UNIVERSITEIT VAN PRETORIA
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YUNIBESITHI YA PRETORIA

HEAL

A SHELTER FOR THE HOMELESS IN TSHWANE

Investigating a suitable living environment for the *healing* and rehabilitation of people in crisis

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Submitted in partial fulfillment of the requirements for the degree Magister of Architecture, March (Prof), the Faculty of Engineering, Built Environment and Information Technology.

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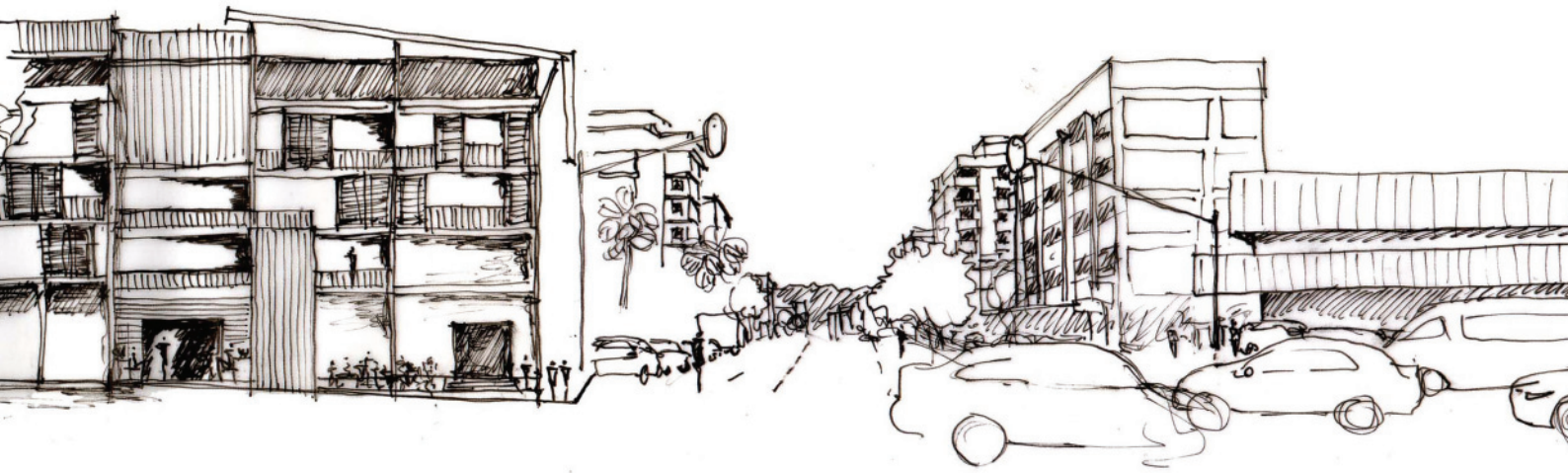
Figure 0.1: Elevation (Author)

Minette Eiselen

Abstract

This dissertation investigates suitable living environments for the healing and rehabilitation of people in crisis in South Africa, focusing on the human experience of space. Through the understanding of the problem and the context, the product of the investigation is a shelter for the homeless in the city of Tshwane. The shelter can be defined as transitional housing for the adult urban homeless and their children, which focuses on the healing and ultimate rehabilitation of homeless people, including the reintegration of these people into society. The significance of the project is that the development becomes a metaphor for the reintegration of people into society. The project aims to empower people to become contributing members of society and discontinues the cycle of destitution by providing an opportunity for economic activity and by improving the physical environment of the homeless as well as the physical environment of the community in general.

HELING *-'n HEENKOME VIR HAWELOSES IN TSHWANE*
Ondersoek na 'n doelmatige leefomgewing gerig op die heling en rehabilitasie van mense in krisis
Die verhandeling ondersoek doelmatige leefomgewings gerig op die heling and rehabilitasie van mense in krisis in Suid-Afrika en fokus op die menslike ervaring van ruimte. Na insae in die probleem en konteks, is die produk van die ondersoek 'n heenkome vir die haweloses in die stad van Tshwane. Die toevlugoord kan gedefinieër word as oorgangsbehuising vir die volwasse stedelike haweloses en hulle kinders, met die klem op heling en uiteindelike rehabilitasie van hawelose mense, met inbegrip van hierdie mense se reïntegrasie in die gemeenskap. Die waarde van die projek is dat die ontwikkeling 'n metafoor word vir die reïntegrasie van mense in die samelewing. Die doelwit van die projek is om mense te bemagtig om bydraende lede van die samelewing te word en die kringloop van brandarmoede te verbreek deur 'n geleentheid vir ekonomiese aktiwiteite te bied en die fisiese omgewing van die haweloses, sowel as van die van die breër gemeenskap, te verbeter.



