to be demolished and the black residents were relocated, according to Cronje, M.L, *A Brewery in Marabastad* (Masters Dissertation, University of Pretoria: 2013)  
In line with the Native Land Act, the Native Reception Depot was built (1930) in the area that would become "Tin Town" (1938), according to Friedman, M, *A History of Africans in Pretoria with Special Reference to Marabastad: 1902-1923* (Masters Dissertation, University of South Africa: 1994)
- 19 As a result of the Native (Urban Areas) Consolidation Act implemented from 1945-1954, according to Tayob, A., & Pienaar & Tayob, *Integrated Urban Design Framework: Marabastad Executive Summary* (Aziz Tayob Architects, Pretoria: 2002)
- 20 Cronje, M.L, *A Brewery in Marabastad* (Masters Dissertation, University of Pretoria: 2013)
- 21 Utopia 5 [1943-1967] adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016).  
See Timeline with Utopias: Figure 6
- 22 In 1912, according to Cronje, M.L, *A Brewery in Marabastad* (Masters Dissertation, University of Pretoria: 2013)
- 23 Utopia 6 [1967-1987] adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016).  
See Timeline with Utopias: Figure 6
- 24 Proposed in 1967, according to Tayob, A., & Pienaar & Tayob, *Integrated Urban Design Framework: Marabastad Executive Summary* (Aziz Tayob Architects, Pretoria: 2002)  
See Figure 7
- 25 Honours Marabastad, (research from the Honours group of 2015) (University of Pretoria: 2015)
- 26 Tayob, A., & Pienaar & Tayob, *Integrated Urban Design Framework: Marabastad Executive Summary* (Aziz Tayob Architects, Pretoria: 2002)
- 27 Phase one, according to Tayob, A., & Pienaar & Tayob, *Integrated Urban Design Framework: Marabastad Executive Summary* (Aziz Tayob Architects, Pretoria: 2002)
- 28 "E'skia Mpahlele Drive" was known before as DF Malan Drive
- 29 Built in 1930, according to GWA Studio, *Aphane View & Urban Heritage Group, Precinct 2: Capital West Block 09-35* (Heritage Value Mapping) (Pretoria: 2012)

Figure 7: (left) The freeway scheme that was planned to cover Marabastad (Tayob et. al: 2002)



*that was channelised in 1920<sup>30</sup>. The Belle Ombre Plaza was also built then. If you look at all of these buildings, you can see that they do not fit in with the other buildings in Marabastad – but were built as barriers to cut us off from the rest of Pretoria – so they were not trying to fit in.*

They look again at the contrasting blocks between them and the south. The brick-paved Jazz Park sits snugly between these contrasting blocks – right on the curve of Bloed Street. Clusters of green foliage push up the green paving and there is an abandoned playground on the one side. Across the busy Bloed Street, are the burnt, blackened surfaces of vacant lots. “It’s no wonder that they no longer use the park!”, he says to his son. He goes on to mention that Jazz was a significant part of the cultural history of Marabastad.

*Jazz Park fits into the story of “Stagnation and Perseverance”<sup>31</sup>. It was a project that attempted to break down the barriers created by the previous utopias of Marabastad. From up here we can see how physically and ecologically degraded Marabastad has become, as the neglected vacant land has become a wasteland . People do not feel welcome, safe or comfortable staying in Marabastad. That is why it is such a transitory space – it is abuzz during the day (when we are here) and then dead at night (except for the few who dwell here). The trading activities along Boom Street create a positive concentration of energy during the day (he points in this direction). Informal traders ply their trade along Boom Street, feeding mainly off the pedestrian energy from the city, taxi’s or the station. This positive energy forms the true gateway to Marabastad and it continues into the colonnaded public walkways of the old buildings. I remember resting against the shop walls, in the shade of the veranda, where one could see the whole world passing by<sup>32</sup>. The formal retail spills out onto these walkways and mixes with the informal trade, which is right on the street edge.*

They hurry back to the store, because Mr Pillay has lost track of the time.

~

Figure 8: (photo spread to the left) A description of the photos from left to right: Jazz Park’s street edge at the intersection of Bloed Street and 7<sup>th</sup> Avenue [image source: (Marianne de Klerk: 2015)], street furniture on entering Jazz Park at this intersection [image source: (Marianne de Klerk: 2015)], the Boom Street interface facilitate informal trade under the verandas of the shops [image source: (Jeandri Scholtz: 2015)], the use of the verandas as a gathering space in front of the shops on Boom Street [image source: (Jeandri Scholtz: 2015)]

- 
- 30 Cronje, M.L., *A Brewery in Marabastad* (Masters Dissertation, University of Pretoria: 2013)
  - 31 *Utopia 7 [1987-2016]* adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)  
See Timeline with Utopias: Figure 6, pg 12
  - 32 Mphahlele, E, *Down Second Avenue* (Great Britain: Whitstable Litho Ltd., Whitstable, Kent: 1959),111



One day in February 2016, Mr Pillay is looking out of the shop window and notices people who have come to visit the “no-man’s-land” across the river. Curious, as he has noticed them on a number of occasions, he leaves the shop and approaches them. It appears that Dr Radebe and her colleague are working in the community and that they provide medical care for homeless people at the Sediba Hope Clinic on Bosman Street. They visit Grand Street and the Struben Street Shelters on a bi-weekly basis and provide free health support on the streets of Marabastad.

Standing in the middle of the so-called “no-man’s-land”, Mr Pillay finds that he is no longer threatened by this environment. The people are comfortable with Dr Radebe and her colleague, and by extension Mr Pillay. He sees a baby sitting on her mother’s lap while two toddlers run back and forth around a small group of people. A blind man sits quietly, enjoying the sounds of all the activity. His hand rests on another man’s shoulder.

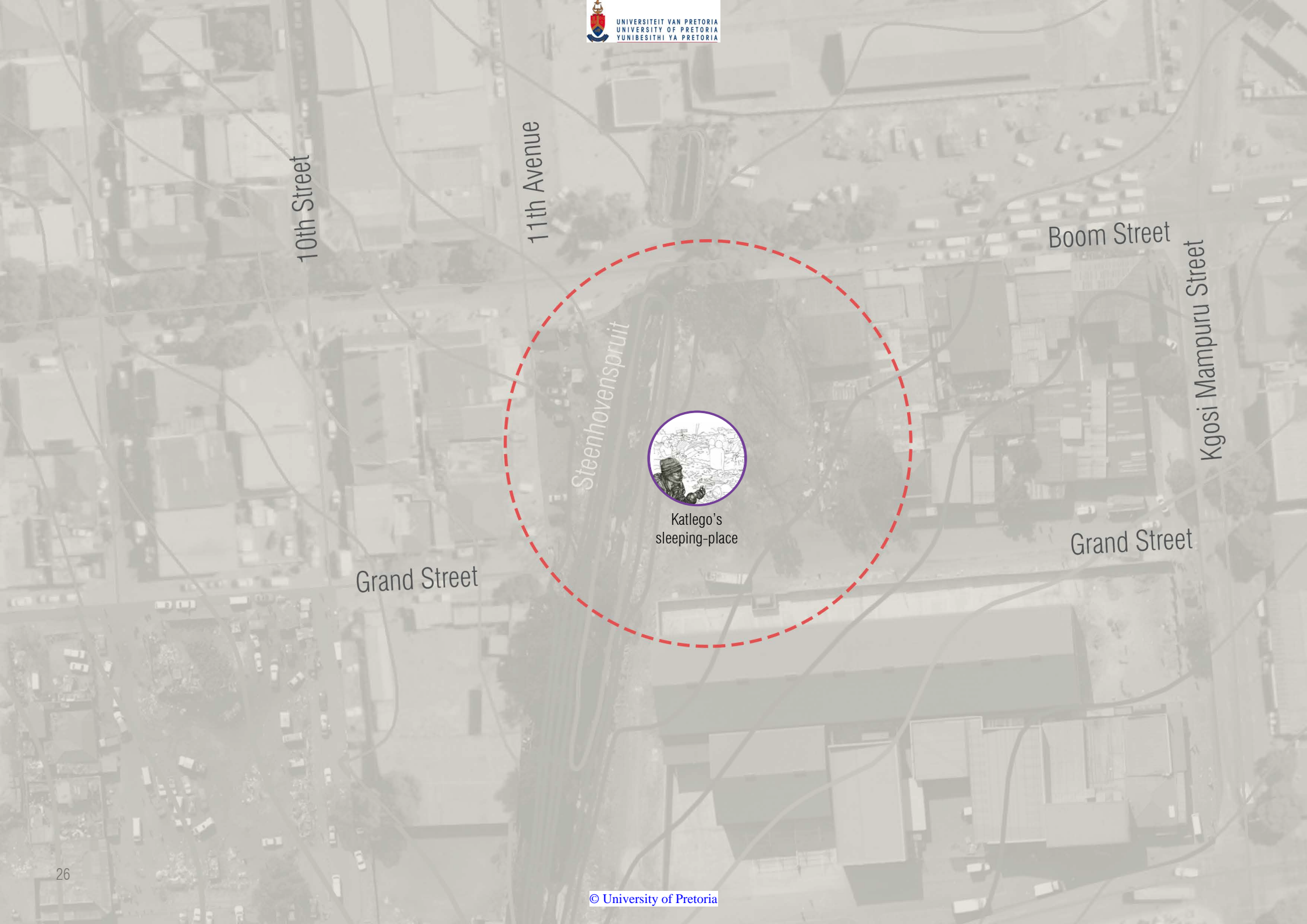
There is bustling activity along the water channel. In the channel, the flow of water is hindered as there are many cracks and breaks in the concrete. In the distance, someone appears to be washing themselves in the channel, while another relieves himself against the wall of the channel. Feeling uncomfortable, Mr Pillay looks up to see that Dr Radebe has moved, and is standing behind a pall of smoke from the mielie drums. Walking towards her, his eyes fall on a couple of men lighting up some nyaope<sup>33</sup> and he recognises one of them - Katlego. He had come to the shop searching for employment a couple of months ago - he had such potential then. Katlego looks right through him and Mr Pillay slips quietly away. On this side of Grand Street a bakkie stands, piled high with mielies. A man is sorting through them and passing them to another person who is organising them into the metal drums. Dr Radebe passes him now; a couple of people follow her to her car. Here she provides health support from a medical bag in the boot. A table filled with bread and juice stands under the dilapidated veranda of an old building. Further up the street a recycling trolley disappears into the buildings. He wanders closer and finds an ad hoc storage area for recycled goods.

~

Having befriended Dr Radebe, Mr Pillay chats with her regularly during her bi-weekly visits. The two exchange knowledge - Mr Pillay tells her the stories of Marabastad’s history and Dr Radebe informs him of the rich network of support facilities that cater to the homeless and vulnerable. Mr Pillay sees an opportunity to plug into this network.

Figure 9: (photo spread to the left) The area that Mr Pillay refers to as “no-man’s-land”. A description of the photos from left to right: “no-man’s-land” across Boom Street, with the Chicken Warehouse in the background [image source: (Sandeep Nicha: 2016)]; Steenhovenspruit just before it flows under Boom Street [image source: (Jeandri Scholtz: 2015)]; retail spills out of the old Empire Theatre onto the public walkways and Boom Street [image source: (Jeandri Scholtz: 2015)].

33 “Nyaope” is a drug that is traditionally a mix of heroin and dagga, but is also known to include rat poison, pool cleaner and antiretrovirals. It is most commonly smoked and it provides an initial immediate high, but individual tolerance increases - resulting in an increase in consumption in order to achieve the same high. The resultant cost increase sees many users change to injecting - they can get the same high at a lower cost. This is according to Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 6



10th Street

11th Avenue

Boom Street

Kgosi Mampuru Street

Steenhovenspruit

Grand Street

Grand Street



Katlego's  
sleeping-place

# Three

## *From Dystopia's Perspective*

### *Current Context*

Katlego<sup>1</sup> recently arrived in Tshwane from the North-West and spends his days in the deteriorated spaces of Marabastad among other homeless and vulnerable people. He feels comfortable in these spaces because they are neglected, just like he feels.

He had come here in search of employment. He had searched for months to no avail eventually becoming despondent. Having no place to stay he was forced to find himself a space alongside the spruit, where other people were sleeping. He spent his days wandering the streets of Marabastad, still hoping to find a job. He discovered the vibrant Boom Street, appreciating the vivid colours of the racks of clothing and stacked food items for sale. The low buzz in the air was a mixture of conversations in the crowds of people, music booming from the cellphone shop behind him and the doof-doofing of passing taxis. There was a sound of exchange, buyers and sellers, with shuffling of notes, clinking of coins and rustling of packets. On the other side of the spruit, beyond the medical centre, the optician and the herbalist, there are fewer traders. Passing the dry-cleaner and the liquor store on Kgosi Mampuru Street, he turns the corner onto Grand Street and walks towards his sleeping-place alongside Steenhovenspruit<sup>2</sup>.

Today he sits with a friend as they light up some nyaope. The sounds of traffic and crackling fires slowly begin to soften. His meagre street earnings go up in the smoky haze that surrounds the group. His eyes drift from his friend, lying sombrely beside him, and to another hiding under a blanket in front of him as a brown-filled syringe is passed to him.

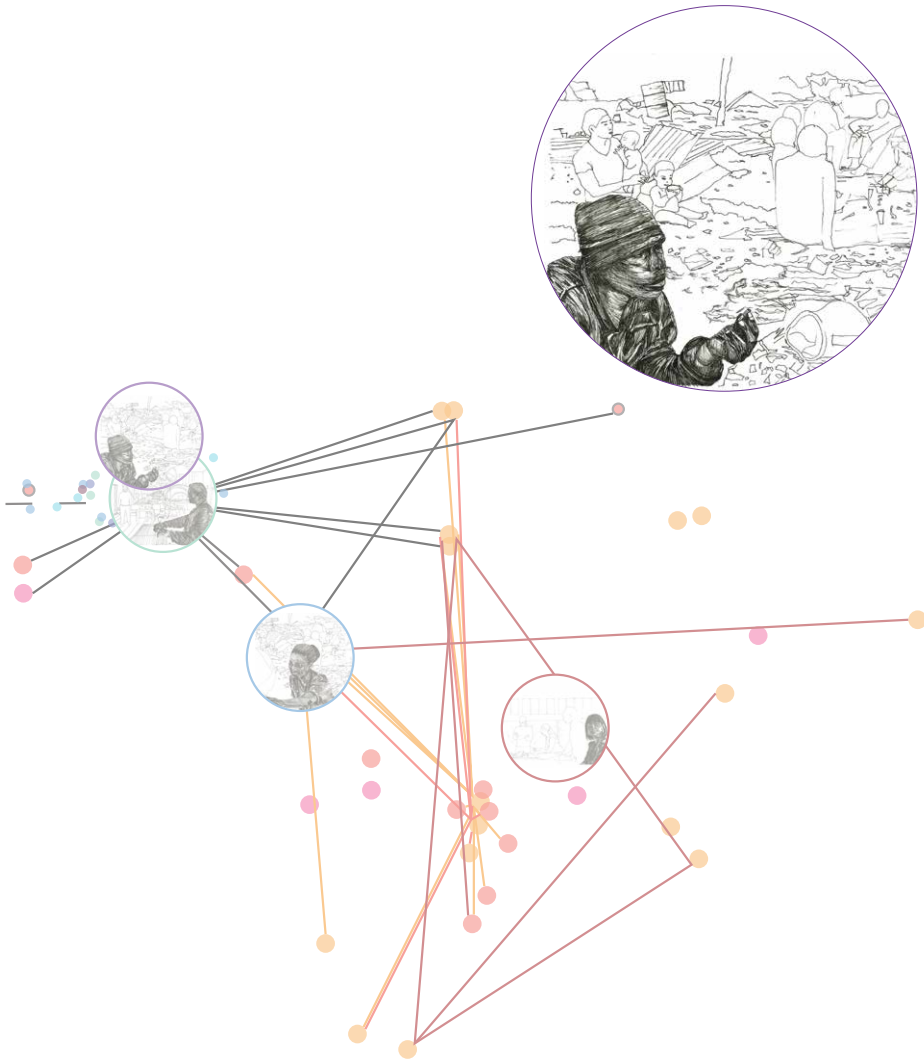
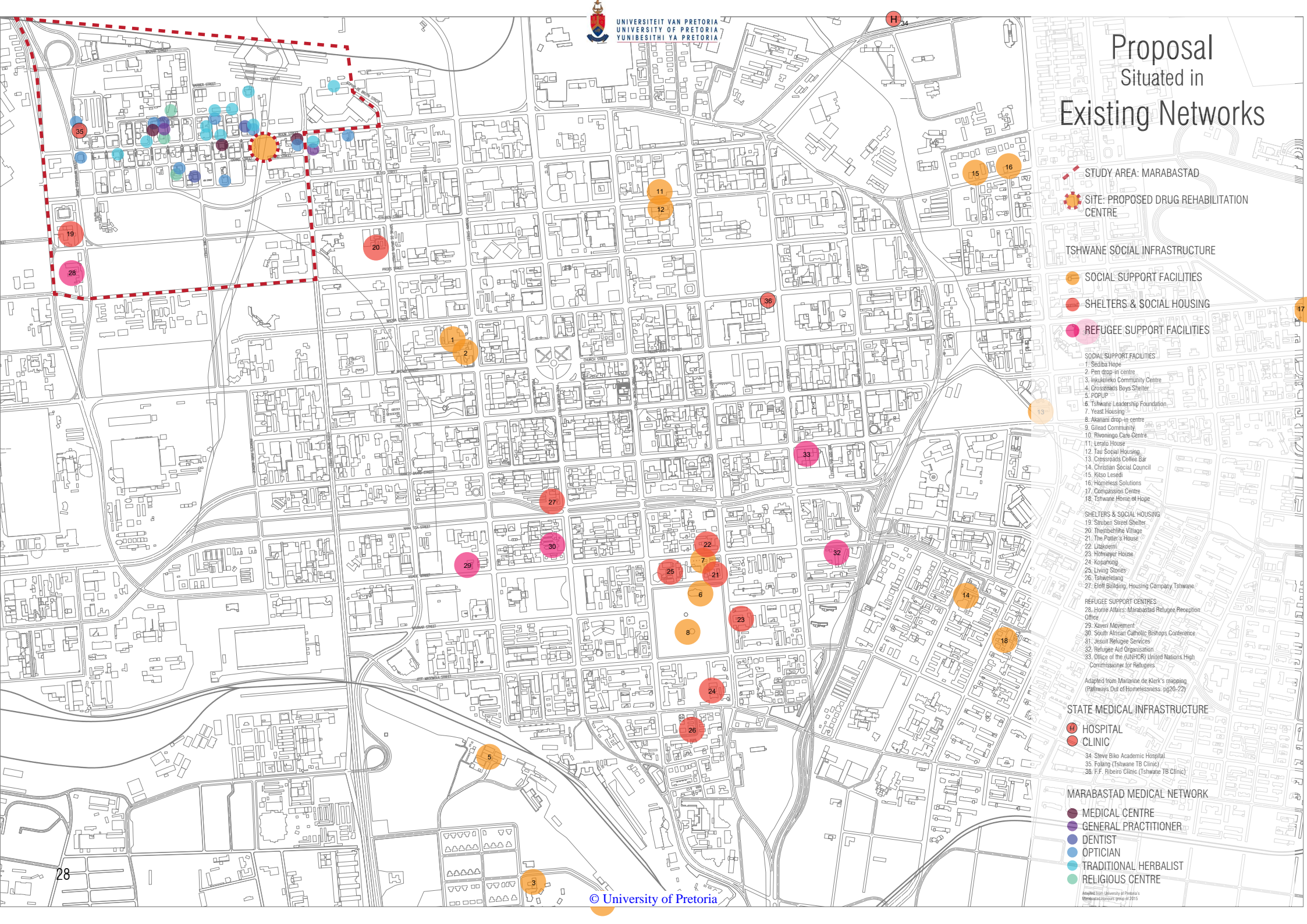


Figure 10: (left) Katlego's sleeping-place alongside the spruit, within the context of the study area (Patrick: 2016)

Figure 11: (above) Katlego's perspective of events is narrated in this chapter - highlighted within the greater network

1 See Figure 11  
2 See Figure 10

# Proposal Situated in Existing Networks



STUDY AREA: MARABASTAD  
SITE: PROPOSED DRUG REHABILITATION CENTRE

### TSHWANE SOCIAL INFRASTRUCTURE

- SOCIAL SUPPORT FACILITIES
- SHELTERS & SOCIAL HOUSING
- REFUGEE SUPPORT FACILITIES

### SOCIAL SUPPORT FACILITIES

1. Sediba Hope
2. Pen drop-in centre
3. Mkuhaleko Community Centre
4. Crossroads Boys Shelter
5. POPUP
6. Tshwane Leadership Foundation
7. Yeast Housing
8. Akanani drop-in centre
9. Gilead Community
10. Riwonango Care Centre
11. Lerato House
12. Tai Social Housing
13. Crossroads Coffee Bar
14. Christian Social Council
15. Kiso Lesedi
16. Homeless Solutions
17. Compassion Centre
18. Tshwane Home of Hope

### SHELTERS & SOCIAL HOUSING

19. Struben Street Shelter
20. Thembehle Village
21. The Potter's House
22. Dlakweni
23. Ntshona House
24. Kopsang
25. Living Stones
26. Tshwetlang
27. Eloff Building, Housing Company Tshwane

### REFUGEE SUPPORT CENTRES

28. Home Affairs: Marabastad Refugee Reception Office
29. Xaveri Movement
30. South African Catholic Bishops Conference
31. Jesuit Refugee Services
32. Refugee Aid Organisation
33. Office of the (UNHCR) United Nations High Commissioner for Refugees

Adapted from: Marianne de Klerk's mapping (Pathways Out of Homelessness: pg20-22)

### STATE MEDICAL INFRASTRUCTURE

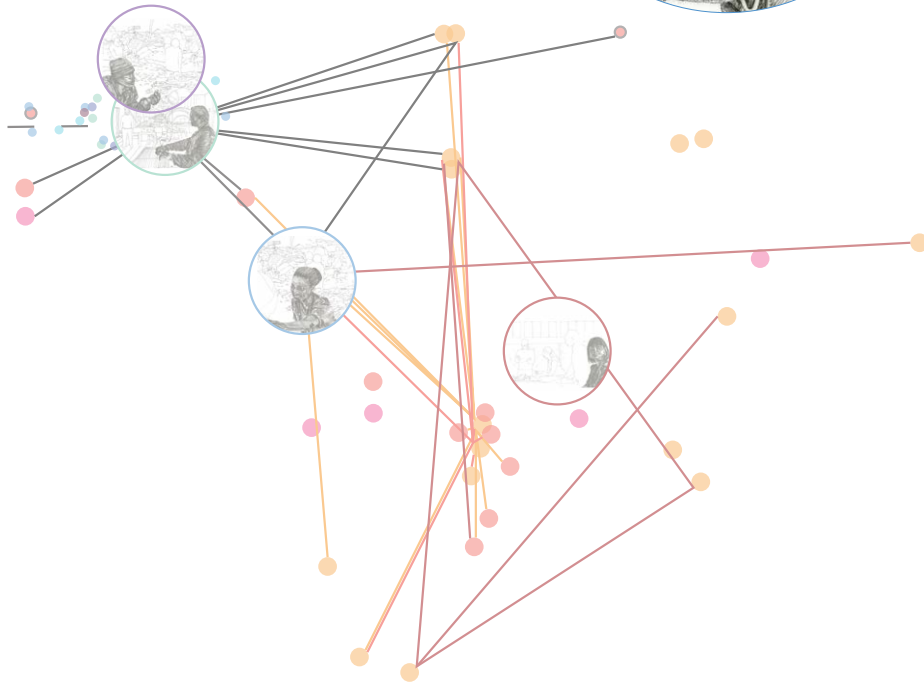
- H HOSPITAL
  - C CLINIC
34. Steve Biko Academic Hospital
  35. Folang (Tshwane TB Clinic)
  36. F.F. Ribeiro Clinic (Tshwane TB Clinic)

### MARABASTAD MEDICAL NETWORK

- MEDICAL CENTRE
- GENERAL PRACTITIONER
- DENTIST
- OPTICIAN
- TRADITIONAL HERBALIST
- RELIGIOUS CENTRE

# Four Networks of Support

## *Current Social Networks in Context*



Dr Radebe<sup>1</sup> elaborates on the support facilities in the network to Mr Pillay. She uses a map<sup>2</sup> that her friend Janeke, an architect in Pretoria, had drawn up for her. The map shows thirty-three facilities across Tshwane that fall into the three categories of social support, shelters and social housing, and refugee support centres. On the map she highlights the facilities in Marababastad: the Struben Street shelter and Home Affairs (refugee reception). She also highlights facilities close to Marabastad: the new Yeast housing scheme 'Thembehlihe Village' as well as Sediba Hope (clinic) and a PEN Ministries' drop-in centre that provides health and mental support.

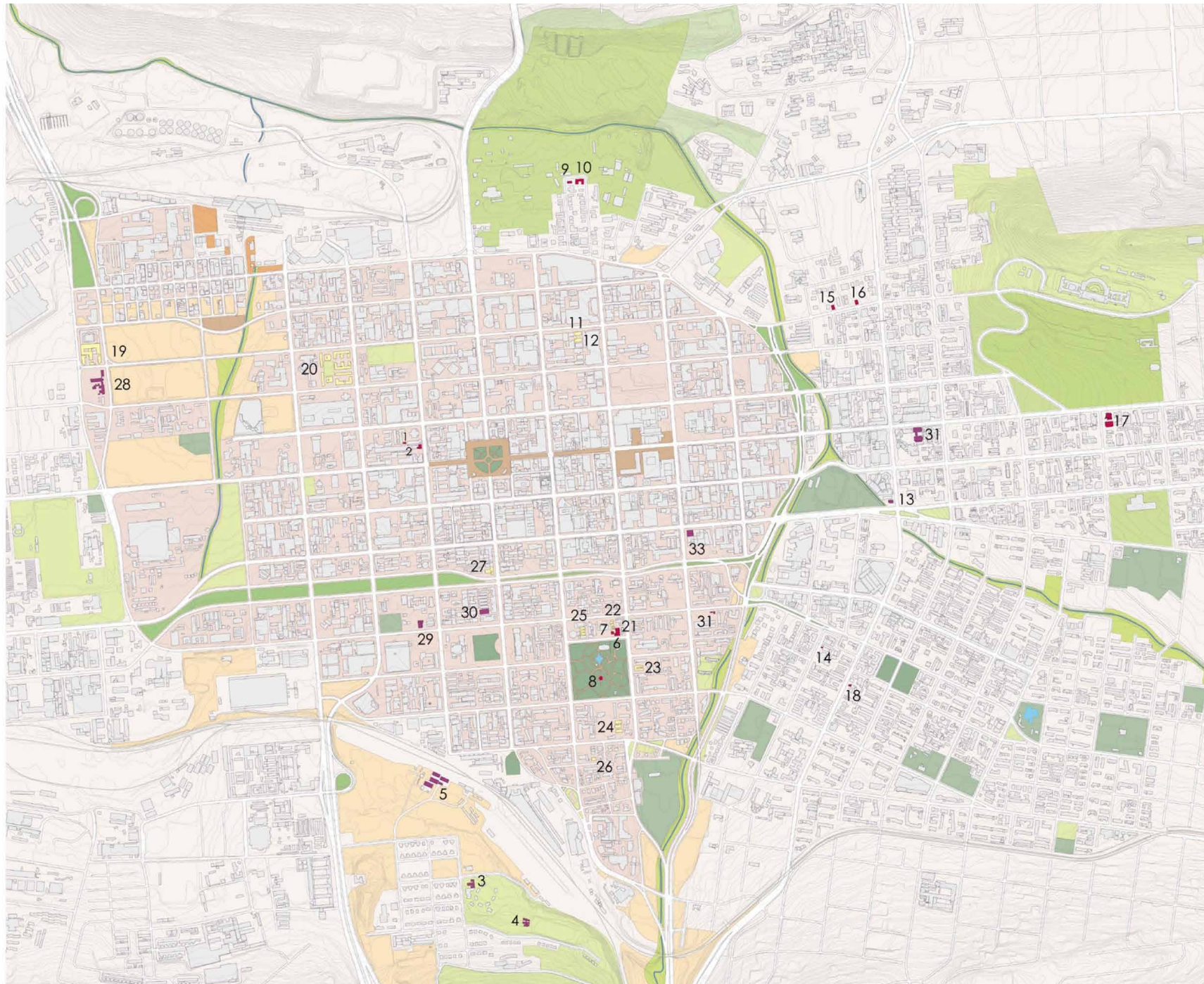
Mr Pillay is disappointed to find out that there are no public drug rehabilitation facilities within the existing network of support. Dr Radebe informs him that the people who see her at the Sediba Hope Clinic are referred by social workers to the Dr Fabian and Florence Ribeiro Centre in Cullinan (for the treatment of drug addiction). Mr Pillay points out that this centre is obviously too far from Marabastad and Dr Radebe adds that the waiting list is a few months long.

Dr Radebe is overwhelmed – she does not feel that their efforts will ever be enough to help the homeless people. She chats with Mr Pillay and explains the complex issue of homelessness to him.

Figure 12: (left) Proposed connection to existing support network - map adapted by (Patrick: 2016) from (De Klerk, M: 2015: 20-22)

Figure 13: (above) Dr Radebe's perspective of events is narrated in this chapter - highlighted within the greater network (Patrick: 2016)

1 See Figure 13  
2 See Figure 12, adapted from Marianne De Klerk's mapping in Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 20-22  
See Figure 14  
and Honours Marabastad, (research from the Honours group of 2015) (University of Pretoria: 2015)



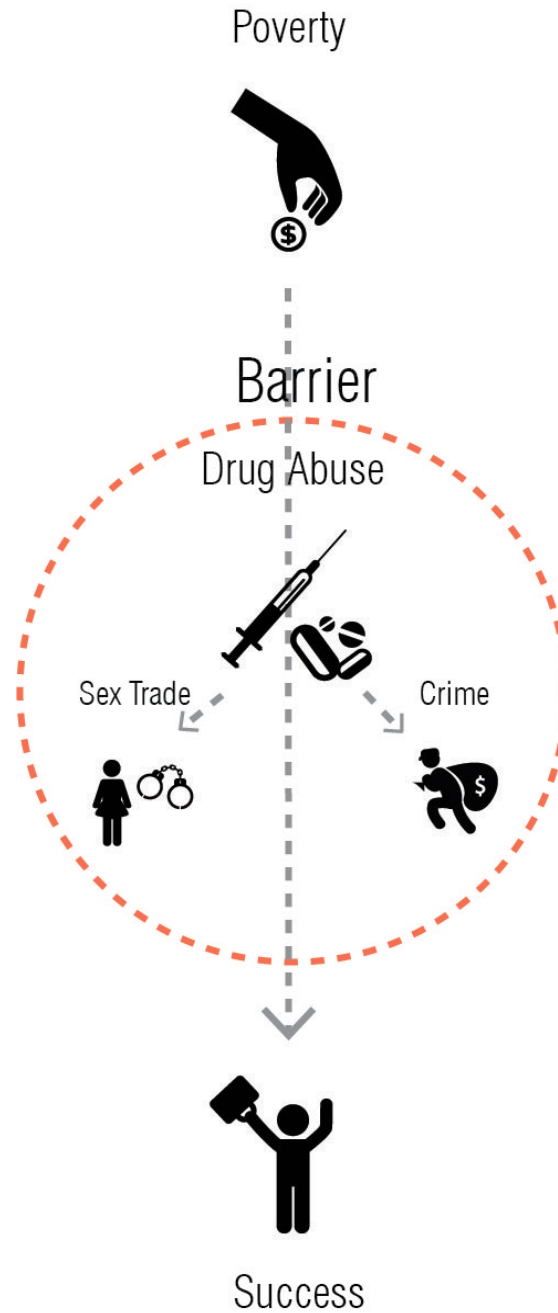
- Inner city blocks
- City blocks
- Built fabric
- Rivers and spruits
- Shelters & social housing
- Social support facilities
- Refugee support facilities
- Squares and malls
- Sports Fields
- Well maintained parks
- Historic landscapes
- Ridges
- Road medians
- Rover/ spruit riparian
- Deteriorate open space
- Deteriorate squares

*Apartheid legislation in the late 1980s and the early 1990s resulted in a change of the migration patterns into the city. So this falls into the story “Stagnation and Perseverance”<sup>3</sup> that you told me the other day. The street homeless were no longer only middle-aged white males with substance abuse problems<sup>4</sup>. There is a distinction between the homeless and the street homeless: those that stay in informal settlements and those who face daily challenges<sup>5</sup> out on the streets.*

*Street homelessness in itself is a complex issue because there are many types of street homeless people: economic, situational and chronic. Economic homelessness is the result of the distance between the place of employment and the home, and the unaffordability of transport. Situational homelessness includes victims of abuse, refugees, ex-convicts and patients released from psychiatric hospitals, with nowhere to go<sup>6</sup>. Chronic homelessness refers to people that are on the streets as a result of chronic mental health or substance abuse problems. Chronic homelessness also often results from the failure rise above an economic or situational homelessness<sup>7</sup>.*

- 
- 3 Utopia 7 [1987-2016] adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)  
See Timeline with Utopias: Figure 6
- 4 Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 3
- 5 These challenges include: extreme poverty, isolation and loss of societal resources, according to Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 3
- 6 Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 3
- 7 Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 5

Figure 14: (left) Considering these degenerated spaces in combination with the existing support networks (Tshwane Homelessness Forum: 2015: 22)



*You mentioned that you recognised Katlego the other day, he probably started out in economic homelessness and could not leave soon enough so it turned into chronic homelessness when he found himself caught up in the nyaope culture of Marabastad. The drug culture includes sex workers and may lead to crime as well , all coming with their own health risks<sup>8</sup>.*

*Strategies to facilitate rehabilitation of the homeless have been devised during the 'Pathways Out of Homelessness Conference' which I attended with Janeke. They proposed the following solutions: psycho-social, economic, spatial, physical, political and spiritual<sup>9</sup>. Janeke commented afterwards that it was important to network in all the related fields: urban, architectural, social and medical<sup>10</sup>.*

*I am sure that you agree that the Struben Street shelter, which is no longer managed, does not cater to the current needs of the street homeless. These types of facilities should provide safe housing, sufficient amenities and hygiene, education and job programmes and treatment for substance abuse<sup>11</sup>.*

*Janeke was telling me that the research she had done had shown that homeless people tend to gather and sleep in deteriorated and abandoned open spaces and buildings, and that the well-maintained open spaces are used as places of refuge for the homeless, where there are amenities and social facilities<sup>12</sup>. So we should consider these degenerated spaces, in relation to existing support networks, when planning pathways out of homelessness.*

- 
- 8 See figure 15 illustrating the different aspects involved in drug use.  
To elaborate on the statistics related to drug use:
- 1152 commercial sex workers were tallied in a recent study of thirty known sites in the City of Tshwane. 1005 of these were women and sixty five were trans-gender female - all between the ages of eighteen and fifty four. Eighty two were found to be males, age nineteen to thirty five.
  - 416 commercial sex workers were tested for HIV and TB in 2014 - forty percent of them were HIV positive and ninety five percent of them showed TB symptoms.
  - The risk of transmission of HIV and Hepatitis B or C is four times higher amongst injecting drug users. 300 drug users were tallied in a recent study of forty known sites. Of the 300, ninety percent were men between the ages of nineteen and thirty five. Alcohol and drug abuse risks are increased by fifty percent in the commercial sex trade.
- According to:  
Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 16
- 9 Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 3
- 10 Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 5
- 11 According to Marianne De Klerk in Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 20
- 12 According to Marianne De Klerk in Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. (Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016), 20

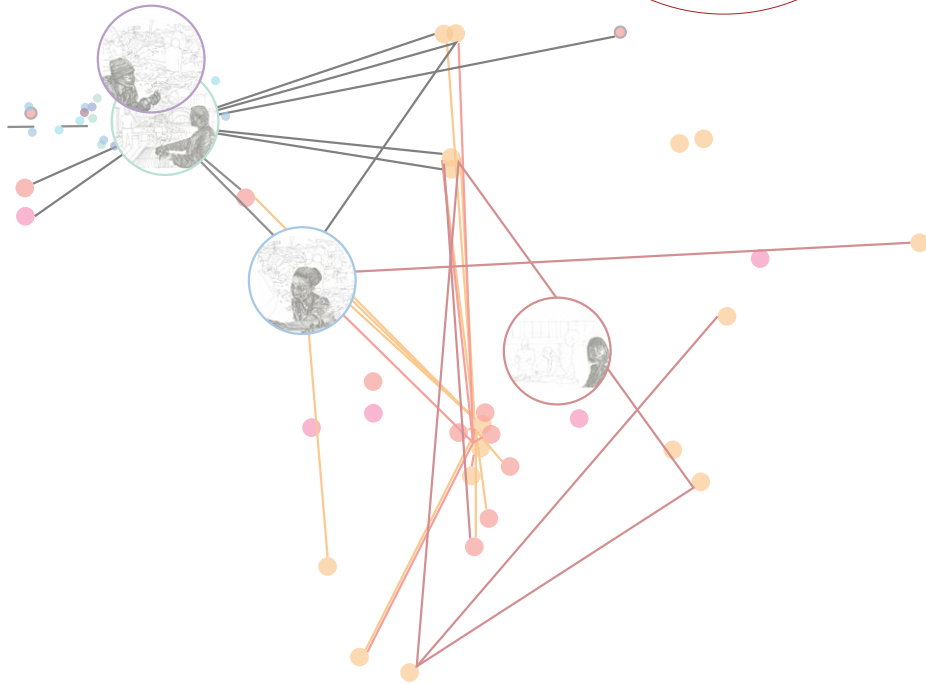
Figure 15: (left) Barrier of drug addiction that exists on site at present (Patrick: 2016)



# Five

## Regenerative Development

### Theoretical Approach to Architecture



Janeke's<sup>1</sup> approach to architecture focuses on regenerative development as she is committed to bringing out the latent potential in a place and its people. This is one of the factors that led to her active involvement in the Homeless Forum to find "pathways out of homelessness".

The architectural practice in which she works encourages her to approach her projects with the intention of regenerating the site through nature and the re-establishment of place. She usually explains regenerative development to her clients in order to gain their sympathy for the project.

*The goal towards sustainability in architecture is no longer sufficient. Sustaining our environments would only slow down imminent processes like climate change. Regenerative design goes beyond merely sustaining the environment in its current state; it is a place-based approach that improves the environment<sup>2</sup>.*

She goes on to tell them that the regenerative approach to architecture is a broad and complex field and that regenerative development is one approach within this field.

*Regenerative development is defined as giving new life or energy to (regenerative) and bringing out the most potential or to evolve (development)<sup>3</sup>.*

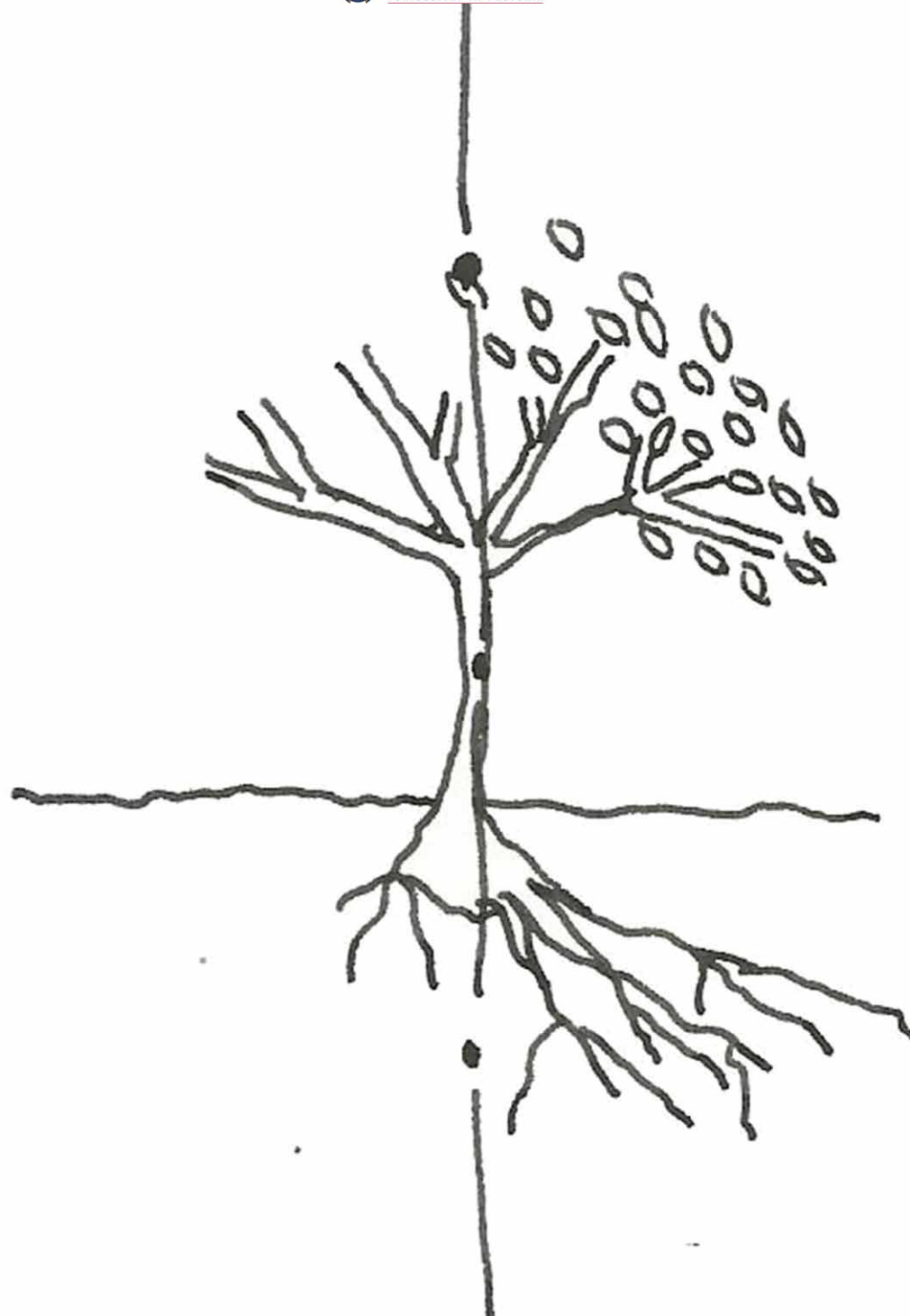
In the context of regenerative development, Janeke takes the ecological worldview into consideration as well as the essence of place in order to create healthy human networks, within the natural networks.

When describing the ecological worldview she often quotes Bill Reed, "[o]ur mental model of the way the world works must shift from images of a clockwork, machine-like universe that is fixed and determined, to the model of a universe that is open, dynamic, interconnected, and full of living qualities"<sup>4</sup>.

Figure 16: (above) Janeke's perspective of events is narrated in this chapter - highlighted within the greater network (Patrick: 2016)

Figure 17: (left) Graph illustrating how regenerative design goes beyond merely sustaining the environment in its current state through "Green Architecture" (Guenther et al. : 2013: 409)

- 1 See Figure 16
- 2 Reed, B, *Shifting from "Sustainability" to Regeneration. Building Research & Information* (2007) Available online: [www.regenesis.com/resources/](http://www.regenesis.com/resources/) Accessed: 22/02/2016
- 3 See Figure 17: diagram showing that regenerative design goes beyond sustainability  
Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 409
- 4 Reed, B, *Living Systems Approach to Design* (AIA National Convention Keynote Address – Regensis & Integrative Design Collaborative (2007) Available online: [www.regenesis.com/resources/](http://www.regenesis.com/resources/) Accessed: 26/02/2016, 1-3
- 4 Reed, B, *Shifting from "Sustainability" to Regeneration. Building Research & Information* (2007) Available online: [www.regenesis.com/resources/](http://www.regenesis.com/resources/) Accessed: 22/02/2016, 675



*The ecological worldview considers the human aspect of our context in relation to our biophysical context and how our intervention contributes to a functional system<sup>5</sup>. An understanding of how the intervention is embedded in its natural and social environment, grounds one in the understanding of the positive influence of the life-cycle of the potential building on the natural environment and the community who use it<sup>6</sup>.*

When talking to her clients about their projects she explains that architectural interventions need to facilitate positive change and transformation of the systems into which they are built<sup>7</sup>.

*This implies a strong dialogue between nature and building. A building that is in harmony with nature has the potential to sustain and generate life. Architectural interventions also need to recognise the existing sense of place<sup>8</sup> in order to tap into the latent potential for transformative development. The ‘geist’ of place can be woken once again through the empowerment of the community – allowing for a connection between people and the places they inhabit<sup>9</sup>.*

*These connections form part of a greater complex network (ecological and social). They support the greater network, but are also supported by it<sup>10</sup>. When we understand the interconnectedness between humans and nature in this way it is easier to understand the mutual benefit of restoring an unhealthy environment and giving back meaning to a place<sup>11</sup>.*

She explains the concept of re-establishing place as the connection between people and the places in which they dwell. She tries to relate Heidegger’s<sup>12</sup> thoughts on the essence of dwelling - to explain that dwelling does not simply refer to inhabiting a home.

*Our human ability to relate intimately to our world is seen as a poetic sensitivity that is the foundation of dwelling. “Genius loci” - the spirit of place - is inseparable from our existence and the poetic sensitivity that we experience spatially, environmentally and architecturally. Dwelling is “the basic character of being” that involves belonging to the environment (being comfortable inside a place). Home is a place that people inhabit – it does not have to be a house (whereas a house should be a home). Home is any place we can feel comfortable and find identity with other places. It is a place that is able to provide dwelling for the biological functions of the body, the intellect and emotions<sup>13</sup>.*

Relating this back to architecture, she explains that the Old High German word “buan” means ‘to dwell’ but

5 Hes, D. & Du Plessis, C., *Designing for Hope: Pathways to Regenerative Sustainability* (Routledge: 2014)  
6 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 6  
7 Haggard, B., Reed, B. & Mang, P., *Regenerative Development* (2005) Available online: [http://regenesishgroup.com/wp-content/uploads/2015/02/RD\\_Revitalization\\_Mag.pdf](http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf) Accessed:22/02/2016  
8 Haggard, B., Reed, B. & Mang, P., *Regenerative Development* (2005) Available online: [http://regenesishgroup.com/wp-content/uploads/2015/02/RD\\_Revitalization\\_Mag.pdf](http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf) Accessed:22/02/2016  
9 Haggard, B., Reed, B. & Mang, P., *Regenerative Development* (2005) Available online: [http://regenesishgroup.com/wp-content/uploads/2015/02/RD\\_Revitalization\\_Mag.pdf](http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf) Accessed:22/02/2016  
10 Haggard, B., Reed, B. & Mang, P., *Regenerative Development* (2005) Available online: [http://regenesishgroup.com/wp-content/uploads/2015/02/RD\\_Revitalization\\_Mag.pdf](http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf) Accessed:22/02/2016  
11 Mang, N. S., *The Rediscovery of Place and Our Human Role within it* (California: 2009), 4  
12 Heidegger was a German philosopher that wrote about “being”  
13 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 189

Figure 18: (left) The author’s notional concept of regenerative design (Patrick: 2016)



also carries the additional meaning 'to build'<sup>14</sup>.

*So, building is really dwelling, dwelling is the manner in which mortals are on earth, and building as dwelling unfolds into the building that cultivates things or the building that erects edifices<sup>15</sup>.*

*A phenomenological approach to architecture, which adds human quality, can be re-established through this intuitive sensibility towards the world. As architects, we can implant values into the environment with the intention that they are discovered, cultivated and nourished by the people of the place – regenerating a sense of human rootedness of place<sup>16</sup>.*

*The human quality of architecture allows us to experience a building and question how it make us feel<sup>17</sup>. Do we enjoy being in the building, dwelling in its spaces and passing through it? A building should acknowledge, receive and greet the passer-by<sup>18</sup>. A building is also successful when it is organically connected to the earth, sky and its surrounding landscape<sup>19</sup>. It is not merely a mundane, functional object on landscape.*

Janeke goes on to explain that the common thread between the topics within regeneration is networks.

*Ecology, from the Greek word “oikos” (household) is the study of the relationship that interlinks all members of the earth household<sup>20</sup>. Ecological communities have been seen, since the beginning of ecology, as consisting of organisms linked together in network style through feeding relations<sup>21</sup>.*

*Living systems seen as networks provide a new perspective: an ecosystem is seen as a network with a few nodes and each node is a network<sup>22</sup>. In other words, living systems are non-linear pattern organisations of*

14 Heidegger, M., *Poetry, Language, Thought* (Harper Perennial Modern Classics, New York: 2001), 350

15 Heidegger, M., *Poetry, Language, Thought* (Harper Perennial Modern Classics, New York: 2001), 350

16 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 195-196

Heidegger describes the earth, sky, divinities and mortals in terms of a fourfold of primal oneness. He goes on to explain that building allows a site (space) for the fourfold to exist as one. Places and paths are determined in space. He concludes that the relation between man and space is essentially dwelling. All according to: Heidegger, M., *Poetry, Language, Thought* (Harper Perennial Modern Classics, New York: 2001), 350-359

“A fully human building, be it body, house or city, refers us fundamentally to a movement between the poles of a self-evident foundation and a mysterious source of revelation” according to Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 224

17 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 221

18 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 222

19 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 223

Building is founding and joining of spaces that protect the fourfold. The preservation of the fourfold (the building) is the essence of dwelling. According to Heidegger, M., *Poetry, Language, Thought* (Harper Perennial Modern Classics, New York: 2001), 360

20 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 33

21 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 34

22 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 35

Figure 19: (left) The author's notional concept of how nature and architecture can come together (Patrick: 2016)

# BIOPHILIC DESIGN PRINCIPLES

1. Environmental features:
  - Natural materials
  - Natural colors
  - Sunlight
  - Water
  - Natural ventilation
  - Plants and animals
  - Natural views and vistas
  - Facade greening
  - Geological and landscape forms
  - Habitats and ecosystems
  - Fire
2. Natural shapes and forms:
  - Botanical motifs
  - Animal motifs
  - Shell and spiral forms
  - Egg, ovular, and tubular forms
  - Arches, vaults, domes
  - Columns and treelike supports
  - Shapes that resist right angles
  - Simulation of natural features
  - Biomorphism (resemblance to organic forms)
  - Natural morphology (e.g., stratified surfaces and rooted relationships)
  - Biomimicry (mimicry of organic structures and functions)
3. Natural patterns and processes:
  - Sensory variability
  - Information richness
  - Time, aging, and change
4. Light and space:
  - Natural light
  - Filtered and diffused light
  - Light and shadow
  - Reflected light
  - Light pools
  - Warm light
  - Light as shape and form
  - Spatial variability
  - Spaciousness
  - Space as shape and form
  - Spatial harmony (the integration of light, mass, and scale)
  - Inside/outside spaces (e.g., atria, colonnades)
5. Place-based relationships:
  - Growth and efflorescence
  - Central focal point
  - Patterned whole
  - Bounded spaces (e.g., borders, territories)
  - Transitional spaces (e.g., gateways, thresholds)
  - Complementary contrasts (e.g., light/dark, high/low)
  - Dynamic balance and tension
  - Similar forms at different scales (e.g., fractals)
  - Hierarchically organized scales
  - Ordered complexity
  - Relation and integration of parts to whole
  - Linked series and chains
  - Historical connection to place
  - Cultural connection to place
  - Geographical connection to place
  - Ecological connection to place
  - Use of indigenous materials
  - Compatible orientation to landscape
  - Landscape features that define building form
  - Landscape ecology (connections, corridors, biodiversity)
  - Integrating culture and ecology
  - Sense or spirit of place
  - Avoiding placelessness
6. Evolved human relations to nature:
  - Prospect and refuge
  - Exploration and discovery
  - Mystery and enticement
  - Order and complexity
  - Change and metamorphosis
  - Information and cognition
  - Attraction and beauty
  - Mastery and control
  - Security and protection
  - Affection and attachment
  - Fear and awe
  - Reverence and spirituality

Source: Kellert and Heerwagen (2008)

*networks within networks*<sup>23</sup>.

Relating these ideas to the subject of architecture, Janeke explains that thinking about a building as merely a part of the whole, a nexus point in a larger network, highlights the importance of our contribution to a functional system.

*A building can be designed in such a way that it illuminates or mimics the organisation of living systems' – strengthening the relationship between humans and nature. This can be done by increasing the efficiency of the resource flows of a building and then considering this in the context of the city, the country and the world*<sup>24</sup>.

She concludes that our relationship with life-cycle events affects our behaviour, and our everyday lives in the process, as we understand these living systems<sup>25</sup>.

The way in which Janeke realises and develops these regenerative ideas is through biophilic design. Sometimes the clients are intrigued by this and ask her to elaborate. She explains that an ecological worldview implies that humans need to live in harmony with nature: that the essence of dwelling relates to this concept, focussing on the human experience of architecture in relation to the environment. But she asks how an experience of nature could transcend the visual?

*Biophilic design taps into natural processes, patterns and ways of place-making to facilitate reintegration with nature*<sup>26</sup>. *It provides a way of designing architecture that illuminates the existing living systems for humans to be able to experience them*<sup>27</sup>.

Janeke further explains that according to Stephen Kellert, "...contact with nature can foster human health, productivity, and wellbeing...[and] humans possess a basic need for contact with natural systems and processes"<sup>28</sup>.

*An architecture that attempts to renew the relationship between humans and nature could enforce new habits of accountability for nature, by the inhabitants of a place. This connection with nature can be established through buildings and constructed landscapes in places of cultural or ecological significance to improve the everyday lives of the community.*

*Some design guidelines are necessary for a building to become a healing insertion within the landscape. Environments are nourishing when they support human mood and feeling as well as providing comfort and creating the correct biological climate*<sup>29</sup>.

*Architecture should create a pleasant environment for the human being, allowing for privacy and social*

23 Capra, F., *The Web of Life: A New Scientific Understanding of Living Systems* (New York, Anchor Books: 1996), 82

24 Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 15

25 Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 16

26 Hes, D. & Du Plessis, C., *Designing for Hope: Pathways to Regenerative Sustainability* (Routledge: 2014)

27 Figure 20 alongside shows the principles of Biophilia

Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 69

28 Guenther, R. & Vittori, G., *Sustainable Healthcare Architecture. 2nd Edition* (Wiley: 2013), 68

29 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 29

Figure 20: (Left) Biophilic principles as set out by Stephen Kellert. (Guenther et al: 2013: 69)

*“we shape our environments and our  
environments shape us” - Winston Churchill*

*interaction<sup>30</sup>. It should communicate with us through the senses because they tell us what is important in our surroundings<sup>31</sup>. Considering the function of a space in relation to the senses, we need to think in terms of colour, light and geometry, which affect the quality of the space<sup>32</sup>. The metamorphosis of space is necessary to reflect the change in mood experienced from one space to another<sup>33</sup>.*

*Humans intuitively seek rejuvenation in natural surroundings. They are drawn to spaces with a strong spirit of place and this is generally at the points where the natural elements meet<sup>34</sup>. Architectural elements need to come together in the same way<sup>35</sup>.*

*“Similarly, architectural elements need to be brought into conversation or they fight against each other.”<sup>36</sup>*

*In order to create an environment that initiates and supports the processes of healing, we need to shape it with these qualitative aspects in mind. As Churchill said, “we shape our environments and our environments shape us”<sup>37</sup>.*

---

30 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 22

31 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 49

32 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 22

33 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 70

34 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 28

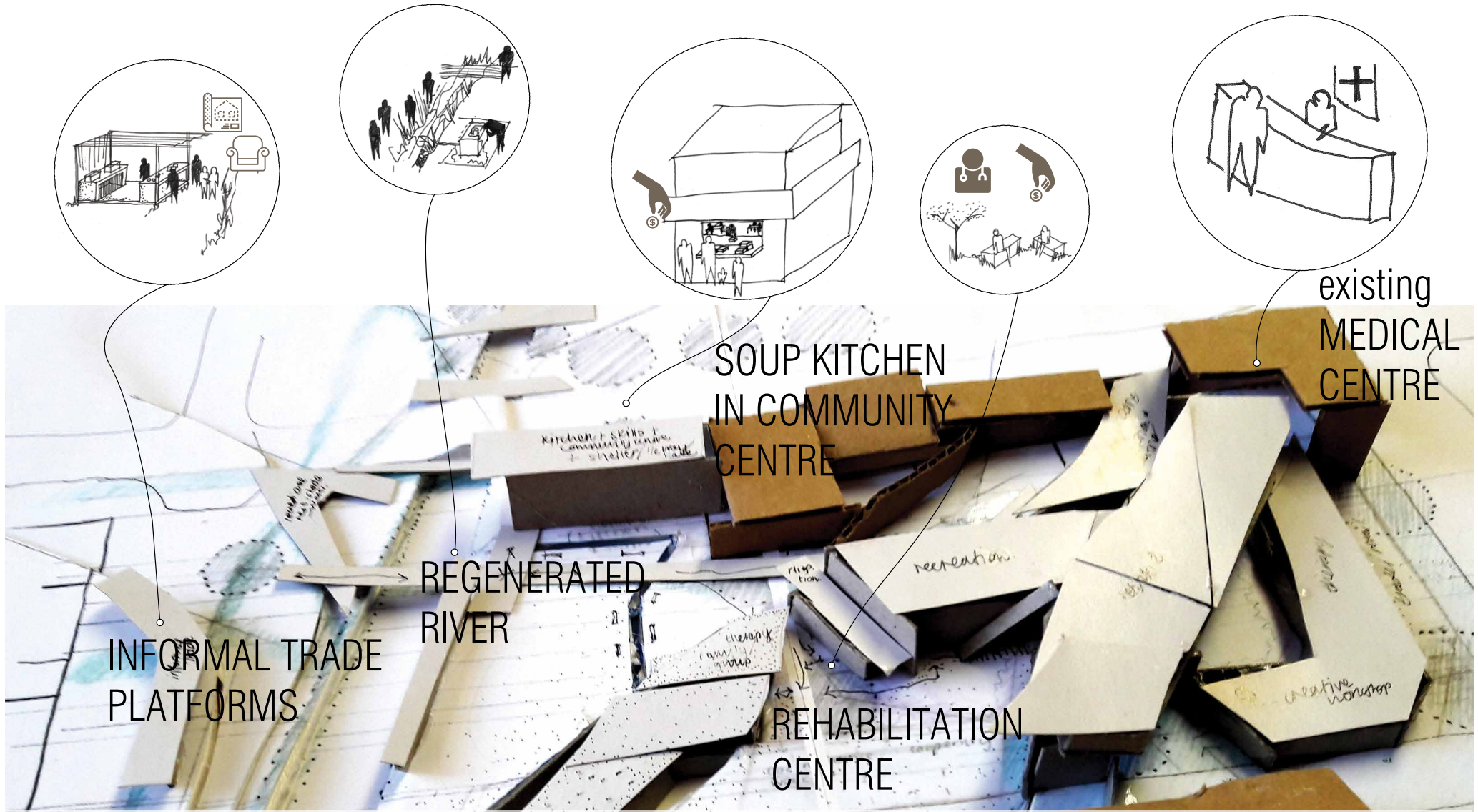
35 Christopher Day explains this:

“In nature, life is its most vigorous where the elements meet...When we seek rejuvenation in natural surroundings we are drawn to those places where the spirit of place is strongest - where there are meetings between elements - places which emphasise the meeting of, for instance, earth and sky or water and rock.”

Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 28-29

36 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 29

37 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 23



Legend:



Mr. Pillay: shop owner



Janeke: architect



Katlego & other vulnerable people



Dr. Radebe & other health professionals

# Six Heterotopia

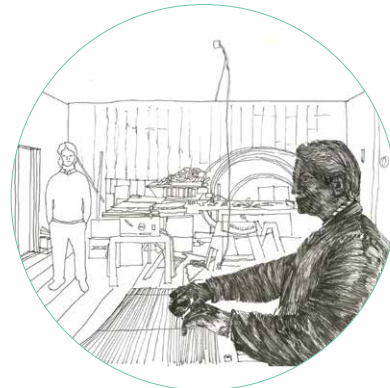
## Project Proposal

Dr Radebe introduces Mr Pillay to Janeke and after discussion they<sup>1</sup> devise a project for a much-needed drug rehabilitation facility to be built in Marabastad that would harness the existing support networks.

Janeke, the architect, is able to facilitate the various architectural processes because of her involvement with 'Pathways Out of Homelessness'. They feel that drug addiction treatment should not adhere to the norms of a prison-like environment, but should rather function beyond the simple notion of detoxification of drug addicts, and create a place in which people would feel both nurtured and supported<sup>2</sup>. She describes the project to the community group as one that "re-thinks drug addiction, rehabilitation and re-integration, as well as the support platforms for the homeless people of Marabastad." Mr Pillay asks her to elaborate. Janeke explains the methodology, the way in which the architecture would be designed through regenerative development. She goes on to discuss regenerative development which entails giving new life and energy to a place, and restoring its potential<sup>3</sup>. She adds that this is where the input of the community is also vital to the architecture. The involvement of the community is vitally important in this process and it is essential that they have their input, when considering the architecture.



