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Nkosi, SGP

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Hybrid Care

Reimagining Healthcare:
Integrating Traditional and Western Medicine
into a Hybrid Medical Centre in Johannesburg,
South Africa

SGP Nkosi 832094

21 February 2021





School of Architecture & Planning
University of the Witwatersrand
Johannesburg, South Africa

Supervisor: Ludwig Hansen
This document is submitted in partial fulfilment of the Master of Architecture (Professional) degree at the University of the Witwatersrand, Johannesburg, South Africa.

21 February 2021

Declaration

I, Pearl Nkosi, am a student registered for the Master of Architecture (Professional) course in the year 2020. I hereby declare the following:

I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
I confirm that ALL the work submitted for assessment for the above course is my own unaided work except where I have explicitly indicated otherwise.
I have followed the required conventions in referencing the thoughts and ideas of others.
I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this in not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

Signed:  21| 02 | 2021

Sifikilenkululekweni, Grace, Pearl Nkosi

Dedication

I dedicate this work in honour of my grandmother, Grace Thembeka Ngxiki. Who always believed in my ability to be successful in all my endeavors.

“Like sands through the hour glass, so are the days of our lives”

.

Acknowledgements

Praises to Elohim, for His blessings and presence in all my works.

I would like to express my special thanks of gratitude to everyone who supported this thesis throughout the journey. To my supervisor Ludwig Hansen for his sound advice. To Dr. Sechaba Maape for his time, and knowledge that no amount of research could have helped me attain. To my loving sister, Busisiwe Nkosi for the countless times you have pushed my writing. To my family and friends, thank you for your support, motivation and prayers, which has helped me throughout my years of study.

Abstract

Traditional Health Practitioners (THPs) are in abundance in both the urban and rural areas of South Africa. According to the World Health Organization there are over 200 000 estimated indigenous traditional healers in South Africa compared to 27,000 Western-trained doctors (Mothibe, and Sibanda, 2019). However, the roles of THPs in the formal health sector remain both undefined and insufficiently formulated (Street et al., 2018).

South Africa is historically known for its traditional and spiritual rituals of healing which were used long before biomedical systems were introduced. With the rise of technological and modern medical facilities, the country has made strides in its development of medical care systems in the past years. However, the current medical facilities are prototypes of western systems that don't reflect South Africa's rich culture or history. There is an unbalanced, one-sided health system that does not integrate traditional healthcare practices which are presently celebrated by a large population of the country.

The question arises of how a Hybrid Health care facility which identifies with an integrated African Health care programme can be establised. What would this facility look like?

My research report will focus on the collaboration of biomedical facilities and traditional medical facilities in South Africa. It aims to identify the individual roles these healing systems play in their environment, architectural language and its people. It looks at ways to create a Plural Healthcare System that encourages sustainable healing and social integration in its cities. It additionally, highlights the importance of including traditional healthcare practices that have been marginalised in the healthcare sector to enrich the possibilities of what a South African healthcare centre could be.

The research also aims to explore how the symbiosis between western and traditional medicine can establish a more sustainable environment?

The objective is also to investigate, through architectural design, whether a hybrid healthcare centre can mitigate an approved integration of environmental considerations and architectural expression and functionality.

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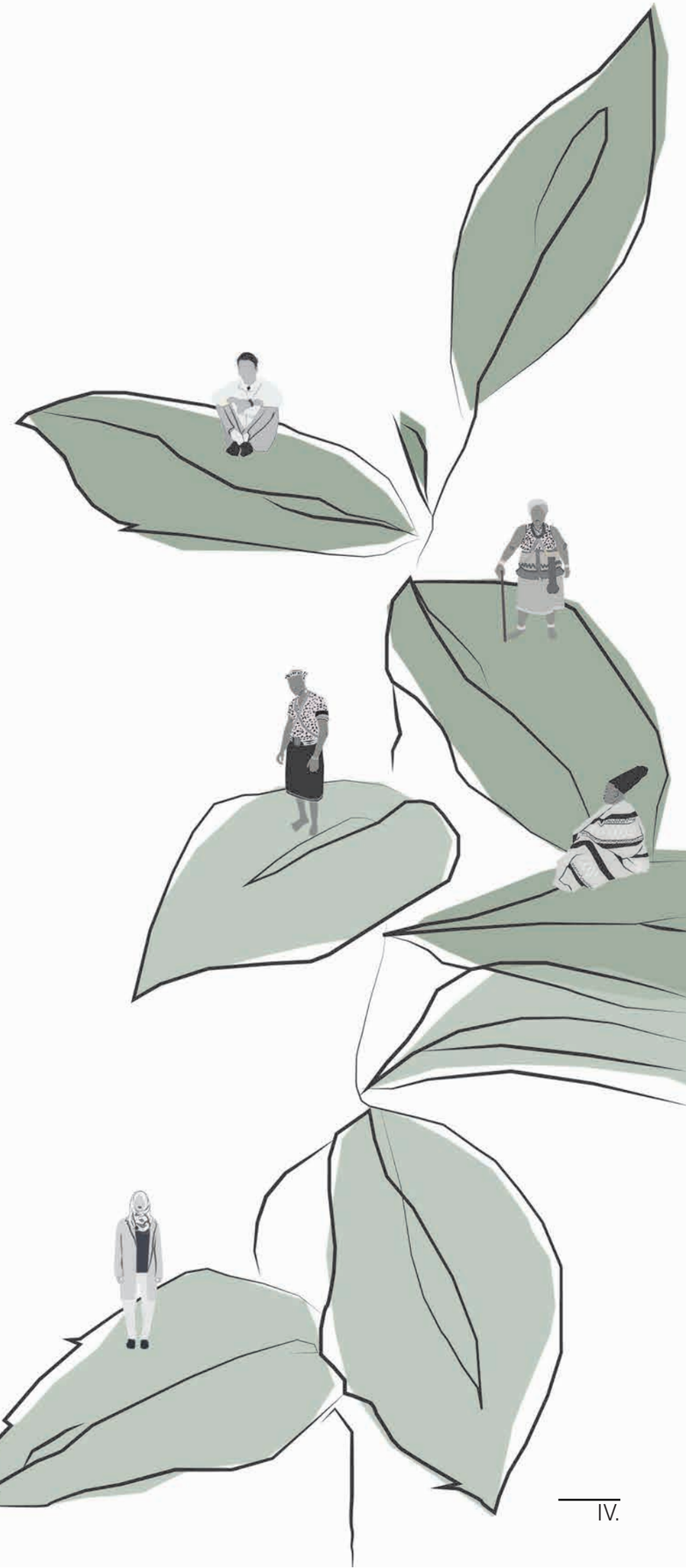
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“Theoretical Research”



01

“Research Background”

1.1. Lexicon

Hybrid medical system :

The product of two different medical practices. In this case a combination of Western and Traditional healing practices.

Traditional medicine :

(In this study) Health practices incorporating plant, animal or mineral-based medicines. Also known as Muti in IsiZulu. (Danisa, 2014)

Modern medicine :

This refers to the conventional healthcare based on the “Western model” of evidence-based practice for diagnosing and treating disease (Segen’s Medical Dictionary, 2011).

Medical Practitioners :

This will refer to a person who is skilled in the science of medicine, i.e. doctor, a physician or surgeon (Farlex clipart collection, 2003-2008.)

Biomedicine :

Also known as western medicine or mainstream medicine; is recognised as medicine dealing with the application of the principles of biology and biochemistry to medical research or practice (Dictionary of the English Language, Fifth Edition, 2011).

Plural Healthcare :

The collaboration of different health systems (Moshabelani, Zuma, and Gaede, 2016).

Cultural practices :

The representation of a culture, especially dealing with traditional or customary practices (IGI Global).

Healthcare symbiosis :

The living together of two dissimilar characters or systems in a mutually beneficial relationship (Medical Dictionary, 2007).

Herbalist :

These are Healers that work with Traditional medicines (TMs) including herbal medicines, which may be herbs, herbal materials, herbal preparations and finished herbal products (Mdakane, 2008).

Inyanga :

(In IsiZulu language)
These are Healers that use technical skills to make medicinal cure, they use Traditional medicines (TMs) including herbal medicines, which may be herbs, herbal materials, herbal preparations and finished herbal products.
(Mdakane, 2008).

Traditional Health Systems :

A traditional medicine discipline including indigenous herbalism and African spirituality, typically involving diviners, midwives, and herbalists.

Healthcare Integration :

The collaboration of biomedicine and traditional medicine facilities and services.

Place making :

Creating an environment that users can identify with on both physical and metaphysical levels (Mdakane, 2008).

Urban Herbalism :

The migration of traditional herbalism into the metropolitan, caused by urbanisation (Dauskardt, 1990).

1.2. Key Abbreviations used

WHO	:	Worlds Health Organisation
THP	:	Traditional Health Practitioner
IKS	:	Indigenous Knowledge Systems
WITS	:	University of the Witwatersrand
NDoH	:	National Department of Health
TM	:	Traditional Medicine
WM	:	Western Medicine
ATM	:	African Traditional Medicine
SA	:	South Africa

1.3. Introduction

The National Department of Health (NDoH) has recognised that there is an ingrained historic bias towards Western/allopathic healthcare in South Africa (User, 2016). For centuries traditional healthcare has been recognised as an integral part of the history and culture of South Africa, however, with the rise of science-based medicine, its position in health care services has shifted towards a stigmatised and mistrusted approach to healing (Street, 2016). After the outcry of many traditional healers and users of traditional medicine, the government decided to commit to the integration of Traditional Healers to strengthen and promote traditional medicine as stated in the Section 21 of the Traditional Health Practitioners Act, 2007 (Act No 22 of 2007) as published in the Government Gazette No 39358, Notice No 1052 of 3 November 2015 (User, 2016). Although the government has taken steps towards the official recognition and institutionalization of traditional medicine and its practices, it still lacks in the implementation of providing architectural systems that support these claims (User, 2016).

With the rise of healthcare costs across the globe, the use of traditional medicine (TM) in developing countries such as South Africa has increased since the 1990's. Classified as both a developed and developing country, South Africa makes use of a pluralistic healthcare system, in which it considers western medicine practice and other non-conventional health systems such as traditional medicine practice as accepted ways of healing. The number of THP's in South Africa are estimated to be 200 000 compared to 27,000 Western-trained doctors. And in 2009, it was estimated that there were 500 traditional healers for every 100 000th person compared to 77 medical doctors for the same population group (Fig. 1.1) (Mothibe, and Sibanda, 2019).

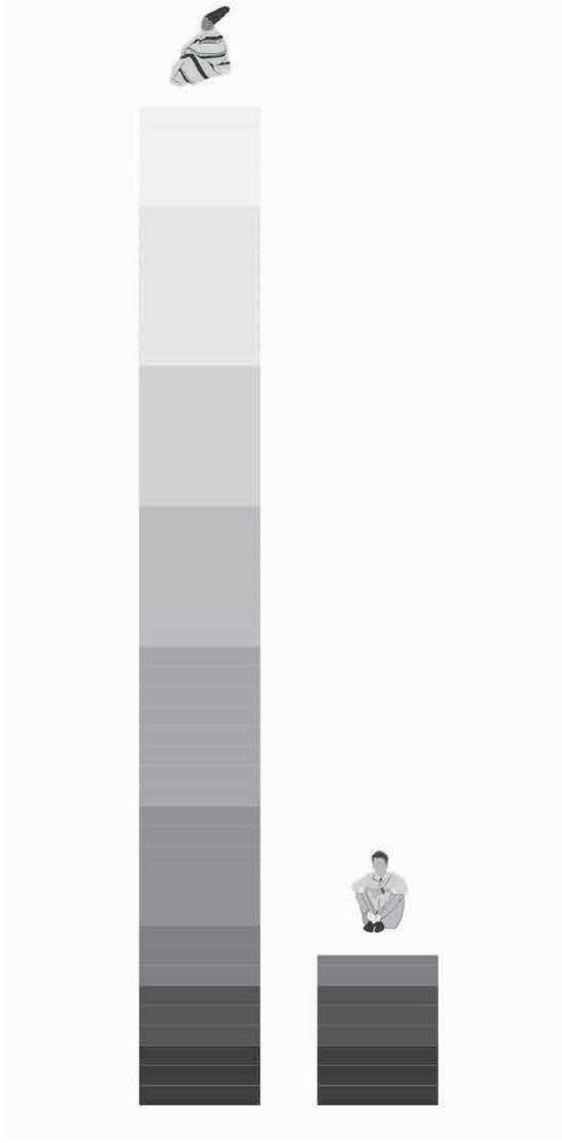


Fig. 1.1 Graph representation of TM practitioners to WM practitioners in SA. (Illustration: By Author, 2020)

One would actually assume that traditional healers would receive more attention. Equality would still be unfair, based on the numbers. As the government claims to be aiming for parity in this regard there are still many steps required to achieve this. One obstacle preventing this is the architectural responses to both healthcare systems. Each system upholds their own ideologies concerning what makes good healthcare and healing. The world view of the biomedical paradigm is science-based while on the other hand the traditional paradigm uses indigenous knowledge systems (Moshabelani, Zuma, and Gaede, 2016). These two approaches are both valid and have the potential to create a better healthcare approach that resonates and identifies with South Africa's rich culture by way of symbiosis. By integrating these two seemingly opposing systems into one space could be mutually beneficial for both practices. The learning and sharing of knowledge could uplift the current South African health department and create a new healing prototype that is well integrated and beneficial for all in the country.

An important aspect of healing is recognizing that apart from verbal and medicinal therapy, the environment in which health care happens plays a huge part in the impact of what happens to human life.

Acknowledging the relationship between western and traditional health systems, could create a new way of living, healing and occupying space. There's an opportunity to create a hybrid medical centre which speaks about well-being beyond than just the human body through the symbiosis between western and traditional practices.

The aim of this thesis is to explore the possibilities of a Hybrid Medical Centre in Johannesburg, South Africa and how the collaboration between Traditional and Western Medicine could create a new architectural typology in an urban context. The merging of these opposing systems will encourage a holistic health care system, where these two disciplines of medicine can co-exist in one National Health Care System (Fig 1.2).

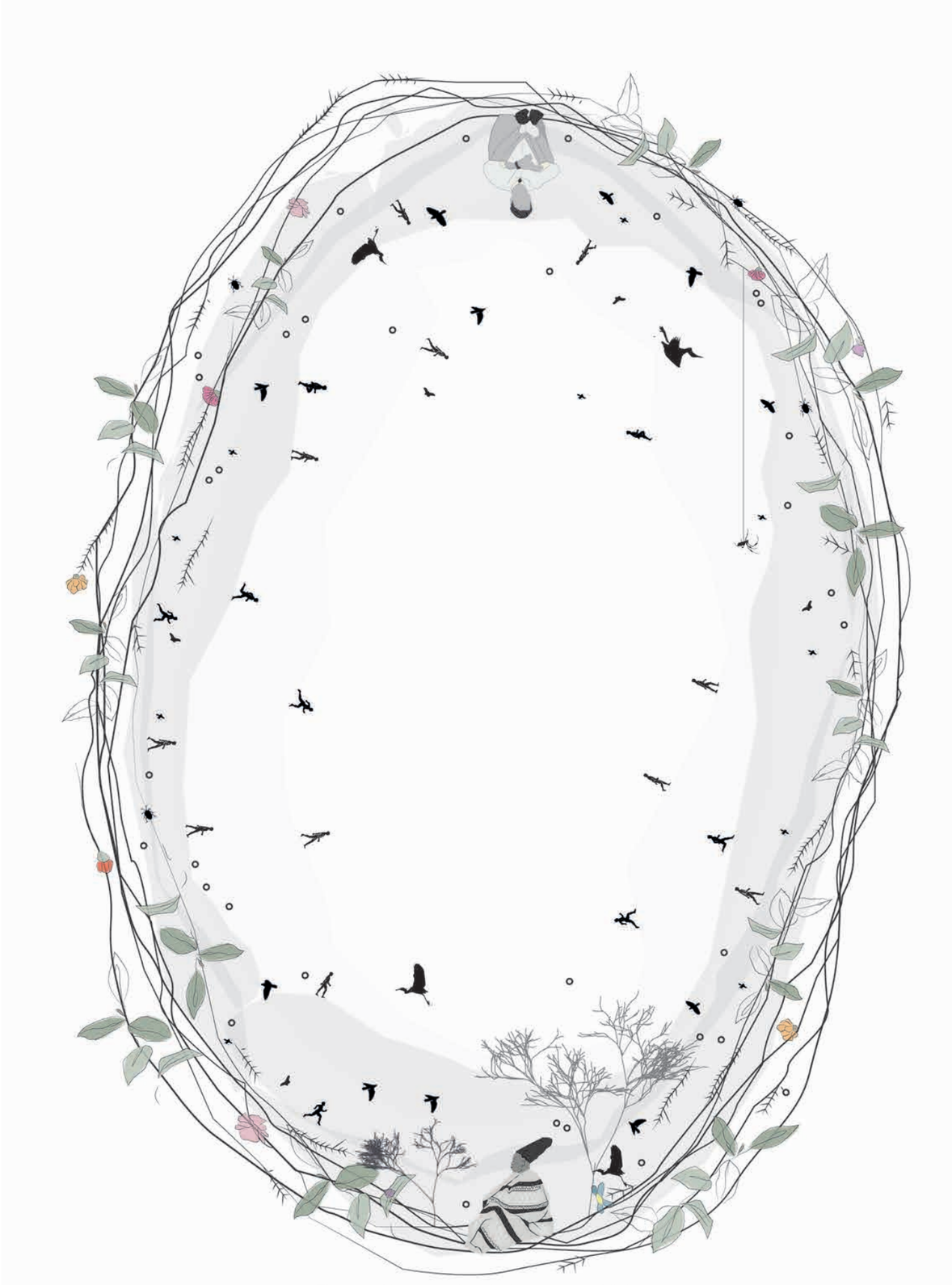


Fig. 1.2 Abstract visual of new way of living.
(Illustration: By Author, 2020)

1.4. Research background: How might we Heal together?

1.4.1.

Current practices of healing in the Traditional Culture in South Africa

South Africa is one of the few countries in Africa recognised for its diverse unity. While its people are diverse in language, heritage and culture, this social cohesion has not emerged in its health care system (Moshabelani, Zuma, and Gaede, 2016). Despite sharing a land and a nationality, the people of South Africa continue to have differing world views, which often lead to tension and misconception. A result of this is the manner in which traditional practice is perceived.

Research studies have shown that traditional healing has been practiced for centuries in South Africa. THP's have been a long-standing component of healthcare providers in the country and are recognised as one of the primary health care benefactors. It was only after 1994 that the prospect and possibility of formally integrating it into the public health system was considered (Zuma et al., 2016). More than two decades later, discussions on how to integrate the system are still underway, leaving them marginalised in the healthcare environment. Though healing mechanisms have changed and adapted over time, traditional practices are still recognised in the healthcare system amongst most South Africans. The use of traditional medicine is no longer confined in rural areas alone but has also integrated into the urban and semi-urban environment because of the influx of people moving into the city for better job prospects. Despite the advantages of western medicine there is still a high demand for traditional medicine. It has been corroborated that the high demand for traditional medicine was caused by swift urbanization, a rise in HIV infections, the costliness of western health care and high unemployment.

Traditional healers registered under the South African Traditional Health Practitioners Act include, Sangoma (Diviners), Izinyanga (Herbalists), Ababelekisi (Birth Attendants) and Iingcibi (Traditional Surgeons) (Van Niekerk, 2012).

Traditional practice includes a diversity of health systems including the use of plant-based medicines, animal or mineral based medicines, spiritual therapies and other physical techniques (WHO, 2001). The wide range of practices it represents makes it hard to be defined, especially at a global scale. The aim of this research project will be solely centered around the physical and cultural practice of healing. One of the aspects on which traditional and medical practitioners agree is the use of plants for healing, and it is through this fact that they can be compared and contrasted. Through collaboration, these two systems can break new ground by creating a healthcare system that reflects South Africa's rich sociocultural heritage.

Role and responsibilities of Izinyanga:

Unlike medical practitioners, most THP's are 'called' by their ancestors to become healers. A 'calling' can be defined as a strong inner impulse towrds a particular course of action, usually from a divine influence. Herbalists however, are inducted into the practice through an apprenticeship model. Once the candidate is familiar with the path they have to take, they would go through an intensive process of learning about traditional medicines and practices. (Moshabelani, Zuma, and Gaede, 2016). Herbalists are required to follow an intensive apprenticeship to learn about the use of plants, herbs, animal or mineral based medicines. The apprenticeship is conducted by an existing herbalist who will guide the student into his role as a healer (Fig. 1.3) (Zuma et al., 2016). Both qualitative and quantitative methods of the practice are still lacking and cannot be measured against the western system (Zuma et al., 2016).

Current contribution in the health sector:

Herbalists are known to be interactive with patients with highly personalised prescriptions. This differs considerably from the expert-driven and systematic approach of bio-medical practitioners, who prescribe treatments based on scientific and laboratory research. There are three key principles that explain why THP's have such a high and accommodating presence amongst their people and communities. Firstly, THP's ensure patients are satisfied that their symptoms are taken seriously and all their fears are not ridiculed. Secondly, THP's examine the patient as a whole, considering that the mind and body are one. Thirdly, though they treat patients as an individual, they see the importance of the family being involved in the treatment process. This demonstrates that the services provided by a THP go way beyond the prescription of medicinal herbs for physical illness, but focus on a holistic healing experience (Moshabelani, Zuma, and Gaede, 2016).



Fig. 1.3 Apprenticeship model.
(Illustration: By Author, 2020)

1.4.2.

Current practices of healing applied in Western Medicine in South Africa

The history of western medicine has shown that some advances in biomedicine are linked to the footprint of traditional medicine (Moshabelani, Zuma, and Gaede, 2016). Its roots can be traced back to primitive times during which there was widespread use of herbs, plants and animal parts for healing. Today western medicine is recognised as a scientific approach to healing, which means it uses scientific research to diagnose illnesses (Gray, 2010). Healing in the western culture is orientated around the body structure and its systems which gives a physical and biological explanation for health (Lloyd, 2019).

Many of the issues in the South African medical environment can be traced back to the Apartheid period (Maphumulo, & Bhengu, 2019). Western medicine in South Africa was initially introduced as a healthcare system that the colonial authorities controlled. It largely remains the primary urban medical system that is economically and geographically inaccessible to many people, especially those in rural surroundings (Dauskardt, 1990). What is accessible to those communities is usually inadequate public facilities and services. Though there have been huge steps to improve the quality of healthcare in the country since 1994, there are still inequalities within health care provision. There are also inequalities in the distribution of healthcare workers between the public and private systems. Additional issues include poor-quality healthcare delivery, inadequate infrastructure, insufficient equipment access, poor disease control and prevention methods (Maphumulo, & Bhengu, 2019).

Even though most government funds and resources goes into the provision for western medicine, it does not provide all South Africans with good healthcare services. The current public health sector, which serves 84% of the South African population is failing many communities with its poor and negligent health services. (Fig. 1.4) (Maphumulo, & Bhengu, 2019). Meaning, the majority of the country is provided with poor-quality healthcare. With this in mind, it is clear that western medicine still needs to make strides in healthcare provision in South Africa, and through rehabilitation and developing an all-rounded system to healing it can break spatial inequalities and improve socio-economic challenges. With the high levels of poverty, unemployment and inequality, the current healthcare system needs to consider how it can provide good health care to those who are unable to pay (Latif, 2010). It is important to recognise that modern medicine has uplifted South Africa's health care system, through advances in treatments for HIV and AIDS and other illnesses, but lacks when it comes to the quality of medical customer services which traditional medicine has managed to provide for its community. Through trading and sharing resources, research and facilities both modern and traditional medicine can provide better healthcare systems for all in the country.

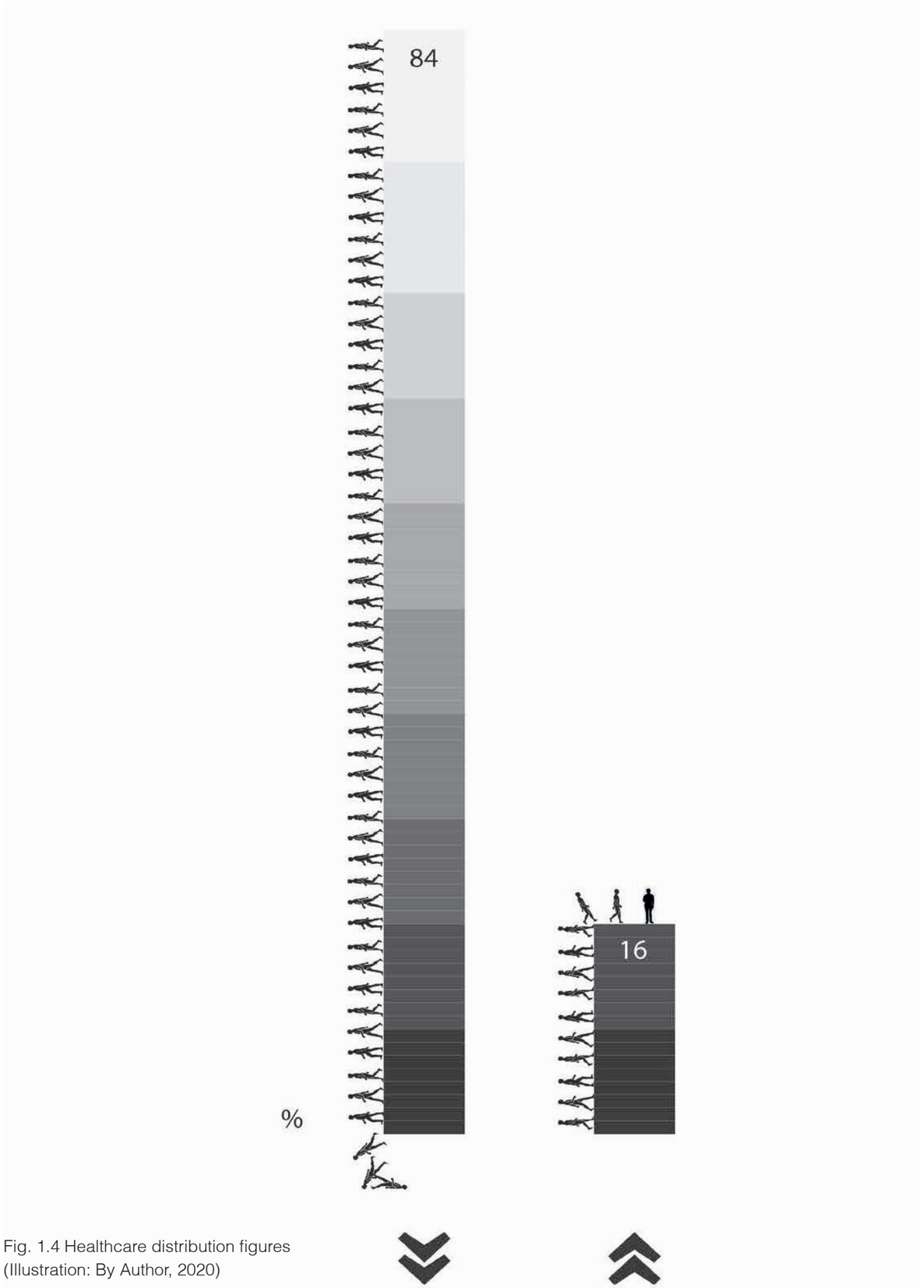


Fig. 1.4 Healthcare distribution figures
(Illustration: By Author, 2020)



Fig. 1.5 Pie chart visual of TM usage amongst Black population. (Illustration: By Author, 2020)

1.4.3.

Sustainability: African Traditional Medicine in South Africa

African Traditional Medicine (ATM) was used for centuries by Africans for the treatment of diseases long before the emergence of biomedicine (Mothibe, and Sibanda, 2019). Though traditional medicine (TM) is no longer the primary healthcare system in South Africa, millions of people still make use of its methods and treatments. It also continues to be a major economic force in the country. The World Health Organisation (WHO) has been at the forefront of TM matters as far back as 1976, which led to their plea in 2000 for members of states to develop policies and legislations on TM. The WHO urged member countries to incorporate their traditional methods of using medicine in their daily healing regiment in order to achieve the most efficient health system for all regions (Mothibe, and Sibanda, 2019). It was recognised that this system would work most effectively in developing countries, as this would increase the availability and affordability of healthcare resources for the poorer populations (Mothibe, and Sibanda, 2019).

Though the demand for TM has dropped, its numbers are still high. A large proportion of the Black population makes use of the dual healthcare system where both traditional and conventional medicines are on demand (Mothibe, and Sibanda, 2019). It is estimated that 72% of the Black population makes use of TM which translates to 26.6 million consumers. In that gap the average frequency of use per consumer is 4.8 times per year, with the consumption of 175 grams of plant material per treatment. These consumers were made up of a diverse range of religions, ages, education levels and occupations (Fig.1.5). The diversity of consumers demonstrates the variation of users across most sectors of the black population and that TM is not restricted to poorer, uneducated and rural surroundings (Mander et al., 2007).

Although traditional medicine is not considered a primary source within the South African healthcare system it is regarded as a vital healthcare practice across the country.

It is desired by many and recognised as a necessity in treating a range of healthcare problems that western medicine does not treat. A study was conducted and identified that 84% of Durban patients made use of traditional medicine and in that percentage 97% of users made that choice intentionally and not as a result of access and affordability. It is evident that traditional medicine is not inferior to western medicine regardless of its positioning in the healthcare department (Mander et al., 2007).

In South Africa the trade for traditional medicine is estimated to be worth R2.9 billion per year, representing 5.6% of the National Health budget. There are 27 million consumers and the trade continues to be vibrant and wide-ranging across nations. There are over 140 000 herbal traders in South Africa, mostly women in rural areas. The plant trade is a large contributor to the rural industry and is recognised as a good business incubator. However, the supply of plant material and medicines is not a sustainable one. With over 771 species of plants traded on a regular, some popular plant species are becoming locally extinct and are being traded at extremely high prices. All the plants are harvested from the wild making them exclusively attainable to landowners and an expensive trade in the urban market. Most recent research and documentation are focused on developing and discovering new novel drugs instead of improving harvesting, production and processing techniques, storage and treatment technology (Mander et al., 2007).

Approximately 20 000 tonnes of plant material are consumed each year, most of it being indigenous. Most indigenous plants are harvested from grasslands, forests, woodlands and thickets in the eastern parts of South Africa each year. Only a few tens of tonnes are cultivated per annum. During plant harvests, 86% of the plant parts will result in the death of the entire plant. This has a great impact in the sustainability of herbal farming and its supply. Plant harvests have increased up to 48% in travel time between 1990 to 1998, this is also demonstrated through peaked costs of especially scarce species such as the Salacia kraussii. Access to popular plants has been an issue for 92% of traditional healers in Mpumalanga, while 60% of traditional healers in KwaZulu-Natal find it to be a scarce luxury. Durban and Johannesburg street markets have resorted to plant imports form Mozambique and Swaziland with at least 40 tonnes of Warburgia being traded into South Africa (Mander et al., 2007).

The majority of TM trade occurs in informal markets, where sales are conducted through R5 to R10 units. Approximately 74% of harvesters, traders and healers are women, and of these 80% are in rural areas and 20% in urban. The remaining 26% are men with a 50/50 split between rural and urban areas. It is evident rural women are a predominant role player in the market and this is an important livelihood for these women as medicinal plants are one of the few low-volume high-value natural resources to generate rural income (Mander et al., 2007).

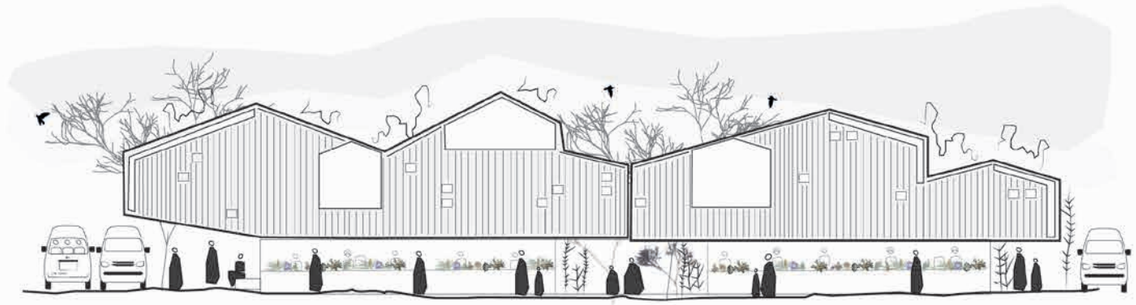
The plants are sold in various forms, from raw materials to partially processed remedies. Dependent on the herbalist or trader the medicine can come in a complex mixture or simple form. Medicine can be sold in a dry powder or liquid mixture. It is usually packaged in reused newspaper or liquor bottles; the hygiene of the product is unknown and would probably vary from healer to healer.

Most of the trade happens on pavements in urban areas, near public transport nodes, and informal markets. The condition of spaces where these plants are sold has sparked many concerns with the Department of Health. In terms of sustainability, the current conditions could be improved by refining street market infrastructure and the promotion of commercial plant farming in urban areas where this trade takes place. The image on the right demonstrates an architectural approach that could be implemented to improve the current poor structural forms occupied by TM. The refined structure can be used as a tool to uplift the service through better building forms, while still maintaining the vibrance of the street culture. (Fig 1.6)(Mander et al., 2007).

Clearly, public perception of the TM industry needs to be shifted so that more people can benefit from what it has to offer. Despite the large quantities in which traditional medicines are consumed, there is little support and progression for the industry and its practitioners. The utilisation of traditional medicine is omnipresent and growing. Apart from this large consumption there is little support and progression of the current industry and its role players from the public sector (Mander et al., 2007).



Current poor structural form



Refined structural form

Fig. 1.6 Comparison between existing and new design approaches for TM market.
(Illustration: By Author, 2020)

1.4.4.

Healthcare Symbiosis: Current state of integration between traditional and western healing

There have been recent conversations regarding the integration of traditional healing and biomedical systems globally. From Practitioners to Academic researchers, explorations on the possibilities of the collaboration and what that could mean for society have been in progress. Most literature has focused on patients seeking mental healthcare, HIV and AIDS services and other chronic health issues (Moshabelani, Zuma, and Gaede, 2016). The research has demonstrated that the use of traditional healing would mostly be beneficial for psychiatric and spiritual treatment, while the use of western healing would deal better with the surgical and medicinal treatments. Though this could be potentially challenged there have been steps to visualise the possibility.

The relationship between the two is currently marked by mistrust, conflict and tension which compromises the efforts to build bridges between traditional and biomedical systems (Moshabelani, Zuma, and Gaede, 2016). Biomedicine is recognised as culturally free, while traditional medicine is considered to be an impetuous medical practice. The integration of the two healthcare systems will be a complex one, but is still a workable issue (Mokgobi, 2013). It could be potentially dangerous if the two practices do not communicate or share any knowledge regarding the use of remedies that they unintentionally or simultaneously administer for the same illness on the same patient. The two systems will have to resolve a few misconceptions and challenges along the way before any integration can take place. Such as the perception that THP's make use of methods that may be illegal and harmful to their patients, and the belief that THP's validate inappropriate traditional healing practices. Additionally, they have been accused of unhygienic practice which could cause further health risks for patients.

Likewise, the western healing system is strained and insufficient in dealing with various illnesses due to the scarcity of healthcare workers and medical resources. There's also a financial concern regarding how the NDoH would budget for both these practices considering its currently overstretched with underpaid workforce. (Mokgobi, 2013).

There are several barriers and concerns about these two healthcare systems integrating, such as the high occurence of people consulting with both traditional and biomedical doctors for treatments without disclosure of use from one doctor to the other, resulting in more health complications. Some other concerns include religious disagreements, prestige, and competition for business. The collaboration between the two systems has been well implemented in some other countries, such as, the Khoo Teck Puat Hospital in Singapore discussed in chapter 4. This facility is a hybrid of traditional medicinal plants and science technology, the building is used to encourage a more sustainable and holistic path of healing people. It has an estimated 700 plant species in the vicinity of the hospital (Yen, 2012). The healthcare workers have shown positive attitudes and perceptions of what these two systems can do together and that's a lesson for South Africa in its endeavour to integrate.



"How might we heal together?"

Fig. 1.7 Thinking beyond the margin: rethinking a sustainable way to healing. (Illustration: By Author, 2020)

1.4.5.

Healthcare Architecture: current state of city architecture accommodating traditional medicine

Healthcare architecture has a wide range of building types, ranging from small rural clinics to large hospital blocks; from the general hospital to specialised hospitals all providing a medical service and/or research. Large scale hospitals tend to be very complex building types, accommodating a wide range of services and functions; from outpatient facilities, accident and emergency facilities, operating theatres, laboratories, radiography, administration, food services and housekeeping, etc. With the diverse range of needs and requirements for comfortable and spacious function, buildings tend to be more robustly designed, with no attention paid to creativity and personality. The current large healthcare facilities also consume significant resources. From costly building budgets, consumption of energy and water to large quantities of clinical waste on a daily basis. Most importantly the current system does not meet any social engagement within their communities (Yen, 2012).

Contrary to western medicine healthcare, the development of an architectural building typology suited to the requirements of traditional medicine has not been established. The current representation of TM architecture is seen through the adaptive reuse of existing infrastructure. An example of this is the Kwa Mai-Mai market discussed in chapter 4, which is accommodated in what used to be a stable for horses (Pilane, 2016)

The issue with these remodelled structures is that they are not functionally designed to accommodate these practices and programmes, consequently, making them inadequate to host such activities (Mdakane, 2008). However, the Warwick herb market, in Durban is unparalleled by any other herb market in South Africa. The market has made great strides in representing the work and practices of traditional healthcare through its use of urban spaces co-created by informal workers and the Municipality. The market is inclusive and has better working conditions for the traditional healers and herb sellers (Fig 1.8) (eTafuleni, 2019). Though the government has made an effort to improve the traditional practice environment for the market, it has in fact not engaged in the development of the country's indigenous healthcare sector and the contemporary architecture field still stands neglected (Mdakane, 2008). There is a need for spatial planning and design originally intended for THP's to be implemented. This study, is therefore aimed at introducing an appropriate architectural response and spatial planning for THP's to work alongside western practitioners to further improve the current healthcare and environmental challenges in South Africa.