Project information:

Address: 555 Church Street
Arcadia
Tshwane
c/ o Church & Hamilton

Function: A shelter for the homeless that focuses on the process of healing, to achieve reintegration into society

Research Field: Housing and Urban Environments

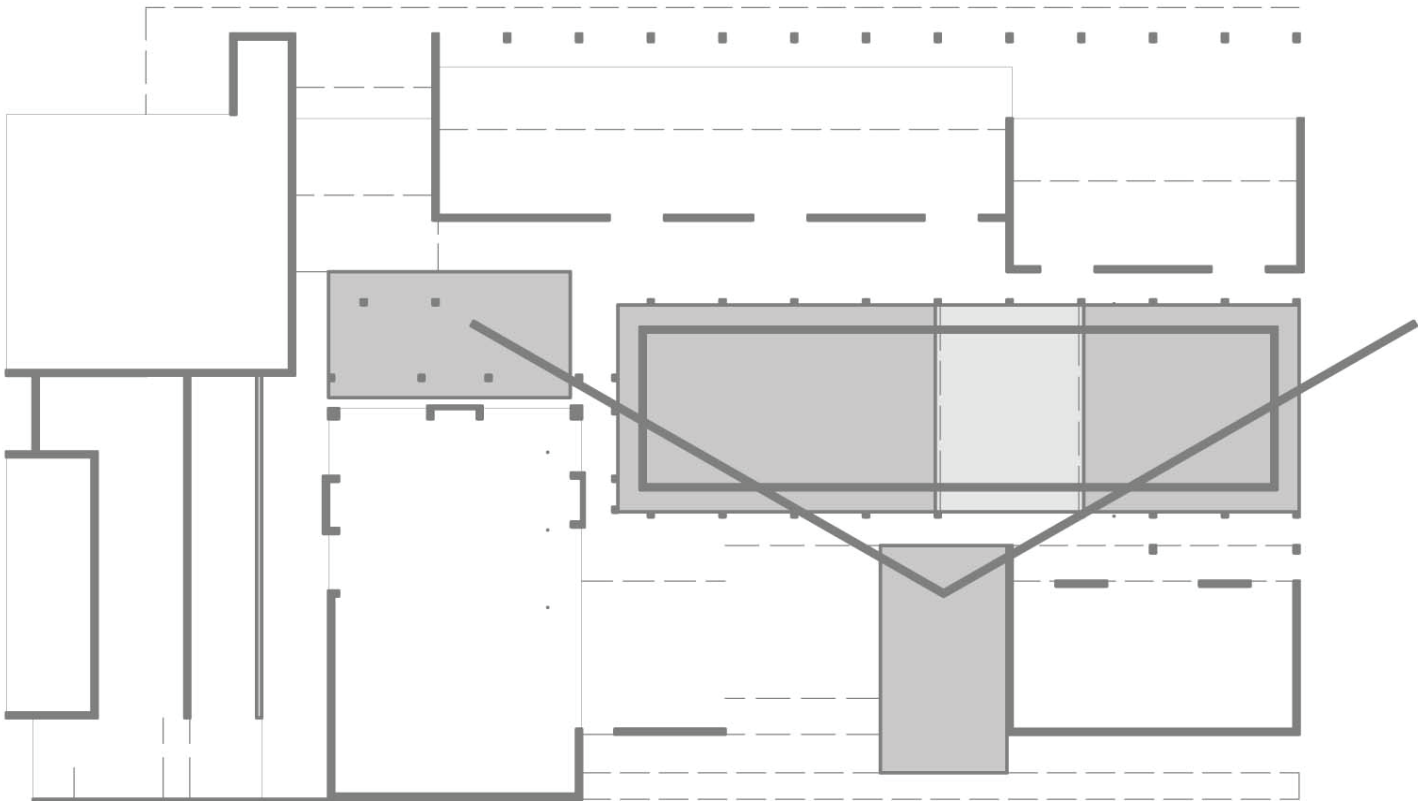


Figure 0.2: Parti (Author)

My greatest thanks to my mom **Marguerite**, my dad **Erich**, my partner **Theo**, my cousin **Deline**, my sister **Sue,** my friend **Kathy**, my study leaders **Marga** & **Ida** and my mentor **Arthur.**