Social Support Networks  
**Dr Radebe**



Knowledge of Past Utopias  
**Mr Pillay**



Regenerative Architect  
**Janeke**

Figure 21: (Left) Conceptual model with narrative characters in architectural design (Patrick: 2016)

Figure 22: (Above) The narrative characters involved in the proposal (Patrick: 2016)

1 See Figure 22  
2 See Figure 21  
3 Reed, B, *Living Systems Approach to Design (AIA National Convention Keynote Address – Regenes & Integrative Design Collaborative* (2007) Available online: [www.regenesis.com/resources/](http://www.regenesis.com/resources/) Accessed: 26/02/2016, 1-3

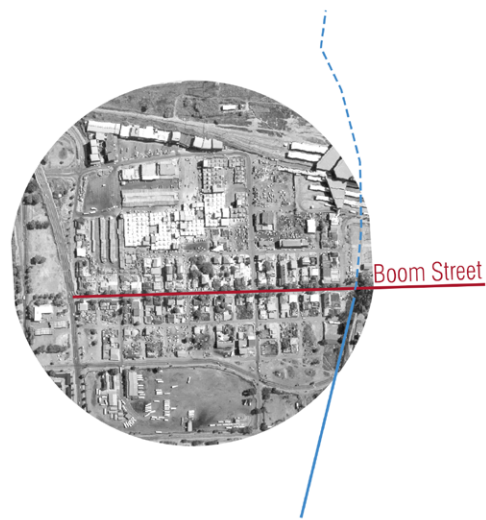
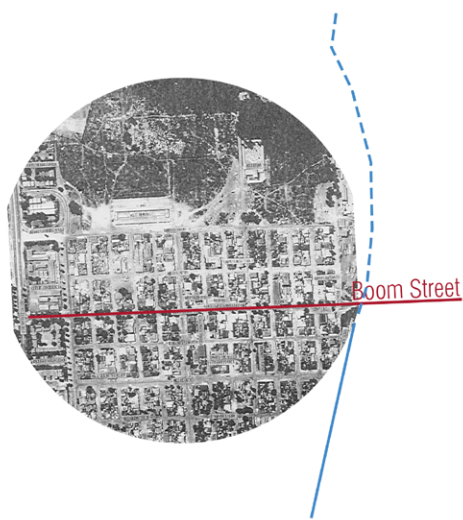
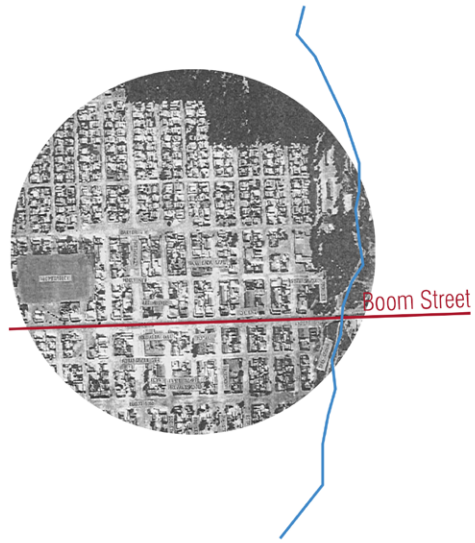
1934

1965

1998

2016

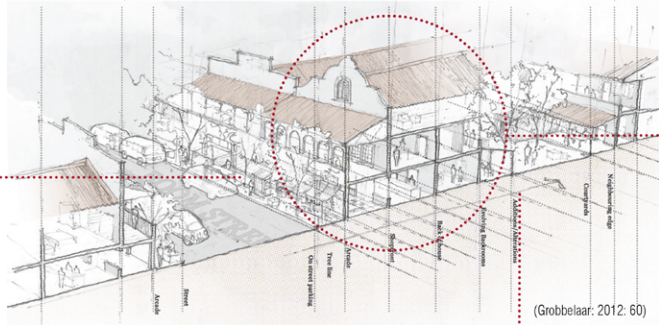
Physical Fabric



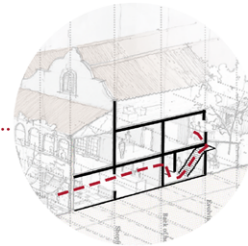
Thresholds between Activities

Simple Facade - Complex Section

The buildings on Boom Street appear simple and legible. When one looks past the facade, through the various thresholds, it becomes more complex. This is clear in the history of Marabastad: Shop owners would place benign goods in the window, while making most of their money through illegal dealings "behind closed doors". Behind the facades were mainly shed-type-buildings easily adaptable to change according to the various activities of solicitation, gambling, ingredients for illegal alcohol brewing and trade after curfew (Grobbelaar: 2012: 58-59)

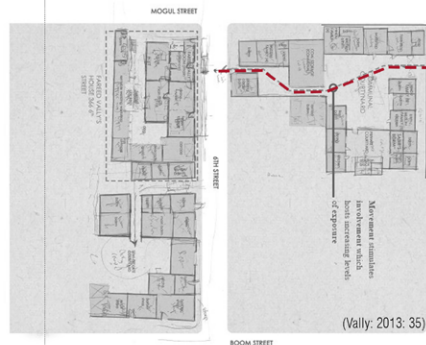


(Grobbelaar: 2012: 60)



Subversive / "backyard living"

An intricate and secretive journey from the public realm to a private living space: Behind the shop was a storage room, which contained a false curtain that hid a blank wall. Behind the fridge was a hole in this wall which led to a staircase that led to a "hay loft". Behind the first wall of hay was the living space used as a communal space and sleeping space. The loft overlooked the communal courtyard (Vally: 2013: 36-37).

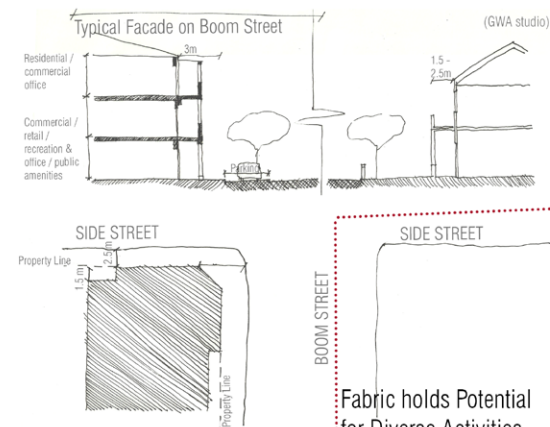


(Vally: 2013: 35)

Communal Corridors

Organically formed communal corridors distinctly layered public, communal, semi-private and private spaces.

The levels of privacy were dependent on the involvement of the activities or people with their surroundings or neighbours (Vally: 2013: 34).



Fabric holds Potential for Diverse Activities

The existing historic fabric still has the potential to host a variety of activities. The spaces which surround the built fabric encourage misappropriated use of space and discourage people from staying longer than required in Marabastad. This affects the variety of activities that occur within these spaces of massive potential.

# Seven

## Designing for Heterotopia

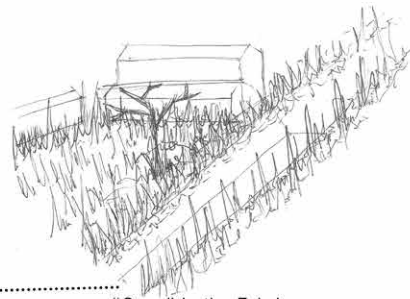
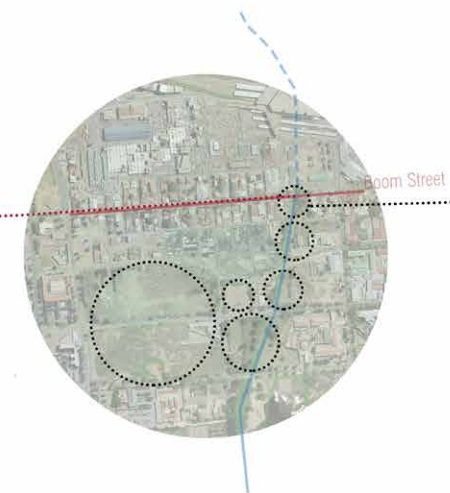
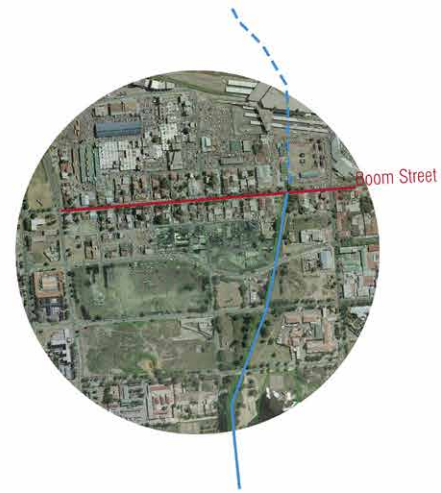
### Urban Context

On one of her frequent visits to Marabastad, Janeke is walking with her colleagues along Boom Street. She is interested by the built fabric and finds that on closer observation, although seemingly legible as a system of planar elements, the façades along the street edge are made up of a complex series of thresholds<sup>1</sup>. Mr Pillay brings his added knowledge of the environment to the conversation.

*A lot was going on behind the scenes, you know. In the past, the shop owners would display their legal wares in the window, while at the back of the store things were quite different! <sup>2</sup>. These businesses provided a front for the illegal dealings taking place in the 'back of house', you might say, there was a progression from a respectable shop frontage, through to the real money-making enterprises. During the racially tense period of time in Marabastad, people were hiding from the police behind these thresholds, as you call them. Living in secret, residents made intricate journeys through curtained doorways, slipping into private dwelling spaces at the back.<sup>3</sup>*

*Even now, in the courtyards that are hidden from the street, like that one next to the White Mosque, and these degraded open spaces, illegal trade and other activities continue<sup>4</sup>.*

~



#### "Gaps" in the Fabric

Misappropriated activities tend to occur within these "gaps" in the fabric - where historic built fabric has been lost. These spaces are linked to ecology in that they are degenerated landscapes, including the spaces along the spruit.

Figure 23: The physical development of Marabastad over time (Patrick: 2016)

1 See Figure 23  
2 Grobelaar, L. 2012. New Royal Theatre: The Marabi Theatre as locus for Cultural Reproduction. Masters Dissertation, University of Pretoria, 58-59  
3 Vally, R., *Ento-morph: a Food Culture Intervention in Marabastad* (Masters Dissertation, University of Pretoria: 2013), 36-37  
4 According to Marianne de Klerk in Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, Pathways Out of Homelessness: Research Report 2015. Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016

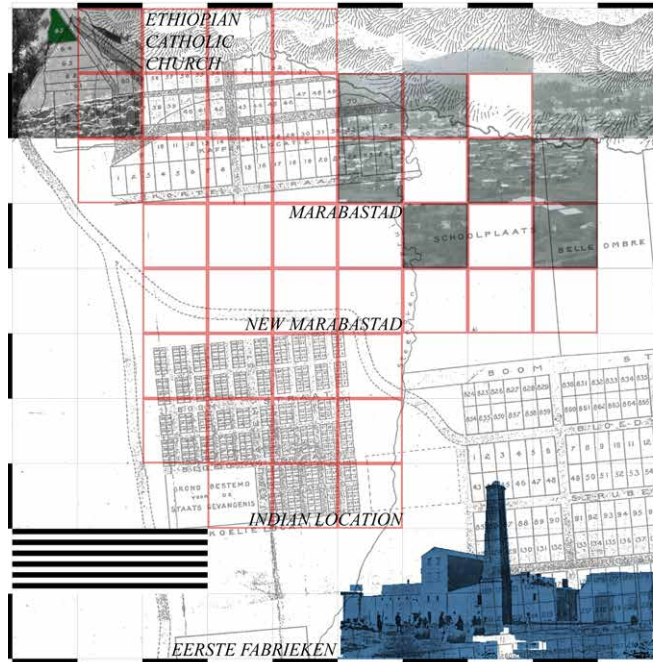
**Utopia 1**

(ca.1852 - 1895) promised land for migrant labour



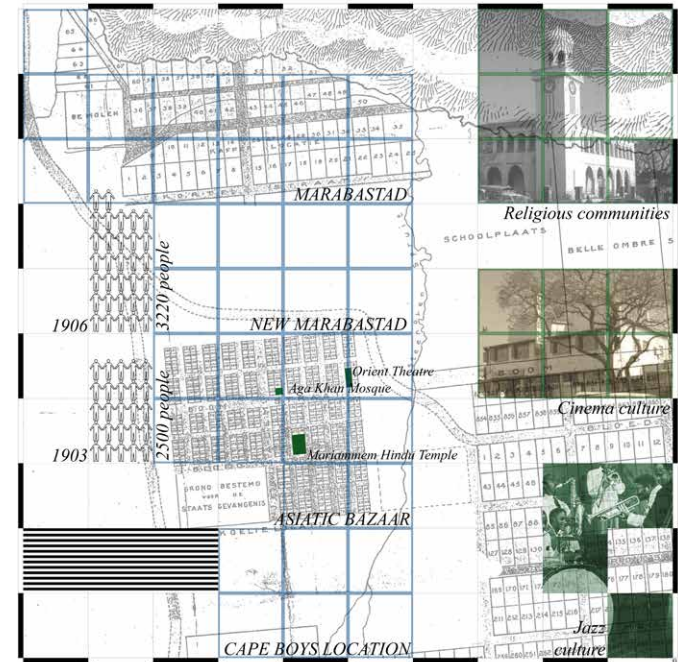
**Utopia 2**

(ca.1895 - 1903) influx & opportunity



**Utopia 3**

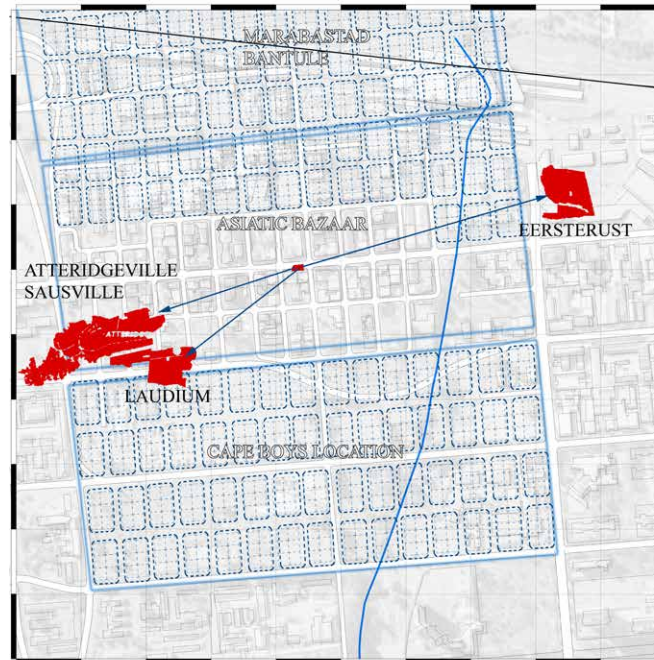
(ca.1903 - 1912) permanency & expression



**Utopia 4.1**  
(ca.1912 - 1943) control



**Utopia 4.2**  
(ca.1943 - 1967) control & segregation



**Utopia 5**  
(ca.1967 - 1987) changing character



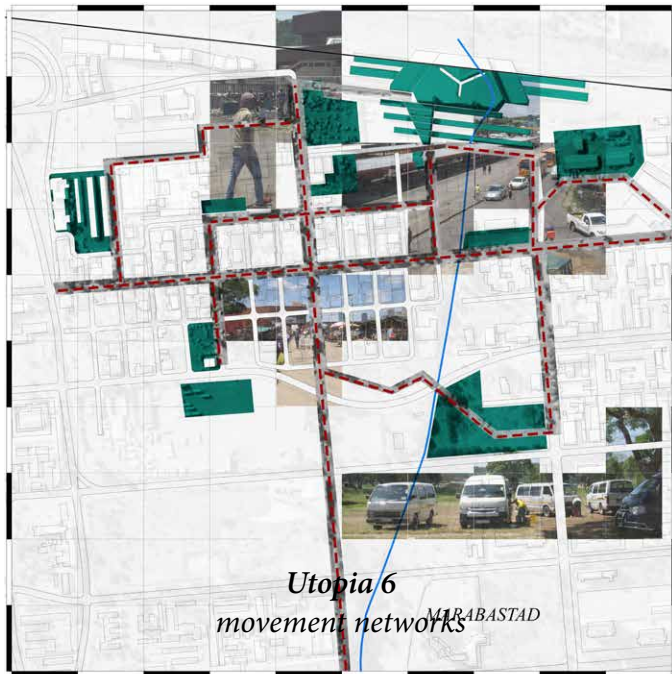
Figure 24: Mapping of Utopias 1-5 adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)



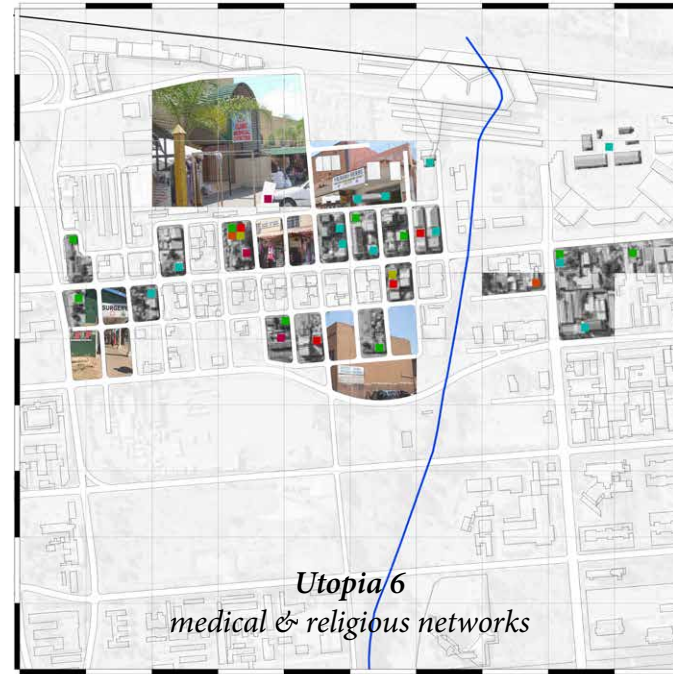
- Legend :**
- *steenhovenspruit*
  - *major roads ; bloed, boom, es'kia mphahlele & struben*
  - *belle ombre plaza & railway*



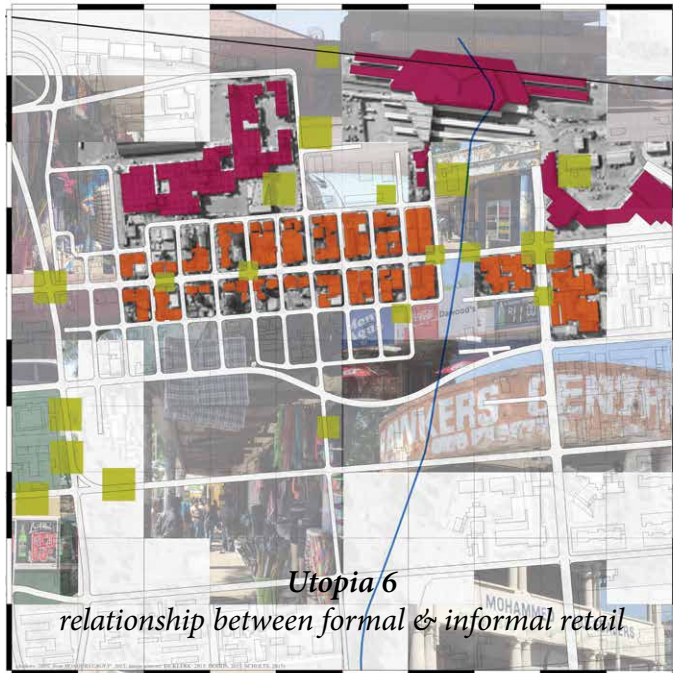
- Legend :**
- *potential green lung*
  - *empty vacant land*
  - *dump sites*



- Legend:**
- *primary pedestrian movement*
  - *bus / taxi / train stop*



- Legend :**
- *dentist*
  - *traditional herbalist*
  - *optician*
  - *general practioner*
  - *medical centre*
  - *religious centre*



**Legend:**

- primary retail
- secondary retail
- informal retail

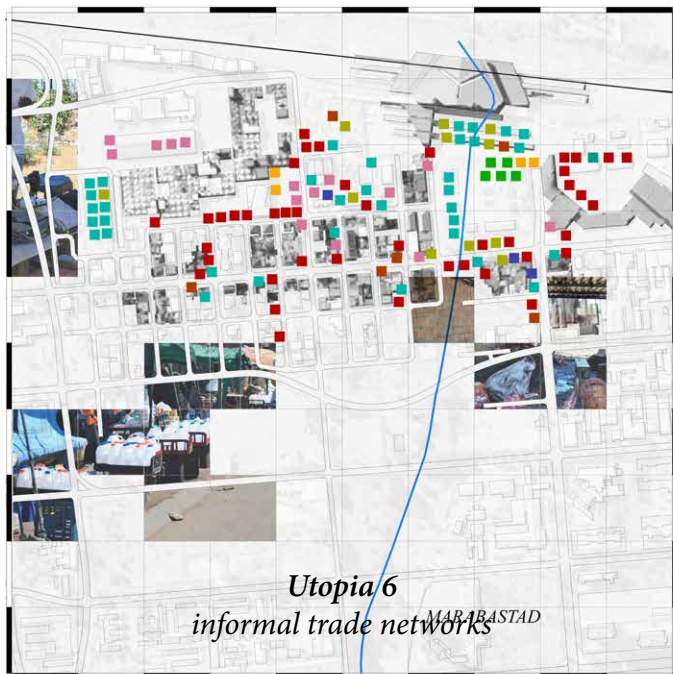
Once back at the office, Janeke is feeling excited about the project. She looks at the context of Marabastad and tries to understand its development over time. She traces its urban story from 1934 up until 2016; within the physical fabric of Marabastad, there is a series of important threshold spaces which need to be understood in terms of their physical and historical context. Janeke still feels perturbed as to the influences that have led to Marabastad's formation. She remembers Mr Pillay's stories about Marabastad's past.

She speaks to the office about the project and the team agrees that the complex development of Marabastad should be investigated further and mapped, and an urban vision should be proposed. The projected drug rehabilitation centre would ideally be situated within the context of this **urban vision**.

The teams sets out to map the development related to each utopia<sup>5</sup>, including the current one<sup>6</sup>, and they conclude that this situates them (the architects) at a point where they are designing for a heterotopia, which Janeke goes on to discuss.

*As a point of departure for designing for heterotopia, the study area of Marabastad that has already been analysed must be assessed according to Michel Foucault's postulations on this form of spatial production. In his essay "Of Other Spaces: Utopias & Heterotopias" Foucault defines a heterotopia as a place of mixed and joint experience that is continuously represented, contested and inverted by the people who occupy its spaces<sup>7</sup>. A heterotopia is at once real and unreal; it is physically connected to all of those spaces that surround it and ephemerally perceived as a virtual point in the distance.*

Now, the team gets to work.



**Legend:**

- meals (pap & vleis)
- fruit & veg
- open air butchery
- snacks, mapaniworms & cigarettes
- cold drink vendors
- airtime vendors
- clothing
- electronics & music
- services

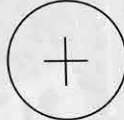
Figure 25: Utopia 6 urban mapping (Nicha,S., Hough, D. & Patrick, N. : 2016)

5 See Figure 24  
Adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)

6 See Figure 25  
Adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)

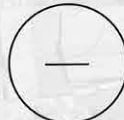
7 Foucault, M., *Of Other Spaces: Utopias and Heterotopias* (1984) Available online: <http://web.mit.edu/allanmc/www/foucault1.pdf> Accessed: 18/02/2016

# Analysis of Existing Positive & Negative Spaces



**Encouraging spaces**  
Activities in these spaces:

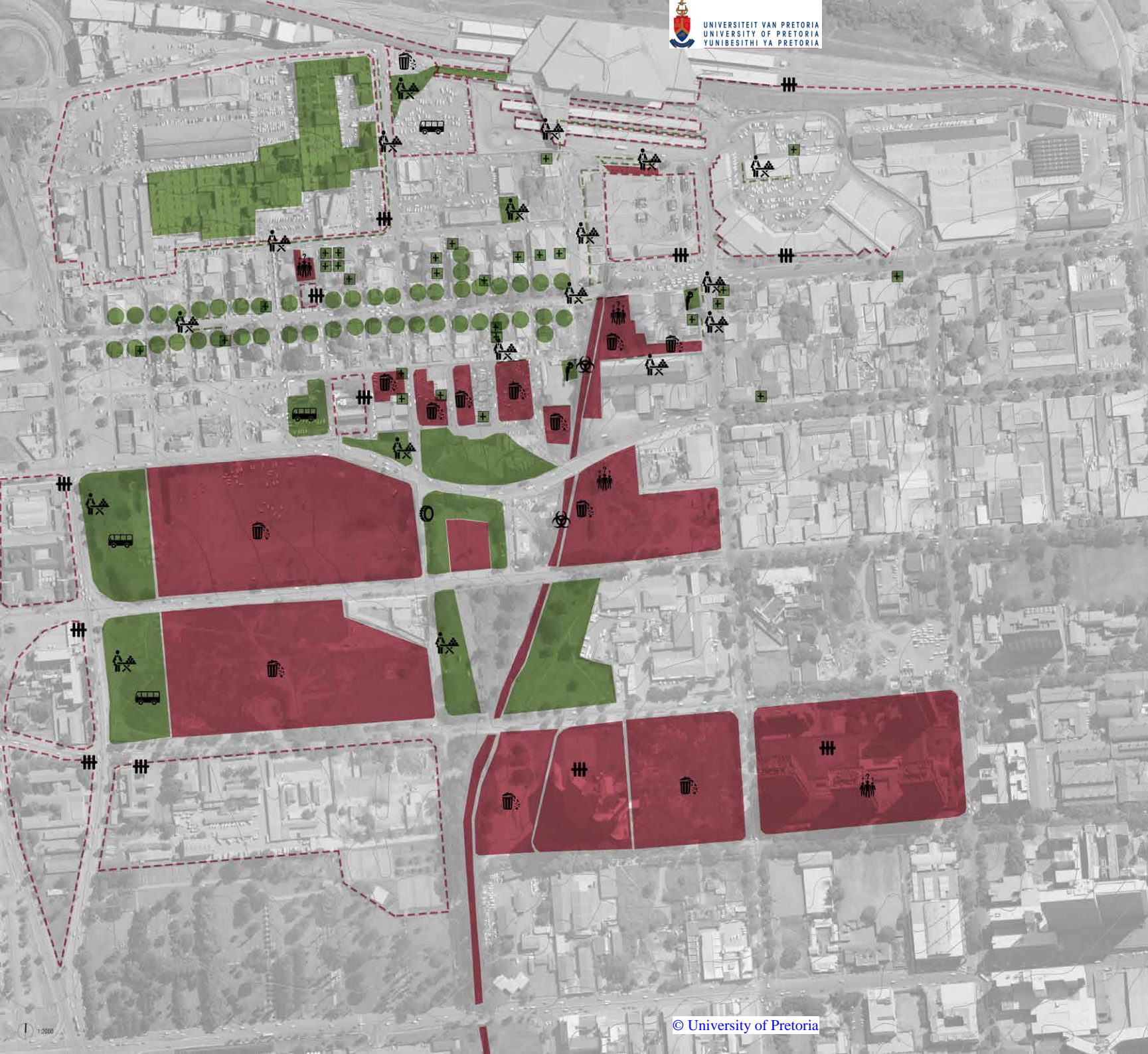
- Informal Taxi Rank
- Tyre Trade
- Informal Trade
- Living Heritage = successful formal retail in old built fabric
- Medicinal Practice
- Hygiene (washing)



**Discouraging spaces**  
Activities in these spaces:

- Waste build-up - on empty land
- Pollution - waste in Steenhovenspruit
- Private / Barrier
- Nomad - empty land with transient homeless dwellers & misappropriated activities
- Urban scale = uncomfortable

Icon Sources:  
 - <https://www.freepik.com/free-vector/infographic-templates>  
 - <https://www.flaticon.com/free-vector/infographic-templates>  
 - <https://www.flaticon.com/free-vector/infographic-templates>  
 - <https://www.flaticon.com/free-vector/infographic-templates>



A couple of weeks later Janeke asks a team member to present the approach to her.

*The approach to the urban vision is one of conservation through insurgence. We agreed that a contextual approach would be necessary (conservation). An approach that respects the strengths of the existing fabric, yet also works against the effects of the failed utopias (insurgence). A series of routes have been identified in the context of this approach: those that relate to memory, culture, culmination, genesis and the 'weave route'. The 'memory route' is part of the proposed conservation of existing heritage assets. The 'cultural route', an insurgence into the existing fabric, strengthens it and provides a new 'branch' which leads towards Pretoria's CBD (Central Business District). The 'culmination route' illustrates a bringing together of the conservation of the existing fabric and the insurgent fabric. The 'genesis', or 'new route', would allow for the creation of new memory, in response to the emerging heritage of Marabastad. Finally, the 'weaving route' illustrates the potential of Steenhovenspruit to serve as a unifying element, stitching the fabric of the east and west together. This route is intended to activate the spruit through civic activity. It would strengthen an existing heritage asset<sup>8</sup>.*

Janeke applauds the team's efforts. She sets about planning the next part of the process.

*The first principle of heterotopia is relevant to the project as it identifies areas of crisis and deviance<sup>9</sup>. We need to identify through mapping, the positive and negative spaces that encourage and discourage activities; the negative areas will be the areas of latent potential for the project.*

The mapping<sup>10</sup> work has been completed by the team and they reflect on it. They discuss what are perceived as borderline negative spaces that have potential due to the existence of trade on the edges, these spaces are usually more pleasant since they feel and smell better than the completely vacant lots.

~

Figure 26: Mapping of positive and negative spaces and the activities that occur in these spaces (Patrick: 2016)

8 Adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)

9 Foucault, M., *Of Other Spaces: Utopias and Heterotopias*. (1984) Available online: <http://web.mit.edu/allanmc/www/foucault1.pdf> Accessed: 18/02/2016. pg5

10 See Figure 26

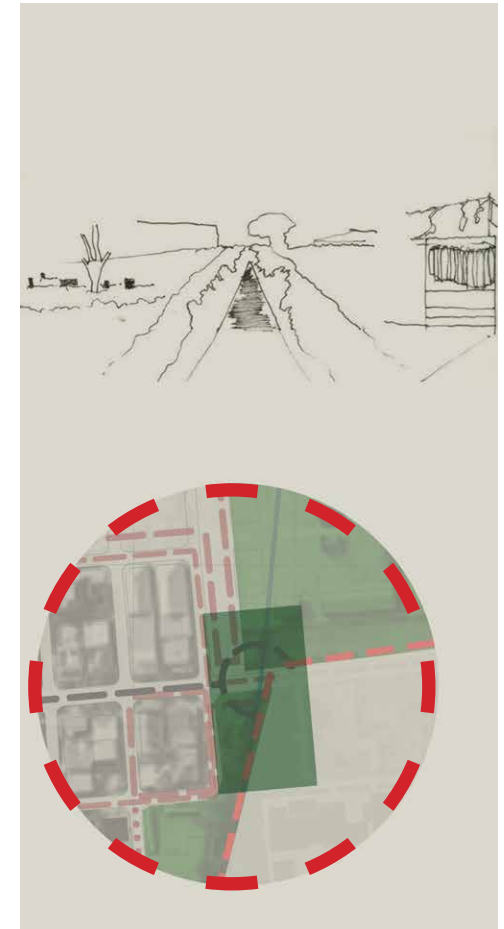


Figure 27: (left) Regenerative and Healing Narrative illustrated through overlaps in the existing ecological and social energies (Patrick: 2016)

Figure 28: (above) The existing condition and boundaries of site (Patrick: 2016)

Figure 29: (right) The potential future physical development of Marabastad (Patrick: 2016)



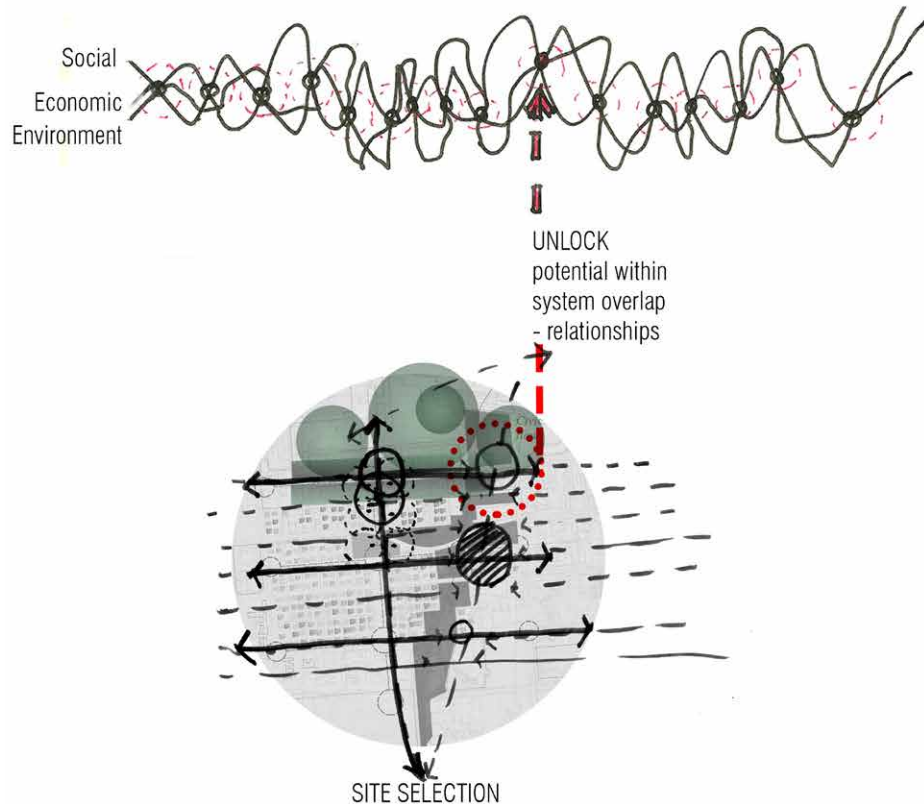
Marabastad Urban Vision

Janeke studies the completed mapping, as well as the urban vision, and contemplates which areas have the most potential for regeneration. She overlays the mapping (of the positive and negative spaces), the degenerated ecologies (where there has been a breakdown of the ecological system) and the areas that the team has identified as having high social energy (pedestrian traffic). She discusses this mapping with her colleagues.

*The areas highlighted on the map have the most potential for regeneration and a 'healing narrative' relevant to the proposed drug rehabilitation centre<sup>11</sup>. I have highlighted the area with the highest density of layering in green. I would like your feedback on whether this is a suitable site or if another would have more potential.*

The team deliberates and agrees with Janeke's choice of site<sup>12</sup>. It is nestled between two clusters of buildings and is bounded by Boom Street to the north and Grand Street to the south. The Empire Theatre is located within the historic fine-grain fabric to the west and is bounded by 10th street. To the east a cluster of buildings terminate on Kgos Mampuru Street.

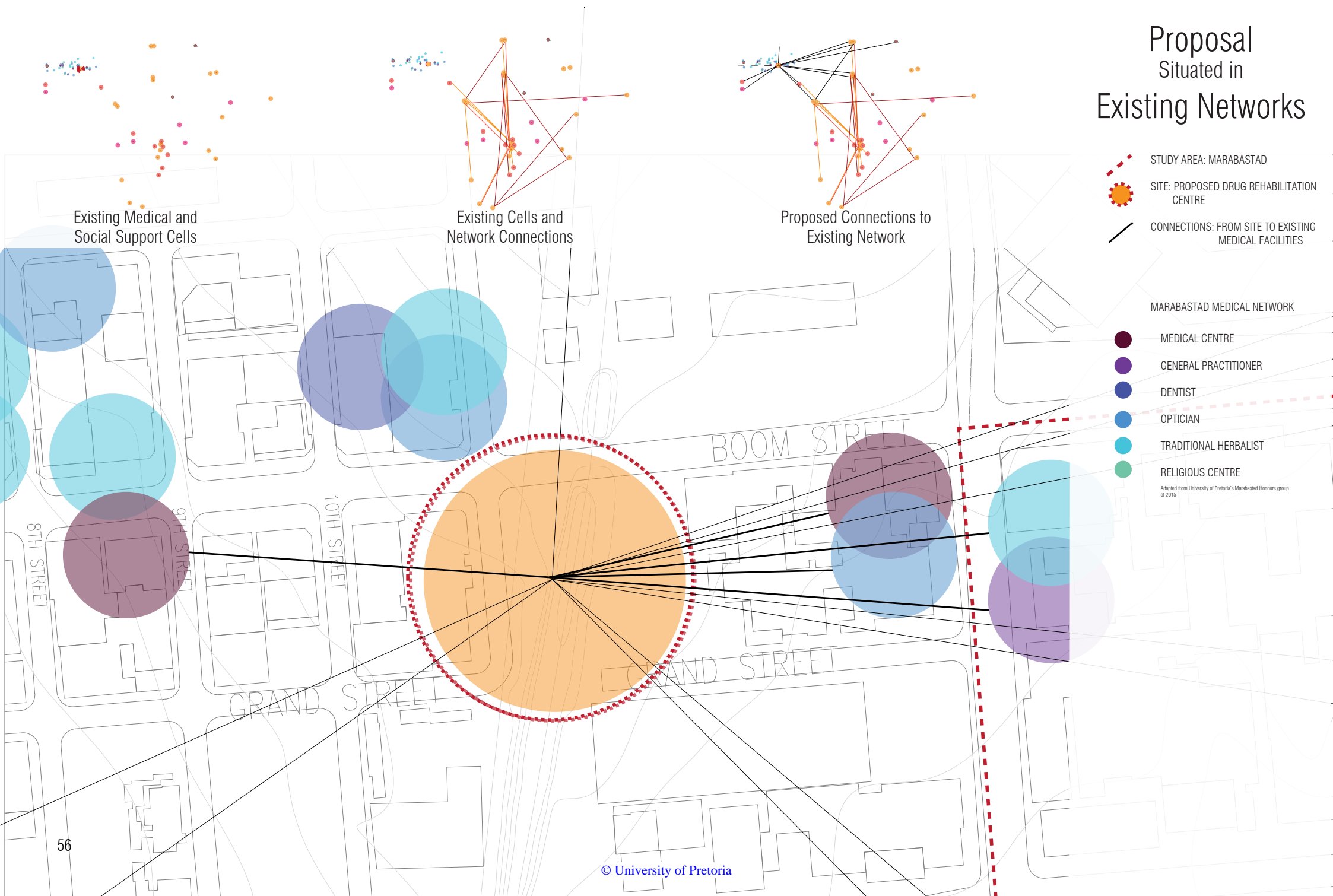
The pedestrian route alongside Steenhovenspruit is one of the routes highlighted within the urban vision<sup>13</sup> as having the potential to draw the positive energy from Boom Street into the more deteriorated parts of Marabastad. This route flows through the chosen site.



= site with most potential for ecological regeneration + existing social energy

11 See Figure 27  
12 See Figure 28  
13 See Figure 29




# Proposal Situated in Existing Networks









Existing Medical and Social Support Cells

Existing Cells and Network Connections

Proposed Connections to Existing Network

-  STUDY AREA: MARABASTAD
-  SITE: PROPOSED DRUG REHABILITATION CENTRE
-  CONNECTIONS: FROM SITE TO EXISTING MEDICAL FACILITIES

## MARABASTAD MEDICAL NETWORK

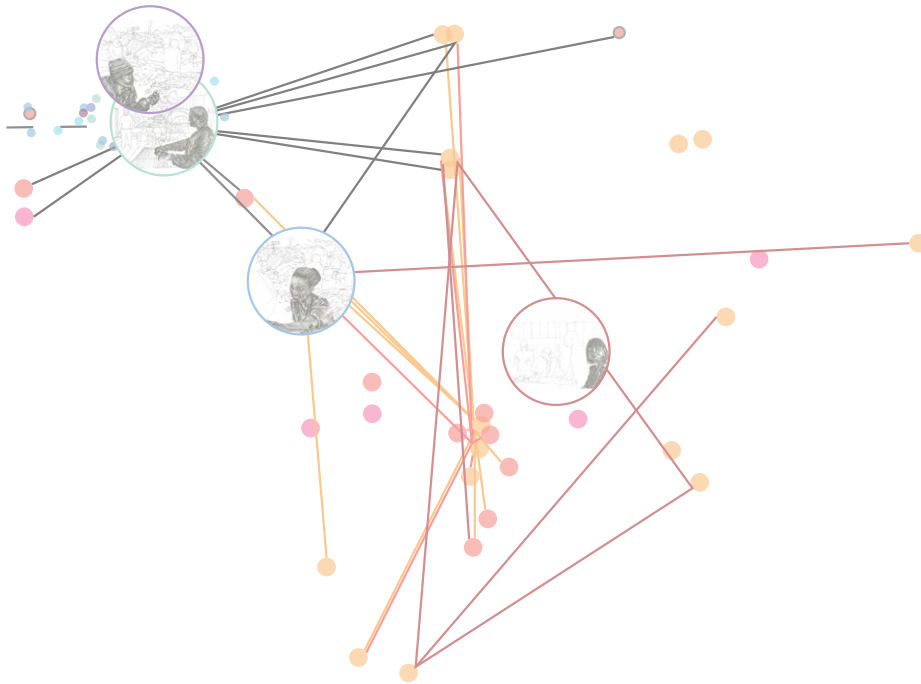
-  MEDICAL CENTRE
-  GENERAL PRACTITIONER
-  DENTIST
-  OPTICIAN
-  TRADITIONAL HERBALIST
-  RELIGIOUS CENTRE

Adapted from University of Pretoria's Marabastad Honours group of 2015

# Eight

## The Re-integration of Place

### Site Context & Analysis



Janeke's regenerative approach to place, provides a lens which directs her reading of the context. She remarks on the project as she sits with Mr Pillay and Dr Radebe.

The urban mapping and vision provide the framework in which the project can develop. Further investigation and site analysis are required in and around the chosen site.

Janeke examines the process of transforming the site from a neglected state into a thriving environment that would provide prospects and refuge for the people of Marabastad. Regenerative development provides the means to tap into the latent potential identified on site in order to restructure the environment so that it provides support and possible rehabilitation for the homeless and vulnerable people of Marabastad.

Dr Radebe and Janeke establish direct connections between the various nodes (medical and social support facilities) that have already been mapped by Janeke. These connections are based on the network of social support existing between the facilities (affiliations). The result is a clear **network of support** that was not connected to Marabastad.

Together they discuss ways in which the project can be linked to the greater network of support in order to connect the homeless and vulnerable of Marabastad to those support facilities throughout Tshwane. They also consider the site within the context of the existing private medical network in Marabastad. The practices could be integrated with the greater network in order to provide greater support for the homeless.

It is agreed that the existing medical centre on the corner of Boom Street and Kgosi Mampuru Street<sup>1</sup> should be integrated into the project.

Figure 30: (left) Situating the study area within the existing support network and establishing connections to strengthen the network (Patrick: 2016)

Figure 31: (above) Janeke's perspective of events is narrated in this chapter - highlighted within greater network (Patrick: 2016)

<sup>1</sup> See Figure 30 - the medical centre is indicated in dark purple



MAGALIES BERGE RIDGE

WONDERBOOM

WITWATER BERGE RIDGE

Marabastad

PRETORIA CBD

UNION BUILDING GARDENS

WESKOP SALVOKOP

LUKASRAND

SKANSKOP

KLAPPERKOP

LANGEBERGE RIDGE

MAP/KAART N° 5  
REFERENCE/VERWYSING

EXISTING AND PROPOSED TOURISTIC FEATURES  
BESTAANDE EN VOORGESTELDE TOERISTE GLANS PUNTE

OLD KRAAL  
OU KRAAL

VIEW POINT  
UITSIGPUNT

SCENIC ROAD  
UITSIGRYLAAN

Janeke then discusses the question of an **ecological network** and its relationship to site, with Dr Radebe. They study a map that shows in green and blue the networks of Tshwane.

*As you can see, the Steenhovenspruit divides the one side of the site from the other. It flows into the Apies River behind the Belle Ombre Station, connecting the channelised river to the greater City of Tshwane's green network<sup>2</sup>. This map shows Steenhovenspruit as just a small part of a much larger ecological network. The flow of Steenhovenspruit through the study area is a point of latent potential for regenerative development.*

*We have investigated the existing social and ecological networks; if we layer these networks a pattern of place will become apparent. The river, as an important natural feature, becomes an informant for the development of an appropriate architectural language for the place. The presence of water introduces imagery with all its sensory experience: tactile, visual, auditory, olfactory and gustatory. Water is an essential part of the daily ritual: bathing, drinking and recreational activity. Water throughout history has provided a meeting place for both humans and animals; a gathering space for the Ancient Romans was the bathhouse while the waterhole assures survival in the wild<sup>3</sup>. Water has been a significant symbol, in mythology and in the different cultural traditions. It is considered sacred by some<sup>4</sup>. The intention is to re-establish a connection between the river, as a symbolic element, and the inhabitants; this would be a simultaneous process, along with the regeneration of the living system of Marabastad. The ecological and social systems are already inclined to overlap in this way.*

*In order to propose a regenerative design, these patterns need to be translated into conceptual design ideas. This materialises by aligning the points of latent potential with the aspirations of site<sup>5</sup>. Thereafter, place and aspiration need to come together. This whole process is iterative – in order to optimise each system in relation to the whole<sup>6</sup>.*

~

2 See Figure 32. The rivers are highlighted in blue and the ridges in green. Marabastad is highlighted with a red circle and Steenhovenspruit flows through this area and links up with the Apies river to the north of Marabastad.

3 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 263

4 Seamon, D. & Mugerauer, R., *Dwelling, place and environment: towards a phenomenology of person and world* (Dordrecht, Martinus Nijhoff Publishers: 1985), 266

5 Reed, B, *Living Systems Approach to Design (AIA National Convention Keynote Address – Regenesis & Integrative Design Collaborative* (2007) Available online: [www.regenesis.com/resources/](http://www.regenesis.com/resources/) Accessed: 26/02/2016, 678

6 Reed, B, *Living Systems Approach to Design (AIA National Convention Keynote Address – Regenesis & Integrative Design Collaborative* (2007) Available online: [www.regenesis.com/resources/](http://www.regenesis.com/resources/) Accessed: 26/02/2016, 680

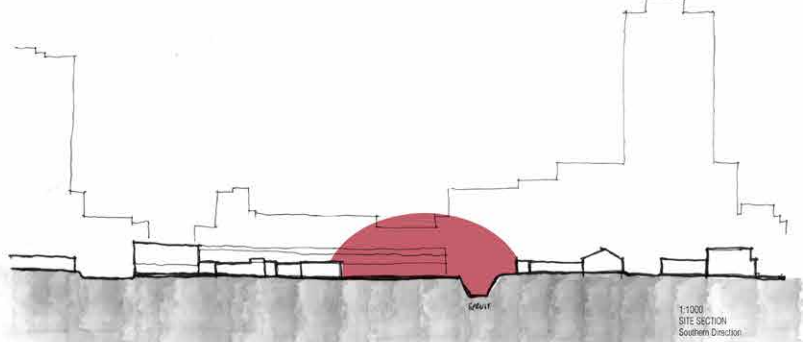
Figure 32: Image adapted by (Patrick: 2016) from (Crous: 2016) illustrating the ecological networks that connect Marabastad to the greater Tshwane region

# Phenomenological Understanding of Place

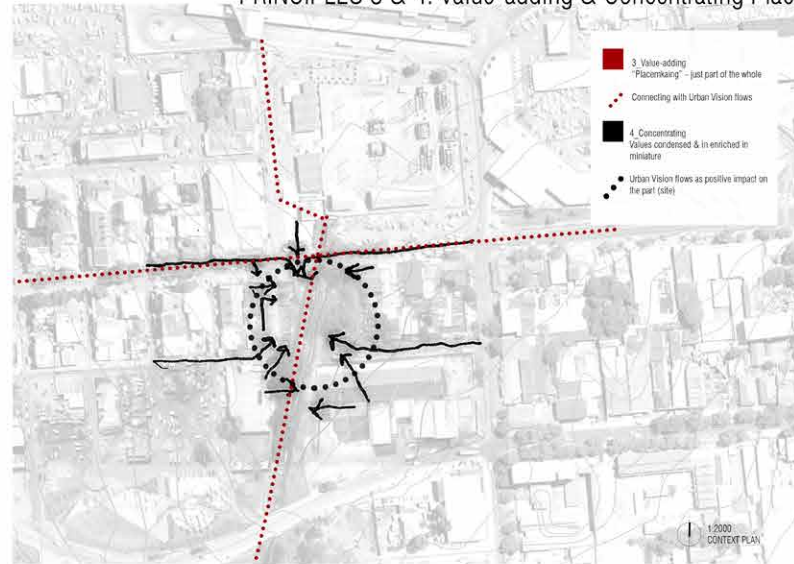
[adapted from Stephen Mang's Principles (Mang: 2009)]



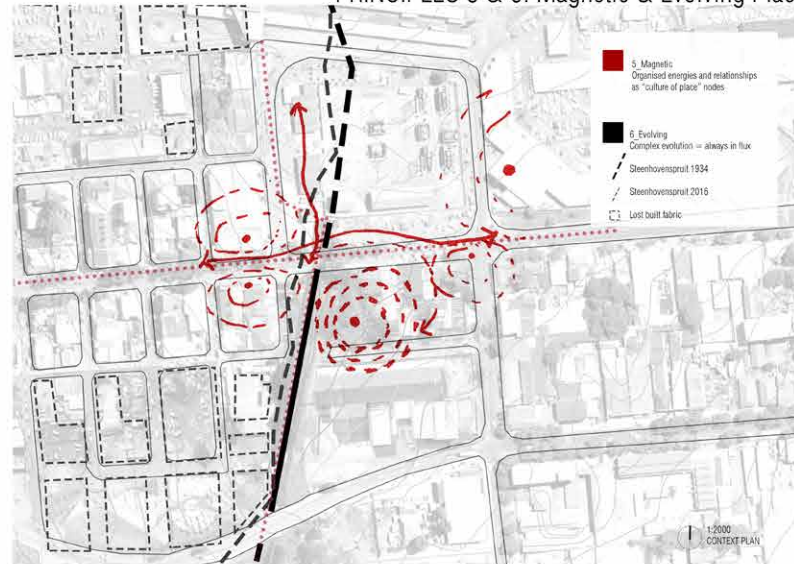
PRINCIPLES 1 & 2: Interconnected and Bounded Place



PRINCIPLES 3 & 4: Value-adding & Concentrating Place



PRINCIPLES 5 & 6: Magnetic & Evolving Place



Readings of the site develop in the context of regeneration and from the perspective of Mang's phenomenological understanding of place: human relationship with place and the way in which humans inhabit and relate to place<sup>7</sup>. This helps Janeke to understand both the ecological and qualitative aspects of the site.

Janeke shares her **analysis** of site with Dr Radebe.

*The phenomenological understanding of place is defined as a living phenomenon of attributes that are a series of dyads (complementary systems that balance living systems)<sup>8</sup>.*

*The first dyad involves both the first principle of interconnectedness and the second principle of bounded place. This dyad is concerned with the interconnected quality of place as defined by its relationship to other places. The built fabric (in black) defines the gap between the fabric (in red) clearly illustrating the bounded aspects of place. The gap is physically bounded by the city blocks and dissected by the water channel. The gap in the fabric appears to be 'nested' between buildings, water and landscape. This gives the place a certain quality of isolation.*

*The second dyad is the third principle of value-adding and the fourth principle of concentrating. Value-adding to the greater whole of Marabastad is illustrated in red. The site has the potential to add value to the entire area of Steenhovenspruit, which, in turn, has the potential to become a unifying element that stitches the fabric of the city and Marabastad together. The black arrows illustrate how the principle of concentrating allows for enriched spaces in the miniature. All energy-flows (off Boom Street) and other foot traffic, have the potential to concentrate here (rather than bypass it).*

*The final dyad is the fifth principle of magnetic forces and the sixth principle of the process of evolution of site. Magnetic flows are illustrated in red, as organised energies and relationships within the site. Parts of the site, east of the Steenhovenspruit, have a stronger magnetic force than others (people tend to congregate here).*

~

Figure 33: Site analysis through Mang's Phenomenological Understanding of Place (Patrick: 2016)

7 Mang, N. S., *The Rediscovery of Place and Our Human Role within it* (California: 2009)  
8 Mang, N. S., *The Rediscovery of Place and Our Human Role within it* (California: 2009), 9-14  
These are analysed in Figure 33

# Degenerated Aspects of Site

- 60+ years  
Heritage Fabric: typology value  
(source: ARUP)
- Lost natural landscape along and around  
the natural river (1934 - 1960)
- Lost trees over time - quality of space
- Lost built fabric pre 1934 time frame
- Built fabric from 1934 - 1965  
remaining on site
- Recent built fabric (post 1998)



Janeke discusses her findings concerning degenerated aspects of site<sup>9</sup> in and around the study area with Dr Radebe and Mr Pillay.

*Many of the buildings along Boom Street are classified as heritage buildings because of their value in terms of building typology<sup>10</sup>. Although the built fabric on the site includes buildings older than sixty years, none of them is classified as such. Much of the original landscape that surrounded the natural river, pre 1920, no longer exists. The substation was built over a substantial portion of it. When the river was channelised in 1920, the channel went underground at the substation and only re-emerged after the Belle Ombre Station. The more recent construction of the chicken factory, on the corner of Grand and Kgosi Mampuru Streets, was built over another substantial part of the natural landscape. The few pockets of open space that remain are degenerated spaces and the river is in a polluted state.*

*In order to facilitate healing of the environment, it is necessary to understand the degeneration and neglect of both the place and its inhabitants. In this way, the inhabitants are made aware of a prospective regeneration and reintegration of the site.*

Mr Pillay comments that the existing activities on site also influence the degeneration of the site. These activities have an effect upon whether the urban edges are active or dead<sup>11</sup>. Janeke focuses on certain activities that came to her attention.

*A flourishing mielie trade exists: mielies piled high on the back of bakkies, are transported to areas where they are cooked over open fires. Then they are taken to be sold off-site.. This process is no different from the recycling collectors' process of collection and sorting on site, with dispatch to the recycling depot elsewhere. These activities could form part of the community's participation in the process of regeneration of site.*

*Transient forms of trade along the edge of Boom Street attract pedestrian traffic. Clients, however, do not venture further into the site, even though this point functions as a gateway into Marabastad. Its status as an entry point could be improved by upgrading the urban environment and creating recreational activities in the open spaces, to entice people into the area.*

She turns to Dr Radebe now.

*The relationship that you and your colleagues have with the people on site has connected this project to the network of support for the homeless and the vulnerable. One of the main project drivers has been your knowledge and understanding of site and it has provided a means of including the community in the design process - there is an existing relationship.*

Dr Radebe nods in agreement and adds that the activities surrounding the site are also important. Janeke goes on to say that the existing medical centre, on the corner of Boom and Kgosi Mampuru Streets, could form an

9 See Figure 34

10 This was determined from the following sources:  
GWA Studio, Aphane View & Urban Heritage Group, *Precinct 2: Capital West Block 01-08* (2012) (Heritage Value Mapping)  
GWA Studio, Aphane View & Urban Heritage Group, *Precinct 2: Capital West Block 09-35* (2012) (Heritage Value Mapping)

11 See Figure 35

Figure 34: Degenerated Aspects of Site (Patrick: 2016)

# Existing Edge Conditions

- Highly Active Public Edge
- Average Active Public Edge
- Average Dead Public Edge
- Highly Dead Public Edge



integral part of the project. Janeke points to Mr Pillay's shop on the map, suggesting that local shop owners could provide employment as an integral part of the project: internships for the recovered drug addicts as a continued form of re-integration. Mr Pillay jumps at this idea and comments that other shop owners would probably also be willing to offer an internship, like the car mechanic workshop next door to him. Dr Radebe remembers that there are also skills development associations like the People Upliftment Programme<sup>12</sup> within the existing support network. Janeke recalls similar skills development opportunities near the old native reception depot - the office is doing a heritage project there. They agree that this is another way to include the community in the process of re-integration (and regeneration).

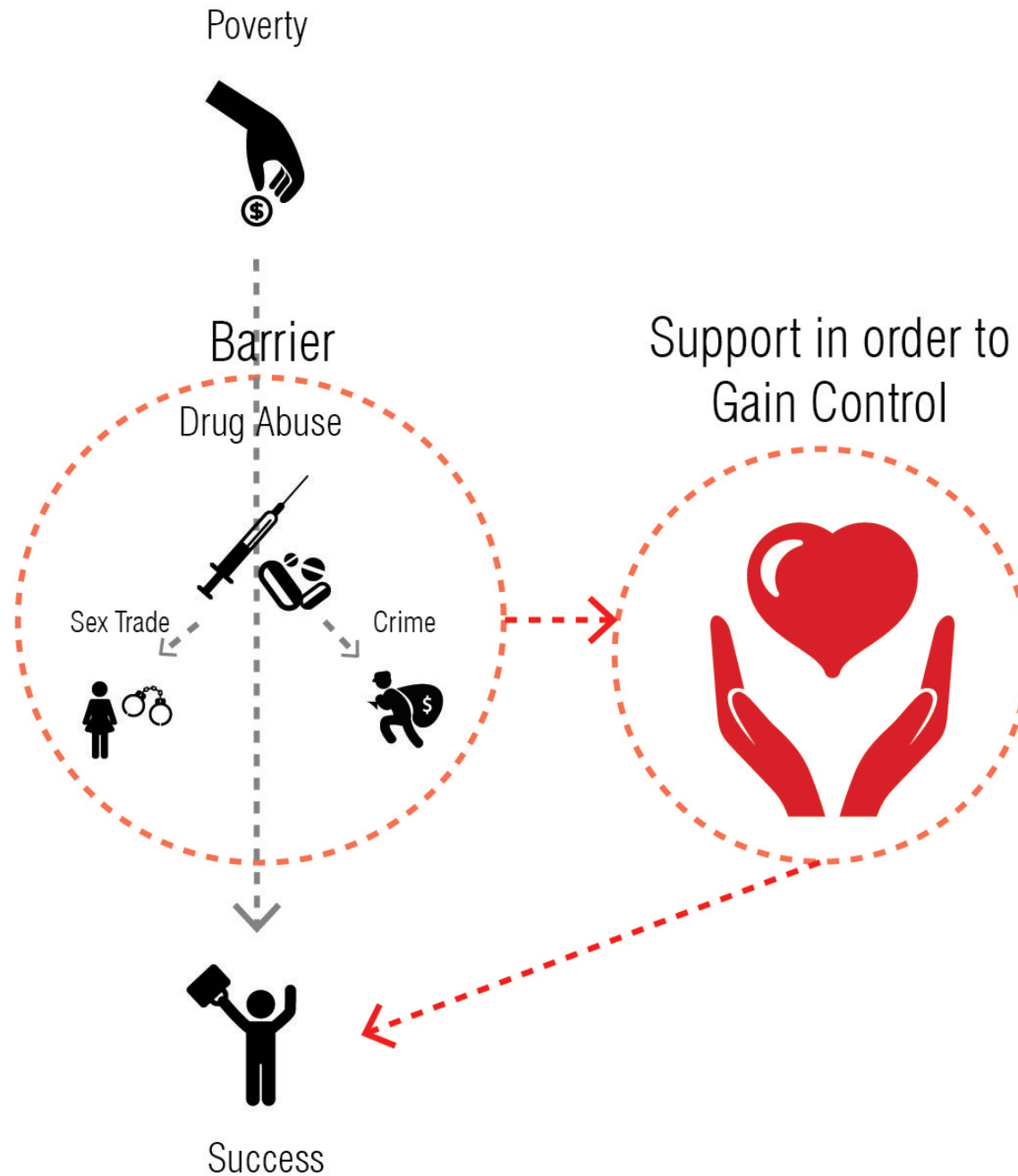
~

In the office, Janeke discusses the project with her colleagues.

*My conclusion from the analysis of site is that there is potential to stitch the built fabric together with an architectural intervention. The degenerated sites may be improved by re-establishing a connection with water (addressing the pollution issue in the process), and improving the urban edge conditions in relation to the street condition and the courtyard spaces within the historic built fabric. The intervention could become part of the existing built fabric through adaptive re-use, new structures or spaces cutting into the existing, or literally bridging the spruit as a form of connecting the fabric on either side, and addressing the polluted state of the river. The energy coming off Boom Street could be drawn in by this intervention, to activate the dead spaces within a positive open space and the existing built fabric.*

Figure 35: Active and dead edges and the activities that currently occur on these edges (Patrick: 2016)

12 POPUP (People Upliftment Programme) provides skills at their centre in Salvokop: life skills, AET (Adult Education and Training), ECD (Early Childhood Development), hospitality services, sewing, home-based care, office administration and waitron training.  
They also provide skills in a centre in Shoshanguve.  
POPUP. *Personal Growth Programme* (2016) Internet: <http://www.popup.co.za/> Accessed: 18/03/2016



# Nine

## The Re-integration of the People

### Definition of Client & Approach to Treatment

Now, Janeke through her numerous site visits with Dr Radebe, has a growing understanding that drug addiction is just one aspect of the complex issue of homelessness<sup>1</sup>. This issue involves our **client**, the street homeless of Marabastad especially the drug addict; in order to determine what infrastructural and social support is necessary, a thorough investigation is required in order to bring about reintegration through this architectural project.

Janeke has learnt from attending the 'Pathways out of Homelessness Conference', that facilities for the homeless should include safe-housing, sufficient amenities, education, assistance in finding employment and provision for the treatment of substance abusers<sup>2</sup>.

Dr Radebe and Mr Pillay are talking to Janeke about the project. It involves a reviewing of drug addiction, rehabilitation and re-integration, as well as support platforms for the homeless people of Marabastad.