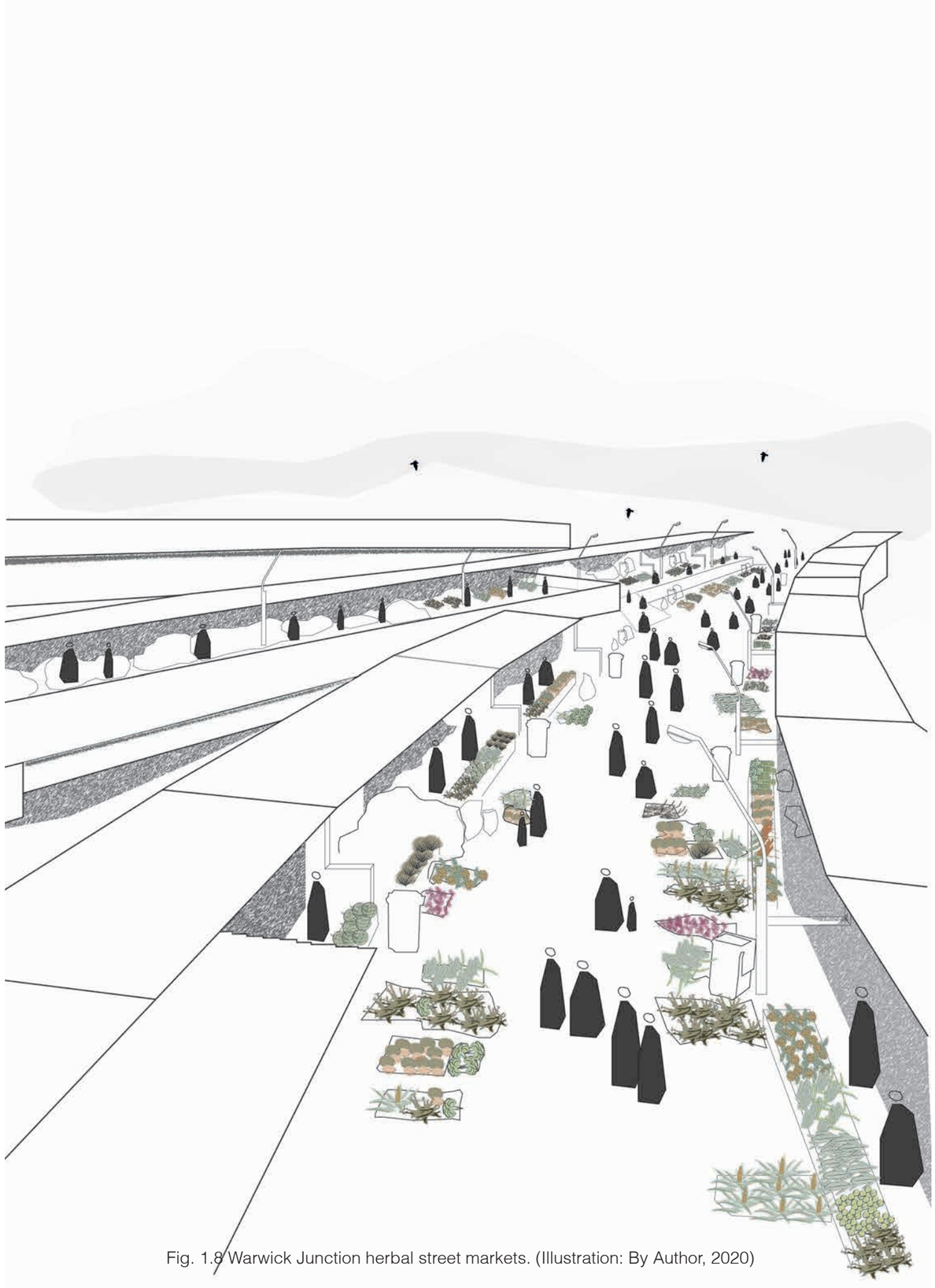
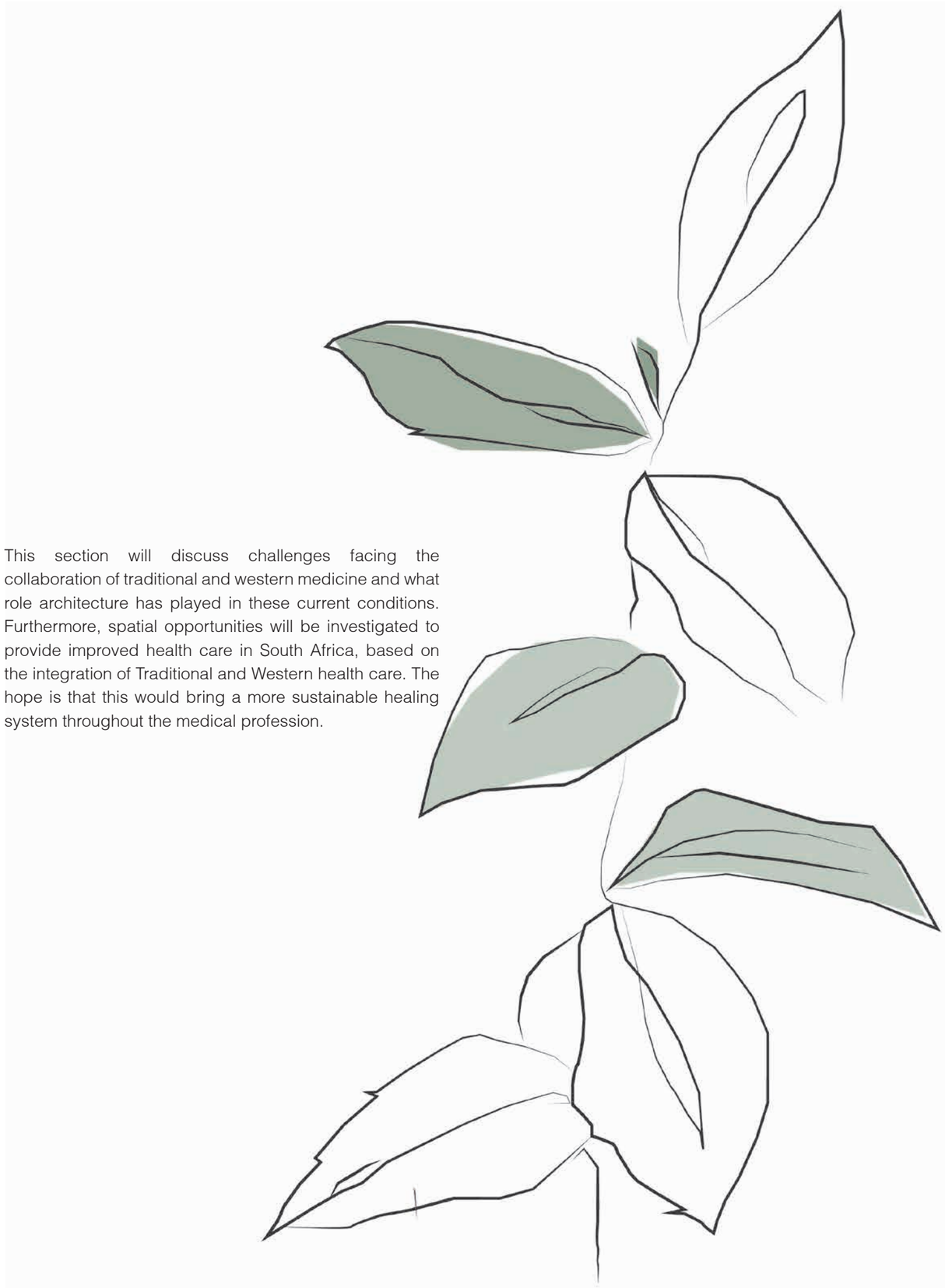


Fig. 1.8 Warwick Junction herbal street markets. (Illustration: By Author, 2020)

1.5. Statement of the problem

This section will discuss challenges facing the collaboration of traditional and western medicine and what role architecture has played in these current conditions. Furthermore, spatial opportunities will be investigated to provide improved health care in South Africa, based on the integration of Traditional and Western health care. The hope is that this would bring a more sustainable healing system throughout the medical profession.



1.5.1.

The influence of Apartheid in urban herbalism and the Concept of Decolonising Healthcare Architecture

Traditional practices were the only source of healthcare in South Africa for centuries (Latif, 2010). Traditional healing use to be practiced primarily in rural surroundings (Mokgobi, 2013). Western medicine was first introduced in South Africa as a fundamental component of colonization (Dauskardt, 1990). It was not introduced onto a 'clean slate' of healthcare provision in the country. Western medicine was used to increase hegemony within the South African medical environment to take further control of the socio-economic factors in the country. Colonial and post-colonial authorities used ideological and technological ties of western medicine to discredit traditional medical systems through tactics such as a backlash system, which included the exclusion and undermining of traditional medical systems in the national medical legislation. Parliamentary discussions around healthcare legislations showed reluctance to fully prohibit the continuation of traditional healing practices for several reasons, one of which was the possible resistance from the black community to use western medicine. This new health system could only go so far as the colonial government lacked the resources to provide adequate healthcare alternatives for the black community. With the persistence of traditional practices, especially herbalism, traditional healing systems continued to be a major healthcare alternative in both urban and rural communities (Dauskardt, 1990).

Early urbanisation in South Africa was enforced by the incoming cheap mine labour into Johannesburg. Most people were pushed out of their homelands into the migrant labour system in the metropolitan urban areas. With the forced migration there was a large growing permanent population of urban blacks flooding into the metropolitan to meet the mining and manufacturing labour requirements.

This allowed rural migrants to continue traditional customs and activities in the city. This resulted in an increased use of traditional herbalists and the demand for traditional herbalism in cities and the mining compounds. Miners used to seek the help of herbalists to cope with stressful underground work conditions in the mines. The use of traditional herbalism quickly became a deeply rooted aspect of urban life and contributed to the development of an African urban culture in the Witwatersrand. The emerging trends led to many herbalists in Johannesburg occupying permanent residency for both herbal medicines and consultation rooms (Fig 1.9)(Dauskardt, 1990).

Due to the growth of urbanisation, the use of traditional healing and its trade became a commercialised activity. During the 1940's the rise of consumerisation in urban herbalism brought with it a competitive response from western medicine. Advertising campaigns and other media outlets were used to expose black people to western patent medicines in order to emphasis the superiority of western medicine. It is evident that Apartheid's spatial patterning contributes to the current form of urban herbalism and its locational pattern in Johannesburg (Dauskardt, 1990). The competition amongst health practices has led to a segregated health system that does not truly reflect the current South African spatial and socio-economic identity.



Fig. 1.9 The distribution of stores occupied by African herbalists to medical practitioners in Johannesburg, 1960.

1.5.2.

The Need for “place-making” for traditional medicine practitioners in cities

Place-making is an important aspect that has been lost in the TM sector. The current spaces occupied by THP’s in urban areas are adaptive reuse structures that do not suit users on both physical and metaphysical levels. These include the functionality of place from socio-cultural facets to architectural design principles such as the arrangement of spaces from private to public zones which are all part of place-making (Mdakane, 2008). The government has made good on their promise to incorporate the THP sector into the national health system and they have set the necessary procedures in motion. Despite this major breakthrough, very little has changed in the implementation of suitable infrastructure and functionality of place (Gqaleni, et al., 2007). This has resulted in the displacement of traditional practitioners and users in urban areas.

There is a distinct demand for the practice of TM within urban areas and this is demonstrated by the overpopulated markets in the metropolitan that brings in thousands of commuters on a daily basis (eTafuleni, 2019). It could be argued that the current spaces occupied by THP’s could be recognised as a form of place-making, however, these spaces are a result of the governments lack of providing adequate healthcare and the limitation of basic services, such as water, electricity and infrastructure; and do not necessarily represent the identity and culture of the TM sector. The concept of place-making is not only an issue in the TM sector, but is also demonstrated in the representation of indigenous architecture. This type of architecture tends to be overlooked and disregarded as a thing of the past instead of adapted into the current architectural approach. There is a need for architecture, more specifically African architecture to be recognised and established within cities today.

One way this could be represented today is through the Afrofuturism approach, which recognises the importance of incorporating elements of black history and culture in the African identity (Fig 1.10).

It explores the development of cultural aesthetics and demonstrates a good reimaging of the past and envisioning what it can become. It seeks to reclaim black identity through art, architecture, culture, and political resistance (Peters, 2018). Afrofuturism demonstrates a way of not dismissing the past, but projecting it into a brighter future in which black and African cultures do not hide in the margins of modern society. Black history, similar to traditional medicine often lives in the shadows of modern consciousness. By unpacking the history and cultures involved in traditional practices that have been side-lined for so long, South Africa could be well on its way to creating an inclusive and well represented system within the country.

The general perceptions formed by other medical practitioners, researchers and professionals against traditional medicine also has a negative influence in the place-making of the TM sector. The overview of the current urban architecture representing TM in South Africa reflects an undermined and neglected sector in healthcare. For instance, THP’s such as herbalists are seen as equivalent to informal traders and not biomedical doctors. Which demonstrates the lack of respect and knowledge of the practice and its system. There are fundamental architectural approaches that have been lost in the representation of TM healthcare. The buildings currently do not cater to the process involved in TM practices. These places do not demonstrate the different types of spaces required for the harvesting of the plants and minerals, its processing and the preparation of the medicine. Further, they do not demonstrate how architecture can be used as an interface between the healing properties of the landscape and the people. The whole ritual involved in the application of the medicine has been lost in its current representation. TM goes beyond trading and should be represented in an informed architectural approach. This will not only lead to a defined TM practice but will extend to the larger context of societal and symbolic environments fundamental to place in the healthcare sector (Seamon, and Mugerauer, 1985).



Fig. 1.10 Collage representation of a possible hybrid centre in South Africa. (Illustration: By Author, 2020)

1.5.3.

Obstacles hindering the merger of Biomedicine and Traditional Medicine

In South Africa, 80 – 90% of black patients make use of both traditional and bio-medicine. These patients believe both services will provide a much more efficient and holistic approach to best fulfil their health needs. This system however stands in conflict with each practitioner's services and could contradict one opinion from the other (Pinkoane, Greeff, and Koen, 2012). Regardless of the patient's enthusiasm to collaborate the two practices to suit their health needs, there are still major concerns that hinder the collaboration of biomedical and traditional medicine in the overall healthcare sector.

Some studies have shown that biomedical practitioners in general are very concerned with the potential collaboration of the two healthcare systems (Mdakane, 2008). One major issue being the anti-scientific testing of medicines before use in TM practices. This is a concern for biomedical personnel as it risks the health of its users. Researchers are also concerned that any merger between the two could only take the current modern-day science and medicine developments backwards (De Zeeuw, 1997). This perspective is seen in cities today where there are presently only muthi trading structures instead of healthcare centres representing TM. Beyond these concerns there are deep rooted issues regarding the mystery surrounding indigenous medicine. With this misunderstanding and subsequent bad publicity, TM has had to deal with the negative way in which it is perceived by other professionals (Mdakane, 2008). The manner in which TM is perceived will have to be addressed before other issues can be dealt with.

The challenges faced are not only analytical but architectural as well. Another concern comes from the matter of hierarchy. How do the spaces reflect both a western and traditional architectural language? What defines the notion of the architecture and how do its users relate to the spaces. Architecturally extensive research and analyses will be required for this incorporation and most likely many trials and errors before a conclusive approach is formed. Considering the contrasting manner in which both practices use space,where and how could these two systems share and collaborate. How would the design merge the geometrical and the intuitive approaches in which each practice operates? All these aspects would need to be considered in the implementation of the merger and could hinder any plans for coalition.

Introducing a hybrid healthcare facility between the two systems could form a new outlook on healing practices. An incorporation will additionally create a platform to educate biomedical practitioners and the general public about alternative medicine (Mdakane, 2008). This could also give access to appropriate and affordable primary healthcare. A new design approach towards healing could be established, which represents and supports the concept of transparency between these two competitive healthcare systems. Additionally, this could further eliminate any misconceptions between the two systems, allowing choice of service and creating a two-way referral.



Fig. 1.11 Collage representation of TM suffocation in the urban landscape. (Illustration: By Author, 2020)

1.6. Key questions

A. Can a hybrid health care facility that includes an integrated African health care programme be established. What might this look like?

B. How can architecture be an interface/mediator between the healing properties of a landscape and people?

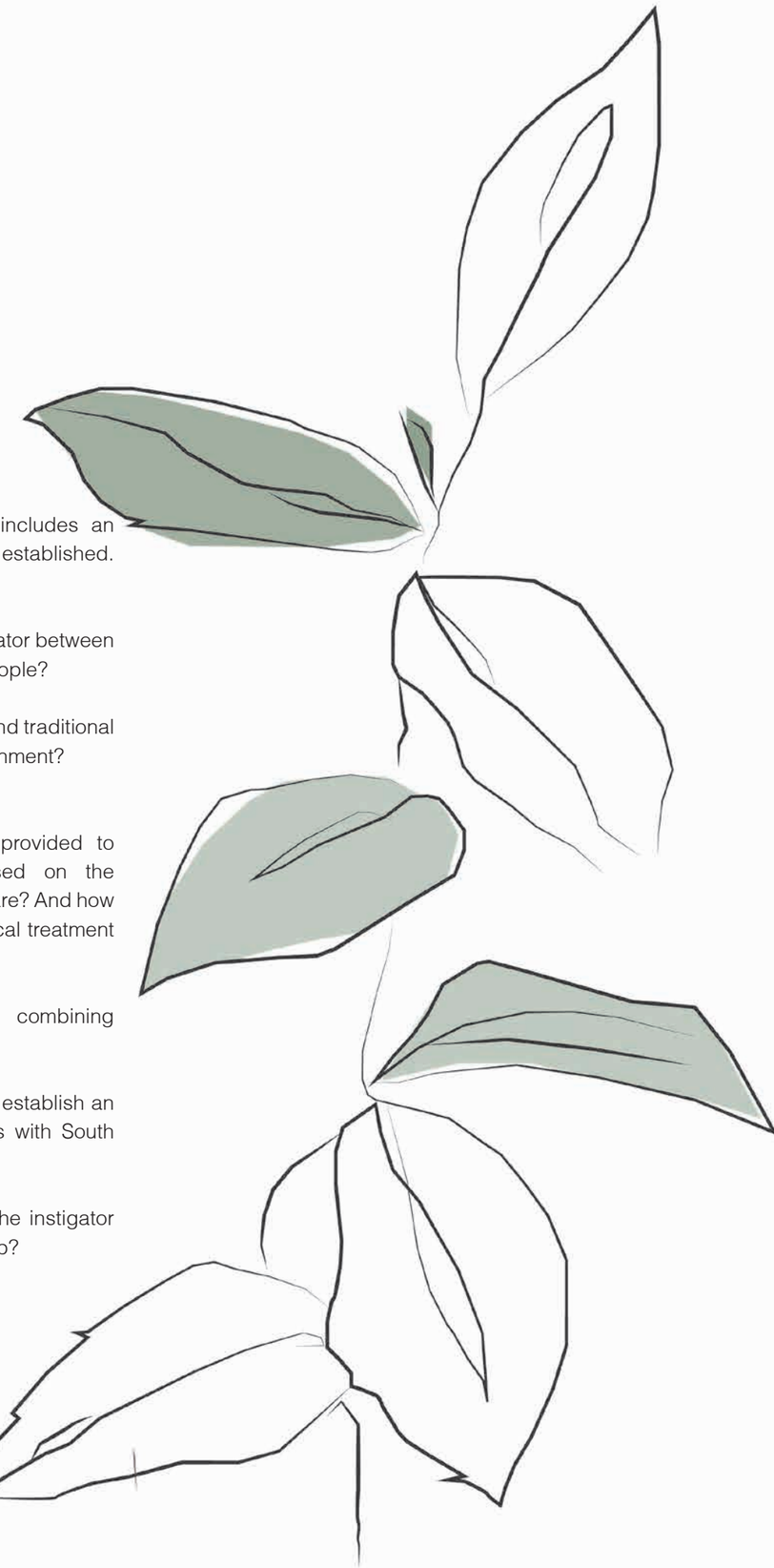
C. How can the symbiosis between western and traditional medicine establish a more sustainable environment?

D. What spatial opportunities should be provided to improve healthcare in South Africa based on the integration of traditional and western health care? And how would this integration fit into a broader medical treatment system that addresses sustainable healing?

E. What are the spatial implications of combining biomedical and traditional healing practices?

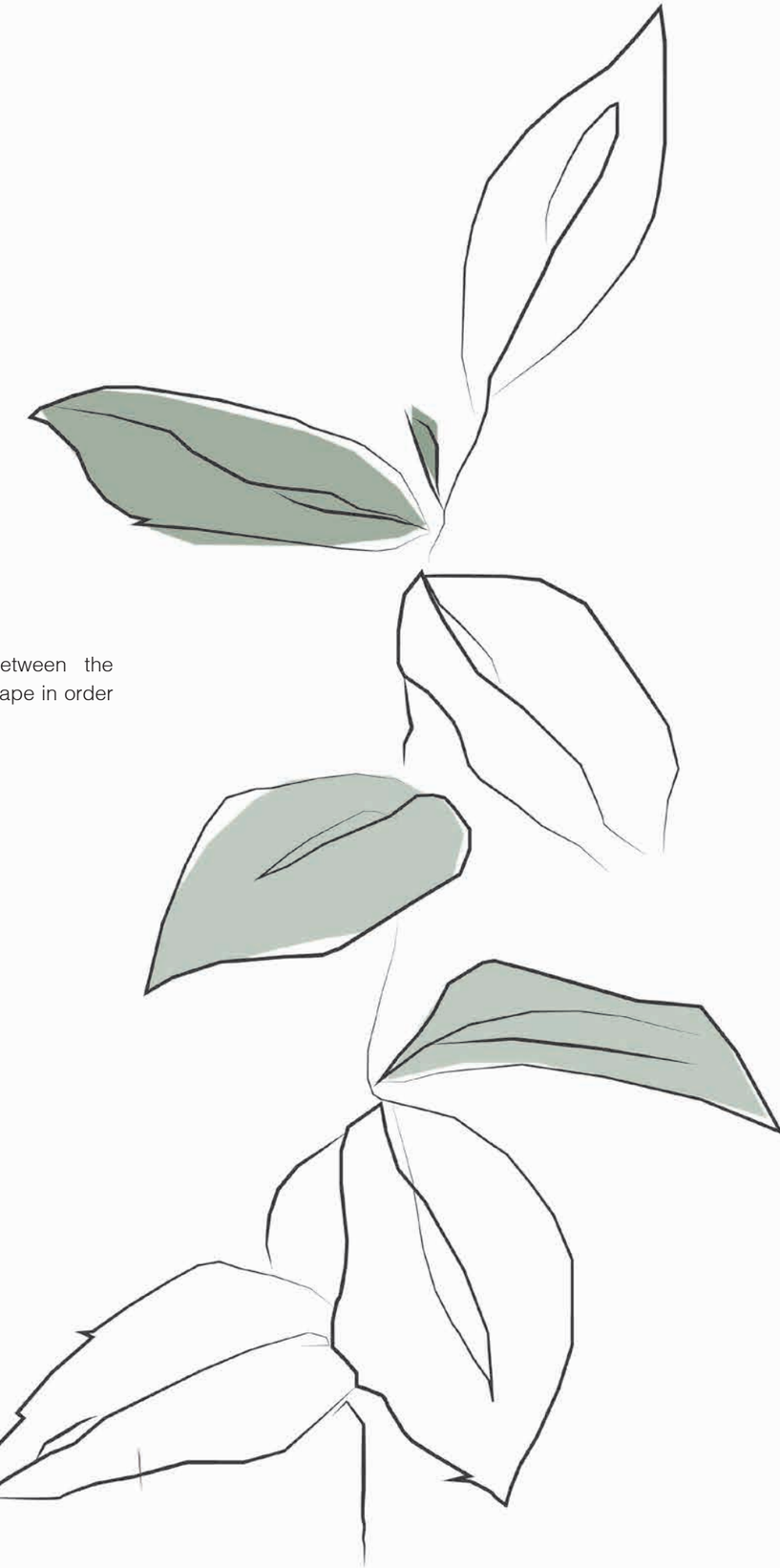
F. Can the Afrofuturism approach be used to establish an integrated healthcare practice that identifies with South Africa's rich culture and history?

G. How can the built environment be both the instigator and the mediator to this contested relationship?



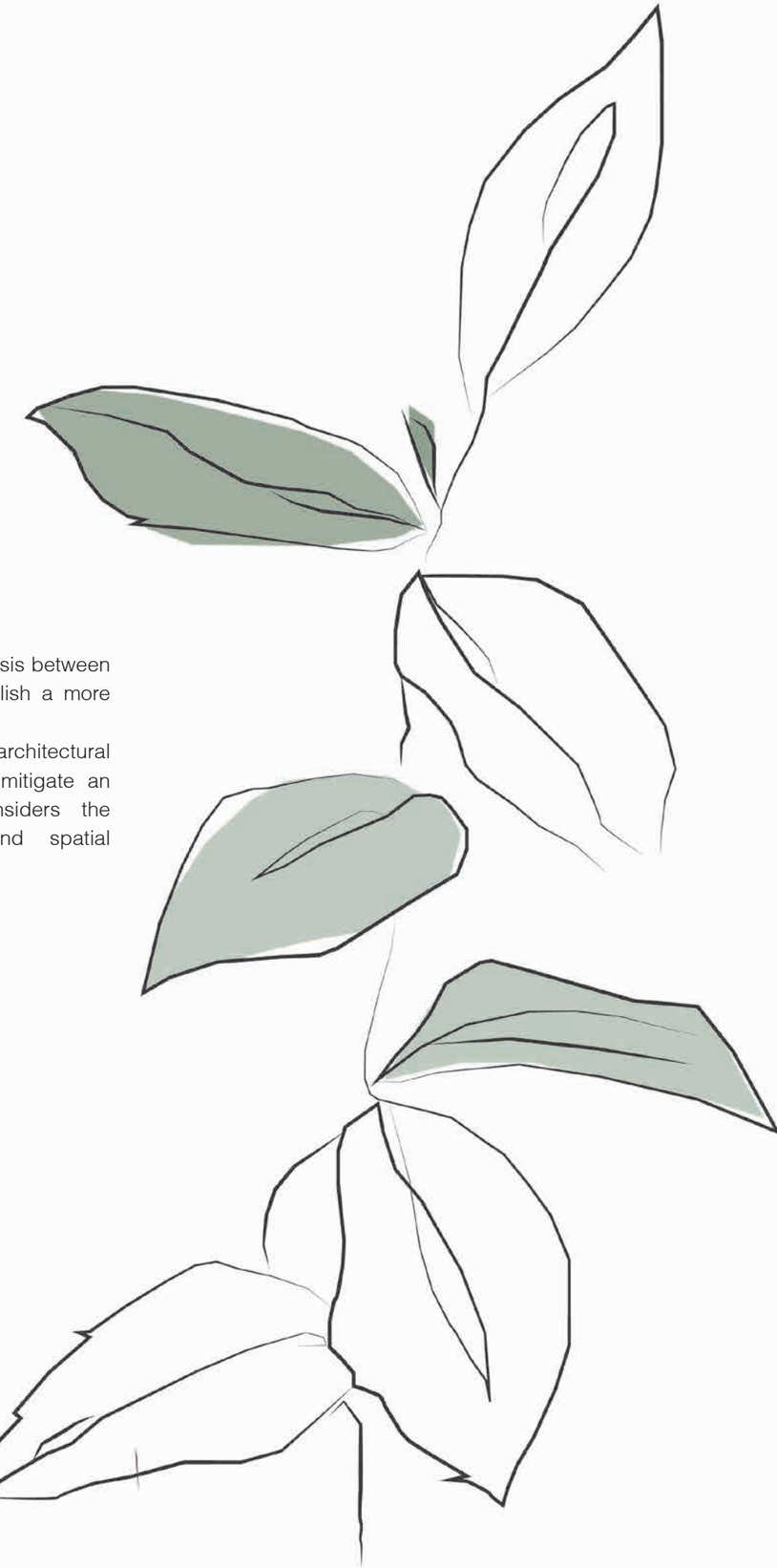
1.7. Working Hypothesis

Architecture can be used as a tool between the human and the healing agency of the landscape in order to create a sustainable environment.



1.8. Aims and objects of study

The research aims to explore how the symbiosis between western and traditional medicine can establish a more sustainable environment.
The objective is also to investigate through architectural design if a hybrid healthcare facility can mitigate an approved integration system that considers the environment, architectural expression and spatial opportunities.



1.9. Conclusion

The current South African healthcare system is failing many communities with its distribution of healthcare services. With the high percentage of people consulting with both traditional and biomedical doctors for treatments, it has become apparent that both systems fall short, and where one fails it is aided by the other. It is within these details that a new South African typology to healing can be formed.

This study recognises that healthcare architecture in South Africa is in dire need of rehabilitation and an opportunity to develop its own typology for healing that reflects both its spatial and socio-economic identity. The study challenges the current ideologies in modern healing, through a collaborative network between the most competitive healthcare practices in South Africa. It looks deeper into the rituals of healing to form a practice that identifies with the current and future norms of healing. It recognises that holistic healing happens beyond an individual human experience but rather through an ecological system.

This holistic way of thinking goes beyond the collaboration of physically healing people but also pushes the principles of sustainable living in cities. It looks into the root planning of spaces, by using what is naturally there to create a more relatable environment for its users. Sustainability is a crucial aspect when dealing with healthcare but its major responsibility is in the greater environment. Healthcare could be used as an activation mechanism for the exploration of sustainable living in cities; which would influence the broader urban environments.With the collaboration of the two most used health systems this could bring about a more efficient health care system (dos Santos, et al., 2019).

It is evident that architecture has a role to play in the development of healthcare systems. With the rising discussions of regulating traditional healing, it is important to recognise the value of its inclusion in our social development. The integration of this system will not only yield a better healthcare system but additionally create a new visual model that spatially embraces South African cultural practices. This approach to healthcare will destigmatize TM and introduce a multi-functional approach to healing, and affordable primary healthcare. Presently, there is a need to represent the procedures involved in TM, and to embrace the efficiency of scientific technology which is demonstrated by biomedicine. By creating a symbiosis between western and traditional medicine a new healthcare typology can be established.

02

“Research Methodology”

2.1. Study Area

The research took place in the Gauteng province. The preliminary literature study shows that Johannesburg was one of the major cities in which urban herbalism took place as people migrated into the city. The city of Johannesburg is the most vibrant and commercial centre on the African continent (Fig 2.1) (Joburg.org.za. 2018). The metropolitan represents the deeply rooted characteristics of the urban shift in traditional medicine, and it reflects the first model of the merger between modernity and traditions. The study takes place in an urban environment so as to address the shift of the herbal trade into urban herbalism. It looks into how the structure of TM distribution within urban areas has progressed and how it can be spatially implemented in this changing world.

Traditional herbalism contributed to the development of an African urban culture in South Africa and soon after that became a prototype to the other herbal markets we see and visit today. The study location gives an opportunity to rewrite type, by challenging the current form of urban healthcare and its locational pattern in Johannesburg which has been influenced by the spatial patterning of Apartheid (Dauskardt, 1990). This study area is intended to broaden the understanding of the spatial planning involved in traditional and western practice and how it can be accommodated within an urban environment.



Fig. 2.1 Collage represenation of JHB metropolitan.
(Illustration: By Author, 2020)

2.2. Research Plan

The study uses a creative research plan. Creative research through design is a combination of inductive reasoning, interpretation and imagination linked to various themes, constraints (such as technological considerations, building site, client and user groups) and precedents (urban and architectural). The creative research process in terms of discourse and design alike, takes on an iterative (inductive-deductive), nonlinear, cumulative, cyclical, and open-ended exploration to achieve its creative outcomes. The research combines qualitative and quantitative approaches to knowledge and argumentation, whilst the creative component translates the same into a defensible architectural proposition. The research plan was then used to establish the brief, spatial applications and theories.

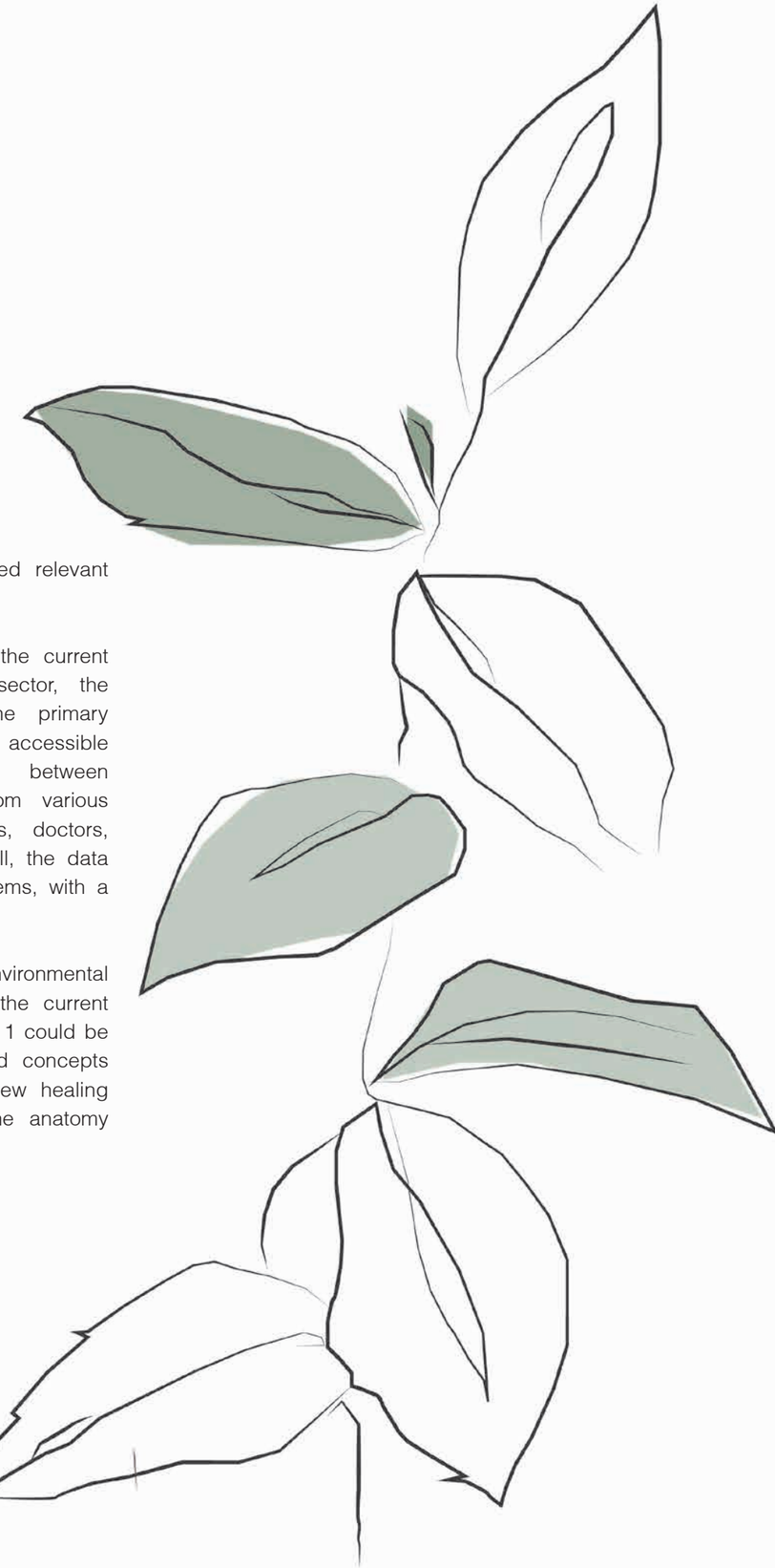


2.3. Key Informants:
Primary & Secondary informants

These are the key informants that provided relevant information for this research:

With the main research centered around the current policies and regulations of the THP sector, the indigenous healing systems became the primary informant. This information included accessible literature discussing the collaboration between biomedicine and traditional medicine from various sources, such as, government officials, doctors, researchers and other professionals. Overall, the data collection focused on both healthcare systems, with a major look into traditional practices.

The secondary informants focused on the environmental aspect of the project. Looking into how the current theories and concepts discussed in chapter 1 could be implemented into architectural theories and concepts discussed in chapter 3. Investigating a new healing typology that does not only deal with the anatomy but as equally the ecological spectrum.



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Spatial Design Exploration &
Design Proposal

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03

“Investigation of key elements to be considered in the design of the Hybrid Healthcare Centre”

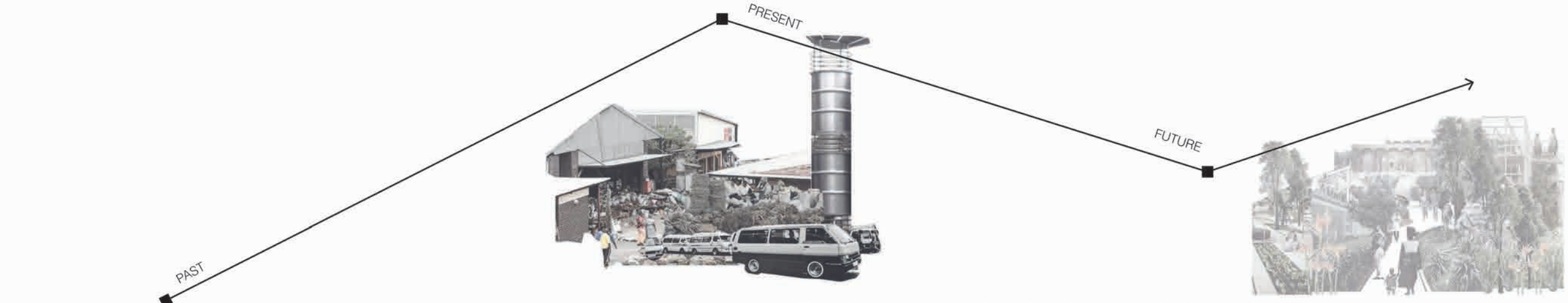


Fig. 3.1 Transformation of form and meaning. (Illustration: By Author, 2020)

3.1. Environment and Place: Reclaiming the status of indigenous healthcare

There is a strong cultural trend involving searching for authenticity (Seamon, and Mugerauer, 1985). This trend has been present for decades and continues to grow as people strive to have the 'real' thing and to move away from synthetic substitutes. This is evident by the increase in organic produce companies. An explanation of this trend may lie in the fact that modern life has become characterized by a detachment from our history and our environment. (Rinkesh, 2014). Other reasons include the decentralization of capitalism which has contributed to the loss of place and identity for many cultures. The world is in a state of integration and migration. However, throughout these resettlements it is important to keep certain principles intact, linking in the old and the new as to not lose authenticity of place and its people. Looking into South Africa's own changes, there are certain practices that have been lost or marginalised in its progression to fit into the modern era.

Urbanization resulted in the migration of TM into the city. However, the restrictiveness of the city has meant that muthi markets are not able to emulate the manner in which traditional healers utilize space in rural settings. (Fig 3.1). The existing structures used by practitioners and traders are inadequate and are constructed with low-quality materials. Traditional healers have adapted well to the city, regardless their circumstances. Despite their commendable adaptation skills, the spaces that traditional healers currently occupy in the city are not ideal or wholesome. The richness of the practice is currently well represented in the daily relations with their users and not with its spatial tectonics which have become bare shelters. And it is within this gap that architecture can help reclaim the space and authenticity of its practice.