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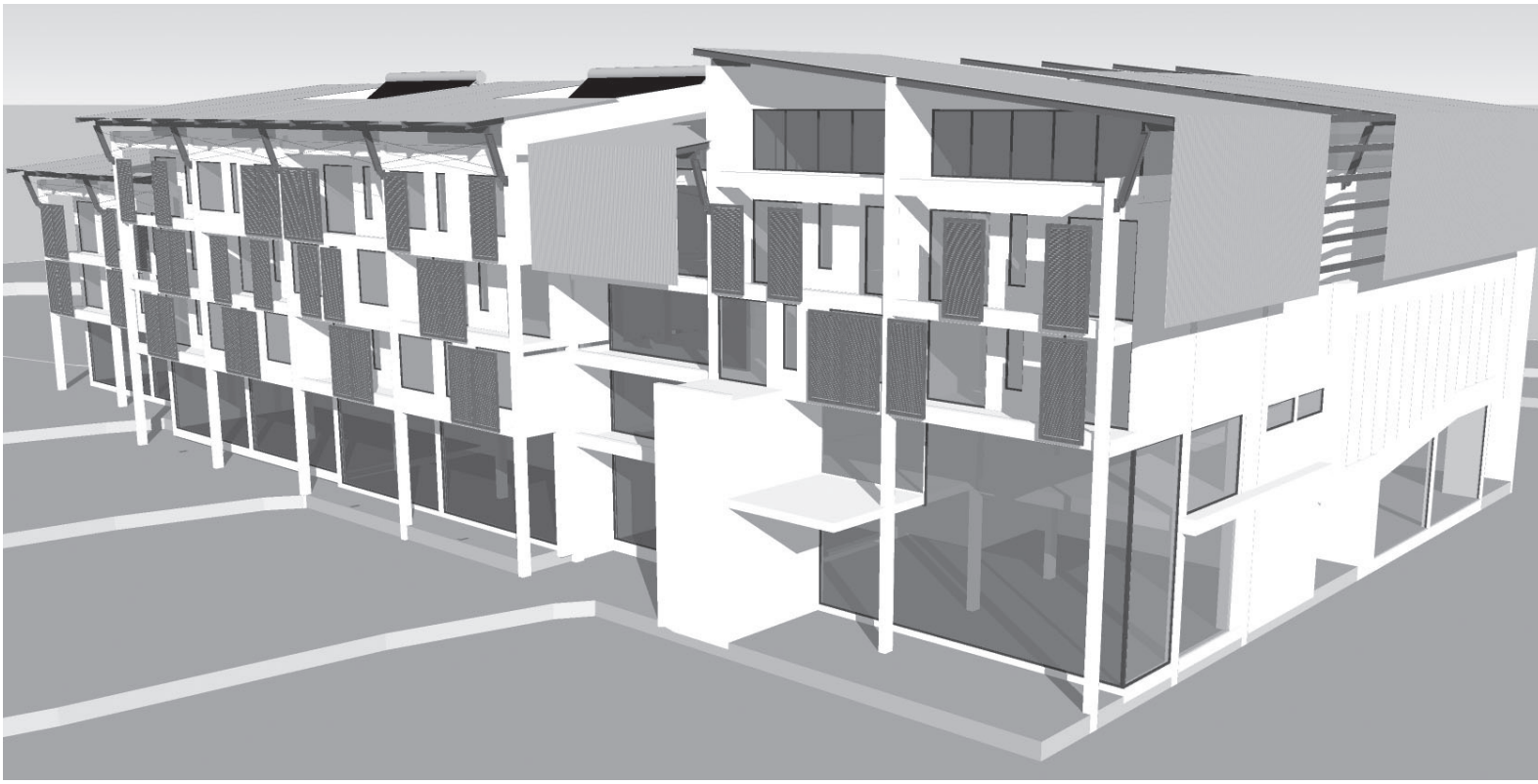

Figure 0.3: 3D (Author)

Figure 1.1: Local homeless man (Online).

01. Introduction

Background to the Study

The following investigation is derived from a deficiency identified within the urban context of South Africa namely, homelessness within its metropolitan areas. One reason for homelessness is evidently poverty. Out of South Africa's millions of poverty stricken people living in marginal housing conditions, the street homeless are the most vulnerable (Cross & Seager, 2010: 22).

According to the Human Sciences Research Council (HSRC) the estimated population of adult street homeless, in Gauteng, is between 6000 and 12 000, however because of the difficulties in obtaining accurate numbers of the homeless the number is likely to be much higher. A gap has been identified in the structure of grants available for the support of the homeless as the bulk of funds are aimed at supporting children, the elderly and the disabled. Cross (2010: 143) suggested that, although government subsidised housing grants have helped many to improve their living conditions, the grants have mostly helped people living in informal settlements, and not the most vulnerable people living on the streets. The question arises whether street homelessness is simply a result of unaffordable housing or whether there are more layers to the problem. It is suggested that one reason why available social housing does not cater for the urban homeless is because of the locations of the housing developments, which are most often found on the peripheries of cities.

The overall reason for street homelessness appears to be due to economic pressures and needs, which causes a degree of desperation due to limited resources. Although economic pressure is the main reason for homelessness, it in turn stems from the problem of the breakdown of the family structure and support. The main reasons for homelessness in South Africa are shown in the table below:

Table 1: Homeless respondents' main reasons for leaving original home

Street-homeless respondents' reasons for first leaving home prior to street homeless condition	Number of replies	Percentage of respondents mentioning
Employment factors (job search, employment, retrenchment, dismissal, income shortfall, other economic factors)	661	53
Family factors (deaths, disputes, marriage, divorce, family relationships, family influence, other changes in family situation)	665	53
Aspirational factors (seeking better life, independence, excitement, other life-improvement factors)	210	17
Shelter and housing (lack of housing, eviction or forced removal, other housing factors)	128	10
Abuse or violence (abuse, mistreatment, injury, other personal suffering)	111	9
Total	1775	

Multiple response distribution, percentage of respondents replying 'yes': number of replies may exceed total number of respondents.

Table 1.1: Reasons for homelessness (Cross, 2010: 147)

A gap has been identified in the structure of grants available for the support of the homeless as the bulk of funds are aimed at supporting children, the elderly and the disabled (Cross, 2010: 146)

Figure 1.2: Informal settlement in South Africa (Online).
Although government subsidies have helped, the grants have mostly helped people living in informal settlement, and not the most vulnerable people living on the streets (Cross, 2010: 143).