Dr Radebe shares her knowledge regarding the current model used in state drug rehabilitation centres, and the new model proposed by COPC (Community Orientated Primary Care): a harm reduction strategy. She flips through a booklet of basic norms and standards, as well as strategies for in-patient treatment centres<sup>3</sup>.

*The National Department of Social Development provides guidelines to be adhered to by these centres. They propose various levels of service delivery: prevention, harm-reduction, statutory process and continuum of care. The first level, namely prevention, is intended to provide access to resources, for the community, in order to prevent drug dependency<sup>4</sup> However, the public are often not aware of the many free services that are available to them, including both in-patient and out-patient facilities<sup>5</sup>. The second level, namely harm reduction, is severely hampered by inefficiencies associated with admission protocol<sup>6</sup>. An example of this is when a patient*

- 1 See Figure 36 - the complex issue of drug addiction within a complex issue of homelessness
- 2 According to Marianne De Klerk in Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria, *Pathways Out of Homelessness: Research Report 2015*. Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Access Date: 22/04/2016, 20
- 3 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria
- 4 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 20
- 5 This was observed in the number of callers that called into 702Talk radio station asking where they can send their loved ones that are struggling with drug addiction. 702Talk, *Missing Link with Drugs*. (08/06/2016) Internet: <https://omny.fm/shows/the-best-of-redi-tlhabi/> Accessed: 08/06/2016
- 6 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 22

Figure 36: Intervention that provides support to get over the barrier of drug addiction - healing of place and people (Patrick: 2016)



*is referred to a centre, only to be subjected to long queues and unnecessary bureaucratic complexity. The third level, namely statutory, caters to people who have been involved in criminal activities that involve substance abuse<sup>7</sup>. The final level, providing for a continuum of care, focuses on patient improvement during treatment<sup>8</sup>.*

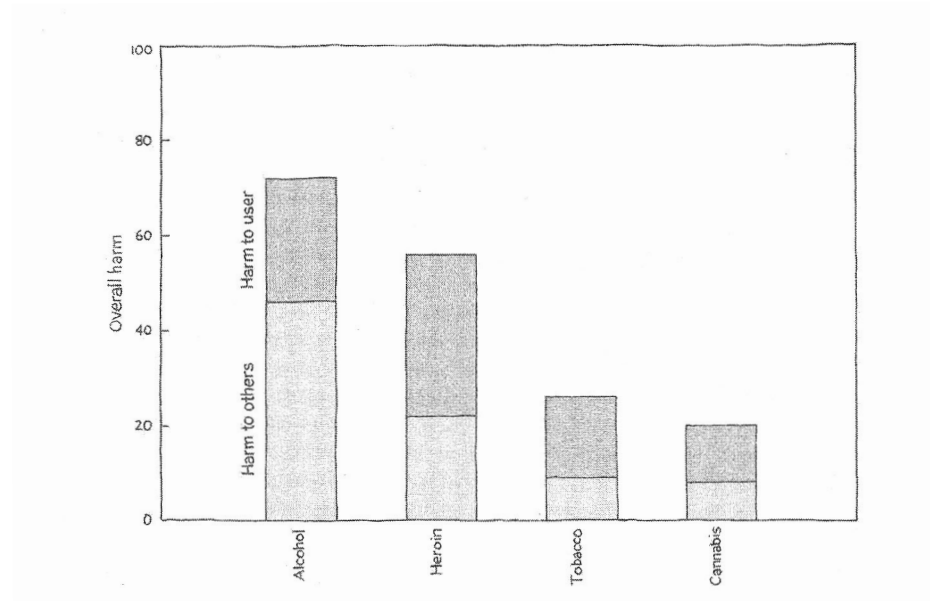
*Although the intention behind these levels of service delivery is admirable, their application on the ground is not ideal. The detoxification protocol speaks of “safe, quiet and comfortable spaces for the detoxification process”<sup>9</sup>. However, a hospital environment with rows of beds lining the walls is not conducive to a feeling of well-being<sup>10</sup>. The daily treatment programme<sup>11</sup> only provides group therapy<sup>12</sup> which does not cohere with a continuum of care. How would a rehabilitated drug addict, now ‘clean’, re-enter and adjust to life within the community? However, there is provision for after-care where the patients are referred to social workers and social community centres<sup>13</sup>.*

*The guidelines, as set out by the National Department of Social Development, suggest the provision of spaces for relaxation, solitude, exercise and recreation. Unfortunately, the reality is often just a room with a television set and an outdoor area for playing soccer<sup>14</sup>. The sleeping areas, mostly shared, consist of dormitories with few individual rooms, and even these do not have much more space than is required for a bed. This does not constitute an environment which lends itself to relaxation or an enjoyment of solitude<sup>15</sup>. Some of the rooms are clustered around a small courtyard – these spaces have the potential to be developed as positive spaces<sup>16</sup>. There is some provision, according to the standards, for the cleaning of spaces and for the preparation of food (for a minimum of four hours a day)<sup>17</sup> but due to the outsourcing of these types of services, there is often a lack of implementation of policy<sup>18</sup>. Due to spaces not being maintained, patients cannot feel responsible or develop a sense of ‘ownership’<sup>19</sup>. All of this undermines the intention to provide “an acceptable residential environment that enhances the positive self-image of patients/clients...[and that] preserves their human dignity”<sup>20</sup>.*

*Many centres provide treatment in places far removed from the city, for instance the Dr Florence Fabian Ribeiro Treatment Centre in Cullinan. This does not help in any way the re-integration process, as patients are so removed, during their recovery, from their day-to-day environment.*

- 
- 7 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 24
- 8 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 26
- 9 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 31
- 10 This information was distilled from a site visit that took place at Dr Florence Fabian Ribeiro Treatment Centre in Cullinan, on 18 May 2016
- 11 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 33
- 12 This information was distilled from a site visit that took place at Dr Florence Fabian Ribeiro Treatment Centre in Cullinan, on 18 May 2016
- 13 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 33
- 14 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 42
- 15 This information was distilled from a site visit that took place at Dr Florence Fabian Ribeiro Treatment Centre in Cullinan, on 18 May 2016
- 16 This information was distilled from a site visit that took place at Dr Florence Fabian Ribeiro Treatment Centre in Cullinan, on 18 May 2016
- 17 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 34
- 18 This information was distilled from a site visit that took place at Dr Florence Fabian Ribeiro Treatment Centre in Cullinan, on 18 May 2016
- 19 This information was distilled from a site visit that took place at Dr Florence Fabian Ribeiro Treatment Centre in Cullinan, on 18 May 2016
- 20 Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres*. Pamphlet. Pretoria, 44

Figure 37: A photo selected from the photo essay by Lindokuhle Sobekwa: *Nyaope. Everything you give me my Boss, will do*. [Image source: (Sobekwa: 2015)]



Dr Radebe looks at Janeke and Mr Pillay as she places the book of standards on the table. Mr Pillay responds to Janeke.

*But in our case, the proposed project is situated on a busy street in Marabastad. This already differentiates it from the existing norm, since patients remain in the community and in this way their re-integration, once recovered, is facilitated.*

*Tell us about the harm reduction strategy proposed by COPC.*

Dr Radebe picks up a file of loose papers and begins to explain the harm reduction strategy.

*The City of Tshwane is investigating how to coordinate public health and clinical care, and to work with people in their communities. They have adopted a Community Orientated Primary Care approach to service delivery<sup>21</sup>.*

*Their strategy looks at drug addiction as affecting not only the individual, but also their families<sup>22</sup> and the community as a whole. Both biologically and psychologically, addiction is harmful as it affects the social well-being of all parties involved. At a global level, the most successful approach thus far to the management of substance abuse and dependency, has been three-tiered: to reduce demand, limit supply and diminish harmful effects<sup>23</sup>.*

*In the late 1990's, with the increase of the smoking and injecting of heroin in South Africa, there was a greater demand for the drug<sup>24</sup>. The continuing demand is cause for concern due to the potential for the spread of infectious diseases, due to drug abuse and the sharing of syringes; HIV/Aids and TB are notably related to drug abuse<sup>25</sup>. This is a major public health concern as it increases statistics associated with the annual deaths related to disease.*

*If successful rehabilitation has been achieved, it remains nevertheless difficult for a person to be reintegrated into society. The WHO (World Health Organisation) posited that drug addiction is a bio-psycho-social health disorder and therefore requires a multi-disciplinary approach to treatment. This approach requires psychotherapeutic, social and pharmacological interventions that include the family or care network in the healing process<sup>26</sup>. It goes against the common approach of abstinence. The harm reduction approach is a bio-psycho-social strategy aiming to reduce harmful effects of substance abuse in the context of the use / abuse continuum and to decrease dependency by improving the general well-being of the individual<sup>27</sup>. OST*

21 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 10

22 See Figure 38

23 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 3

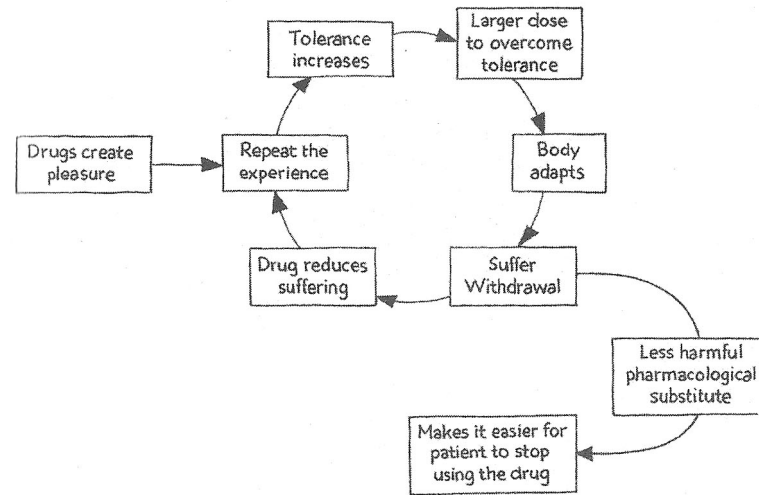
24 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 3

25 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 4

26 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 7

27 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 8

Figure 38: (left) The graph illustrates the harm of four drugs, including heroin, to the user and to others (Nutt: 2012: 44)



*(Opiate Substitution Therapy) is integral to this strategy<sup>28</sup>; heroin is replaced with an opioid agonist<sup>29</sup> or partial agonist<sup>30</sup>. This substitution relieves the withdrawal symptoms without producing the “high”<sup>31</sup>; this ensures that other aspects of the individuals’ well-being may be ameliorated.*

*Nyaope addiction, which is prevalent at present in Marabastad, begins with experimentation, progressing to substance abuse and addiction<sup>32</sup>. Individuals are addicted to heroin, in addition to other substances, and become physiologically dependent. Acute withdrawal symptoms are experienced when the drug is not taken; these are often flu-like in nature and easily relieved by another ‘hit’ of heroin. The withdrawal process is very dangerous if there are no medical professionals to attend to the symptoms and monitor the individual, as well as to prevent their access to more heroin<sup>33</sup>. It is common to become dependent on alcohol after trying to go off opiates, but this is dangerous because the combination of alcohol and OST can lead to respiratory depression<sup>34</sup>.*

Mr Pillay is deeply distressed and comments that this approach might be more beneficial, in the context of Marabastad, than what is currently being implemented. Janeke agrees and goes on to say:

*When an addict is experiencing withdrawal symptoms, they are in need of a nurturing environment. The project that we are proposing involves an approach of harm reduction, as proposed by the Department of Family Medicine and the UP COPC Research Unit, which will be adopted as an alternative to existing approaches to drug addiction.*

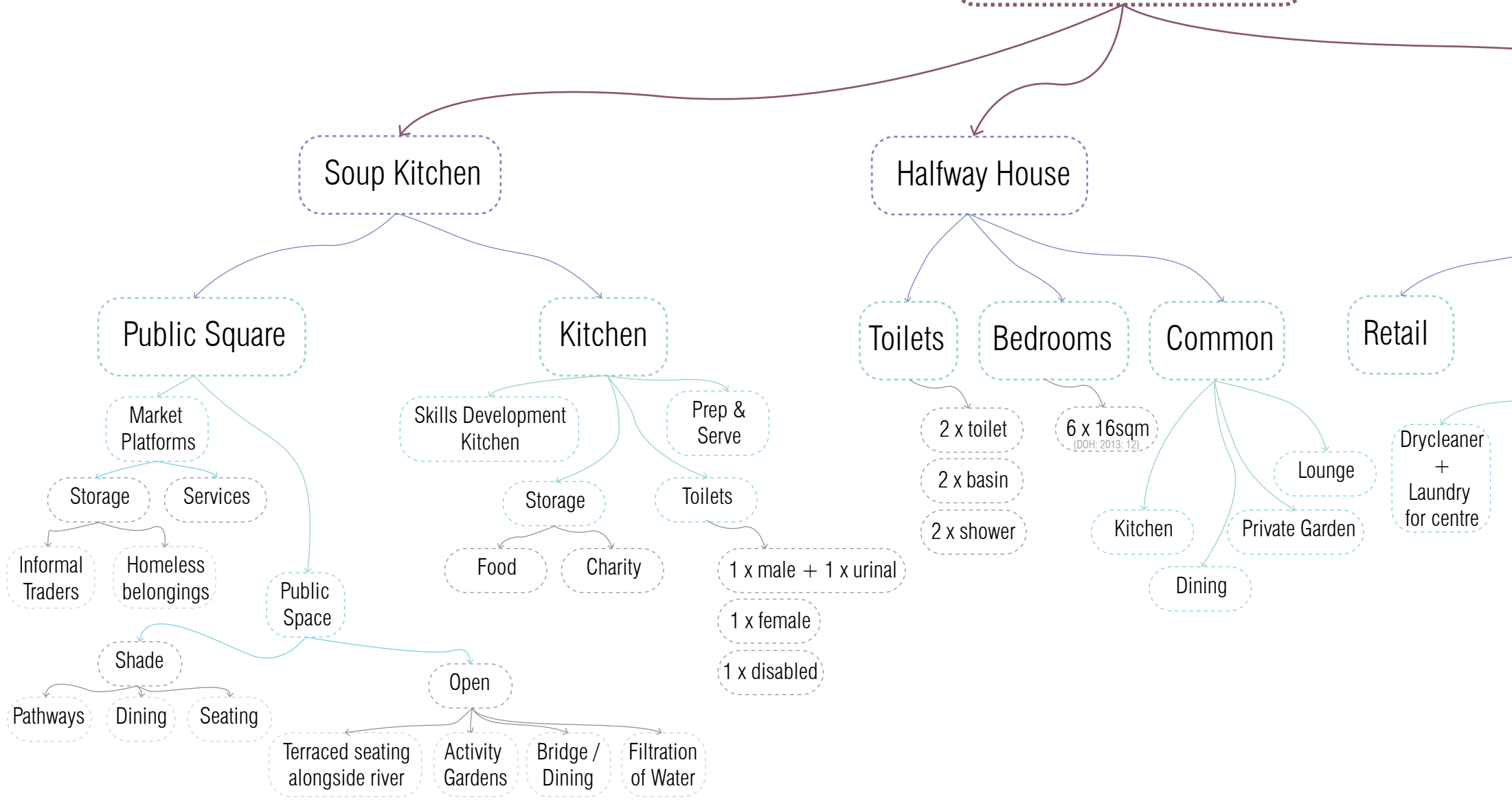
~

- 
- 28 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 8  
See Figure 39
  - 29 Such as Methadone  
Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 8
  - 30 Such as Buprenorphine sometimes mixed with antagonist Naloxone  
Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 8
  - 31 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 8
  - 32 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 6
  - 33 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 8
  - 34 Department of Family Medicine, *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. (University of Pretoria: 2015), 7

Figure 39: (left) The diagram highlights that pharmacological substitutes can help break the cycle of withdrawal (Nutt: 2012: 159)

# Support Base

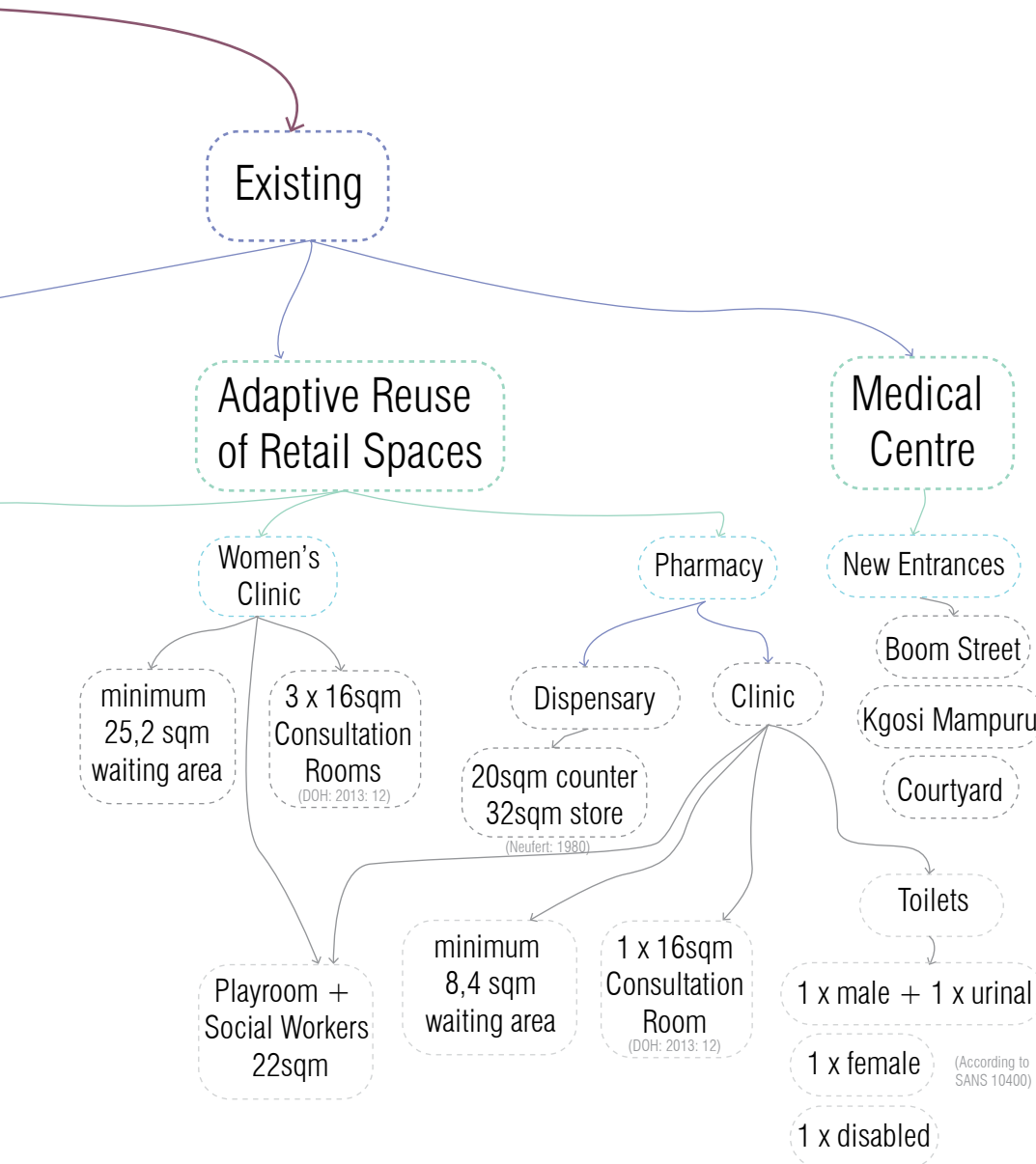
## ANCILLARY FUNCTIONS



# Ten

## The Re-integration of the People

Programme(s) Definition: Spatial & Quality



Janeke and Dr Radebe are on site discussing how the building can best provide support for the community. Dr Radebe has some interesting suggestions.

*If we were to consider the list of facilities for the homeless which we have discussed, ablutions and a shelter are already in place. The ablutions, west of Steenhovenspruit on Grand Street, are in need of an upgrade and a more prominent entrance to provide access. The existing Struben Street Shelter also requires an upgrade of facilities, as presently it does not provide adequate shelter.*

Janeke begins sketching on the map that is in front of them as she considers the existing facilities that Dr Radebe has mentioned as well as the projected ones. After some thought Janeke responds.

*My feeling is that this is a multi-faceted project, and as such it should provide facilities that cater for a wider community, not only for the drug addict. I would suggest that as ancillary functions to the drug rehabilitation centre, we provide a soup kitchen, halfway house (intermediary or transitional between homelessness and reintegration), a pharmacy and a clinic for women. The existing medical centre, as well as the row of shops on Boom Street, should be adapted and considered as ancillary functions. The soup kitchen, beyond providing food, implies the concern of the community. This could also be seen as an environment for providing access to existing support networks, where people can find out about skills development and medical services, elsewhere in Tshwane, that may not be catered for in our project.*

*The primary activities associated with drug rehabilitation, ought to afford far more privacy. There are various stages of rehabilitation and these require different kinds of accommodation. In addition there would need to be therapy rooms, a library and common room, courtyards, skills workshops and facilities for the staff.*

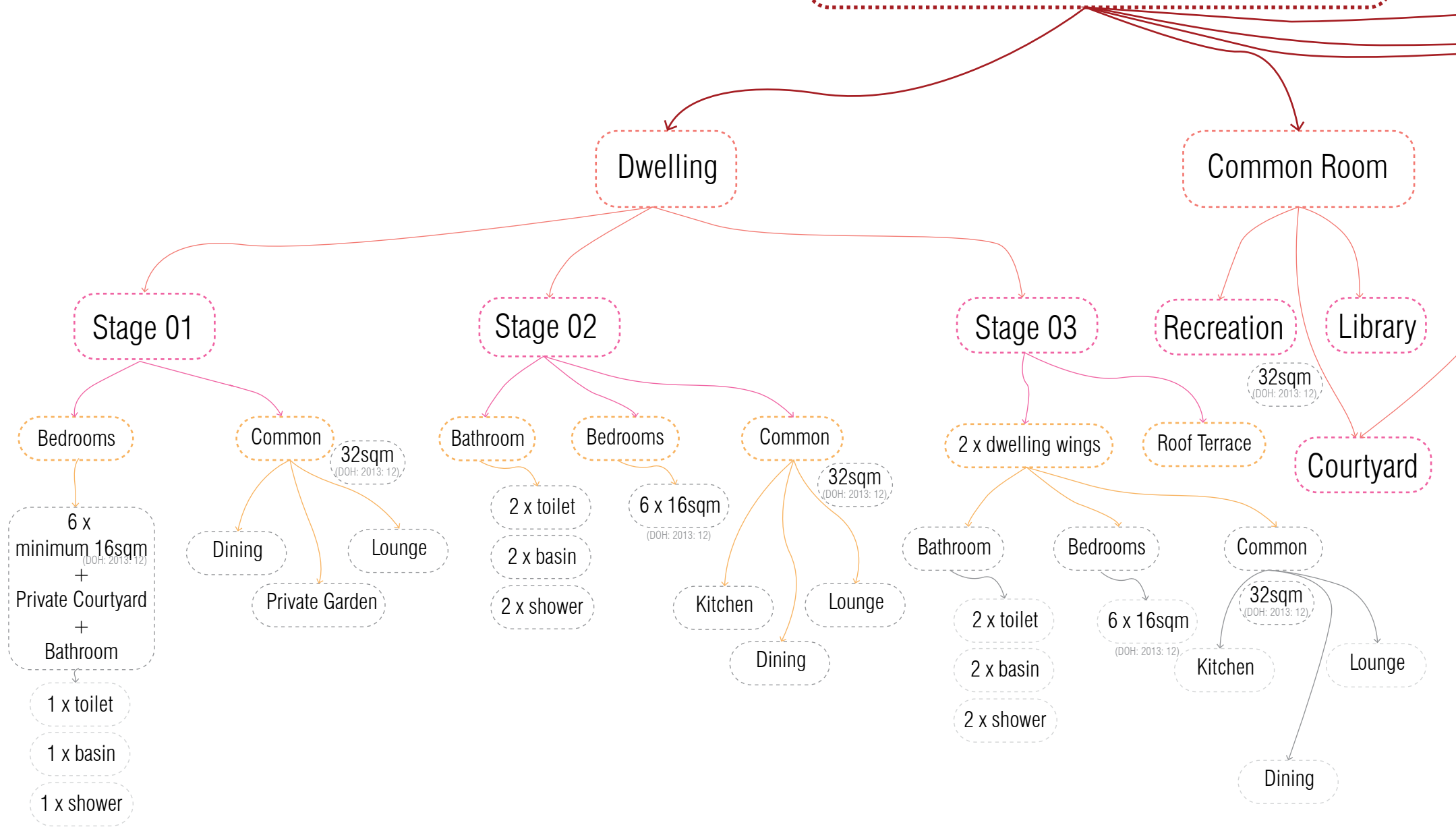
Dr Radebe feels concerned that the project might be becoming too complex and attempting to house too many functions. Janeke assures her that in the same way that drug addiction should be treated through a multi-disciplinary approach, so too, the complex issue of homelessness (including drug addiction) should likewise be treated in a multi-faceted manner. Each function forms a part of the network which connects Marabastad to the greater support network. Janeke decides to put together a framework to enable a clearer understanding of the project and its attendant functions<sup>1</sup>.

Figure 40: Ancillary Functions of the project (Patrick: 2016)

1 See Figures 40 & 41

# Drug Rehabilitation Centre

## PRIMARY FUNCTIONS



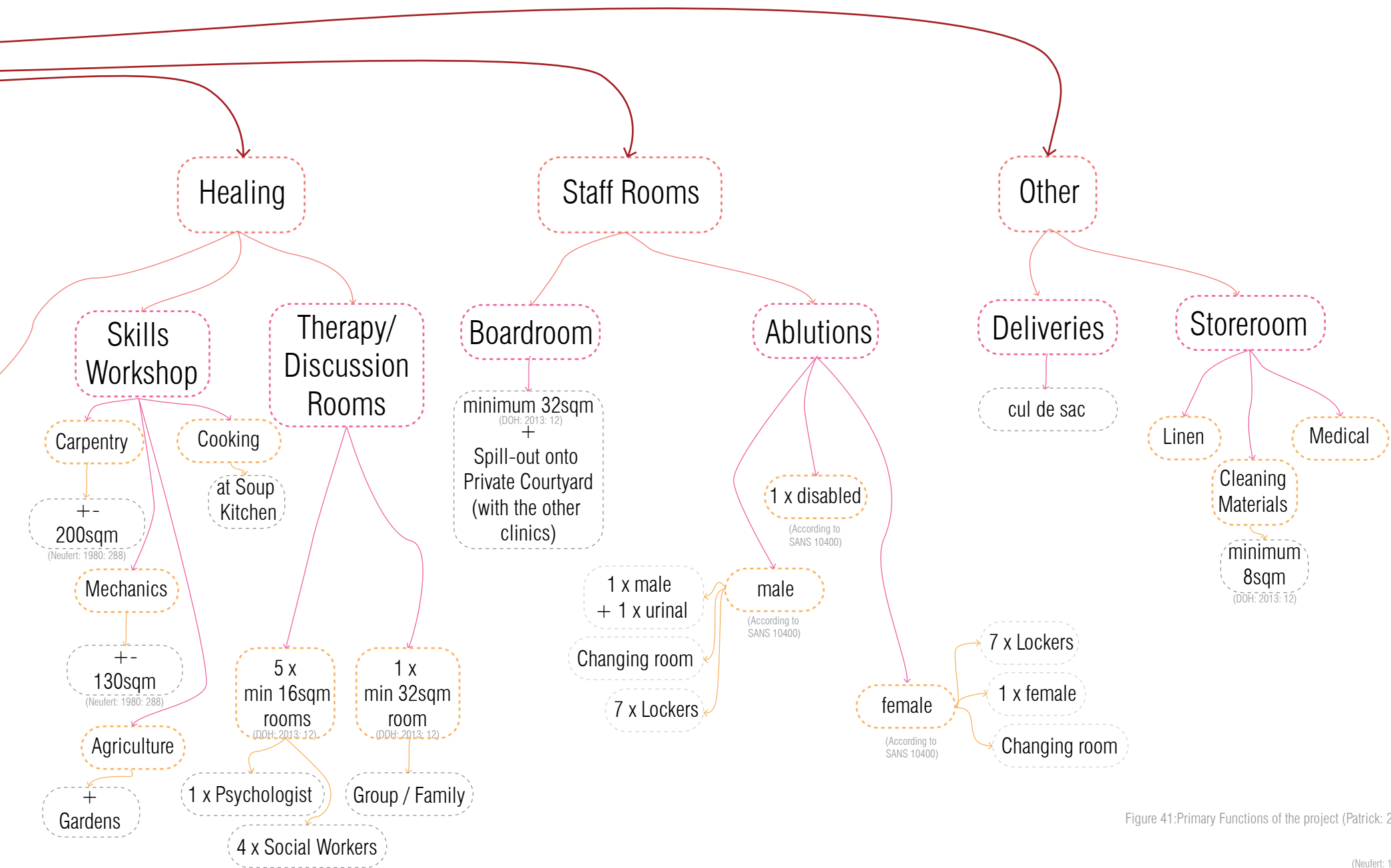


Figure 41: Primary Functions of the project (Patrick: 2016)



Figure 42: SANCA Castle Carey Clinic, Pretoria (Castle Carey Clinic: 2006)



Figure 43: SANCA Nishtara, Lenasia (SANCA Nishtara: 2009)



Figure 44: SANCA Horizon Clinic, Boksburg (Google Maps: 2016)

The framework sheds more light on the primary and ancillary programmes that the project involves. Dr Radebe is unsure about what is going to happen next and Janeke suggests the possibility of conducting precedent studies, as a means of determining what is possible. Dr Radebe asks the others if they think they ought to look at SANCA drug rehabilitation centres as examples of how to design these spaces, seeing that existing state institutions are not meeting the requirements. She goes on to tell them everything that she knows about the SANCA in-patient clinics in Gauteng: SANCA Pretoria(Castle Carey), SANCA Horizon/The Bridge(Boksburg) and SANCA Nishtara(Lenasia)<sup>2</sup>. She has not been able to access the clinics, but has spoken to fellow colleagues about them. She discusses these with them.

*The three centres work according to SANCA's general outline for prevention and treatment strategies. This outline would have to be adapted to the harm reduction approach that we have agreed upon. All of the centres include the family in the recovery process and provide an after-care programme as an extension of their out-patient clinics.*

*The Castle Carey Clinic's process of recovery takes six weeks and caters for fifty-two patients<sup>3</sup>. The centre, while listed as a clinic in Pretoria, is in fact right on the outskirts of the city, in Hammanskraal. It is not a good example of how to integrate a clinic in a public realm.*

*The Horizon Clinic has a multi-disciplinary team responsible for the treatment process: a medical doctor, a psychologist, a psychiatrist, social workers and professional nurses<sup>4</sup>.*

*The Nishtara Clinic also employs a multi-disciplinary team: there are offices for doctors and six social workers<sup>5</sup>. The clinic provides for ten 'youth' beds and twenty adult beds with an additional two rooms for live-in nurses. They also run prevention and community awareness programmes<sup>6</sup> which help to integrate the clinic into the public realm.*

*I feel that we can learn from these examples. I like the idea of a multi-disciplinary team and the inclusion of the family in the recovery process. The number of in-patients that these centres can accept in relation to the number of staff, is largely sufficient. They could however, take the after-care process further, with internships and skills training assistance in the reintegration process. The fact that the project we are working on is not on the outskirts of a city, also provides something new to think about in terms of integrating it into the public realm and including the community.*

- 
- 2 SANCA, *National Footprint: Gauteng* (SANCA National Directorate: 2012)  
Internet: <http://sancanational.org/index.php/national-footprint/48-gauteng-2.html> Accessed: 01/02/2016  
See Figures 42-44
- 3 Castle Carey Clinic, (2006) Internet: <http://www.addictionrehab.co.za/TreatmentProgramsCastleCareyClinic.asp>  
Accessed: 17/03/2016
- 4 SANCA Horizon, *Horizon Clinic: Alcohol and Drug Centre* (2015) Internet: <http://www.horizonclinic.org/index.php>  
Accessed: 17/03/2016
- 5 SANCA Nishtara, *Nishtara: Alcohol and Drug Centre* (2009) Internet: <http://www.sancanishtara.co.za/inpatient.htm>  
Accessed: 17/03/2016
- 6 SANCA Nishtara, *Nishtara: Alcohol and Drug Centre* (2009) Internet: <http://www.sancanishtara.co.za/inpatient.htm>  
Accessed: 17/03/2016

**Table 1**  
**Summary of the relationships between design factors and healthcare outcomes**

Healthcare Outcomes	Design Strategies or Environmental Interventions										
	Single-bed rooms	Access to daylight	Appropriate lighting	Views of nature	Family zone in patient rooms	Carpeting	Noise-reduced finishes	Ceiling lifts	Nursing floor layout	Decentralized	Aquity-adaptable rooms
Reduced hospital-acquired infections	**										
Reduced medical errors	*		*				*				*
Reduced patient falls	*		*		*	*			*		*
Reduced pain		*	*	**			*				
Improved patient sleep	**	*	*				*				
Reduced patient stress	*	*	*	**	*		**				
Reduced depression		**	**	*	*						
Reduced length of stay		*	*	*							*
Improved patient privacy and confidentiality	**				*		*				
Improved communication with patients & family members	**				*		*				
Improved social support	*				*	*					
Increased patient satisfaction	**	*	*	*	*	*	*				
Decreased staff injuries								**			*
Decreased staff stress	*	*	*	*			*				
Increased staff effectiveness	*		*				*		*	*	*
Increased staff satisfaction	*	*	*	*			*				

\* Indicates that a relationship between the specific design factor and healthcare outcome was indicated, directly or indirectly by empirical studies reviewed in this report.

\*\* Indicates that there is especially strong evidence (converging findings from multiple rigorous studies). Indicating that a design, intervention improves a healthcare outcome.

*Janeke nods as she responds to Dr Radebe.*

*You have raised some valid points and I think that they can help us with the design process, but there is also potential for integrating the harm reduction strategy with a regenerative approach to architecture. Biophilic design, which speaks to the affinity humans feel with nature, is said to improve cognitive function and creativity whilst reducing stress and improving overall well-being and ability to heal<sup>7</sup>. There are very few examples of drug rehabilitation centres that have been established with biophilic design in mind, but health architecture in general is beginning to develop in response to the idea that contact with nature is beneficial to the healing process. These few examples are illustrative of the success of this relatively new approach to healing.*

*Evidence Based Design (EBD) is a medical approach whereby lessons learnt from a previous procedure, inform the approach to new cases. Architectural design looks to architectural precedent, as providing some guarantee of the success of various strategies. This becomes especially important in the design of a medical facility, where the functioning of the facility put into practice, will impact directly the healing process. Therefore Evidence Based Design, though initially a medical approach, becomes an informant in the development of health architecture.*

*Janeke shows the others a table that she has sourced.*

*This table<sup>8</sup> illustrates sixteen healthcare cause and effect outcomes that show the relationship between design elements and healthcare outcomes<sup>9</sup>. The aspects of healthcare design that are most effective are the provision of single bedrooms, appropriate lighting and the integration of noise-reducing finishes<sup>10</sup>.*

- 
- 7 Browning, W.; Ryan, C. & Clancy, J., *14 Patterns of Biophilic Design: Improving Health and Well-being in the Built Environment* (Terrapin Bright Green: 2014), 4
  - 8 See Figure 45  
Steven Lundin, *Healing Architecture: Evidence, Intuition, Dialogue* (Department of Architecture: Chalmers University of Technology. Gothenburg, Sweden: 2015), 68
  - 9 Steven Lundin, *Healing Architecture: Evidence, Intuition, Dialogue* (Department of Architecture: Chalmers University of Technology. Gothenburg, Sweden: 2015), 68
  - 10 Steven Lundin, *Healing Architecture: Evidence, Intuition, Dialogue* (Department of Architecture: Chalmers University of Technology. Gothenburg, Sweden: 2015), 69

Figure 45: Table indicating the relationship between design elements and health outcomes (Lundin: 2015: 68)

Precedent - Health

# Östra Hospital, Psychiatric Dept.



COURTYARD SPACES ALONGSIDE CONVERSATIONAL SPACES



VARIETY OF SPACES IN SINGLE ROOMS



OPEN GARDEN SPACES TO EXPERIENCE WITHOUT SUPERVISION

- |   |  |  |   |  |   |
|---|--|--|---|--|---|
| <p><b>1</b></p> <p>An externally attractive impression, with justice done to the natural setting and good communications with the rest of the Östra Hospital.</p> | <p><b>2</b></p> <p>Low-rise, small-scale building development comprising units of 2 or 3 storeys. Care units on floors 1-2 for maximum ground contact/proximity. The view from the patients' rooms, e.g. out over the surrounding natural scenery, to be taken into account.</p> | <p><b>3</b></p> <p>Seclusion in the form of single rooms, coupled with opportunities for socialising. Modules of 4 patient equivalents each. Flexibility of unit sizing. Sheltered patios.</p> | <p><b>4</b></p> <p>Care and treatment to be integrated within the unit. Communication between units to satisfy security requirements.</p> | <p><b>5</b></p> <p>Emergency care kept separate from planned care.</p> | <p><b>6</b></p> <p>Colour and design promoting healing processes.</p> |
|---|--|--|---|--|---|

GOTHENBURG, SWEDEN  
WHITE ARKITEKTER

*Throughout the design process we can have a look at buildings in which these factors have been considered, as is the case at the Psychiatric Department at Östra Hospital<sup>11</sup>.*

*However, we must remember that this is a design exercise; therefore ticking all the boxes of programmatic requirements will not necessarily lead to an integrated and appropriate design solution. Perhaps we should look at 'healing architecture' as a means to steer the design process towards a more holistic approach. In general, factors that tend to promote a positive healing environment include few patients in a unit, spacious facilities, individual rooms and access to the outdoors<sup>12</sup>.*

---

11 See figure 46

The Psychiatric Department at Östra Hospital Precedent Study:

The architectural team knew that the aesthetics and functions of the building have an effect on the recovery process. The team implemented a "Six Little Houses" plan for the design of the department. These principles ensured that the spaces looked at smallness of scale, an attractive exterior, small care units (patients and staff privacy), good access to natural scenery, and colour and design promoting the healing process.

According to Lena Walther in

Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010)

Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 21

The spaces of the staff and the patient are brought closer together, encouraging mutual spaces of conversation. These kinds of spaces also allowed for more freedom of movement into open garden spaces (without supervision). The individual rooms allow for a range of choice in terms of resting space - an armchair next to the window, the bed looking out the window and a desk in front of the window.

White, *Healthcare building for Psychiatry, Östra Hospital*. (2015) Internet: <http://en.white.se/projects/healthcare-building-for-psychiatry-ostra-hospital/>. Accessed: 27/09/2016

12

According to Stefan Lundin in

Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010)

Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 46

Figure 46: The Psychiatric Department of Östra Hospital illustrates design elements that positively influence health outcomes. Image sources: (Lundin et. al: 2010) & photographer Christer Hallgren (White: 2015).

Precedent - Health

# New North Zealand Hospital



NATURAL THRESHOLDS



ROOMS LEAD INTO  
INTO COURTYARDS



URBAN THRESHOLD

HILLEROD, DENMARK  
HERTZOG & DE MEURON

Sliding a sheet of paper across the table, she points to a selection of photographs which show the way in which the New North Zealand Hospital<sup>13</sup> has provided a range of outdoor spaces.

Health facilities are referred to as institutions, but the mental image that comes to mind when one thinks of an institution is bareness and lack of comfort<sup>14</sup>. *As an environment that is meant to provide support and care for a patient, this is a cause for concern. The identity of these institutions must be envisaged in such a way as to provide an atmosphere in which the patient has a sense of well-being; the 'hard-edged' quality of the traditional institution has to be rethought.*

Janeke pauses, picking up another sheet of photographs she recalls her visit to the Ubuntu Centre in Port Elizabeth.

Figure 47: New North Zealand Hospital illustrates design elements that positively influence health outcomes.  
Image sources: (Frearson: 2014)

- 13 See figure 47  
The New North Zealand Hospital architects brought the natural surroundings through into a central garden. Rooms for examination and treatment fill the ground floor, while the wards on the first floor overlook the gardens below. The hedges within the gardens define pathways and allow for visual privacy.  
Internet: <https://www.herzogdemeuron.com/index/projects/complete-works/401-425/416-new-north-zealand-hospital.html> Accessed: 27/09/2016
- 14 According to Stefan Lundin in  
Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010)  
Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 46

Precedent - Health

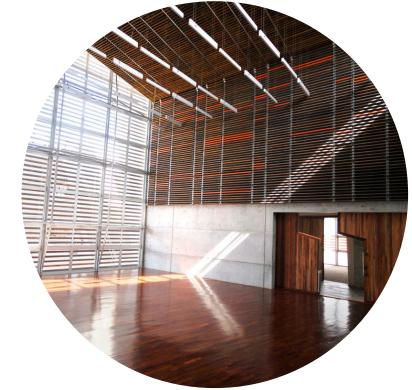
# Ubuntu HIV Clinic & Community Centre



- |                                      |  |
|--------------------------------------|--|
| 1 Resource/ Computer Learning Centre | 6 Pharmacy                                   |
| 2 Multi-Purpose Hall                 | 7 Reception/ Entrance Hall                   |
| 3 Community Kitchen                  | 8 Flexible/ Expandable Meeting Rooms         |
| 4 Staff Lounge                       | 9 Parking                                    |
| 5 Pediatric HIV/TB Clinic            | 10 Garden Court/ to Rooftop Vegetable Garden |



PRODUCTIVE ROOF GARDEN



INDIRECT DAYLIGHT



PORT ELIZABETH, SOUTH AFRICA  
FIELD ARCHITECTS



NATURALLY-LIT CORRIDORS

*When I visited the Ubuntu Centre in Port Elizabeth<sup>15</sup>, I was hoping to find a building that would provide a supporting and caring atmosphere. With the design of the HIV clinic, the architects have attempted to bring across the idea of support, by dividing the façade into a series of elements that appear to lean, supporting one another both visually and structurally. These formal elements are arranged around pedestrian walkways through the building, intended as a continuation of the existing township pathways. The architects' intention was to create a sense of community and a feeling of continuity through the use of pathways<sup>16</sup>, however this was not entirely successful because the entrances to the building need to be highly controlled, and therefore not inviting to the unofficial visitor<sup>17</sup>. Once inside the building, the atmosphere is more welcoming; timber screens and doors along the stone-tiled walkways warm the spaces while a natural light filters from above. The restricted views to the outside, while providing an internal focus, make the building seem 'introverted'.*

*Open and unprogrammed spaces in a health facility contribute to a greater feeling of comfort<sup>18</sup> and give the patient a feeling of independence when going about their everyday activities. The access to nature in such an environment brings us back to our discussion of biophilic design.*

Janeke pauses, reaches over to the bookcase and pulls out a beige book. She explains that Christopher Day describes the process of healing as a difficult one. She reads a paragraph out of the book.

*The transformation occurs within, but "something from outside...is needed to initiate and support the process. Environment is one such agent: it can provide nourishment, support and balance for [the] human spirit as much as it can starve, oppress and pervert it...Our environment is part of our biography. It is part of a stream of events and surroundings that help make us what we are."<sup>19</sup>*

*Aspects of biophilic design that support the process of healing and are directly related to the project include: a connection with nature (visual and other senses), the presence of water, dynamic and diffuse light, a connection to natural systems and to natural materials. The important aspect for the quality of these environments, particularly the individual room, is the creation of spaces that provide both prospect and refuge for the dweller<sup>20</sup>.*

15 See figure 48

The Ubuntu Centre provides free community social services: paediatric HIV & TB testing and counseling clinic, career guidance and computing center, health resource library, a multi-purpose hall for community events and occasional shelter. [Guenther, R. & Vittori, G., Sustainable Healthcare Architecture. 2nd Edition (Wiley: 2013), 414]

The architecture attempts to destigmatise HIV/Aids and the treatment thereof. The facility supports the youth in the area with an organic rooftop vegetable garden that (together with other neighborhood gardens) feed 2,245 students daily. [Internet: <http://www.archdaily.com/135432/ubuntu-centre-field-architecture> Accessed: 01/05/2016]

16 Arch Daily, *Ubuntu Centre / Field Architecture*. (2011) Internet: <http://archdaily.com/135432/ubuntu-centre-field-architecture> Accessed: 01/05/2016

17 This information was distilled from a site visit that took place at the Ubuntu Centre in Zwile township, on 9 May 2016

18 According to Stefan Lundin in Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010) Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 46

19 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 23

20 Browning, W.; Ryan, C. & Clancy, J., 14 *Patterns of Biophilic Design: Improving Health and Well-being in the Built*

Figure 48: Ubuntu HIV clinic and community centre illustrates design elements that positively influence health outcomes. Image sources: (Arch Daily: 2011)



As I have mentioned before, human beings are instinctively drawn to a natural environment, as an escape. Nature's contribution to a healing environment includes the fostering of human health, productivity and well-being<sup>21</sup>. Natural environments have proven to be the most effective restorative environments<sup>22</sup>.

These natural environments provide opportunities to **see, hear, touch and smell nature** as well as to understand the **natural systems** at play within the environment through, for example, the **presence of water**.

The quality of space is an important part of the healing process. Christopher Day relates the quality of space to the soul, and "what nourishes the soul nourishes the body."<sup>23</sup> He defines this "nourishing" of the soul as an environmental balancing factor, which corrects any imbalance experienced at that time. He goes on to say that "architecture in the sense of environmental design is the art of nourishing these senses."<sup>24</sup>

In the same way that nature is seen to provide a nurturing environment, so too, an indoor environment should aid the healing process. The use of natural light and natural materials contributes to a healing environment.

Most of the time our positive response to architecture is due to the quality of light. The use of strong light and colour to articulate a space creates a very different effect from the use of delicate colour and light that is subtle. The textures revealed by the use of light, or experienced through touch, and even what we see, effects the approachability of the architecture. Sounds and their echoes may also affect mood in a room<sup>25</sup>.

The Psychiatric Department at Östra Hospital uses colour and design to promote healing processes. Light is a big part of this approach. The interior and exterior detailing includes sensual materials, bright colours and shimmering surfaces. Daylighting enhances these details, while allowing for much lower lighting levels than in a normal medical setting. When artificial lighting is used, only warm filament bulbs are used, never fluorescents<sup>26</sup>. Light has been proven to have beneficial effects on depression, sleep disturbances and physical aggression<sup>27</sup>.

Dr Radebe has learnt from the analysis of these precedents and Mr Pillay is enthusiastic, if somewhat overwhelmed. Janeke concludes that the principles of biophilic design that they have discussed will prove invaluable in the design phase of the project.

---

(Environment. Terrapin Bright Green: 2014)

21 Guenther, R. & Vittori, G., Sustainable Healthcare Architecture. 2nd Edition (Wiley: 2013), 68

22 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010). Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 153

23 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 21

24 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 49-51

25 Christopher Day, *Places of the Soul* (Taylor & Francis: 1990), 48-50

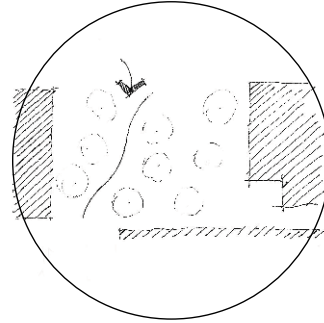
26 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010). Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 63

27 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010). Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 156

Figure 49: An image that speaks to the soul and the senses. Image source: (Lundin et. el: 2010: 218-219)

# 1

## Conceptual Development



# Eleven

## Conceptualising Re-integration

---

### Initial Conceptual Development

Janeke retrieves the papers with her initial conceptual development work. They must now revise these early ideas, in the light of their additional research and better understanding. She is discussing it with a colleague.

*The very first concept<sup>1</sup> was inspired in response to the inherent spirit of the place. The dreadful state of neglect blinds one initially to this spirit. I still cannot put my finger on it, but I am certain that the presence of water, and the potential for the natural landscape, have something to do with what can be done with this site.*

*I have chosen to think of this concept in terms of 'escape', as it would provide a refuge from life's daily stresses where one could immerse oneself in nature and re-establish one's connection with it. This does involve a transformation of the existing internal experience of escape, in the mind, to an external freedom and connection to nature. At present what is happening is that inhabitants are using nyaope as a method of quasi evasion, which does not release them from the physical entrapment of their situation. Our project would provide an opportunity for real relief, by providing an environment where people can interact with nature and feel supported by it.*

She pauses and looks at her colleague.

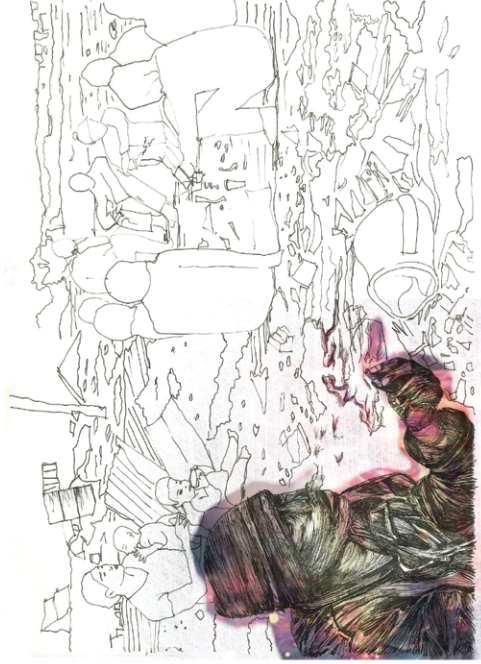
*A lot has happened since I came up with this concept and I do not believe that it is a strong enough idea in itself, but it could certainly serve as an informant in the articulation of the final vision. The natural aspects mentioned, provide the opportunity to explore the concept of healing through biophilia. The definition of these healing environments, as a spatial experience, could create an interesting balance between inside and outside.*

The discussion continues a while longer. They begin looking at the next concept.

Figure 50: (left) The first stage of conceptual development (Patrick: 2016)

# 1. Escape

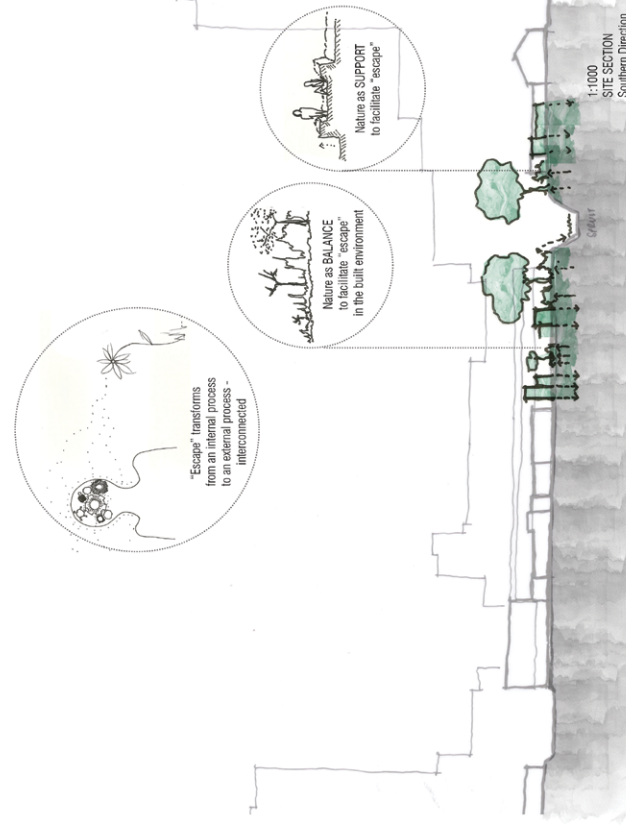
Transform to an external process  
(rather than the existing internal one)



**INTERNAL PROCESS:**  
Disconnect from Environment as “Escape”



**EXTERNAL PROCESS:**  
Connection with nature as “Escape”



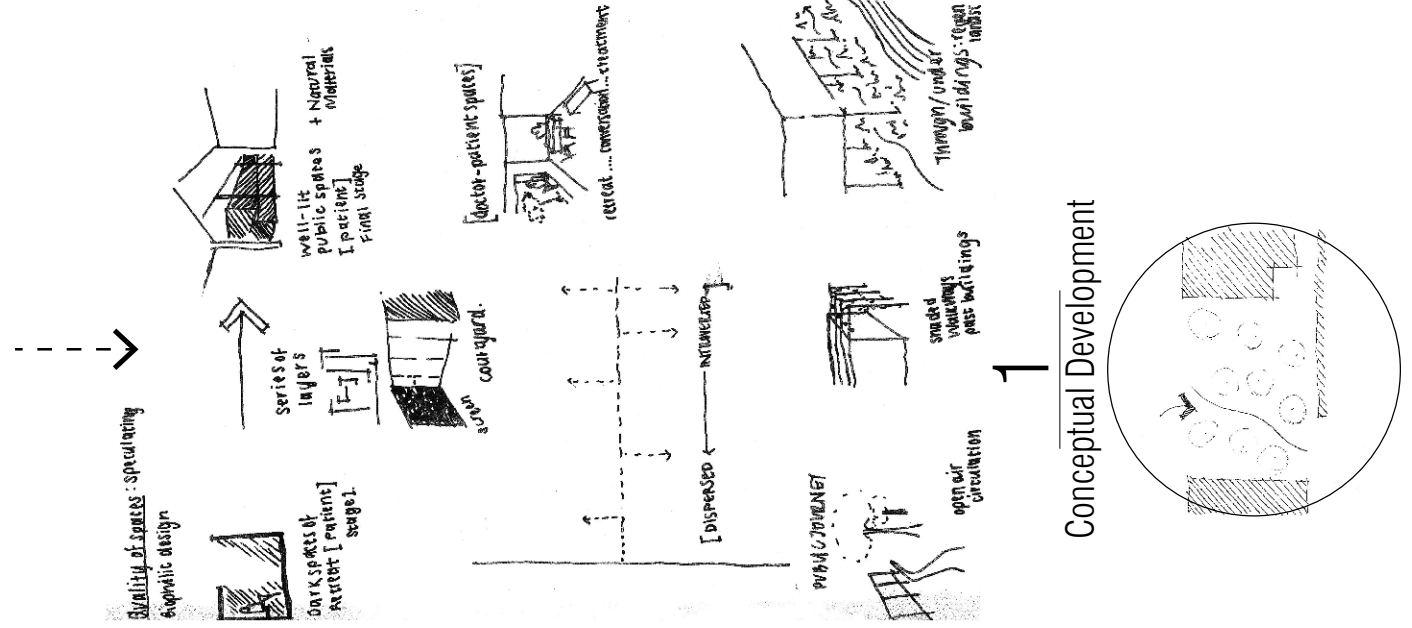
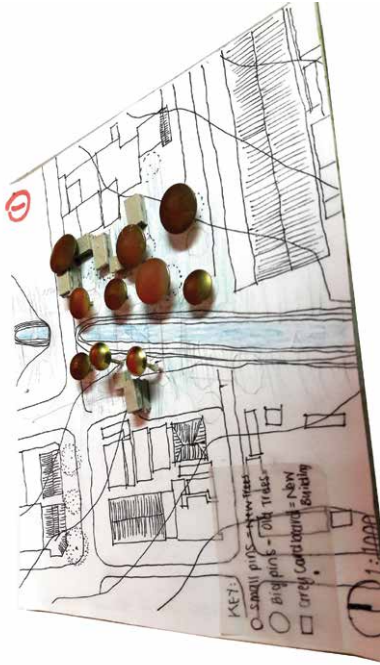
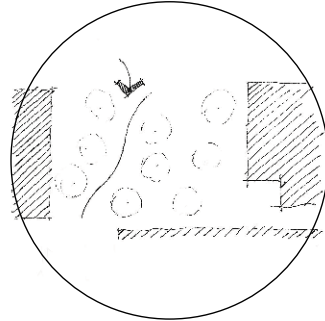
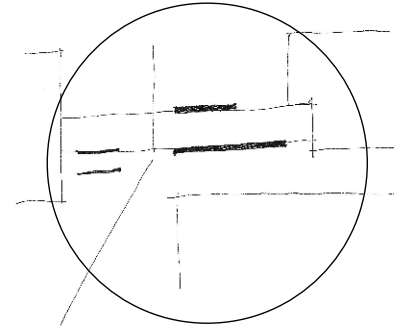


Figure 51: (spread) Conceptual Development 1 (Patrick: 2016)

1  
Conceptual Development



2  
Conceptual Development



*This concept<sup>2</sup> looked at the integration of the site into the existing fabric and the new Marabastad Urban Vision that we designed. Existing activities on site were also considered: cooking mielies, hairdressing and recycling collection. This idea developed around the provision of public space, where healing would be facilitated and where a connection would be established between Marabastad and the greater Pretoria area, via the pedestrian route alongside Steenhovenspruit. It was at this time that I realised the fact that the architectural programme, in its implications, would extend far beyond that of a simple drug rehabilitation centre.*

*The idea was to envisage the channel of Steenhovenspruit as a positive dividing element: defining public activities on the west of the channel and private activities on the east of the channel. The existing pedestrian routes alongside Steenhovenspruit and Boom Street influenced how the 'new journey' across the river became more important than the architectural forms, which were crafted in response to this journey. The route, in this exploration, becomes more than a pathway but rather is conceived as a series of experiences, their spatiality determined by their placement along this trajectory. The existing activities on site were proposed as threshold spaces between the public and private realms, emphasising the community's role in the re-integration of those undergoing healing. Unfortunately, looking at the diagrams now, it seems that the existing fabric was ignored. This contradicts the intention of integrating with the greater built fabric.*

Janeke pushes the sheets aside and turns the discussion to a series of precedent studies, that she has conducted, and explores their significance to the conceptual development of the scheme.