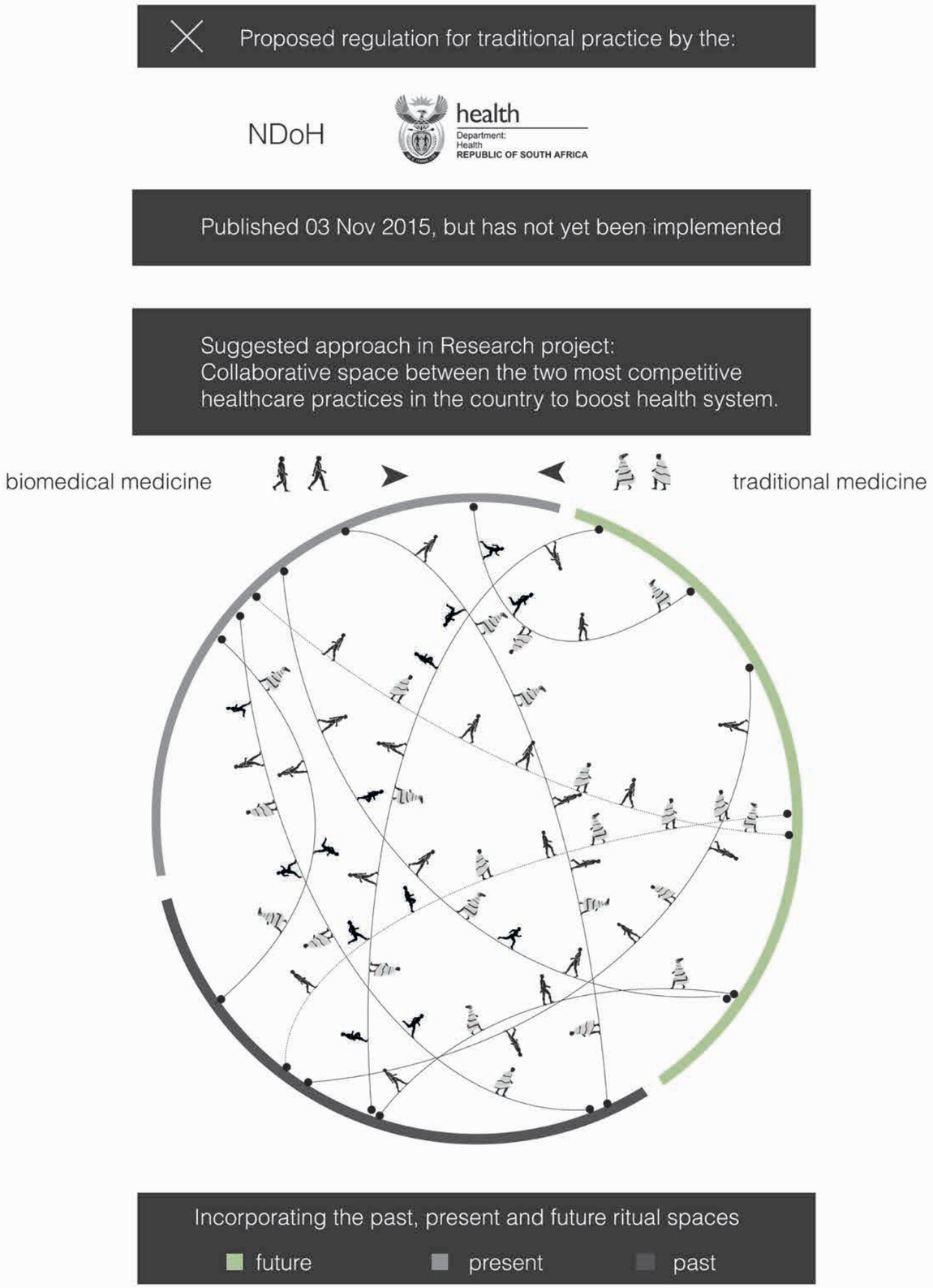


Fig. 3.2 Reclaimation of status, creating a continuous spatial connection. (Illustration: By Author, 2020)

In identifying this architectural form, a key question arise: “What embodies a traditional healthcare centre?” As important as it is to commemorate the past its equally important to work with the existing. Tradition cannot be possessed or inherited, it must be reinvented and recreated by the successive generation (Wall, and Pallasmaa, 2009). It is vital for the project to reveal and highlight certain aspects of the tradition without creating pseudo-vernacular architecture. The reclaiming of status needs to be authentic, and authenticity is not necessarily represented through a replica of ancient tectonics, but rather through a connectedness in the relationship between people and their environment. It is about the continuous spatial connection in which we live and temporarily with the past and future (Fig 3.2) (Seamon, and Mugerauer, 1985).

The search for authenticity and reclamation of status comes from a serious disconnectedness in the ecology of person and environment relationships that one might call displacement (Seamon, and Mugerauer, 1985).

3.2. Embracing the fundamental differences of partners through Architectural expressions

The integration of biomedicine and TM should not be seen as merely a sharing of space, but rather as a networking system where information and other resources are exchanged with surrounding clinics and hospitals. The real work of collaboration happens in the exchange. The hybrid centre acts as a medium and intersection point between these two worlds. The space of exchange could also be described as a community library where expert healers from both systems can provide resources and services to meet the needs of individuals and groups.

It is important to ensure that through the creation of a symbiotic health care system, indigenous health care practices are not westernized, but are able to benefit from positive aspects of technology (Mdakane, 2008). In order to create a successful integration of these spaces, any architectural interventions used should always tie back to the basic principles of the systems. It is in valuing both practices that a new typology will be formed and effectively achieve the one goal of sustainable healing.

3.3. Biophilia & Healing Environments

3.3.1.

Biophilia

The ultimate goals of healthcare facilities should be to promote and foster human wellness, not only for those seeking treatment, but for the health care workers as well. With the rising global demand for both good quality and affordable healthcare, a compelling case must surely be put forth for all healthcare buildings to be designed and operated in a sustainable manner – economically, environmentally, and socially (Yen, 2012).

One way in which this could be achieved is through the use of biophilia principles, which refers to the intimate relationship and connection that humans have with nature and other forms of life. It focuses on healthy principles for designing the built world (Salingaros, 2015). Biophilia has gained traction since the early 1980's and is recognized today as this new forthcoming way of designing. However, its basic practices are in line with TM healing which has also existed for million years (Danisa, 2014). TM recognizes the environment as the provider of healing and the healer as a mediator between the landscape and the patients. There has always been a continuous connection with nature, hence, the use and importance of manual processing of raw materials. Healers are known to go out into the bush, collect plants and process it for the user. TM has always had a strong connection to the ecology of life, which biomedicine has come to lack.

It is an appropriate approach to use biophilic design principals in healthcare as it is cognizant of the necessity of the inclusive, "bottom-up" processes needed to sustain health. Such an approach to healing is necessary if buildings are to have a meaningful impact on human health (Salingaros, 2015). There are major factors that contribute to the practice of the biophilic effect. These are light, colour, gravity, fractals, curves, detail, water and life.

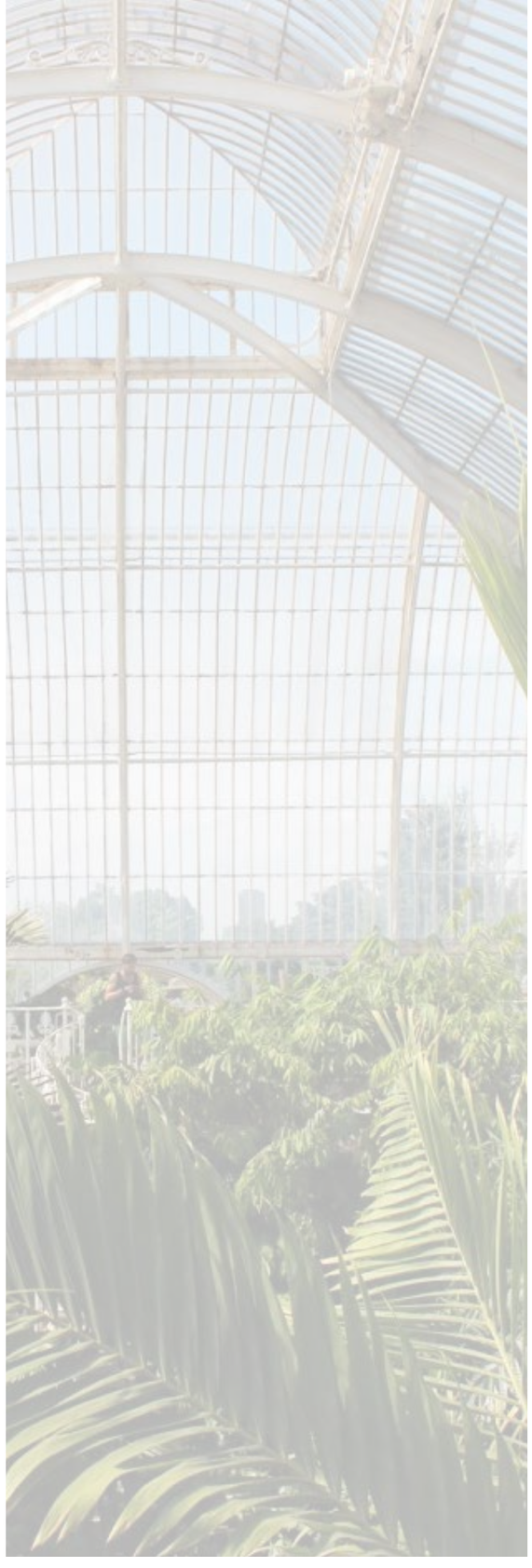


Fig. 3.3 Kew Gardens. (Kim Parslow, London 2015)



Fig. 3.4 Using biophilia as a wayfinding to a better healthcare typology. (Illustration: By Author, 2020)

All these eight factors show how the biophilic effect can be applied to aid in the design of buildings conducive to health. These can be used by architects as basic guidelines to a natural intuitive response in humans to their environment. By using these elements as a rough design checklist for sustainable living, we can generate principles for evaluating health-inducing aspects of architecture, for the built and the unbuilt (Salingaros, 2015).

Biophilic design could be used as a medium of integration between traditional medicine and biomedicine. The collaboration between biomedicine and TM could lead to the integrative design of holistic sustainable practices. Its principles are strongly in line with both systems and could be used as a wayfinding tool on the route to establishing a new healthcare typology that identifies with South Africa's rich sociocultural heritage (Fig 3.4).

> "Biophilic design is not about greening our buildings or simply increasing their aesthetic appeal through inserting trees & shrubs.Much more, it is about humanity's place in nature, & the natural world's place in human society..."

Stephen R. Kellert and Judith H. Heerwagen (Kellert et al., 2008).

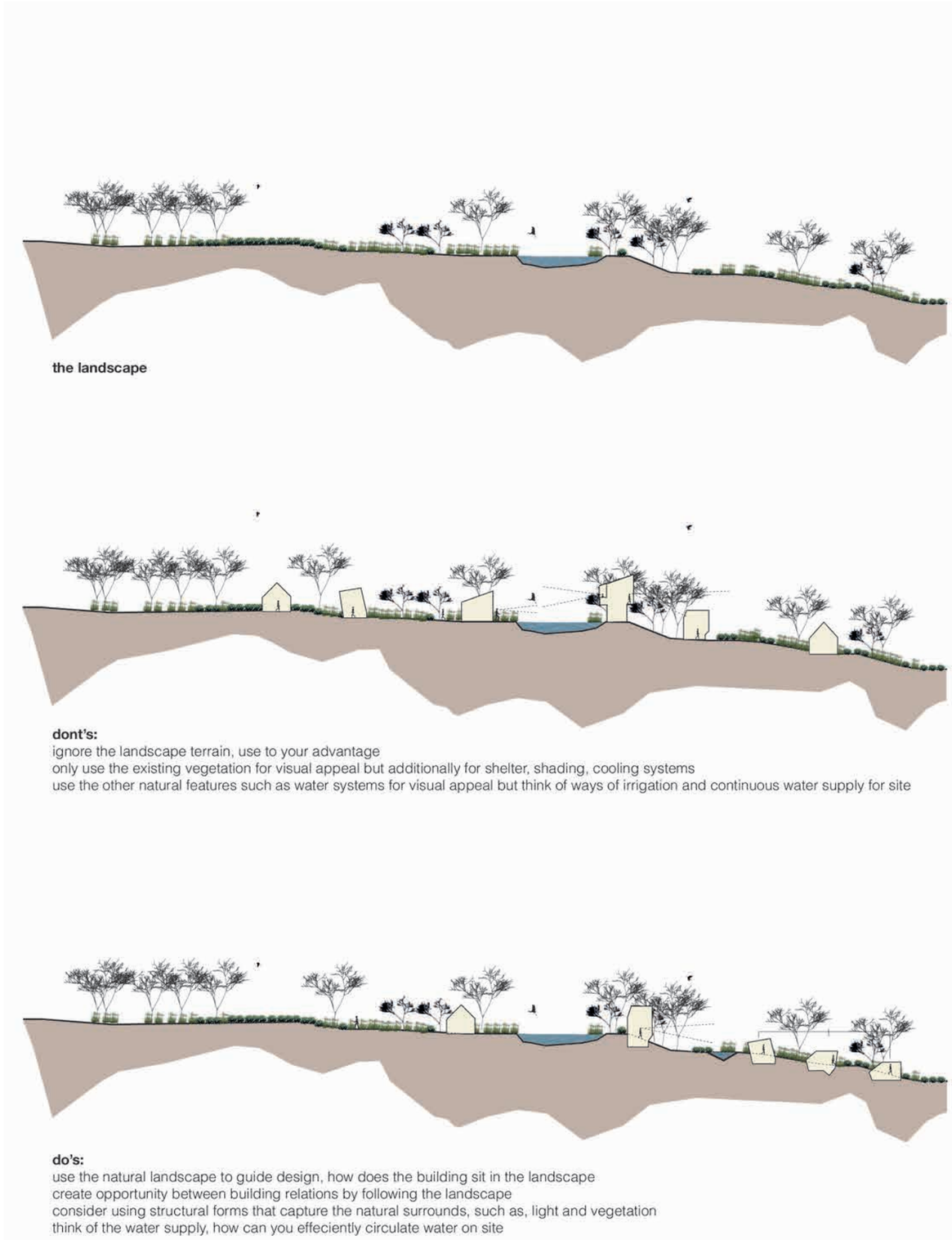


Fig. 3.5 Illustration on how to create a biophilia effect. (Illustration: Salingaros, 2015)

3.3.2.

Biophilia and its systems

Our emotions affect our nervous and immune systems, and therefore, our ability to heal. Acknowledging this relationship will improve the effectiveness of treatment in the long run. It is becoming increasingly clear that the environment in which patients are treated, is as important as the treatment itself. Many mainstream practitioners are realizing the positive benefits that nature can offer in the healing process. (Salingaros, 2015).

Biophilia works through reconnecting people with their surroundings. This creates a special geometric relationship with nature and, thus improves a persons mental and physical systems. Biophilia aims to lower the human body's stresses and allow built-in defences to fight illness and promote healing. Before industrialization, the relationship between medicine and nature was far more harmonious. The virtues of nature's involvement in the healing process have been forgotten, and South Africa is no exception. Health care focused mostly on direct interventions such as drugs and surgery, which have shown their own limitations (Salingaros, 2015).

A healing environment is best represented when human beings draw from the complexity of nature. A large population of people are demanding environments that lower stress both in their living and working environments. Architects are presently in search of design tools to help achieve this goal, but they will have to look beyond mainstream design to adapt to this new way of living (Alexander, 2005). As more people are inclined to use biophilia in their practices the basis of its principles has been obscured. The use of biophilia doesn't merely allude to 'green' aspects of design. Yes, a large part of it does include the presence of plants as a key property to biophilic architecture, however, the building's structure itself must be part of the healing system. Biophilia does not mean applying a "green building" system to sculptural designs in order to impress clients. That is top-down design. Rather, biophilia is designing structures from the bottom up, by incorporating architectural theories with processes aligned to ecological development and reproduction. These processes become sustainable as they adapt to the natural systems (Fig 3.5) (Salingaros, 2015).

3.3.3.

Biophilia and the landscape

South Africa's rich landscape, ranging from its natural resources, to its indigenous plants and wildlife is a very valuable asset.

The landscape plays a crucial part in the application of the biophilic effect and based on this research one would argue that indigenous architecture practices similar rituals as biophilia. Traditional health practices are equally practiced in the surroundings as to the actual building. Traditionally the buildings are usually distributed around the site without major interference to the existing landscape. With each unit specifically positioned and orientated as a way finder in the landscape (Mdakane, 2008). The landscape takes priority in the practice as its recognised as the provider, the true healer.

A sensitive approach to design is an important aspect when looking to apply the biophilia effect. TM upholds these same values of sensitivity to the surroundings, though urbanization has prevented these ideals from traveling beyond rural areas and influencing modern methods of design. Usually a good traditional healthcare practice is shaped around the existing landscape (Mdakane, 2008). The strong connection to nature is what creates the holistic healing. And this should be the continued aim in achieving a sustainable environment throughout the healthcare system.



> "People need contact with trees & plants & water. In some way, which is hard to express, people are able to be more whole in the presence of nature, are able to go deeper into themselves, & are somehow able to draw sustaining energy from the life of plants & trees & water."

Christopher Alexander Pattern 173 "Garden Wall" (Alexander et al., 1977)

Fig. 3.6 Potential perspective of spatial planning considering biophilia systems through collaboration.
(Illustration: By Author, 2020)

3.4. Designing for community engagement

One thing that THP's do well is engaging with the community. This is evidenced by the teachings offered to patients and visitors and the skills that are taught such as, growing food or rearing livestock.

THP's presence in the community is not merely for healthcare benefits but additionally for social engagement (Fig 3.7). For the collaboration between traditional and biomedicine to be effective, the partners need to acknowledge the existence of TM and the sustainable benefits of the practice for its communities. The site selection and architectural expression should then be used as a tool that allows the centre to engage with the community. As we are dealing with an integrated facility the community engagement will be both passive and active to best represent both practices. Offering both systems wil allow the users to chose the manner in which they engage. Active users will engage with the centre as a landmark where healing is provided similar to western medicine rituals (Mdakane, 2008). Including and promoting this social aspect could aid in the healing process and improve overall well-being.

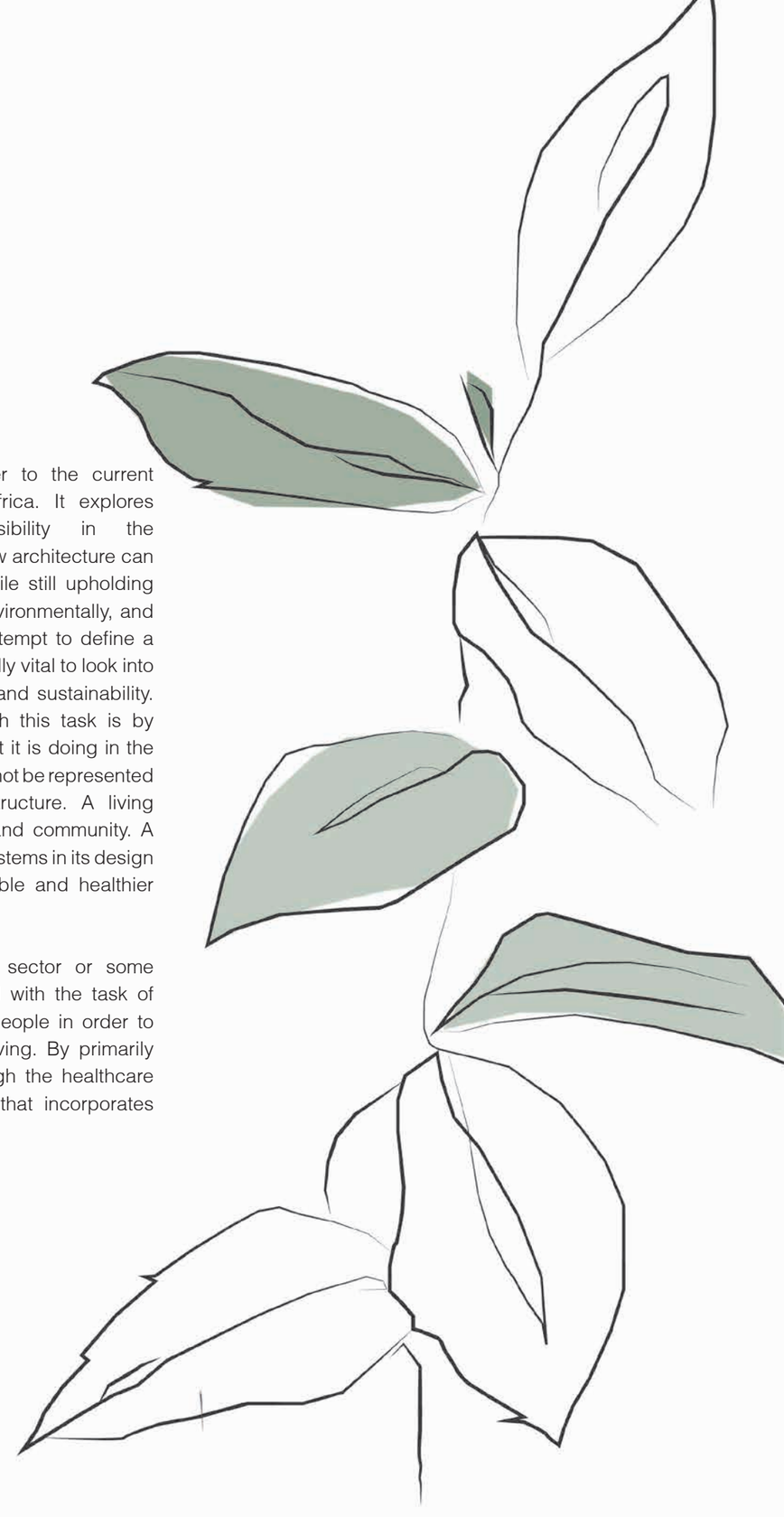


Fig. 3.7 Social engagement in markets.
(Illustration: By Author, 2020)

3.5. Conclusion

This study serves as an eye opener to the current conditions of healthcare in South Africa. It explores architectures place and responsibility in the healthcare environment and looks at how architecture can authentically identify with its users, while still upholding its task of creating an economically, environmentally, and socially sustainable structure. In our attempt to define a new typology for healthcare it is as equally vital to look into the overall ecological spectrum of life and sustainability. The most authentic way to accomplish this task is by redefining what architecture is and what it is doing in the urban environment. Architecture should not be represented as merely an object but a living structure. A living structure that identifies with its users and community. A structure that incorporates other living systems in its design practice in order to create a sustainable and healthier environment.

Whether dealing with the healthcare sector or some other industry, architects will be faced with the task of taking on designs unfamiliar to most people in order to move in the direction of sustainable living. By primarily engaging with this design issue through the healthcare system, could trigger a way forward that incorporates healthy living into all aspects of life.



04

“Precedents on the Current Design Approaches in Conventional

Healthcare Architecture and TM Markets”

4.1. Traditional Approach



4.1.1

Kwa Mai-Mai

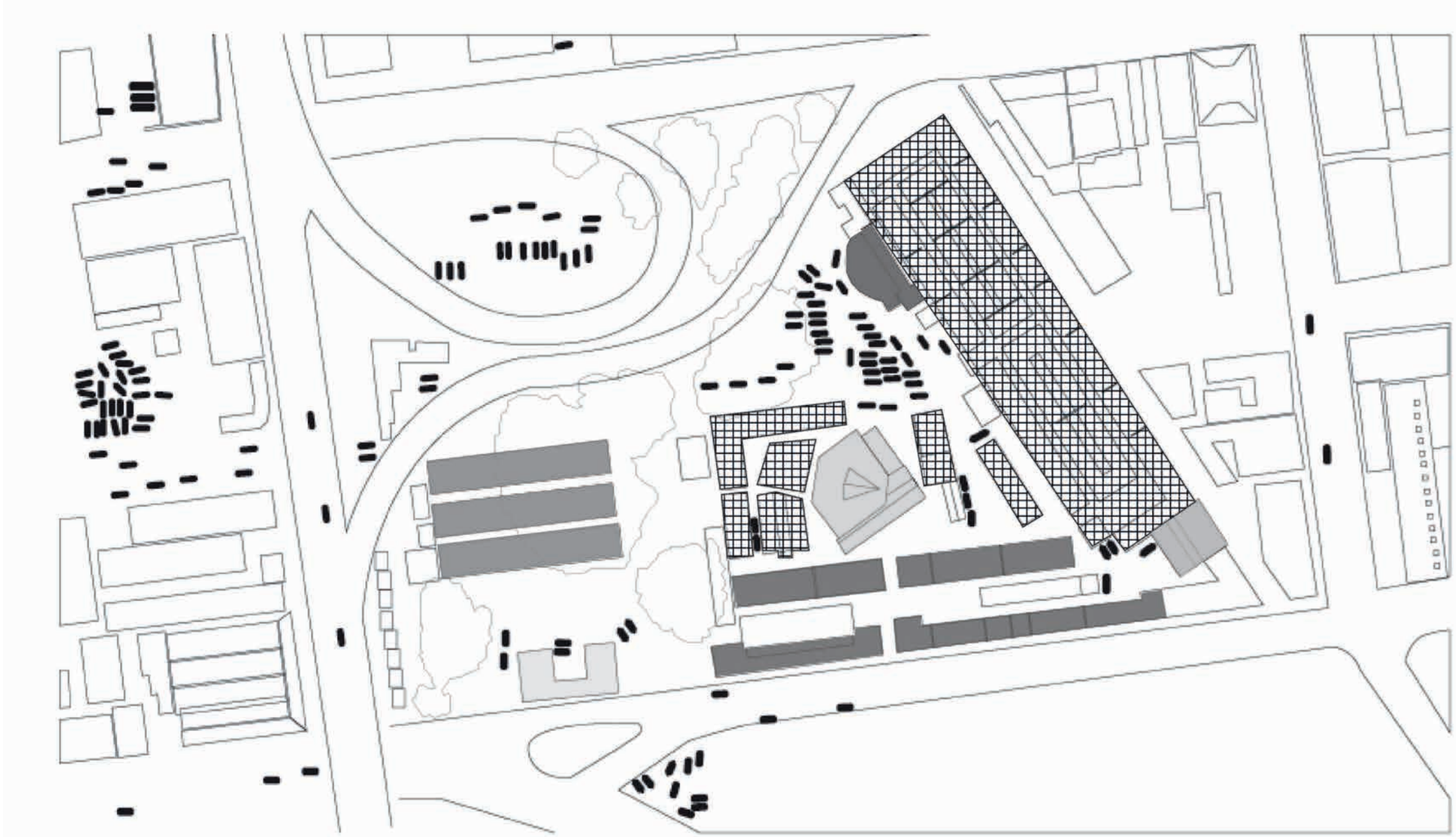
Designers: Adaptive Reuse by users

Location: Johannesburg, Gauteng, South Africa

Title: Kwa Mai Mai Muthi Market

Project Year: undated

This market is recognised as one of Johannesburg's oldest markets. It is lined with rows of traditional healers. The healers make use of rooms which were once used as stables for horses that cleared city pathways before machinery was in use (Pilane, 2016). The Market is situated underneath the M31 highway where cultural meetings would take place.The site is adaptable as it is used for church services, dancing and singing spaces at night. This space embraces the rural traditions and cultural forms in an urban setting.



VEHICLE MOVEMENTS
MUTI STALLS AND CONSULTATION ROOMS
CRECHE
WOODWORKERS
HOUSING
HALL
ATRIUM
PANEL BEATERS

×

Overall there is a sense of community in and around the market.
Strong access and ease to site.
Near transportation modes

Fig. 4.1 Aerial of Kwa Mai-Mai Market. (Illustration: By Author, 2020)

4.1.2

Faraday Precinct

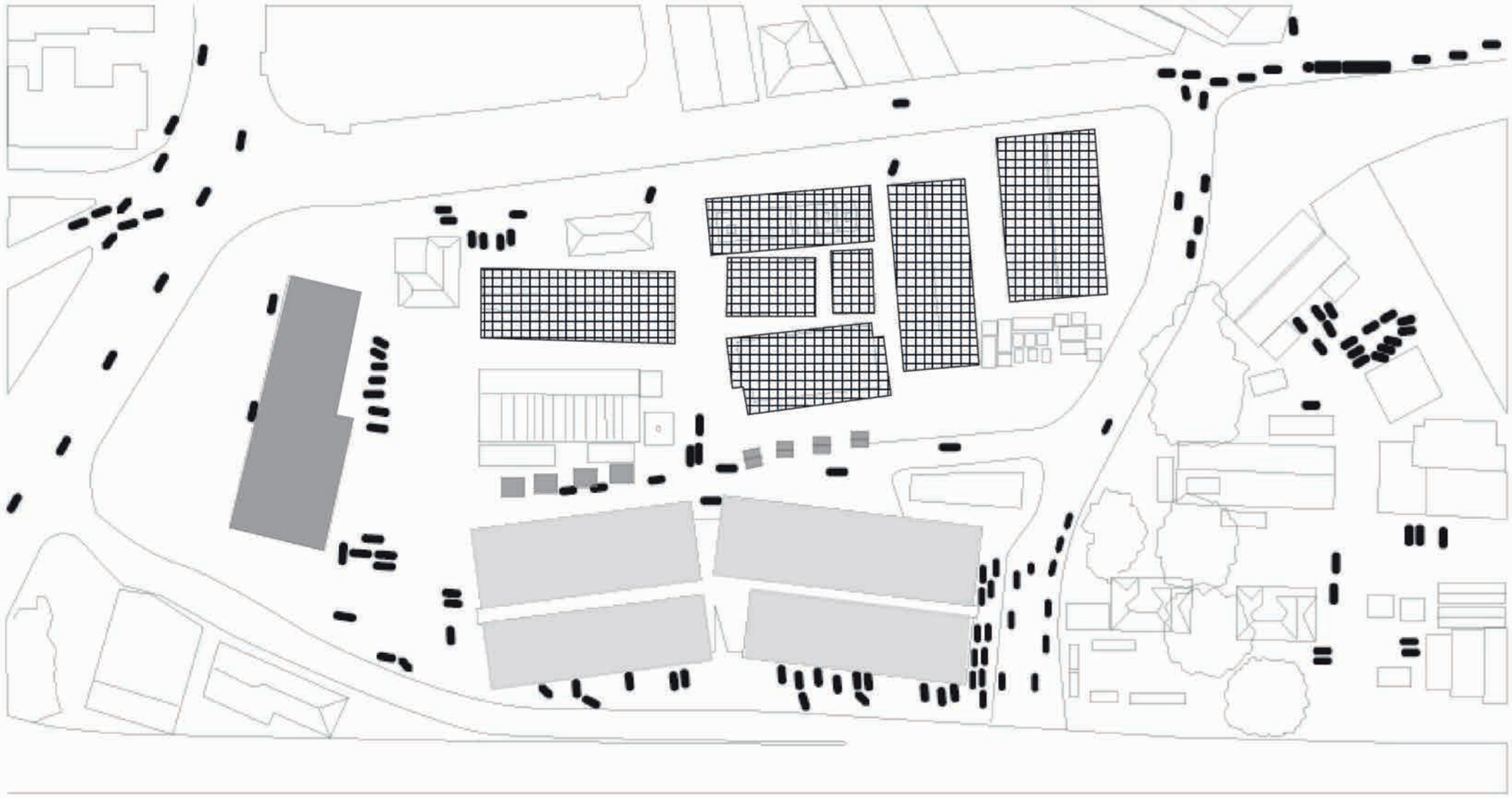
Designers: Albonica + Sack Architects and Urban Designers with MMA Architects

Location: Johannesburg, Gauteng, South Africa

Title: Faraday Precinct

Project Year: 2006

This market is recognised for its versatility. It sits in an intermodal transport interchange on the southern side of Johannesburg. The market takes up a large portion of the site. There is a sheltered area for commuters standing in lines for taxi transfers. The muthi traders were allocated four existing covered shelters where they sell and consult with patients (MMA Design Studio, 2006).
Neighbourhood Centre consists of two floors and covers 1 170 m^2
Retail and commercial covers 3 030 m^2
Trading Market covers 2 750 m^2
Healing Centre covers 2 000 m^2
Public open space covers 1 000 m^2
Covered taxi rank covers 3 800 m^2
Taxi facility covers 126 m^2
Bus Terminal covers 6 350 m^2



VEHICLE MOVEMENTS
MUTI STALLS AND CONSULTATION ROOMS
VENDORS
TAXI SERVICES

×

Overall Faraday Market is the busiest market in Johannesburg
Strong access and ease to site
Transportation hub
Vehicular dominance
No to low maintenance
No to low green spaces

Fig. 4.2 Aerial of Faraday Precinct. (Illustration: By Author, 2020)

4.1.3

Warwick Junction

Designers: Richard Dobson and Joanne Lees

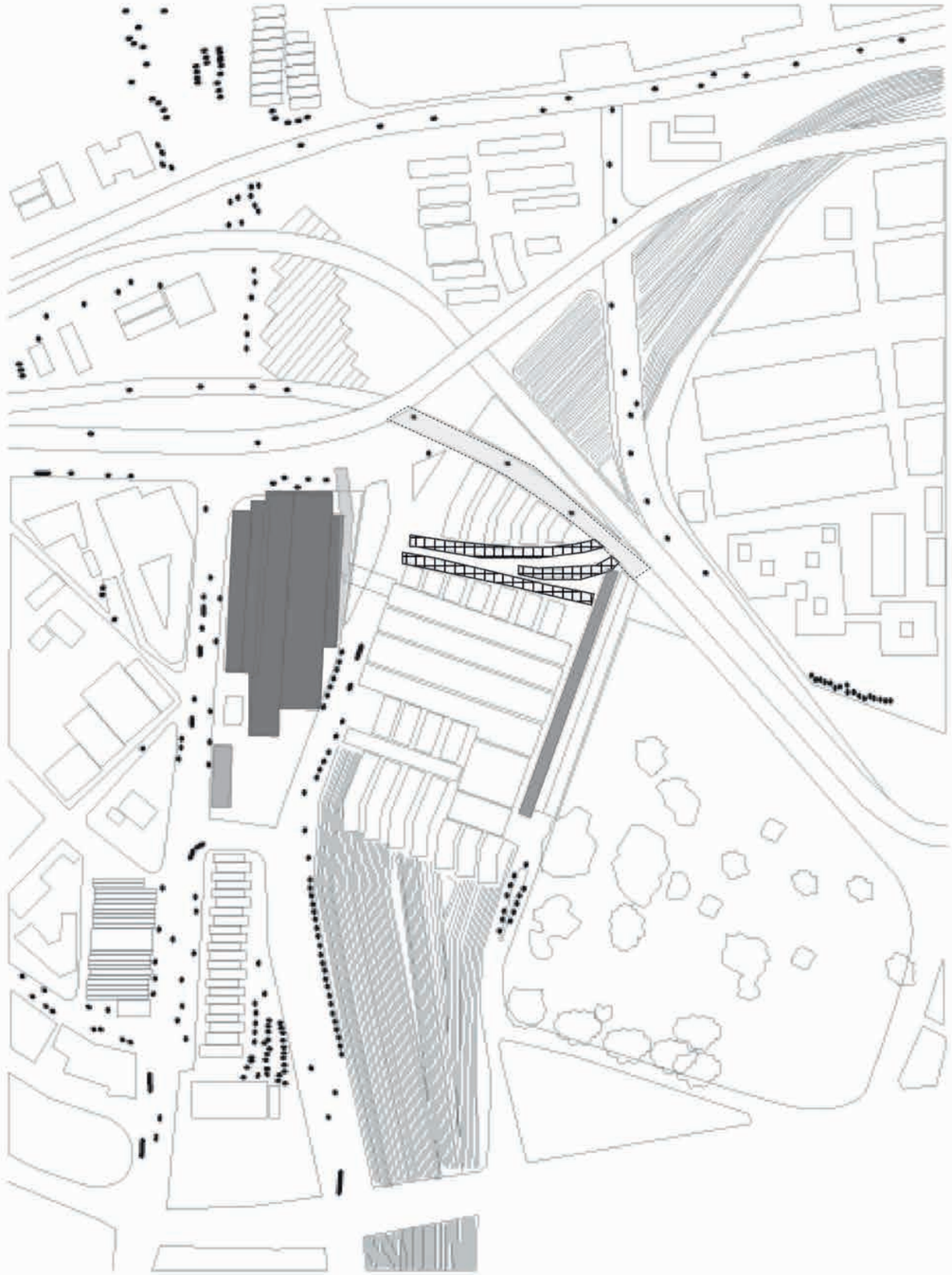
Location: Durban, KwaZulu-Natal, South Africa

Title: Warwick Junction

Project Year: 2006

This market is the biggest muthi market in South Africa. It has recently undergone an upgrade. It is situated in a transport interchange. The revamp of the market was conducted by the City Council and involved various community stakeholders such as the informal traders, street vendors, healers and muti traders (eTafuleni, 2019).