Within this marginalised adult group, women are the most vulnerable. South Africa has one of the world's highest rates of reported crimes against women. According to SAPS the unacceptably high numbers of incidences are still on the increase (SAPS, 2010).

> "*Violence keeps women in conditions of poverty, and fear of poverty keeps women trapped in violent situations. For abused women, lack of economic access dictates their physical mobility, their access to education, recreation, as well as access to each other*" (Artz, 2002).

Domestic violence is the primary reason why women end up homeless or in a situation where they need the services of a shelter. The statistics indicate that a large majority of women are homeless because of physical or sexual assault, most often occurring at the homes they eventually left (Brown, 2005: 24). Other reasons for homelessness among women are economic pressures, addiction or mental illness (Bunston, 1992: 150).

The average level of education for street homeless was found to be seven years. Twenty seven percent of homeless people were found to be temporarily employed but yet unable to afford housing or to live in peripheral areas where social housing is available.

> "*The homeless, in their own stories, appear cut off from their earlier networks in settled society, nervous about approaching government, suffering learned helplessness and friendlessness, often ashamed of their situation, vulnerable to exploitation, ill-health and injury, and living in fear as they drift in toward the economic centres of the country*" (Cross, 2010: 153).

The following aspects have been identified as essential when dealing with the problem of homelessness: firstly the homeless must be helped to "gain control of their lives"; they should be helped out of their predicament with permanent independent housing or with assisted living; access to city centers and livelihoods are crucial; and ultimately measures should be taken to prevent the situation of homelessness before the fact (Cross, 2010: 146).

South Africa has a serious lack of support for homeless people (Cross, 2010: 145). The facilities available are also not specifically designed for people in crisis and do not promote healing and growth. International examples of spaces for healing do not relate to the context of South Africa and specifically, to Tshwane. For these reasons it is important to investigate suitable environments for the healing and reintegration of people in crisis in this specific context. The dissertation will focus on promoting empowerment by examining economic sustainability through the introduction of commercial activities into the centre. Commercial space will be rented out to private organisations, to generate income for the shelter.

Figure 1.3: Research Questions (Author)

Problem Statement

This dissertation investigates suitable environments for the healing and rehabilitation of people in crisis in South Africa, focusing on the human experience of space.

Research Question

How can architecture provide a suitable environment for healing and rehabilitation of homeless people within the context of South Arica?

Hypothesis

Architecture can enhance healing through a physical environment that fosters freedom of choice, social integration and meaning.

Sub Questions

What does the process of healing entail?
What is the human experience of space and how does space promote healing?
How does one design responsible, appropriate and meaningful architecture which ultimately improves quality of life?

The Aim of the Study

The aim of the project is to create responsible, appropriate and meaningful architecture which ultimately improves the quality of life, not only of the users of the project, but also of the users of the city (feasible, sustainable, significant).

The project becomes a vehicle to investigate a number of relevant issues in the current South African social milieu. The project creates an opportunity to examine the experience of the physical environment and the formation of meaningful space for South Africans. Flexibility and open building technologies as well as the typology of shelters will be investigated, which ultimately can become a home to their users. Responsible architecture that is appropriate within the context of Tshwane, South Africa, in addition to the underlying urban structures of the city will be explored. The context of Tshwane and South Africa plays an important role in the creation of meaningful space, as meaningful space within an urban context is bound to a positive identity of place. Identity of place allows its residents to associate and belong to the city. If a place has a personality and people can identify with it, in a positive manner, they are more likely to conduct themselves in a responsible manner (Tomas, 1996: 121).

SUBSIDISED SOCIAL HOUSING ONLY AIDS THOSE WITH LOW INCOME, BUT THERE IS LIMITED HELP FOR THE MOST VULNERABLE PEOPLE WITH NO INCOME.

Research Methods & Methodology

A mixed-method approach, that incorporates both quantitative and qualitative research methods, is used. The quantitative method refers to measurable aspects, namely the specific needs or amenities and their sizes required for this project. This list of needs is partially determined by surveys conducted with volunteers at shelters (See Appendix). The qualitative method refers to a holistic approach which investigates appropriate, sustainable, contextual, meaningful architecture with the main focus on the investigation of the emotional experience of space. This is presented as a thematic textual study, which presupposes a hermeneutic approach (Creswell, 2003: 219).