*The City of Paris, in the time of Louis XIV<sup>3</sup>, illustrates the path as the essential component in the fabric of city design. The configuration of a series of paths, in terms of a network, connecting established points in space, is a reformulation of the City, from its past of warren-like streets<sup>4</sup>. Our project is also part of a network, if on a much smaller scale, but nevertheless forms part of an existing medical and social support network. The project should read as a continuation of this. The pathways should provide easy access to these new humanitarian facilities.*

*The Stern House by Charles Moore Associates<sup>5</sup> is an example of how a pathway can serve as a determining factor of the surrounding architecture. The pathways do not only serve as routes, but as a sequence of linear spaces that terminate in areas or points of focal interest<sup>6</sup>.*

*These precedents lingered in our minds as we moved on to the third concept.*

2 See Figure 52 & 53

3 See Figure 54

4 Francis D.K. Ching, *Architecture: Form, Space, & Order* (New Jersey: John Wiley & Sons, 2007), 265 & 276

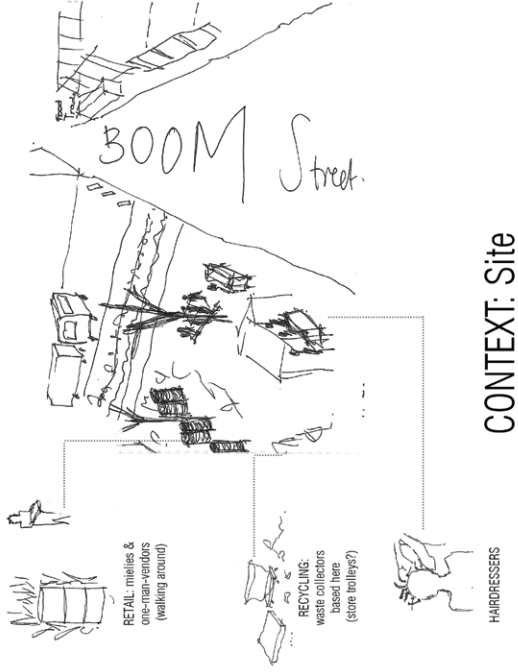
5 See Figure 55

6 Francis D.K. Ching, *Architecture: Form, Space, & Order* (New Jersey: John Wiley & Sons, 2007), 278-279

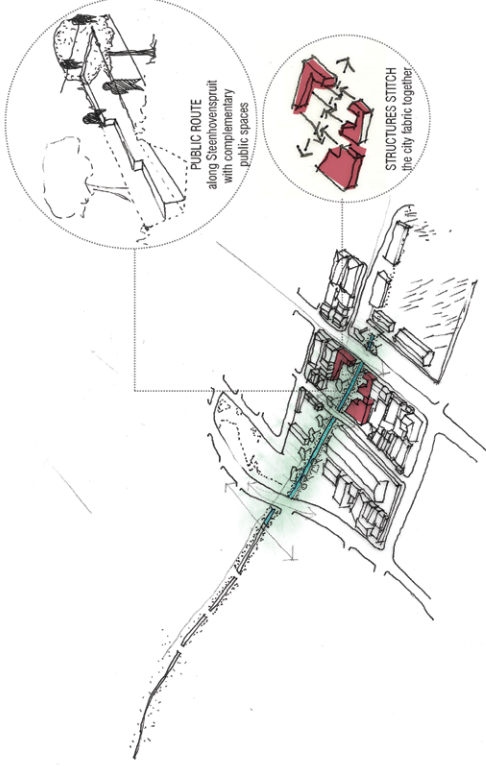
Figure 52: (left) The progression from the first stage of conceptual development to the second stage (Patrick: 2016)

## 2. Contextual Response

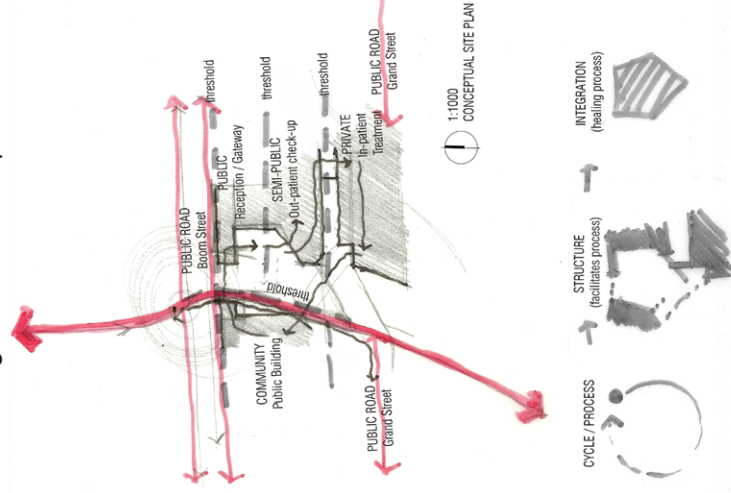
Site facilitates the process of integration of the existing fabric and the New Marabastad Urban Vision

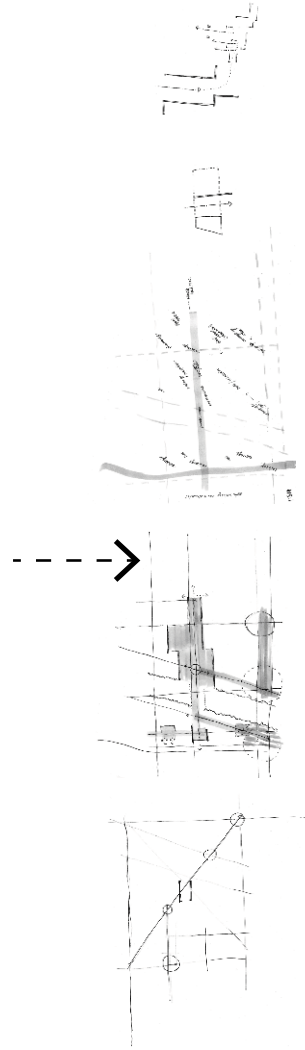
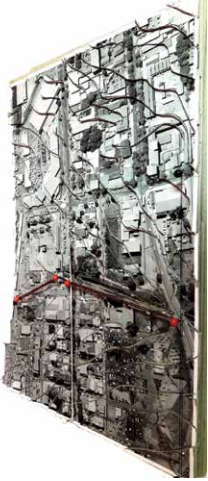
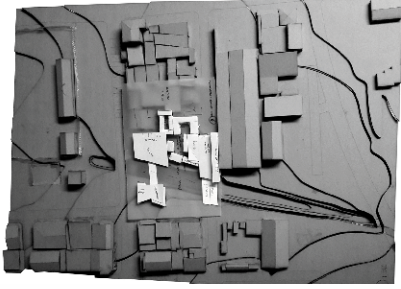


CONTEXT: Site



## VISION: Integrated Urban Space





2

Conceptual Development

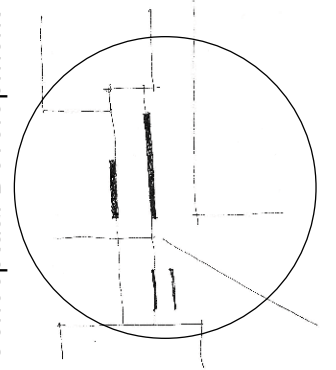
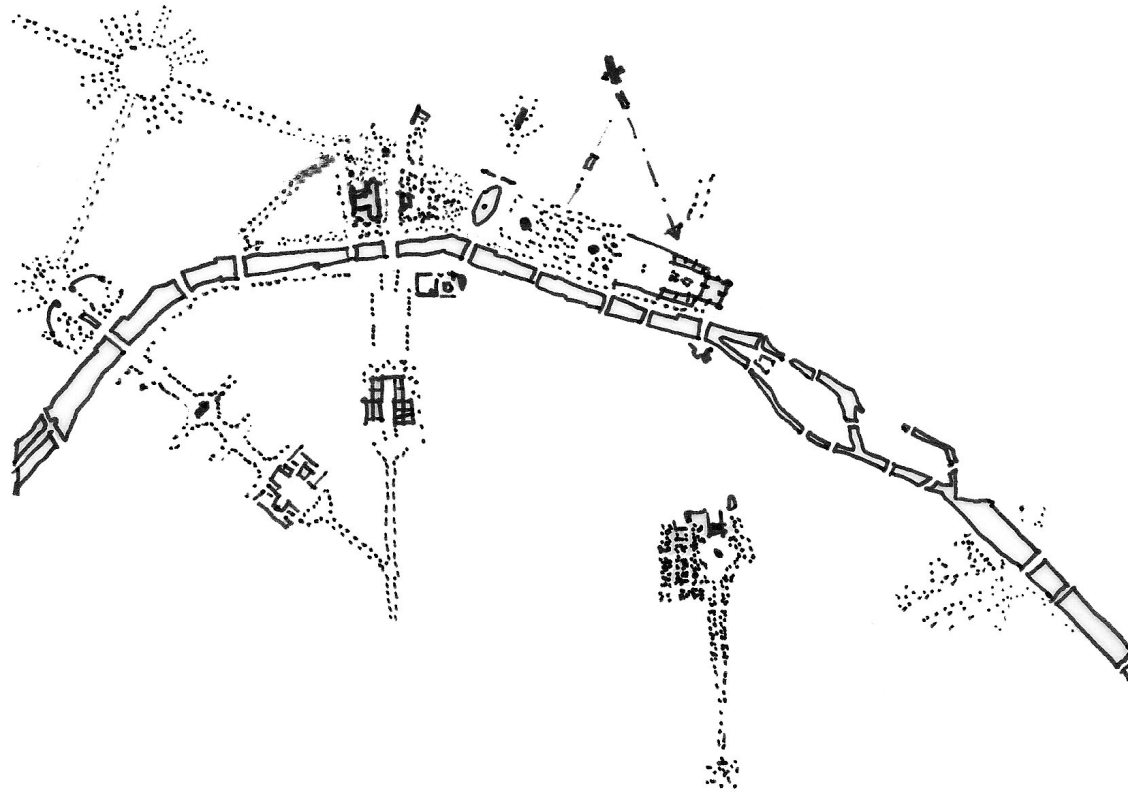


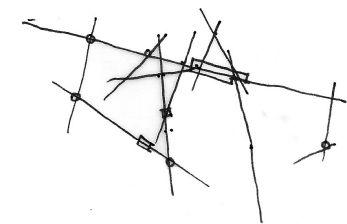
Figure 53: (spread) Conceptual development 2 (Patrick: 2016)

# Precedent - Conceptual

## Paris

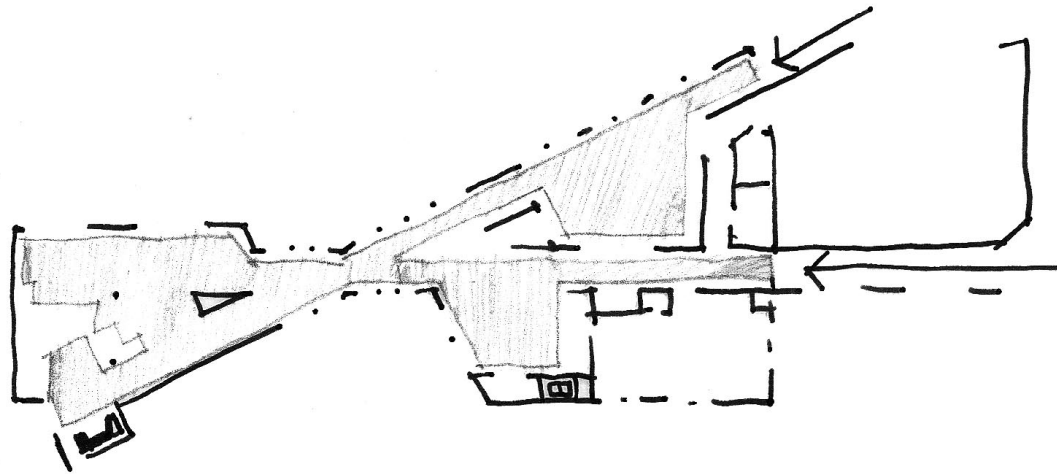


PARIS IN THE AGE OF LOUIS XIV

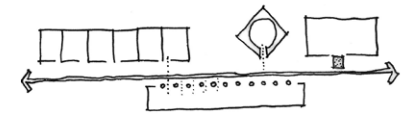


ACTIVITIES OCCUR AT EACH INTERSECTION OF PATHS

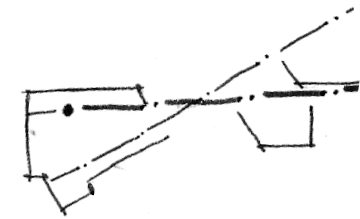
# Precedent - Conceptual Stern House



WOODBIDGE, CONNECTICUT  
CHARLES MOORE ASSOCIATES



PASS-BY SPACES



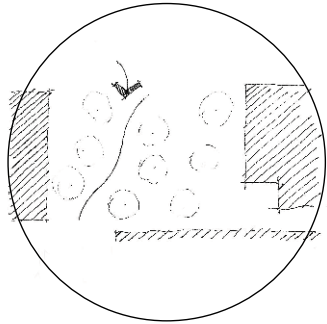
PARTI



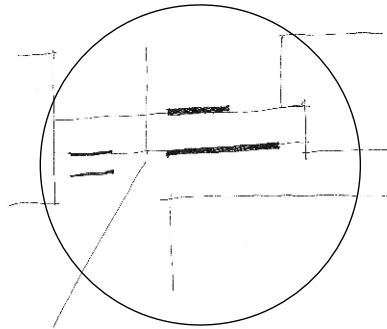
PASS-THROUGH SPACES

Figure 55: Conceptual precedent - Stern House. Adapted from (Ching: 2007: 278-279)

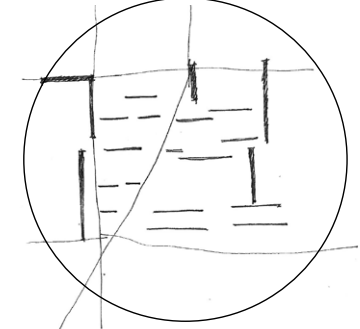
1  
Conceptual Development



2  
Conceptual Development



3  
Conceptual Development



*I feel that this final concept<sup>7</sup> has been influenced by the first two. This concept has been called 'Re-integration', referring to a process-driven design approach that looks at the regeneration of Marabastad and of its people. The river forms a vital link, reintegrating the people into the network of Marabastad. The river serves as a filter for public and private activities taking place alongside its banks.*

*The diagrams illustrate that on the east side of the channel, metaphorically speaking, a healing journey and process that is non-linear is taking place. This is in contrast to the linear pattern of public pedestrian-traffic, which flows along the west side of the channel. The idea of the funnel, functions as a highly abstracted notion, speaking of the channelling of energies relating to the re-integration of the previously isolated drug-abuser into the community. This diagram was drawn as a means of integrating the public and private at a point over the channel. The idea of re-integration is highlighted here: the patients would emerge after healing as part of the community of Marabastad.*

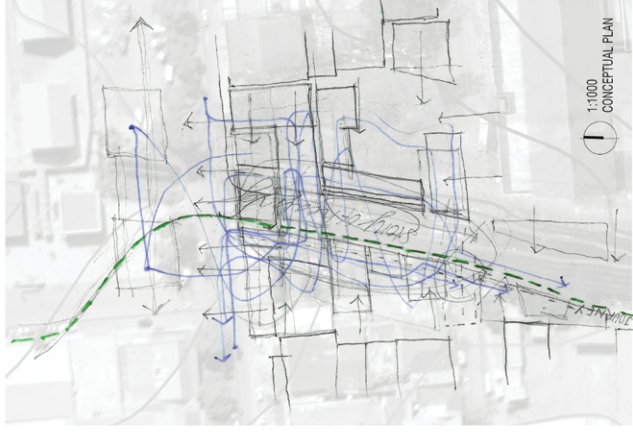
*The idea of the journey is of primordial importance. We are exploring the integration of landscape as providing the setting for this journey. It was also articulated architecturally, as part of the existing fabric. The journey describes various thresholds which define access to more private activities.*

*The regeneration, both of people and of place, has been considered in spatial terms. This cognitive approach was influenced by the false façade, and the complexity of the section, which in the past concealed sinister activities in the built fabric behind the shop fronts. The diagrammatic section illustrates a journey into the subterranean healing spaces, which emerge above ground eventually, to integrate with the public realm once more. This also involves the manipulation of landscape.*

Janeke and her colleague look at the three concepts in front of them and discuss the way forward. They conclude that it will be necessary to reconvene in order to examine progress that has been made in the design development since these concepts were originally developed.

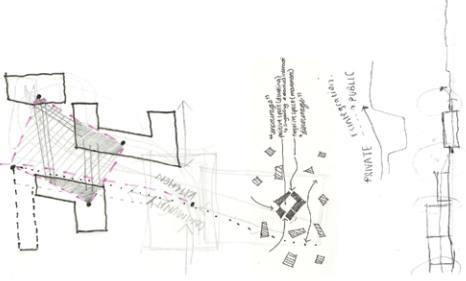
### 3. Re-integration

Process-driven integrated design approach for the regeneration of place and people

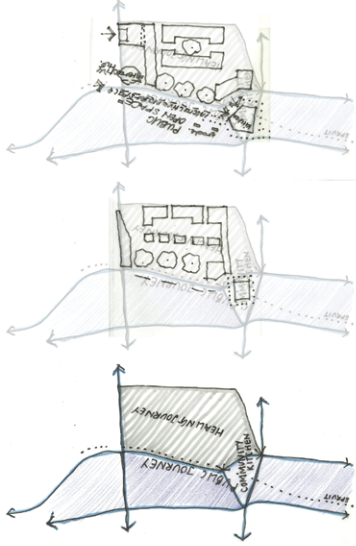
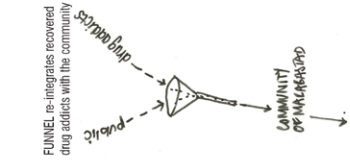


KEY:  
 ■ Linear PUBLIC journey  
 ■ Non-linear HEALING journey

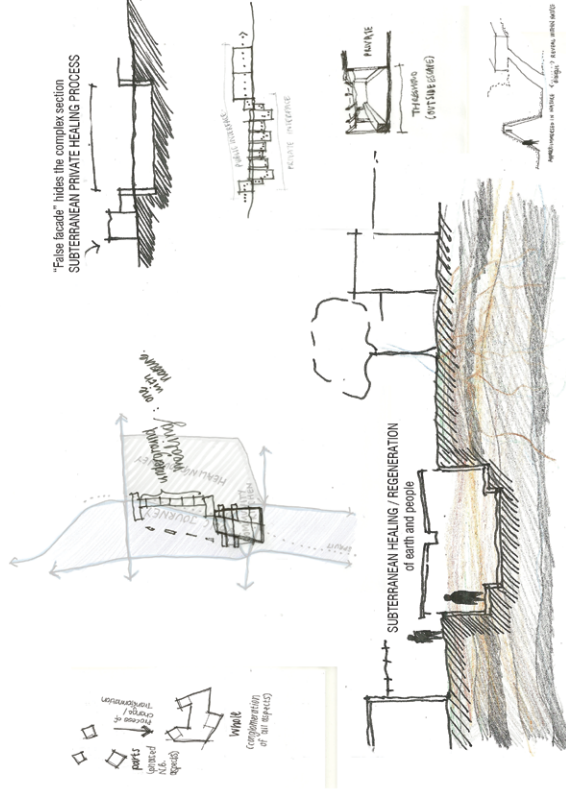
Architecture defines the JOURNEY



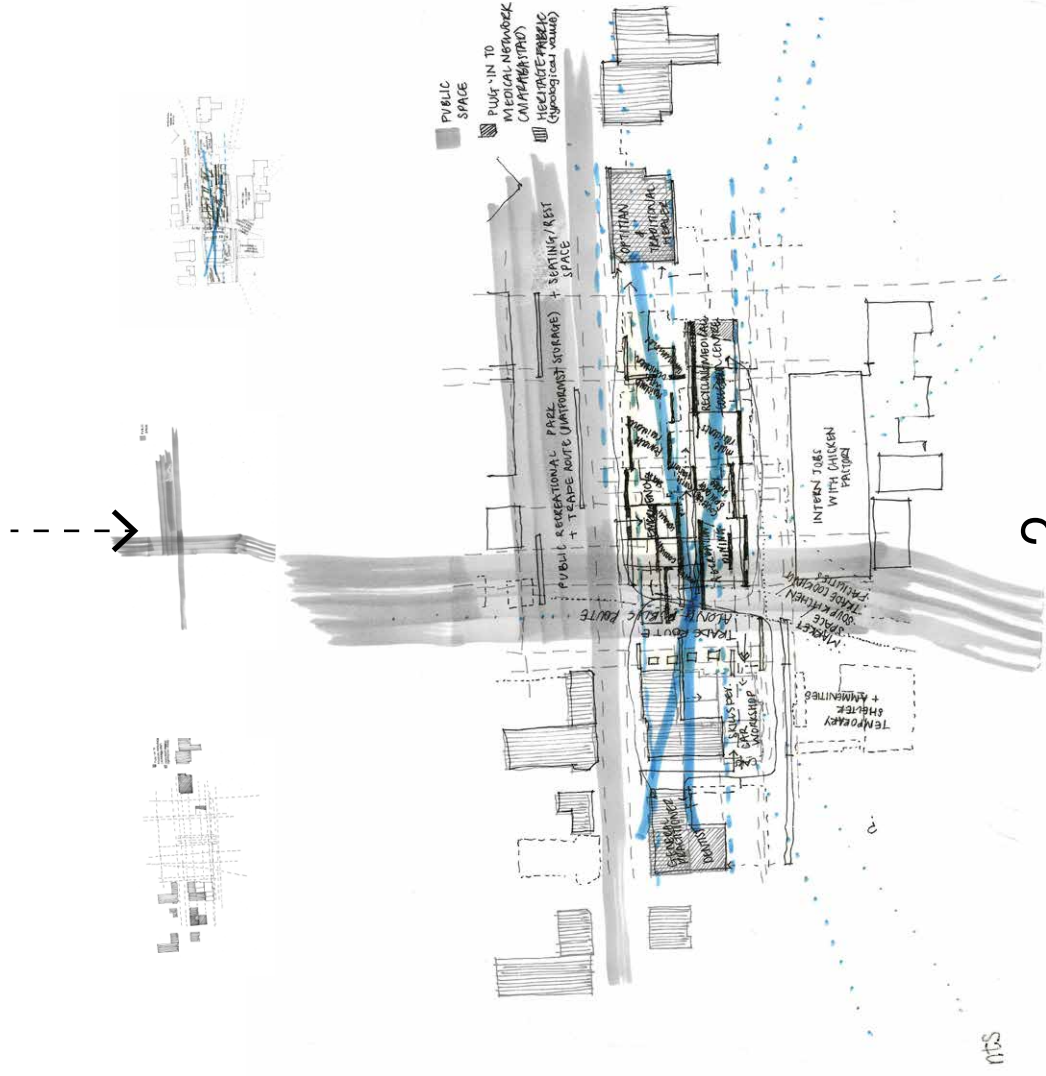
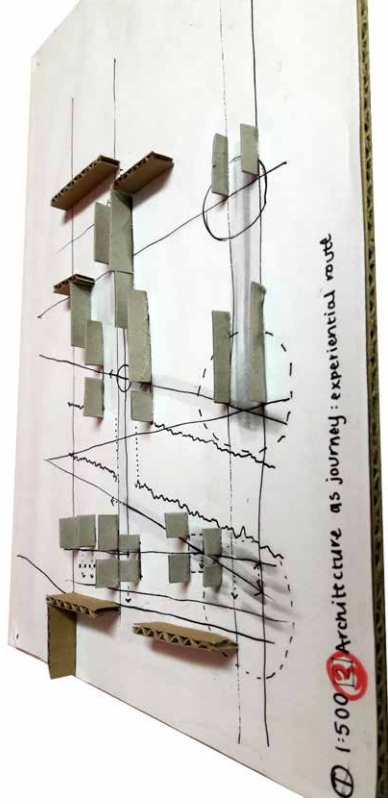
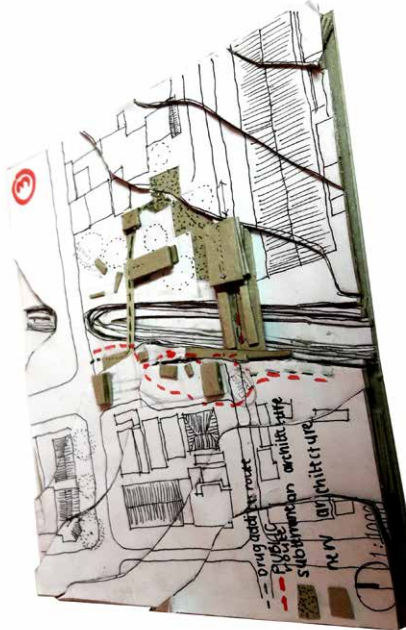
### JOURNEY OF HEALING Non-linear process



### INTEGRATION OF PEOPLE through architecture



### REGENERATION OF PEOPLE & PLACE through architecture



3  
 Conceptual Development

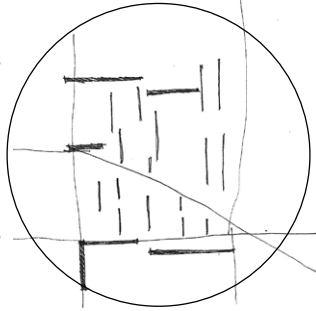
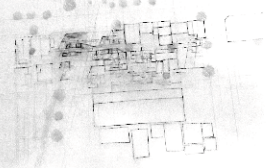
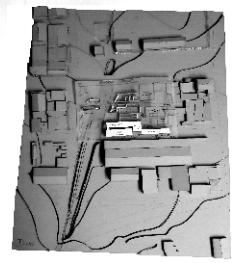


Figure 57: (spread) Conceptual Development 3 (Patrick: 2016)

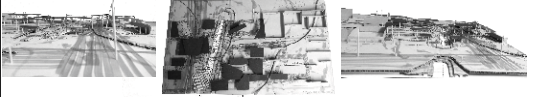
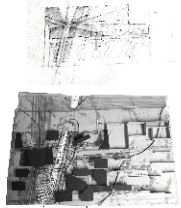
1



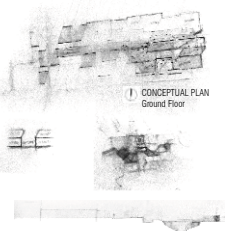
1 CONCEPTUAL PLAN  
Ground Floor



2

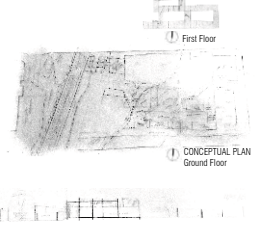


3



3 CONCEPTUAL PLAN  
Ground Floor

4



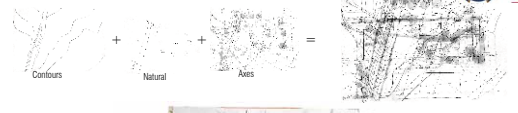
4 CONCEPTUAL PLAN  
Ground Floor

1-4  
Design Development



CONCEPTUAL SECTIONS

5



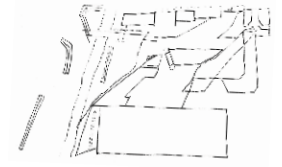
5 CONCEPTUAL PLAN  
Ground Floor



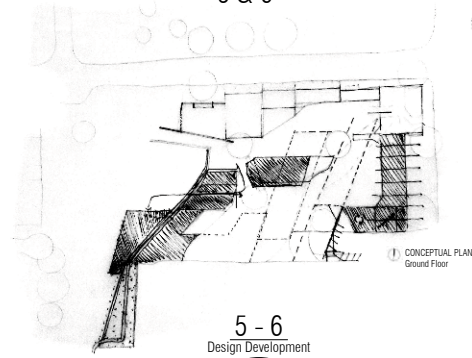
6



6 CONCEPTUAL PLAN  
Ground Floor

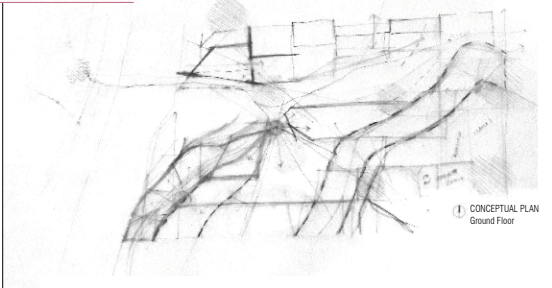


5 & 6

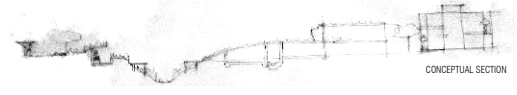


5 & 6 CONCEPTUAL PLAN  
Ground Floor

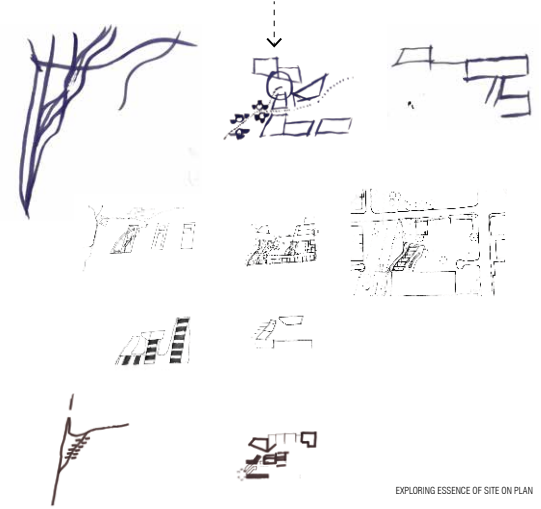
5-6  
Design Development



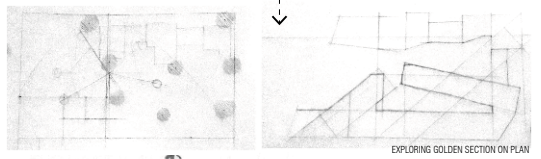
7 CONCEPTUAL PLAN  
Ground Floor



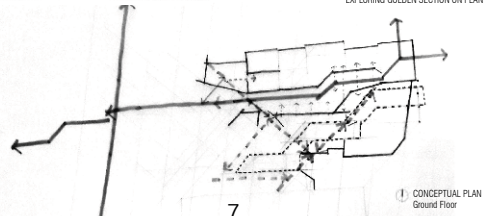
CONCEPTUAL SECTION



EXPLORING ESSENCE OF SITE ON PLAN

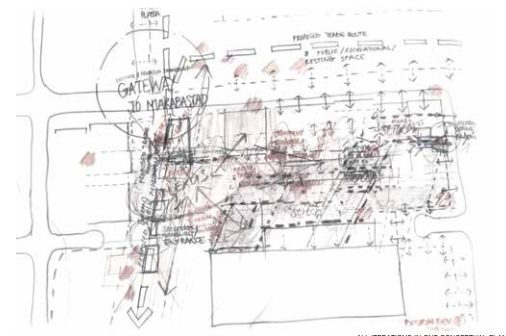


EXPLORING GOLDEN SECTION ON PLAN



7 CONCEPTUAL PLAN  
Ground Floor

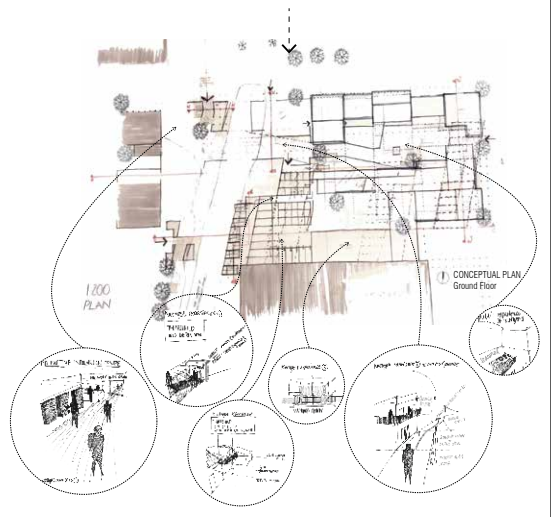
7  
Design Development



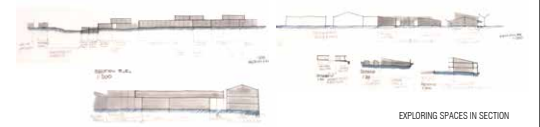
ALL ITERATIONS IN ONE CONCEPTUAL PLAN



ALL ITERATIONS IN ONE CONCEPTUAL SECTION



EXPLORING SPACES IN SECTION



8  
Design Development



# Twelve

## Designing for Re-integration

### Design Development

Janeke and her colleague sit around a table with the design team to discuss the design development of the project. The team has spread out a series of sketches and models<sup>1</sup> elucidating the design investigation. She has asked Mr Pillay and Dr Radebe to sit in on the meeting and is encouraging them to participate in the discussions.

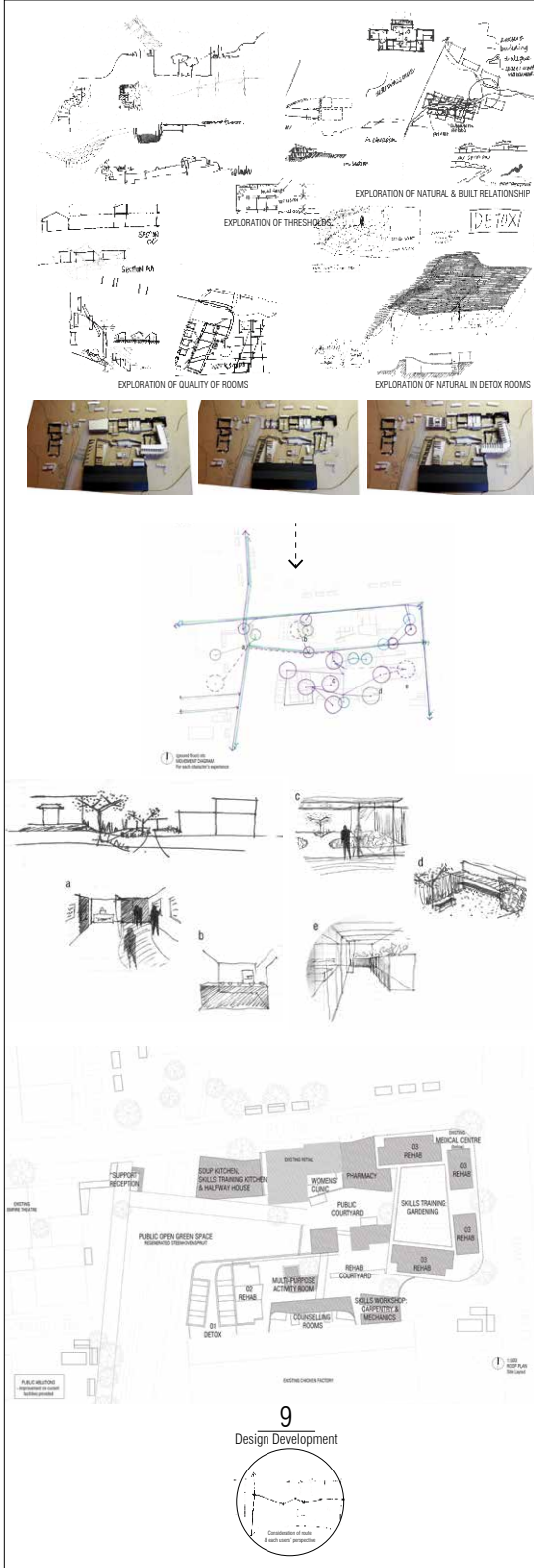
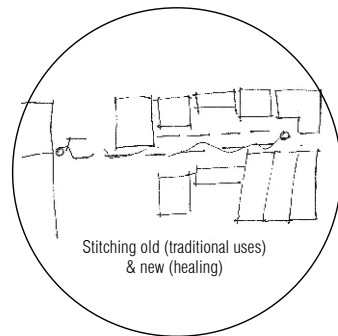


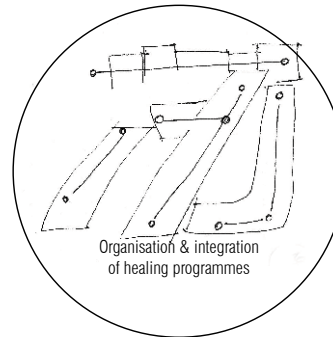
Figure 58: (spread) Design Development Sheets that illustrate 9 stages of development, that will be looked at in further detail (Patrick: 2016)

1 See Figure 58

1 - 4  
Design Development



5 - 6  
Design Development



Janeke reviews the decisions made at each stage of the design process and makes a resumé of the valuable or problematic aspects, which became evident in subsequent development investigations.

*Design development stages one to four<sup>2</sup> can be grouped together because they all looked at stitching the old fabric (traditional functions) together with the new fabric (healing functions). The link between the old and the new becomes a journey. Points along this trajectory, where old and new functions converge, create a series of connections or nexus points, linking the ideas in this project to the greater network. The initial diagrammatic illustrations were well ordered, and emphasized the way in which architectural forms 'protect' the private functions by providing a sense of refuge in the interior spaces, for the inhabitants. The resultant forms become inward looking, so as to cater for inhabitants' need for introspection, but the street outside is ignored. The problem with this idea was that this building would have provided limited interface with the public realm, in its relationship to the street edge, with the proviso that interaction is an essential element of this project. It was unclear how this new journey into the existing fabric would actively regenerate it.*

*The next couple of investigations<sup>3</sup> were comparable and we decided to combine them. They both focussed on the question of responding to the built edges of the site, as well as the natural elements of site. Supportive programmes were proposed along the edges and healing programmes were centrally located alongside the journey into the built fabric. Nature was considered in the architectural investigations: pergolas intended to have creepers growing up them, balconies with planters and 'therapeutic' gardens. However, the form presented some awkward angles as well as awkward spaces. The public space was not really designed.*

*This investigation was taken further and water was considered as a life force and healing element that would render the built fabric more cohesive. The resulting forms were more organic and the architecture began to better integrate with the existing fabric. When defining the public spaces, existing informal trade was considered. Pedestrian walkways were defined alongside these spaces, and alongside the river, with gathering places and areas in which to relax. The river bridge links up these walkways. The resultant forms were hard to justify practically and more investigation was necessary in terms of the bridging of the old and new architecture.*

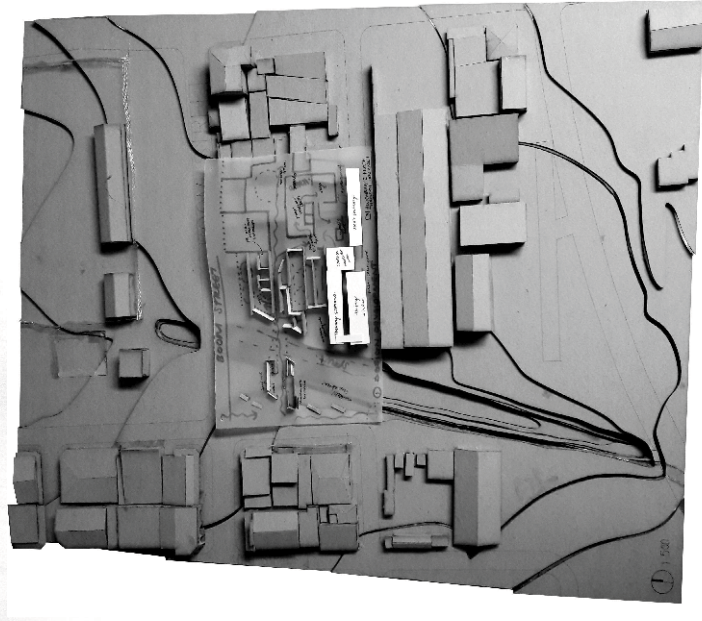
Figure 59: (left) Progression from design development stages one through to six (Patrick: 2016)

---

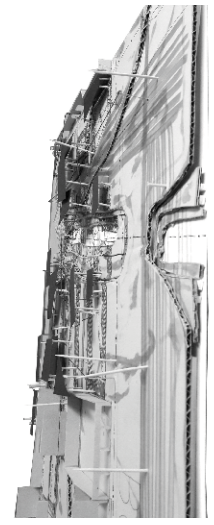
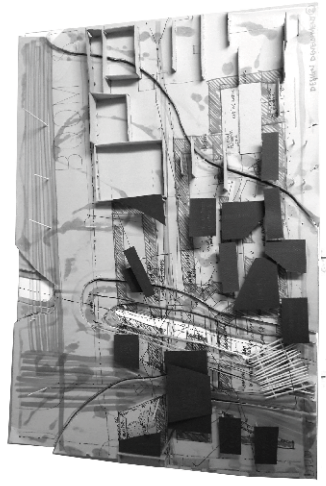
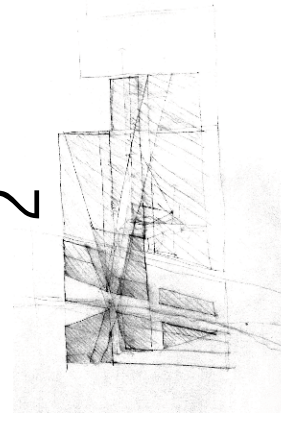
2 See Figure 59 & 60  
3 See Figure 59 & 61

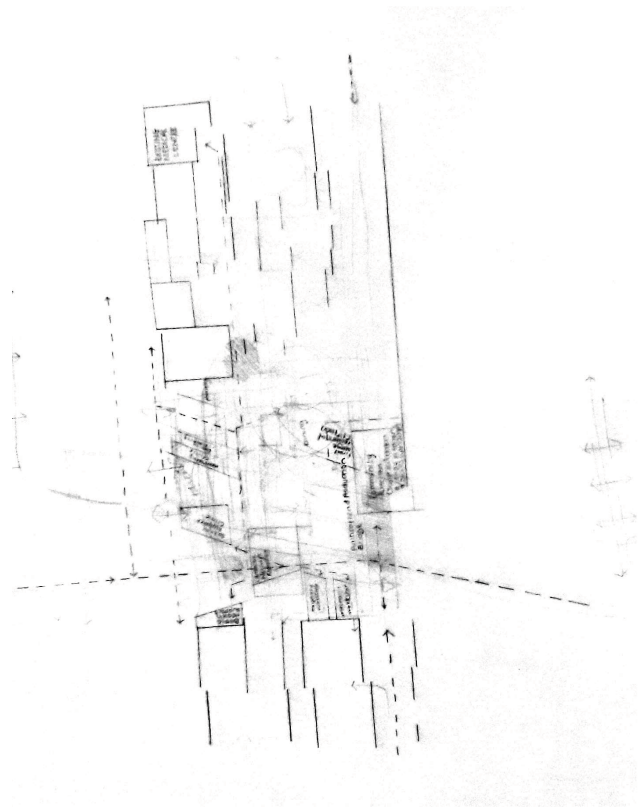


1 CONCEPTUAL PLAN  
Ground Floor

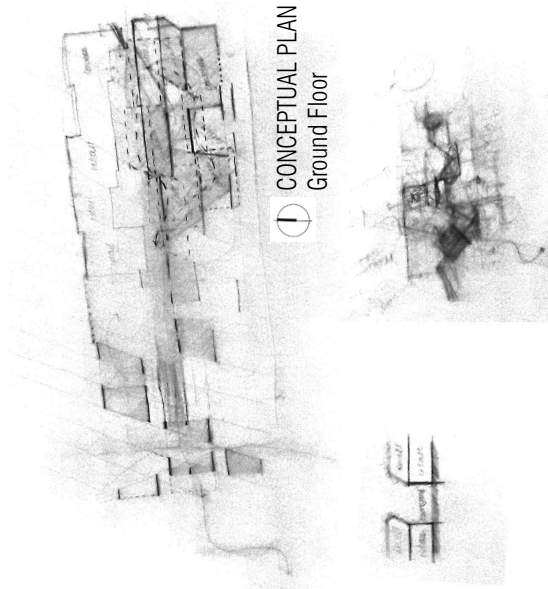


2



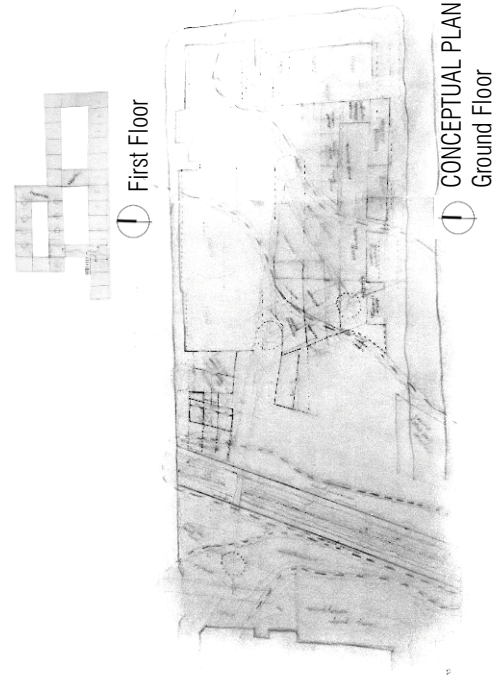


3



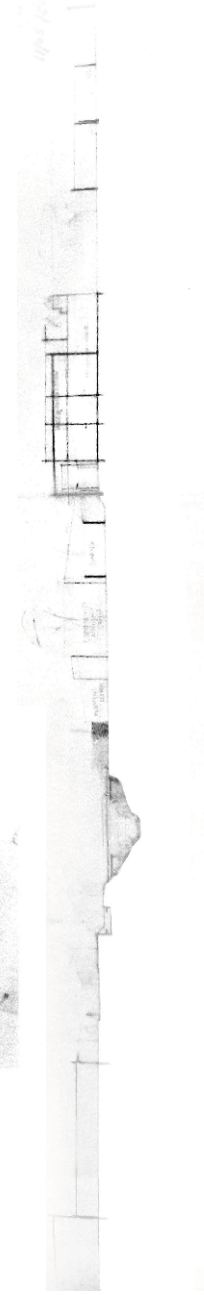
① CONCEPTUAL PLAN  
Ground Floor

4



① First Floor

① CONCEPTUAL PLAN  
Ground Floor



CONCEPTUAL SECTIONS

1 - 4  
Design Development

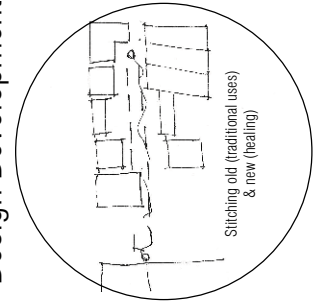
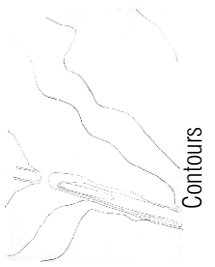
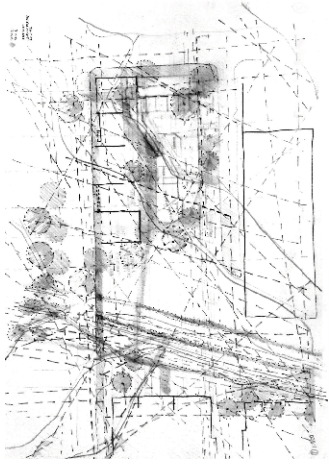


Figure 60: (spread) Design Development 1-4 (Patrick: 2016)

5



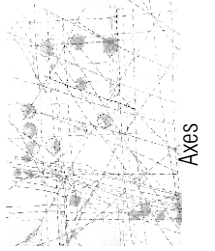
Contours

+



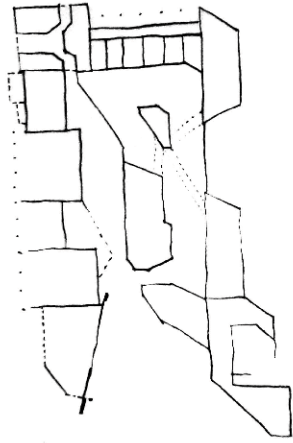
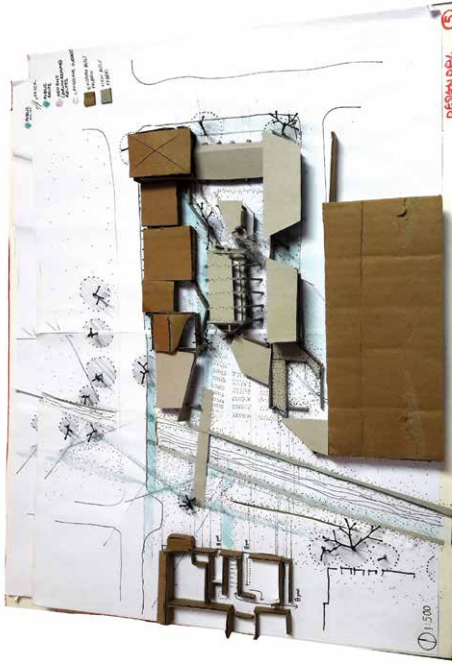
Natural

+



Axes

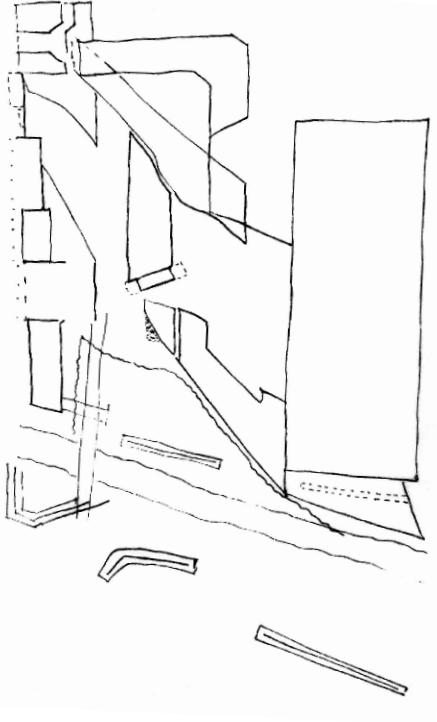
=



① CONCEPTUAL PLAN  
Ground Floor

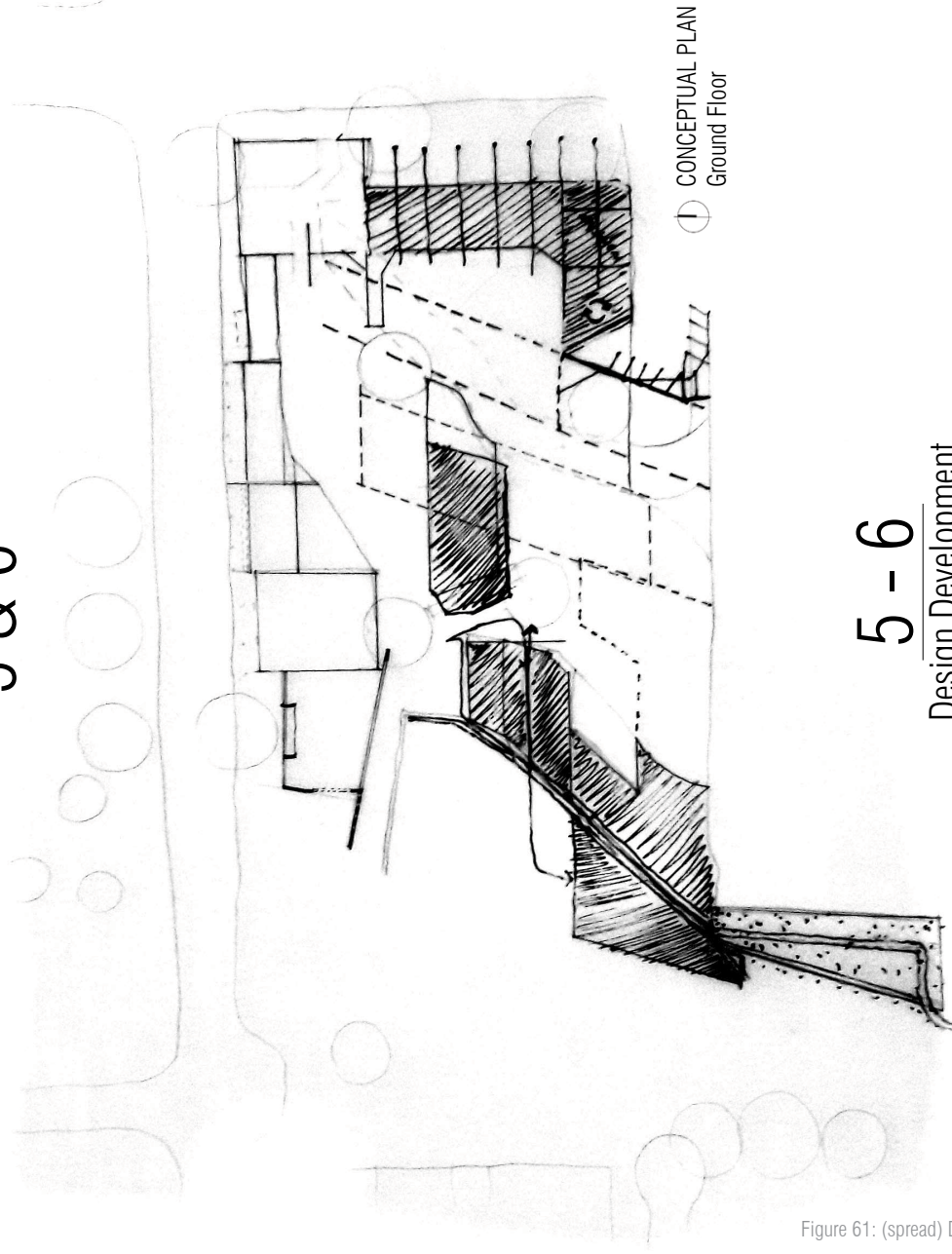
6





① CONCEPTUAL PLAN  
Ground Floor

# 5 & 6



① CONCEPTUAL PLAN  
Ground Floor

# 5 - 6

Design Development

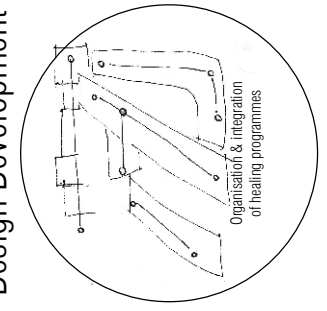
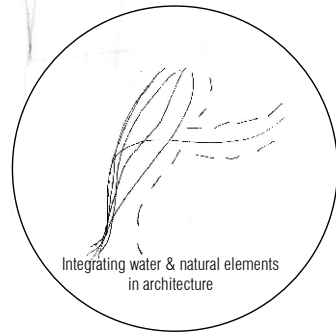
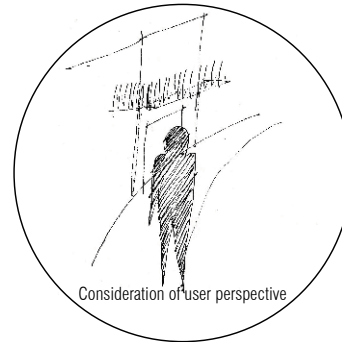


Figure 61: (spread) Design Development 5-6 (Patrick: 2016)

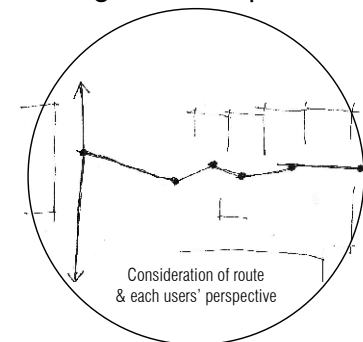
7  
Design Development



8  
Design Development

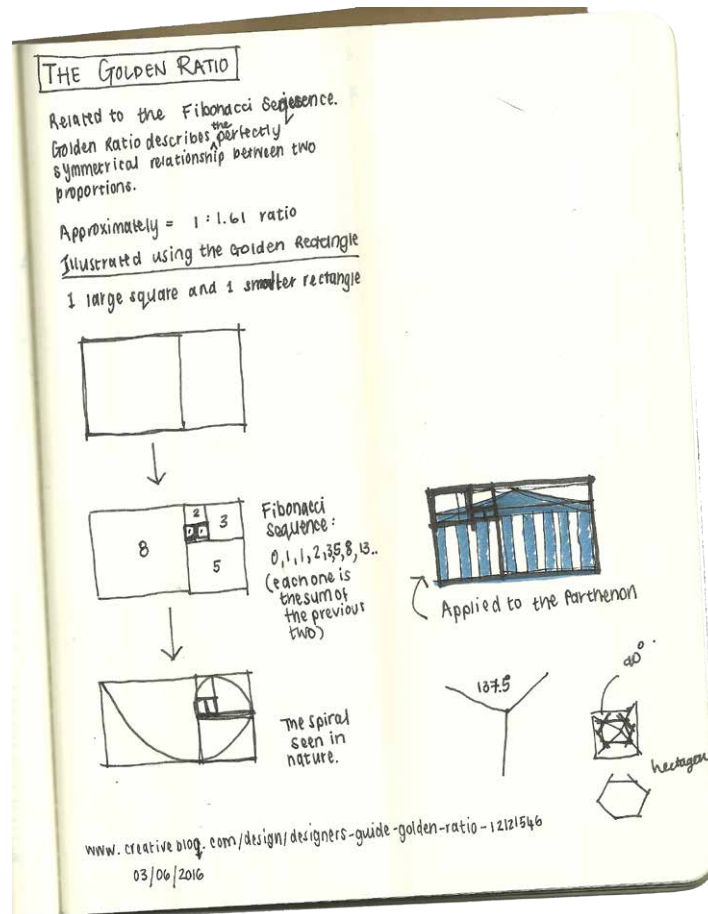


9  
Design Development



Design development stage seven<sup>4</sup> dealt with an investigation of organic form in terms of the integration of water and landscape with the architecture. The investigation went on to structure, in a rational way, the organic form in terms of the golden ratio.

Dr Radebe and Mr Pillay are looking rather confused and so Janeke makes a few rough sketches to explain the golden ratio<sup>5</sup>.



The Golden Ratio is a common mathematical ratio that has been identified in nature. It is related to the Fibonacci Sequence: a number sequence where each number in the sequence is the sum of the previous two numbers<sup>6</sup>. This is the sequence: 1, 1, 2, 3, 5, 8, 13 and so on. In the sketch you can see how this relates to a 'Golden Rectangle' where the same rule applies. A spiral can be drawn within this completed rectangle, that relates back to nature, as in the seashell. The benefit of adopting these proportions in design, is that it produces a well-proportioned plan, section or elevation of the design.

The conceptual plan derived from this exploration, focussed on the urban edges and the public pedestrian path through the site, and how it branched off into more private spaces. This conceptual plan did not have the same appeal that the previous organic plan had because of the awkward angles that were created.

The next stage of the design development<sup>7</sup> consolidated all of the explorations thus far, so as to understand the overlaps between them, which are important aspects in order to take the process forward. It was also decided to approach this from the perspective of the user. Drawn perspectives of important spaces, mostly in these areas of overlap, were generated in order to understand the functioning of these areas better. The architecture that resulted from this exercise did not relate, in plan and section, in the way that it did in the perspective drawings.

This brings us to the latest design development<sup>8</sup>, which focuses on the different experiences of each user. Mr Pillay, Dr Radebe and Katlego were considered as representative of the various potential users of the space.

Mr Pillay describes his perspective.

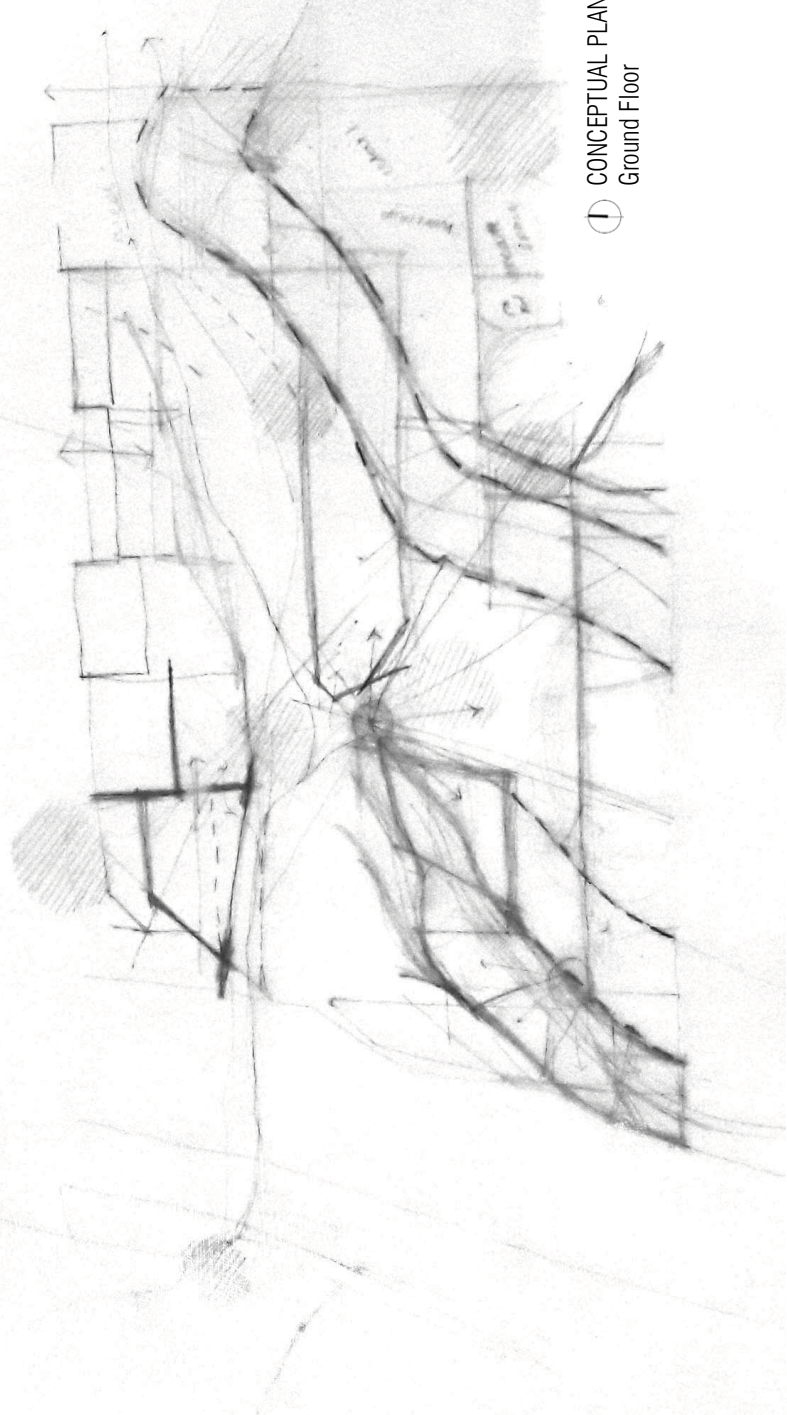
The public square is envisaged as a 'filtering' strategy, introducing the public to the other programmes which branch off from the main public route. The positive aspects of this design proposal were identified as being the bridge across the river, which becomes an active part of the architecture and of the journey. Also the existing fabric was used in order to house certain programmes.

I imagine the public square, and spaces alongside the river, as places of respite - not only for the public, but also for fellow shop owners. I look forward to spending some of my lunch breaks here.