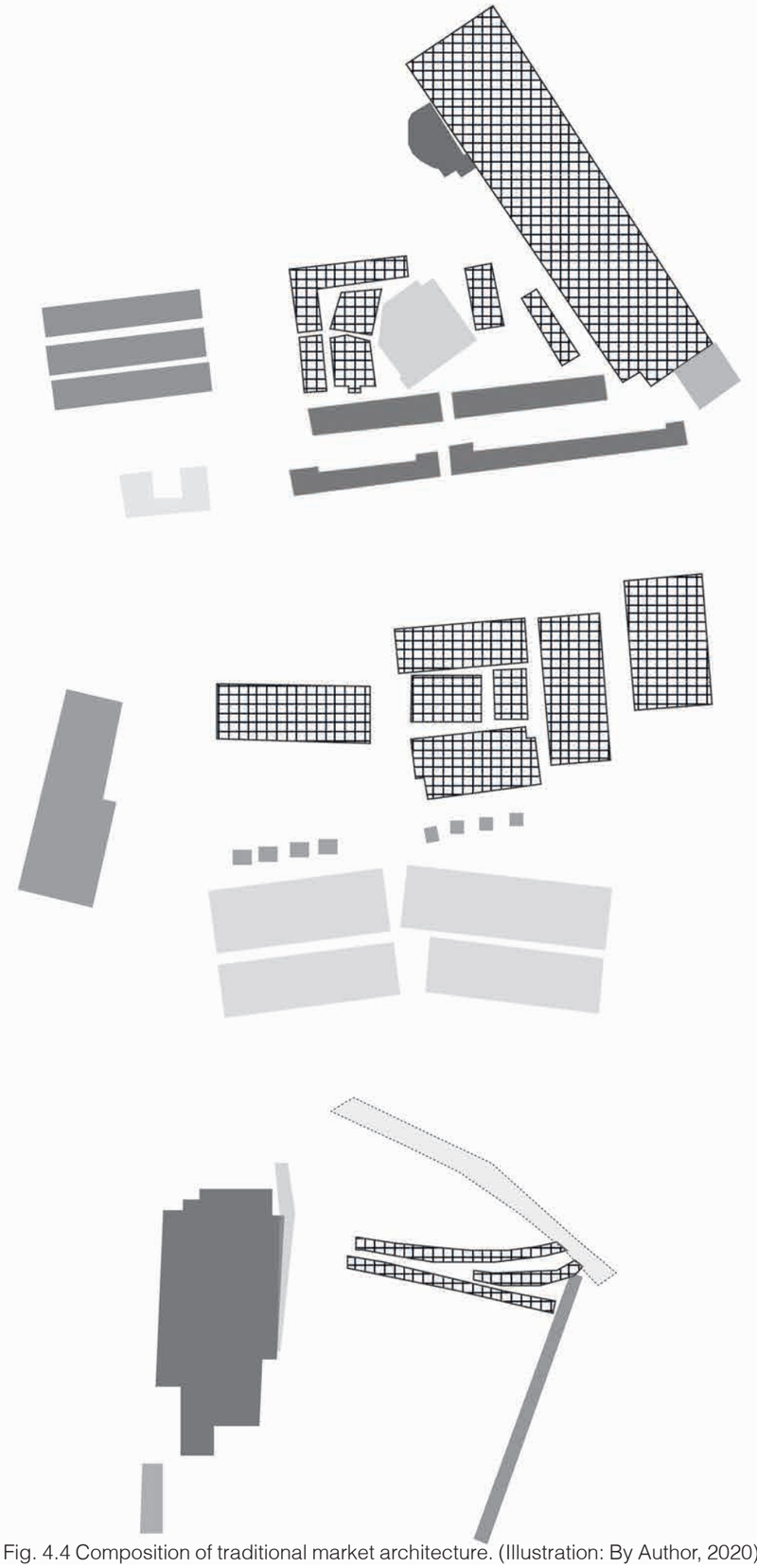
VEHICLE MOVEMENTS
MUTI STALLS
EARLY MORNING MARKET
BROOK STREET MARKET
BOVINE HEAD MARKET
AERIAL MARKET
INPEPHO & LIME MARKET



The market is held by the busy transportation hub which gives access to various commuters and visitors
Vehicular dominance

Fig. 4.3 Aerial of Warwick Junction. (Illustration: By Author, 2020)

Properties of TM markets to consider



✕
Usually segmented

✕
Two storey height limit

✕
Usually informally structured work stations,
no waiting rooms or reception areas

✕
Building area is loud and congested

✕
Surrounded by vendors

✕
Close to Transport Systems
Taxis – Buses - Trains

✕
Nested within an urban environment

✕
Some workstations are usually packed up and cleared
everyday (Adaptable units)

Fig. 4.4 Composition of traditional market architecture. (Illustration: By Author, 2020)

4.2. Western Approach



4.2.1

Khoo Teck Puat Hospital

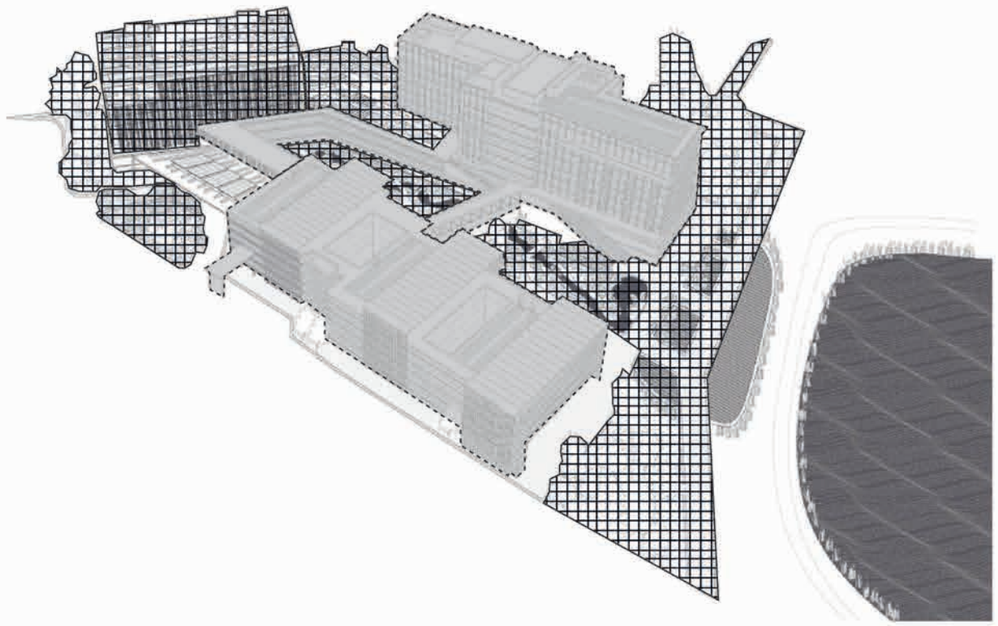
Designers: CPG Consultants Pte Ltd and Peridian Asia Pte Ltd

Location: Yishun, Singapore

Title: Khoo Teck Puat Hospital

Project Year: 2010

Khoo Teck Puat Hospital was chosen because of its large-scale programme and use of green spaces. The idea of healing not only coming from medication but alternatively from the environment. This hospital in Singapore uses the building itself as means of healing and 'feeling alive' by making use of most of the nature in the immediate environment. It has estimated 700 plant species in the vicinity. The building was designed to make you feel like you are walking in a park or garden, taking its patients away from the formalities of healing. This way of designing expands our notions of what healing spaces can look and feel like. The hybrid of nature and modernity encourages a more sustainable path of healing people, buildings and environments (Yen, 2012).



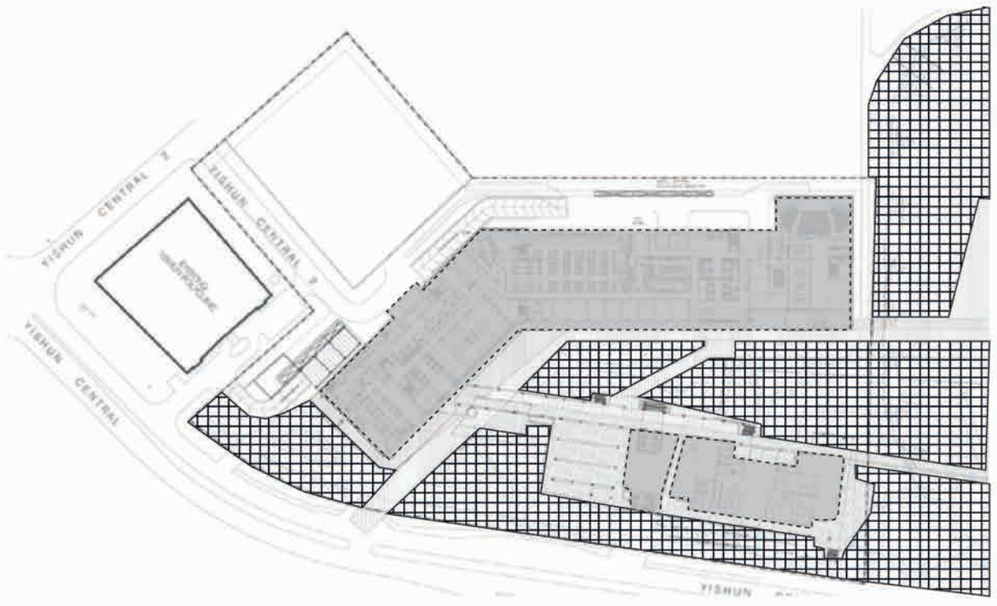


Fig. 4.5 Aerial and 3D analysis of Khoo Teck Hospital (Illustration: By Author, 2020)

4.2.2

Taverny Medical Centre

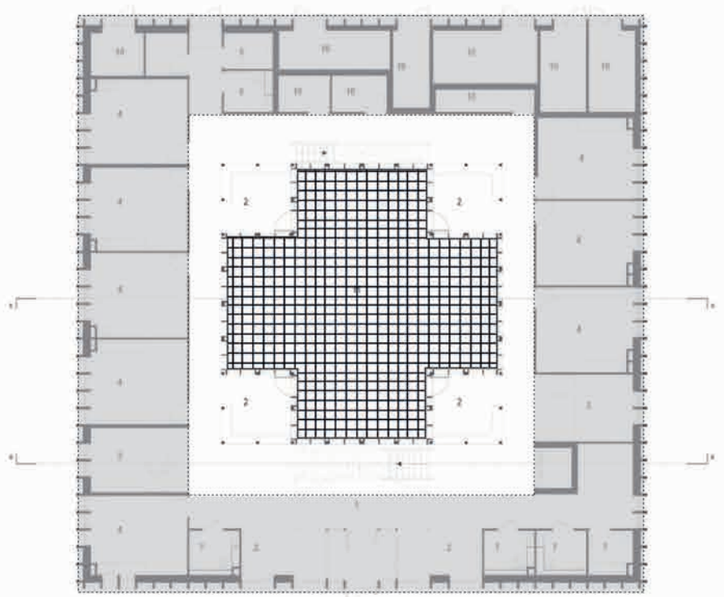
Designers: MAAJ Architects

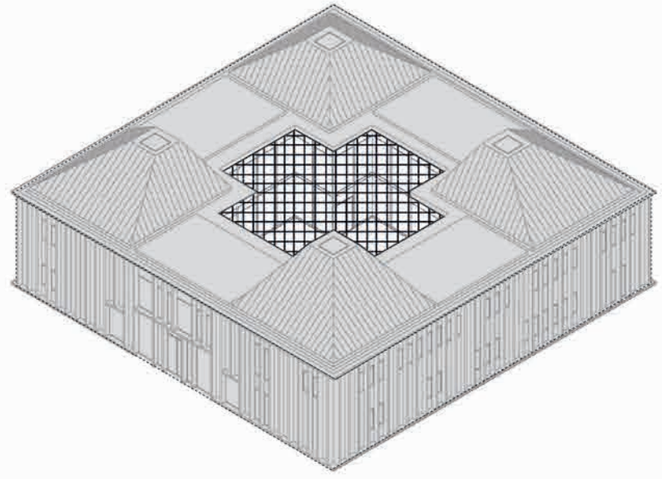
Location: Taverny, France

Title: Taverny Medical Centre

Project Year: 2020

Taverny Medical Centre makes use of environmentally-friendly building techniques, which is an important aspect in the proposed hybrid healthcare model. This medical facility in France aimed to create a multidisciplinary healthcare facility that was reminiscent of ancient cloisters. The building is meant to resemble a forest with balanced ideas between filled and empty spaces, mineral and vegetal characteristics in its building environment. One of its strong features is its use of green space. The facility grows its own medicinal plants which act as a reminder of the health and curative purpose of the Centre (Pintos, 2020).





HERBAL GARDENS

CONSULTATION ROOMS AND SERVICES

The facility is centred around this main healing systems (herbal garden)
Counselling spaces are looking into the herbal garden (courtyard)
Green spaces

Fig. 4.6 Aerial and 3D analysis of Taverny Hospital (Illustration: By Author, 2020)

4.2.3

Green Hospital

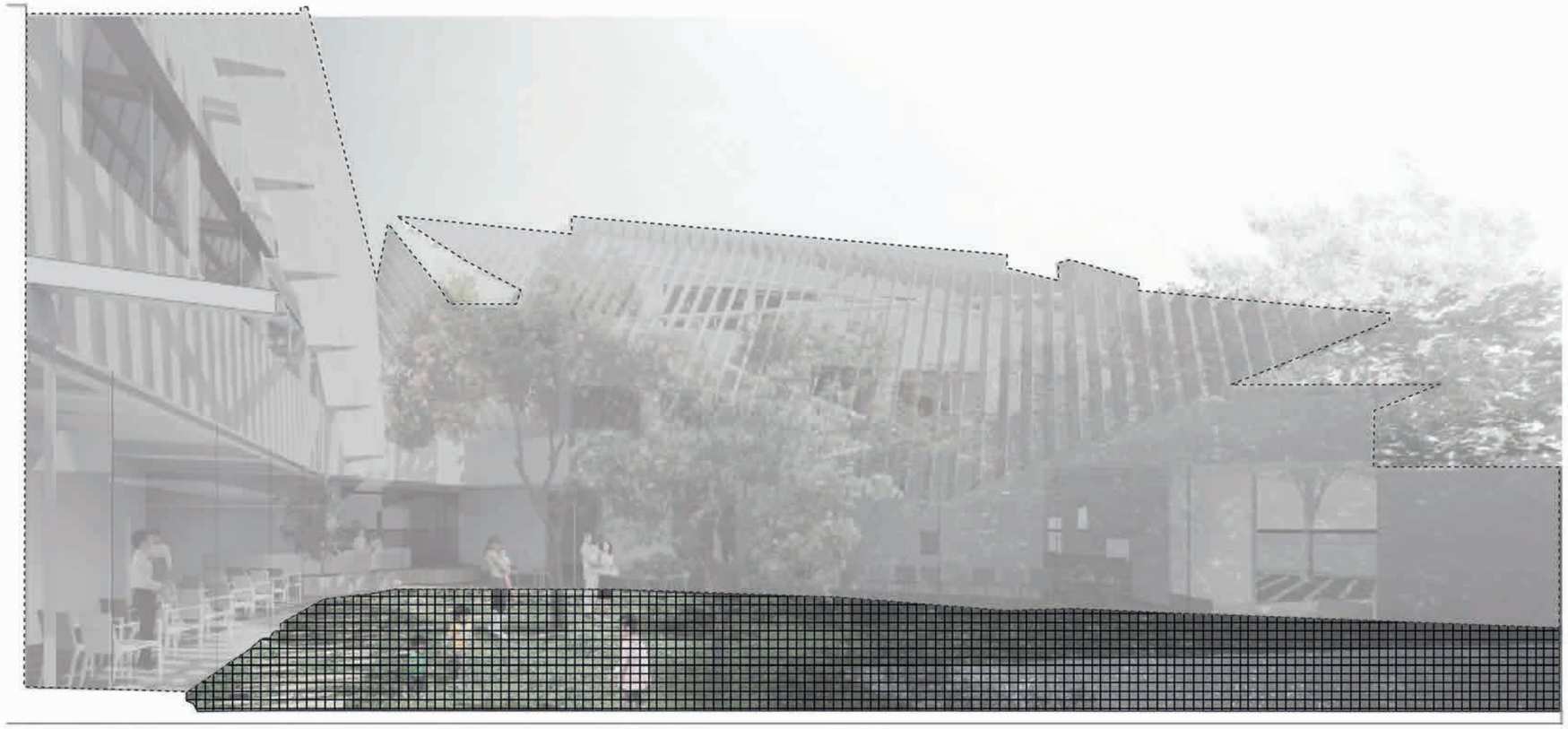
Designers: Kengo Kuma & Associates

Location: Tokyo, Japan

Title: Seijo Kinoshita Hospital (Green Hospital)

Project Year: 2017 (proposal)

The Green hospital is to replace the aging medical centre in Setagaya. It is centered around a landscaped courtyard garden. The hospital focuses on the use of natural light and connection to nature (Rosenfield, 2015).



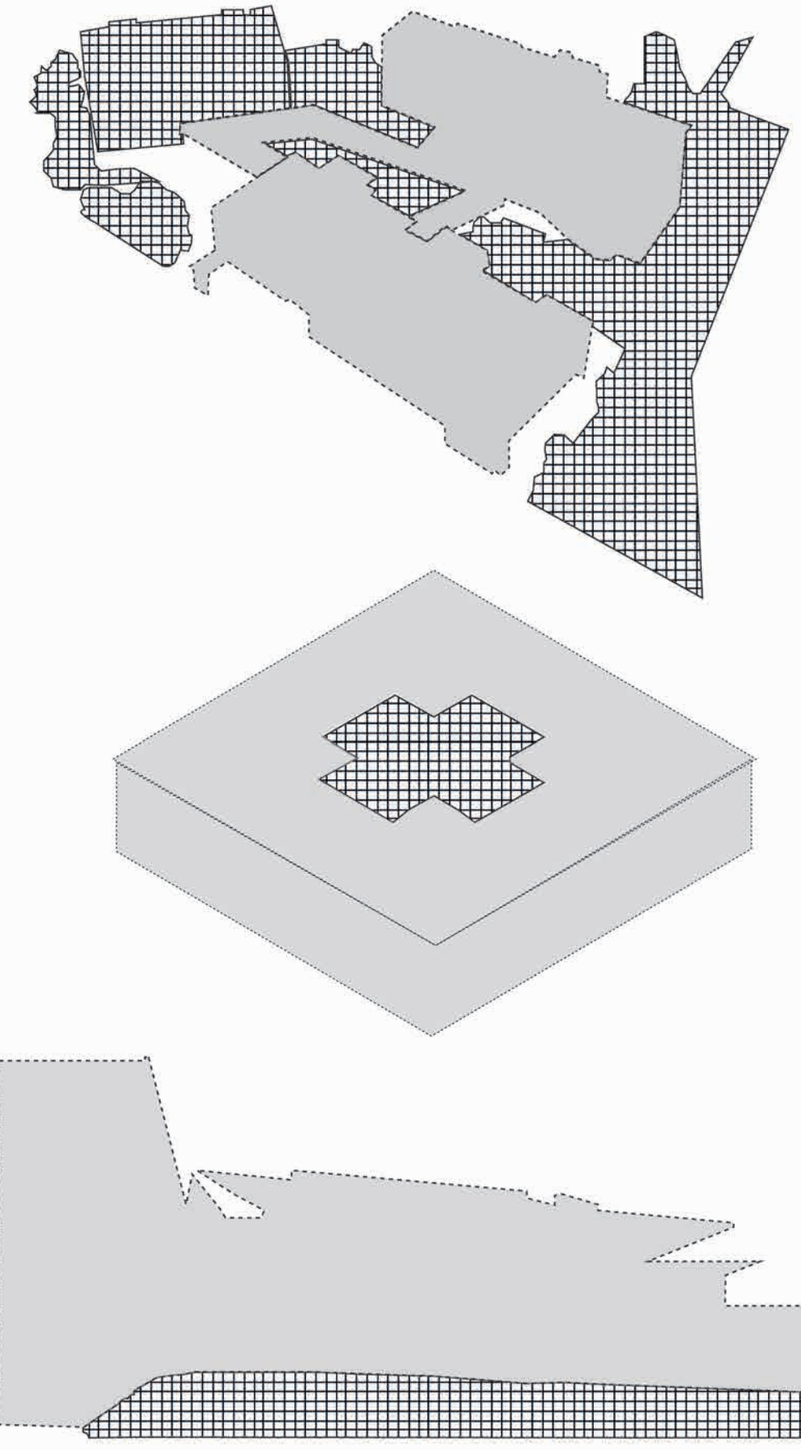
GARDENS

CONSULTATION ROOMS AND SERVICES

The Garden/courtyard is used as a space to recuperate for patients. Its additionally used as a waiting and play area for kids

Fig. 4.7 3D analysis of the proposed Green hospital. (Illustration: By Author, 2020)

Properties of hospitals to consider



✕
The buildings are linked in together

✕
Variation of building heights, as high as eight storey's as low as two

✕
Usually formalised work stations, with waiting rooms, research labs and reception areas

✕
Building area is quiet and not congested

✕
Permanent building structures

✕
Nested within an urban environment

Fig. 4.8 Composition of the western healthcare architecture. (Illustration: By Author, 2020)

4.3. Landscape / Biophilia Approach



4.3.1

Freedom Park

Designers: Mashabane Rose Architects , MMA, GAPP

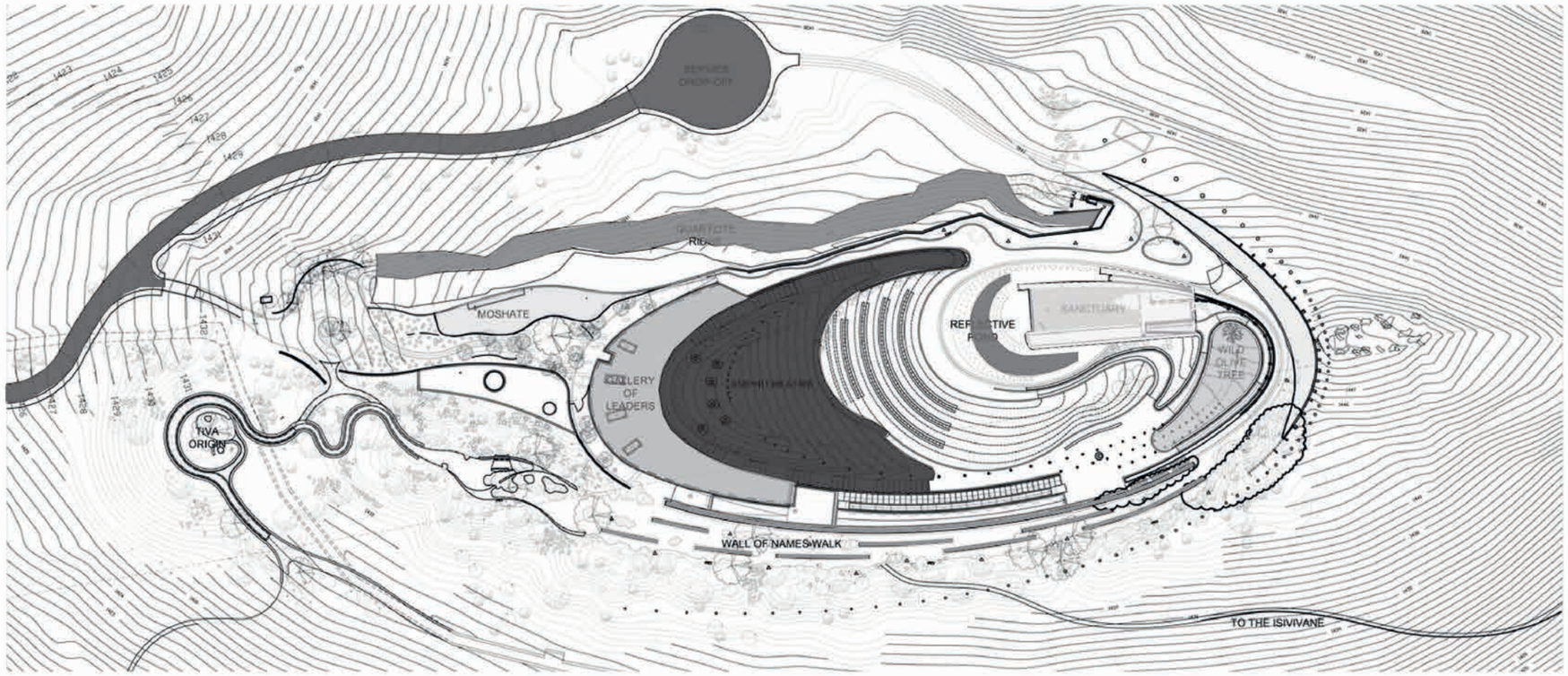
Location: Pretoria, Gauteng, South Africa

Title: Freedom Park

Project Year: Phase1 – 2008
Phase 2 – 2011

The Memorial is based on a narrative journey which is informed by the richness and authenticity of traditional African cultures and Indigenous Knowledge Systems (IKS).The whole landscaped site is a storytelling pathway of South African heritage and history.

The memorial represents a spiritual resting place for those who fought for the freedom and liberation of South Africa. It is a space of remembrance and healing of a nation and its people.Its invitation is open to all faiths and religions of the South African community (Landezine.com, 2014).



AMPHITHEATRE
SERVICE DROP-OFF
REFLECTION POND
QUARTZITE RIDGE
WALL OF NAMES WALK
GALLERY OF LEADERS
WILD OLIVE TREE
MOSHATE
SANCTUARY

The memorial embraces the idea of storytelling
Each movement or programme is strategically placed
to work together to create the narrative

Fig. 4.9 Aerial of Freedom Park. (Illustration: By Author, 2020)

4.3.2

The Symbiotic Matorra

Designers: Roberto Pasini, Patricio Garza, Andrea Ramos, Fernanda Rosas

Location: Monterrey, Mexico

Title: The Symbiotic Matorra

Project Year: 2017-8

The Symbiotic Matorra is a landscape project in Mexico. The project is based on the relationship between the urban and natural environment. It looks at how those two spaces can co-exist by combining metabolism and culturalism design systems (Ramos Rosas, 2018).



Fig. 4.10 3D of Symbiotic Matorra. (Illustration: By Author, 2020)

4.3.3

Fiona Stanley Hospital

Designers: HASSELL

Location: Perth, Western Australia

Title: Fiona Stanley Hospital

Project Year: 2014

The Fiona Stanley Hospital is recognized for its landscape features. The landscape is customized with physical and psychological healing plants. It has integrated the use of soothing spaces, pathways and views for sensory stimulation for patients. The landscape reinforces the natural character of the area, enriching the sense of place and belonging for the hospital. The bushlands have been retained, and occupied by 2,100 trees and 160,000 shrubs which are mostly indigenous, rich in the areas heritage and healing systems. Similar to the Khoo Puat Teck Hospital in Singapore the healthcare facility recognizes the strength of integrating nature into medical systems and encouraging a more sustainable path of healing people, buildings and environments (Hassell, 2015).

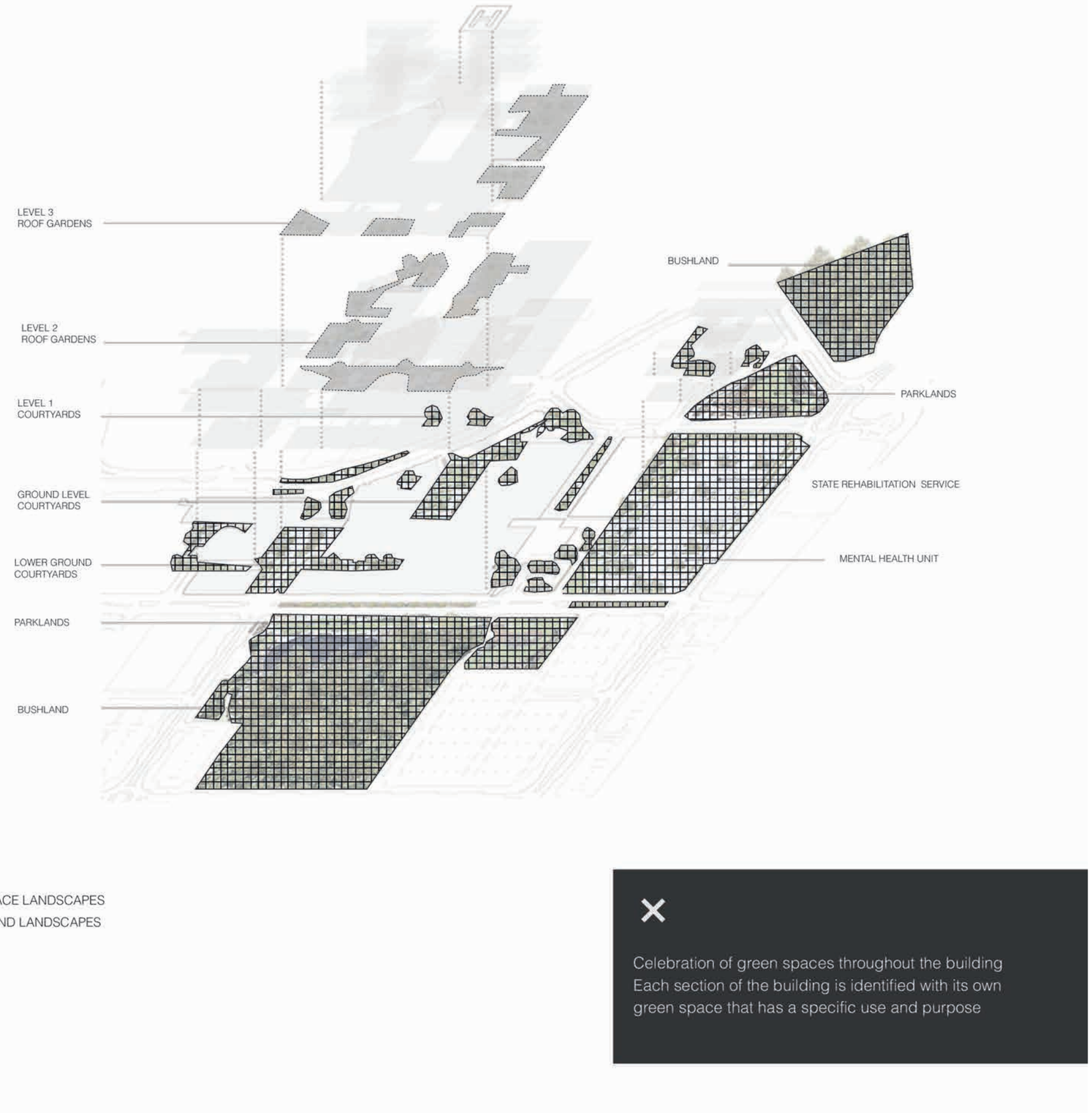


Fig. 4.11 3D of Fiona Stanley hospital. (Illustration: By Author, 2020)

Properties of landscapes to consider



×

Each landscape has a narrative

×

Based on healing gardens/planting

×

Horizontal to vertical gardening techniques

×

Combination of the urban and natural environment

Fig. 4.12 Composition of landscape analysis. (Illustration: By Author, 2020)

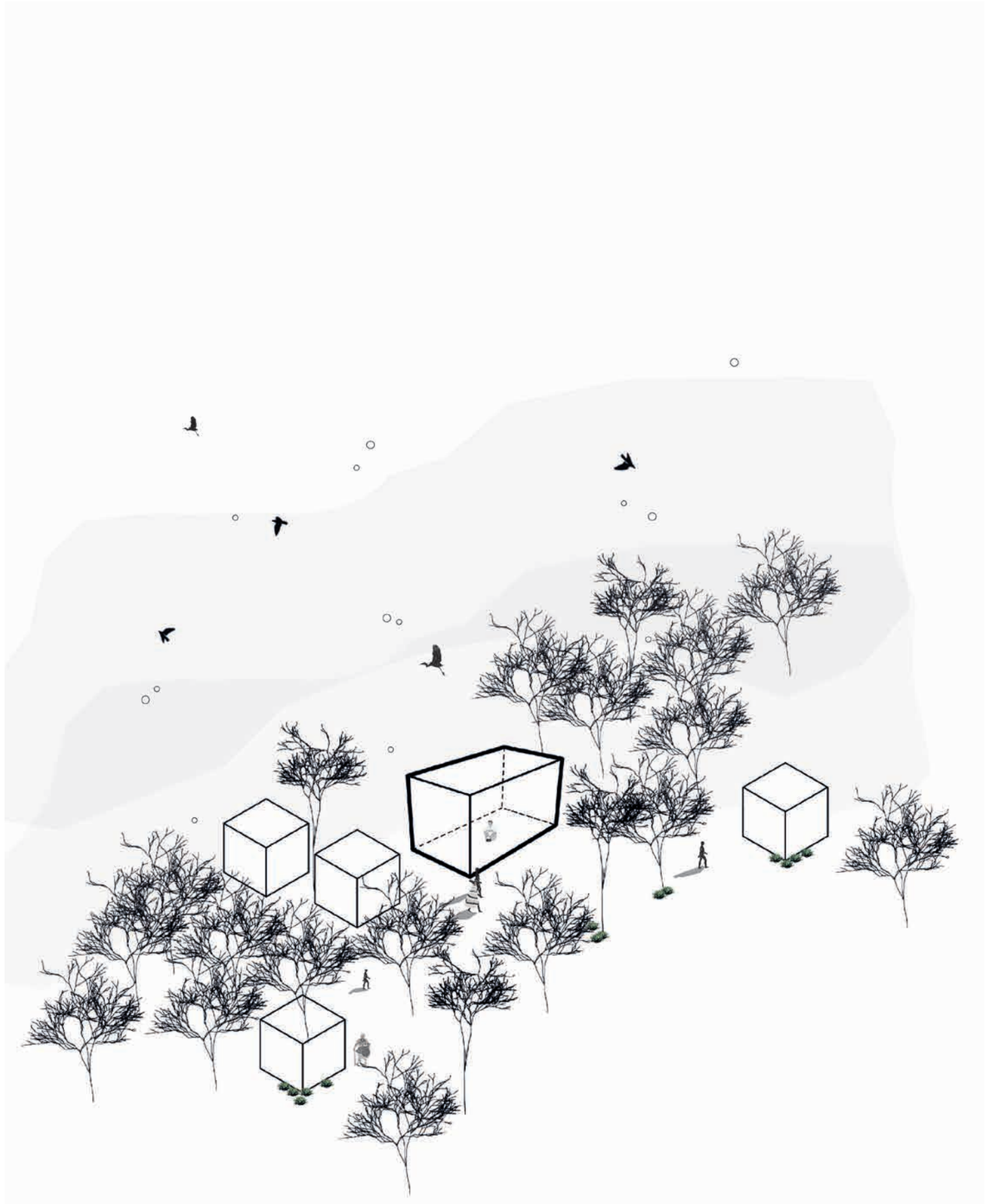


Fig. 4.13 Abstract diagrammatic expression to consider in design approach. (Illustration: By Author, 2020)

The precedent studies have indicated the need for any further design regarding the proposed building to be led by certain principles, such as:

The need for the landscape to have a narrative, each movement and pathway needs to be intentional and driven by an experience.

Fragmented buildings will work best at creating a narrative approach to the design, however, the buildings should be linked in and not isolated without reason. And fragmented structures could ease unintended congestion.

Buildings should not always have permenance, adapteable units are a great way to keep an environment full of character.

Variations of building heights could add to the character of the site. And bring in different experiences.

The building should not be dominant. There should be a balance between the urban and the natural.

Vegetation does not necessarily belong on the ground level, but could be explored vertically and could aid with sustainability of the building.

05

“Conclusions and Recommendations”

South Africa is still in its initial stages of developing a healthcare model that supports the incorporation of TM into the national health care delivery system. At this stage the country is still dealing with strenuous issues regarding the perception of TM and its practices in the medical field and has to overcome those influences in order to gain strides in identifying and promoting its own unique model. In the pursuit towards creating a new health-care model it is critical that community engagement is placed at the fore, so as to ensure that the building serves as an information centre that could aid in the insight of TM.

The built form should also demonstrate great integrity especially in its architectural language to ensure that patients and visitors experience a comfortable place that not only represents healing but additionally their cultural heritage. This centre will represent a new model for healthcare. It will undoubtedly be an attraction to both local and international visitors which will in turn help promote awareness of genuine indigenous medical work (Mdakane, 2008). It is evident then that this building should capture the true nature and purpose of TM practices in order to uphold a South African typology for healing. It needs to engage with both formal and informal requirements that represent both western and traditional practices. The celebration of both practices should be adhered to, varying from spatial planning, medical tools and work attire considerations. A building of this kind cannot avoid these important details of cultural representation.

The most promising area for the execution of this project is the inner city as it is known for its diverse users. However, the current urban architectural landscape has not fairly acknowledged TM practices in its spatial interventions and arrangements.

The existing architectural forms in the cities are a complete contradiction to the whole aim and purpose of this integration. By proposing this new healthcare system in the metropolitan, a more inclusive representation of social practices can be implemented and realized. The precedent studies mentioned in chapter 4 have indicated the vast differences in care and representation of both practices in the city and has evidently demonstrated that South African architecture has repeatedly not given indigenous medicine equal respect and consideration in its planning and provision for its users. It is within this gap that architects, planners and researchers can redefine the South African healthcare culture. The proposal is that all new interventions celebrate indigenous cultural practices without mimicking rural architecture, while still incorporating modern technology and architectural requirements of modern healthcare standards (Mdakane, 2008).

Understanding where the collaboration opportunities are possible is a key principle in the execution of this new building typology. The hybrid centre aims to promote a more humane and sensitive approach to design. The integration will be most evident in programmes such as the medicinal gardens which is the primary focus of the collaboration, while more fixed programmes such as consultation rooms will remain independent. This will ensure that there is no imposing upon or dictating how practitioners should be accommodated. The landscape will play a vital role in the mediation of the two medical systems. This new relationship will have the opportunity of correcting the failings of the national healthcare programme.

By incorporating the natural and raw elements of TM with the scientific technology and research methodologies of biomedicine an improved and inclusive healthcare system will be formed. This will not only improve the wellbeing of its users, but the surrounding natural environment as well. The integration of these two medical fields will undoubtably improve the rehabilitation of healthcare architecture as a whole.



06

“Brief Derivation and Requirements for the Proposed Building”

6.1. Clients (Identification of Partners)

The new healthcare facility also known as ‘Hybrid Care’ will be run as a state aided project, meaning it will have both government and non-governmental client bodies. It will be an NGO with governmental funding of operational expenditure. It will be run as a private sector organisation; however, the government will be part of appropriate corporate governance levels in relation to the Trust and Operating Company board, including certain stages of the delivery of care. The healthcare facility will be managed by a trust, who will be led by a board of skilled individuals representing different interests.

Clients involved:

Government representatives (Stakeholders):
South African National Department of Health (NDoH)
South African National Biodiversity Institute (SANBI)
Medical Research Council of South African (MRC)
Traditional Health Practitioners’ Council (THPC)

NGO representatives:
Traditional Healers Organisation (THO)
Council for Scientific and Industrial Research (CSIR)

Institutional representatives:
The University of the Witwatersrand (WITS)
Medical Practitioners



Fig. 6.1 Clients and representatives.
(Illustration: By Author, 2020)

6.2. Role of Partners, Funding & Main Aim of Collaboration

The main aim of this partnership is to harness the power of South Africa's major research, innovation and development organisations. The range of clientele will be able to ensure the long-term sustainability of the project.

Government representatives (Stakeholders):

South African National Department of Health (NDoH):
The National Department of Health are the drivers of the project. The project will be managed by the Provincial Health Department as they provide provincial healthcare services and the NDoH's role will be to formulate policies, and coordinate and support provincial departments in fulfilling their mandate.

South African National Biodiversity Institute (SANBI):
They contribute to South Africa's sustainable development through provision of biodiversity data and ecological infrastructure. They will assist in making decisions about land use and natural resources.

Medical Research Council of South African (MRC):
Established with a mandate to improve South Africa's health population through the funding of relevant research, innovation and transformation. They will drive the implementation of new treatments and medical devices for the facility.

Traditional Health Practitioners' Council (THPC):
Governed by a council appointed by the government to provide healthcare services within the traditional health practice. Responsible for licensing and qualifying traditional practitioners who will occupy the facility.

NGO representatives:

Traditional Healers Organisation (THO):
Professional organisation for traditional Health Practitioners
Will supply qualified practitioners for partial management of facility.

Council for Scientific and Industrial Research (CSIR):
African research and development organisation. Focused on research and technological innovation, which is a major factor for the facility.

Institutional representatives:

The University of the Witwatersrand (WITS):
Tertiary Institution in the Johannesburg Metropolitan. Renowned for its innovation and research-intensive approach to development. Will participate in testing and developing new remedies and medicines for the facility.

Medical Practitioners:
People with many years of healthcare management such as, Doctors, Nurses.

6.3. Definition of Zones & Spaces in Centre



Fig. 6.2 Ecology representation. (Illustration: By Author, 2020)

> “What’s profoundly lost in western medicine is the production line/ value chain, of making the medication. You have no sense of what the meaning is of ingesting a plant for healing. The chemical properties of a plant are one aspect of what that plant is. That plant is actually entangled in a whole ecology. And without the landscape it’s impossible for the plant to give you those medical properties that it has in order for you to heal the way your healing, so you actually ingesting the landscape, your ingesting life.”
>
> Dr. Sechaba Maape (2020)



Fig. 6.3 Composition of programme. (Illustration: By Author, 2020)

Public spaces:

Markets of York –

Pods used by a Cooperative of 20 healers who make use of the facility to grow and sell their medicinal plants / products, that are tested, approved and (some) developed in the proposed facility.

Pharmacy –

A formal shop selling prepared and packaged medicines. The pharmacy will consist of a store room and a preparation area where raw material is received, organised and displayed in a legible manner.

Café –

A small café located by the market and pharmacy zone for purchasing of refreshments.

Viewing Deck –

A view portal used as a map for the centre.

Intimate - private spaces:

Consultation rooms –

These are the most private parts of the centre. Designated rooms for both western and traditional doctors for examination of patients. These exclusive rooms will have their own waiting area, reception and ablution areas. Izinyanga treat one patient at a time similar to general practitioners and that will be the same system used throughout the private rooms. Each suite consists of two rooms to adhere to the private treatment. These spaces are located towards the end of the site.

''As you move towards the back people are drawn away from the public space so that they can administer a different type of formal healing that is connected to isolation."

Spaces of exchange:

Plant library –

Accessible to the public. Mostly used by patients making use of the workshop for medication preparations. Used to obtain plant information for illness or research purposes. The library will have different types of plants, living plants or dry plants with a labelled name and their medical purposes. The plant information takes you through the process of how to make the medication. How you actually process it in the workshop.