Methodological Approach

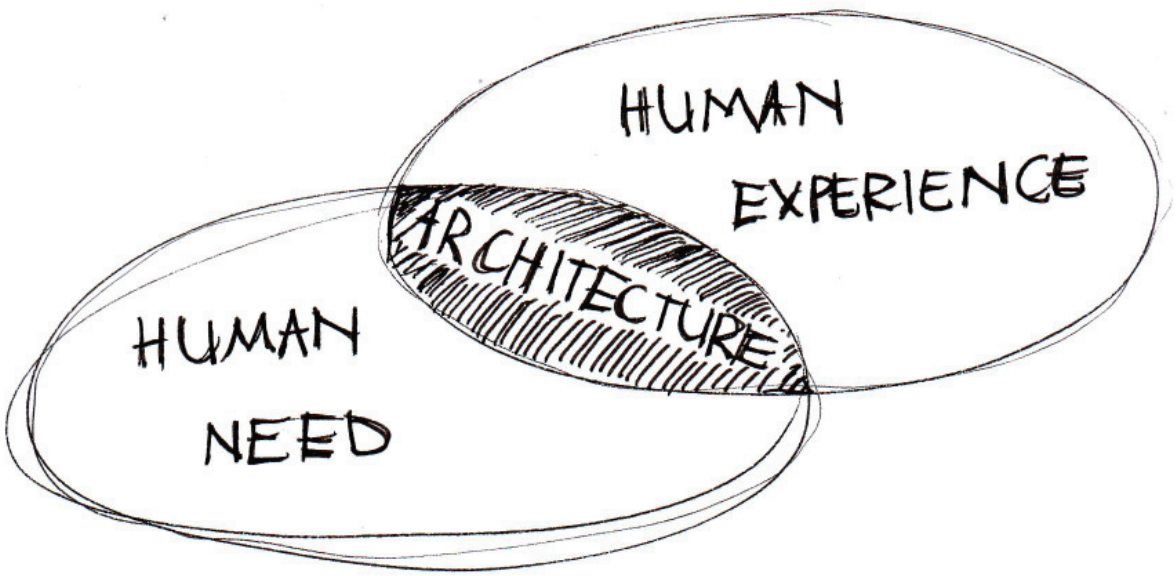

Figure 1.4: Approach to the study (Author)

The study design is presented in such a way that Chapter 2 investigates and synthesises established theories on the human experience of space, specifically relevant in the design of an environment that promotes healing. The investigation aims to identify universal design aspects that should be incorporated in the creation of healing environments for people in crisis, specifically in reference to the design of a homeless shelter. Chapter 3 investigates the context of the project, focusing on the historical, social and physical conditions of the site within the context of Tshwane; the current situation of shelters in Pretoria Central; as well as proposing an Urban Framework for the area. Chapter 4 investigates the programme, determining necessary accommodations, after which an evaluation is presented in the culminating chapters in which the conclusions are summarised and synthesized.

UNEMPLOYMENT AND ECONOMIC PRESSURE ARE THE MAIN REASONS FOR HOMELESSNESS IN SOUTH AFRICA.

Client, Programme & Site

Client

A number of organisations could be approached to act as a partner to provide financial support for the project. This could be a public-private collaboration, for example through the partnership of the private entity, Tshwane Leadership Foundation, and the public Department of Social Development. Examples of similar projects that these organisations have mutually been involved in are The Potter's House, for women in crisis; Lerato House, for girls at risk; Akanani, an outreach programme and care centre for the terminally ill.

Tshwane Leadership Foundation (TLF) is a private organisation that was created in 2003 and strives for urban transformation.
The organisation is

> "*committed to help build healthy urban communities in places of struggle and/ or transformation, and wants to demonstrate that it is possible to strengthen urban areas in ways that are radically inclusive socially and economically*" (TLF, 2010).

The Department of Social Development's core function is the

> "*management and overseeing of social security, encompassing social assistance and social insurance policies that aim to prevent and alleviate poverty in the event of life cycle risks such as loss of income due to unemployment, disability, old age or death oc curring. The purpose is to create and provide social protection to the most vulnerable of society through the delivery of social welfare services, delivered via provincial government and NPO structures*" (Department of Social Development, 2010).

Programme

The shelter can be defined as transitional housing for the adult urban homeless and their children. The shelter focuses on the healing and ultimate rehabilitation of homeless people, which includes the reintegration of these people into society and not merely a shelter which provides immediate relief but does nothing to improve the situation of the people in need. The healing of people in crisis will be achieved through the design of an appropriate environment which will focus on the experience of the user to encourage independence and empowerment, ultimately leading to a positive self-image. The centre will incorporate the following: individual as well as group counselling; training; apprenticeship; economic opportunity; accommodation; and opportunities for recreation and spiritual growth. The people in crisis will stay at the shelter for a period of **six months to one year**, which means the centre becomes more than a shelter; it becomes a home. A drop-in facility will also be provided for more temporary relief.

The significance of the project is that the development becomes a metaphor for the reintegration of people into society. The project facilitates people becoming contributing members of society and discontinues the cycle of destitution by improving the physical environment and by providing the opportunity of economic activity. The diagram on the following page illustrates the specific activities:

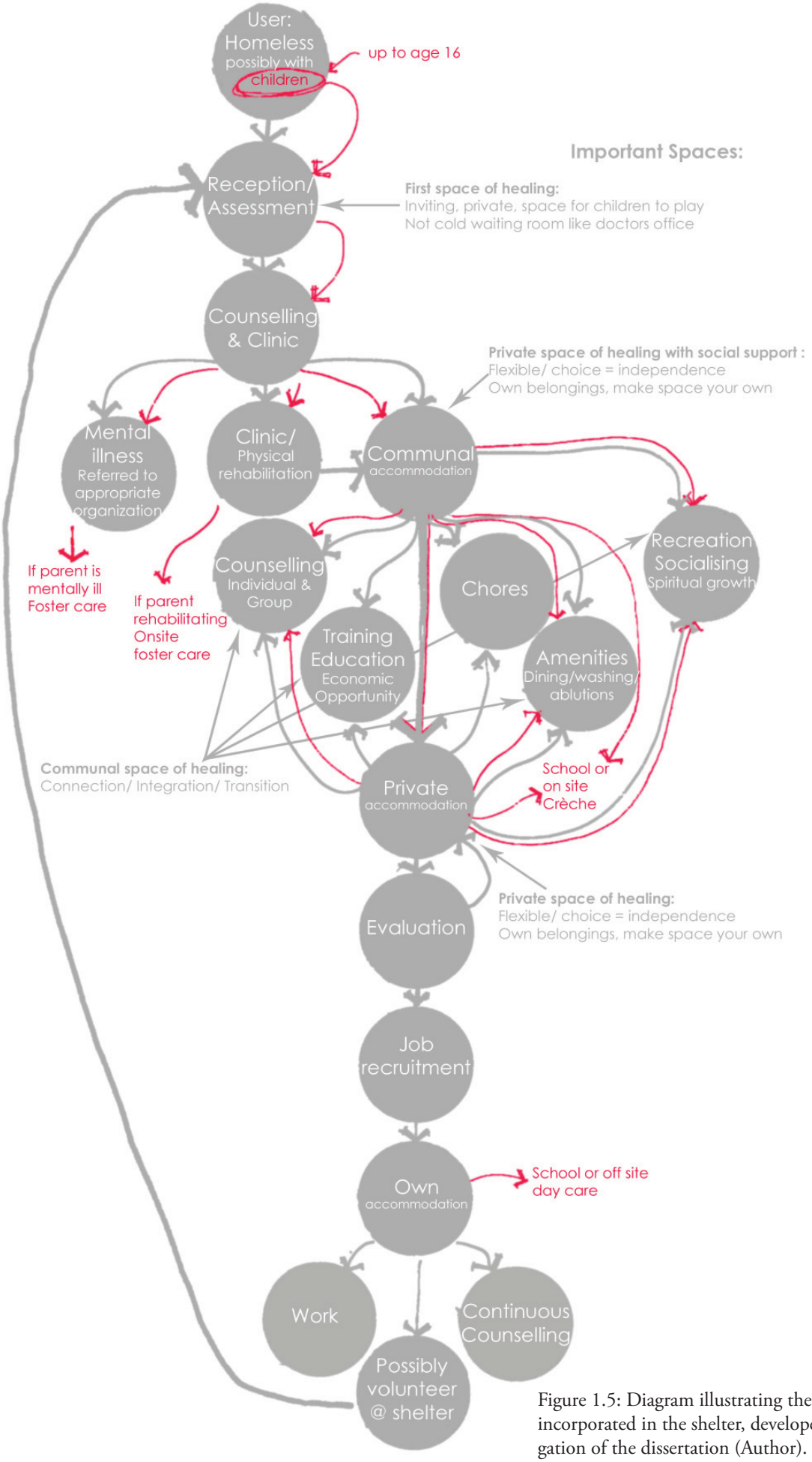

Figure 1.5: Diagram illustrating the process and activities incorporated in the shelter, developed through the investigation of the dissertation (Author).


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According to SHIFT, transitional housing is a form of social housing with shared facilities and it targets the income group of R0 – R100 per month. Transitional housing is defined as temporary, short-term accommodation of a maximum stay of 24 months. Transitional housing is similar to communal housing as facilities are shared, however communal housing does not provide life skills and training though it does provide a lease agreement for long-term stay. Rent for communal housing is also significantly higher than for transitional housing. The average sizes of rooms in establishments that provide transitional housing are 6m² for individual rooms to 12-20m² for shared rooms. Rental per bed is usually between R0-R165 per month, with the average being around R90 (SHIFT Resource Book, 2009: 223).

Definitions of different types of social housing according to SHIFT:

*"**Shelter** is a housing intervention measure to assist the destitute and homeless. The focus of shelter is on social welfare services such as food, clothing and other social services. Normally, shelter is provided by welfare or faith-based organisations.*

***Transitional housing** is temporary accommodation in and around the inner city for people who are in transition between homelessness and permanent accommodation. Short-term tenure and empowerment training are key characteristics of transitional housing. The accommodation is managed by an institution and subsidised through government housing subsidies.*

***Communal housing** can be defined as an affordable rental form of social housing accommodation. Long-term tenure and shared communal facilities are key characteristics. Communal housing projects are subsidised through government housing subsidised and are managed by an institution.*

***Social housing** is defined as affordable, high quality and well-located subsidised housing managed by viable, sustainable, independent institutions on participatory management principles. Social housing is aimed at low-to-moderate income families and provides different tenure options with the exception of immediate individual ownership" (SHIFT, 2009).*

Figure 1.6: The Salvation Army, Pretoria West (Author)
Figure 1.7: Existing hostel, Mamelodi (Author)
Figure 1.8: N2 Gateway – Joe Slovo, Cape Town (SHIFT)
Figure 1.9: Brickfields, Johannesburg (Online)

THE SIGNIFICANCE OF THE PROJECT IS THAT THE DEVELOPMENT BECOMES A METAPHOR FOR THE REINTEGRATION OF PEOPLE INTO SOCIETY.