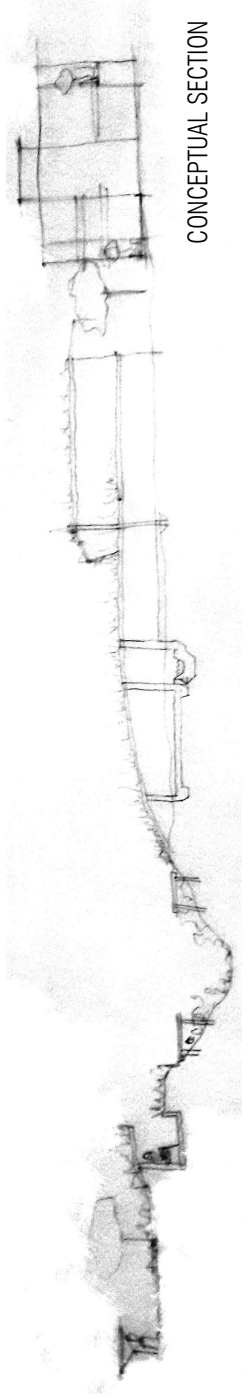
Figure 62: (left) Progression from design development seven to nine (Patrick: 2016)

Figure 63: (above) Rough sketch explaining the Golden Ratio (Patrick: 2016)

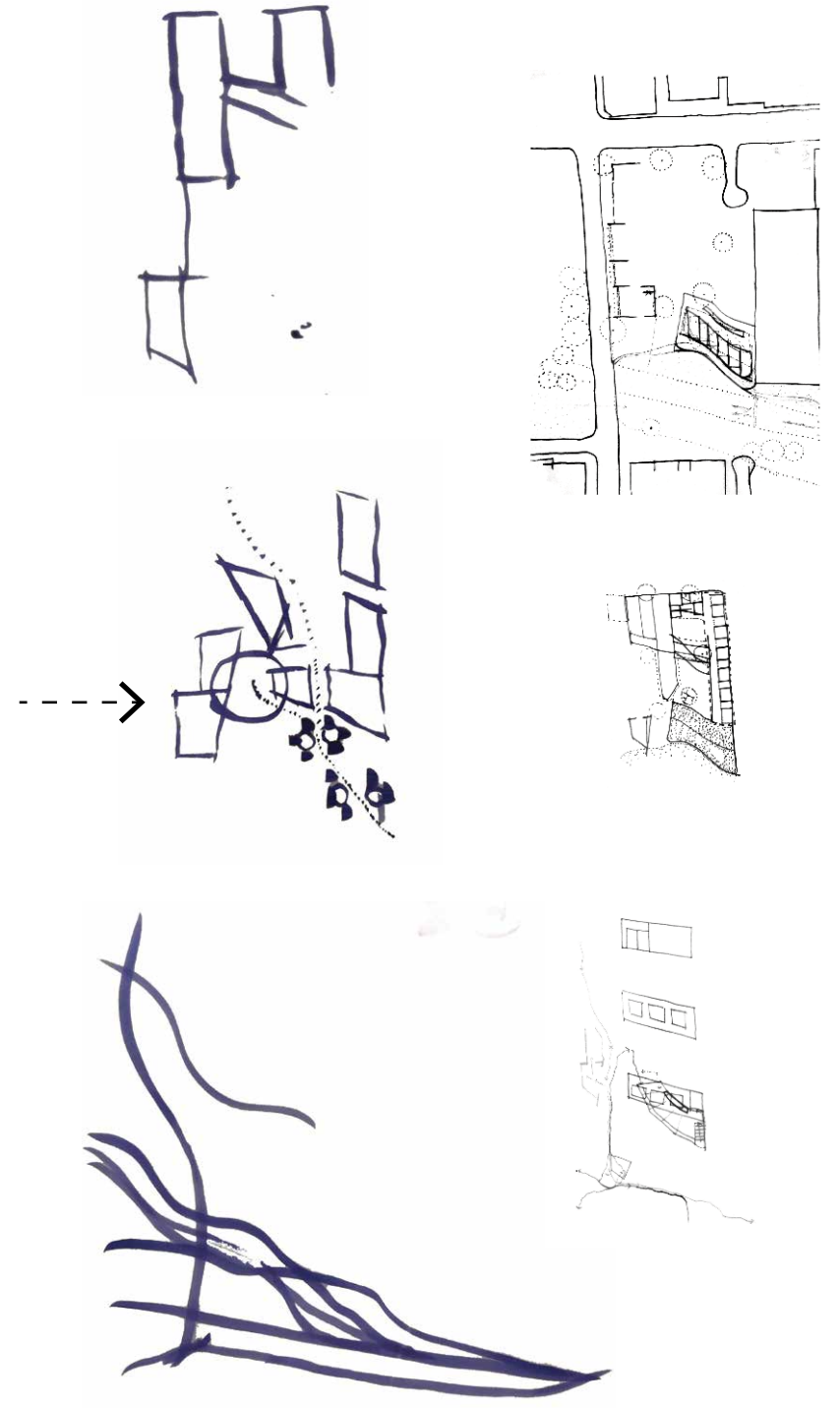
4 See Figure 62 & 64  
5 See Figure 63  
6 Creative Bloq, *The designer's guide to the Golden Ratio* (2016) Internet: <http://www.creativebloq.com/design/designers-guide-golden-ratio-12121546>. Accessed: 03/07/2016  
7 See Figure 62 & 65  
8 See Figure 62, 66 & 67



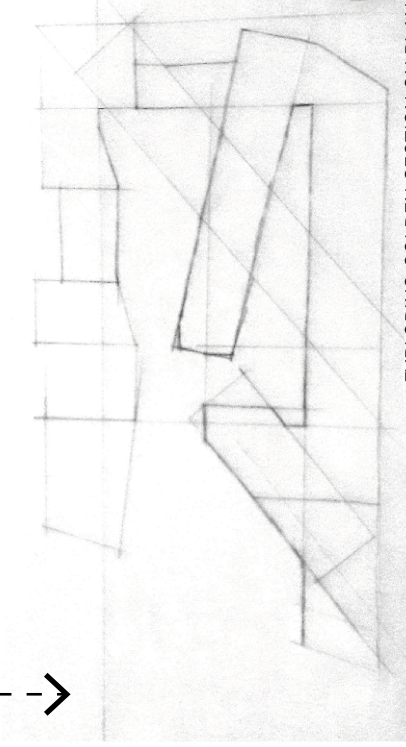
① CONCEPTUAL PLAN  
Ground Floor



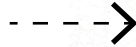
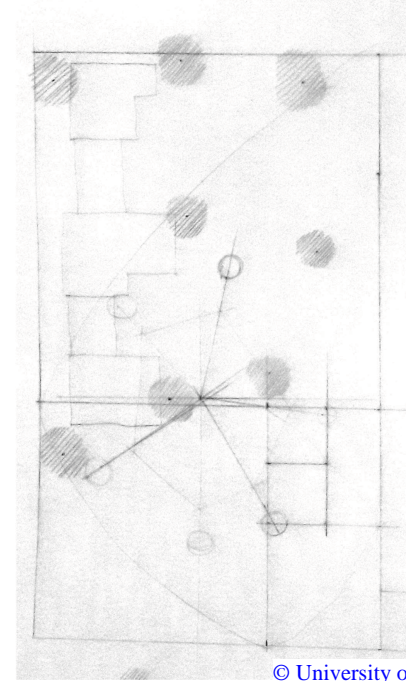
CONCEPTUAL SECTION



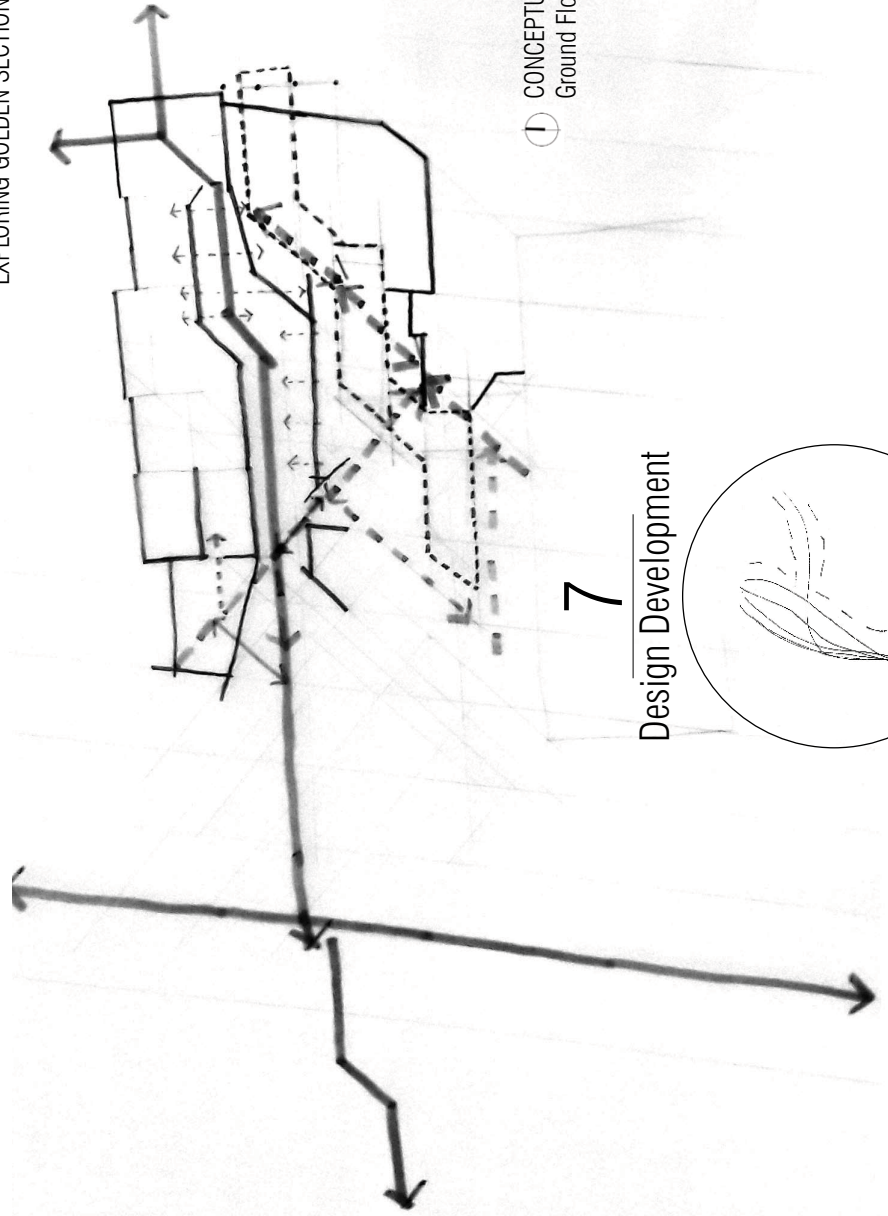
EXPLORING ESSENCE OF SITE ON PLAN



EXPLORING GOLDEN SECTION ON PLAN



① CONCEPTUAL PLAN  
Ground Floor



7

Design Development

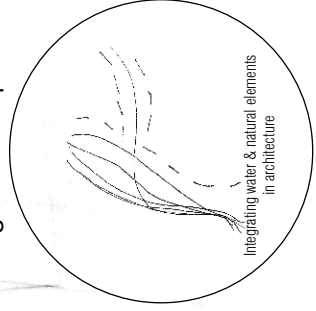
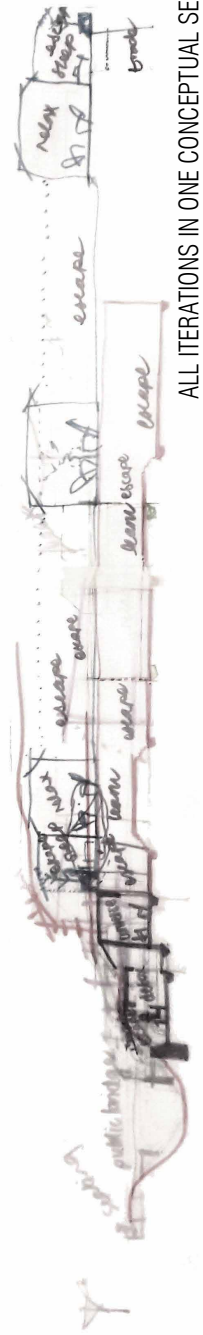


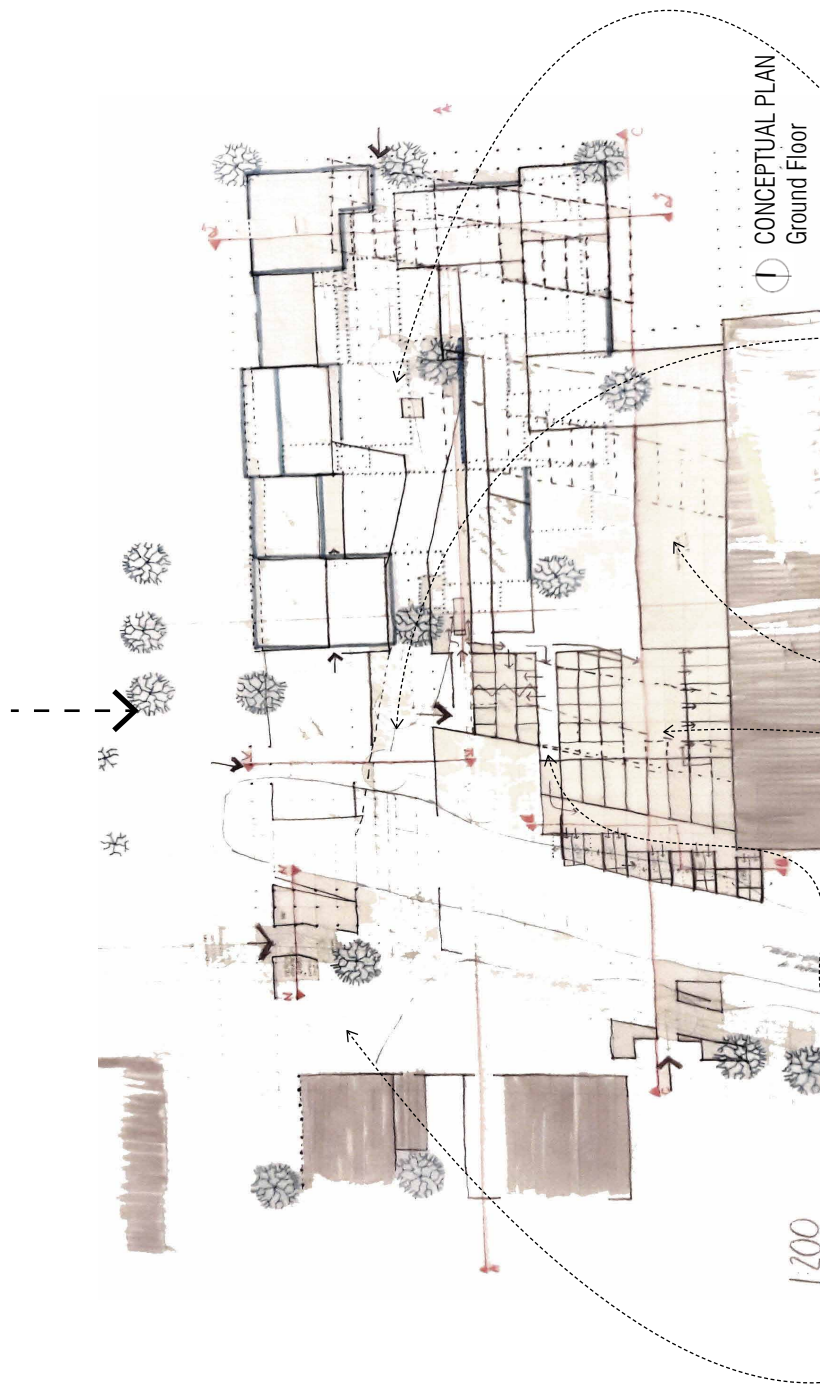
Figure 64: (spread) Design Development 7 (Patrick: 2016)

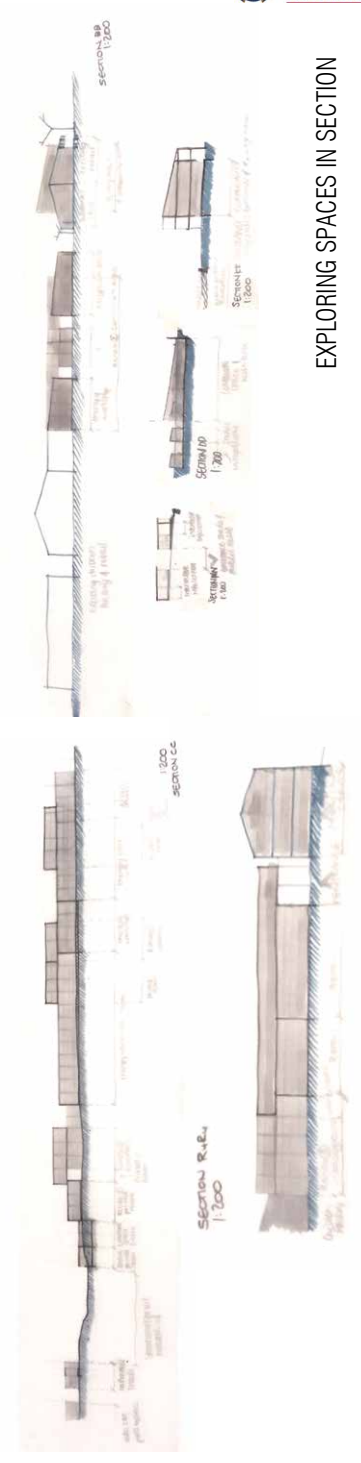
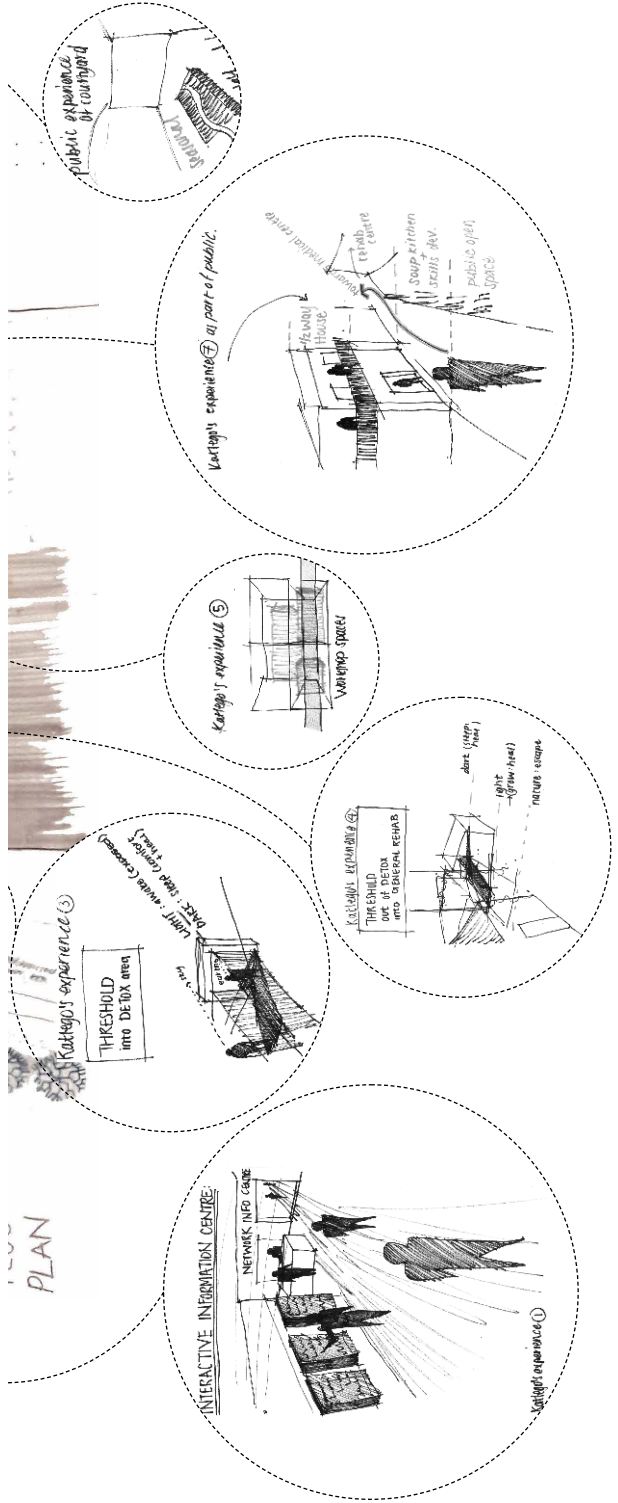


ALL ITERATIONS IN ONE CONCEPTUAL PLAN



ALL ITERATIONS IN ONE CONCEPTUAL SECTION





EXPLORING SPACES IN SECTION



8  
Design Development

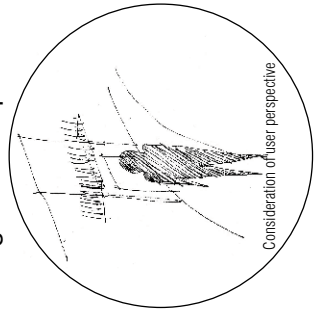


Figure 65: (spread) Design Development 8 (Patrick: 2016)



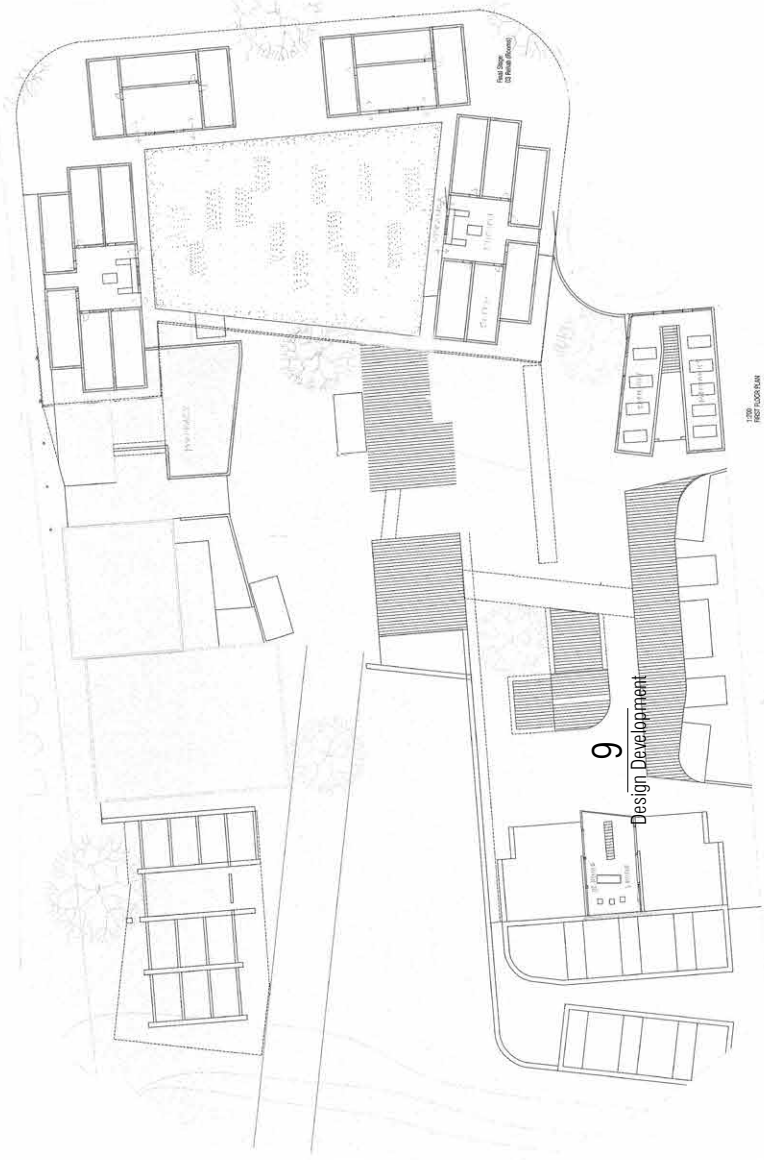




BOOM STREET



1:200  
GROUND FLOOR PLAN



1:200  
FIRST FLOOR PLAN

9  
Design Development



1:200  
SECOND FLOOR PLAN

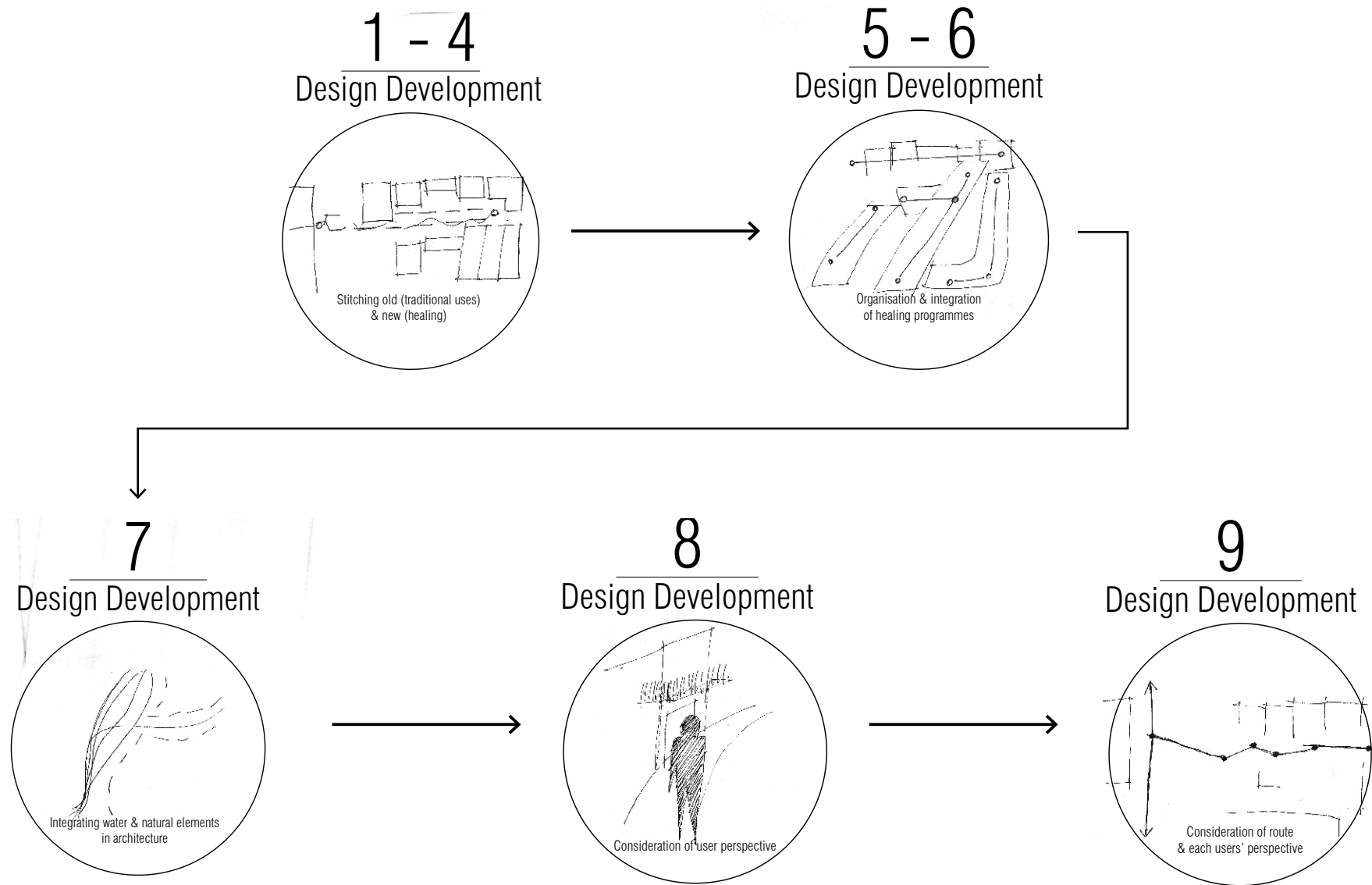
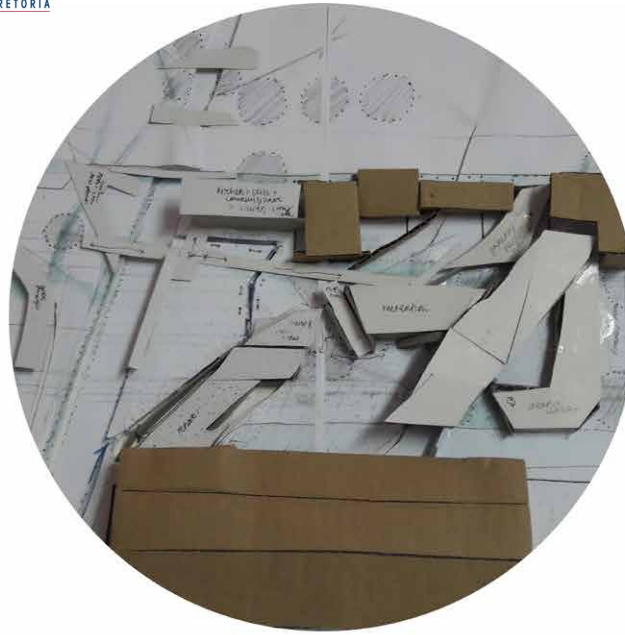


Figure 67: (left) Design Development 9 (Patrick: 2016)

Figure 68: (above) Design development stages one to nine (the process) (Patrick: 2016)



DESIGN DEVELOPMENT



Janeke adds here:

*The qualities of these different spaces could be easily understood on the basis of the perspectives. However, the architectural language became fragmented as no clear decisions had been made in terms of space.*

Dr Radebe adds her opinion here:

*The route required further definition if it were to provide guidance and support and acquire a legibility, which would make way-finding for the users of the space very simple. Were it taken further, the design could introduce more spaces to facilitate interaction between the various users.*

They conclude the meeting and agree to reconvene in a couple of days to discuss the next stage of design development.

~

Once more at the drawing board, they are keeping in mind processes they have already gone through<sup>9</sup>. Their initial investigations had looked at how the spatial fragmentation in the model could be resolved through re-organisation<sup>10</sup>. Janeke refers to various design precedents, which had been discussed during the design process.

*The last design development drew inspiration from the design principles found in Le Corbusier's chapel 'Notre-Dame-Du-Haut'<sup>11</sup>. The chapel is interesting because it has two roles, providing an introspective and focussed interior while to the exterior it caters for large influxes of worshippers, as it forms an important part of the historical pilgrimage-route between France and Spain. The thick outer walls are plastic forms, which direct the circulation of pilgrims and visitors around the exterior of the building before entry<sup>12</sup>. A dynamic spatial plasticity highlights the topography of the site and shapes unique interior spaces. The deep-set openings in the thick south wall are incised into the massive stone and concrete structure, while openings to the north reveal an expansive landscape from the crest of the hill<sup>13</sup>. A phenomenological reading of the chapel involves the quality of the light, as it penetrates the interior, as well as the tactile sensation of the pews (the richness of the wood) and the ancient stone<sup>14</sup>, a remnant of the original 4th century Christian chapel, imbues this place of worship with a sense of history.*

*This precedent is relevant to our project: we can now look at using plastic forms as a way of joining the fragmented parts that were evident in the development and this could also bring out the unique spatial quality of the architecture that could result from such plastic forms. The proportional systems applied to the chapel were also derived from proportions based on the human body and the Golden Section – but it is only to be perceived at a subliminal level and in this way it provides for a more enriching experience of the building.*

---

9 See Figure 68

10 See Figure 69

11 See Figure 70

12 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 33

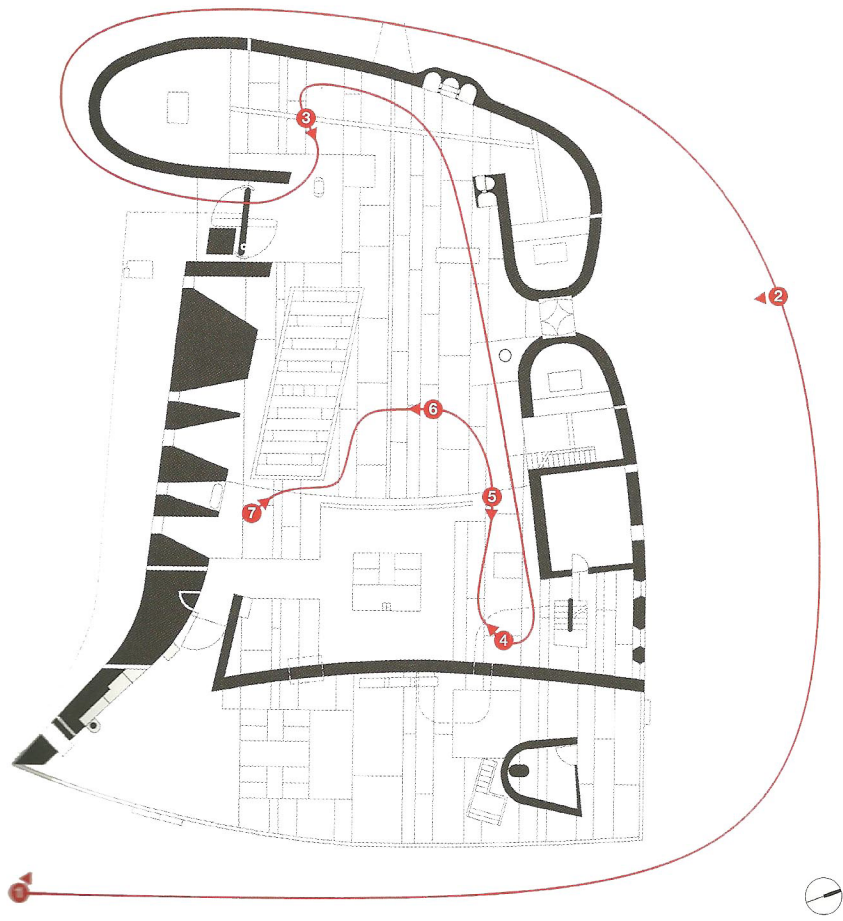
13 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 33

14 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 37

Figure 69: (left) Design development: investigation through model-building (Patrick: 2016)

Precedent - Design

# Chapel Notre-Dame-Du-Haut



RONCHAMP, FRANCE  
LE CORBUSIER



EXTERIOR: OPENINGS



NATURALLY-LIT  
INTERIOR: OPENINGS



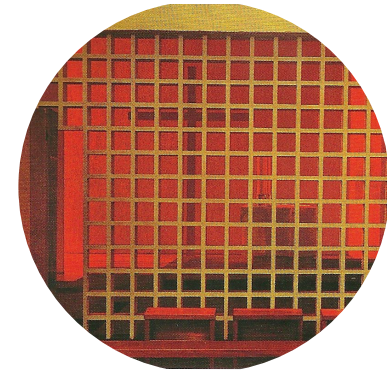
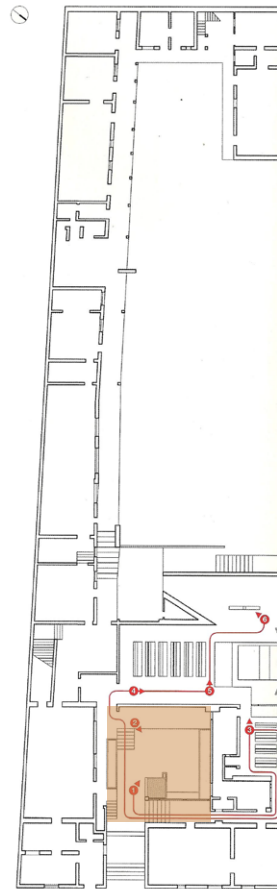
NATURALLY-LIT  
INTERIOR: OPENINGS

# Precedent - Design

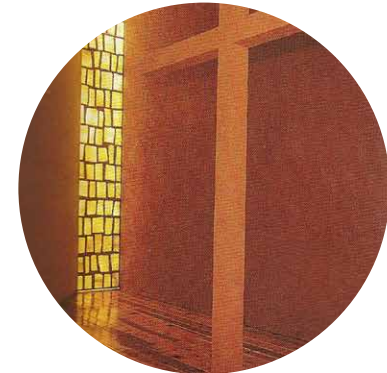
## Chapel Capuchinas



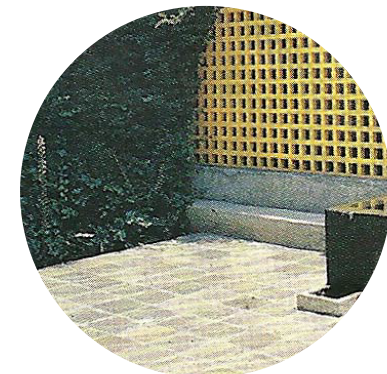
MEXICO  
LUIS BARRAGAN



INTERIOR VIEW FROM COURTYARD THROUGH  
BRIGHT YELLOW CONCRETE GRATE



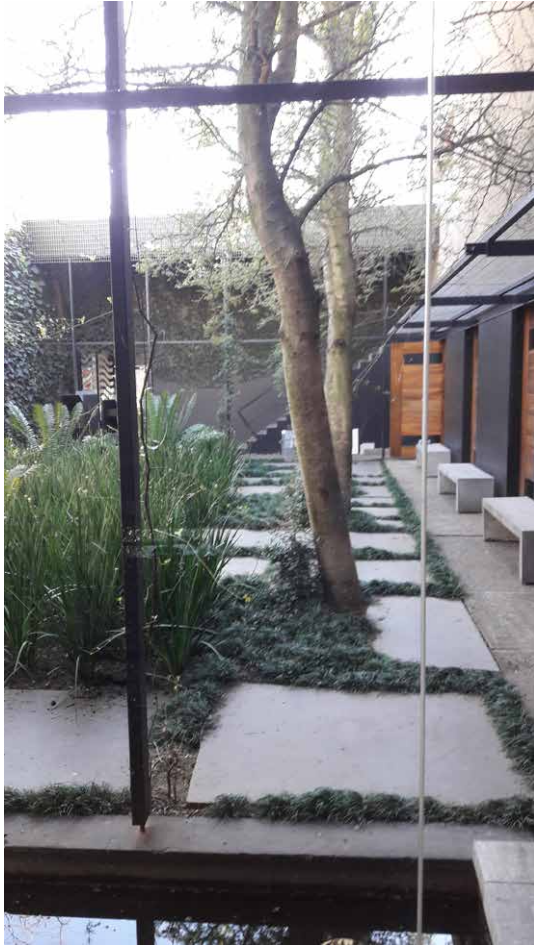
ILLUMINATION THROUGH NARROW COLOURED GLASS  
OPENING ON TIMBER FLOORS & ORANGE WALLS



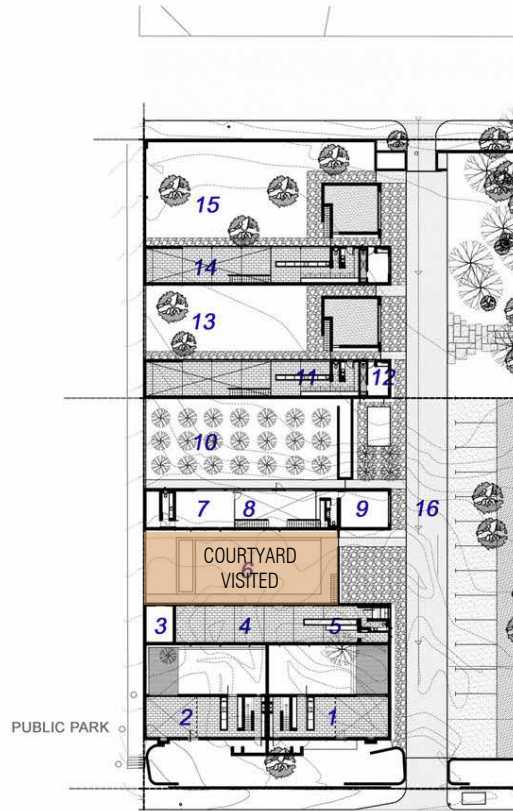
CLIMBING VINES GROW FROM THE SQUARE STONE SURFACE  
CONTRASTED WITH THE POLISHED BLACK STONE FOUNTAIN

Precedent - Design

# Courtyards on Oxford



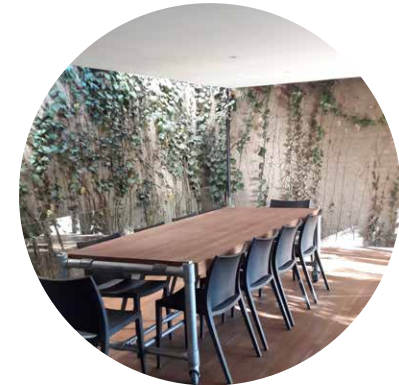
- 01 Unit 1 courtyard
- 02 Unit 2 courtyard
- 03 Store
- 04 Office
- 05 Reception
- 06 Unit 3 courtyard
- 07 Office
- 08 Reception
- 09 Garage
- 10 Unit 4 Courtyard
- 11 Kitchen
- 12 Staff quarters
- 13 Unit 5 Courtyard
- 14 Unit 6
- 15 Unit 6 Courtyard
- 16 Driveway and Parking



SITE PLAN AND LIST OF UNITS



VEGETATION IN THE COURTYARD



UPSTAIRS BOARDROOM



COURTYARD SWING: OUTSIDE ROOMS  
IN THE BACKGROUND

OXFORD STREET, JOHANNESBURG  
STUDIOMAS ARCHITECTS

*We also drew inspiration from the Chapel of Capuchinas<sup>15</sup>, which has been described as “a space made of silence and light”<sup>16</sup>. Looking at our selected images of this work, the spiritual quality of the place is apparent and one can read into it, a place of escape from the everyday. This is created by the use of minimal forms and materials, giving simplicity to the architecture<sup>17</sup>. I feel that the courtyard space is subtly understated. It provides a place for inner reflection, as one sits surrounded by natural elements, with vines and flowing water, and natural materials such as stone.*

Janeke gets up to make coffee for the team as they continue their discussion. Janeke returns with coffee for everyone. She refers to another precedent.

*A couple of months ago I visited the development ‘Courtyards on Oxford’<sup>18</sup>, in Johannesburg. It comprises a complex of six courtyards sandwiched between six slender live-work units. The conceptual underpinning of these courtyards was that nature would slowly take over with creepers growing up dividing walls<sup>19</sup>. I entered one of these courtyards<sup>20</sup>, experiencing the small world within this enclosed space. The courtyard opens onto another room. Here, the two spaces are separated by a seamless division of frameless glass panels and the threshold between outside and inside is further articulated by a narrow water channel. Looking back at the garden, I still felt as if I were standing on the outside. Climbing a small staircase, I discovered another outside room. The boardroom, a glass box, is positioned at the level of the treetops and is surrounded by vines which clothe the boundary walls beyond.*

The team feels that the courtyards in their project should form an integral part of the architecture and its sequence of spaces. Some of the qualities illustrated in these precedents could be reflected in the next design iteration.

~

---

15 See Figure 71  
 16 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 204  
 17 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 204  
 18 See Figure 72  
 19 Nico Saieh, *Courtyards on Oxford* / studioMAS (ArchDaily, 20 Mar 2010)  
 Internet: <http://www.archdaily.com/52895/courtyards-on-oxford-studiomas/> Accessed: 10/10/2016  
 20 The information that follows was distilled from a site visit that took place at Courtyards on Oxford, on 28 August 2016

Figure 72: Design precedent - Courtyards on Oxford. Images sources: (Patrick: 2016) and (ArchDaily: 2010)



Janeke and Dr Radebe go to Mr Pillay's shop to discuss progress on the design development thus far. Janeke focuses on a specific stage of the development in order to reflect on the strength of the latest concept. She places a series of pages in front of them that have grid lines on them<sup>21</sup>.

In this exercise we superimposed a new rotated grid, that recognises the river, onto the existing grids of the built fabric.

She presents them with drawings of the design that resulted from these conceptual explorations<sup>22</sup>.

The river is naturalised and the buildings connect and insert themselves into the existing fabric. The resultant architecture facilitates the interaction between people as they filter from the public square into the more private spaces.

The ancillary functions of the soup kitchen, halfway house, pharmacy, women's clinic, the existing medical centre and formal retail, are highlighted in light grey. The darker grey buildings house the primary, very private functions of the rehabilitation centre. The functions on the ground floor include: the dwelling spaces for the first stage of rehabilitation, therapy spaces, a library, the skills workshops and various courtyard spaces in-between. The first floor includes the dwelling spaces for the second, third and fourth stages of rehabilitation.

Janeke then explains that the perspectives have been arranged in such a way that one can understand the spaces, in sequence, through a journey. She elaborates on the nature of this journey.

A new walkway replaces the road, taking one past informal trading, which is now elevated on raised plinths with roofing<sup>23</sup>. A new timber screen can be seen in the distance<sup>24</sup>. Along the pathway one encounters a soup kitchen, leading off the public square<sup>25</sup>. The soup kitchen can serve as a programmatic gateway introducing inhabitants to the additional facilities which are provided as part of the drug rehabilitation programme. The link between the soup kitchen and the greater rehabilitation programme means that doctors are encountered informally and can explain the various support facilities available<sup>26</sup>. On making the decision to enter the rehab facility, a person enters the secondary foyer, leading onto a courtyard<sup>27</sup> that opens out to other courtyards<sup>28</sup> and is overlooked by spaces on the first floor<sup>29</sup>.

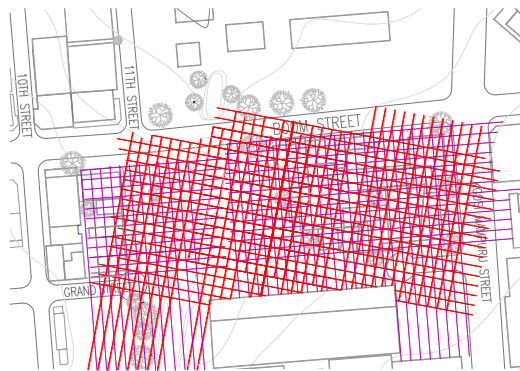


Figure 73: Final conceptual development: rotating and overlaying grids (Patrick: 2016)

- 21 See Figure 73
- 22 See Figures 74-76
- 23 See Figure 77
- 24 See Figure 78
- 25 See Figure 79
- 26 See Figure 80
- 27 See Figure 81
- 28 See Figure 82
- 29 See Figure 83

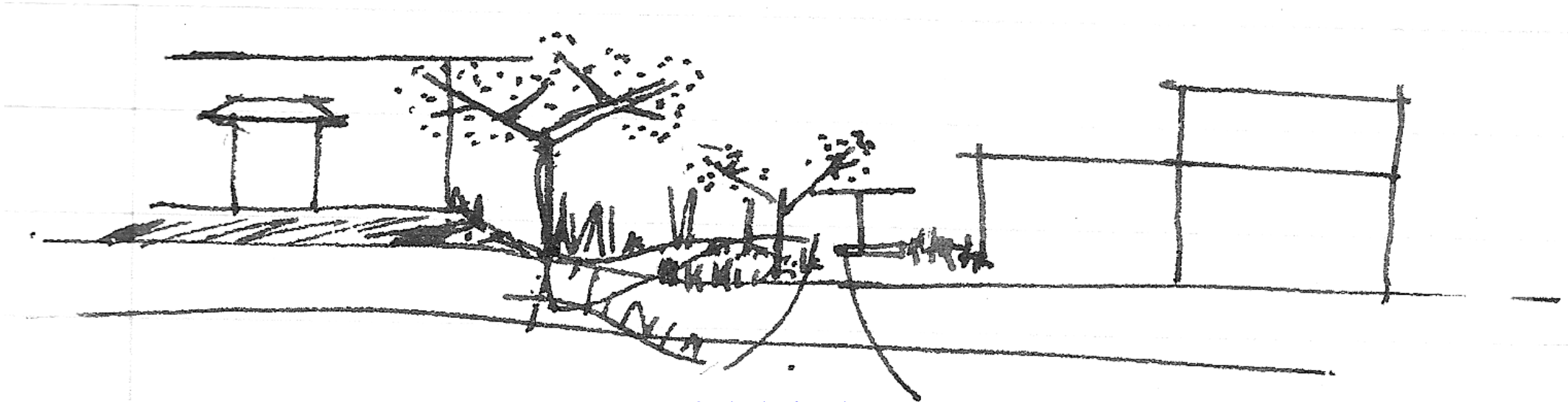








Figure 76: Conceptual First Floor Plan (Patrick: 2016)



Mr Pillay and Dr Radebe really value the way the journey through the various spaces of the project, has been made accessible to them through the presentation and linking of the perspective drawings. For Dr Radebe, it is the courtyards that should take priority as she finds them exciting.

~

Janeke and her colleagues assess the design critically. One of them comments that the spaces do not come across as 'homely'. Janeke responds.

*This is true! We need to think about what a home really is: it is a place for daily rituals<sup>30</sup> and I believe that this can be integrated into the ritual of healing.*

*Regarding the interior spaces, it might be easier to consider dwelling in these three ways: biological, emotional and intellectual<sup>31</sup>. The biological aspect would integrate the bio-cultural elements of entry, roof, hearth and stove. These spaces should focus on an interaction between prospect and refuge: opaque boundaries and low ceilings should define smaller areas of refuge allowing for sleep, meditation, healing, and providing a general haven, while high ceilings with opaque boundaries, at a greater distance from one another, are used to define more expansive spaces and to provide broader views and prospect<sup>32</sup>.*

*By designing with the emotional experience of an inhabitant in mind, a slightly different approach is taken where built elements are designed in such a way as to allow for the personalisation of space to take place. The intellectual aspect also has to do with identity and education and can be realised in the library and the workshop spaces.*

30 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 218

31 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 218

32 Stephen R. Kellert, Judith H. Heerwagen & Martin L. Mador, *Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life* (New Jersey: John Wiley & Sons, 2008), 267

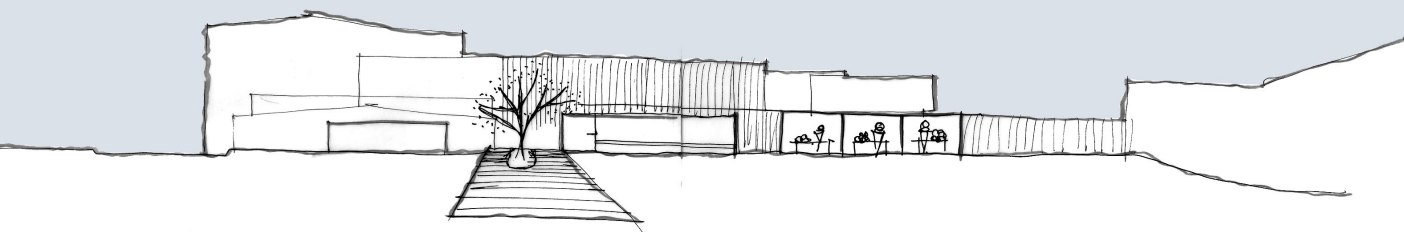


Figure 78: Conceptual Foyer (Patrick: 2016)



Figure 79: Conceptual Soup Kitchen and Public Square (Patrick: 2016)

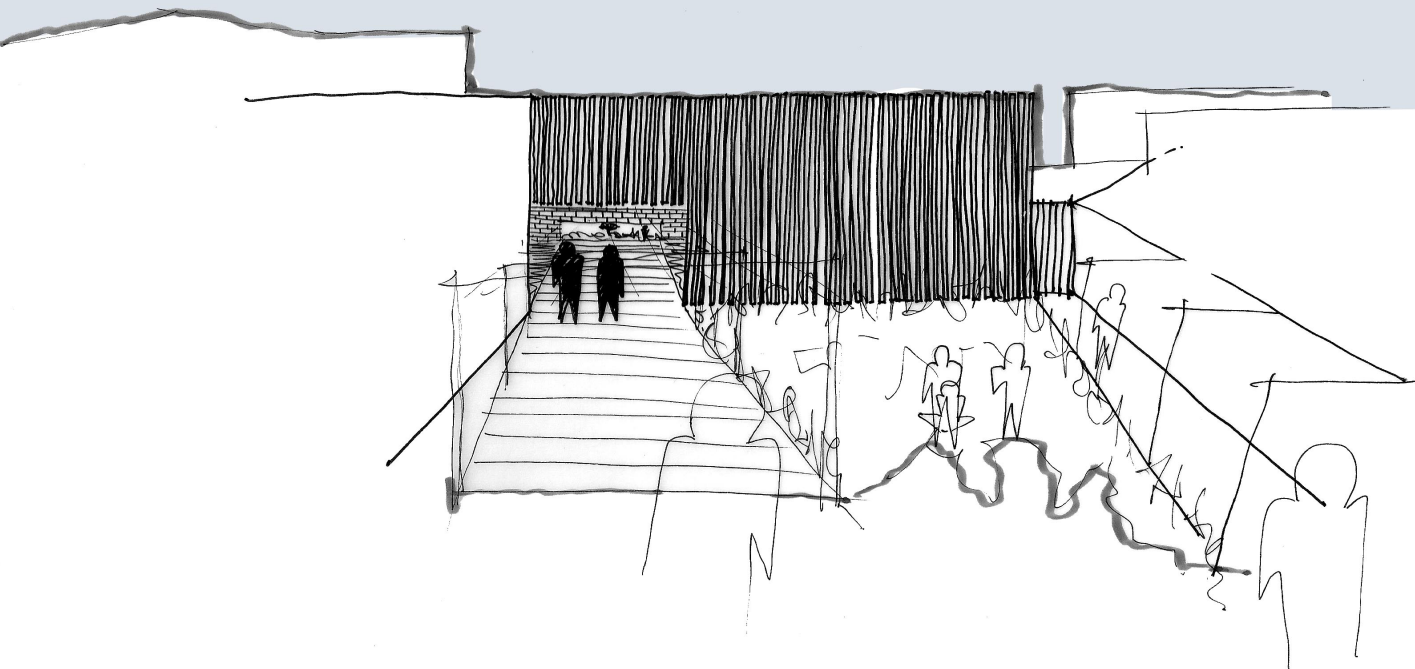


Figure 80: Approaching Conceptual Foyer (Patrick: 2016)

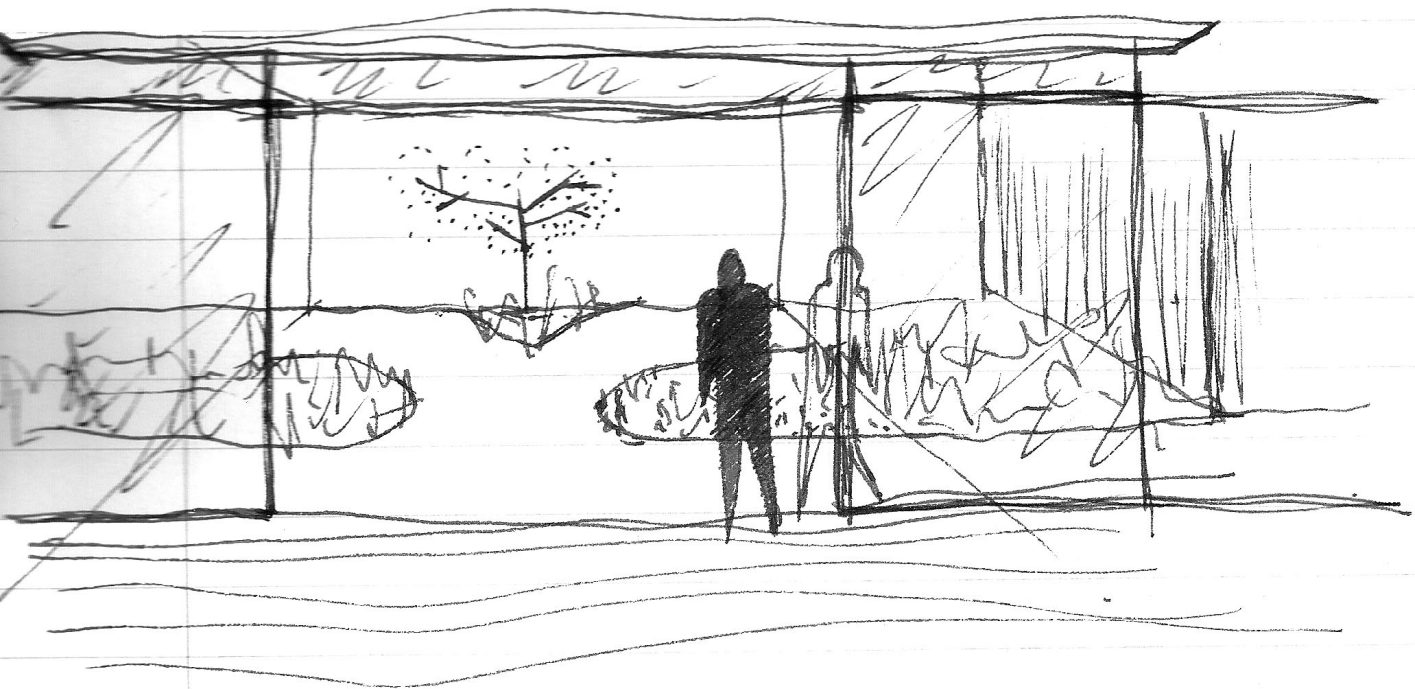
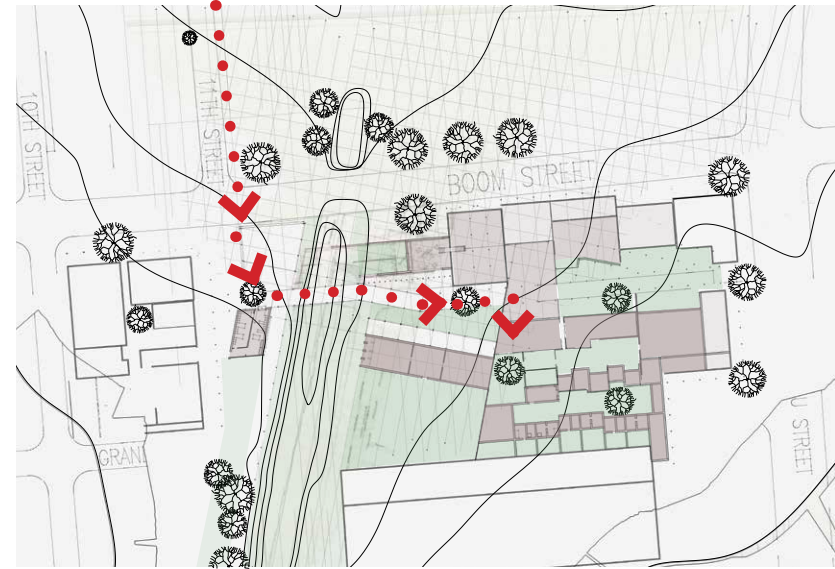


Figure 81: Conceptual Secondary Foyer that looks onto a courtyard (Patrick: 2016)

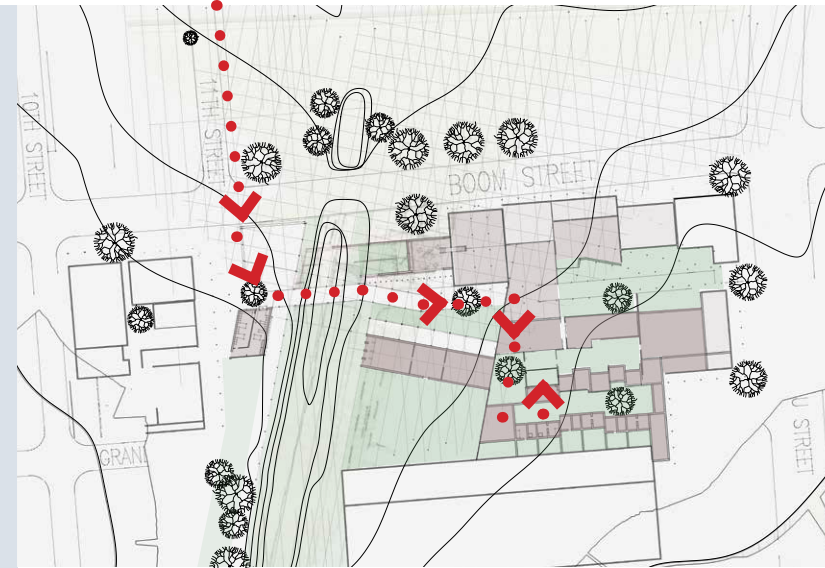
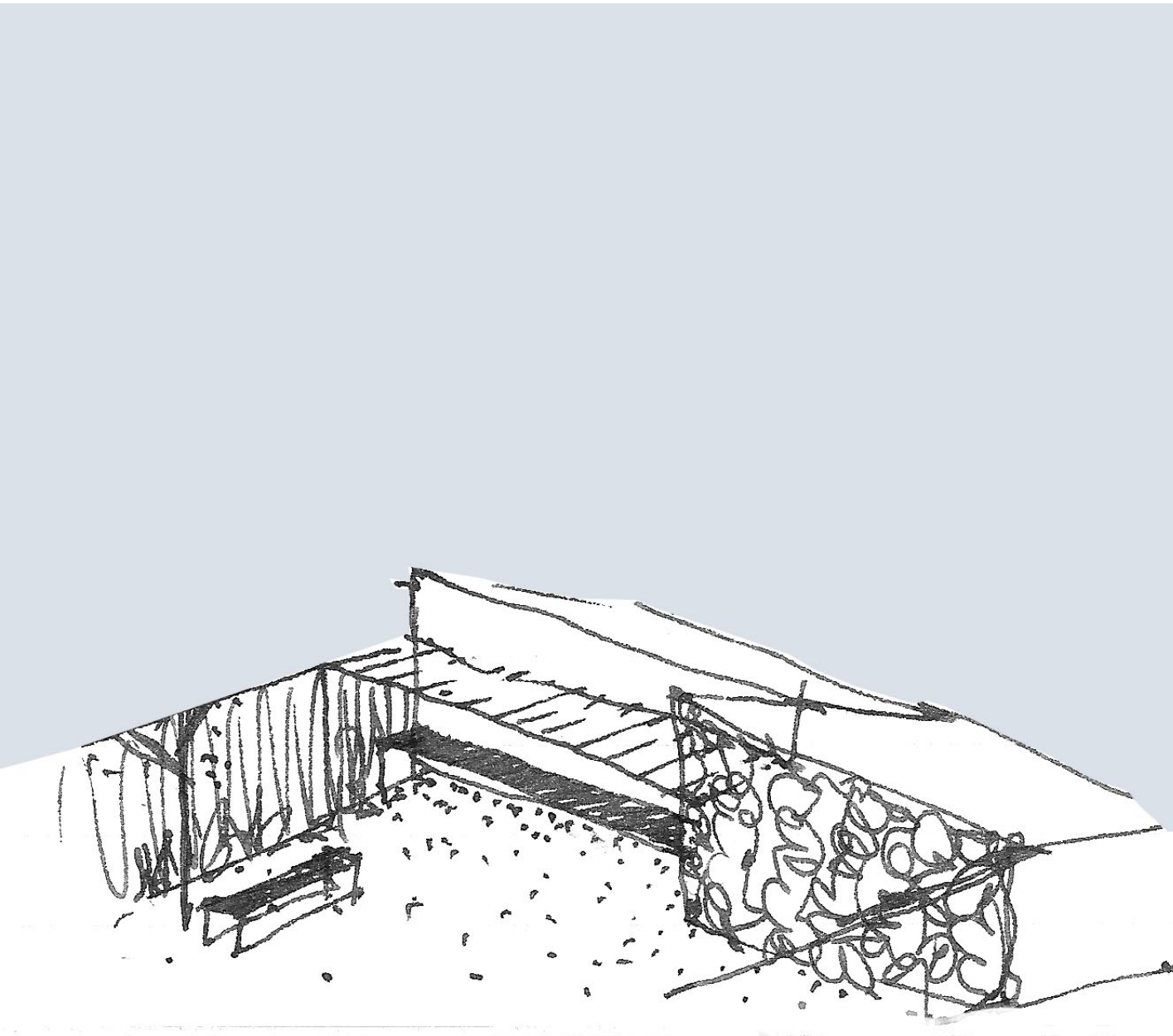