Workshops –

Accessible to patients for the processing of their medicines. A place where people can participate and process their own medicine, where they can actually be involved in the production of their own medication.
“Be involved in touching the earth - picking out the plant - taking it to a place/space where other people are sitting and processing the different plants, you can smell the different herbs in that environment – people are cooking some plants, pots are boiling in certain areas -other spaces people are drying the herbs”

Research and educational zone –

Working space equipped with computers for students and seminar rooms for training, learning and the exchange of information.

Pharmaceutical factory –

Factory used and accessible to staff who professionally deal with the processing and making of herbal medicines.

The landscape:

Medicinal gardens –

Different medicinal herbs on each terrace. These cover up almost half of the centre with the cultivation of 47 medicinal plants, shrubs or trees. The centre will be integrated with soothing spaces, pathways and views for sensory stimulation for patients and visitors. It will be accommodated by hundreds of these medicines which are mostly indigenous, rich in South Africa’s heritage and healing systems. The positioning of each plant will be dictated by its use of water, sunlight and soil type. The centre will create its own mini-ecosystem because it will attract different animals and insects.

Green Centre and Edu-pavillion –

Will be used for the cultivation of vegetation that grow in controlled areas. Plants that need to grow in a warmer or tropical climate will be planted in the greenhouse.

6.4. Site Selection

The site is located in Parktown within the Johannesburg Metropolitan Municipality and sits in the middle of the Parktown Health Sciences Precinct. The site brings opportunities of integration with nature because of its geographical history; its accessibility to commuters coming from surrounding communities; it is located in a civic medical precinct that focuses on research dealing with healing and training systems.

Regarding programme, the function of the building will be to offer spaces of healing. Dealing with both the scientific aspect which would include laboratories, consultation rooms and administration offices and the traditional aspect, which will include the medicinal plant nursery, plant library, consultation spaces and administration offices.

What will this new space do?

a. Form a new building typology for healthcare in South Africa
b. It will deal with medical and social integration
c. Create learning opportunities for both systems
d. It will allow a transparency of sharing materials
e. Safer medical system
f. Create an identity for an African healthcare facility



Fig. 6.4 Map of Parktown and surrounding areas. (Illustration: By Author, 2020)

07

“Design Development”

7.1.

Site Analysis



Fig. 7.1 Site topography sections. (Illustration: By Author, 2020)

GENERAL MACRO MAP

Broad land use + Guide to site

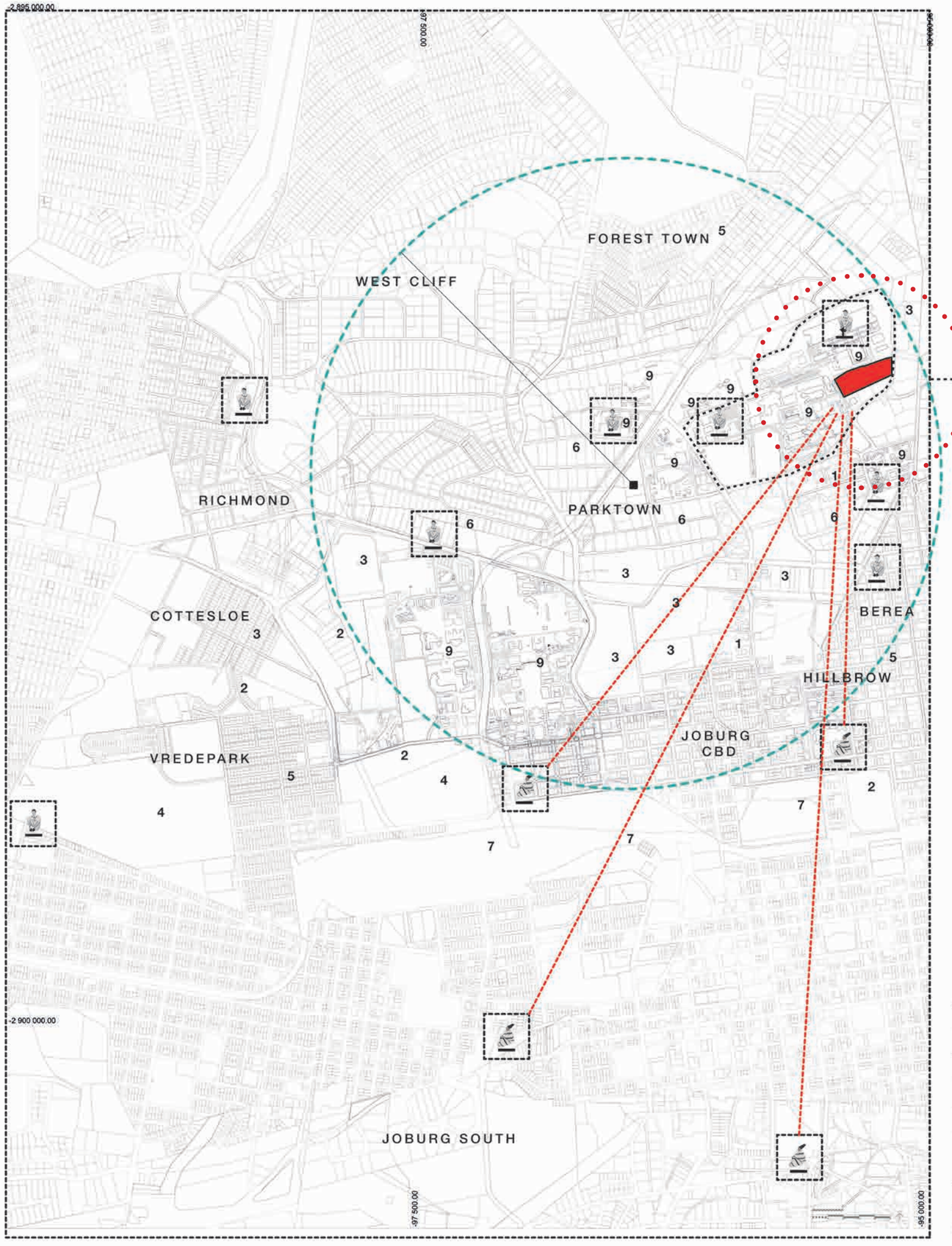
1 Public Institutions
2 Public Parks
3 Schools + Educational facilities
4 Cemeteries
5 Residential areas
6 Commercial + Offices
7 Public Transport
8 Mixed-use areas
9 University of the Witwatersrand

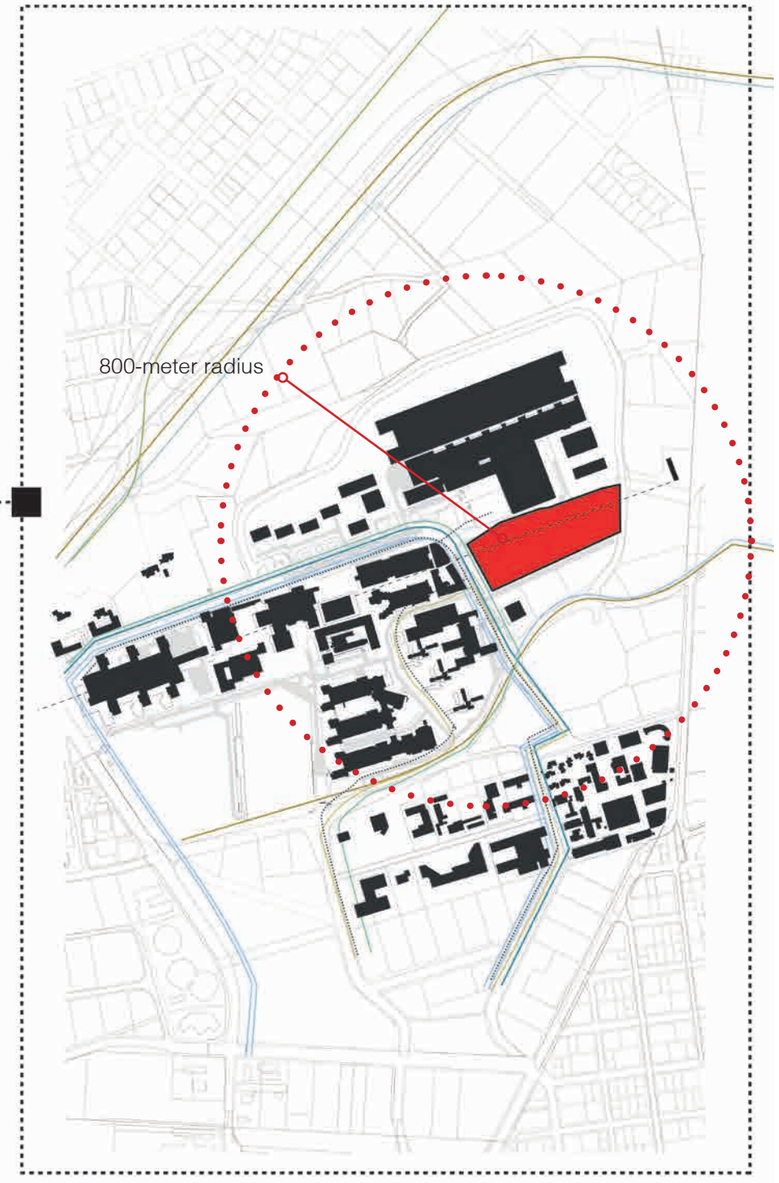
The new healthcare facility, will be situated in the Parktown Health Science Precinct in Johannesburg. This precinct is recognised for hosting healthcare systems which are innovative in research and ways of learning. The area has a rich historical association with countless medical students, doctors and nurses who practice and work in our communities today.

By placing this facility inside an urban environment could amplify a connection with the biomedical healthcare systems and the formal education in the community.



Fig. 7.2 General macro map of site and its surrounding areas. (Illustration: By Author, 2020)





Biomedicine facilities

Traditional Medicine / Markets

1 Public Institutions

2 Public Parks

3 Schools + Educational facilities

4 Cemeteries

5 Residential areas

6 Commercial + Offices

7 Public Transport

8 Mixed-use areas

9 University of the Witwatersrand

The area has seen a few developments over the past 20 years. Its major institutions include the Wits Education Campus and the Nelson Mandela Children's Hospital.

The site is surrounded by a variety of facilities ranging from schools to commercial offices. It's within an 800-meter radius of different learning and healing centers, where skills and knowledge can be exchanged.

Fig. 7.3 Surrounding programmes. (Illustration: By Author, 2020)

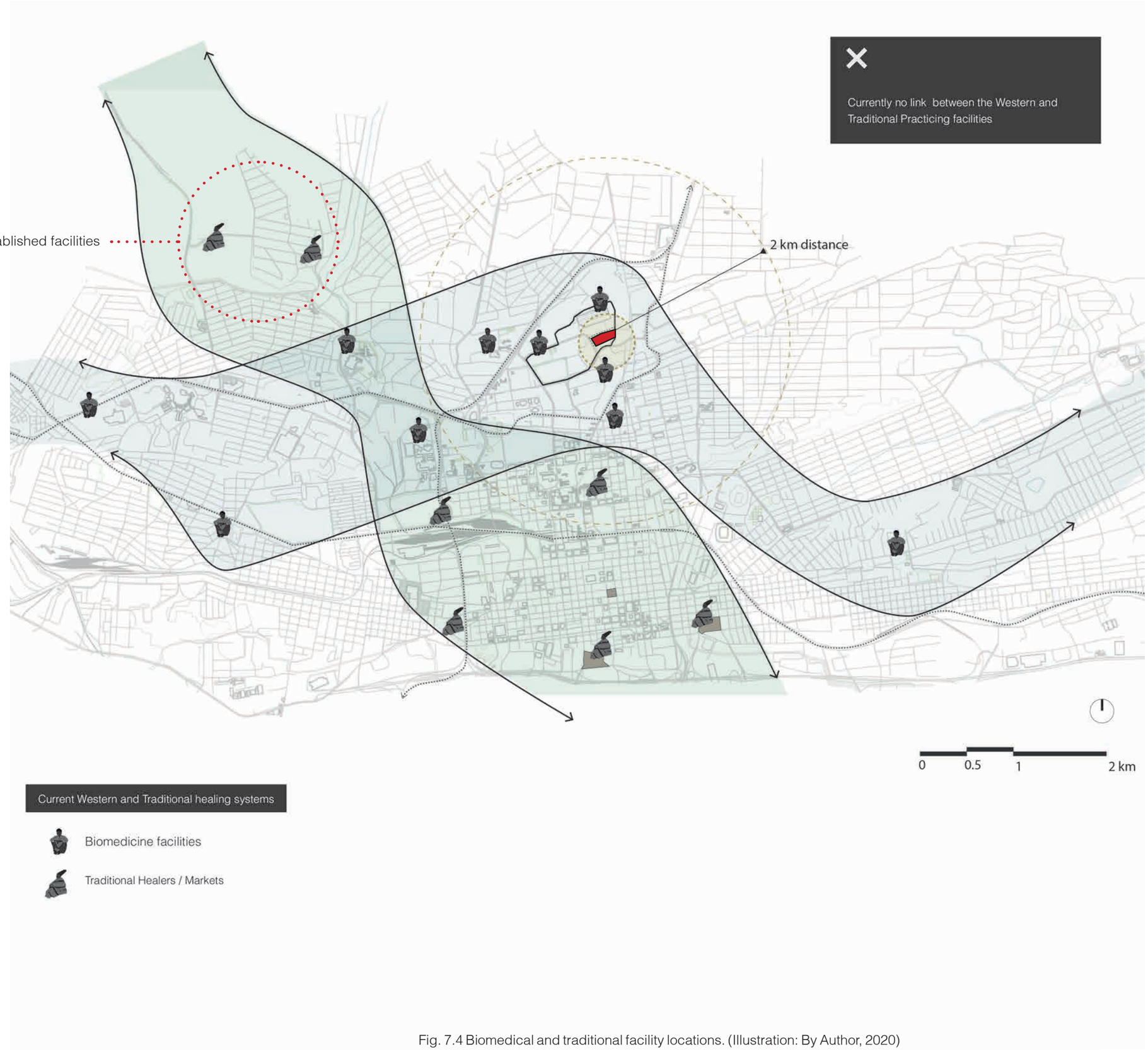


Fig. 7.4 Biomedical and traditional facility locations. (Illustration: By Author, 2020)

With regards to the existing western and traditional facilities, the two systems do not seem to cross paths. Western practices are located on a northern plane passing through the city, while the Traditional practices travel on a more southern plane. The two do not seem to connect. This is due to the Apartheid and urbanization spatial planning that had segregated people of colour to the southern parts of the city.

Placing the proposed health care centre in the medical precinct will give both systems the opportunity to meet, connect, learn and grow together. Bringing a more plural and transparent healthcare system into the city.



The site is easily accessible. There is a network of various transportation routes which allows for different types of visitors and workers to commute in and out of the precinct. The two major routes of entry onto site are York road and Princess of Wales Terrace Road.

York road is the busier road, it has wider walkways and thresholds. there is a variety of vehicles and transport systems passing through every day. This route would be more suited for recreational purposes and public engagements such as the healing garden and markets.

On the other hand, Princess of Wales Terrace is a much more restricted road, it is quiet, and has narrow walkways. This side would best fit private programmes such as consultation rooms.

Fig. 7.5 Transportation modes. (Illustration: By Author, 2020)

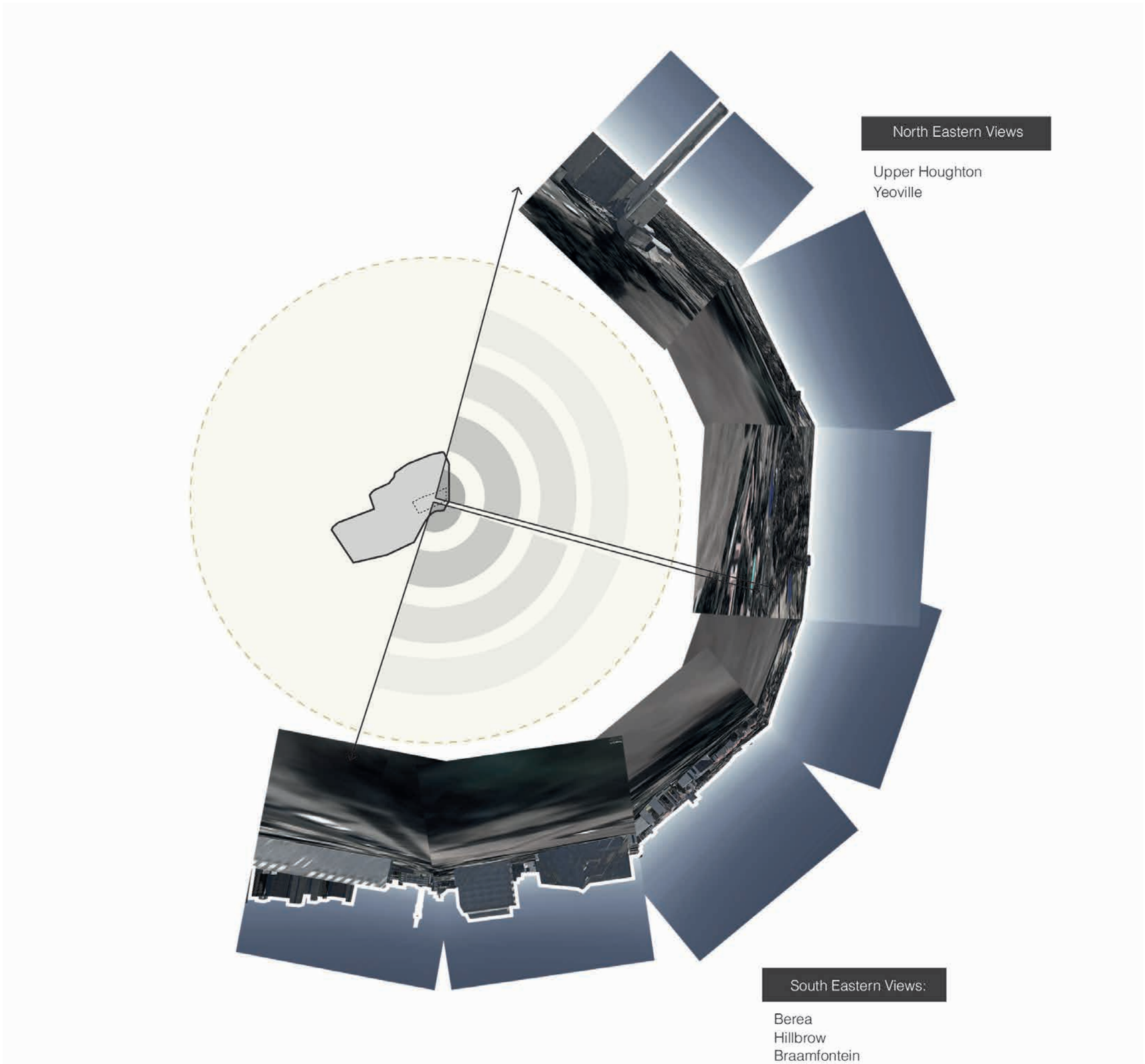


Fig. 7.6 View from site. (Illustration: By Author, 2020)

Because the site is set on higher ground than its neighbouring buildings, this gives it a 180 degree clear-view of the north east (NE) and south east (SE) areas of the inner city of Johannesburg.

york road

These site photos illustrate the harsh conditions of the site. The surrounding buildings are solid and uninviting and the edges are rigid and impermeable.

The ground plane on York road is mostly even and its openness allows commuters to easily engage with one another. As one moves further down the site however, Princess of Wales Terrace, the ground plane becomes steeper and forms a barricade next to the pedestrian walkway. Leaving the present site conditions unchanged would force the public to remain on York road, while the more private and isolated activities would be placed furtherdown the site.



princess of wales terrace road



Fig. 7.7 On-site photos. (Illustration: By Author, 2020)

Parktown health Science Precinct:

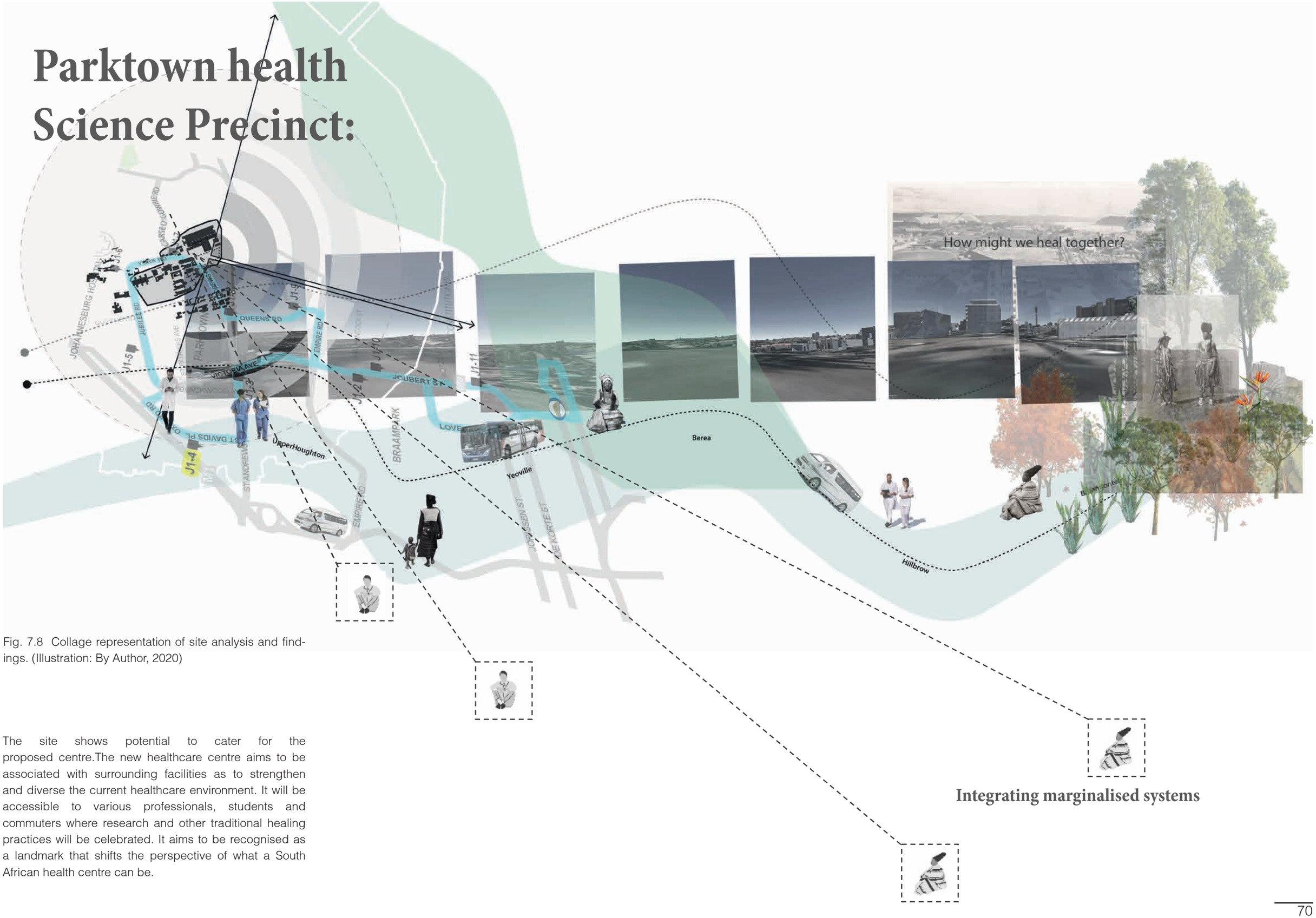
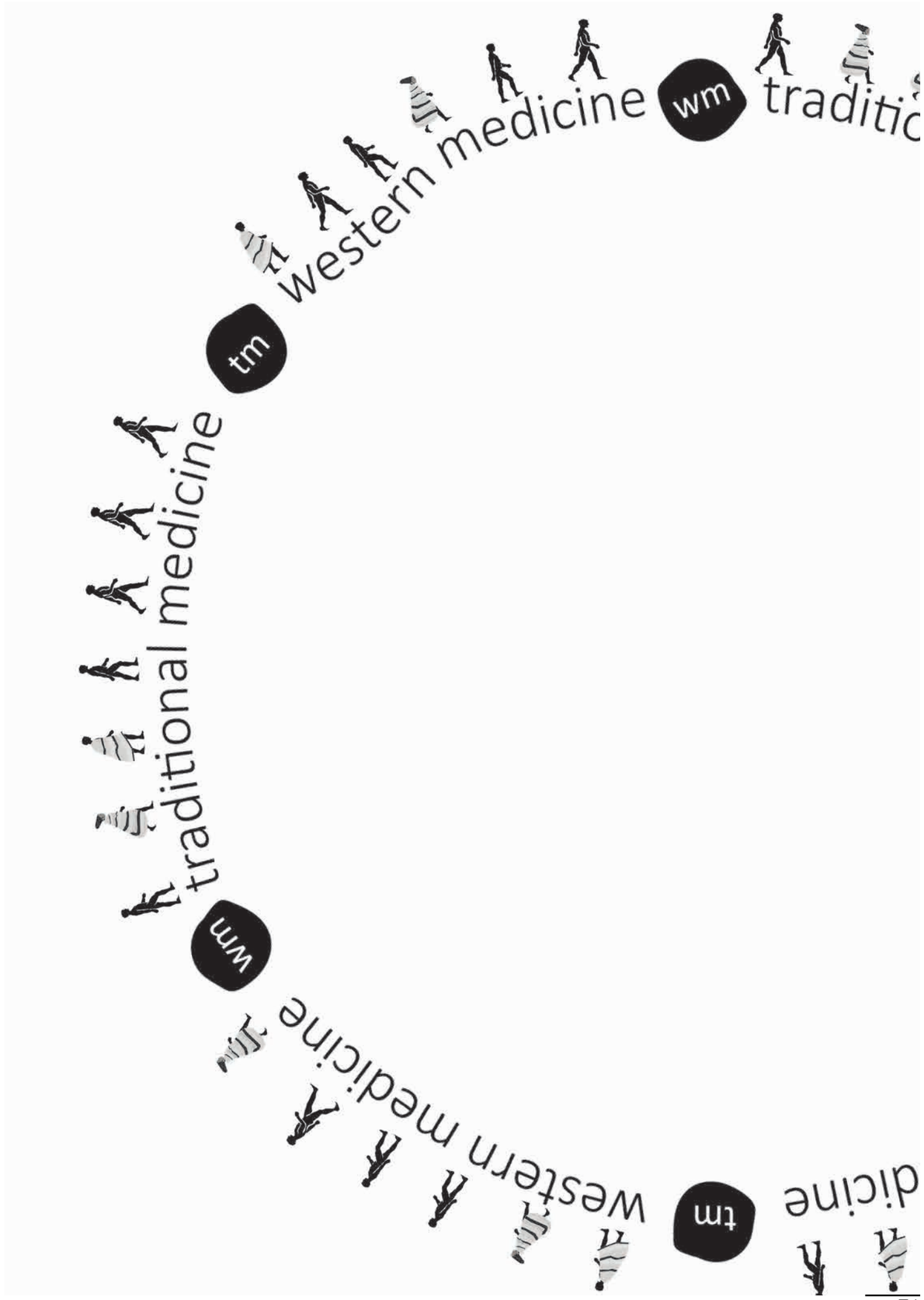


Fig. 7.8 Collage representation of site analysis and findings. (Illustration: By Author, 2020)

The site shows potential to cater for the proposed centre.The new healthcare centre aims to be associated with surrounding facilities as to strengthen and diverse the current healthcare environment. It will be accessible to various professionals, students and commuters where research and other traditional healing practices will be celebrated. It aims to be recognised as a landmark that shifts the perspective of what a South African health centre can be.

7.2. Conceptual Thinking



ritual

/ˈrɪtʃʊəl/

noun
plural noun: rituals

a series of actions or type of behaviour regularly and invariably followed by someone.

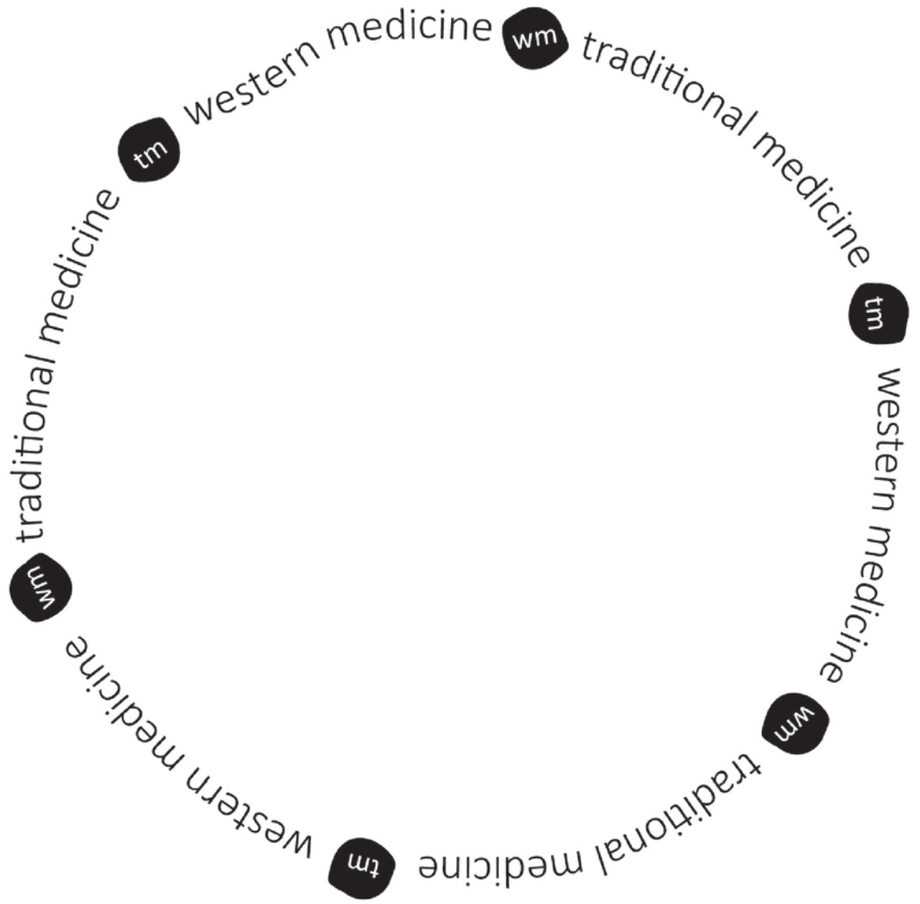
Rituals reinforce beliefs, behavior, and values. Whether the ritual is religious or not, they induce conformity, structure, and a sense of belonging.

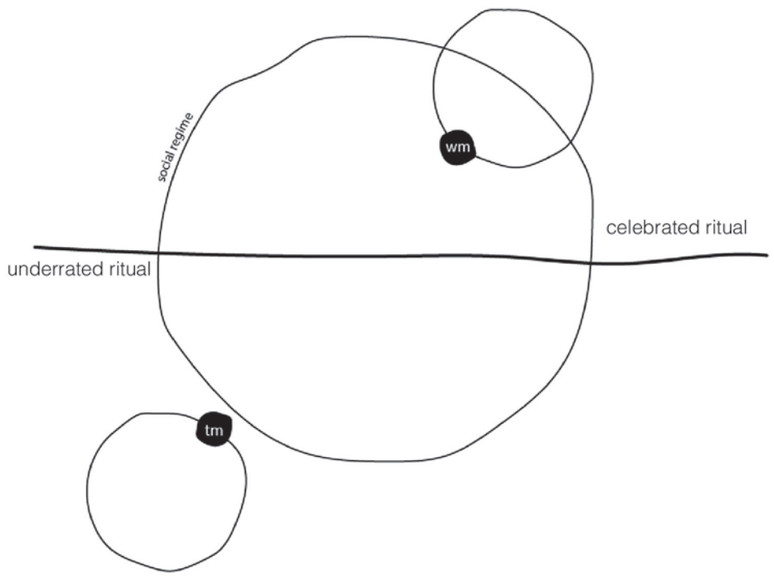
service

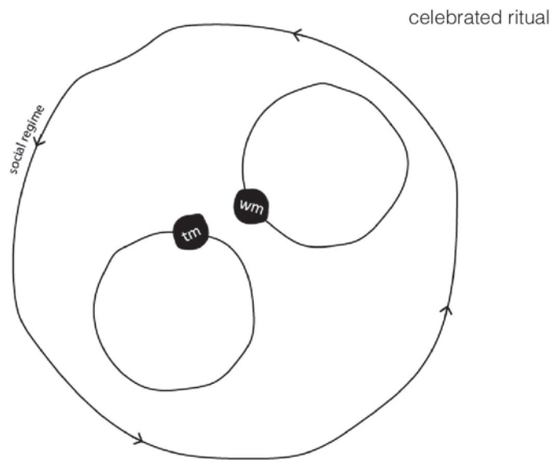
celebration

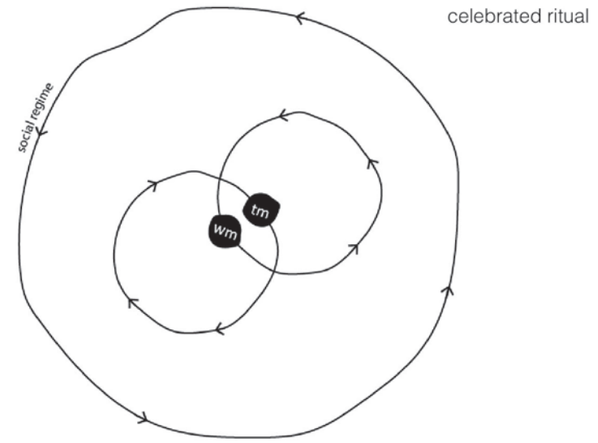
practice

procedure









states view

States view of healing practices.
There is a lack of integration between the two major healthcare practices used within the South African community.

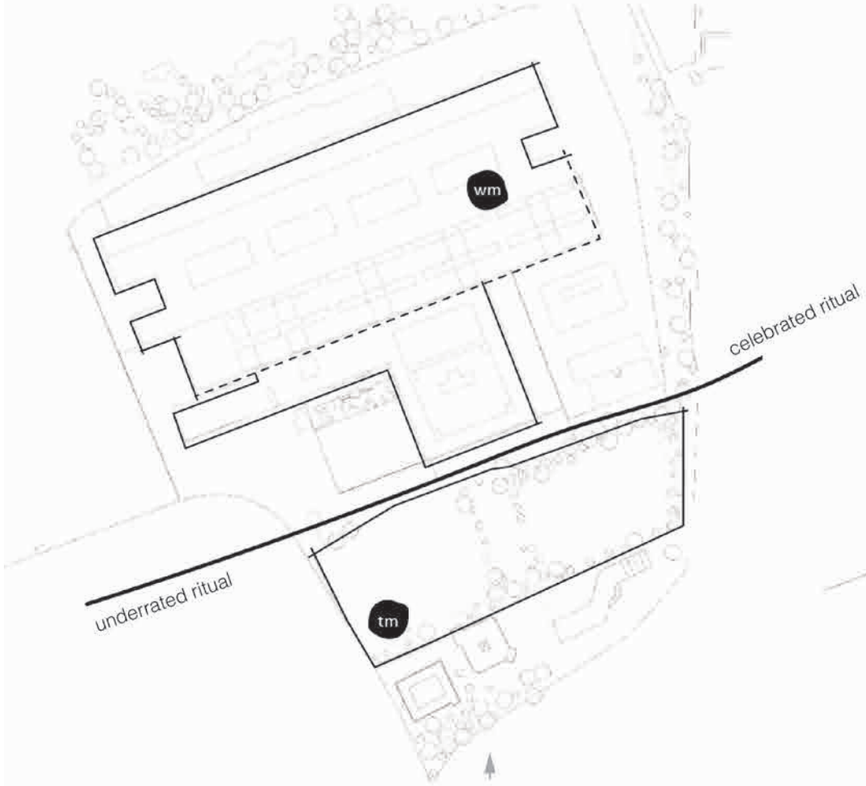
transition

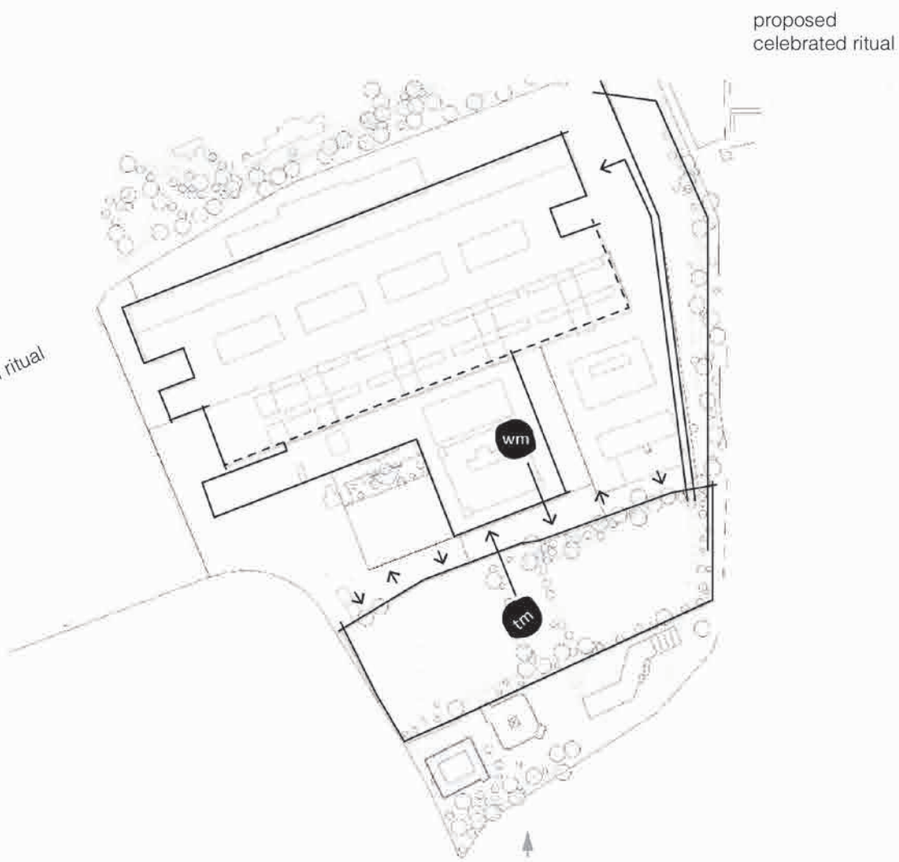
Current anthropological state of mind, formed by the conditions in our urban environment.
There is a high occurence of people consulting with both traditional and medical doctors, without disclosing that fact to either practitioner. However, people have started to embrace the benefit of both healthcare practices.

new typology

Looking at the possibility of a collaborative space between the two healthcare practices:
- Transparent healthcare system
- Effective communication
- Hybrid healthcare
- Shared educaWtion practices
- Two way referral
- Access to appropriate and affordable primary care
- Choice of service
- Health needs fulfilled

Fig. 7.9 Conceptual thinking diagrams. (Illustration: By Author, 2020)





applying theory to site

The General Hospital is dominant and takes precedence over the healthscience precinct, similar to the way western medicine is portrayed within society today.
On the other hand, the vacant site is overlooked and disregarded, similar to the way traditional medicine is portrayed socially.

site opportunity

The vacant land across from the General Hospital offers an opportunity to challenge the dominant hierarchy of Western Medicine. Juxtaposing the two medicinal schools of thought will encourage a more collaborative approach to medical care.