Figure 1.10: The site is a transitional zone between commercial (red) and residential (yellow) areas (Author).

Site

The location of the shelter is of utmost importance to ensure all the criteria of the project are met. The selected site is on the corner of Church and Hamilton Streets, in Arcadia, Tshwane. The site is a transitional zone between residential and commercial areas which provide opportunities for integration. The established residential area to the east of the site means that the shelter can integrate into the existing community and prevent the isolation of the development. The location also allows access to the following necessary amenities: schools, churches, recreation, parks, jobs and commerce. The busy streets also provide an excellent opportunity to promote awareness of the current social problem and the support systems available.

At an urban scale the development provides an opportunity to develop underutilised space within the city through densification. The site is currently completely underutilised with a small single story building in the middle of the site surrounded by an excessive amount of parking. The present coverage is 16 percent with a FSR of 0.16 leaving 84 percent of the site open for parking. The site is surrounded by multi-storey buildings ranging from three to seven stories, with FSR ranging form 1.77 to 2.77, which emphasise the gap in the urban fabric. The proposed development will increase the density of the site by increasing the height and coverage. This densification counters urban sprawl and improves the quality of the city itself (Schoonraad, 2000: 220). The intervention will focus on defining the street edge and activating it through commercial activities. The building itself will also focus on passive surveillance and 24 hour activity to promote safety in the city. The current programme on the site is a fast food restaurant which
will be retained in the new development activating the street and creating a buffer zone between the public street and the private shelter.

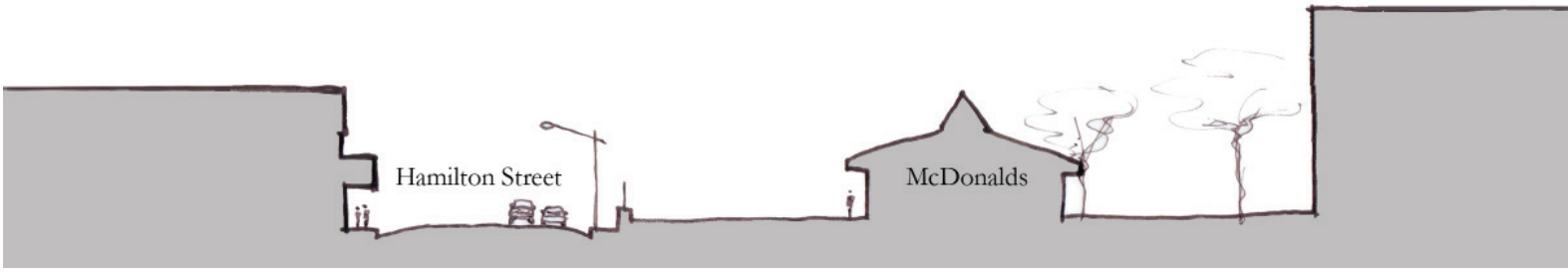


Figure 1.11: Section of Existing Site Condition (Author).

Figure 1.12: Plan of Existing Site Condition (Author).

Figure 2.1: Summary (Author)

02. Theoretical Investigation

Introduction

This chapter investigates and synthesises established theories on the human experience of space, specifically relevant in the design of an environment that promotes healing. The investigation aims to identify universal design aspects that should be incorporated in the creation of healing environments for people in crisis, specifically in reference to the design of a homeless shelter.

> "*Healing is a process that can only take place from within ourselves, but this process can be triggered and supported by things and actions outside us. We can, therefore, talk about healing environments and healing qualities of environments*" (Day, 1990: 138).

First the importance of the **role of place** in health experiences is discussed. Then, the qualities of a **healthy environment** that will not contribute to crisis are overviewed. Next, the **human experience of space** is summarised and it is found that although individual experience does shape perception, many experiences are universal and can aid in the healing process. Following this, is a synopsis of universal **environmental aspects** that contribute to a positive experience of space and to the process of healing. These aspects are discussed in terms of the **senses** and features such as light, peripheral vision, colour, touch, sound, smell and taste. Factors such as meaning, materiality and variety are also included. Subsequently the **experience of home** and homelessness is discussed. Furthermore, **healing environments** for people in crises, particularly the homeless, is investigated through examining **specific design strategies** employed by a number of precedents. Finally, conclusions are drawn from the investigation and universal design aspects that should be incorporated in the creation of a healing environment are identified.

There has been a revival in the understanding of the **importance of the role of place in health experiences** since the early 1990s and the influence of place characteristics has come into the spotlight (Macintyre, Ellaway & Cummins, 2002: 127). The studies discussed below show the influences that a particular place can have on the health of its inhabitants. Similar population groups do tend to live in similar areas, but even when taking this into account, the features of a place have an effect on health and wellbeing. Mahnke states that the positive influences of "correct environmental conditions" can be dramatic (Mahnke F. & Mahnke R., 1987: 97). Individual behaviour does have a great effect on health and wellbeing but it is not a solitary contributor. According to Macintyre, most research on this topic usually concludes with "where you live matters for health, although probably not as much as who you are" (2002: 128). Studies focusing on individualism have indicated that unhealthy individual lifestyles have an undeniable connection to low income, low education and low socioeconomic status (Lindström, Hanson & Östergren, 2001: 441). However, Lindström also states that improvement of the social environment, namely, social capital and social cohesion, has a positive effect on public health (2001: 449).