Figure 82: Conceptual intermediary courtyards (Patrick: 2016)

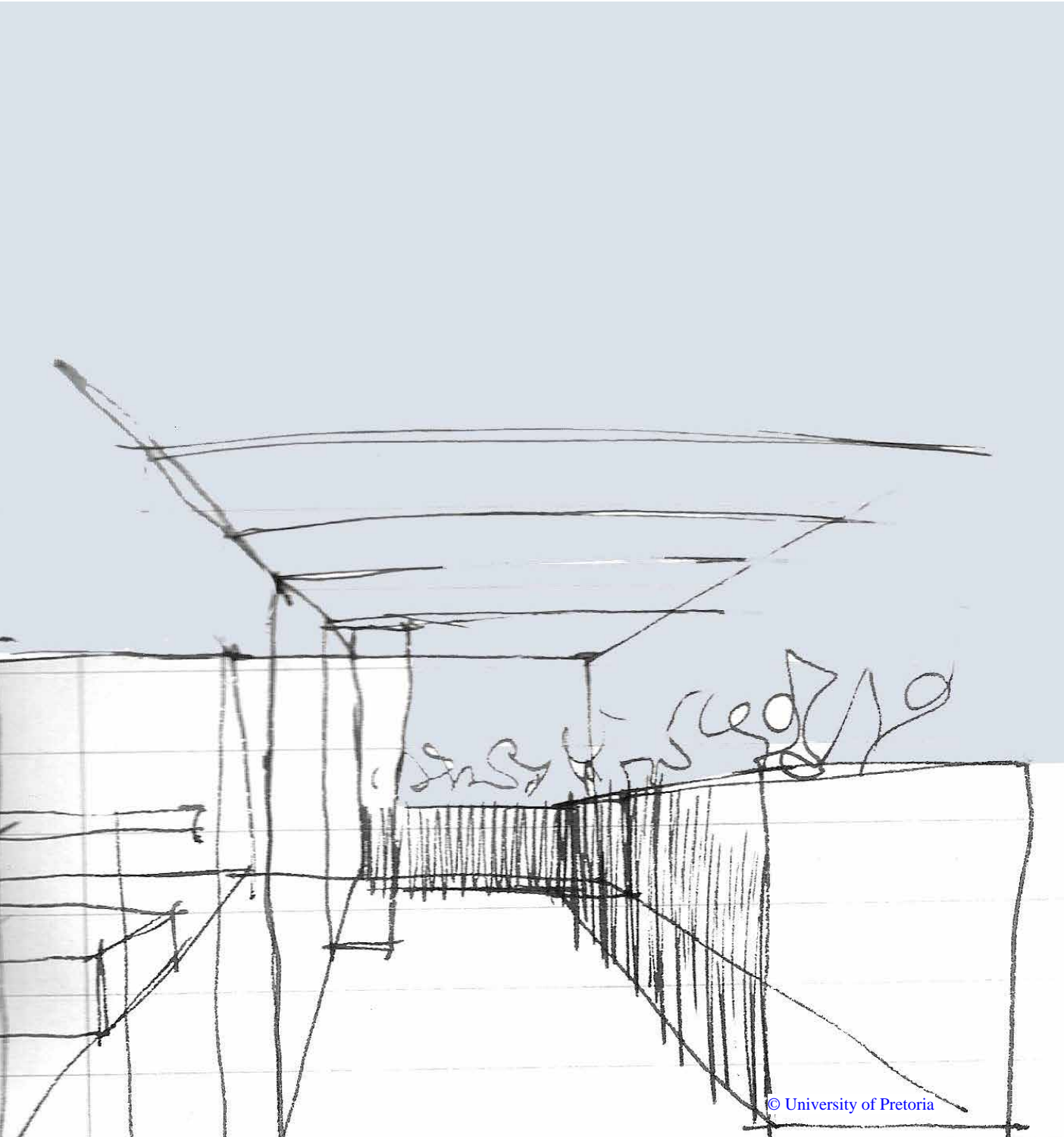


Figure 83: Conceptual first floor walkway (Patrick: 2016)

# Precedent - Design

## Falling Water

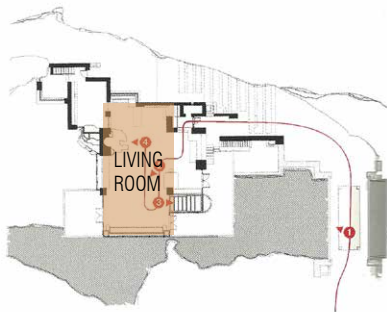


Ground Floor

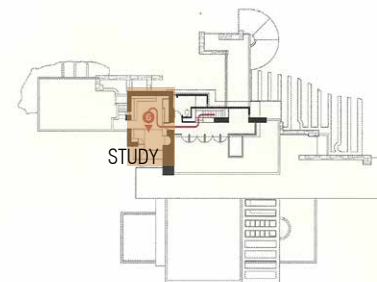
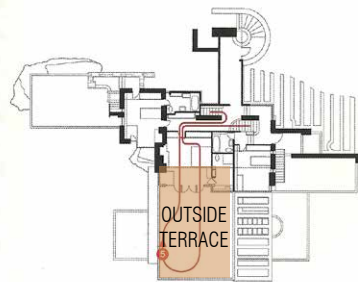
First Floor

Second Floor

[STUDY]



PENNSYLVANIA, USA  
FRANK LLOYD WRIGHT



EXTERIOR MATERIALITY  
[OUTSIDE TERRACE]



INTERIOR / EXTERIOR  
MATERIALITY



INTERNALISATION OF LANDSCAPE  
[LIVING ROOM]

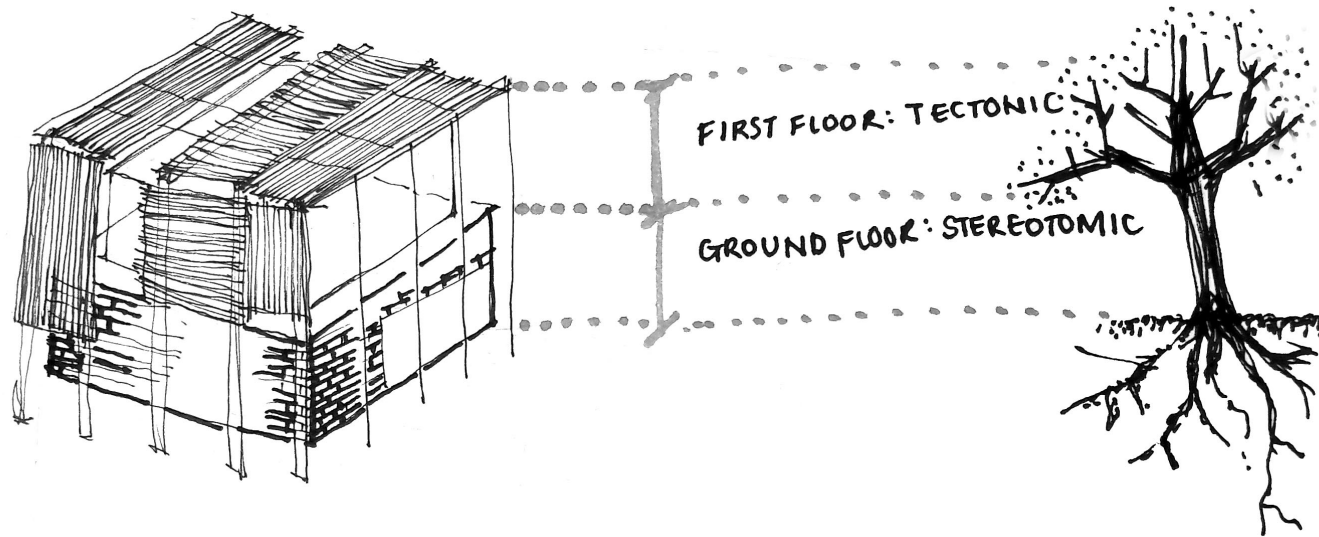
*A precedent that I feel will inspire us to realise these aspirations is Falling Water<sup>33</sup>, as I believe that its design speaks to the landscape, resulting in an interior which has been informed by its beautiful natural setting. Evident on the plan are the horizontal 'built planes' that replicate the existing rock layers within the stream<sup>34</sup>. This reference to geological stratification is what most architects admire about this building, and so do I. But, it is the rooms that interest me most in this case.*

*The living room on the ground floor creates a space of refuge with its low plastered ceiling and a flagstone floor<sup>35</sup>. This is paired with the idea of prospect: the use of large steel frame windows creates a sense that the room could open up completely. From this room, one can hear the stream flowing beneath the house<sup>36</sup>.*

*The first floor is at the same level as the tree tops<sup>37</sup> while the roof terrace helps to blur the division between inside and outside. The study, on the second floor, is enclosed by three anchoring stone walls. The detailing and positioning of the window, with its discreet frame, makes the observer feel at one with the landscape. From here, one looks out over the waterfall below<sup>38</sup>.*

Figure 84: Design Precedent- Falling Water. Image sources: (McCarter et al.: 2012: 218-219)

- 
- 33 See Figure 84  
34 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 391  
35 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 392  
36 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 392  
37 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 395  
38 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 395



# Thirteen

## Realising Re-integration

### Final Design & Technical Development

The year is 2017 and the project is 'breaking ground'. The first phase of the project involves restoring the Steenhovenspruit to its former natural river course, as well as manipulation of the landscape to provide terracing on the banks, creating public space for the enjoyment of and emotional connection to the riverine view. The community is invited to participate in the realisation of the project.

Janeke and her team are working hard to refine the design. Janeke feels that it is important to bring the biophilic principles through to the technical stage of the project. She is explaining the framework to Mr Pillay and Dr Radebe, in the presence of her colleagues, and she urges them to give their suggestions. In the meantime, work is moving ahead with the groundwork and landscaping. Janeke goes on to clarify the ideas:

*The framework<sup>1</sup> is derived from biophilic elements that promote healing, these fall under the rubric of human 'connection to nature', which can be understood in terms of natural elements and natural systems. Natural elements are important in the project as they bring sensory experience to the environment; the life-cycle of the materials must also be taken into consideration. The things we are looking at here are water and sunlight. The presence of water is important, with the Steenhovenspruit which runs through the site. We are endeavouring to make the presence of the river a life force which is accessible to the community. We are conscious of the therapeutic quality of water in relation to the healing process. We need also to consider the water cycle, and how it is understood by the various users. Sunlight is considered as an active presence: natural light provides an important sensory experience, while the sun rays themselves are considered as a renewable energy resource for the project to reformulate as solar energy. On the built scale, heat gain associated with our climatic region, can be countered effectively by incorporating natural ventilation.*

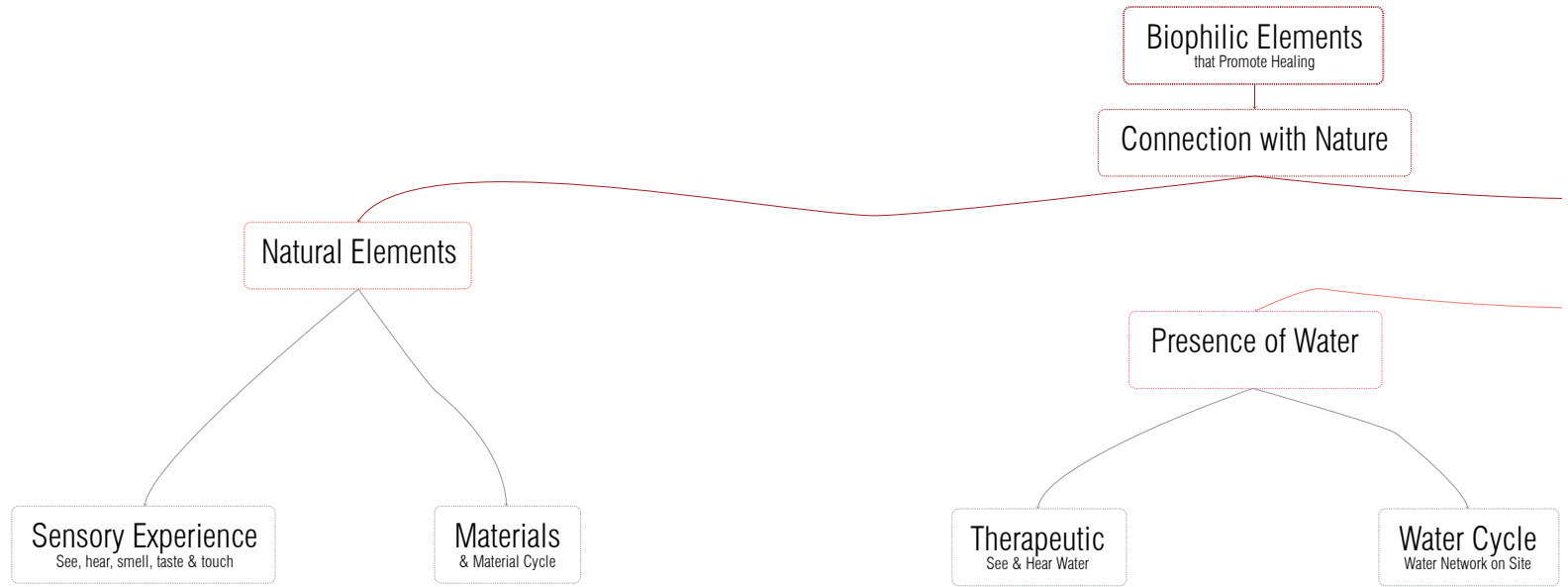
*A biophilic approach is used when thinking about the architectural response to heritage, the general programmes of the project, with the healing and drug rehabilitation. The treatment of boundary conditions and the journey as an experiential trajectory, are considered here.*

They take a moment to look at the framework. Janeke continues, explaining the various aspects of the project and showing how technical investigations were carried out by the team, discussing the information gathered thus far. She begins with a discussion of the natural elements.

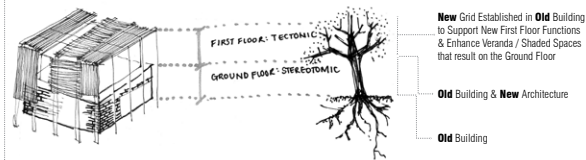
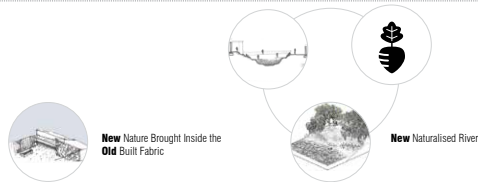
*As I am speaking, the Steenhovenspruit channel, which used to be an unsightly gash in the landscape, is being*

Figure 85: Investigation of stereotomic & tectonic elements (Patrick: 2016)

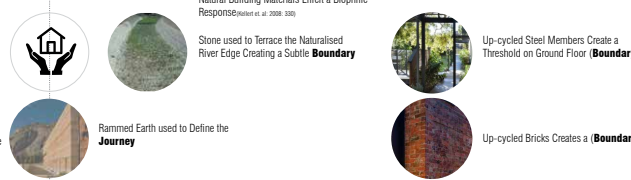
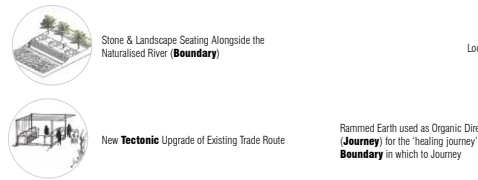
Biophilic System  
Technology Framework



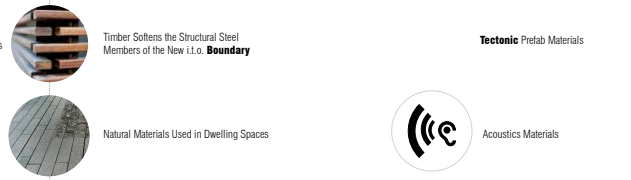
Response to Heritage  
New Relationship to Old Built Fabric



General Programmes



Healing Programmes



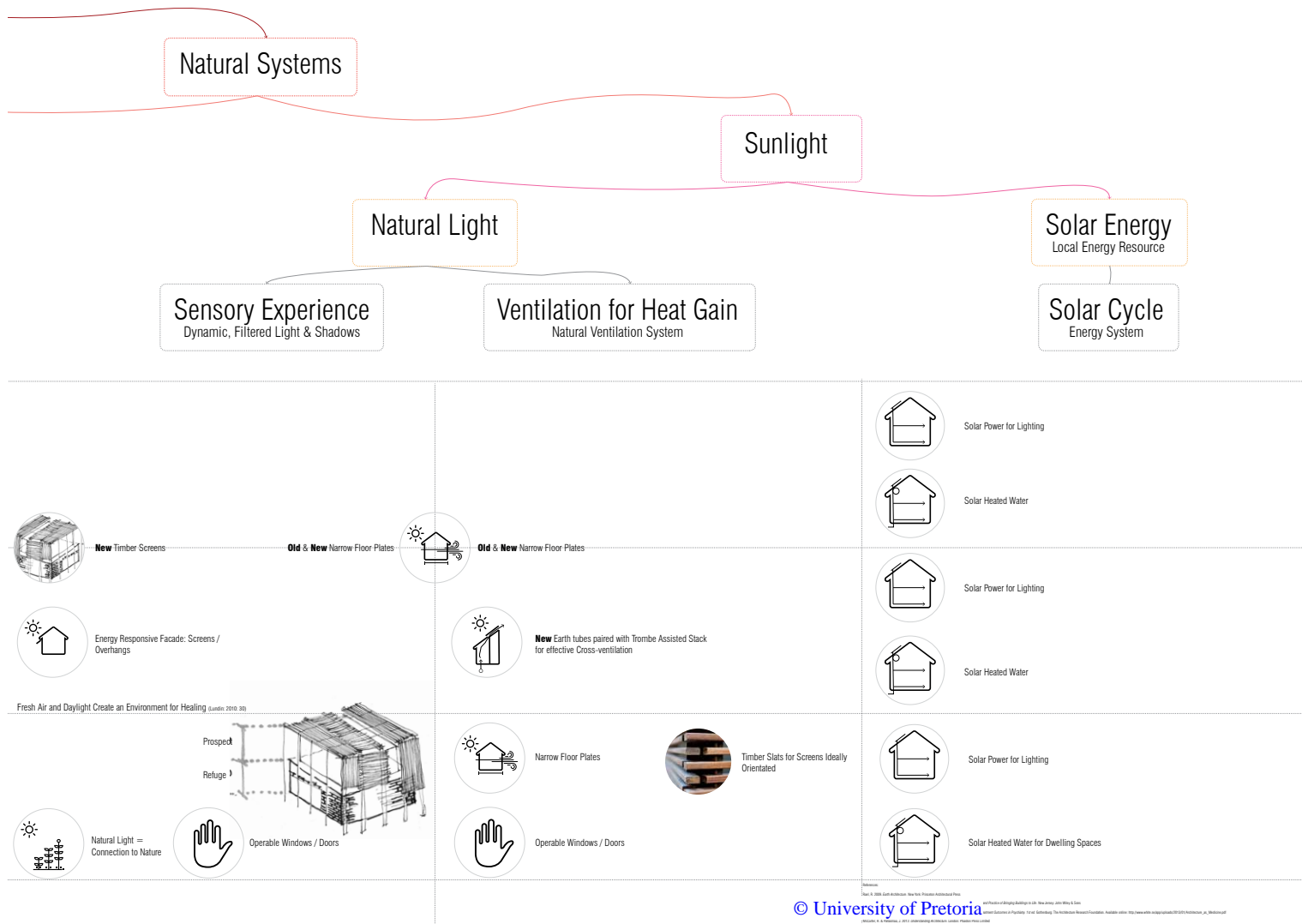


Figure 86: Biophilic elements that form a framework that guides the refinement in the technology of the project (Patrick: 2016)

Precedent - Heritage

# Rocks Police Station turned Café



SYDNEY, AUSTRALIA  
WELSH + MAJOR



GAP HIGHLIGHTED WITH STEEL  
MEMBERS THAT DEFINE NEW FROM OLD



GAP HIGHLIGHTED ON THE FLOOR PLANE  
(RECESS) & THE ROOF PLANE (GLASS)



NEW GLASS FACADE STEPS AWAY  
SIGNIFICANTLY FROM THE OLD FACADE

*transformed into a natural river. The landscaping will provide an outdoor urban environment which is tranquil and promotes contemplation, with stone-terraced seating along the riverbanks. The riverbed is lined with a rock-packed reno-mattress, reaching up to the calculated flood-level. This new stone-and-landscape edging provides a subtle layering, suggestive of the notion of 'building from place', using the landscape as a means to create a sense of rootedness and hence 'ground' the project. Pockets of greenery are grouped around the natural river course, this helps to regenerate the degraded landscape and bring to the public, a positive natural space. Productive landscapes are situated to the east and west of the river, below the soup kitchen and next to the rehabilitation centre. All of these spaces work together to provide an environment which brings people closer to nature and relieves the stresses of everyday life.*

*Now, still on the subject of natural elements, we need to look at the rest of the design, which needs to be refined.*

*The construction concept is to implement local fabrication<sup>2</sup>: hire locally (the community of Marabastad), source regionally (natural materials, up-cycled materials and materials with a low embodied energy), provide skills-training in the various trades required for the building work, and invest dignity in the community by re-integrating the people with the place of Marabastad through their impact on the regeneration of place.*

*Generally speaking, the language governing the architecture mediates between the stereotomic of the old, and the tectonic and stereotomic of the new built layer. The stereotomic represents rootedness to place and to earth, and the tectonic represents growth and re-integration.*

*The existing masonry buildings are regenerated through the use of up-cycled bricks, new corrugated roof-sheeting, and with openings onto the newly created courtyard spaces.*

*The joint between the old and new architecture will be emphasized by leaving a gap: a recess, either of glass or formed by a structural steel member.*

Placing some sheets of paper on the table in front of them, Janeke begins to explain the two precedents that illustrate these principles clearly.

*The former Rocks Police Station in Sydney<sup>3</sup>, was adapted respectfully by Welsh + Major Architects. Their approach was to place the new within the old (insertion) - touching lightly, yet creating a duality that celebrates the imposing, austere qualities of the former Police Station while simultaneously enhancing the openness and street interface of the building<sup>4</sup>.*

*The principal alteration is a delicate steel and glass structure that sits gently against the existing building fabric. The defining spatial qualities of existing spaces, such as the cells, have been preserved, but transformed through the use of warmer, lighter materials and finishes. The contrast between old and new, is further emphasized by*

<sup>2</sup> This information was attained during a TED Talk presented by Michael Murphy: TED, *Architecture that's built to heal* (1 February 2016) Online Video: [http://www.ted.com/talks/michael\\_murphy\\_architecture\\_that\\_s\\_built\\_to\\_heal](http://www.ted.com/talks/michael_murphy_architecture_that_s_built_to_heal). Accessed: 29/09/2016

<sup>3</sup> See Figure 87

<sup>4</sup> Welsh + Major, *Former Rocks Police Station* Internet: <http://welshmajor.com/commercial/former-rocks-police-station/> Accessed: 08/06/2015

# Precedent - Heritage Castelveccio



VERONA, ITALY  
CARLO SCARPA



GAP HIGHLIGHTED WITH RECESS BETWEEN  
OLD WALL AND NEW FLOOR



NEW WALL PLANE DISAPPEARS INTO OLD GROUND  
PLANE WITH A GAP TO HIGHLIGHT THIS



NEW STRUCTURAL STEEL MEMBER IS STEPPED  
TO CREATE A RECESS THAT RESPECTS THE OLD WALL

*the use of steel, brass and glass elements that are detailed to be both robust and refined<sup>5</sup>. She moves on to the second example.*

*In essence Carlo Scarpa's Castelvecchio alteration<sup>6</sup>, manages the careful balance and dialogue that is created between old and new. The new additions, as well as purposeful demolitions, reveal different layers of the building's history, supplying a narrative of built palimpsest.*

*Scarpa used modern materials in such a way as to mediate between the various parts of the old castle, drawing attention to certain elements and providing a transition between others. Each detail has a function: the floor is never directly attached to the wall, the arches functioning as filters, draw one through from one room to the other, a central beam divides the roof into two, indicating the direction of movement. Even the museum artefacts are decontextualized, they are displayed on floating planes that signify their separation from the building itself<sup>7</sup>.*

Janeke pushes the pages aside and continues her description of the essential relationship between the old and the new in terms of natural materials.

*A new grid is established, that relates to the existing pattern of the built fabric as well as a newly rotated grid that relates to the natural element of the river. This is visible in both the new buildings and the old. Steel columns are placed within the grid to support the new first floor functions and to enhance the existing veranda spaces that result on the ground floor. Steel was chosen because it is a robust material suitable for use in a public space, and that easily allows for further expansion in the future.*

*The fundamental building materials in architectural history (stone, brick, wood and metal) are all derived from the earth and therefore connect buildings once more to the earth<sup>8</sup>. The tactile sensations from each material convey different meanings<sup>9</sup>. Stone can bring to mind its geological origins, its durability and its permanence. Brick makes one think of earth, fire, gravity and the history of brick construction. Metals bring to mind extreme heat (in their manufacture) and casting. Wood brings to mind two lives: one of the growing tree, and the other of the artefact that has been carefully crafted by a carpenter.*

*The materials used, include up-cycled brick (from demolished walls on site or from the upgrades carried out in the urban vision), rammed earth, stone, up-cycled timber members (or sustainably harvested wood), up-cycled steel members (standard 203 x 103 x 25 I-beams), new corrugated roof sheeting and new gypsum or dry-walling (for lightweight, efficiently constructed and adaptable spaces on the first floor).*

*The approach to heritage illustrates the integration of the new and the old, with a focus on the sensory*

5 Welsh + Major, *Former Rocks Police Station* Internet: <http://welshmajor.com/commercial/former-rocks-police-station/> Accessed: 08/06/2015

6 See Figure 88

7 Archiobjects, *Castelvecchio Museum – A masterpiece by Carlo Scarpa*. (2014) Internet: <http://archiobjects.org/museo-castelvecchio-verona-italy-carlo-scarpa/> Accessed 11/06/2015

8 According to Gaston Bachelard, who dedicated a book to each element: earth, water, air and fire. This was sourced from Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 81

9 The haptic qualities that follow are according to Gaston Bachelard. This was sourced from Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 82

Figure 88: Carlo Scarpa's respectful approach to Castelvecchio's heritage (Archiobjects: 2014)

Precedent - Technical

# Nk'mip Desert Interpretation Centre



A DIFFERENT KIND OF EARTH SHELTERING - THE WALL  
HOLDS THE INTERIOR / EXTERIOR SPACES TOGETHER



DIRECTIONAL ELEMENT i.t.o.  
VIEW AND JOURNEY



LAYERING & VARIATION OF RAMMED EARTH  
CONTRASTED WITH MODERN MATERIALS (GLASS)

OSOYOOS, BRITISH COLUMBIA, CANADA  
HOTSON, BAKKER, BONIFACE HADEN

*experience of natural elements in a variety of ways: courtyards between old buildings and new, courtyards as well as planters inside old buildings. These spaces create a “respite from the typical indoor environment”<sup>10</sup>.*

*Stabilised rammed<sup>11</sup> earth is used for the creation of an organic directional form to direct the ‘healing journey’. The rammed earth has a low embodied energy<sup>12</sup> because the soil excavated on site for the underground cisterns is used. These forms create a safe boundary in which to seek support. The rammed earth boundary also portrays an idea of the rootedness to place. These walls are the first experiences that the visitor has of the site and, if it is a sensually positive experience, the visitor is likely to feel welcome and ‘worthy’<sup>13</sup>.*

Turning to a precedent that inspired her, Janeke begins to explain how the rammed earth can become a directional element.

*The Nk’mip Desert Interpretation Centre<sup>14</sup> is partially constructed of rammed earth with other walls of concrete. The rammed earth wall is intentional, diverting one’s view away from a development to the west – so as to focus on the expansive desert landscape. The rammed earth wall reminds one of geological stratification because of the various layers of local soils (and colour additives) that have been compacted during construction. It is also left unfinished on the inside and outside, to reveal the stratification of the soils and the marks left from the timber framework<sup>15</sup>.*

She pauses momentarily to gather her thoughts.

*Back in Marabastad, up-cycled brick is used for all walls that do not form part of the ‘journey’ and any building rubble acquired from material not fit to be used as building material, is used as an aggregate for other materials (rammed earth and concrete).*

*The courtyards within the healing programmes, as in the rehabilitation centre, expose people to a variety of outdoor experiences: smells, temperature fluctuations and the feel of nature<sup>16</sup>, which provides a healing environment<sup>17</sup>. They are given the opportunity to see nature without feeling exposed to the city<sup>18</sup>.*

- 10 Stephen R. Kellert, Judith H. Heerwagen & Martin L. Mador, *Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life* (New Jersey: John Wiley & Sons, 2008), 330
- 11 Stabilised Ratio  
width : height  
1 : 12 min
- 12 Ronald Rael, *Earth Architecture*. (New York: Princeton Architectural Press, 2011), 15
- 13 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010).  
Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 25
- 14 See Figure 89
- 15 Ronald Rael, *Earth Architecture*. (New York: Princeton Architectural Press, 2011), 104
- 16 Stephen R. Kellert, Judith H. Heerwagen & Martin L. Mador, *Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life* (New Jersey: John Wiley & Sons, 2008), 330
- 17 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010).  
Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 30
- 18 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010).  
Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 26

Figure 89: The Nk’mip Desert Interpretation Centre illustrates how a rammed earth wall can become a directional element (Rael: 2011: 104-107)

# Precedent - Technical

## Chapel of Reconciliation



BERLIN, GERMANY  
REITERMANN EN SASSENROTH



SCREEN PROVIDES THRESHOLD  
BETWEEN THE SANCTUARY & OUTSIDE



RECESSES WITHIN THE  
RAMMED EARTH SANCTUARY



ILLUMINATED SCREEN ACTS  
LIKE A BEACON AT NIGHT

*Variations provide a 'playfulness' operating between the stereotomic (rammed earth and masonry) and the tectonic (steel and timber screens), enhancing the experience of a healing environment<sup>19</sup>.*

Janeke puts another sheet of paper on the table.

*This 'playfulness' is a quality that can be found in the Chapel of Reconciliation<sup>20</sup>, where architects Reitermann and Sassenroth enclose the rammed earth sanctuary with vertical louvres. The rammed earth structure was made up of locally-sourced clay and the remains of the 1894 Evangelical brick church. These remnants (bricks, tiles and nails) are embedded and are visible in the new walls<sup>21</sup>. The timber screen allows for ample light and a flow of air, which adds to the experience of religiosity, allowing for seasonal changes in the light. It also provides a threshold between the outside and the place of worship. The rammed earth provides a secondary acoustic threshold, blocking out the sounds of the busy streets of Berlin<sup>22</sup>.*

Returning to the Marabastad project, she places two precedents on the table: the Vineyard Residence<sup>23</sup> and the Ubuntu Centre<sup>24</sup> (which she had already mentioned before as a health precedent).

*The tactile quality of rammed earth is used in the initial rehabilitation of the dwelling spaces, in order to portray a feeling of rootedness to place and the earth. John Wardle illustrates the prominence of the rammed earth walls in the Vineyard Residence. The earth was acquired from a nearby quarry and crushed granite was added along with off-white cement as a stabiliser<sup>25</sup>.*

*The timber elements are used in the dwelling spaces for the remaining stages of rehabilitation (stages 02-03) to represent growth and re-integration. Timber is used to clad ceilings and as shelving-come-seating in the Vineyard Residence. Wardle also applies the same concept of folding in his handling of metal. He contours aluminium sheets to reflect light from the sun, but also to carry water away from the building<sup>26</sup>.*

*In our project, the warm, tactile qualities (of timber) are highlighted in the detailing of the architecture in order to soften the structural steel elements<sup>27</sup>. One of these details, the screen, also provides a sense of privacy within the dwelling spaces - similar to that seen in the screened interior spaces of the Ubuntu Centre.*

*In establishing a privacy gradient, acoustic materials are also considered because it is important to make it more difficult for occupants to understand conversations (take away the clarity of the words spoken) in this kind of healing environment. The existing brick walls, will be unplastered and provide rough surfaces that break up sounds in this way. Recycled materials can be used in the construction of new acoustic panels (walls and ceilings) and carpets in the therapy rooms and the dwelling spaces of the rehabilitation centre.*

19 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010). Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 30

20 Figure 90

21 Ronald Rael, *Earth Architecture*. (New York: Princeton Architectural Press, 2011), 44

22 Ronald Rael, *Earth Architecture*. (New York: Princeton Architectural Press, 2011), 46

23 See Figure 91

24 See Figure 92

25 Ronald Rael, *Earth Architecture*. (New York: Princeton Architectural Press, 2011), 80

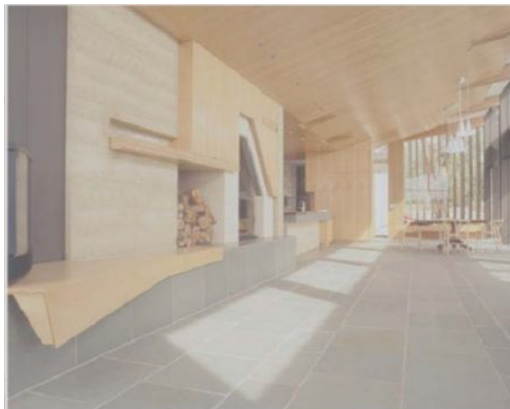
26 Ronald Rael, *Earth Architecture*. (New York: Princeton Architectural Press, 2011), 80

27 See Figure 93

Figure 90: The "playfulness" between the timber screens and the rammed earth sanctuary is illustrated in the Chapel of Reconciliation (Rael: 2011: 44-46)

# Precedent - Technical

## Vineyard Residence



VICTORIA, AUSTRALIA  
JOHN WARDLE ARCHITECTS



RECESSES BETWEEN RAMMED EARTH & OTHER MATERIALS  
HIGHLIGHT THE PROMINENCE OF THE RAMMED EARTH



FOLDED METAL ELEMENTS REFLECT SUNLIGHT &  
DIRECT WATER AWAY FROM THE BUILDING



A SCREEN AT THE ENTRANCE PROVIDES  
PRIVACY & A FILTERED VIEW

They discuss natural elements a little further, as Janeke makes notes to add to the framework.

They take a break for coffee. Janeke then goes on to explain the natural systems, beginning with the importance of the presence of water.

*The natural course of the river is a symbol of the channelling element, signifying the various energies of the site, both old and new. People are made aware of this as they can hear and see the flowing waters of the river. It is designed to dam up slowly, within the area of the public square and soup kitchen, so as to allow for this sensory, therapeutic experience of the water. The fluctuation in the flow of the river exposes the public to the water cycle – how the river is connected to, and affected by, a much larger water network.*

*When it rains, one can see the water as it flows from the new downpipes, into rills that lead to grids above the underground water cisterns within each courtyard. The water that does not flow in this direction is filtered through bio-swales before it re-enters the river.*

*The water-feature in the therapy courtyard provides visual exposure to water, even when it is not raining. The soothing sound of water is therapeutic, but also provides acoustic privacy, in the form of white noise, for the therapy rooms.*

*The harvested water provides water services to the buildings surrounding the respective courtyards.*

She pauses to invite conversation around the topic of the presence of water in their project. They deliberate for a while and Janeke makes a few notes.

She goes on to express enthusiasm for the use of light in architecture.

*It is said that “there is no architectural experience of space without light”<sup>28</sup>. Light is played off against shadow to reveal (shapes, weight, textures, moistness, smoothness and temperature of materials), to connect (built and natural or seasons and hours of the day)<sup>29</sup>, to articulate (spaces into sub-spaces and places), to create rhythm, scale and intimacy. Light can also be used as a directional element for movement and hierarchy. It can have highly emotive effects where mediated through natural matter (mist, smoke, rain and snow) but also through the articulation of white curved surfaces<sup>30</sup>.*

*Dark spaces appear heavy, while abundantly-lit spaces appear lightweight<sup>31</sup>. The contrast between these kinds of spaces can create an atmosphere<sup>32</sup> where a dark space becomes positive and soothing – a space for meditation and concentration. Light spaces can be positive in other ways – they can bring out certain colours to heighten our ordinarily suppressed sensory capabilities<sup>33</sup>.*

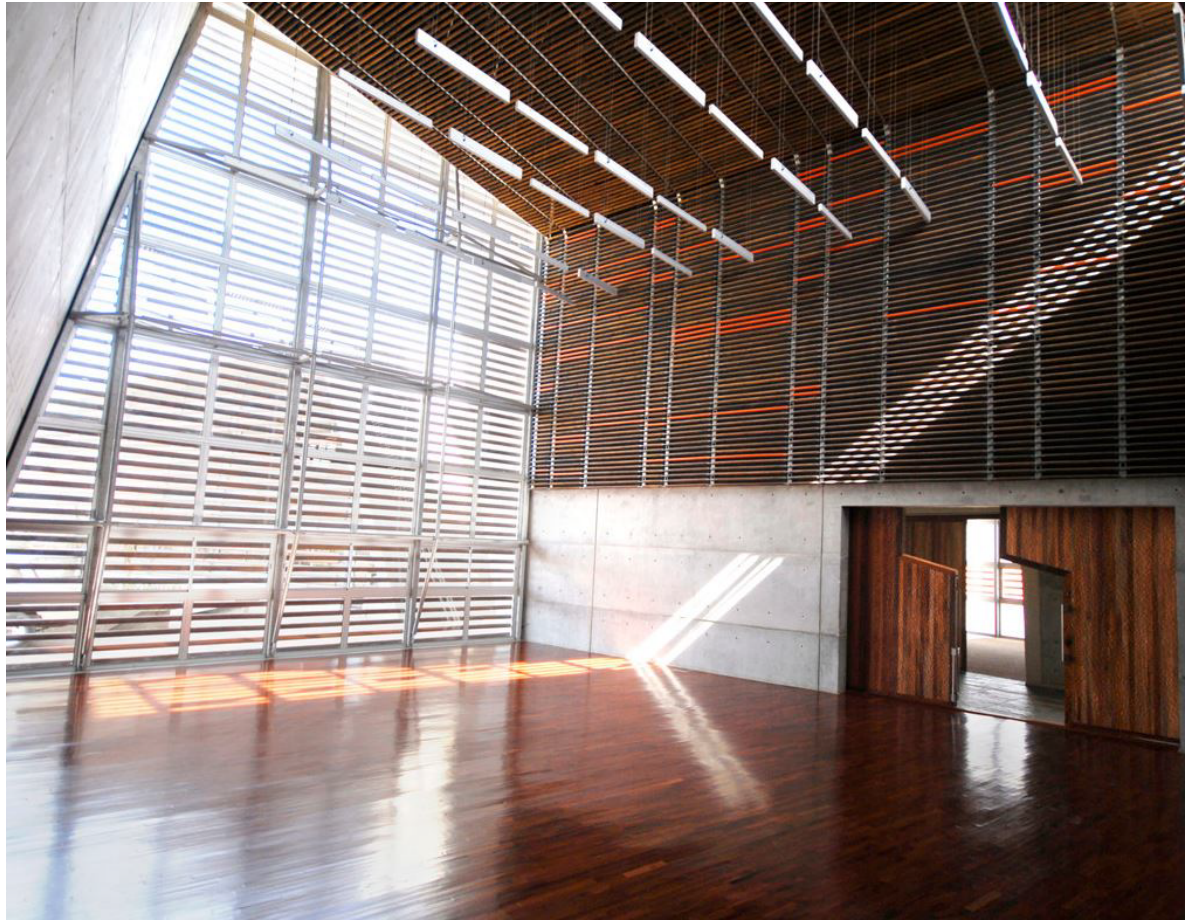
She hesitates, realising that she is going off on a tangent. She begins to speak specifically about natural light

- |    |  |
|----|--|
| 28 | Robert McCarter & Juhani Pallasmaa, <i>Understanding Architecture</i> (London: Phaidon Press Limited, 2012), 151 |
| 29 | Robert McCarter & Juhani Pallasmaa, <i>Understanding Architecture</i> (London: Phaidon Press Limited, 2012), 151 |
| 30 | Robert McCarter & Juhani Pallasmaa, <i>Understanding Architecture</i> (London: Phaidon Press Limited, 2012), 152 |
| 31 | Robert McCarter & Juhani Pallasmaa, <i>Understanding Architecture</i> (London: Phaidon Press Limited, 2012), 152 |
| 32 | Robert McCarter & Juhani Pallasmaa, <i>Understanding Architecture</i> (London: Phaidon Press Limited, 2012), 153 |
| 33 | Robert McCarter & Juhani Pallasmaa, <i>Understanding Architecture</i> (London: Phaidon Press Limited, 2012), 154 |

Figure 91: The Vineyard Residence illustrates how to make the rammed earth walls prominent, but also have softer timber details (Rael: 2016: 80-83)

Precedent - Technical

# Ubuntu HIV Clinic & Community Centre



PORT ELIZABETH, SOUTH AFRICA  
FIELD ARCHITECTS



THE INTERFACE BETWEEN THE SLANTED CONCRETE FORMS & THE GUMPOLES, FUNCTIONS AS AN ELEMENT OF THE SCREEN



DIFFERENT INTERPRETATION OF SCREEN IN THE METAL GRID THAT OPENS UP AS THE ENTRANCE



TIMBER IS BROUGHT INTO THE BUILDING AS DIFFERENT THRESHOLD ELEMENTS - A DOORWAY HERE

and ventilation in their project.

*Fresh air and daylight create an environment for healing<sup>34</sup>. In general, the occupants are made aware of seasonal change through exposure to natural light and this provides a connection to the cycles in nature<sup>35</sup>.*

*The old and new narrow floor plates provide for well-lit and ventilated interior spaces. The new workshop spaces are lit with natural light and provide a view of nature, which is most beneficial for the occupants. Earth tubes are paired with a trombe-assisted stack system for effective cross-ventilation in the soup kitchen and the workshop spaces. The staff room, within the existing fabric, is adapted to allow natural light into the space through a central courtyard. This provides a view of nature which creates a feeling of expanse in the interior, which helps to alleviate stress<sup>36</sup>.*

*Timber screen elements function as thresholds, balcony spaces and shading elements. These screens add a layer onto the existing built fabric, echoing the already layered nature of the buildings in Marabastad. The timber slats are ideally orientated for solar shading: vertical slats on the west and horizontal slats on all other sides of the building. A variety of screens allows for different experiences of filtered natural light.*

She moves on to speak specifically about the healing programmes of the dwelling spaces and therapy rooms, with regard to natural light and ventilation.

*A balance between prospect and refuge needs to be provided in these environments, in order to provide the occupant with a measure of control over their environment. The dwelling spaces are designed in such a way that one can completely close oneself off (refuge), but also have access to more visually and spatially connected spaces (prospect).*

*Operable windows and doors provide a sense of control (independence) because the occupant can walk outside into the social or non-social spaces between the small dwelling units, without needing permission. These factors lead to less aggression and physical violence between clients<sup>37</sup>. They can also control the amount and quality of light and air in dwelling spaces, with openable sliding doors and screens.*

*The stereotomic concept of rootedness to place and earth, in the ground floor dwelling units, creates spaces of refuge. The concept of re-integration is considered here through a rootedness in place (sunken rehab 01 dwelling spaces). Control of light in small spaces, paired with lower ceiling heights, allows for a sense of refuge within these spaces<sup>38</sup>.*

34 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010). Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 30

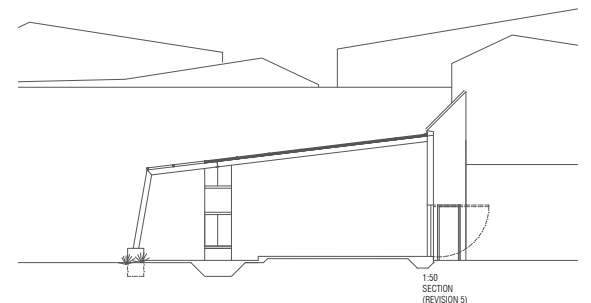
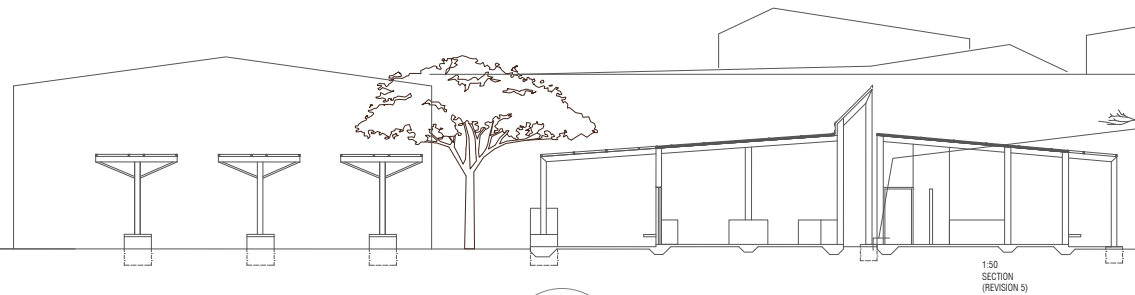
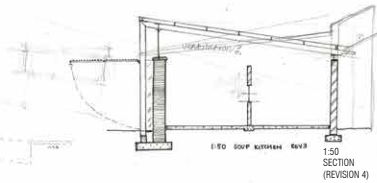
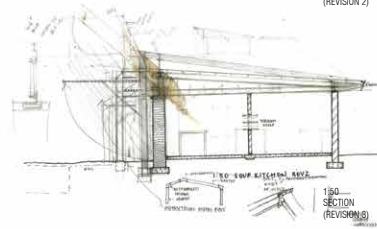
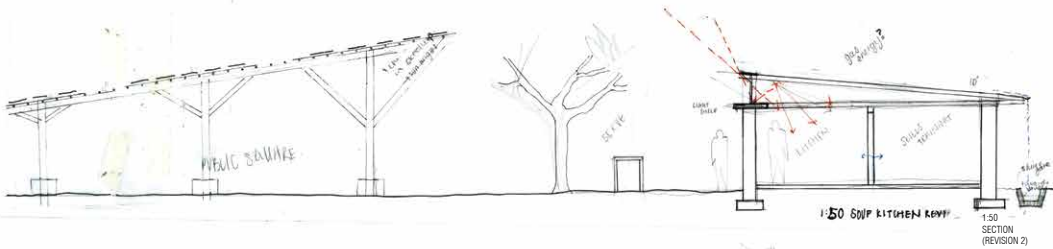
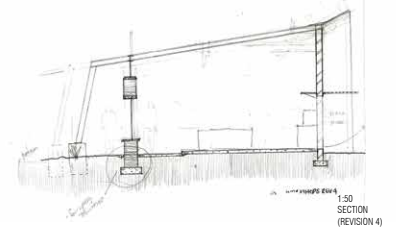
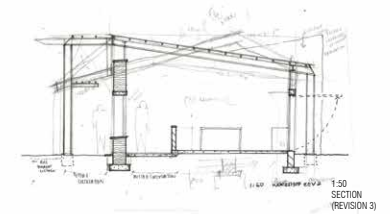
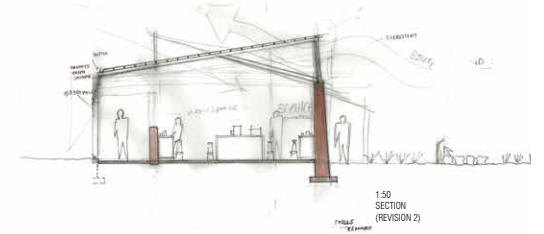
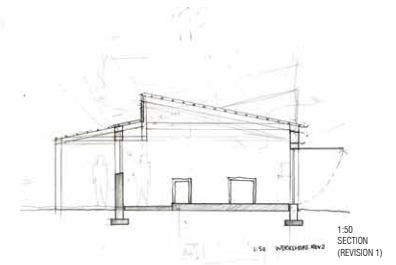
35 Robert McCarter & Juhani Pallasmaa, *Understanding Architecture* (London: Phaidon Press Limited, 2012), 151

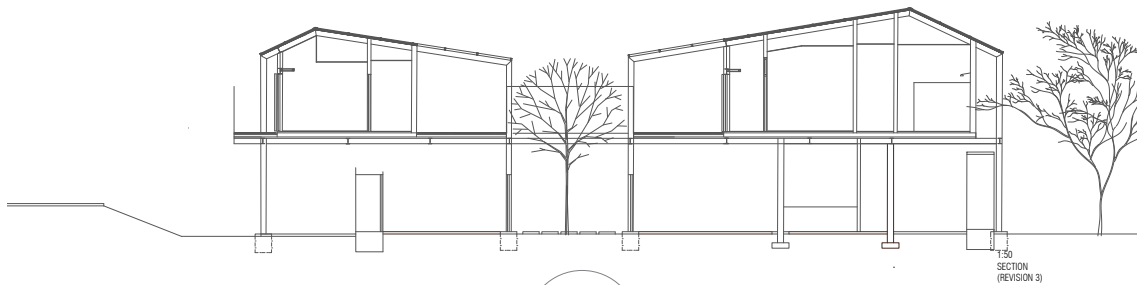
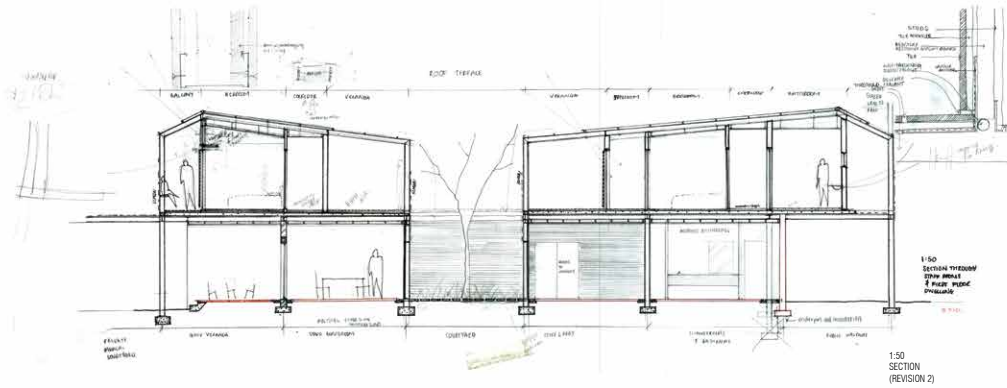
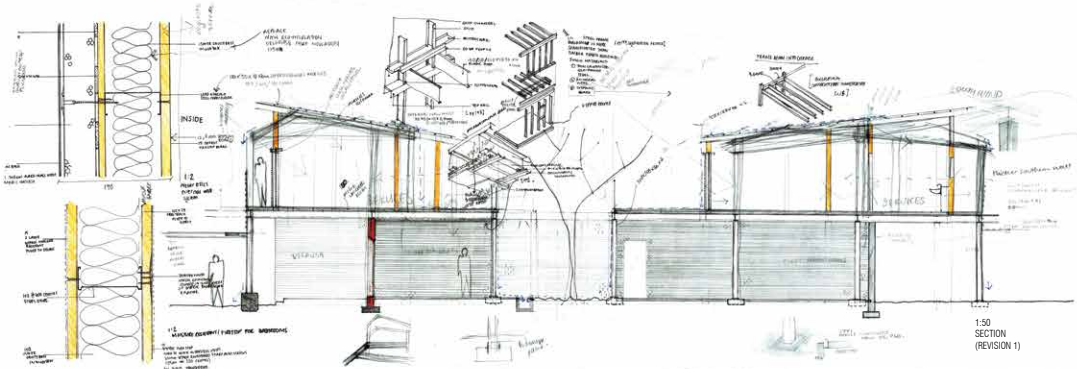
36 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010). Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 30

37 Lena From & Steven Lundin, *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry*. 1st ed. (Gothenburg: The Architecture Research Foundation: 2010). Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf), 27

38 Stephen R. Kellert, Judith H. Heerwagen & Martin L. Mador, *Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life* (New Jersey: John Wiley & Sons, 2008), 265

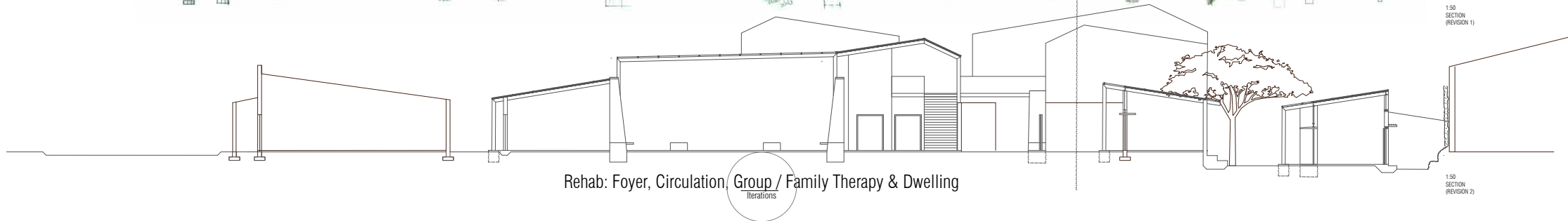
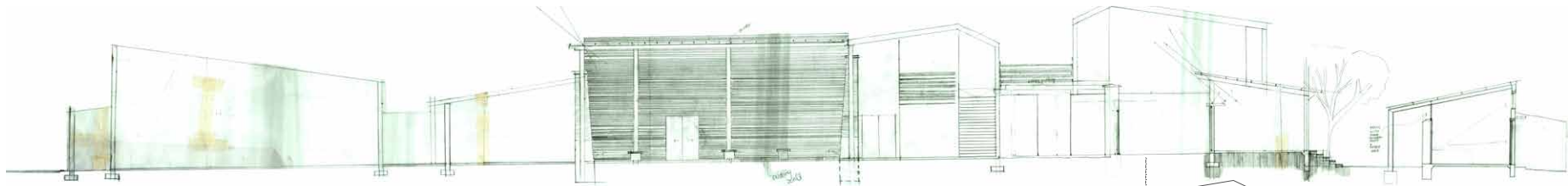
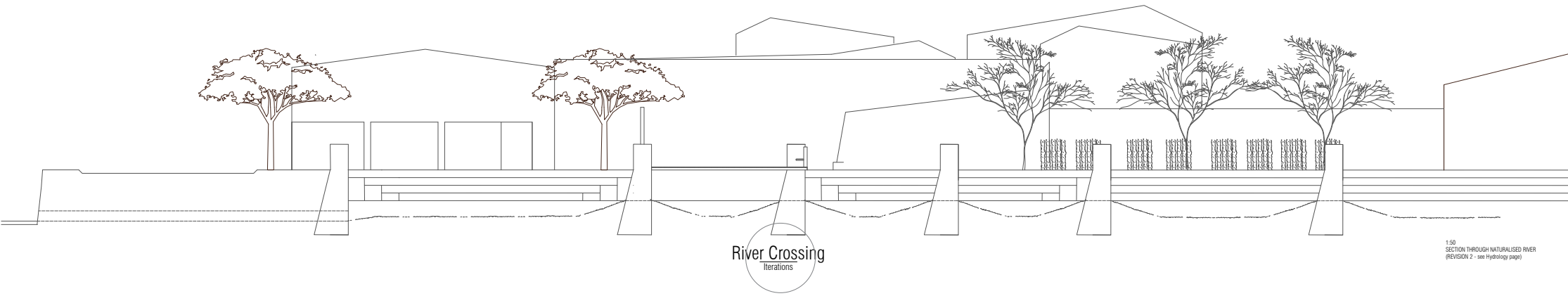
Figure 92: The Ubuntu Centre is considered in terms of the approach to screens and a privacy threshold (Arch Daily: 2011)

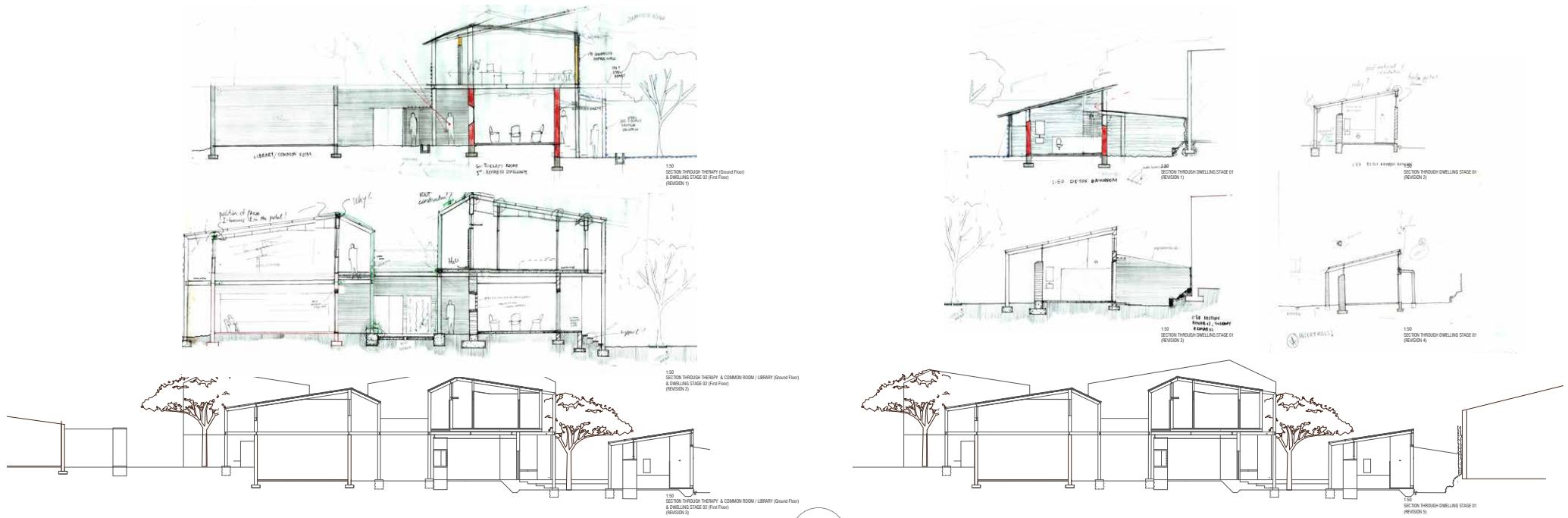




Rehab: Staff Room & Upstairs Dwelling  
Iterations

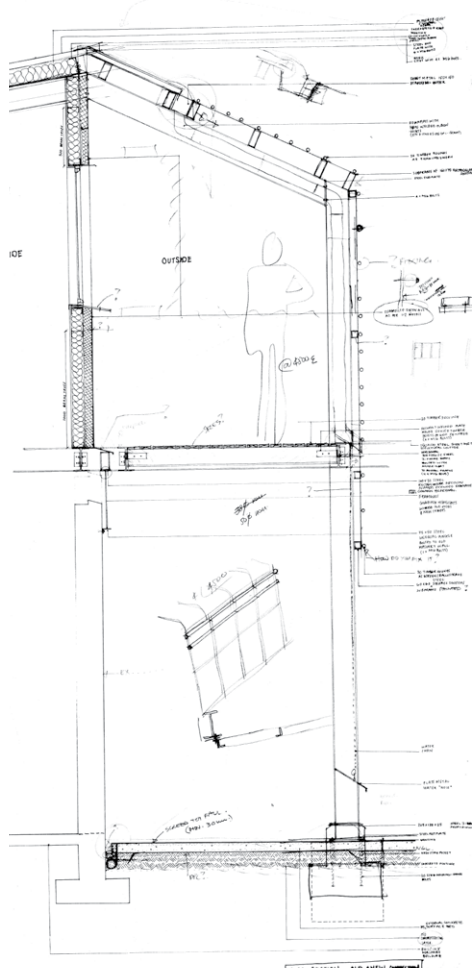
Figure 93: (spread) Section iterations (Patrick: 2016)



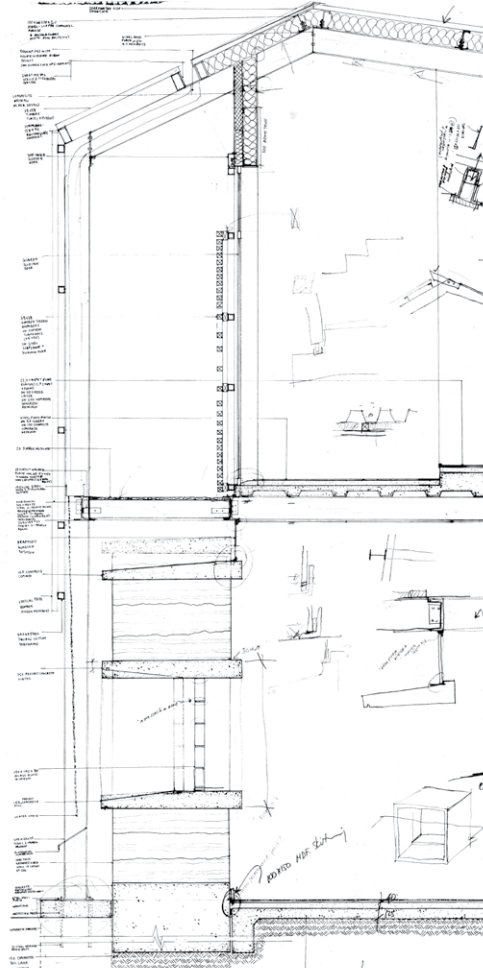


Rehab: Common Room / Library, Therapy & Dwelling

Figure 94: (spread) Section iterations (Patrick: 2016)



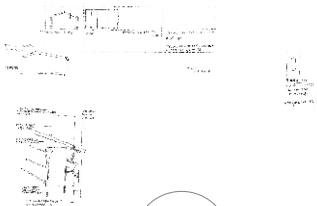
1:10 SECTION - OLD AND NEW  
Detail 1: Old & New  
1:10