Overall, the site shows great potential in integrating the two systems through a spatial intervention. With the robust, dominant and massive form of the general hospital adjacent to site, it is clear that a new way of thinking and constructing a healing space is socially and environmentally needed.
It is time to view ritual in a more engaging, sensitive and intimate way. A way in which the building does not dominate its natural surrounding, but rather, co-exists with it in a manner which promotes sustainability and well-being.

Fig. 7.10 Conceptual building analysis diagrams. (Illustration: By Author, 2020)

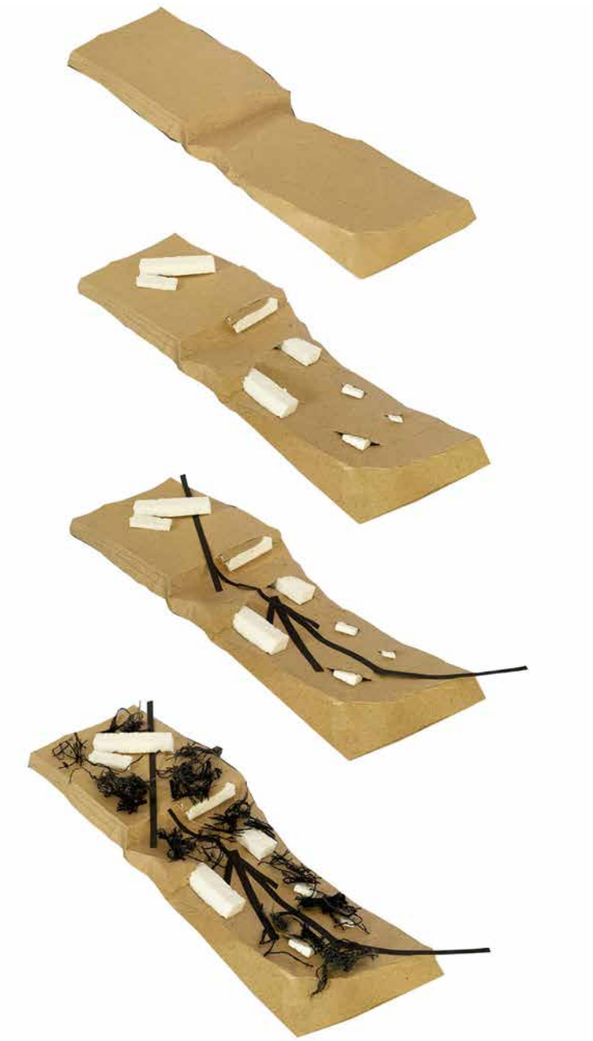
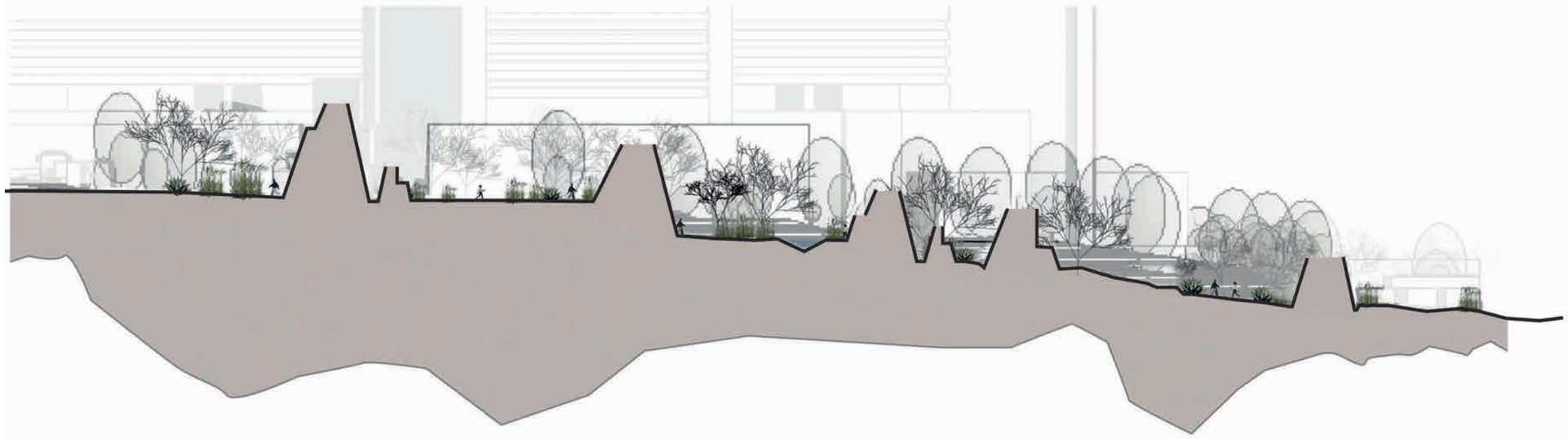


Fig. 7.11 Charette, conceptual models. (Illustration: By Author, 2020)

Fragmenting the building encourages social interaction as users would need to engage one another to successfully navigate the entire collection of spaces. The buildings could disintegrate from the geometry to the array showing progression of programme and highlight the process involved in healing systems.



Fig. 7.12 Fragmentation diagrams. (Illustration: By Author, 2020)



The progression of the buildings into the ground / landscape demonstrates the importance of acknowledging and responding to the ground, which the current adjacent building is not doing. The new buildings will look as if they grew straight out of the ground, just like plants do. This approach is opposite to that of the Johannesburg General Hospital.

Fig. 7.13 Conceptual thinking of the landscape 01. (Illustration: By Author, 2020)

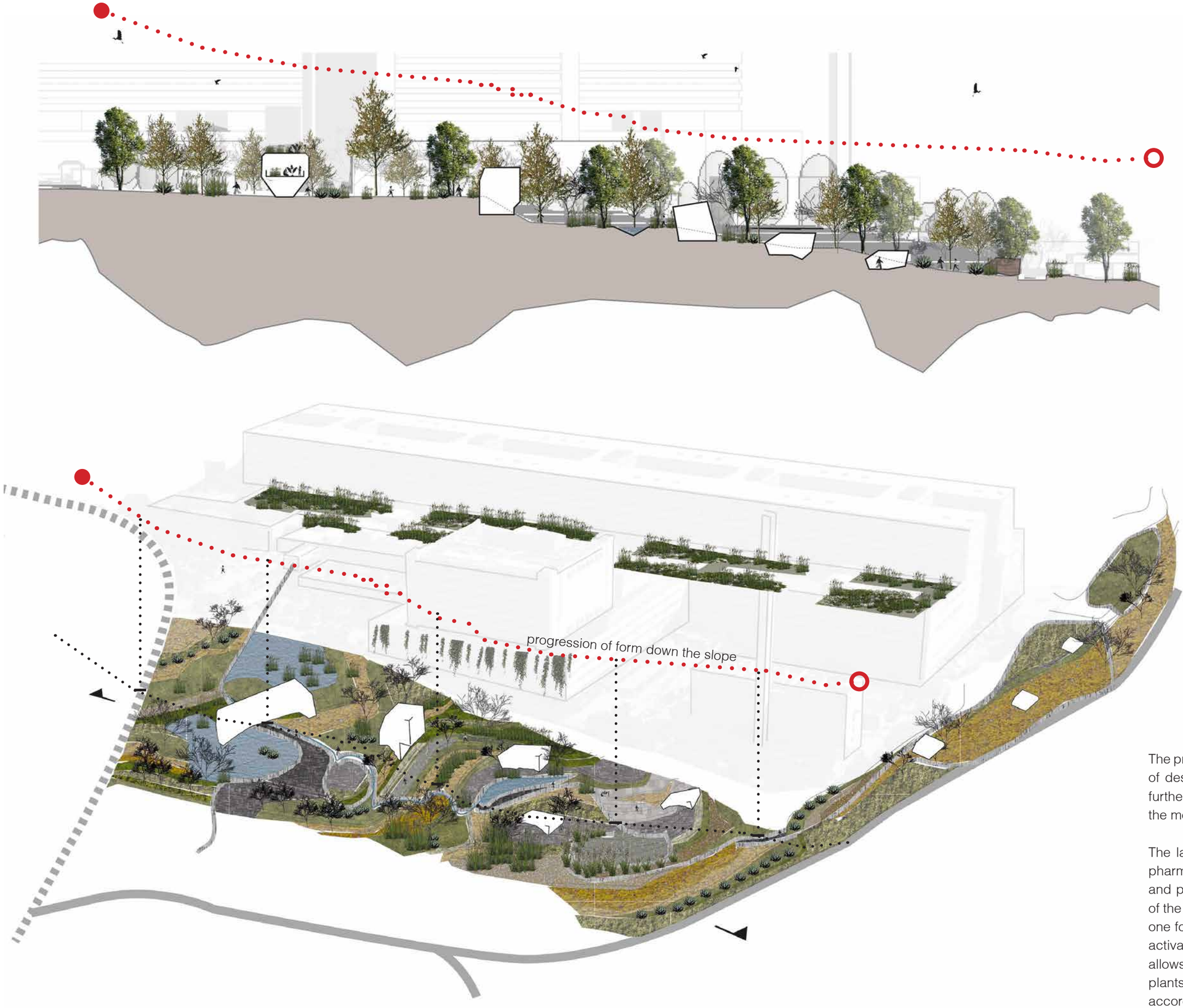


Fig. 7.14 Conceptual thinking of the landscape 02. (Illustration: By Author, 2020)

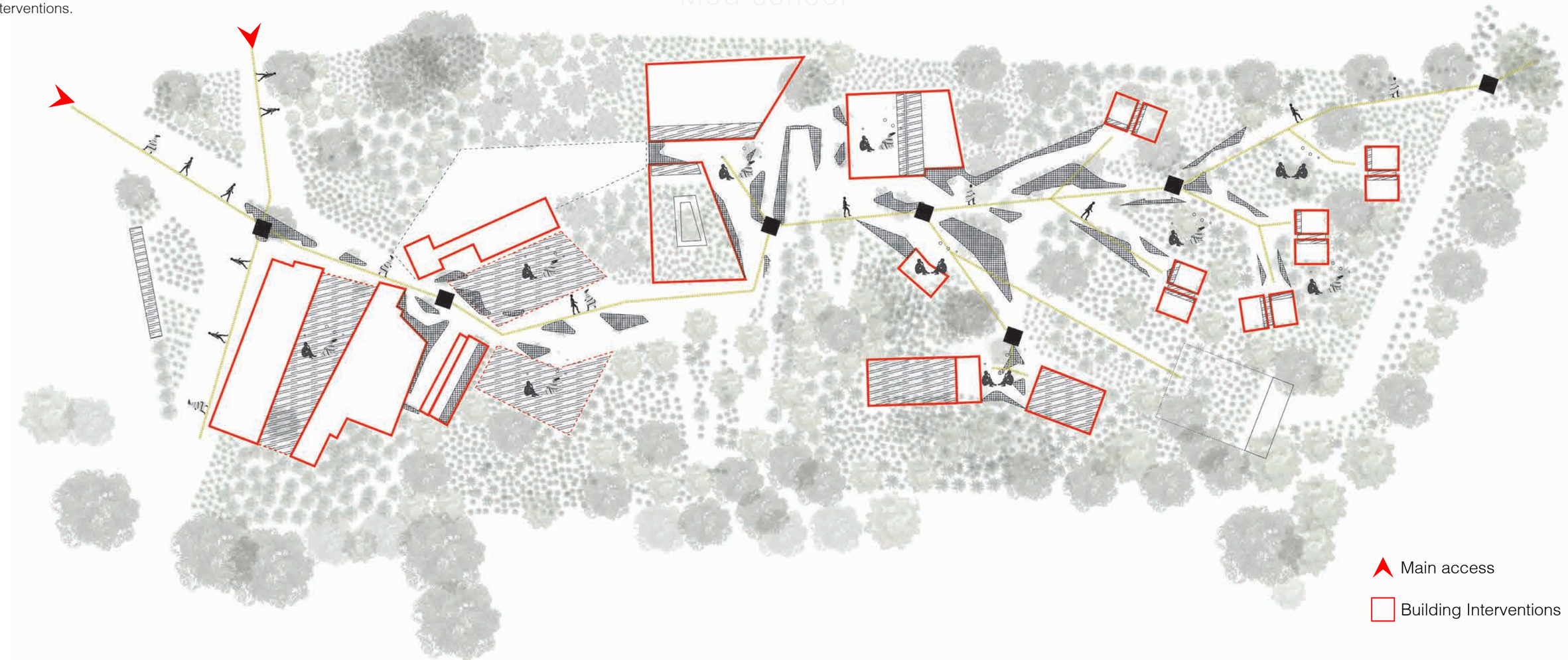
The progression of form shifts away from a prescriptive way of designing towards the intuitive. As buildings progress further down the site, they transition from the removed to the merged, connecting the programmes to the site.

The landscape itself will be seen and experienced as a pharmacy, it is where the real healing takes place. Visitors and patients will be invited to take part in the processing of the medicine. The walk through the landscape prepares one for the healing process. It is meant to psychologically activate your healing, while the making of the medicine allows one to understand the process. The Healing garden plants, shrubs and trees will be organised and located according to their natural needs.

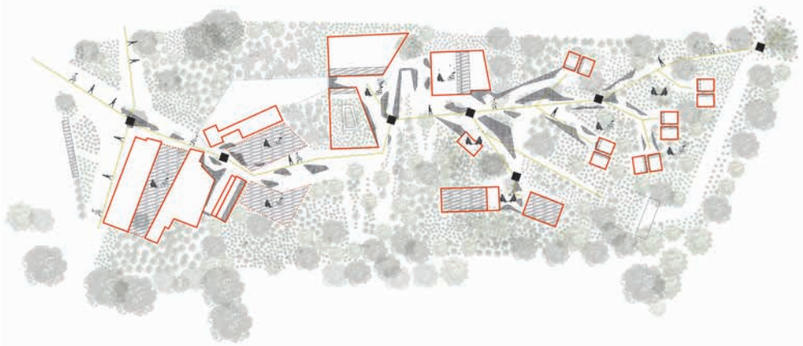
7.3. The Proposed Buildings

The Concept

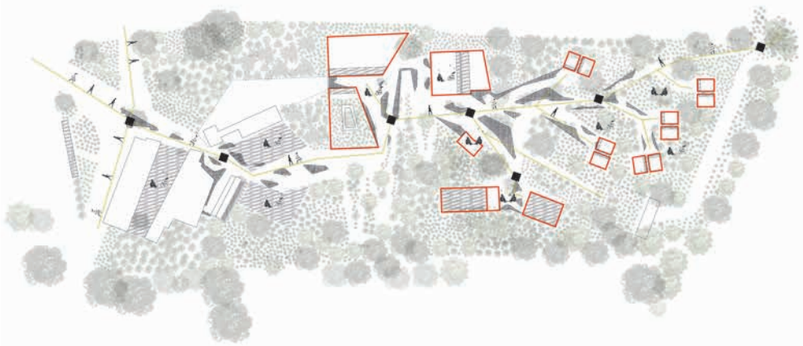
The buildings are arranged and positioned to create a relationship between people and the landscape. They can be seen as an interface between the two. The hybrid centre highlights the importance of embracing the healing process through its use of different pathways to different healing nodes. The landscape is represented as the actual healer mediating between people and the building interventions.



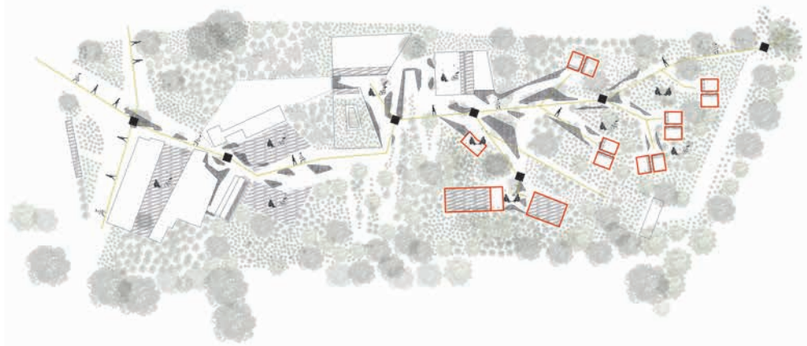
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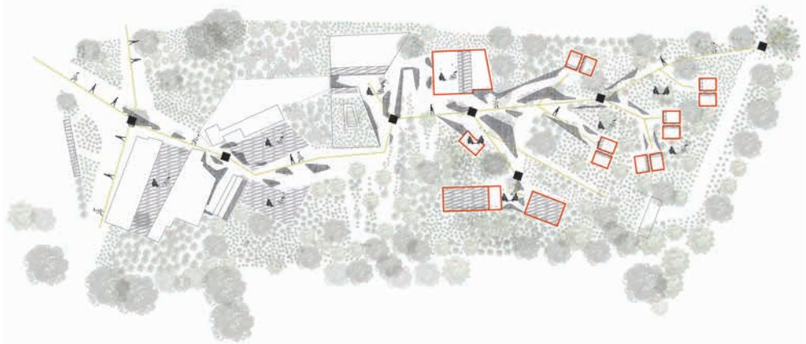
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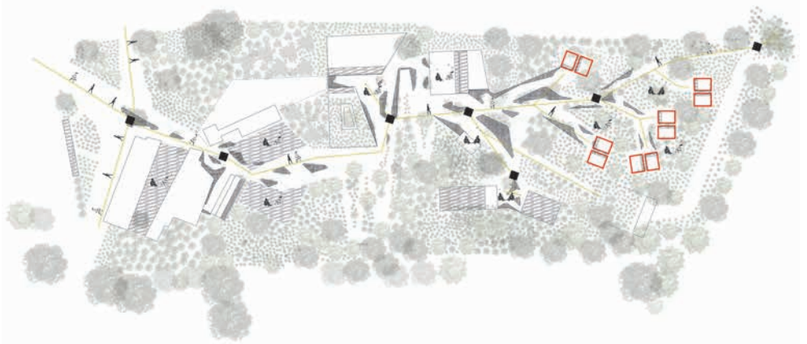
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....



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1.
The buildings are fragmented, speaking to the idea of deconstructivism. By fragmenting the buildings and approaching it in smaller interventions could bring a more socially engaging approach to healthcare architecture which is well represented in traditional medicine.

2.
The buildings start to dissipate down the pathway as to sit sensitively on site while still achieving their functions.

3.
Disintegrating from the geometry to the array could show progression of program and highlight the process involved in healing systems.

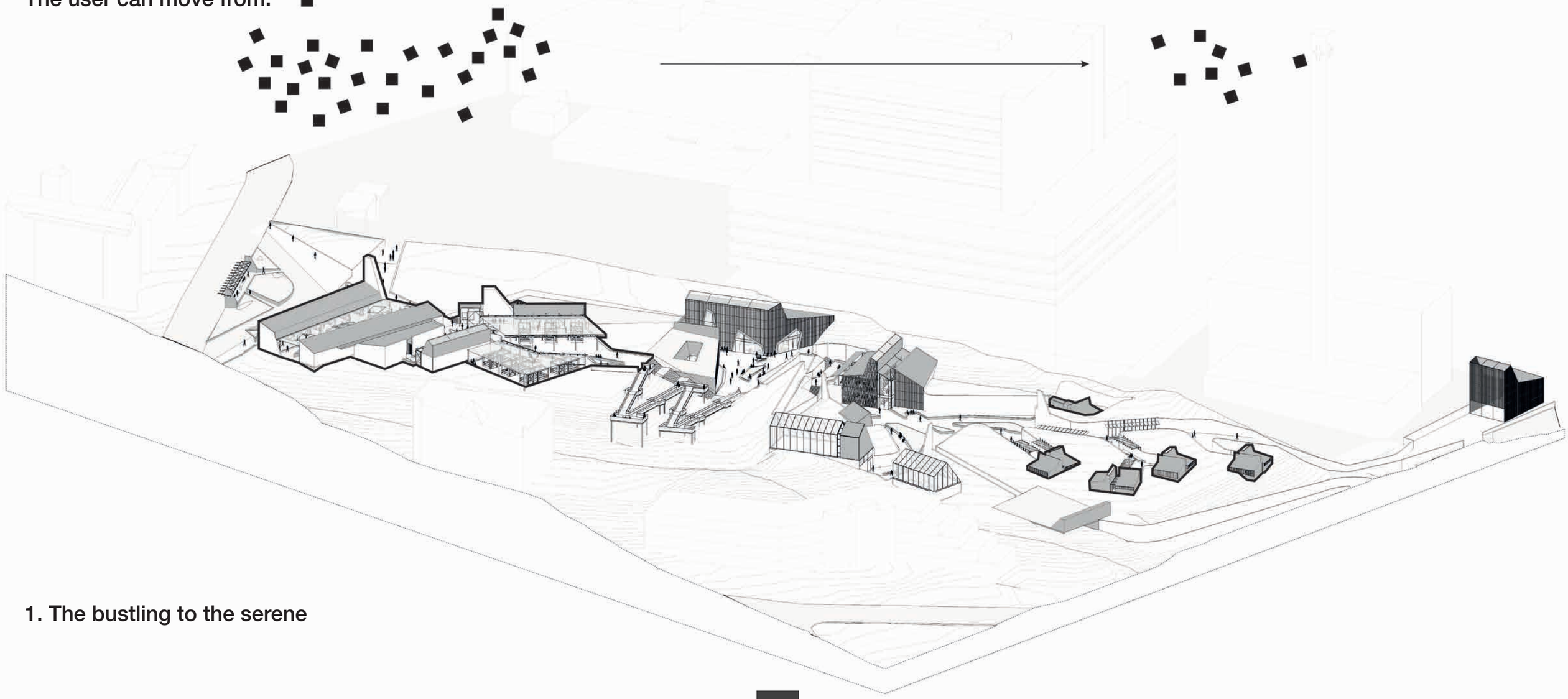
4.
Hybrid Care aims to break the idea of using symmetry by creating architecture that grows and forms within the landscape allowing for a more sustainable way of dealing with healing systems.

5.
From the building placements to the natural form of the landscape, each intervention is driven by the experience each user can receive in the Centre.

05 Principles of influence

The incorporation of traditional practice with western practice gives the user alternatives to which process of healing they want to undertake. The architecture alongside the landscape encourages the user to embrace healing in different forms and ways.

The user can move from:



1. The bustling to the serene

1



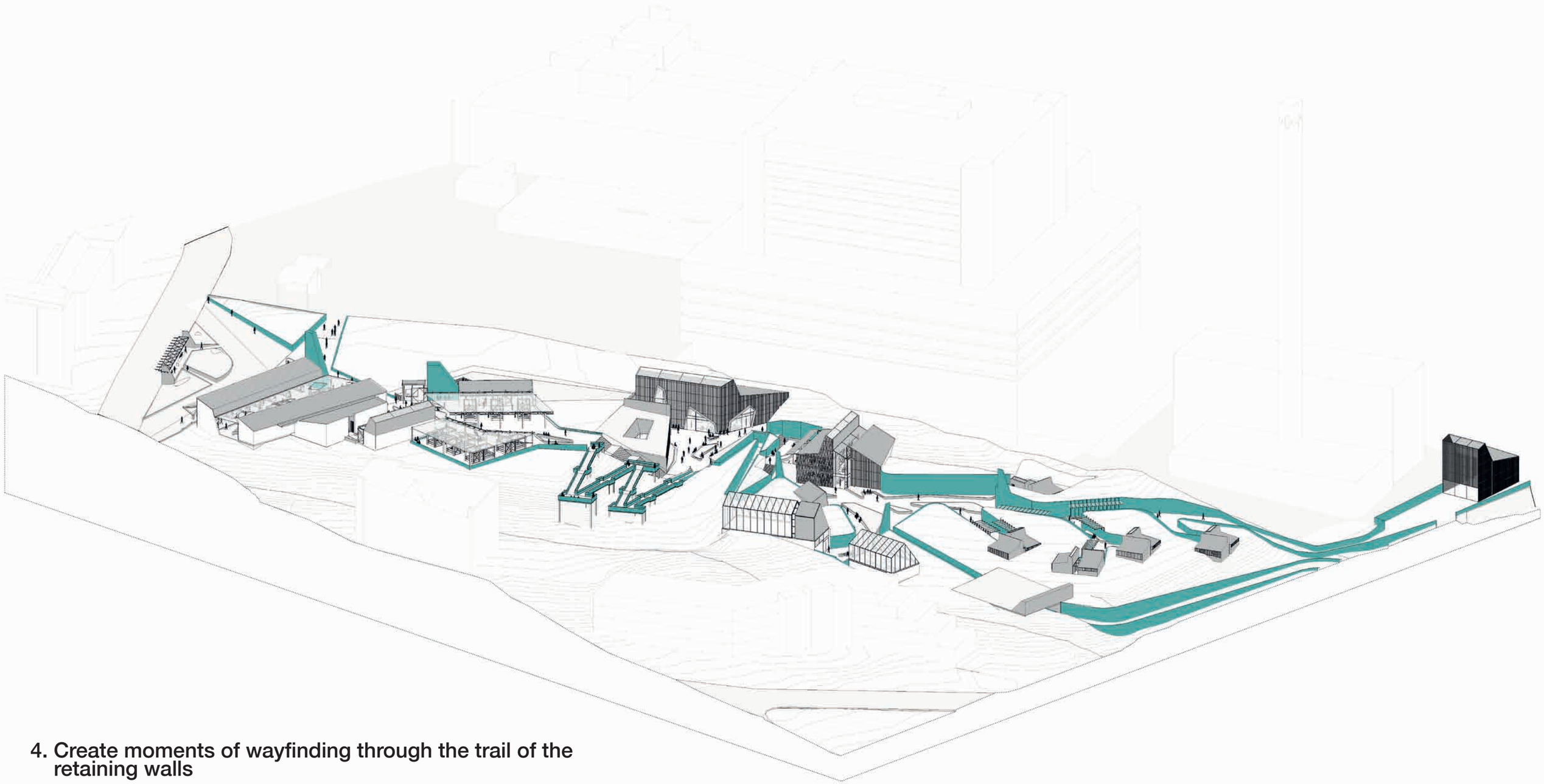
2. Between the buildings and the landscape

2



3. From the emerged to the submerged structures

3



4. Create moments of wayfinding through the trail of the retaining walls

4



5. And move through thresholds of exchange and interaction

5

The Programme

A Medicinal Gardens

B Building interventions:

01 Markets on York

02 Information Centre

03 Workshop Zone

04 Edu- Pavilion

05 Green Centre

06 Consultation Zone

07 Manufacturing Plant [Phase 02]

C Charlotte Maxeke Gen Hospital



The fragmentation of the buildings, creates nodes on a journey, giving people a reason to move from building 1 to building 2. And moving from building 1 to 2 is more important than arriving to build 1 or 2 because what is in-between building 1 and 2 is what's important here. The actual healing gardens, the medicinal garden itself is as important as the building. The route, the landscape is also important. The buildings become a threshold space, they become transitions, from one garden to another. The buildings progress from the bustling [01] to the serene [06] capturing the different healing opportunities for each user.

"How can architecture be an interface / mediator between the healing properties of a landscape and people?"

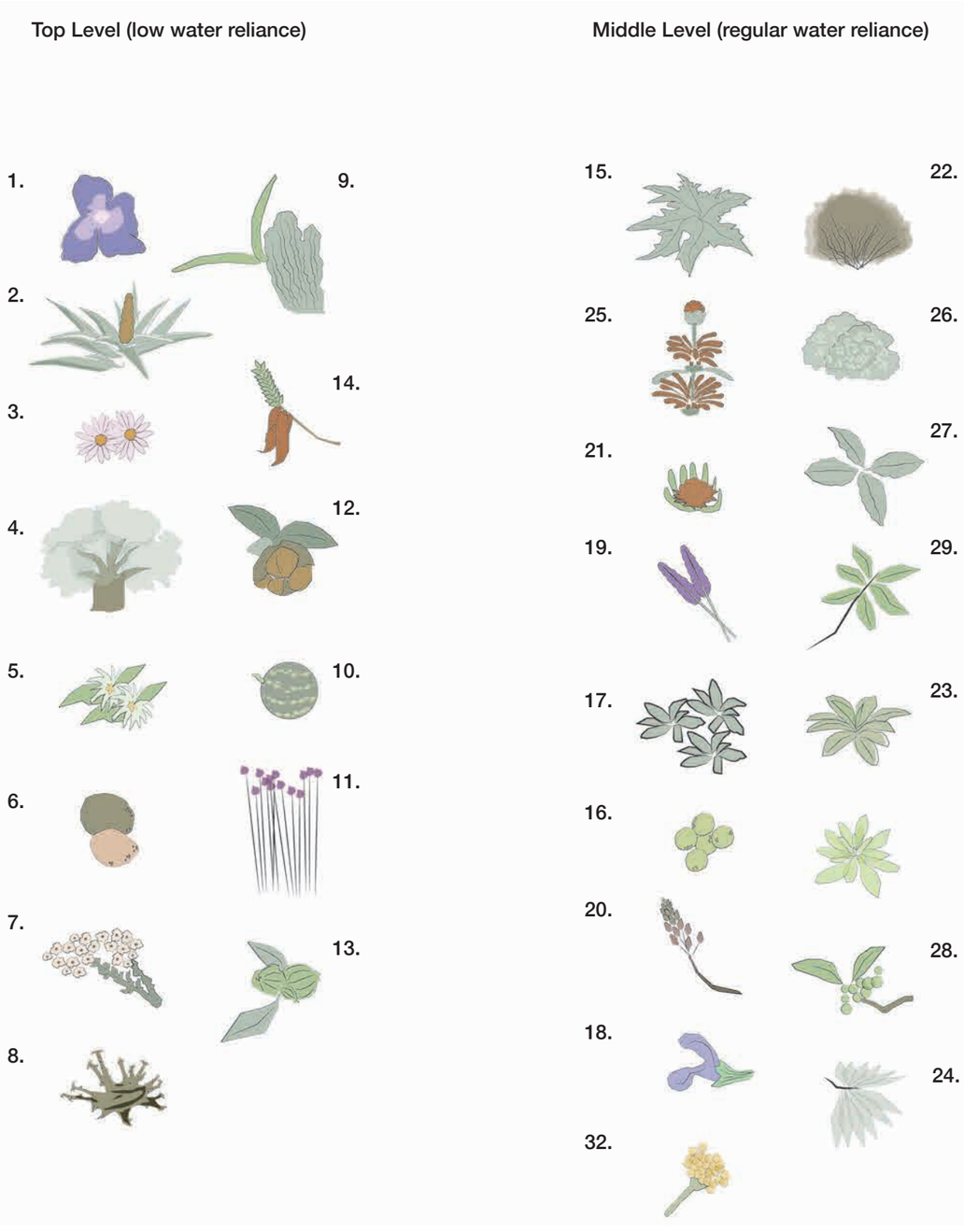


Fig. 7.17 Medicinal plant programme.
(Illustration: By Author, 2020)

Plants/shrubs and trees to be incorporated:

1. African Ginger Oil (Siphonochilus aethiopicus)
2. Aloe Ferox
3. Athrixia also Called Bushman's Tea
4 Baobab (Nutritious Moisturiser)
5. Camphor Bush used as Bedding
6. Mongongo Nut
7. Cape Snowbush
8. Devils Claw used for Arthritis
9. Hoodia for Slimming
10. Kalahari Melon Oil High in Protein
11. Tulbaghia violacea Harv.
12. Trichilia emetica Vahl
13. Withania somnifera (L.) Dunal Leaves:
14. Sutherlandia Frutescens (Soothes Sickness)
15. Lippia Javanica (Against Insects)
16. Marula Oil (Rich Skin Hydrator)
17. Pepperbark Tree, Endangered Medicine Plant (Warburgia salutaris):
18. Sage Oil: Ancient Medicine
19. Lavender and Lavandin Oil
20. Bulbine frutescens (L.) Willd.
21. Carpobrotus edulis (L.) L. Bolus
22. Elytropappus rhinocerotus (L.f.) Less.
23. Euclea natalensis A. DC.
24. Heteropyxis natalensis Harv.
25. Leonotis leonurus (L.) R.Br.
26. Lobostemon fruticosus (L.) H. Buek.
27. Ocotea bullata (Burch.) Baill.
28. Olea europaea L. subsp. africana (Mill.) P.S. Green
29. Prunus Africana (Hook.f.) Kalkman
30. Anti-inflammatory African Potato
31. Damask Rose Oil - Made in South Africa
32. Helichrysum Oil Invokes Ancestors
33. Pineapple Lily - Popular Traditional
34. Centella asiatica (L.) Urb.
35. Cyclopia genistoides (L.) R.Br.
36. Dodonaea viscosa (Jacq.) var. angustifolia (L.f.) Benth
37. Gunnera perpensa L.
38. Kigelia africana (Lam.) Benth.
39. Xysmalobium undulatum (L.) W.T. Aiton
40. Securidaca longepedunculata Fresen
41. Sceletium Tortuosum - Traditional Mood Enhancer
42. Moringa: Miracle Medicine
43. Lippia Javanica Against Insects
44. Eucalyptus Oil for Mental Exhaustion
45. Cape Rose Geranium for PMS
46. Buchu Oil for Blackcurrant Flavour
47. Blue Cape Chamomile Oil is for Anti-inflammatory

08

“Final Design Development”

The Master

- main entrance
- staff entrance
- security point / helpdesk

A Medicinal Gardens

B Building types:

01 Markets on York
02 Information Centre
03 Workshop Zone
04 Edu-Pavillion
05 Green Centre
06 Consultation Zone
07 Manufacturing Plant

Charlotte Maxeke Hospital

Wits Med School

current hospital entrance

“current hospital parking, to be accessible to visitors from the Hybrid Centre, as to maintain link between the two health systems. Overall, limited parking to enforce pedestrian friendly spaces, reducing vehicular movement for a more sustainable and clean environment.”

“manufactoring plant to be implemented in the second phase of construction”

07

The Serene

Princess of Wales Terrace road

Jubilee road

“current taxi drop-off and on to be extended into proposed facility for easy commuter access”

The Bustling

A

Workshop Zone

Consultation zone

Information Centre

25 m

12 m

Edu-pavillion

“basement parking for staff”

Green centre

“pedestrian crossing between programmes”

York road

25 m

12 m

extended taxi and transport drop-off and on system

entrance into campus

Main Access road

Markets on York

bus stop

Soul City Institute

Princess of Wales Terrace road

WITS Parktown Education Campus

“creating an active edge through a commercial intervention, which initiates the healing process.”

Wits Health Consortium

“creating a shared active travel transportation system embracing the idea of communal travel which is well represented in the current markets”

Carse O' Gowrie road

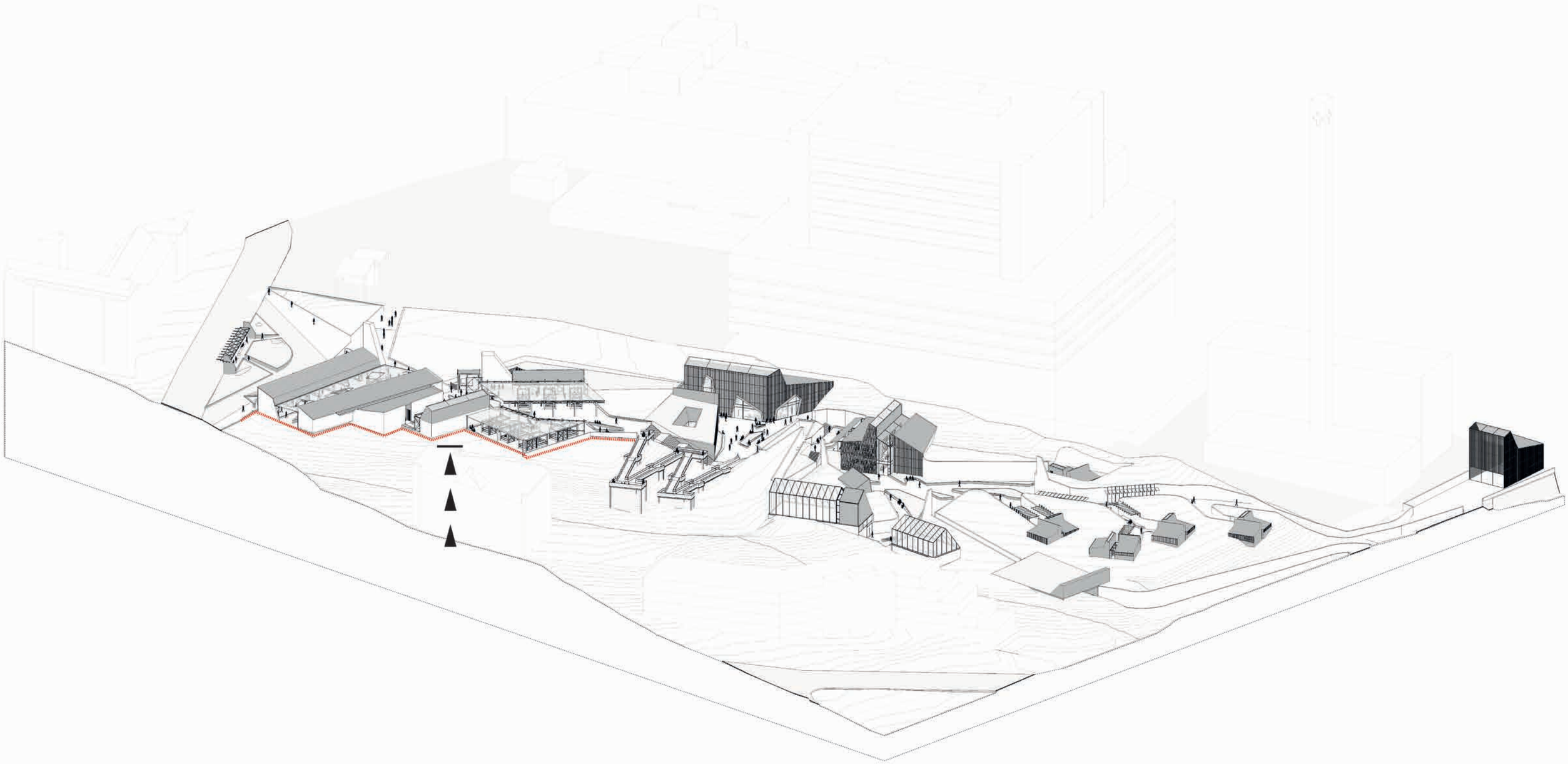
Wits Faculty of Health Science

scale 1 : 350

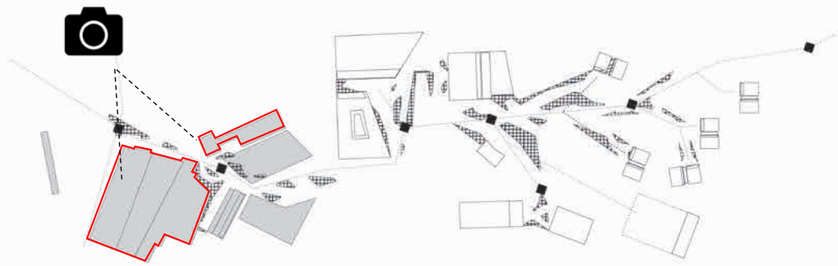
25 m 50 m 100 m

the emerged

Looking through the lens of the emerged structures:



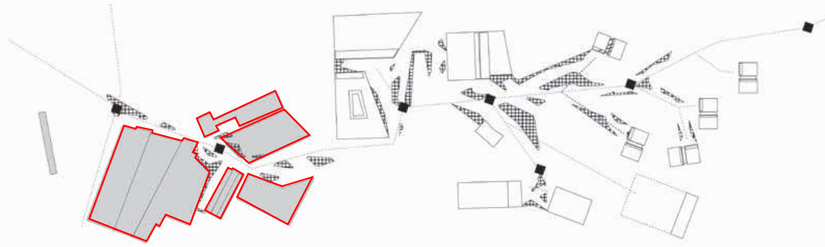
Main Entrance/ Markets of York

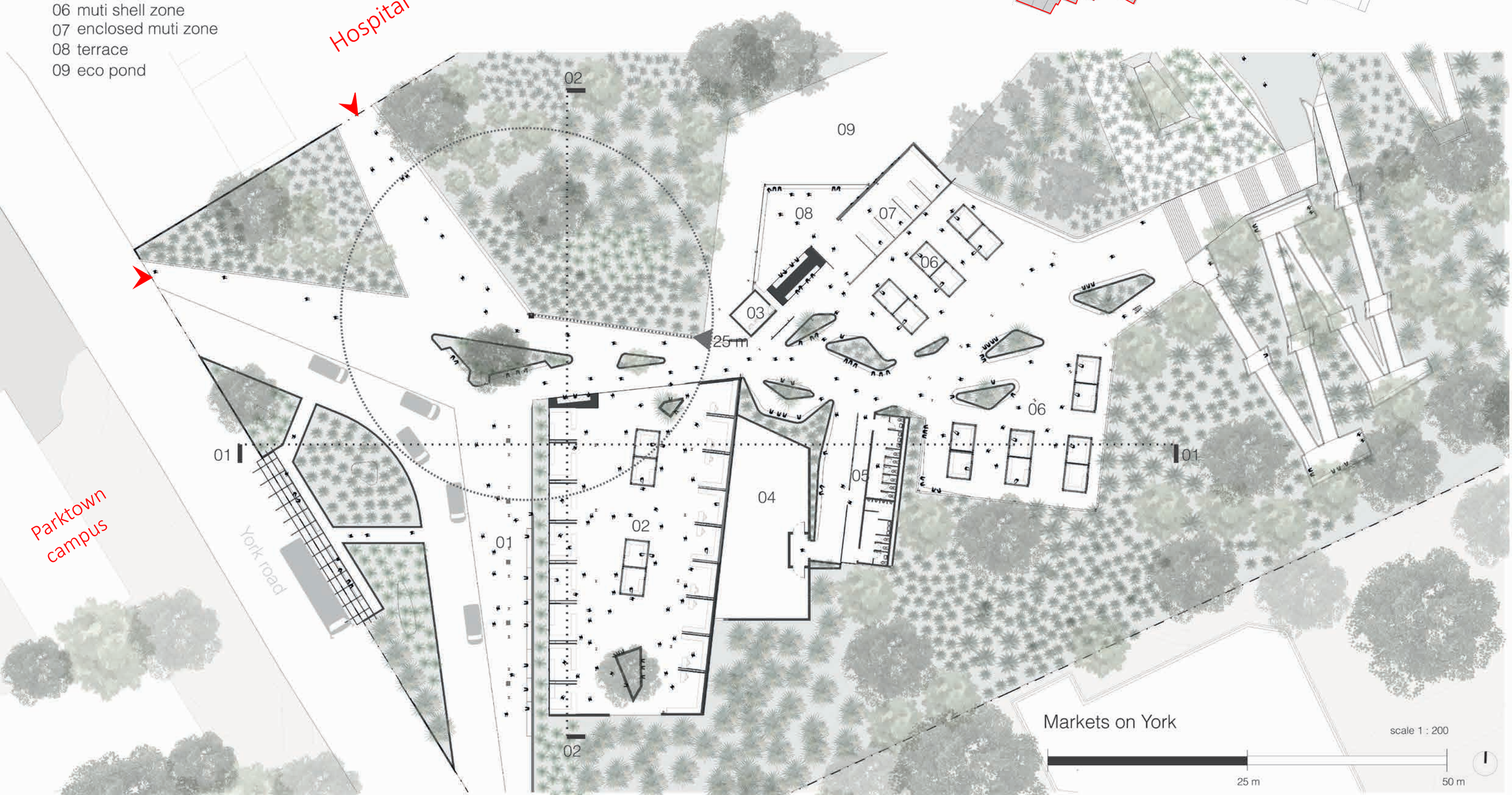


The journey begins on York road where the market shells with various merchandise will be located. This perspective looks into the main entrance of the centre. Where taxis and other transport modes will have drop-off access. This view also demonstrates how accessible the centre is. The path ways shift from a very open interactive space to a narrow entryway as you move further into the markets.