Detail 2: Rammed earth & drywall  
1:10

PORTAL FRAME STANDARDS

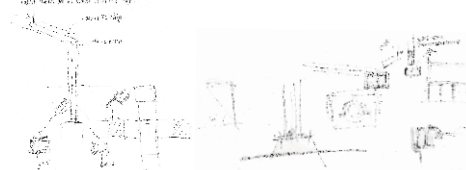
SCALE: 1:10



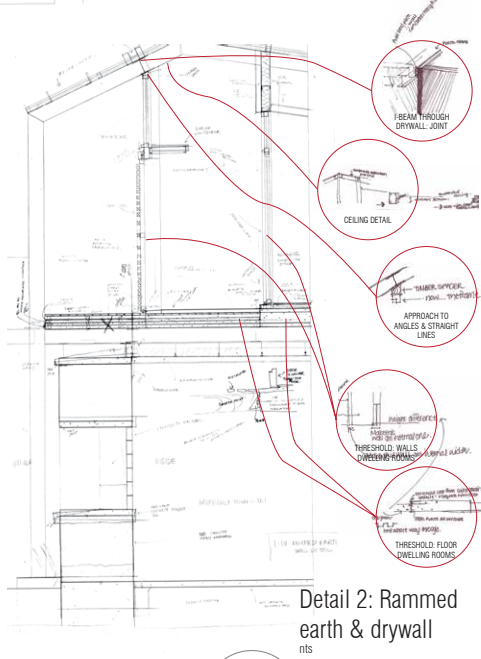
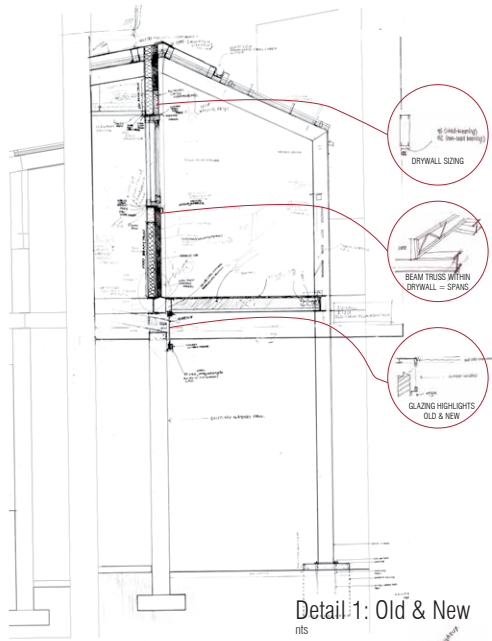
Detail Development  
Iterations

WATER, GUTTERS, DOWNPIPES  
AND FURROWS

SCALE: 1:10



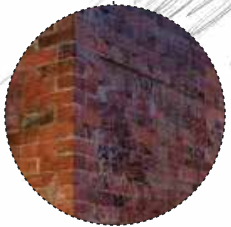
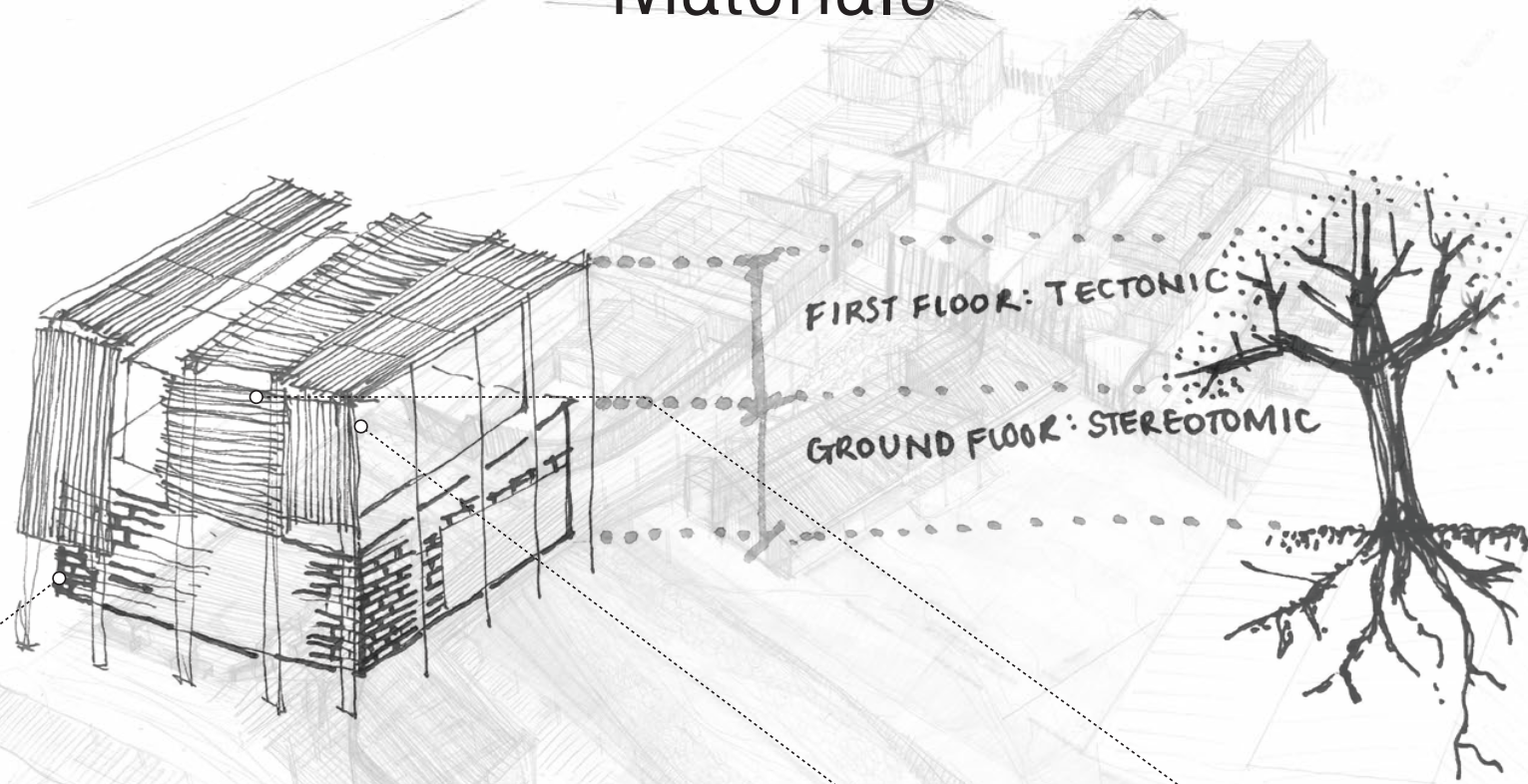
Detail Development  
Iterations



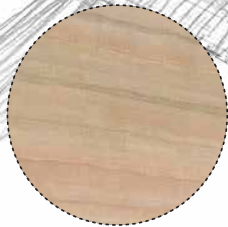
Detail Development  
Technical Development

Figure 95: (spread) Section iterations (Patrick: 2016)

# Scope of Materials



Masonry  
OLD STEREOTOMIC



Rammed Earth + Thermal Mass  
NEW STEREOTOMIC



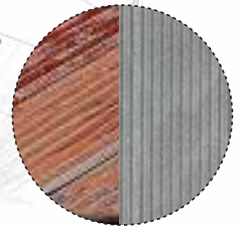
Threshold + New vs. Old + Ground vs. First Floor  
TECTONIC / STEREOTOMIC



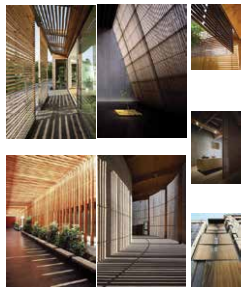
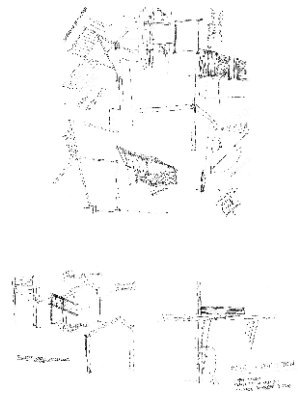
Steel columns + Beams  
TECTONIC STRUCTURE



Threshold + Natural + Privacy  
TECTONIC SCREEN



New + Old Corrugated Sheeting  
TECTONIC ROOF



Screens that filter light: journey



Figure 96: (spread) Material investigation (Patrick: 2016)

10th STREET

11th STREET

BOOM STREET

PUBLIC SQUARE

SOUP KITCHEN

HALFWAY HOUSE

PHARMACY

WOMEN'S CLINIC

EXISTING MEDICAL CENTRE

SKILLS WORKSHOP

STAFF BOARDROOM

THERAPY

REHAB 01

GRAND STREET

GRAND STREET

KGOSI MAMPURU STREET

EXISTING WAREHOUSE

EXISTING WAREHOUSE PARKING



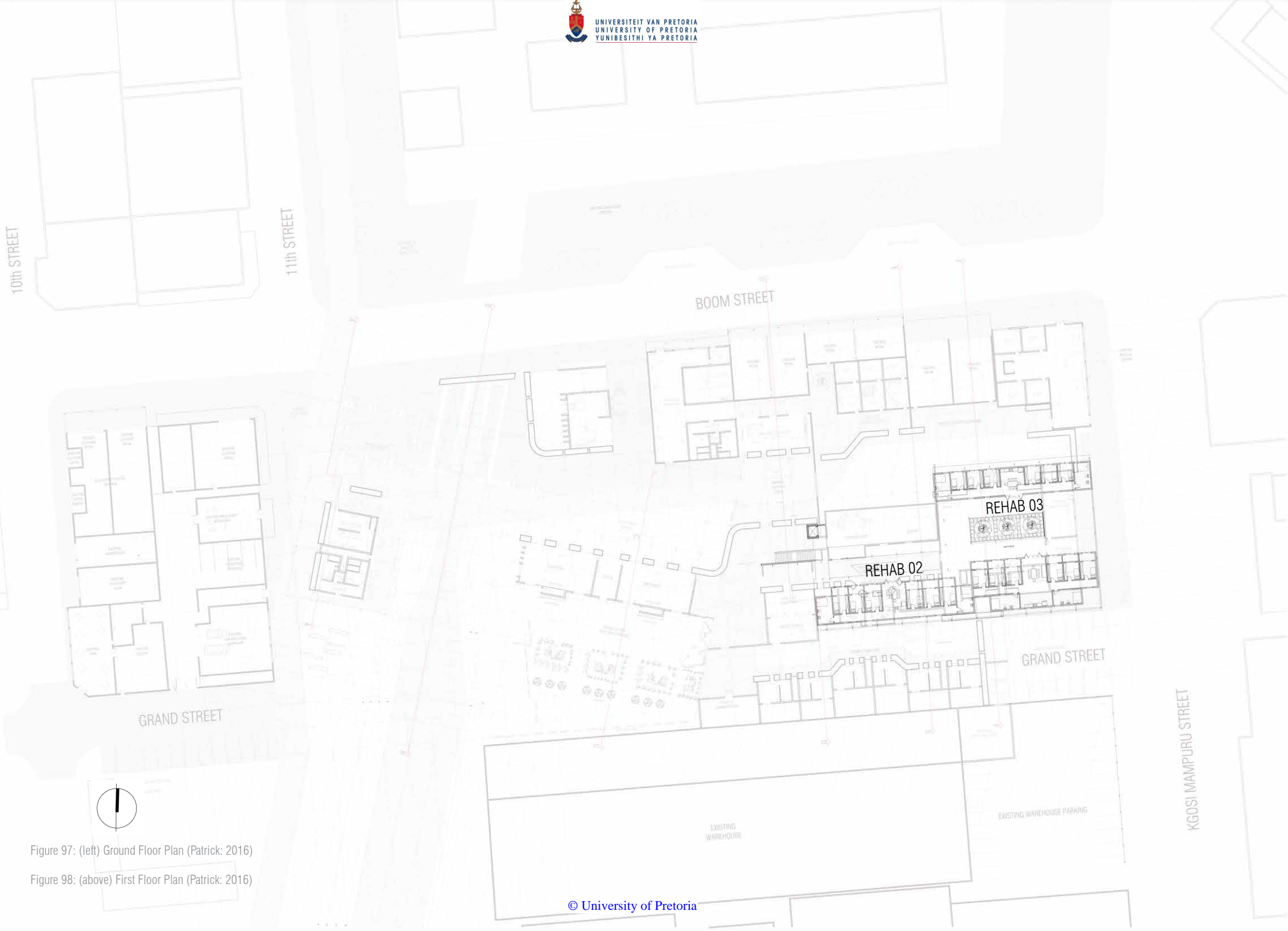
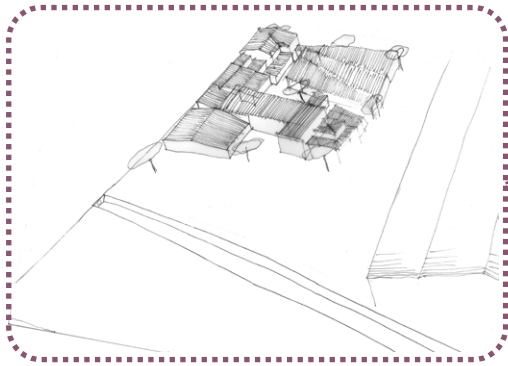


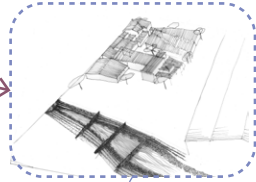
Figure 97: (left) Ground Floor Plan (Patrick: 2016)

Figure 98: (above) First Floor Plan (Patrick: 2016)

# 2016 Existing



## 2017 Naturalised river & manipulation of landscape



Demolish part of existing built fabric & harvest building rubble

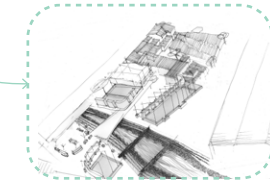
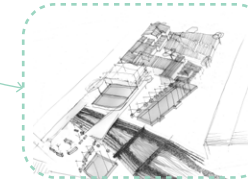
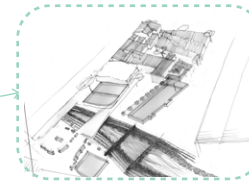
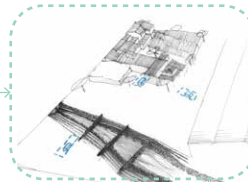
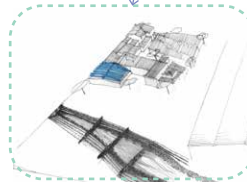
Excavate for underground water storage cisterns

Raft foundations & column footings cast

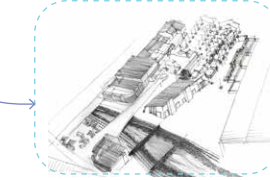
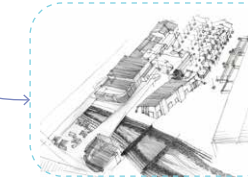
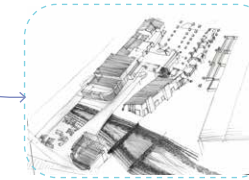
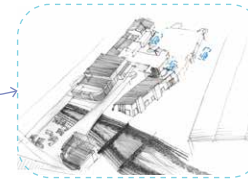
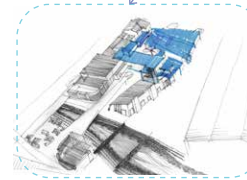
Installation of portal frames

Construct rammed earth walls alongside the journey

## 2018 This phase of construction focuses on the public realm



## 2018 This phase of construction focuses on the new in the old built fabric



# 2019 Completion

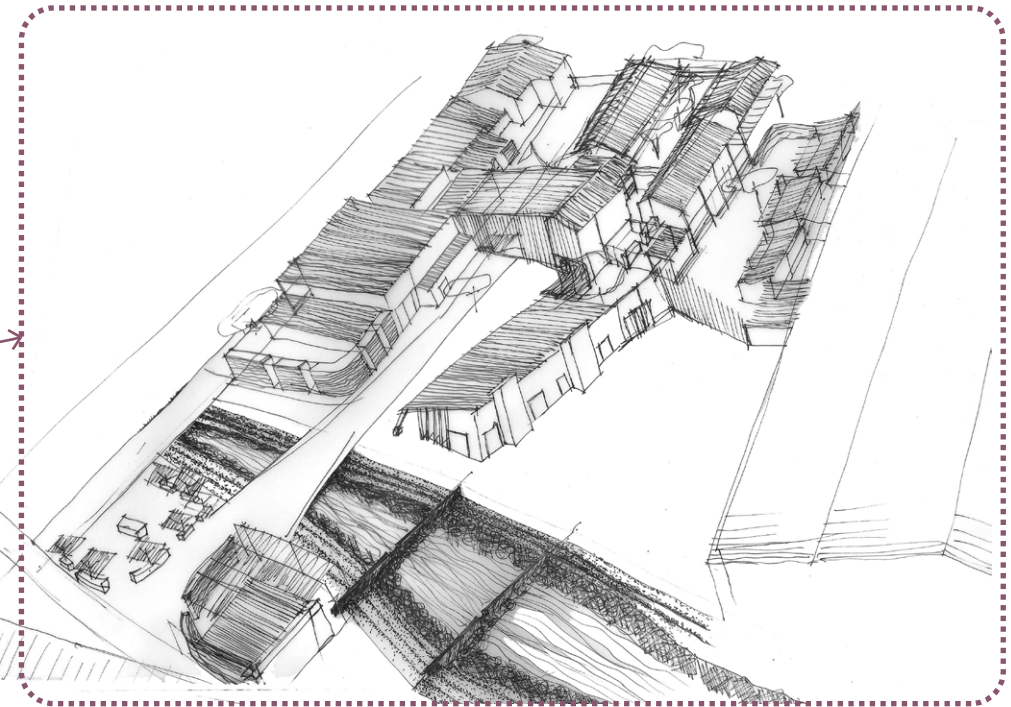
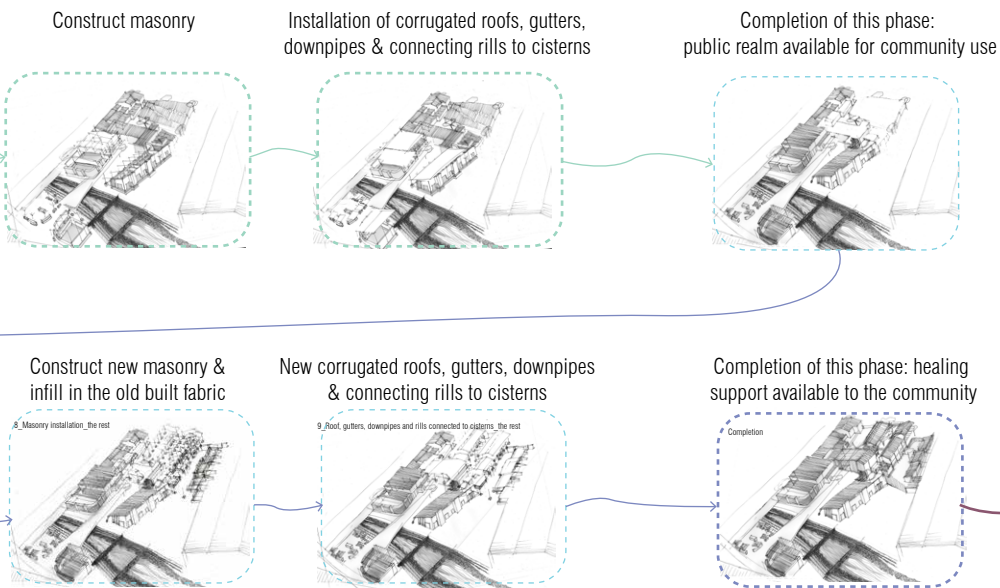
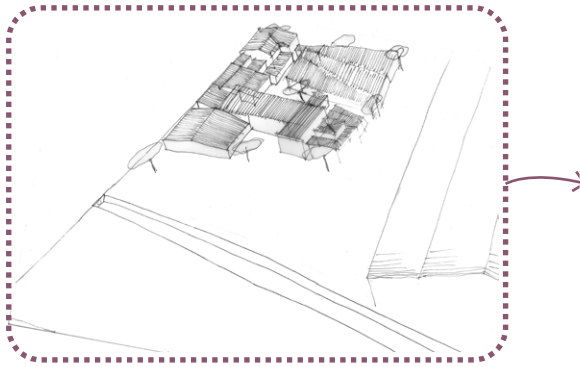


Figure 99: The phasing of the construction of the project (Patrick: 2016) 171

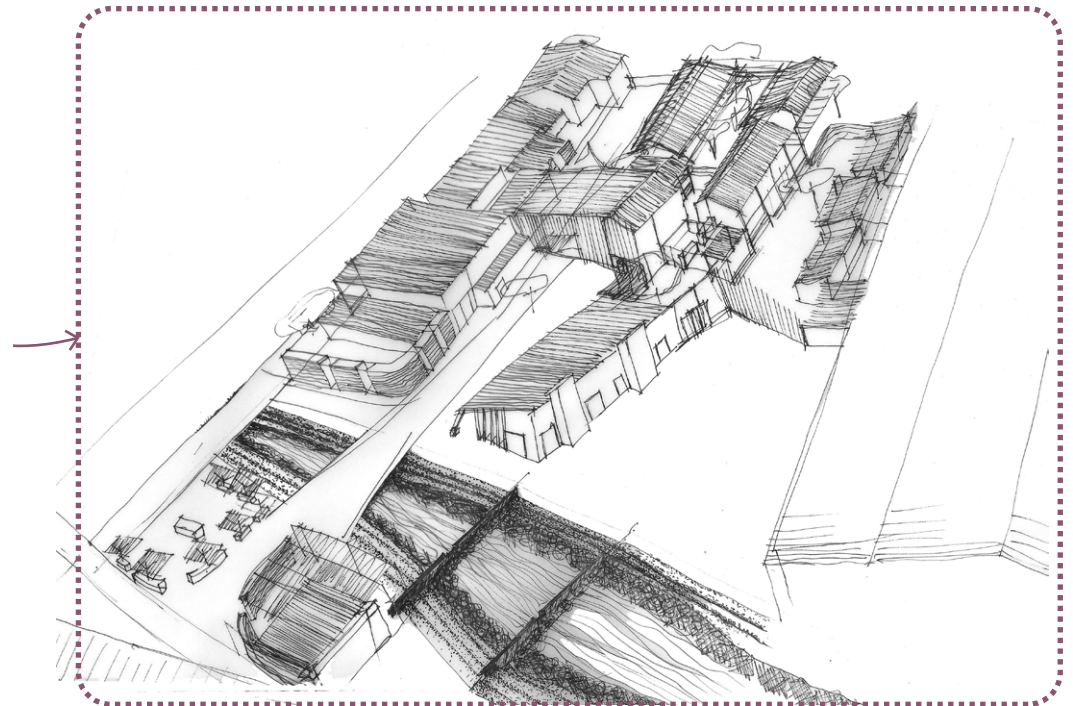
2016  
Existing



2018  
This phase of construction  
focuses on the public realm

2018  
This phase of construction  
focuses on the new in  
the old built fabric

2019  
Completion



*Spaces of prospect are illustrated through the tectonic concept of growth and re-integration of the new built fabric on the first floor (rehab 02-03 dwelling spaces). It is related to the re-integration of the people through a visual connection to the city. These spaces are well-lit and expansive, paired with higher ceilings<sup>39</sup>.*

Janeke invites comment on this topic. Dr Radebe explains how difficult it is for her to visualise the concepts of prospect and refuge. Janeke tries to explain each concept through simple diagrams.

This brings her to the final part of the framework: the solar energy aspect.

*Photovoltaic panels are installed on roofs to provide solar energy for lighting in the existing retail buildings, the new soup kitchen and the new workshop spaces, where necessary. They also power lighting for the public square and rehabilitation dwelling spaces at night. Solar energy is also available via solar tubes that are installed on roofs to heat water for use in the halfway house, the soup kitchen and the dwelling spaces.*

Janeke asks for further comment and makes notes. She meets with her team, Mr Pillay and Dr Radebe countless times throughout the year as they continue to refine aspects of the design.

~

The year is now 2018<sup>40</sup> and construction has begun in the public realm. The public square, soup kitchen, halfway house and skills development workshop are in the process of being built by the community members, who are interested in developing standard construction skills as well as rammed earth construction and portal frame installation expertise.

~

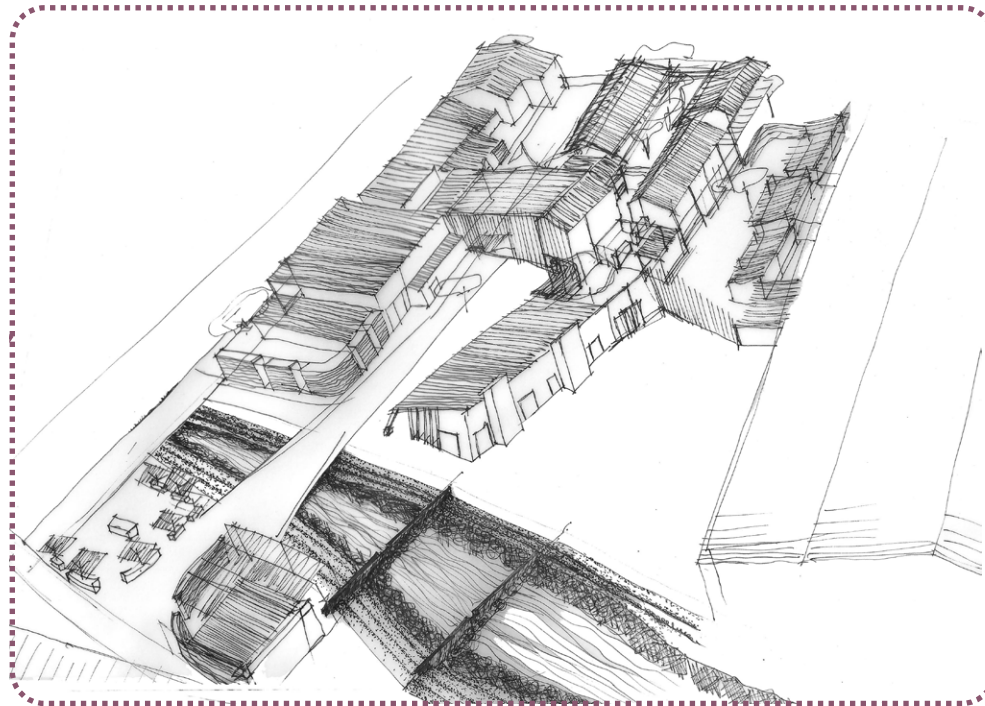
The construction of the new architecture within the old fabric begins once work on the public realm is completed. The public realm has now been opened to the community of Marabastad. The construction of this next phase is also carried out by members of the community interested in developing construction skills, with the additional skills development available - lightweight drywall construction.

Figure 100: The main phases in the construction of the project (Patrick: 2016)

39 Stephen R. Kellert, Judith H. Heerwagen & Martin L. Mador, *Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life* (New Jersey: John Wiley & Sons, 2008), 265

40 See Figure 100

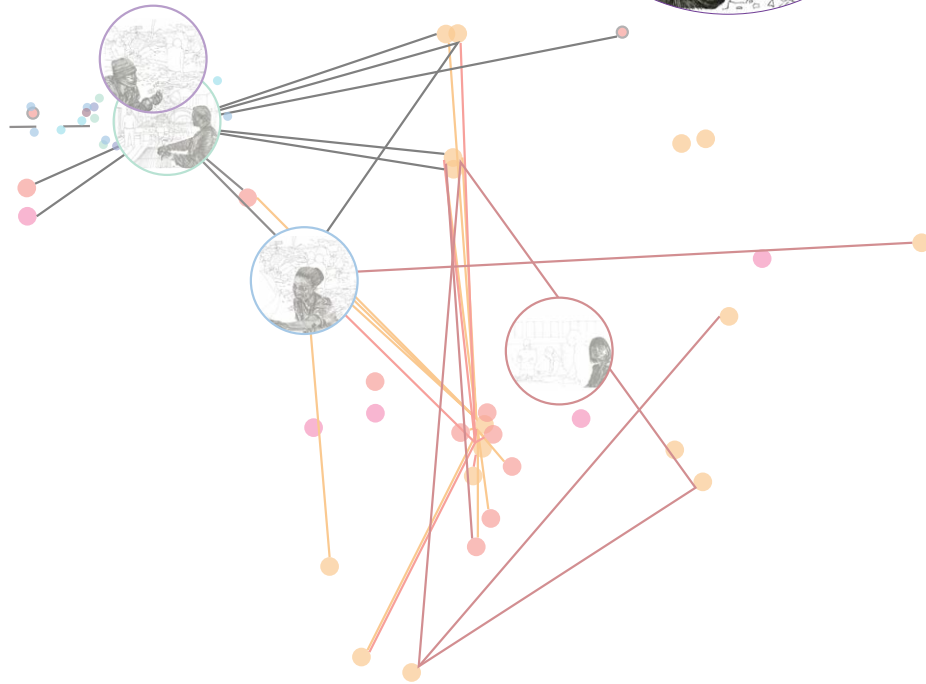
# 2019 Completion



# Fourteen

## Re-integrated

### Conclusion



The year is now 2019<sup>1</sup> and construction is complete . We find Katlego<sup>2</sup> still on the streets of Marabastad, but the ‘world’ around him has undergone some fundamental changes. Today, wandering about, Katlego recalls the blackened surfaces of derelict buildings, and the wasteland, where he and his friends used to gather. The concrete channel, once littered with rubbish, is now a natural watercourse lined with greenery. Katlego is confused by the changes and feels a little out of place.

Following the new walkway<sup>3</sup>, where there used to be a road, he passes informal traders now housed on a raised plinth with roofing.

A soup kitchen<sup>4</sup> opens onto the public square. A man working there is giving a blanket to a woman. She is coughing but gives him thanks. Katlego overhears the man informing her that there is free TB testing at the medical centre next door. Katlego watches her as she crosses the river and moves towards the new building.

Each time that he visits the soup kitchen, Katlego ventures further into the place, where he meets many new people.

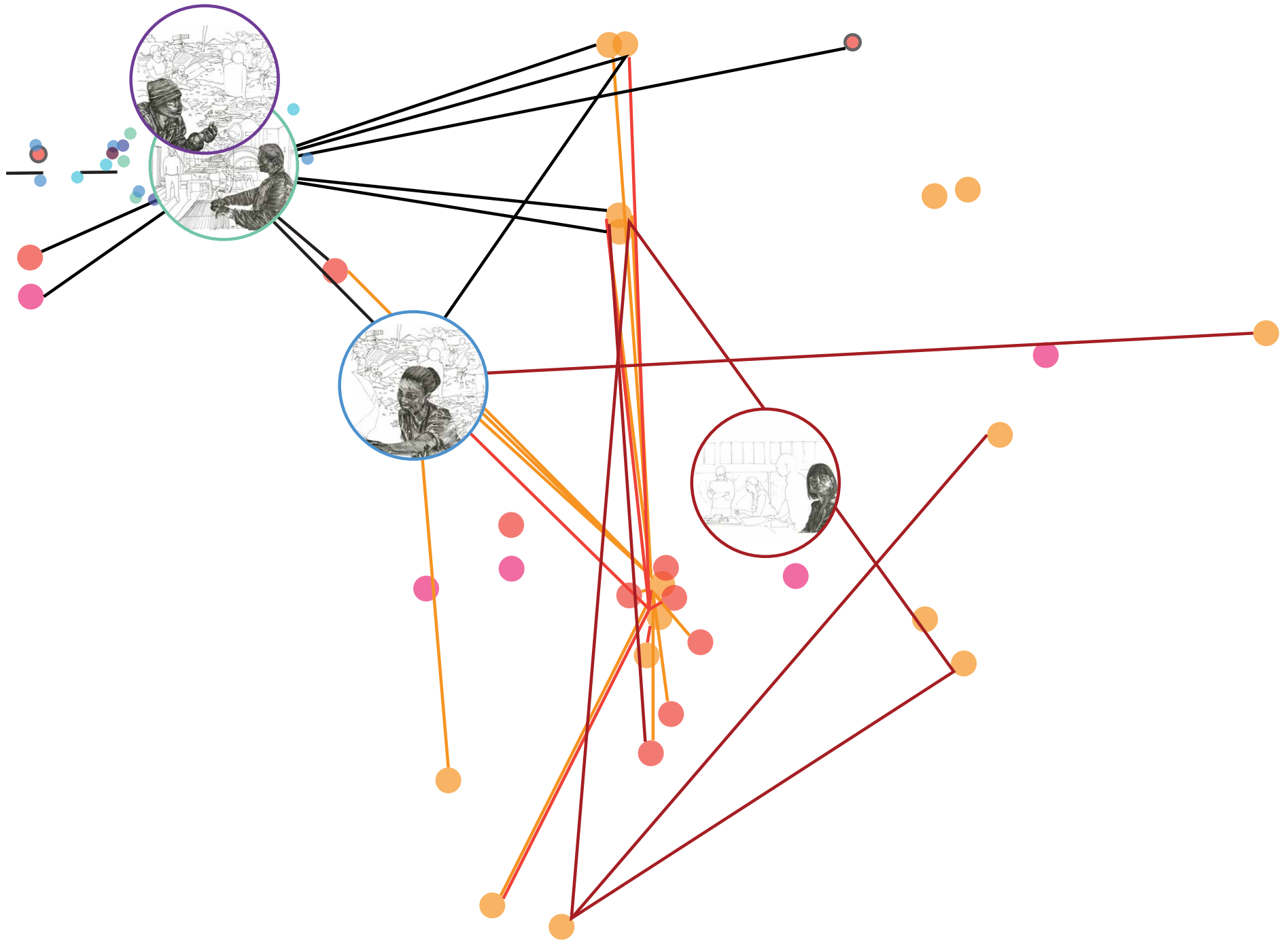
Building up the courage to cross the river<sup>5</sup> himself, he sees that there is a new pharmacy that has opened there. A small group of people is standing in what appears to be a workshop<sup>6</sup>. They are working intently at something. Intrigued, he crosses a grassed area and lingers in a shaded walkway. Somebody is sitting on a window ledge, also watching the scene. Katlego moves away, and follows the shaded walkway through to an opening in a screened threshold<sup>7</sup>.

He sits himself down on a bench next to some indoor planting and takes in his surroundings. He looks at the beams of sunlight, which filter into the space, and notices that there are other people seated here too. Through an opening he catches a glimpse of greenery. He follows some people who are walking through the opening. Somebody is walking alongside him. The person has a kindly face and asks Katlego whether he is looking for somebody. Katlego shakes his head explaining that he had only been curious and had wanted to see the

- 1 See Figure 101
- 2 See Figure 102
- 3 See Figures 104 & 105 in order to follow Katlego’s Journey on the plans (Section AA-EE)
- 4 See Figure 106
- 5 See Figure 107
- 6 See Figure 108
- 7 See Figure 109

Figure 101: (above) Katlego (Patrick: 2016)

Figure 102: The completion of the project (Patrick: 2016)



plants. The man says that the courtyard is part of the new healing facility. Katlego notices an entrance to the medical centre ahead and the person follows his gaze.

*Yes, the medical centre - but that was already here. Now there are new clinics and a rehab too!*  
Katlego nods and walks into the medical centre. The other man stays behind in the garden.

Katlego agrees to be tested for TB and HIV/Aids, but does not wait for the results. A couple of days later he is back, having convinced himself to come for the results. A doctor greets him with a warm smile and tells him the results. She also provides him with packaged needles, saying to him that the pharmacy will also supply needles whenever he needs them. Katlego is confused but she explains that the testing has shown that he is a drug user.

*You know that there are support facilities available here, like the rehabilitation centre, but only you can make that choice. Please, just make sure that you use the clean needles to safeguard yourself against disease.*

He nods, feels embarrassed, and walks out through the exit onto Boom Street.

Months go by. Katlego is now collecting clean needles regularly, from the pharmacy. One day, he bumps into the doctor who is standing outside the screened foyer. She introduces him to a patient who has just finished the rehabilitation programme. They are on their way to the 'halfway house', where she will be completing an internship at Pillay Upholsterers. Mr Pillay, he learns later, was the man who had given a blanket to the sick woman who was standing in front of him on that first day, when he visited the soup kitchen.

That chance meeting seems to him like fate. He had seen that same woman on the streets a few months ago. He thinks about the opportunities she now has - reasons to 'stay clean'.

After a few days Katlego decides that he too could be healed. He builds up his confidence and walks into the foyer where he sees a now familiar face.

*I am ready - I cannot see myself surviving another winter on the streets.*

The person nods understandingly, guiding him through the next threshold that opens onto a courtyard: the next step of the healing journey. Beyond there is yet another courtyard. This is the place, he is told, where people will speak to him at any time<sup>9</sup>. To the right, there is a place for him to stay.

The next week is a week of agony for him. The next stage of the healing journey leads him to the first floor. Every day there are consultations with professionals and there are group meetings with other patients. Part of the programme includes spending time in the workshop he had seen. He chooses to learn about cars; gaining knowledge about motor mechanics is interesting for him.

After a few weeks he feels ready to move on to the 'halfway house' and to use the skills he has acquired, and to complete his internship.



~

Not only is this project a regeneration of the site, but also of self; that of Mr Pillay, Dr Radebe and Janeke, but most of all Katlego, who has now stepped out of homelessness.



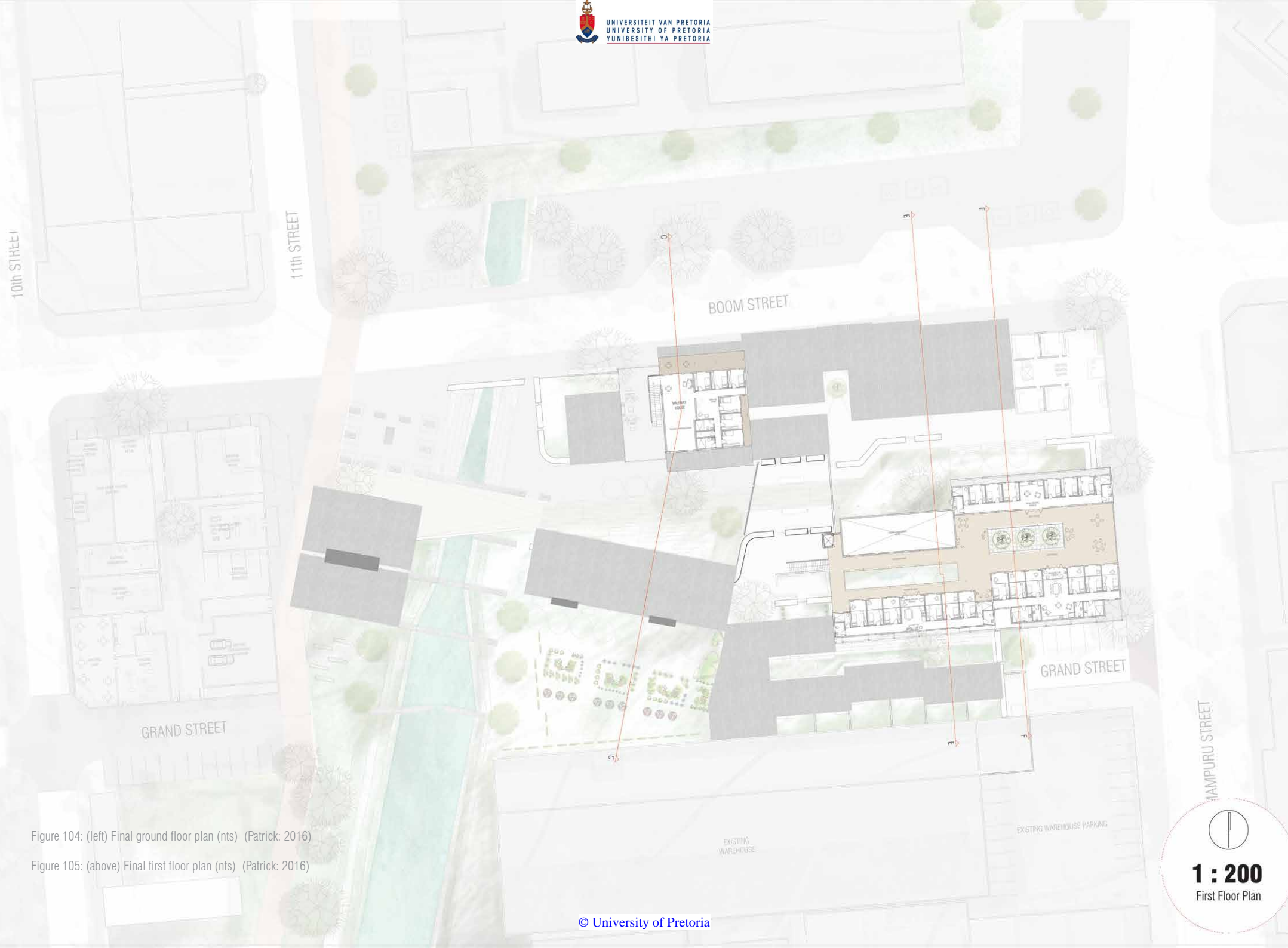
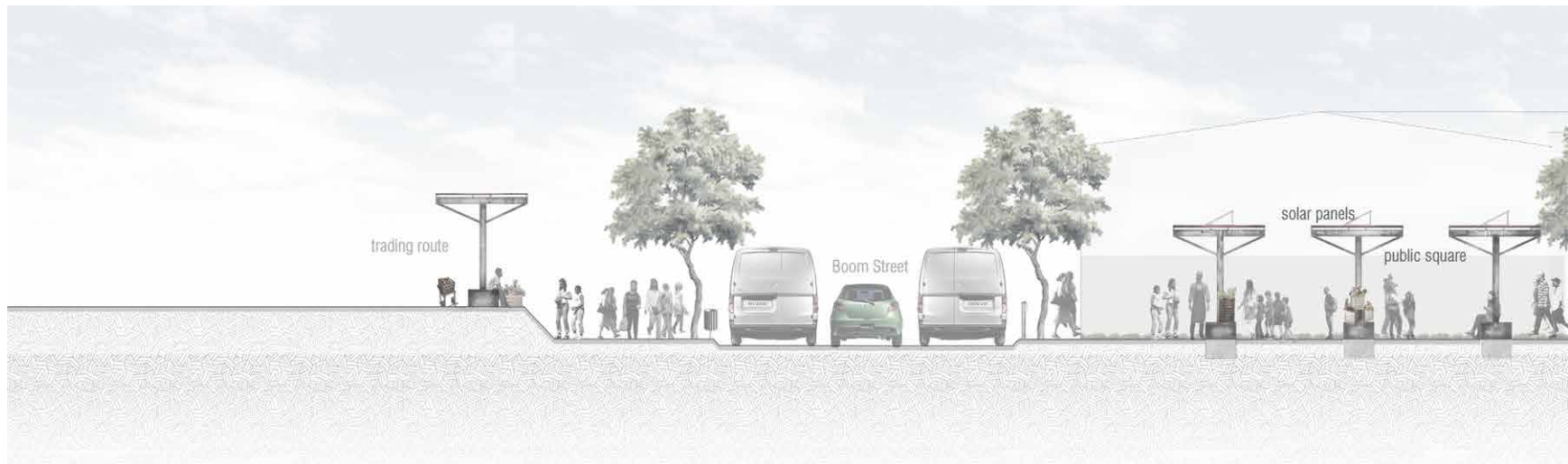
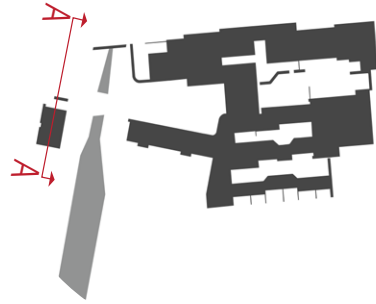
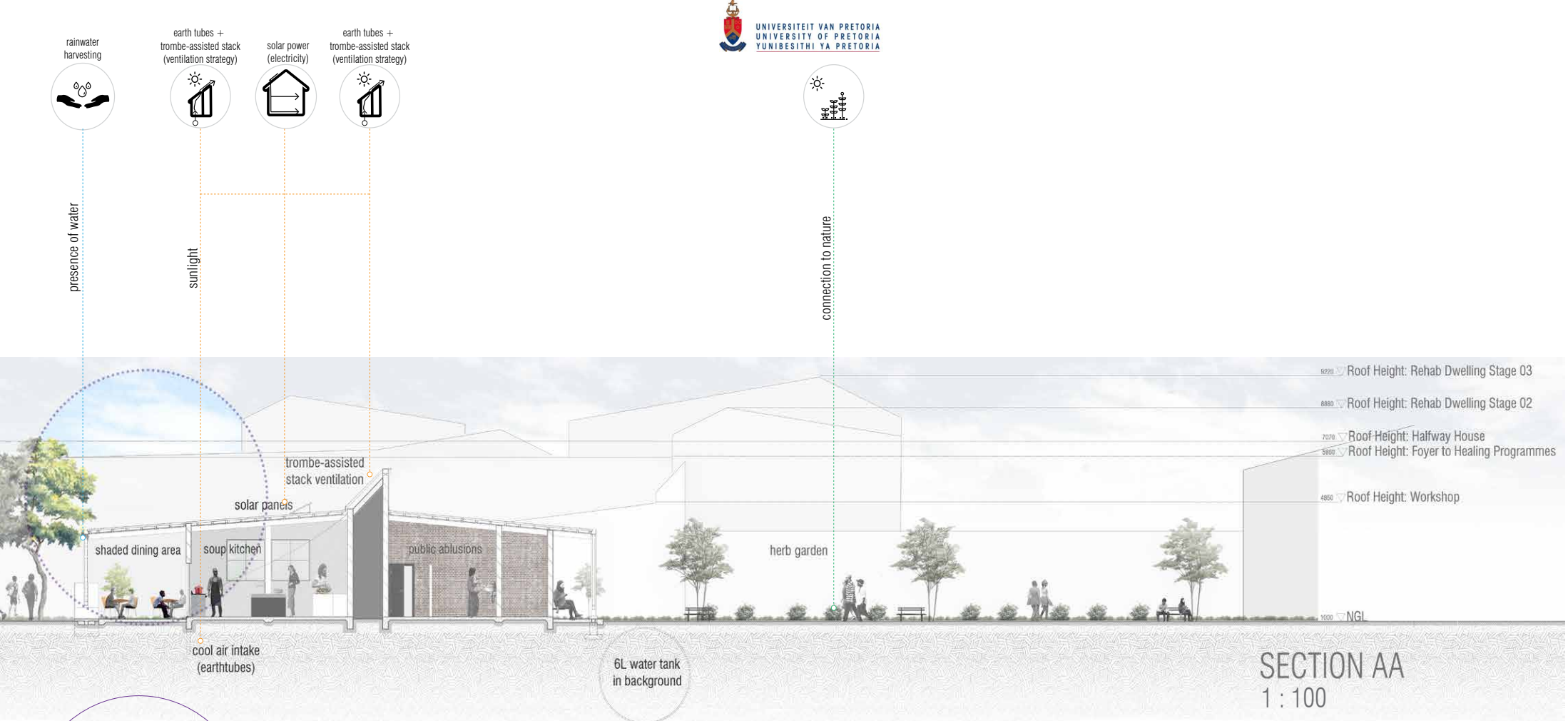


Figure 104: (left) Final ground floor plan (nts) (Patrick: 2016)

Figure 105: (above) Final first floor plan (nts) (Patrick: 2016)

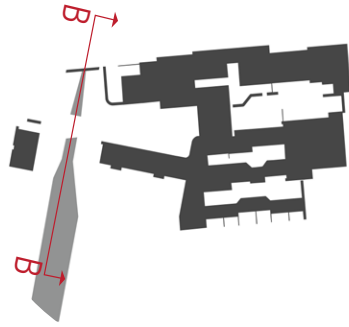






# Katlego's Experiential Journey

Figure 106: (spread) Final section AA (nts) (Patrick: 2016)



responsive screen  
(vertical slats for  
western shading)



sunlight

rainwater  
harvesting



presence of water



connection to nature

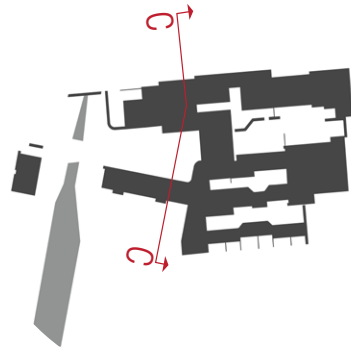


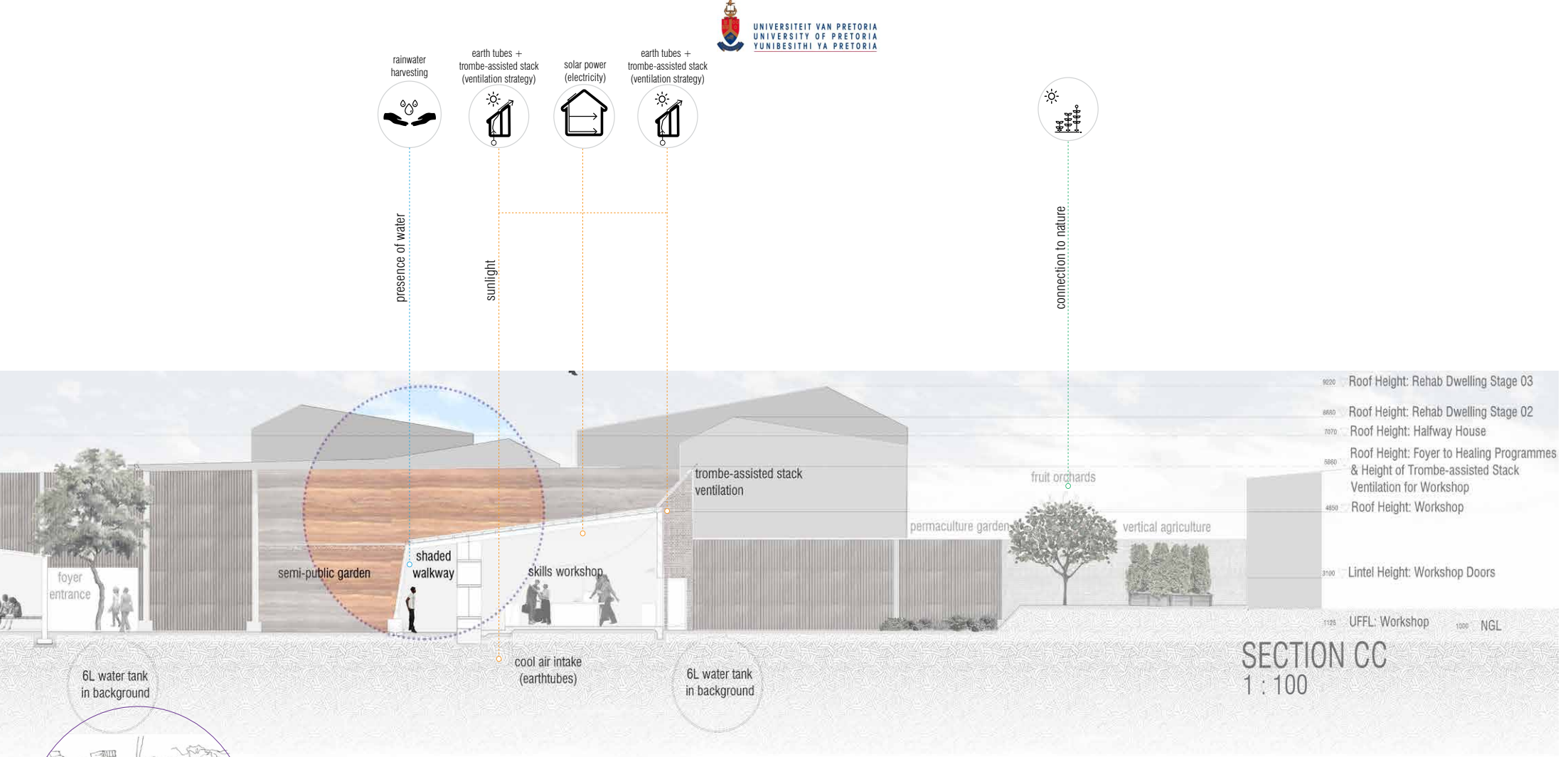
SECTION BB  
1 : 100



Katlego's  
Experiential Journey

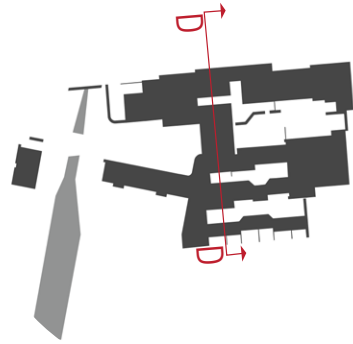
Figure 107: (spread) Final section BB (nts) (Patrick: 2016)

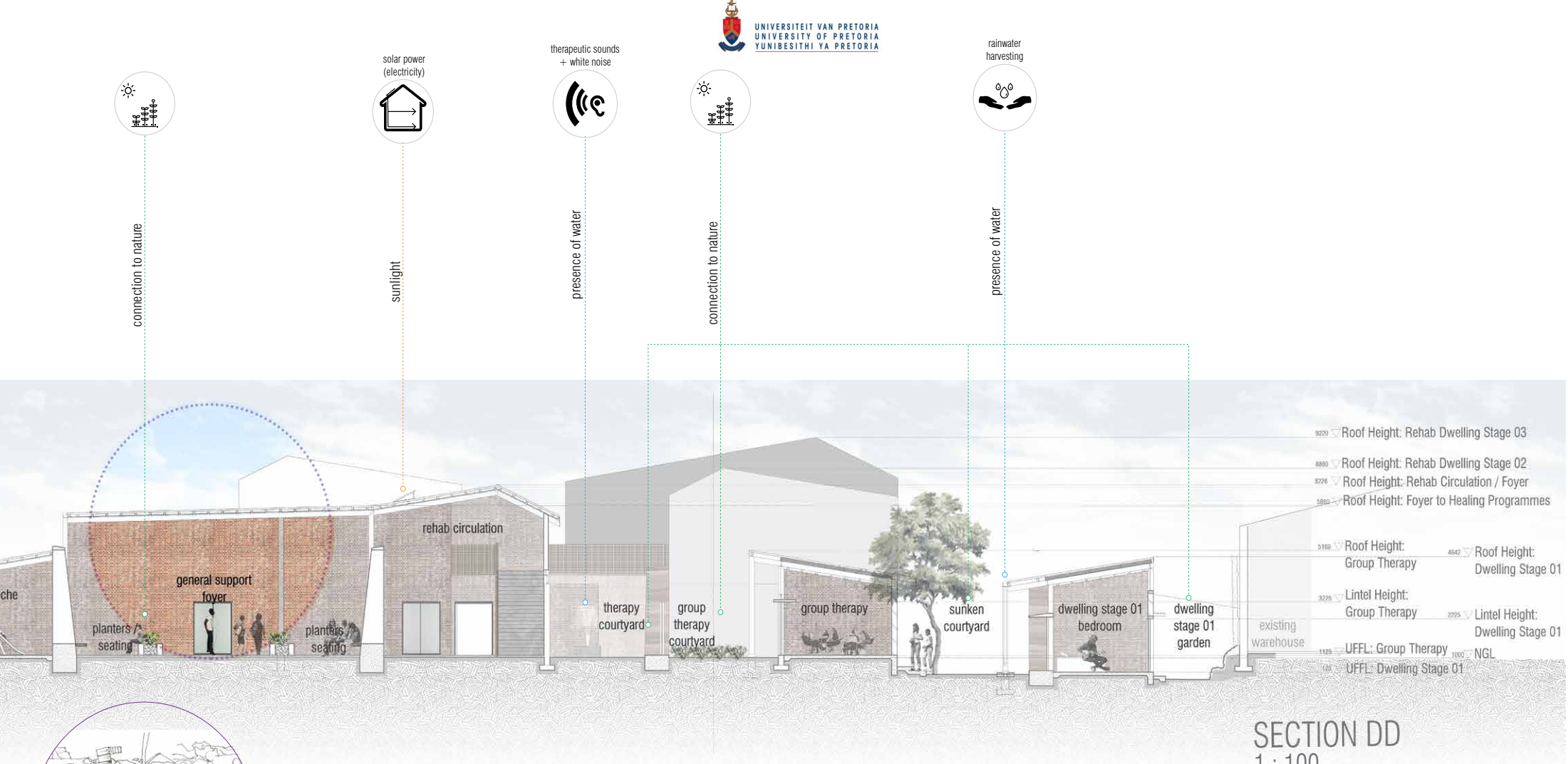




# Katlego's Experiential Journey

Figure 108: (spread) Final section CC (nts) (Patrick: 2016)



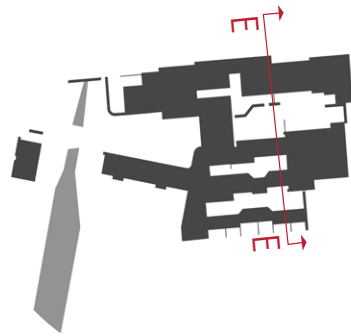


SECTION DD  
1 : 100



Katlego's  
Experiential Journey

Figure 109: (spread) Final section DD (nts) (Patrick: 2016)



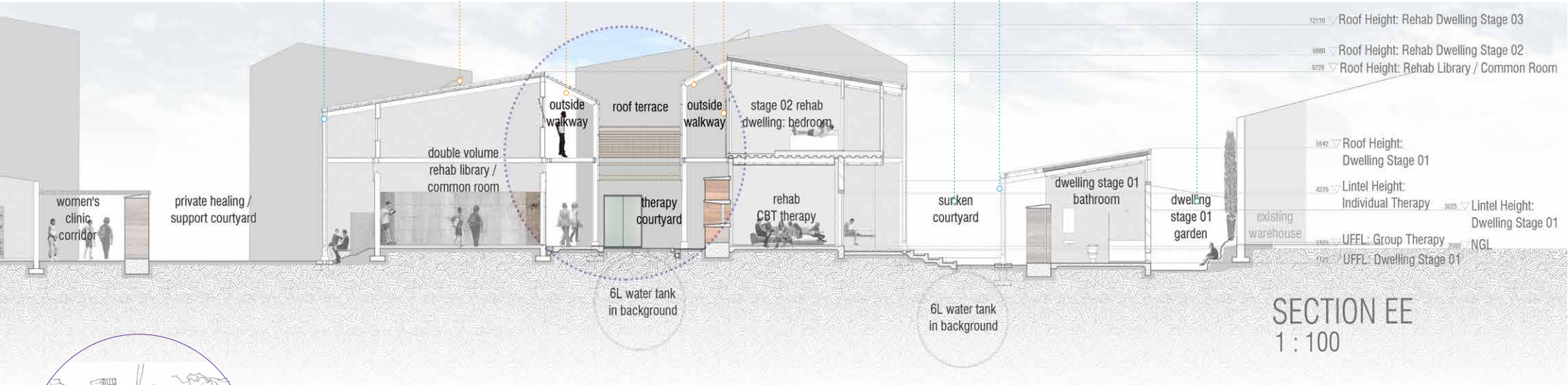


presence of water

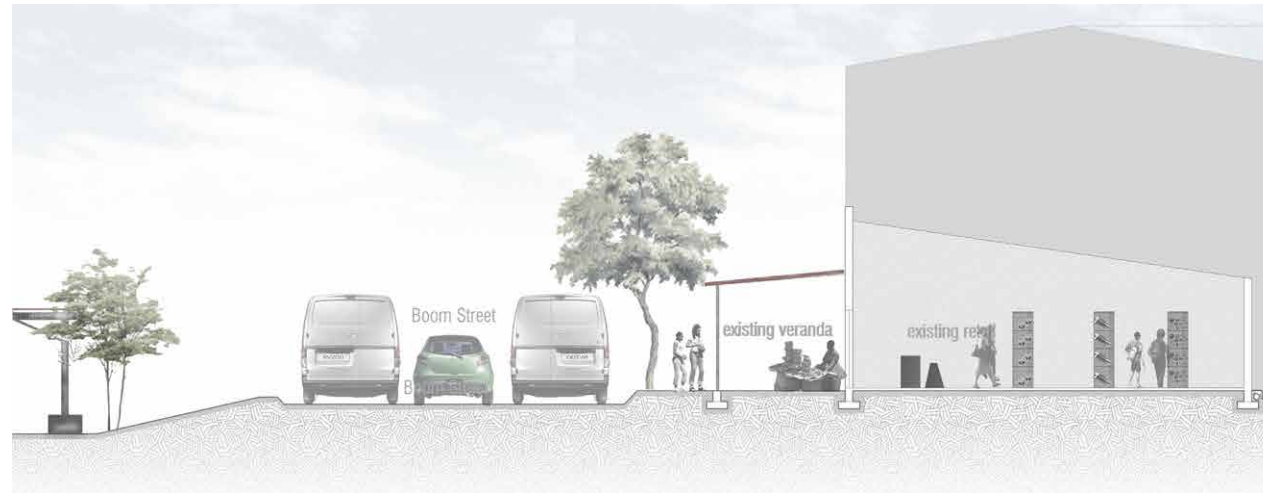
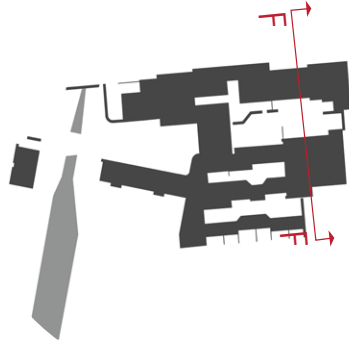
sunlight