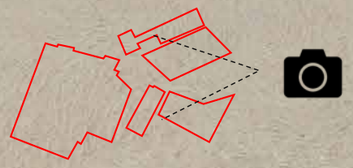
01 pedestrian entrance and transportation drop and go
02 merchandice and food zone
03 security point and help desk
04 storage
05 ablutions
06 muti shell zone
07 enclosed muti zone
08 terrace
09 eco pond

The Centre will have three entrance routes linking in the Hospital adjacent and the Parktown campus across the site. The plan also indicates the different markets that will be allocated amongst the shells.





View from security point and storage zone



This view demonstrates the intimate threshold spaces that will be represented across programmes. These spaces allow for a moment of pause in-between the journey.

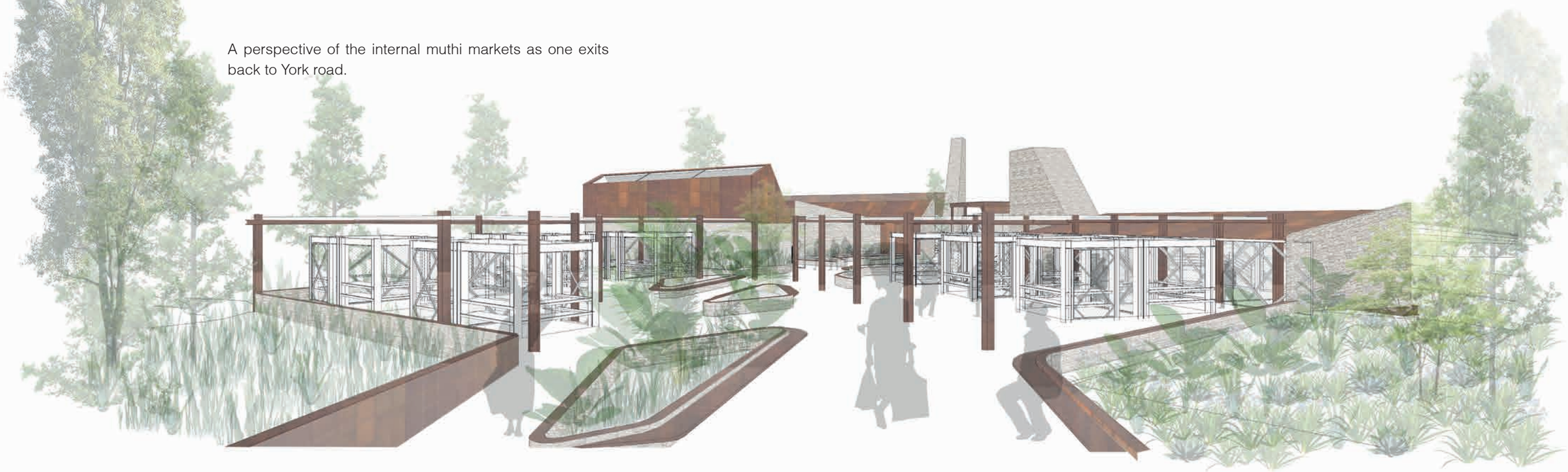


west elevation scale 1 : 100



short section 02 scale 1 : 100

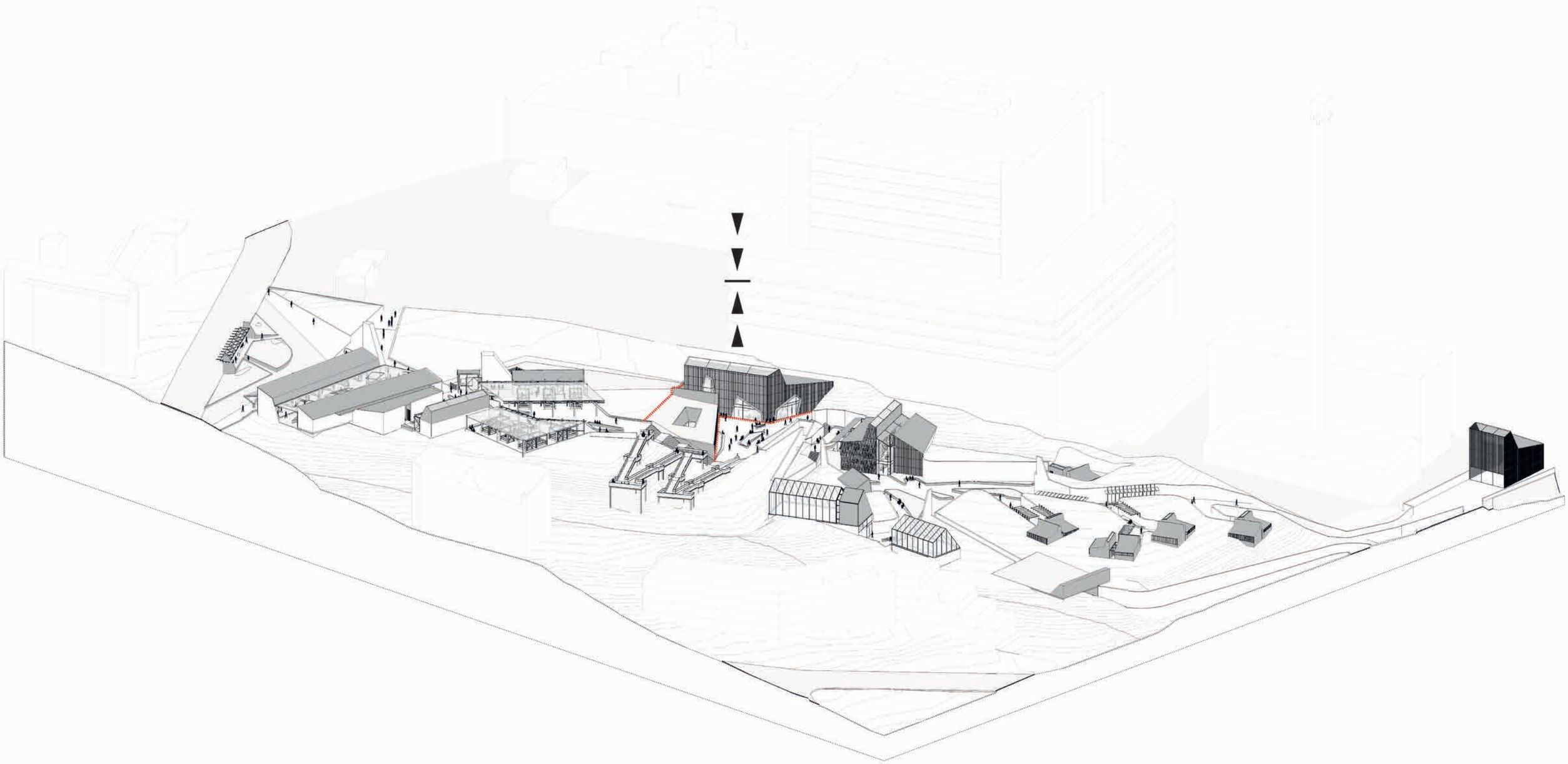
A perspective of the internal muthi markets as one exits back to York road.



perspective of muti zone

the intermediate

Looking through the lens of the intermediate structures:



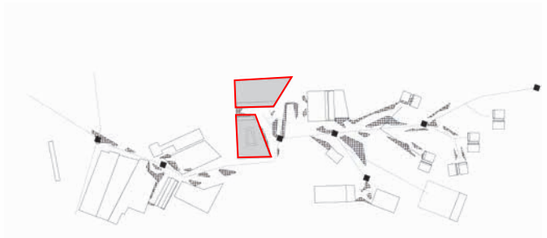
Information Centre

As one makes their way down the ramp or stairs route they arrive to the Information Centre where data collection, research and knowledge is exchanged.



01 plant library
02 store room
03 reception
04 pharmacy
05 reception
06 restaurant
07 laboratory
08 seminar rooms
09 foyer / waiting area

These plans indicate the different programmes that aid in the learning and exchange of information and resources.



Information Centre

scale 1 : 200

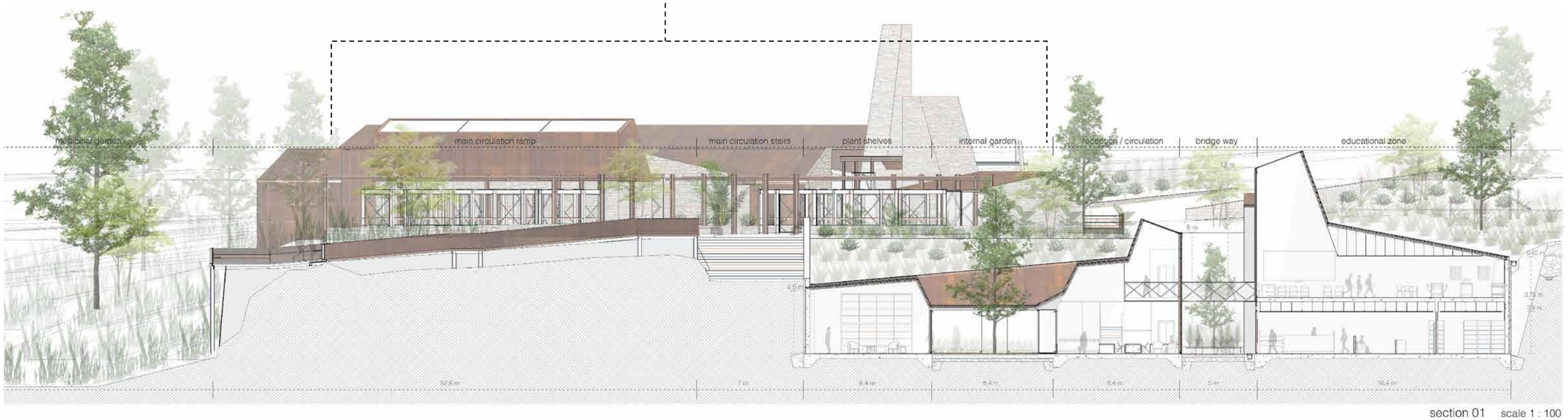
25 m 50 m



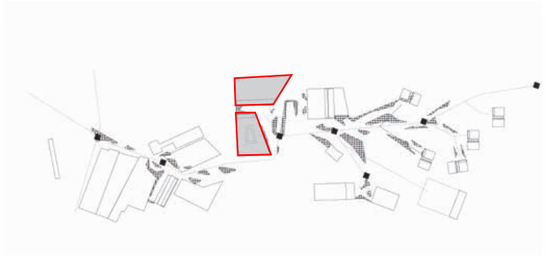
east elevation scale 1 : 100

The elevation and section demonstrate how the buildings have a continuous link, not only between each other but with the landscape. Continuously forming a connection from one intervention to another.

Markets on York



section 01 scale 1 : 100



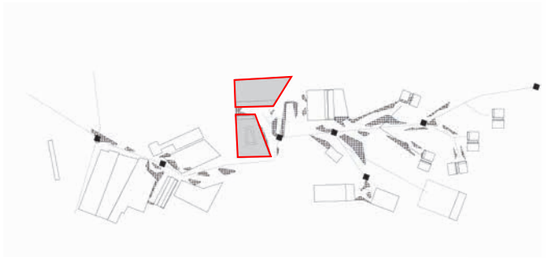
View as you come down the Circulation ramp and viewing deck

This perspective highlights the entrance points and their connection with the threshold area.

Plant library entrance

Main reception / Help desk

Restaurant entrance

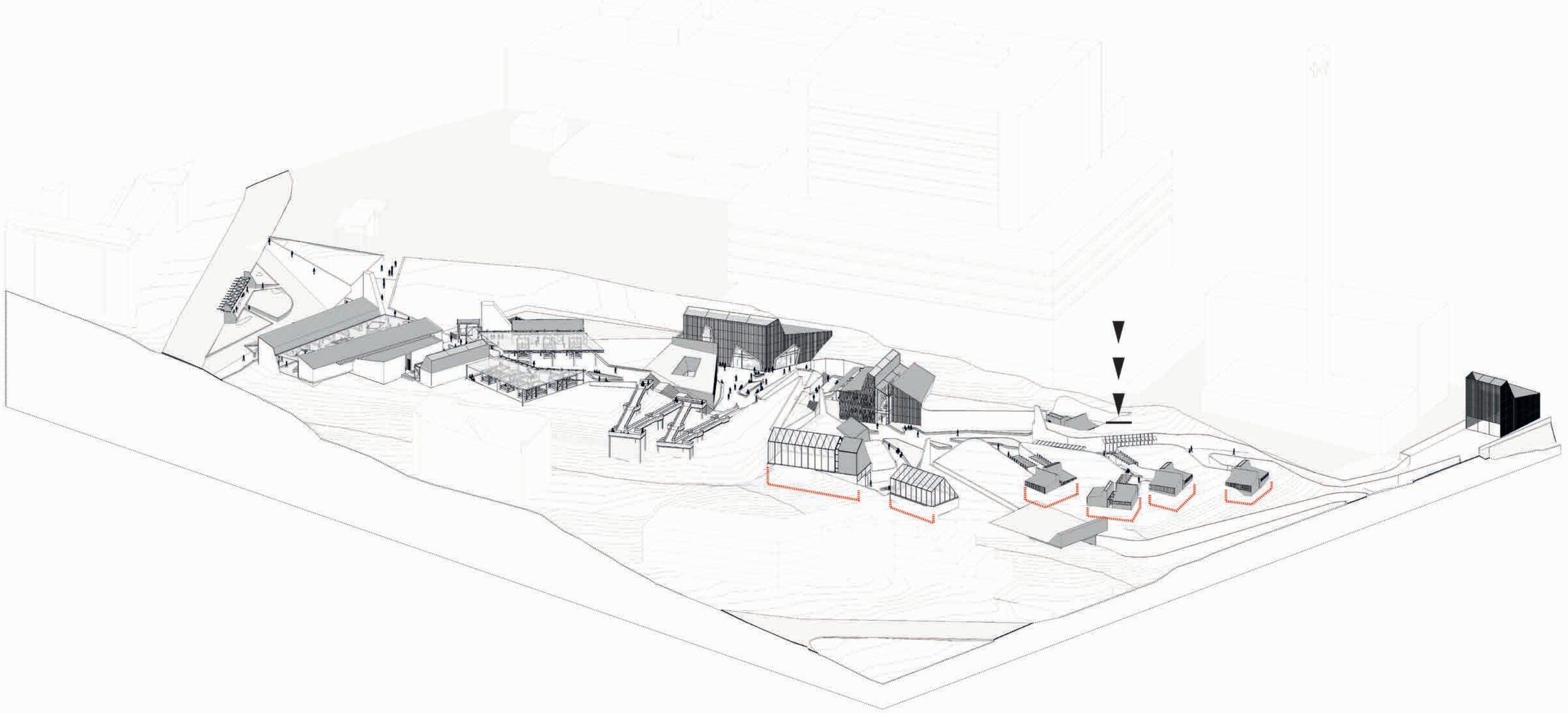


View as you come up from workshop stairway

The buildings engage with the smaller interventions of exchange as well. For instance, Highlighting the exchange between the water fountain and its user.

the submerged

Looking through the lens of the submerged structures:



Workshop Zone Entrances

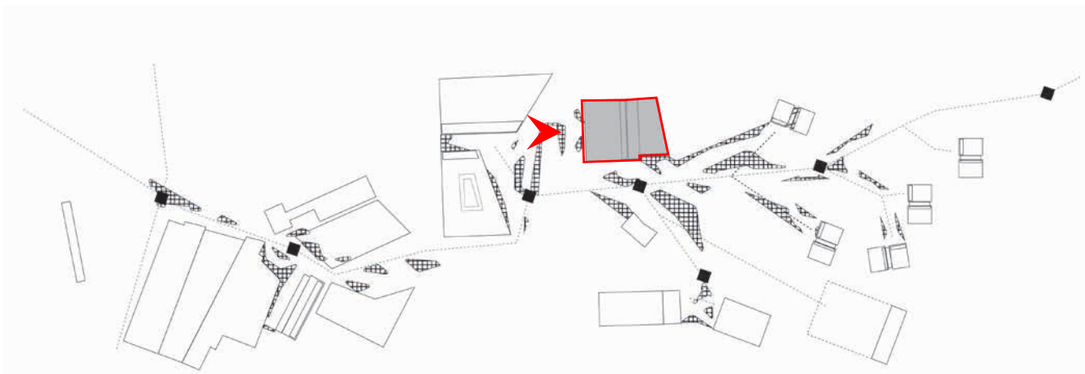
The workshop zone has two ways of entry, one being on the higher level and the second being on the lower level. This building creates a continuous link between the emerged and submerged programmes.

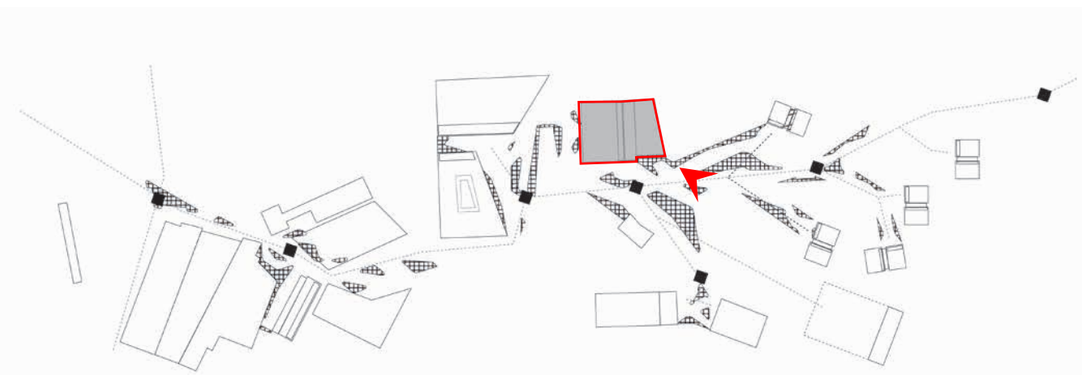


perspective from higher entrance

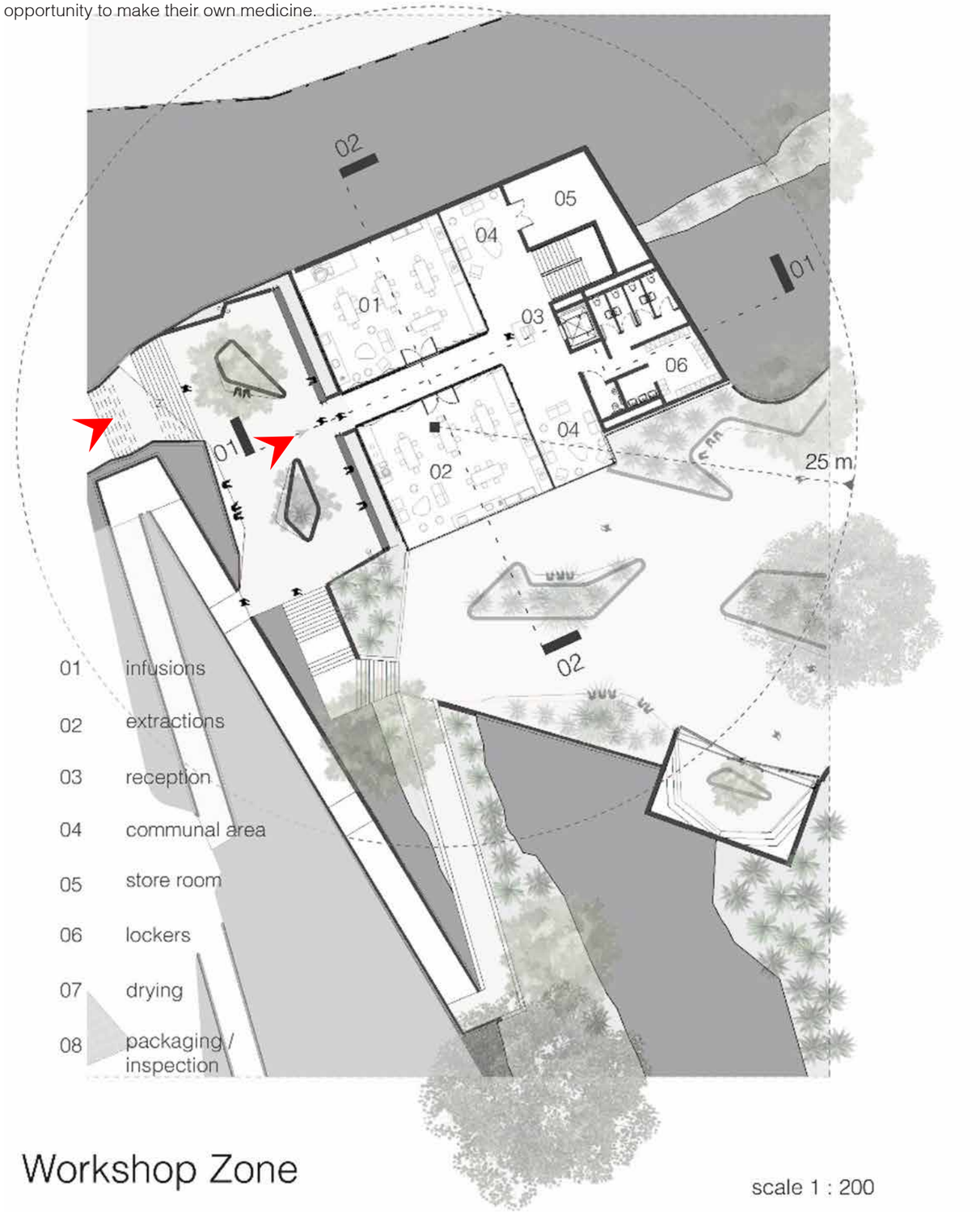


perspective from lower entrance





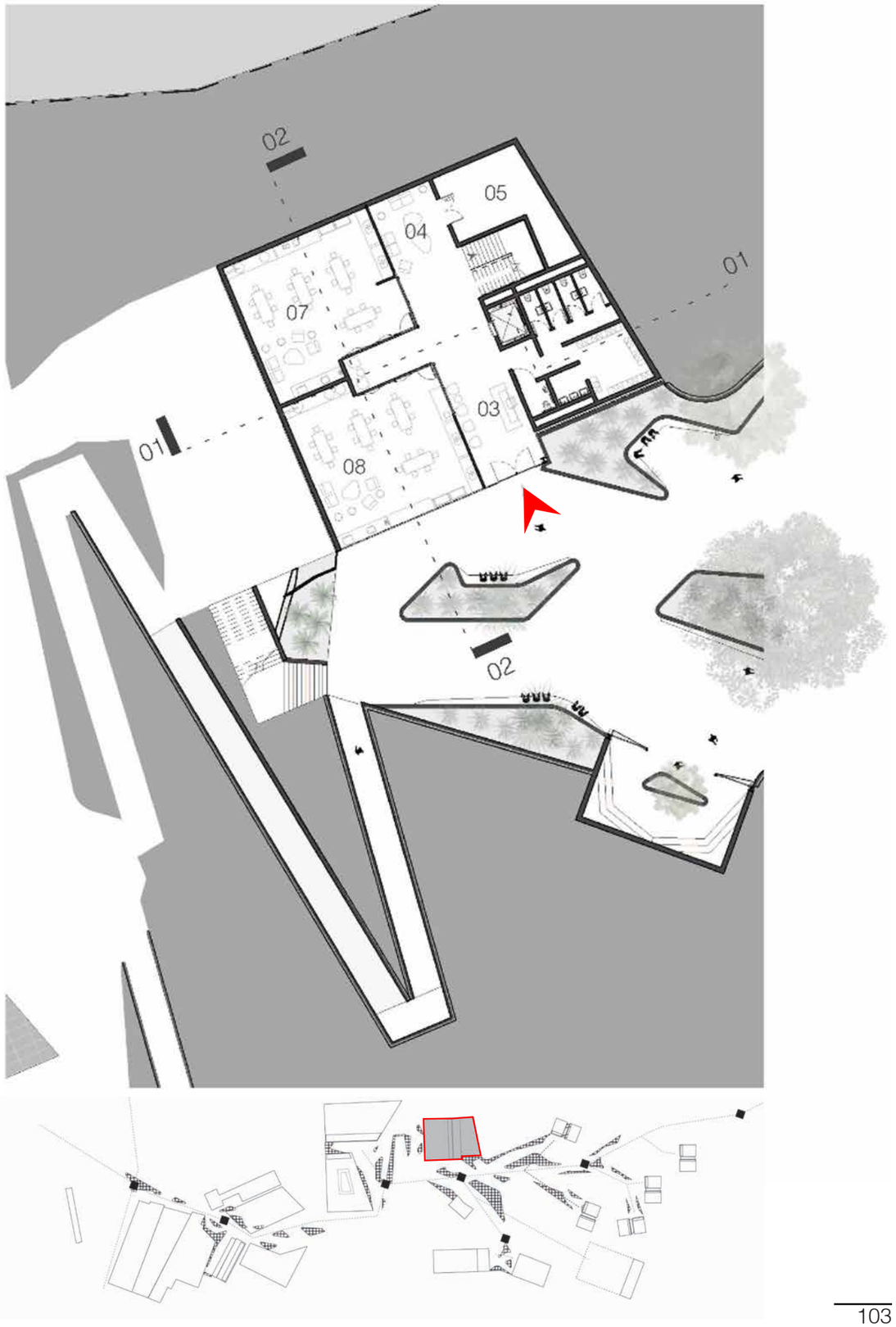
The plans indicate the four workshop rooms used in the making and preparation of the medicine, giving users the opportunity to make their own medicine.



Workshop Zone

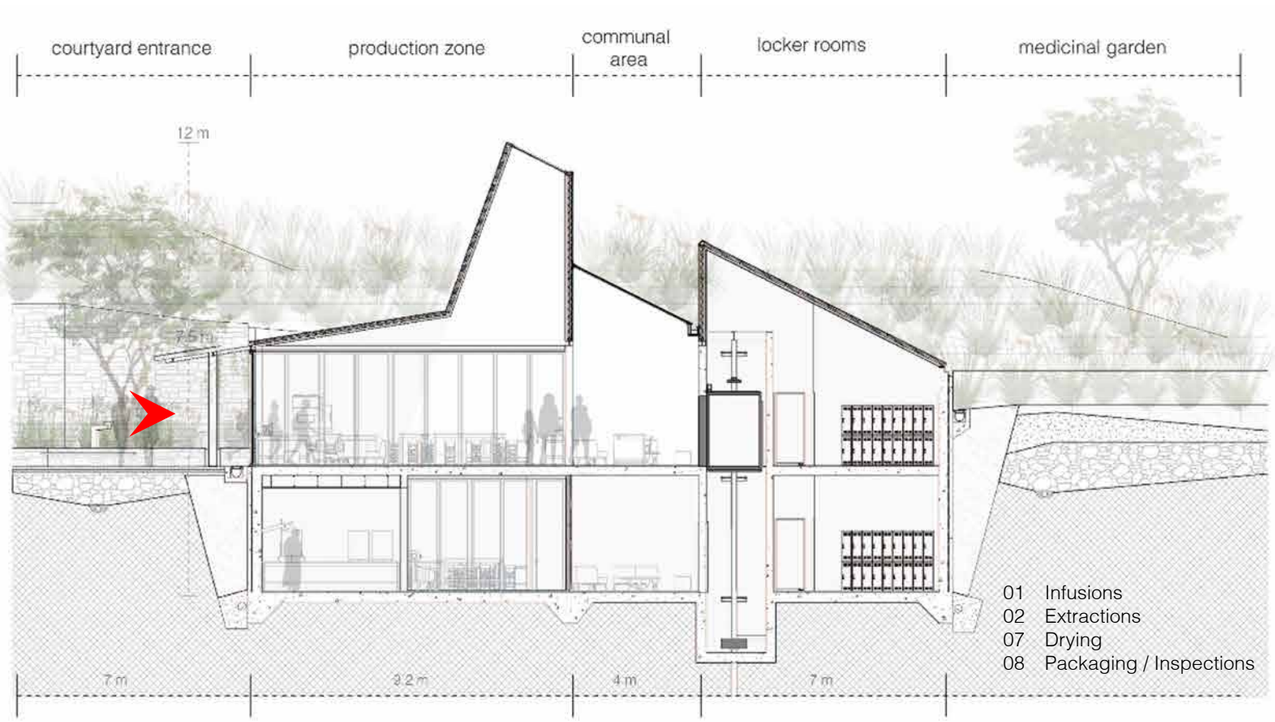
scale 1 : 200

25 m 50 m

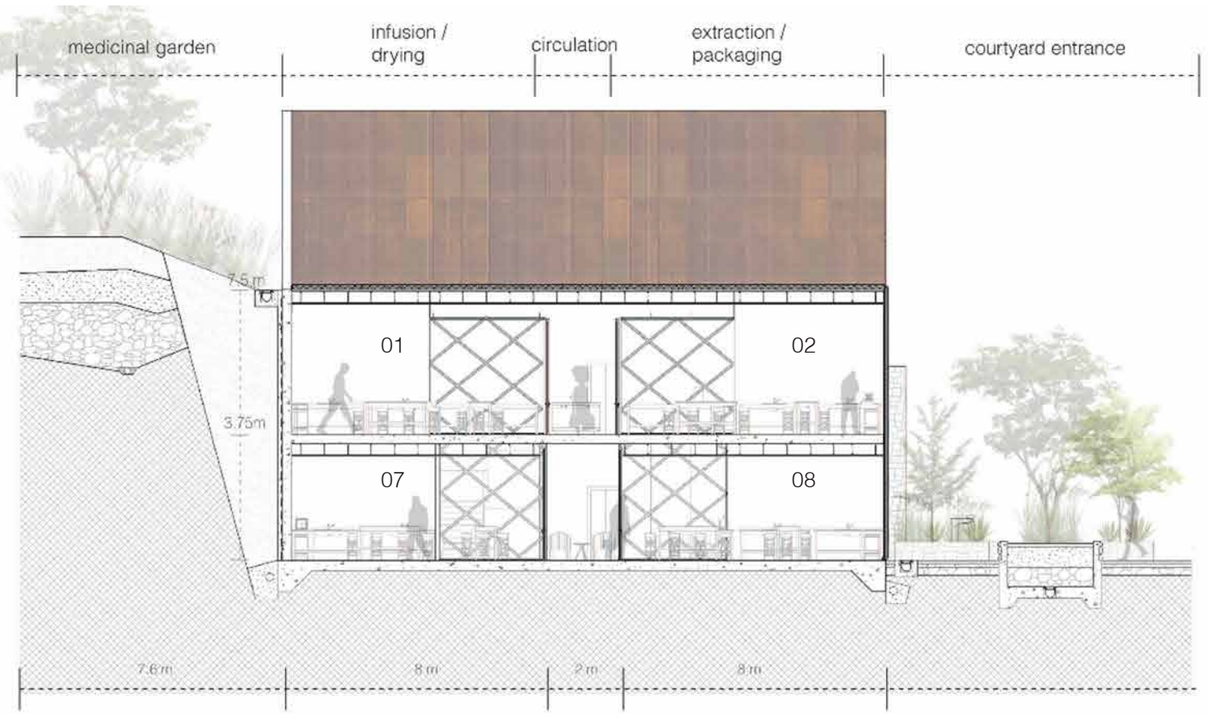


Workshop Stations

These rooms as indicated in section are Infusion, Extraction, Drying and Inspection zones.

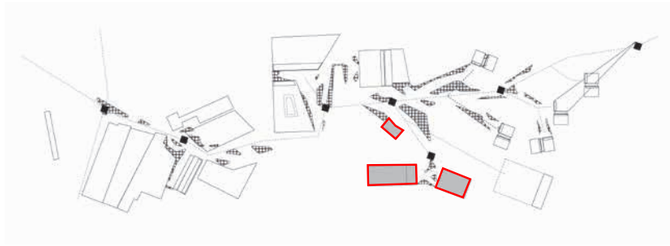


section 01 scale 1 : 100

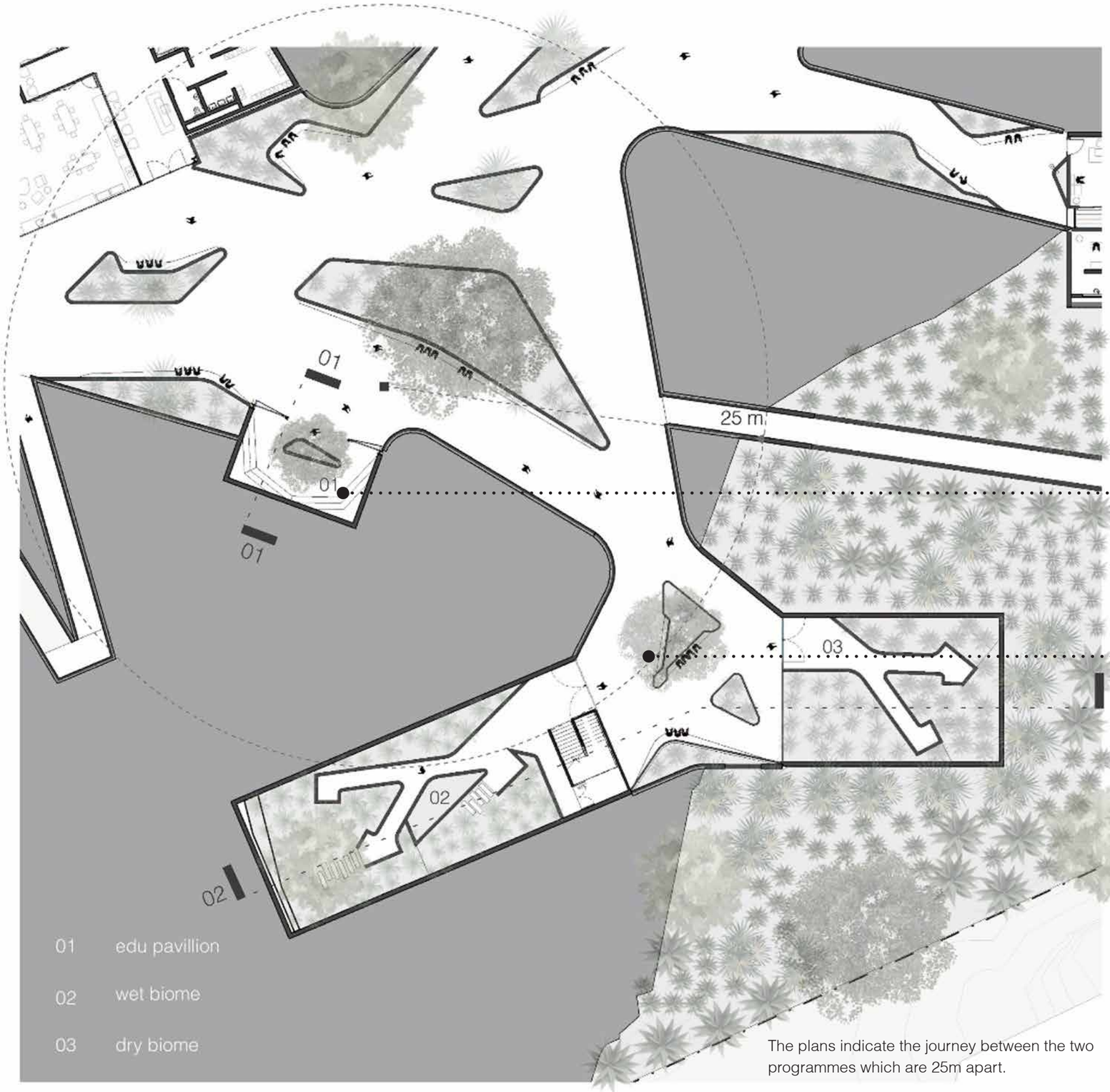


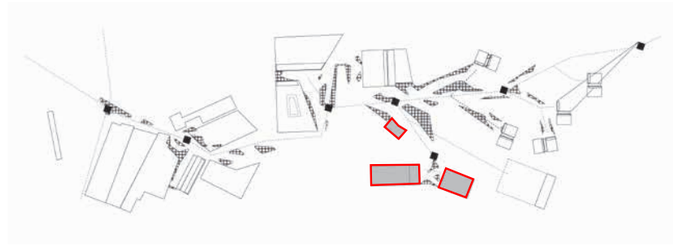
section 02 scale 1 : 100

Edu-pavilion & Green Centre



On the lowest level we approach the Edu-pavillion and Green Centre. These two programmes are linked and give users the opportunity to be submerged inside the landscape while gathering and sharing real-time data from plants, soil, air and water.