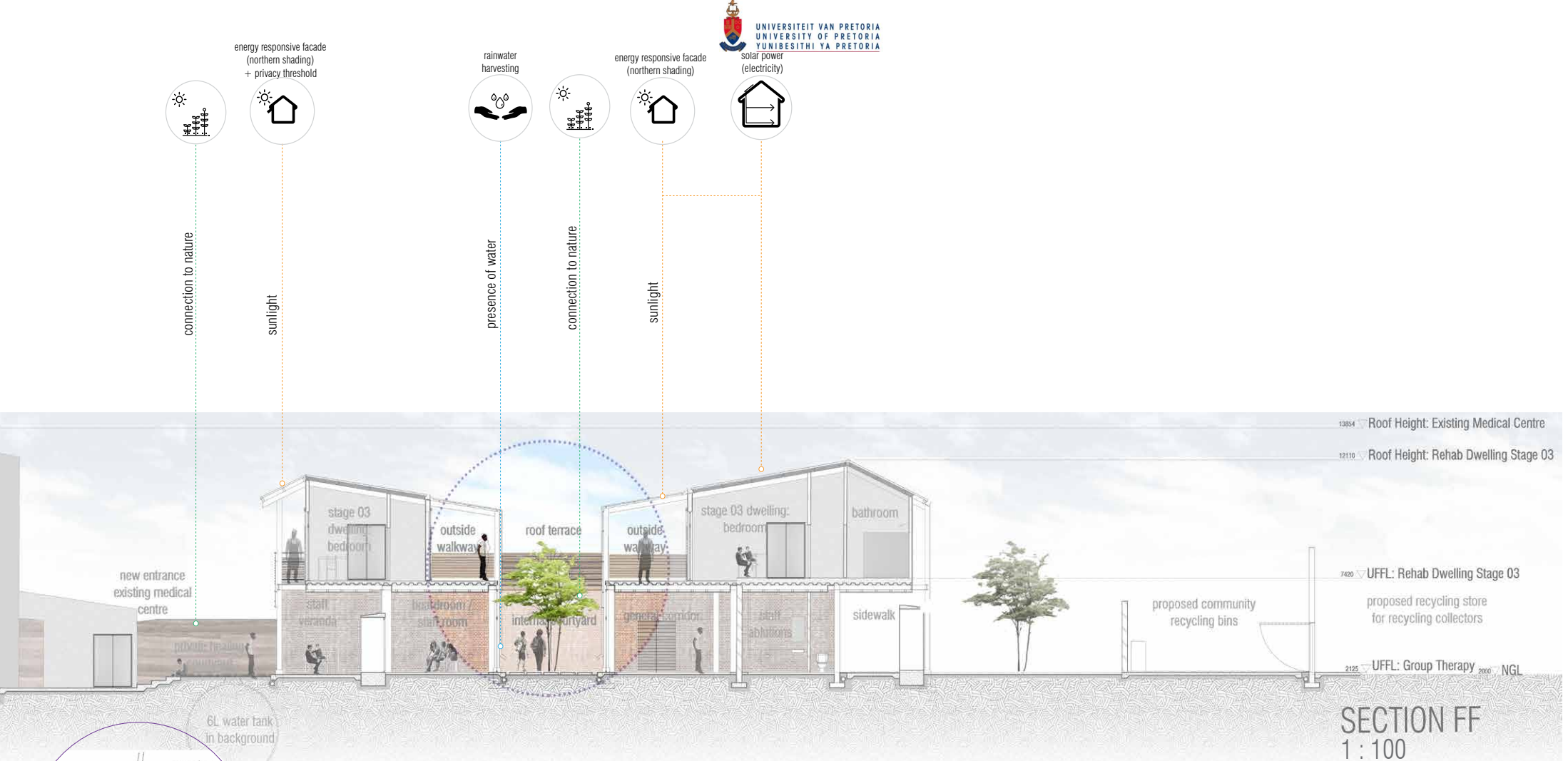
presence of water

connection to nature



Katlego's  
Experiential Journey





# Katlego's Experiential Journey

Figure 111: (spread) Final section FF (nts) (Patrick: 2016)



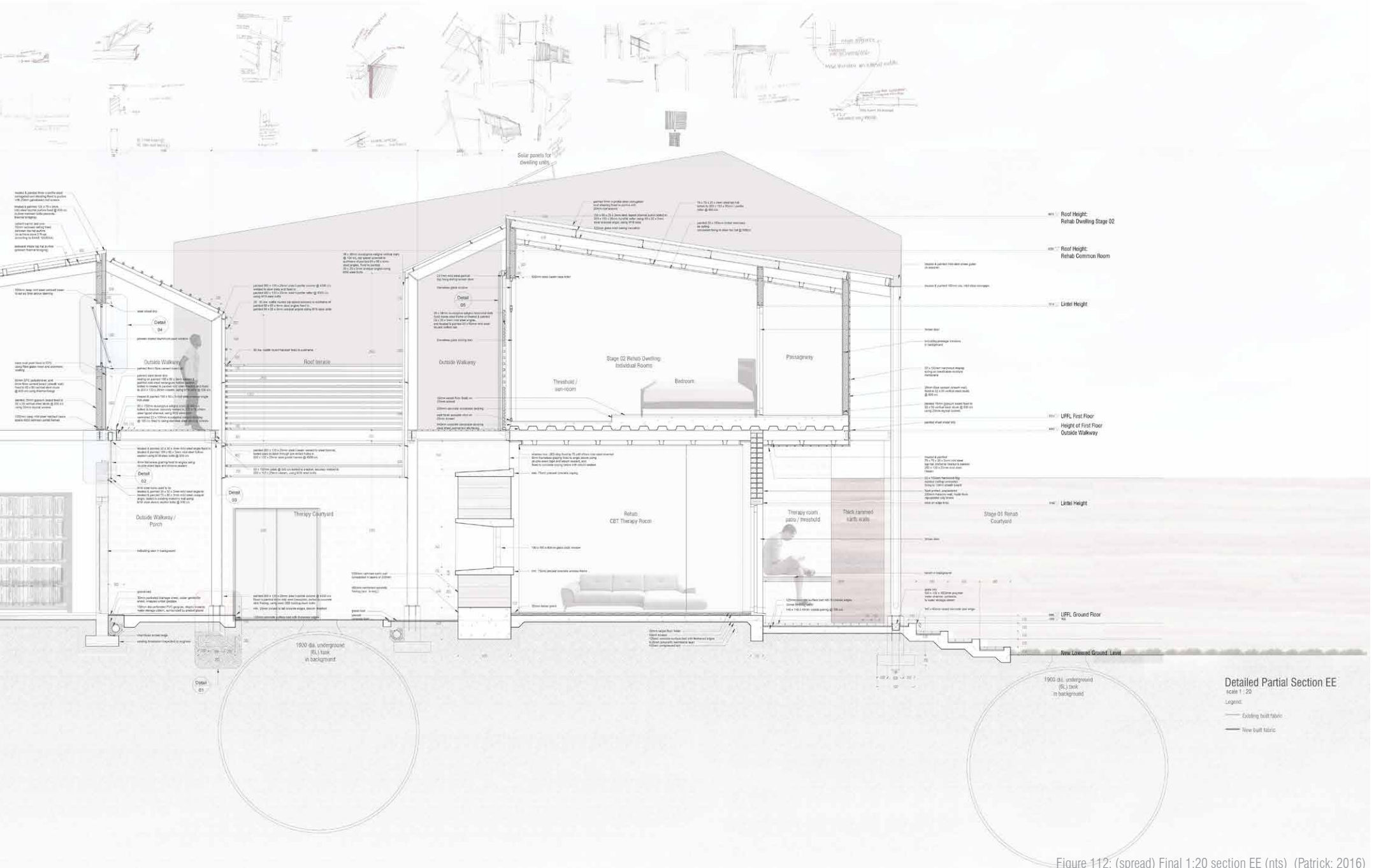
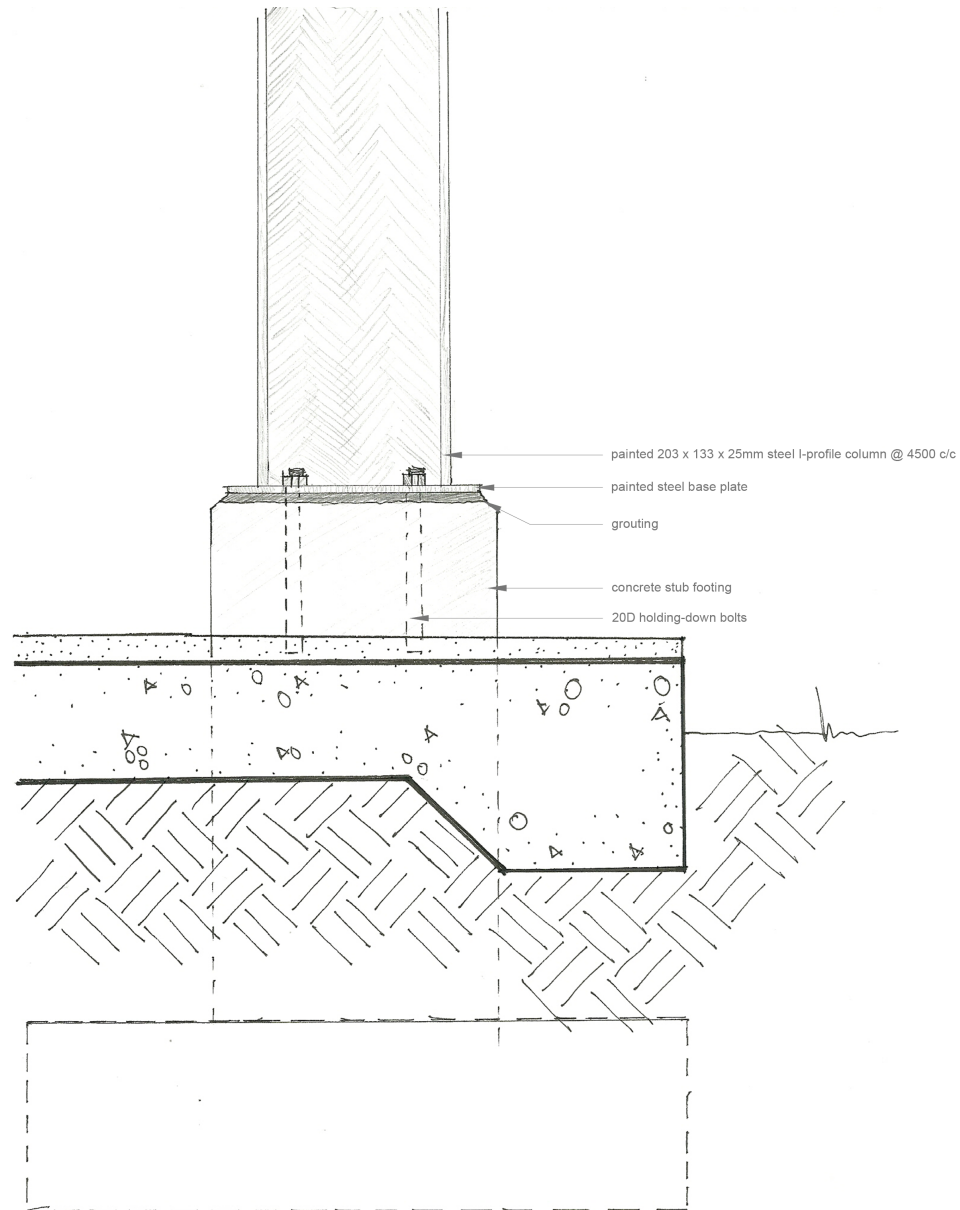
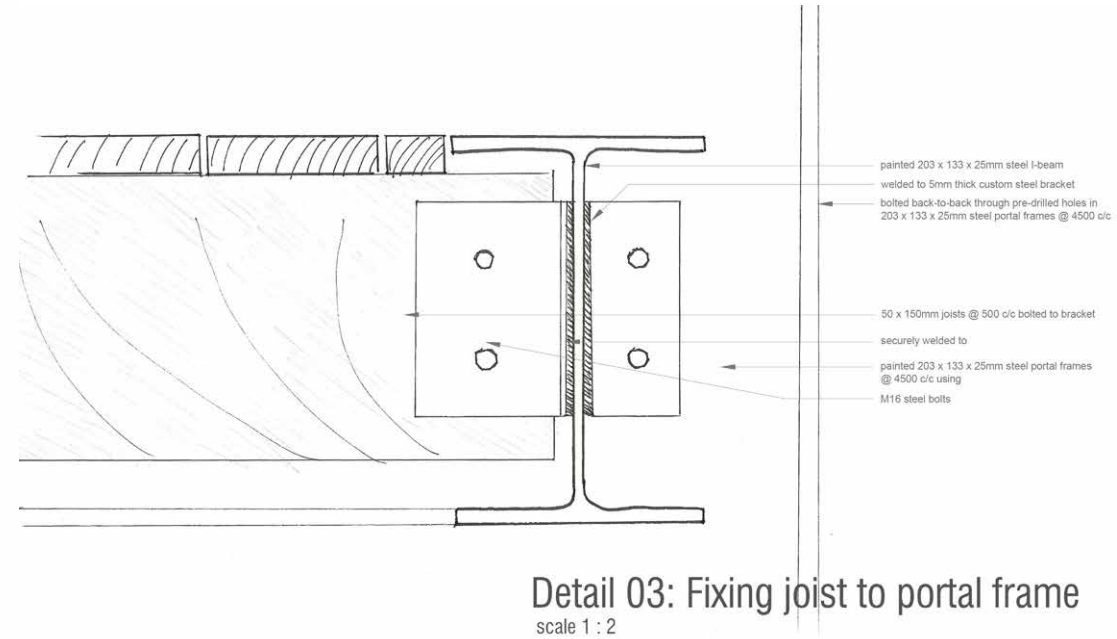
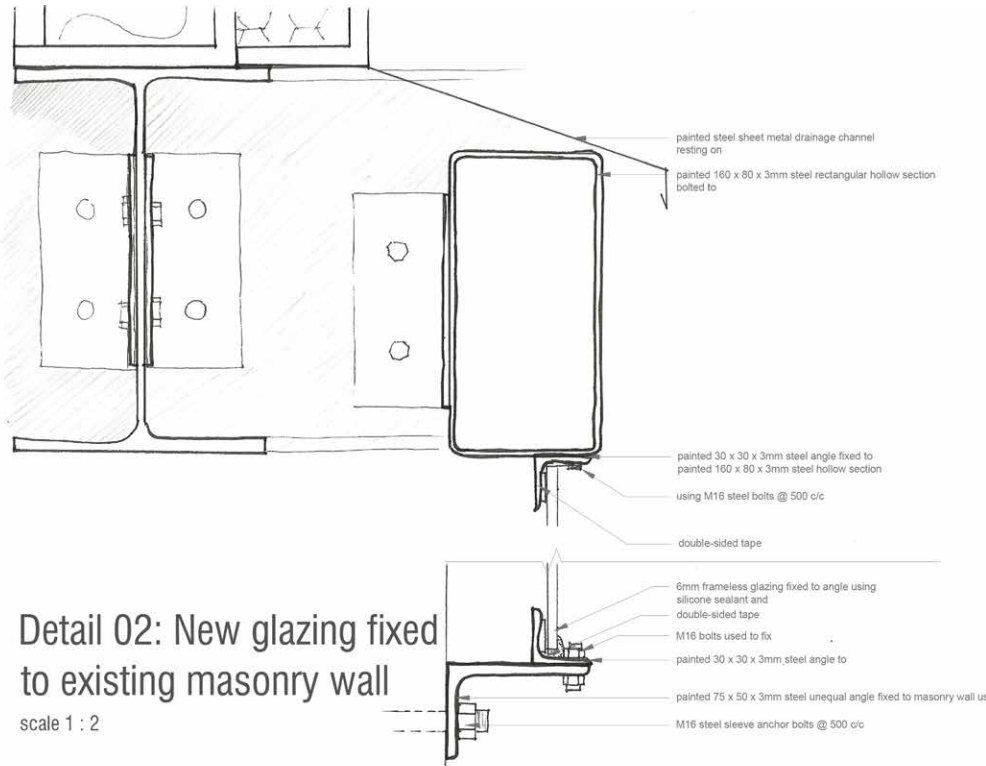
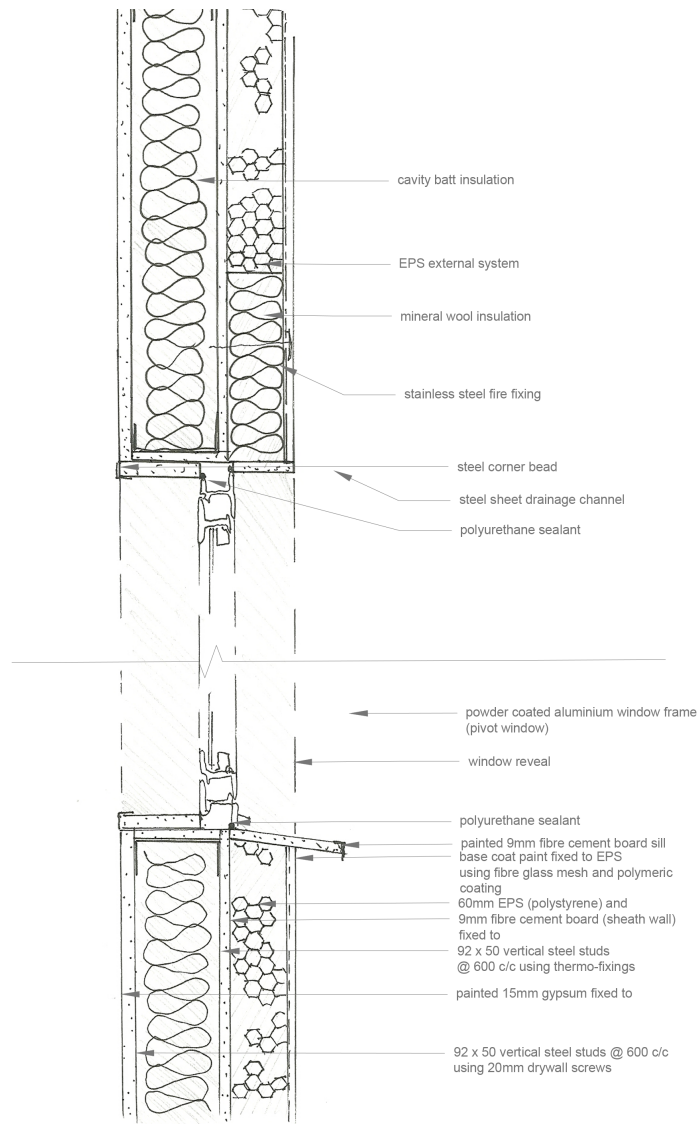


Figure 112: (spread) Final 1:20 section EE (nts) (Patrick: 2016)



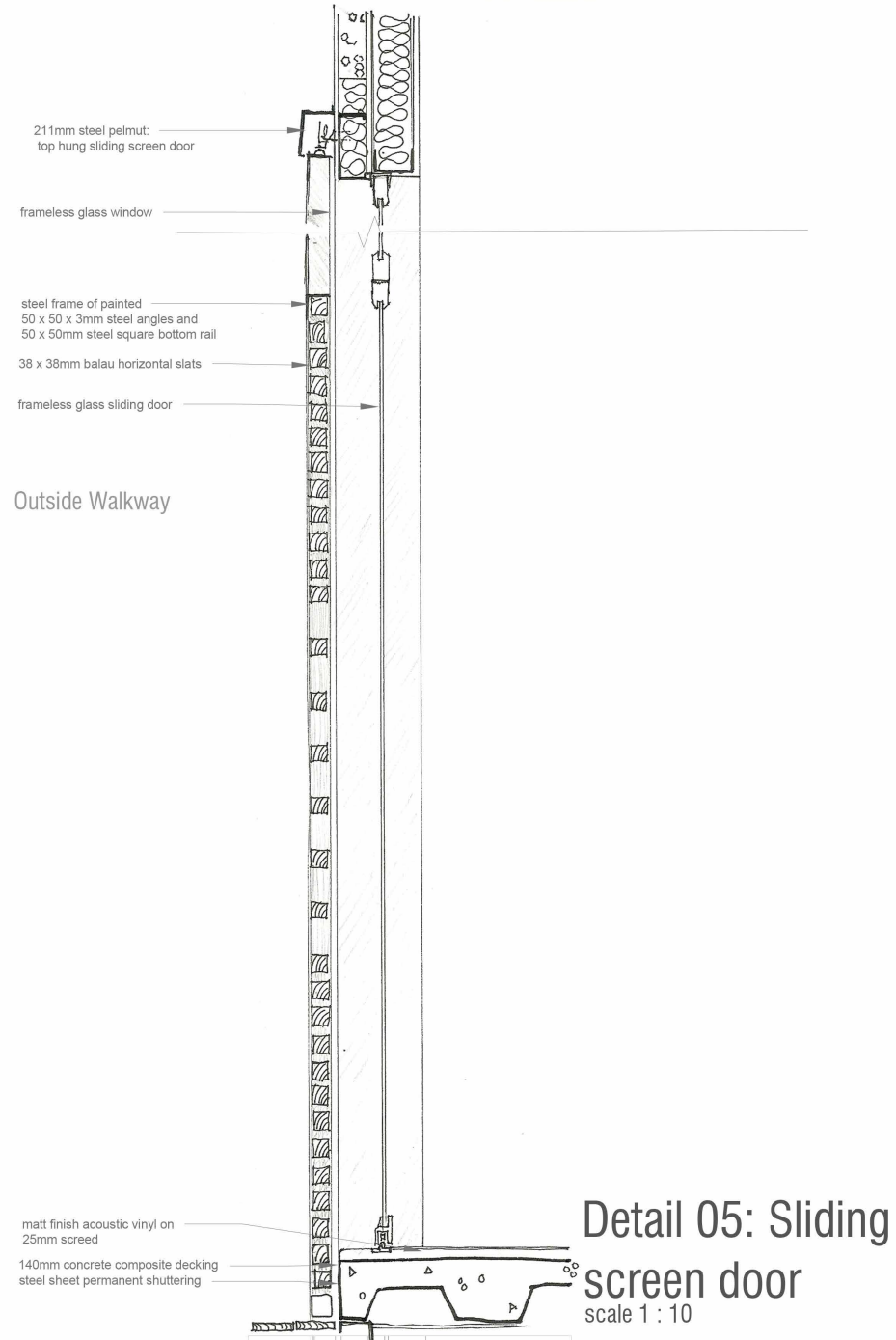
Detail 01: Concrete stub footing  
scale 1 : 5





## Detail 04: Drywall sill and lintel details

scale 1 : 5





# *Epilogue*

## The Narrative

---

### Reflection

I have chosen in this dissertation, to adopt a holistic approach including the real-world issue of drug addiction with an investigative narrative, to make it possible to envisage how a potentially regenerative architecture might be achieved in reality. A collaborative effort, in a real situation within the community, is essential to the transformation process. It is important to acknowledge the intimate relationship that the local inhabitants have with the environment, as a collaborative factor contributing to the architect's vision.

Through the processes involved in this research project, an insight has been gained which could provide value and lead to possible further investigative procedures, which would 'unlock' the social and environmental systems, in the context of Marabastad.



# *Bibliography*

1

---

*Figures*

<b>Figure 1</b>	: Locality of Marabastad within the greater context of Tshwane, Gauteng, South Africa (Patrick: 2016)	13
<b>Figure 2</b>	: Locality of the site for the dissertation within the context of Marabastad (Patrick: 2016)	13
<b>Figure 3</b>	: Characters of the narrative and their place in the greater network of support (Patrick: 2016)	15
<b>Figure 4</b>	: Graphic used from the Urban Vision Book - <i>Marabastad: A Legacy of Utopias</i> (Nicha,S., Hough, D. & Patrick, N. : 2016)	17
<b>Figure 5</b>	: Mr Pillay’s perspective of events is narrated in this chapter - highlighted within the greater network (Patrick: 2016)	17
<b>Figure 6</b>	: Timeline of the historic development of Marabastad, according to the Utopias that are explained in the Urban Vision Book - <i>Marabastad: A Legacy of Utopias</i> (Nicha,S., Hough, D. & Patrick, N. : 2016)	19
<b>Figure 7</b>	: The freeway scheme that was planned to cover Marabastad (Tayob et. al: 2002)	21
<b>Figure 8</b>	: A description of the photos from left to right: Jazz Park’s street edge at the intersection of Bloed Street and 7 <sup>th</sup> Avenue [image source: (Marianne de Klerk: 2015)], street furniture on entering Jazz Park at this intersection [image source: (Marianne de Klerk: 2015)], the Boom Street interface facilitate informal trade under the verandas of the shops [image source: (Jeandri Scholtz: 2015)], the use of the verandas as a gathering space in front of the shops on Boom Street [image source: (Jeandri Scholtz: 2015)]	23
<b>Figure 9</b>	: The area that Mr Pillay refers to as “no-man’s-land”. A description of the photos from left to right: “no-man’s-land” across Boom Street, with the Chicken Warehouse in the background [image source: (Sandeep Nicha: 2016)]; Steenhovenspruit just before it flows under Boom Street [image source: (Jeandri Scholtz: 2015)]; retail spills out of the old Empire Theatre onto the public walkways and Boom Street [image source: (Jeandri Scholtz: 2015)].	25
<b>Figure 10</b>	: Katlego’s sleeping-place alongside the spruit, within the context of the study area (Patrick: 2016)	27
<b>Figure 11</b>	: Katlego’s perspective of events is narrated in this chapter - highlighted within the greater network	27
<b>Figure 12</b>	: Proposed connection to existing support network - map adapted by (Patrick: 2016) from (De Klerk, M: 2015: 20-22)	29
<b>Figure 13</b>	: Dr Radebe’s perspective of events is narrated in this chapter - highlighted within the greater network (Patrick: 2016)	29
<b>Figure 14</b>	: Considering these degenerated spaces in combination with the existing support networks (Tshwane Homelessness Forum: 2015: 22)	31
<b>Figure 15</b>	: Barrier of drug addiction that exists on site at present (Patrick: 2016)	33
<b>Figure 16</b>	: Janeke’s perspective of events is narrated in this chapter - highlighted within the greater network (Patrick: 2016)	35
<b>Figure 17</b>	: Graph illustrating how regenerative design goes beyond merely sustaining the environment in its current state through “Green Architecture” (Guenther et al. : 2013: 409)	35
<b>Figure 18</b>	: The author’s notional concept of regenerative design (Patrick: 2016)	37
<b>Figure 19</b>	: The author’s notional concept of how nature and architecture can come together (Patrick: 2016)	39

<b>Figure 20</b>	: Biophilic principles as set out by Stephen Kellert. (Guenther et al: 2013: 69)	41
<b>Figure 21</b>	: Conceptual model with narrative characters in architectural design (Patrick: 2016)	45
<b>Figure 22</b>	: The narrative characters involved in the proposal (Patrick: 2016)	45
<b>Figure 23</b>	: The physical development of Marabastad over time (Patrick: 2016)	47
<b>Figure 24</b>	: Mapping of Utopias 1-5 adopted from Marabastad Urban Vision Group: (Nicha,S., Hough, D. & Patrick, N. : 2016)	49
<b>Figure 25</b>	: Utopia 6 urban mapping (Nicha,S., Hough, D. & Patrick, N. : 2016)	51
<b>Figure 26</b>	: Mapping of positive and negative spaces and the activities that occur in these spaces (Patrick: 2016)	53
<b>Figure 27</b>	: Regenerative and Healing Narrative illustrated through overlaps in the existing ecological and social energies (Patrick: 2016)	54
<b>Figure 28</b>	: The existing condition and boundaries of site (Patrick: 2016)	54
<b>Figure 29</b>	: The potential future physical development of Marabastad (Patrick: 2016)	54
<b>Figure 30</b>	: Situating the study area within the existing support network and establishing connections to strengthen the network (Patrick: 2016)	57
<b>Figure 31</b>	: Janeke's perspective of events is narrated in this chapter - highlighted within greater network (Patrick: 2016)	57
<b>Figure 32</b>	: Image adapted by (Patrick: 2016) from (Crous: 2016) illustrating the ecological networks that connect Marabastad to the greater Tshwane region	59
<b>Figure 33</b>	: Site analysis through Mang's Phenomenological Understanding of Place (Patrick: 2016)	61
<b>Figure 34</b>	: Degenerated Aspects of Site (Patrick: 2016)	63
<b>Figure 35</b>	: Active and dead edges and the activities that currently occur on these edges (Patrick: 2016)	65
<b>Figure 36</b>	: Intervention that provides support to get over the barrier of drug addiction - healing of place and people (Patrick: 2016)	67
<b>Figure 37</b>	: A photo selected from the photo essay by Lindokuhle Sobekwa: <i>Nyaope. Everything you give me my Boss, will do.</i> [Image source: (Sobekwa: 2015)]	69
<b>Figure 38</b>	: The graph illustrates the harm of four drugs, including heroin, to the user and to others (Nutt: 2012: 44)	71
<b>Figure 39</b>	: The diagram highlights that pharmacological substitutes can help break the cycle of withdrawal (Nutt: 2012: 159)	73
<b>Figure 40</b>	: Ancillary Functions of the project (Patrick: 2016)	75
<b>Figure 41</b>	: Primary Functions of the project (Patrick: 2016)	77
<b>Figure 42</b>	: SANCA Castle Carey Clinic, Pretoria (Castle Carey Clinic: 2006)	78
<b>Figure 43</b>	: SANCA Horizon Clinic, Boksburg (Google Maps: 2016)	78
<b>Figure 44</b>	: SANCA Nishtara, Lenasia (SANCA Nishtara: 2009)	78
<b>Figure 45</b>	: Table indicating the relationship between design elements and health outcomes (Lundin: 2015: 68)	81

<b>Figure 46</b>	: The Psychiatric Department of Östra Hospital illustrates design elements that positively influence health outcomes. Image sources: (Lundin et. al: 2010) & photographer Christer Hallgren (White: 2015).	83
<b>Figure 47</b>	: New North Zealand Hospital illustrates design elements that positively influence health outcomes. Image sources: (Frearson: 2014)	85
<b>Figure 48</b>	: Ubuntu HIV clinic and community centre illustrates design elements that positively influence health outcomes. Image sources: (Arch Daily: 2011)	87
<b>Figure 49</b>	: An image that speaks to the soul and the senses. Image source: (Lundin et. el: 2010: 218-219)	89
<b>Figure 50</b>	: The first stage of conceptual development (Patrick: 2016)	91
<b>Figure 51</b>	: Conceptual Development 1 (Patrick: 2016)	93
<b>Figure 52</b>	: The progression from the first stage of conceptual development to the second stage (Patrick: 2016)	95
<b>Figure 53</b>	: Conceptual development 2 (Patrick: 2016)	97
<b>Figure 54</b>	: Conceptual precedent – Paris. Adapted from (Ching: 2007: 265 & 276)	98
<b>Figure 55</b>	: Conceptual precedent – Stern House. Adapted from (Ching: 2007: 278-279)	99
<b>Figure 56</b>	: The progression from the first stage of conceptual development through to the third stage (Patrick: 2016)	101
<b>Figure 57</b>	: Conceptual Development 3 (Patrick: 2016)	103
<b>Figure 58</b>	: Design Development Sheets that illustrate 9 stages of development, that will be looked at in further detail (Patrick: 2016)	105
<b>Figure 59</b>	: Progression from design development stages one through to six (Patrick: 2016)	107
<b>Figure 60</b>	: Design Development 1-4 (Patrick: 2016)	109
<b>Figure 61</b>	: Design Development 5-6 (Patrick: 2016)	111
<b>Figure 62</b>	: Progression from design development seven to nine (Patrick: 2016)	113
<b>Figure 63</b>	: Rough sketch explaining the Golden Ratio (Patrick: 2016)	113
<b>Figure 64</b>	: Design Development 7 (Patrick: 2016)	115
<b>Figure 65</b>	: Design Development 8 (Patrick: 2016)	117
<b>Figure 66</b>	: Design Development 9 (Patrick: 2016)	119
<b>Figure 67</b>	: Design Development 9 (Patrick: 2016)	121
<b>Figure 68</b>	: Design development stages one to nine (the process) (Patrick: 2016)	121
<b>Figure 69</b>	: Design development: investigation through model-building (Patrick: 2016)	123
<b>Figure 70</b>	: Design precedent - Chapel Notre-Dame-Du-Haut. Image sources: (McCarter et al.: 2012: 33-37)	124
<b>Figure 71</b>	: Design precedent - Chapel Capuchinas. Image sources: (McCarter et al.: 2012: 204)	125
<b>Figure 72</b>	: Design precedent - Courtyards on Oxford. Images sources: (Patrick: 2016) and (ArchDaily: 2010)	127
<b>Figure 73</b>	: Final conceptual development: rotating and overlaying grids (Patrick: 2016)	129
<b>Figure 74</b>	: Design Development 10 (Patrick: 2016)	131
<b>Figure 75</b>	: Conceptual Ground Floor Plan (Patrick: 2016)	132
<b>Figure 76</b>	: Conceptual First Floor Plan (Patrick: 2016)	133
<b>Figure 77</b>	: Conceptual Public Route (Patrick: 2016)	135
<b>Figure 78</b>	: Conceptual Foyer (Patrick: 2016)	136

<b>Figure 79</b>	: Conceptual Soup Kitchen and Public Square (Patrick: 2016)	137
<b>Figure 80</b>	: Approaching Conceptual Foyer (Patrick: 2016)	138
<b>Figure 81</b>	: Conceptual Secondary Foyer that looks onto a courtyard (Patrick: 2016)	139
<b>Figure 82</b>	: Conceptual intermediary courtyards (Patrick: 2016)	140
<b>Figure 83</b>	: Conceptual first floor walkway (Patrick: 2016)	141
<b>Figure 84</b>	: Design Precedent- Falling Water. Image sources: (McCarter et al.: 2012: 218-219)	143
<b>Figure 85</b>	: Investigation of stereotomic & tectonic elements (Patrick: 2016)	145
<b>Figure 86</b>	: Biophilic elements that form a framework that guides the refinement in the technology of the project (Patrick: 2016)	147
<b>Figure 87</b>	: Rocks Police Station turned café – an adaptive reuse approach to architectural heritage. Image sources: (Welsh + Major: 2015)	149
<b>Figure 88</b>	: Carlo Scarpa’s respectful approach to Castelvecchio’s heritage (Archibjects: 2014)	151
<b>Figure 89</b>	: The Nk’mip Desert Interpretation Centre illustrates how a rammed earth wall can become a directional element (Rael: 2011: 104-107)	153
<b>Figure 90</b>	: The “playfulness” between the timber screens and the rammed earth sanctuary is illustrated in the Chapel of Reconciliation (Rael: 2011: 44-46)	155
<b>Figure 91</b>	: The Vineyard Residence illustrates how to make the rammed earth walls prominent, but also have softer timber details (Rael: 2016: 80-83)	157
<b>Figure 92</b>	: The Ubuntu Centre is considered in terms of the approach to screens and a privacy threshold (Arch Daily: 2011)	159
<b>Figure 93</b>	: Section iterations (Patrick: 2016)	161
<b>Figure 94</b>	: Section iterations (Patrick: 2016)	163
<b>Figure 95</b>	: Section iterations (Patrick: 2016)	165
<b>Figure 96</b>	: Material investigation (Patrick: 2016)	167
<b>Figure 97</b>	: Ground Floor Plan (Patrick: 2016)	169
<b>Figure 98</b>	: First Floor Plan (Patrick: 2016)	169
<b>Figure 99</b>	: The phasing of the construction of the project (Patrick: 2016)	171
<b>Figure 100</b>	: The main phases in the construction of the project (Patrick: 2016)	173
<b>Figure 101</b>	: Katlego (Patrick: 2016)	175
<b>Figure 102</b>	: The completion of the project (Patrick: 2016)	175
<b>Figure 103</b>	: The completion of the project (Patrick: 2016)	177
<b>Figure 104</b>	: Final ground floor plan (nts) (Patrick: 2016)	179
<b>Figure 105</b>	: Final first floor plan (nts) (Patrick: 2016)	179
<b>Figure 106</b>	: Final section AA (nts) (Patrick: 2016)	181
<b>Figure 107</b>	: Final section BB (nts) (Patrick: 2016)	183
<b>Figure 108</b>	: Final section CC (nts) (Patrick: 2016)	185
<b>Figure 109</b>	: Final section DD (nts) (Patrick: 2016)	187
<b>Figure 110</b>	: Final section EE (Patrick: 2016)	189
<b>Figure 111</b>	: Final section FF (nts) (Patrick: 2016)	191
<b>Figure 112</b>	: Final 1:20 section EE (nts) (Patrick: 2016)	193
<b>Figure 113</b>	: Final details (Patrick: 2016)	195
<b>Figure 114</b>	: Final details (Patrick: 2016)	197
<b>Figure 115</b>	: Feasibility statement (Patrick: 2016)	215



**Figure 116** : Water harvesting calculations (Patrick: 2016)

**Figure 117** : Hydrology Presentation (Patrick: 2016)

216

216

# 2

---

## References

- 702Talk. 2016. *Missing Link with Drugs*. Internet: <https://omny.fm/shows/the-best-of-redi-tlhabi/>  
Accessed: 08/06/2016
- Arch Daily. 2011. *Ubuntu Centre / Field Architecture*. Internet: <http://archdaily.com/135432/ubuntu-centre-field-architecture>. Accessed: 01/05/2016
- Archiobjects. 2014. *Castelvecchio Museum – A masterpiece by Carlo Scarpa*. Internet: <http://archiobjects.org/museo-castelvecchio-verona-italy-carlo-scarpa/>. Accessed: 11/06/2015
- Browning, W.; Ryan, C. & Clancy, J. 2014. *14 Patterns of Biophilic Design: Improving Health and Well-being in the Built Environment*. Terrapin Bright Green. Available online: <https://www.herzogdemeuron.com/index/projects/complete-works/401-425/416-new-north-zealand-hospital.html> Accessed: 27/09/2016
- Capra, F. 1996. *The Web of Life: A New Scientific Understanding of Living Systems*. New York: Anchor Books
- Castle Carey Clinic. 2006. Internet: <http://www.addictionrehab.co.za/TreatmentProgramsCastleCareyClinic.asp> Accessed: 17/03/2016
- Ching, F.D.K. 2007. *Architecture: Form, Space, & Order*. New Jersey: John Wiley & Sons
- Creative Bloq. 2016. *The designer's guide to the Golden Ratio*. Internet: <http://www.creativebloq.com/design/designers-guide-golden-ratio-12121546>. Accessed: 03/07/2016
- Cronje, M.L. 2013. *A Brewery in Marabastad*. Masters Dissertation, University of Pretoria
- Crous, G. 2016. Systems Graphic (an adapted image)
- Day, C. 1990. *Places of the Soul*. Taylor & Francis
- Department of Family Medicine. 2015. *Opioid Substitution and Substance Abuse Harm Reduction through COPC in the City of Tshwane: A holistic and Community Based Primary Health Care Intervention Strategy*. University of Pretoria

- Department of Social Development. *Minimum Norms and Standards for Inpatient Treatment Centres. Pamphlet.* Pretoria
- Foucault, M. 1984. *Of Other Spaces: Utopias and Heterotopias.* Available online: <http://web.mit.edu/allanmc/www/foucault1.pdf> Accessed: 18/02/2016
- Friedman, M. 1994. *A History of Africans in Pretoria with Special Reference to Marabastad: 1902-1923.* Masters Dissertation, University of South Africa
- From, L. & Lundin, S. 2010. *Architecture as Medicine - the Importance of Architecture for Treatment Outcomes in Psychiatry. 1st ed.* Gothenburg: The Architecture Research Foundation. Available online: [http://www.white.se/app/uploads/2013/01/Architecture\\_as\\_Medicine.pdf](http://www.white.se/app/uploads/2013/01/Architecture_as_Medicine.pdf)
- Grobelaar, L. 2012. *New Royal Theatre: The Marabi Theatre as locus for Cultural Reproduction.* Masters Dissertation, University of Pretoria
- Guenther, R. & Vittori, G. 2013. *Sustainable Healthcare Architecture. 2nd Edition.* Wiley
- GWA Studio, Aphone View & Urban Heritage Group. 2012. *Precinct 2: Capital West Block 09-35* (Heritage Value Mapping)
- Haggard, B., Reed, B. & Mang, P. 2005. *Regenerative Development.* Available online: [http://regenesishgroup.com/wp-content/uploads/2015/02/RD\\_Revitalization\\_Mag.pdf](http://regenesishgroup.com/wp-content/uploads/2015/02/RD_Revitalization_Mag.pdf) Accessed: 22/02/2016
- Hes, D. & du Plessis, C. 2014. *Designing for Hope: Pathways to Regenerative Sustainability.* Routledge
- Honours Marabastad. 2015. (Honours group research during 2015 at the University of Pretoria)
- Kellert, S.R., Heerwagen, J.H. & Mador, M.L. 2008. *Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life.* New Jersey: John Wiley & Sons
- Mang, N. S. 2009. *The Rediscovery of Place and Our Human Role within it.* California. Available online: [http://www.regenesishgroup.com/wp-content/uploads/2015/02/The\\_Rediscovery\\_of\\_Place.pdf](http://www.regenesishgroup.com/wp-content/uploads/2015/02/The_Rediscovery_of_Place.pdf) Accessed: 22/02/2016
- Merriam Webster. 2016. Internet: <http://www.merriam-webster.com/dictionary/utopia>
- McCarter, R. & Pallasmaa, J. 2012. *Understanding Architecture.* London: Phaidon Press Limited
- Mphahlele, E. 1959. *Down Second Avenue.* Great Britain: Whitstable Litho Ltd., Whitstable, Kent
- News 24. 2013. 10 April. *Illegal rehab centres a problem – govt.* News 24. Internet: <http://www.news24.com/SouthAfrica/News/Illegal-rehab-centres-a-problem-govt-20130410> Accessed: 01/03/2016

- Nutt, D. 2012. *Drugs Without the Hot Air: Minimising the Harms of Legal and Illegal Drugs*. Cambridge: UIT Cambridge Ltd
- Oxford Dictionaries. 2016. Internet: <http://www.oxforddictionaries.com/definition/english/kraal>
- POPUP. 2016. *Personal Growth Programme*. Internet: <http://www.popup.co.za/> Accessed: 18/03/2016
- Rael, R. 2011. *Earth Architecture*. New York: Princeton Architectural Press
- Reed, B. 2007a. *Living Systems Approach to Design. AIA National Convention Keynote Address – Regeneration & Integrative Design Collaborative*. May. Available online: [www.regenesis.com/resources/](http://www.regenesis.com/resources/) Accessed: 26/02/2016
- Reed, B. 2007b. *Shifting from “Sustainability” to Regeneration. Building Research & Information*. Available online: [www.regenesis.com/resources/](http://www.regenesis.com/resources/) Access Date: 22/02/2016
- Saieh, N. 2010. *Courtyards on Oxford / studioMAS* (ArchDaily, 20 Mar 2010) Internet: <http://www.archdaily.com/52895/courtyards-on-oxford-studiomas/> Accessed: 10/10/2016
- SANCA. 2012. *National Footprint: Gauteng. SANCA National Directorate*. Internet: <http://sancanational.org/index.php/national-footprint/48-gauteng-2.html> Accessed: 01/02/2016
- SANCA Horizon. 2015. *Horizon Clinic: Alcohol and Drug Centre*. Internet: <http://www.horizonclinic.org/index.php> Accessed: 17/03/2016
- SANCA Nishtara. 2009. *Nishtara: Alcohol and Drug Centre*. Internet: <http://www.sancanishtara.co.za/inpatient.htm> Accessed: 17/03/2016
- Seamon, D. & Mugerauer, R. 1985. *Dwelling, place and environment: towards a phenomenology of person and world*. Dordrecht: Martinus Nijhoff Publishers
- Tayob, A., Pienaar & Tayob. 2002. *Integrated Urban Design Framework: Marabastad Executive Summary*. Aziz Tayob Architects: Pretoria
- TED. 2016. *Architecture that's built to heal*. (1 February). Online Video: [http://www.ted.com/talks/michael\\_murphy\\_architecture\\_that\\_s\\_built\\_to\\_heal](http://www.ted.com/talks/michael_murphy_architecture_that_s_built_to_heal). Accessed: 29/09/2016
- Tshwane Homelessness Forum, City of Tshwane, University of South Africa & University of Pretoria. *Pathways Out of Homelessness: Research Report 2015*. Available online: [http://www.up.ac.za/media/shared/249/ZP\\_Files/homelessness-report-2015.zp70613.pdf](http://www.up.ac.za/media/shared/249/ZP_Files/homelessness-report-2015.zp70613.pdf) Accessed: 22/04/2016
- Frearson, A. 2014. *Herzog & de Meuron wins contest for Danish forest hospital*. (9 April) Internet: <http://www.dezeen.com/2014/04/09/herzog-de-meuron-new-north-zealand-hospital-denmark/> Accessed: 26/09/2016

Tuwani, T. 2014. 18 September. *Nyaope tearing Tshwane families apart while rehab centres are scarce*. Health-e. Internet: <http://www.health-e.org.za/2014/09/18/nyaope-tearing-tshwane-families-apart-rehab-centres-scarce/> Accessed: 01/02/2016

Vally, R. 2013. *Ento-morph: a Food Culture Intervention in Marabastad*. Masters Dissertation, University of Pretoria

Welsh + Major. 2015. *Former Rocks Police Station*. Internet: <http://welshmajor.com/commercial/former-rocks-police-station/> Accessed: 08/06/2015

White. 2015. *Healthcare Building for Psychiatry, Östra Hospital*. Internet: <http://en.white.se/projects/healthcare-building-for-psychiatry-ostra-hospital/> Accessed: 26/09/2016

Wikibooks. 2016. Internet: [https://en.wikibooks.org/wiki/Gujarati/Family\\_relations](https://en.wikibooks.org/wiki/Gujarati/Family_relations)



# Appendices

## 1

---

### *Definitions*

#### **addiction** [ah-dik´shun]

1. the state of being given up to some habit or compulsion.
  2. strong physiological and psychological dependence on a drug or other agent.
- Drug addiction** a state of heavy dependence on a drug; sometimes defined as physical dependence but usually also including emotional dependence, i.e., compulsive or pathological drug use. It is often used synonymously with drug dependence.

(SOURCE: Miller-Keane Encyclopedia and Dictionary of Medicine, Nursing, and Allied Health, Seventh Edition. © 2003 by Saunders, an imprint of Elsevier, Inc.)

#### **regenerative** [ri-jen-er-uh-tiv]

- 1: an act or the process of regenerating : the state of being regenerated
- 2: spiritual renewal or revival
- 3: renewal or restoration of a body, bodily part, or biological system (as a forest) after injury or as a normal process
- 4: [medical] the renewal, regrowth, or restoration of a body or a bodily part, tissue, or substance after injury or as a normal bodily process.

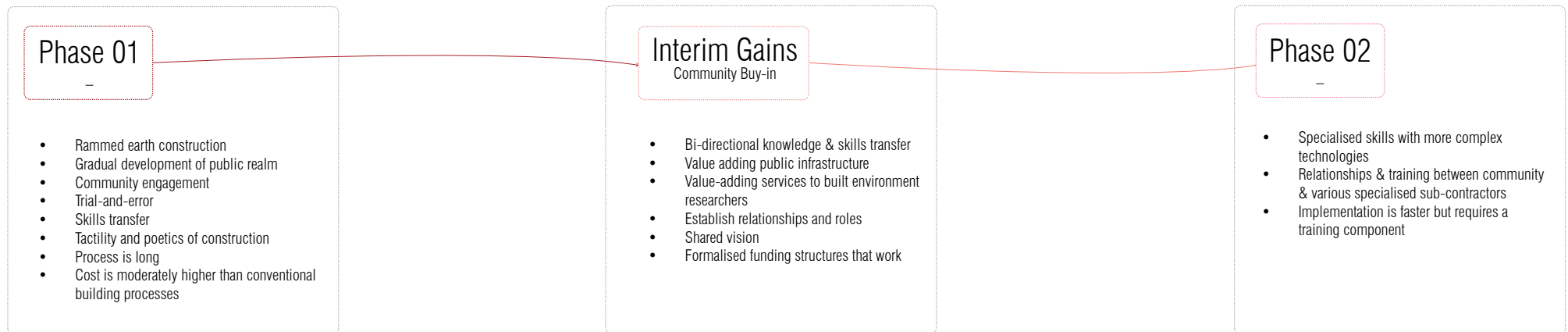
(SOURCE: <http://www.merriam-webster.com/dictionary/regeneration>)



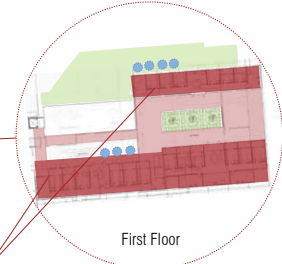
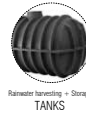
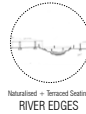
# 4

## *Technical calculations and info*

### **Possible Cost, Time and Value Implications of Proposed Scenario**



Presence of Water  
Water Harvesting (Cycle)



**Hallway House**

- Roof Area = 502sqm
- Annual Average Water Yield = 315400ℓ (Water Harvesting)
- Annual Average Water Demand = 274700ℓ (including irrigation = total +376sqm)
- Underground tanks = 6L x 5 = 30 cubic meters

Category	Value
Roof Area	502 sqm
Annual Average Water Yield	315400 ℓ
Annual Average Water Demand	274700 ℓ

**Soup Kitchen**

- Roof Area = 836sqm
- Annual Average Water Yield = 264500ℓ (Water Harvesting)
- Annual Average Water Demand = 159900ℓ (including irrigation of agriculture = total +118sqm)
- Underground jojo tanks = 6L x 3 = 18 cubic meters

Category	Value
Roof Area	836 sqm
Annual Average Water Yield	264500 ℓ
Annual Average Water Demand	159900 ℓ

**Skills Workshop**

- Roof Area = 836sqm
- Annual Average Water Yield = 525200ℓ (Water Harvesting)
- Annual Average Water Demand = 522000ℓ (including irrigation of agriculture = total +435sqm)
- Underground Cistern tanks = 6L x 8 = 48 cubic meters

Category	Value
Roof Area	836 sqm
Annual Average Water Yield	525200 ℓ
Annual Average Water Demand	522000 ℓ

**Dwelling Stage 01 Six Occupants**

- Roof Area = 316sqm
- Annual Average Water Yield = 198000ℓ (Water Harvesting)
- Annual Average Water Demand = 169800ℓ (including irrigation of surrounding courtyards = total +150sqm)
- Underground tanks = 6L x 3 = 18 cubic meters

Category	Value
Roof Area	316 sqm
Annual Average Water Yield	198000 ℓ
Annual Average Water Demand	169800 ℓ

**Dwelling Stage 02 & 03 Eighteen Occupants**

- Roof Area = 621sqm
- Roof Terrace Area = 330sqm
- Annual Average Water Yield = 413100ℓ (Water Harvesting)
- Annual Average Water Demand = 400700ℓ (including irrigation of surrounding courtyards = total +360sqm)
- Underground tanks = 6L x 7 = 42 cubic meters

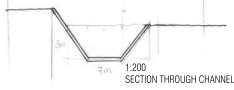
Category	Value
Roof Area	621 sqm
Roof Terrace Area	330 sqm
Annual Average Water Yield	413100 ℓ
Annual Average Water Demand	400700 ℓ

# Hydrology

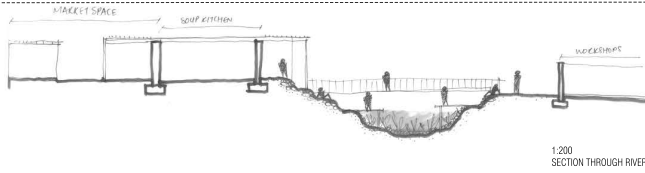
## Steenhovenspruit

EXISTING SITUATION  
Concrete Channel

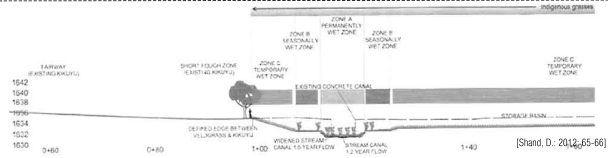
$$\text{AREA} = (7 \times 3) - (0.5 \times 3 \times 2) - (0.5 \times 2 \times 2) = 21 - 3 - 2 = 16\text{sqm}$$



PROPOSED SITUATION  
Naturalised River + Public Space



METHODOLOGY  
for Naturalising a Channelised River



EXISTING AREA + 20% (change in roughness coefficient "n") = NEW NATURAL AREA  
 $16\text{sqm} + 3.2 = \text{min. } 19.2\text{sqm}$

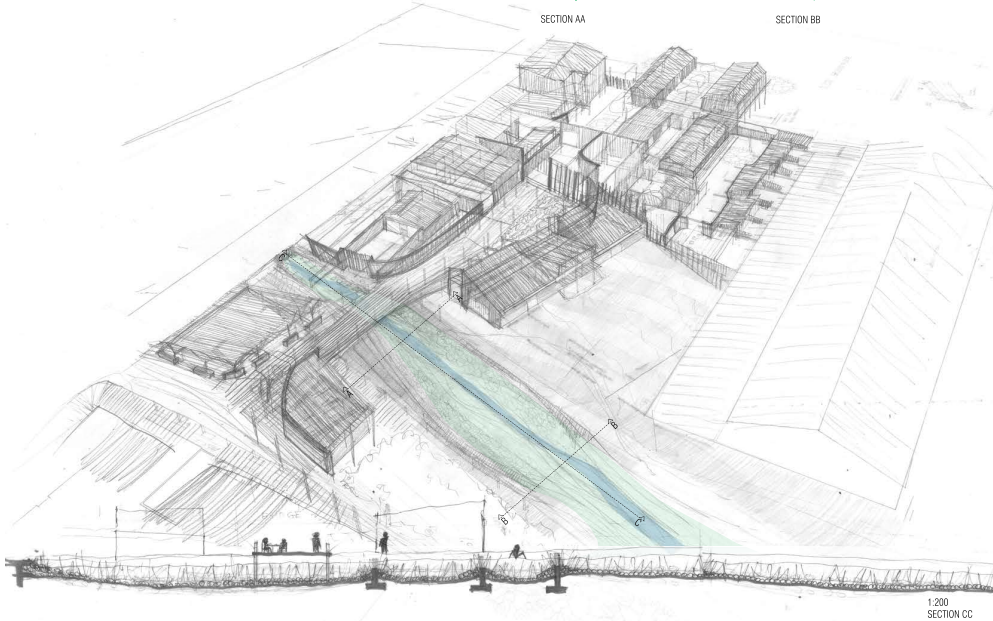
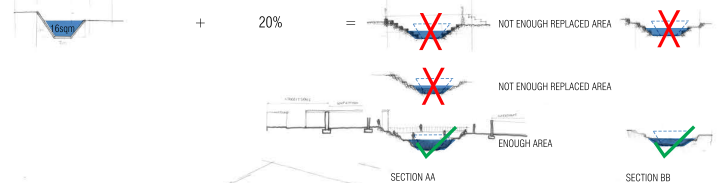


Figure 116: (far left) Water harvesting calculations (Patrick: 2016)

Figure 117: (left) Hydrology Presentation (Patrick: 2016)



# 3

---

## *Site Visits*

Site visit to Dr Florence Fabian Ribeiro Treatment Centre, in Cullinan, on 18 May 2016.

General observations were distilled from this site visit.

The documents shown in the following pages include:

- A letter from Dr Arthur Barker requesting that assistance be granted to help the student complete the design project
- The relevant documentation required by the Department of Social Development, signed and accepted, before the site visit took place



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

## department of architecture

ARCHITECTURE • INTERIOR ARCHITECTURE • LANDSCAPE ARCHITECTURE

ATTENTION: To whom it my concern

22 April 2016

Dear Sir/Madam

**MASTERS IN ARCHITECTURE STUDENT: Nicola Patrick (Student no: 11050952)**

The above-mentioned student is in the process of accessing information for her 2016 Master of Architecture (professional) degree project that deals with drug rehabilitation in Marabastad. I approved her research project in February of this year.

Can you please assist her with any relevant information, or access to facilities that she may need, to successfully complete her design project? Any information gathered will only be used for academic purposes and not for any commercial gain.

If you have any queries, do not hesitate to contact me.

Yours sincerely,

**Dr. Arthur Barker**

MProf coordinator, Archive coordinator and Senior Lecturer  
PhD(UP), MSc(dist)(Bartlett), BArch(dist)(UCT), BAS(dist)(UCT) NHDAT(cum laude)(Cape Tech), PrArch  
Department of Architecture  
Faculty of Engineering, the Built Environment and Information Technology  
+27 (0)12 420 5777 [Office]  
+27 (0)12 420 4542 [Secretary]  
+27 (0)12 420 5788 [Fax]  
+27 (0)72 987 7238 [Cell]

**APPLICATION FORM TO UNDERTAKE  
RESEARCH**

**DEPARTMENT OF SOCIAL DEVELOPMENT**

**DEVELOPMENT & RESEARCH  
SUB-DIRECTORATE: RESEARCH**

✉ Private Bag X 35, JOHANNESBURG, 2000  
75 Commissioner Street, M-Floor  
☎ (011) 355 7892  
☎ (011) 227 0130

- (a) All applications will be considered by the Sub-directorate: Research after which approval/disapproval letter will be issued to the applicant.
- (b) Representations may be directed to the Provincial Social Development Research Panel, in the event of non approval.
- (c) All applications must be submitted in English.
- (d) Applications must be accompanied by all requested documentation.

PERSONAL PARTICULARS OF THE APPLICANT (PLEASE PRINT)

1. Name (in full): Nicola Cecilia Patrick
2. Address: 14 Nama Toru  
258 Sprite Avenue  
Faerie Glen, Pretoria
3. Tel number (s): 0839971828
4. Name and address of employer: N/A (student)
5. Academic qualifications already attained, and where  
BSc Architecture at the University of Pretoria  
BHons Architecture at the University of Pretoria
6. Registration with a professional council (specify council and number):  
N/A (student)

DETAILS IF APPLICANT IS A STUDENT AT A TERTIARY EDUCATIONAL INSTITUTION

1. Name of institution: University of Pretoria
2. Full-time or part-time student: Full-time
3. Present course registered for: M(Arch) – Masters in Architecture
4. Name, address and telephone number (s) of study leader/supervisor:  
Dr. Arthur Barker, Boukunde Building (University of Pretoria)  
012 420 4542

5. Letter from the tertiary institution confirming the approval of the research proposal.  
Compulsory letter attached? YES

DETAILS OF RESEARCH

1. Attach a research proposal according to the following guidelines:
  1. Title of research: Re-integration of People and Place, Margabood.
  2. Problem statement (the nature of the problem, and the boundaries of the problem area).
  3. Need for / feasibility of the research.
  4. Goals and objectives of the study.
  5. Theoretical statement / hypothesis (as applicable)
  6. Research design (research method to be followed).
  7. Method of data collection, together with copies of any questionnaires (postal, individually or group-administered), interview schedules (administered by the researcher and / or assistants, or by telephone), statistical schedules, interview focus groups themes or focus group etc, as far as possible (If not immediately available, it should be submitted when ready).
  8. Respondents (description of the research population and sample / sampling procedures to be followed).
  9. Brief time schedule of the research, including when the Department's resources will be used, (see section 2 below) and the planned date for completion and publication of the research.
  10. How the result will be published and used.
  11. A copy of the final research report must be submitted to this department.
2. Particulars of official resources to be used and costing of those resources (i.e. support needed from the Department). These should be detailed in terms of material (Acts, bills, annual reports, clients files etc.  
Human resources: (Category of staff and man-hours to be spent by the official/s)
- (a) Records (specify act bills/annual reports):

(b) Clients (specify):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(c) Personnel (specify): One staff member to guide me on a supervised walk through the Facility.

\_\_\_\_\_  
\_\_\_\_\_

4. CONFIDENTIALITY

I (full name in print) NICOLA CECILIA PATRICK

Undertake always to follow the principles of confidentiality during my research.

I understand that this means the following:

- (a) The information made available to me is exclusive for use in my research.
- (b) I will not reveal any identifying particulars of any respondent in the research, or of any person whose particulars became known to me through official records. This applies to the publication of the research report results and any other means of communication.
- (c) Publications are subjected to the Department's approval.

Furthermore, I understand that I am solely responsible for implementing the principles of confidentiality in my research. If these are breached in any way I, and not the Department, will be held responsible for any legal action.

SIGNED AT 14:35 ON THIS 22nd

DAY OF APRIL 2016

WITNESSES

- 1. Full name: SANDEEP NICHIA Nichia (PRETORIA)
- 2. Full name: SUZETTE VAN DER WALT [Signature] (PRETORIA)

Address: .....

5. UNDERTAKING

I, Nicola Cecilia Patrick (full names) agree to undertake this research according to any conditions the Department may see fit to impose.

I also agree to undertake the research without any costs to the Department that have not been approved. I agree to assume full responsibility for the research. Should it be necessary to deviate from the research programme or to terminate the research, I will inform the Department promptly.

I commit myself to a six monthly progress report which will be submitted to the Department through my supervisor.

I agree to furnish the results and a copy of the research publication to the Department after completion of the research.

[Signature]  
SIGNATURE OF RESEARCHER

NICOLA CECILIA PATRICK  
FULL NAME

DATE: 22 APRIL 2016

[Signature]  
SIGNATURE OF STUDY LEADER/SUPERVISOR

DR. ARTHUR BARKER  
FULL NAME

DATE: 22 APRIL 2016