Edu- pavilion

Green centre

The plans indicate the journey between the two programmes which are 25m apart.

Edu-pavillion and Green Centre

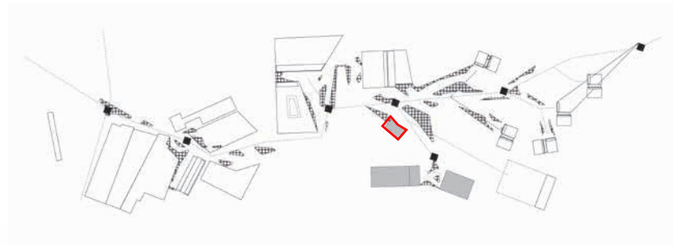
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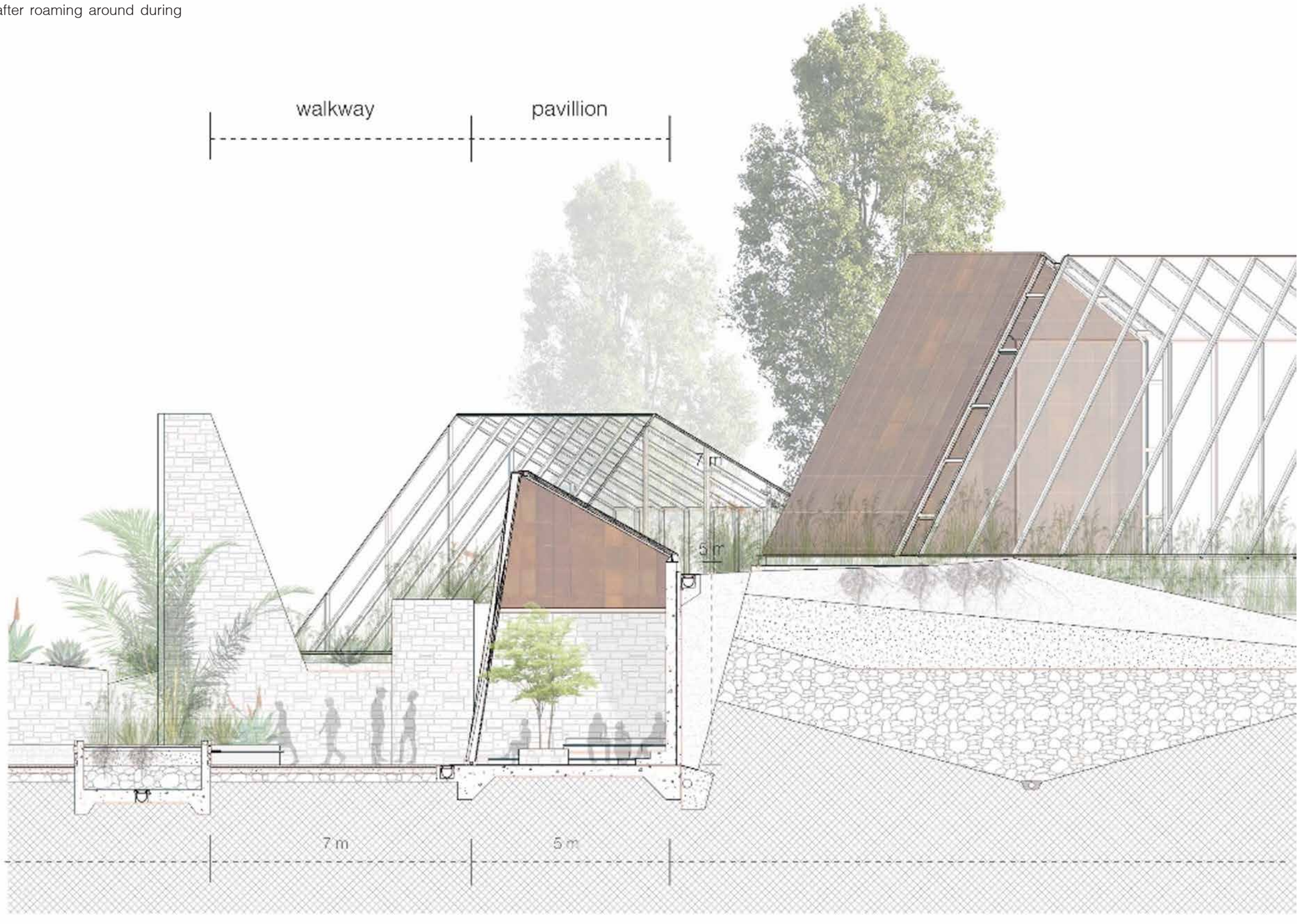
25 m

50 m

Edu-pavilion

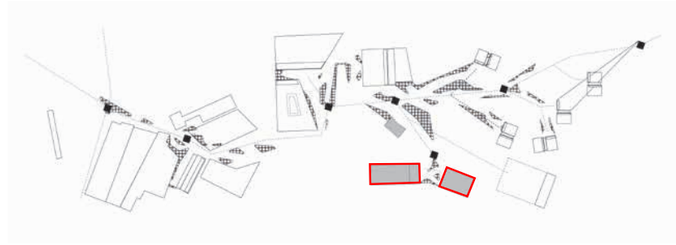
The Edu-pavillion is framed as a breakout space. Giving people a moment to pause after roaming around during plant collection.





Green Centre

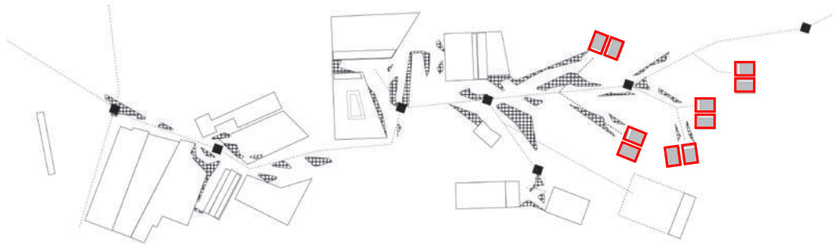
The Green Centre is broken up into two seperate spaces. The larger greenhouse caters for wet biome and the smaller greenhouse is used for dry biome.
The medicinal vegetation will range from plants, shrubs and tree elements that require a controlled climate to live. A mangrove tank will also be available for plants or trees that grow in water systems.





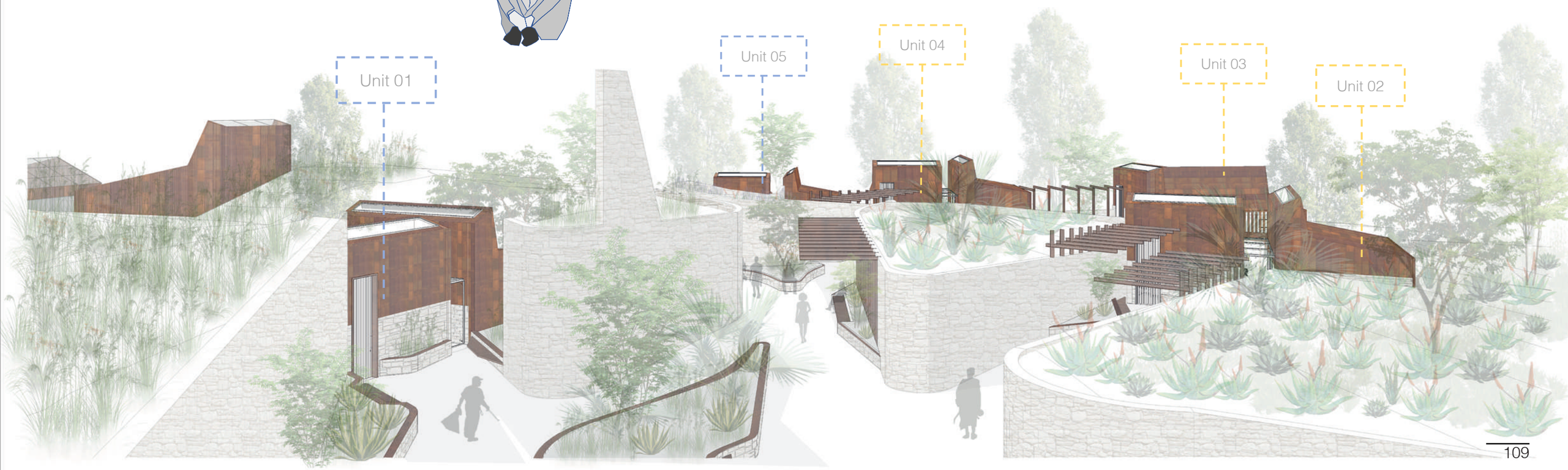
Consultation Zone

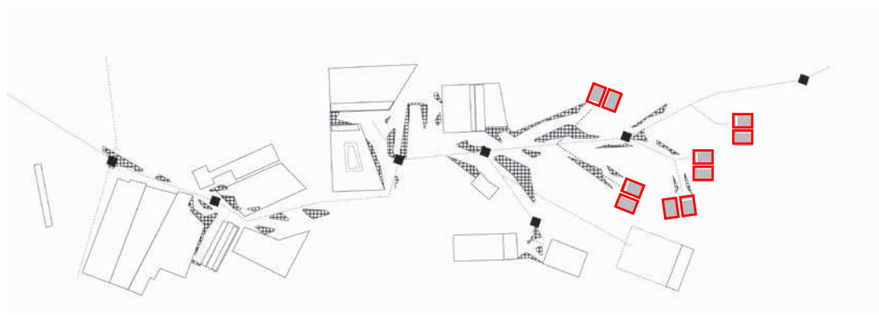
The consultation zone gives users the opportunity to experience a different type of formal healing that is connected to isolation. This zone will have units allocated for both biomedical and traditional practitioners.



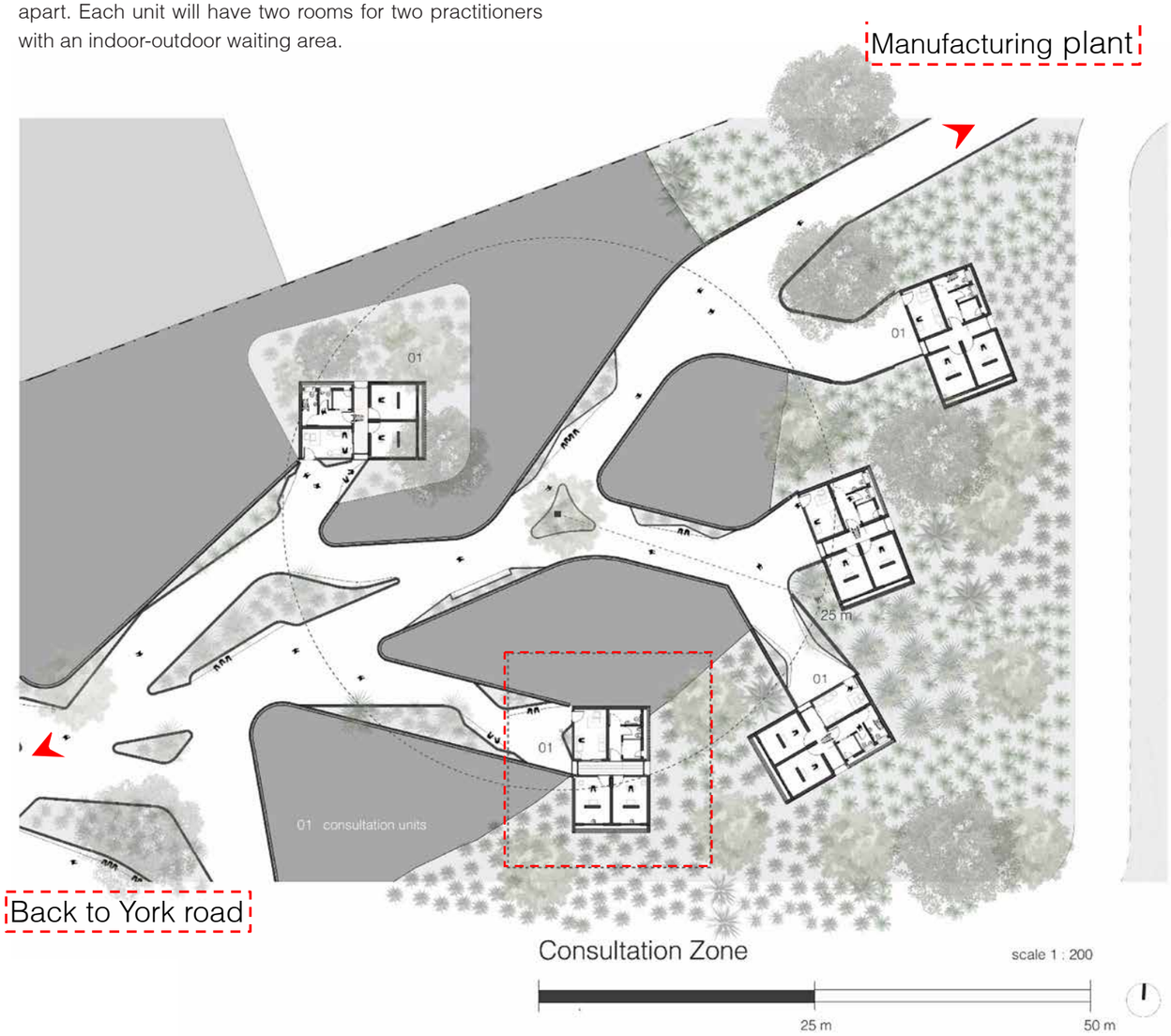








The plans indicate the positions of the units and distance apart. Each unit will have two rooms for two practitioners with an indoor-outdoor waiting area.



01 outdoor waiting area

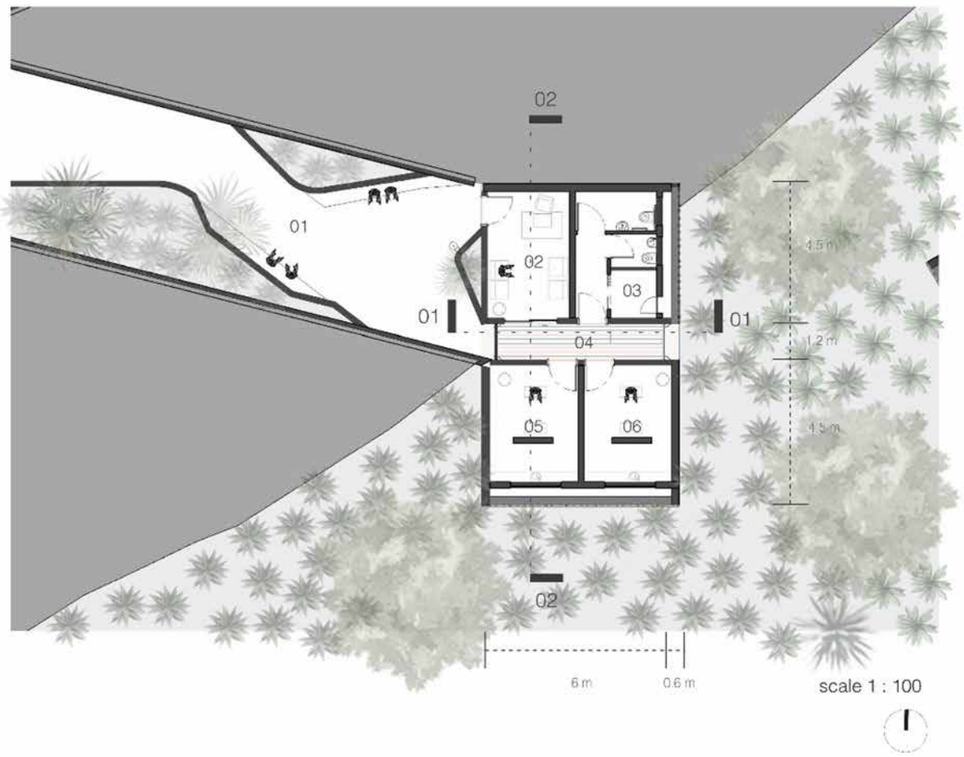
02 reception

03 store room

04 transitional walkway

05 consultation unit 01

06 consultation unit 02

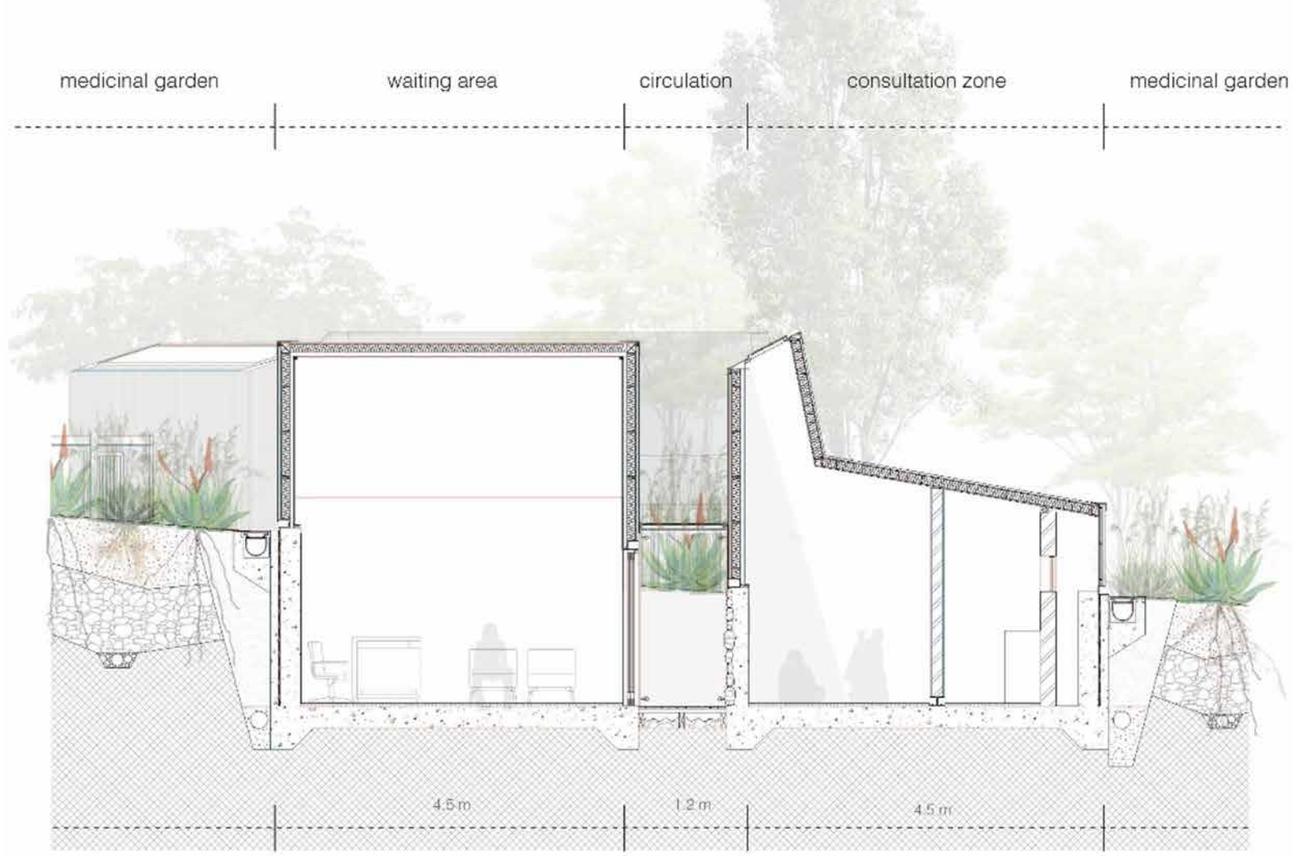




A visual of the threshold space before entry.



section 01 scale 1 : 50

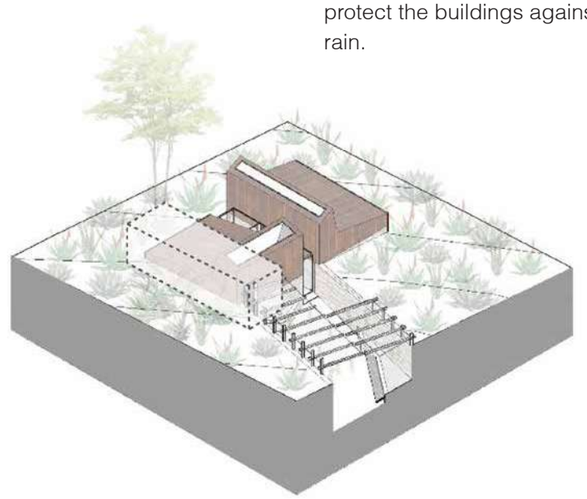


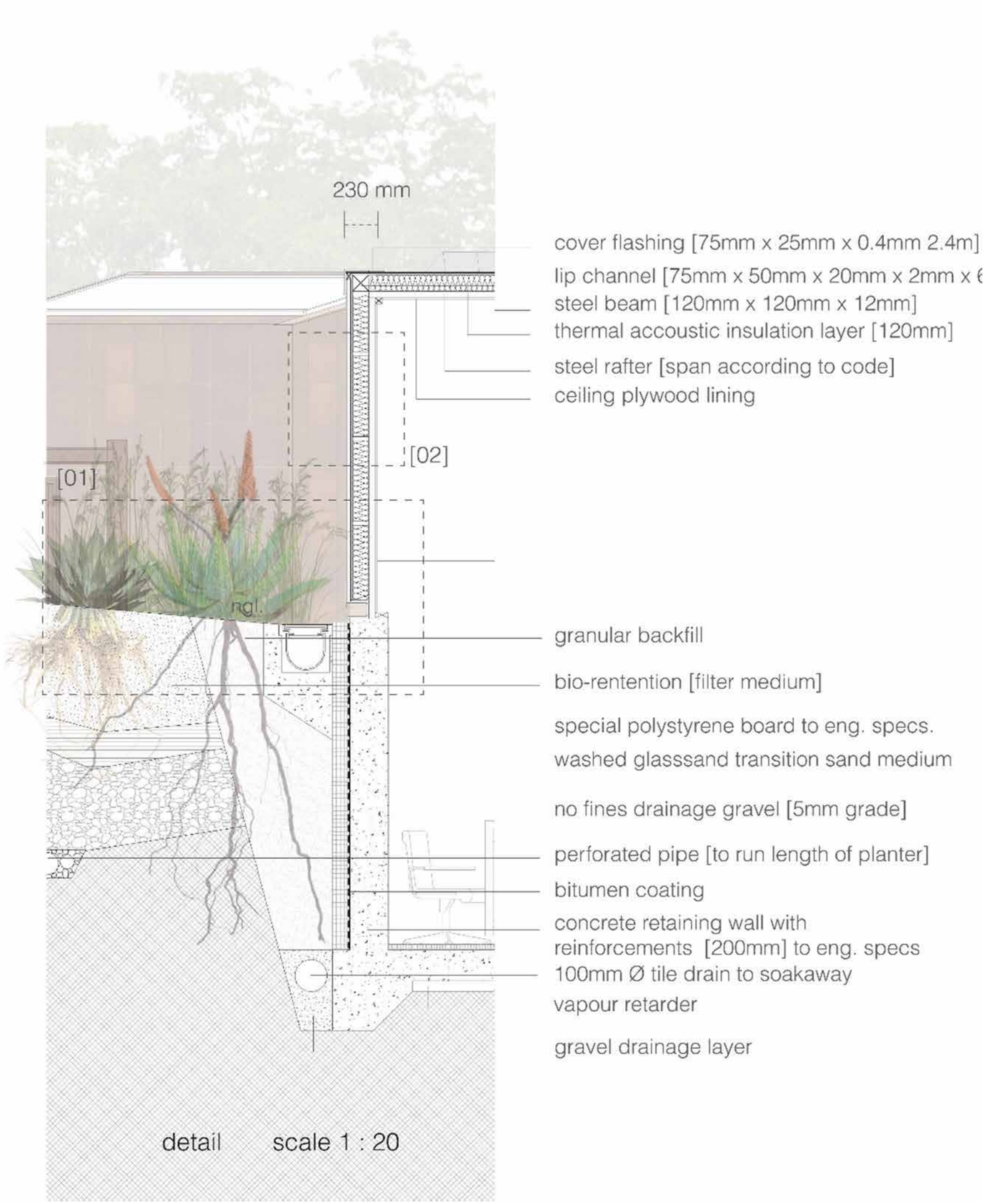
section 02 scale 1 : 50

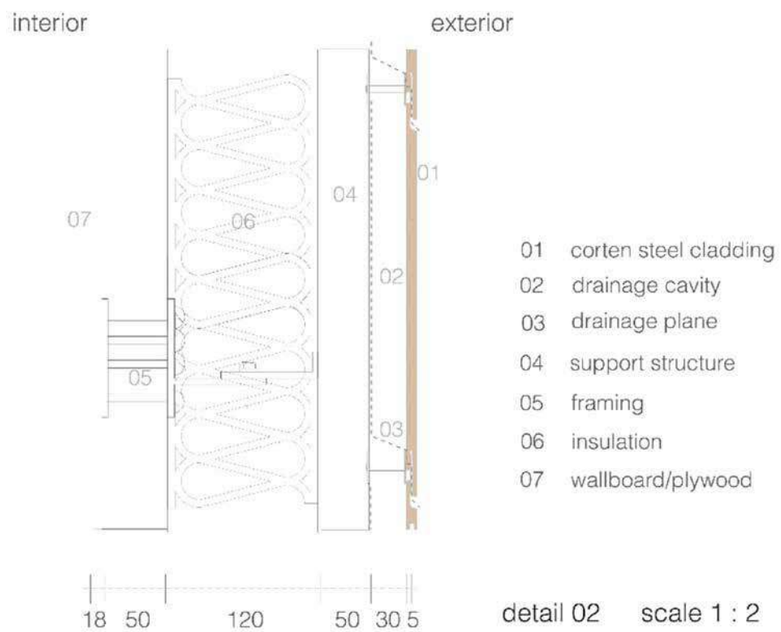
Sections cutting through the building and landscape demonstrating the relationship between the two systems.

Ventilated cladding framework

A detailed section taken from the consultation room demonstrating how all building structures in the Centre use a ventilated facade cladding system. The idea is to use a light frame structure that can create the sharp geometric façade envelope replicated across the buildings. Because most of the buildings are sunken and will deal with a lot of moister this façade system will help with the natural air flow which will remove moisture away from the inner wall and moderate temperature. This will protect the buildings against combined effect of wind and rain.





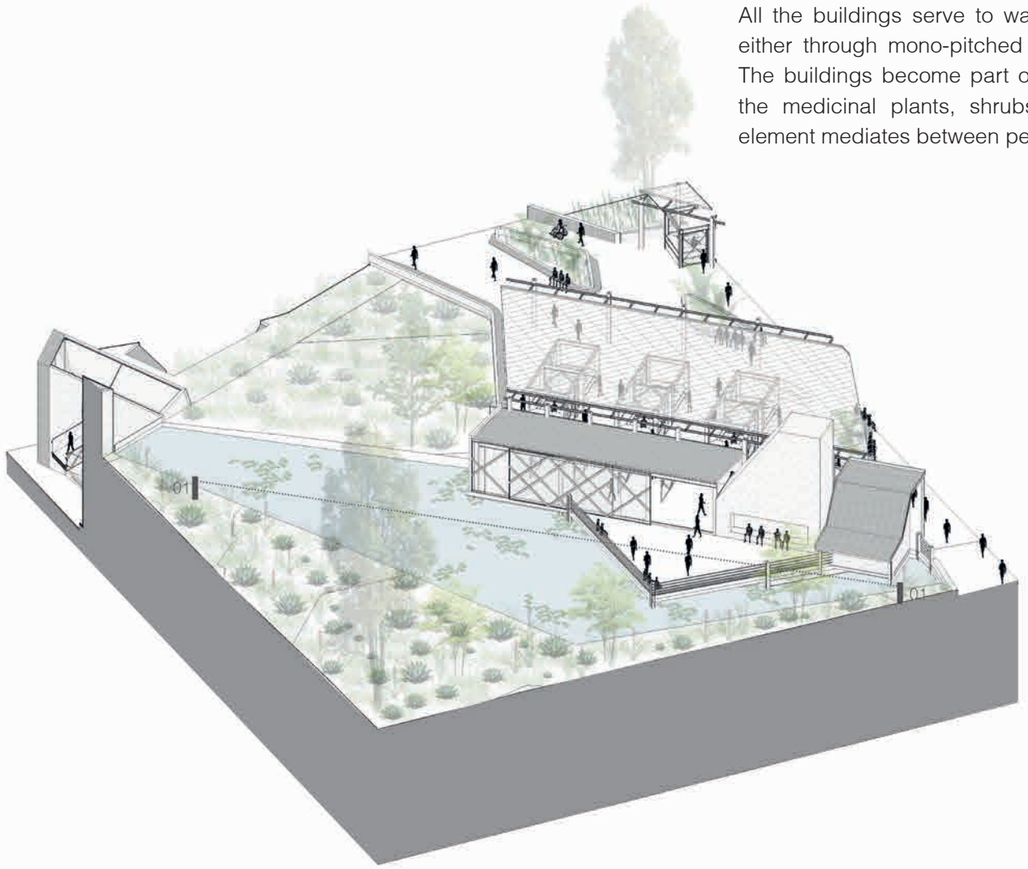


detail 02 scale 1 : 2

Ventilated cladded facade detail

Water Harvesting System

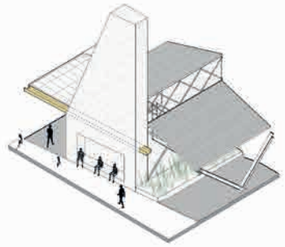
All the buildings serve to water the medicinal gardens, either through mono-pitched roofs or extended gutters. The buildings become part of the water system feeding the medicinal plants, shrubs and trees. The building element mediates between people and nature.



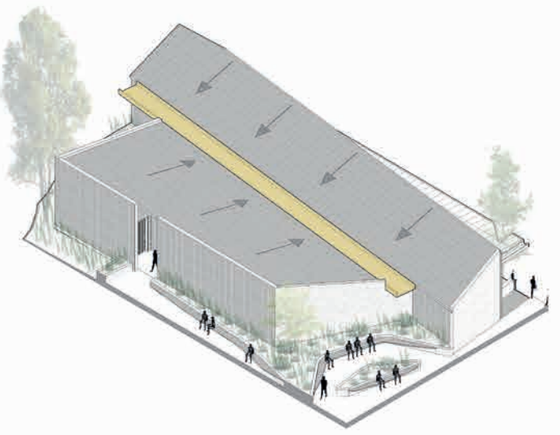
An ecosystem water pond is the best way to revive the existing reservoir under the higher level of the site. An ecosystem pond is a closed body of water used to thrive as a mini “ecosystem.” The reservior will be filtrated to the surface and renewed with fresh, clean water, allowing it to support life while flushing toxins away down the stream. The pond will be occupied with Centella Asiatica medicinal plants that thrive in water bodies.



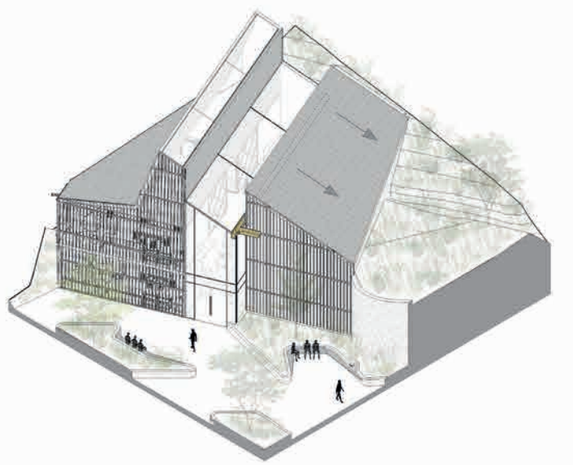
section 01 scale 1 : 100



market on york



market on york - storage

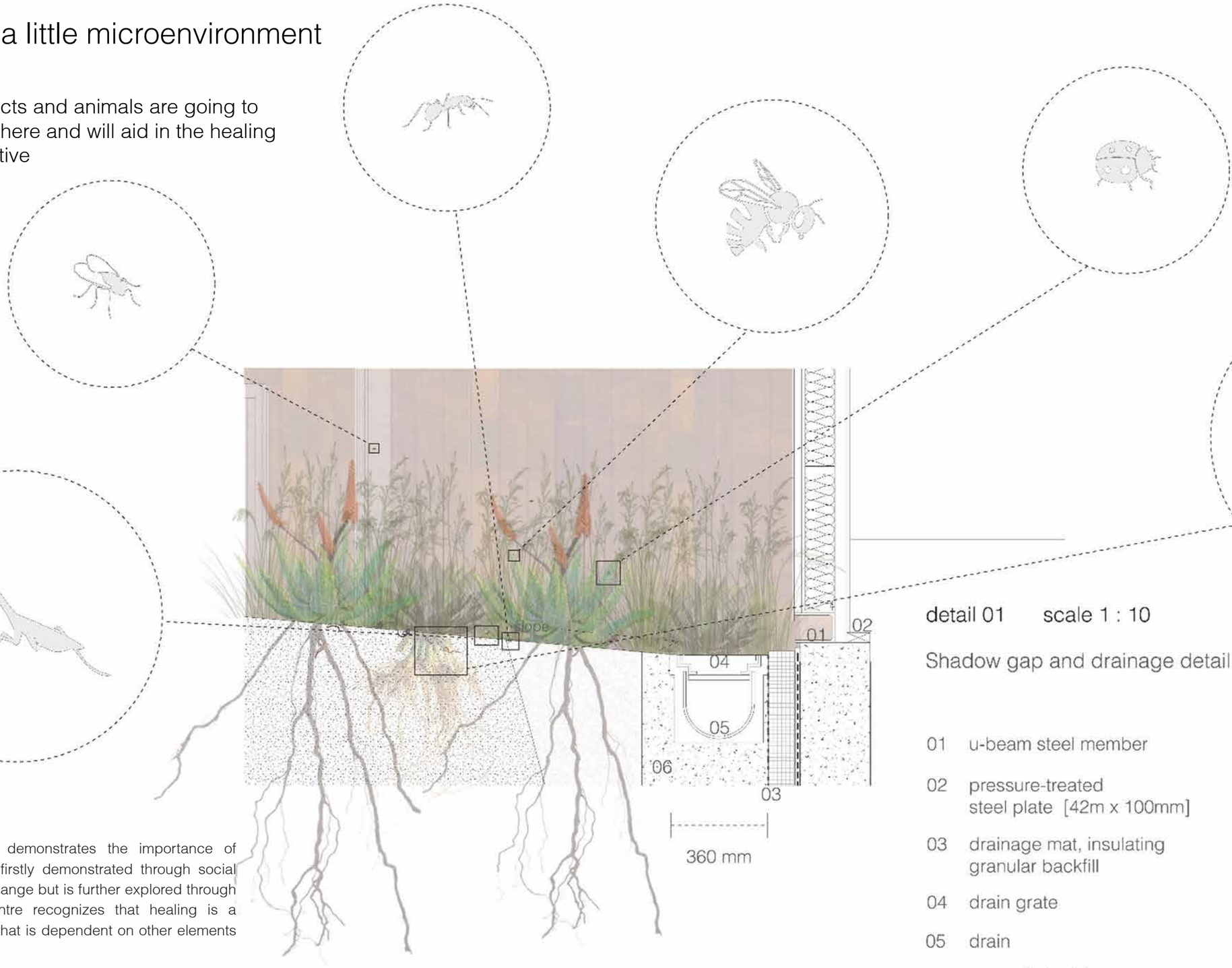


workshop zone

Biodiversity

Creating a little microenvironment

Different insects and animals are going to start coming here and will aid in the healing system narrative



detail 01 scale 1 : 10

Shadow gap and drainage detail

01 u-beam steel member

02 pressure-treated steel plate [42m x 100mm]

03 drainage mat, insulating granular backfill

04 drain grate

05 drain

06 concrete bed to eng. specs.

Overall, the Centre demonstrates the importance of integration which is firstly demonstrated through social interactions and exchange but is further explored through biodiversity. The centre recognizes that healing is a multifaceted system that is dependent on other elements to be effective.

HYBRID CARE

Reimagining Healthcare:

Integrating Traditional and Western Medicine into a Hybrid Medical Centre in Johannesburg, South Africa



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All Diagrams and drawings following figure 7.14 were formulated by the author to demonstrate final development drawings

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SCHOOL OF ARCHITECTURE AND PLANNING
HUMAN RESEARCH ETHICS COMMITTEE

SCHOOL OF ARCHITECTURE & PLANNING

CLEARANCE CERTIFICATE

PROTOCOL NUMBER: SOAP013/03/2020

PROJECT TITLE:	Reimaging Healthcare: Integrating Traditional and Western Medicine into a Hybrid Medical Centre in Johannesburg, South Africa
INVESTIGATOR/S:	Pearl Nkosi (Student No: 832094)
SCHOOL:	Architecture and Planning
DEGREE PROGRAMME:	Master of Architecture Professional (March Prof)
DATE CONSIDERED:	14 August 2020
EXPIRY DATE:	14 August 2021
DECISION OF THE COMMITTEE:	Approved

CHAIRPERSON _____
(Dr Brian Boshoff)
DATE: Signed under lockdown: 1.9.20

cc: Supervisor/s: Ludwig Hansen

DECLARATION OF INVESTIGATORS

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to endure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

School of Architecture & Planning
University of the Witwatersrand
Private Bag 3 Wits 2050
Johannesburg South Africa
www.wits.ac.za

T +27 11 717 7623
F +27 11 717 7649

Signature **Date**

SCHOOL OF ARCHITECTURE & PLANNING

School of Architecture & Planning
University of the Witwatersrand
Private Bag 3 Wits 2050
Johannesburg South Africa
www.wits.ac.za

T +27 11 717 7623
F +27 11 717 7649