WHAT ARE UNIVERSAL DESIGN ASPECTS THAT SHOULD BE INCORPORATED IN THE CREATION OF HEALING ENVIRONMENTS?

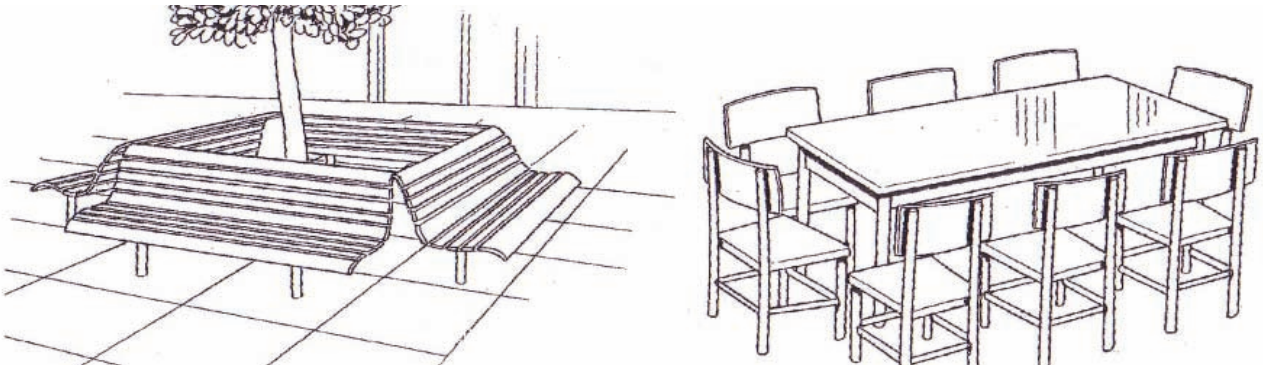


Figure 2.2: Image illustrating the effect of design on socialisation: benches placed around a tree do not encourage socialisation; whereas chairs placed around a table encourage group activities (Cave, 1998: 97).

Figure 2.3: Environment and social capital is as important as individual behaviour on wellbeing (Author).

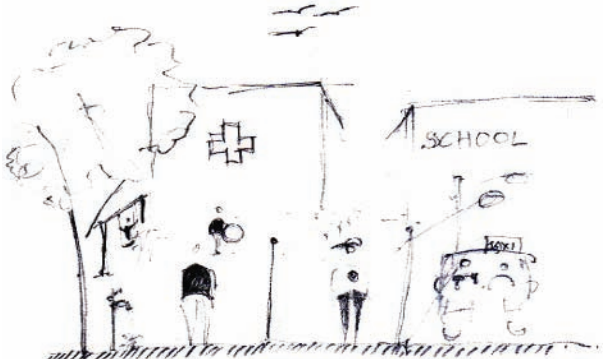


Figure 2.4: Material Influences (Author)

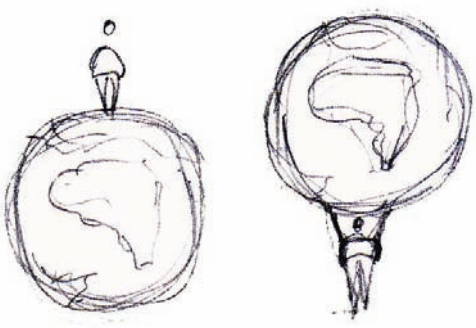


Figure 2.5: In order to create a healing and healthy environment, the environment must first be conserved (Author).

According to Macintyre, both collective social functioning and material infrastructure have an influence on health, be it physical or mental (Macintyre, 2002: 125). However, she states that there is a lack of adequate measurement tools to determine the effects of a place on wellbeing and functioning. She suggests a few reasons for this. Firstly "place effect" often seems to be thought of as having a mystical, indefinable influence that cannot be understood. Secondly, through the improvement of statistic gathering, researchers have been able to analyse and focus on individuals and less on the environment in which the individuals live. This means that individual lifestyle choices have become the focus for current studies on health. This idea of individualism developed out of the political resurgence of neo-liberalism in the 1980s in North America, as well as some developed countries around the world. This ideology was expressed through Margaret Thatcher's statement "there is no such thing as society, there are only individuals" (1987). There has been a considerable amount of research done on the impact of social satisfaction on human health, however it has predominantly been focused on the individual rather than on individuals' environments, be it physical or social. Lindström pleads for a shift in focus from "individual risk behaviour to patterns of civil and social engagement" (2001: 449). He goes on to say that improving the physical environment will result in an improvement of public health and wellbeing. A new movement of thought has started to resist the idea of individualism. "The new public health" is attempting to return the focus of theorists "towards structural and environmental influences on health and health behaviours". The ideologies of "the new public health" in fact stem from the nineteenth century efforts to "clean up the dirty cities" realising that individual lifestyle was not the only contributor to ill health (Macintyre, 2002: 127). Individual health behaviour cannot be comprehended without taking the environment into consideration (Berkman, Kawachi, 2000: 336).

Healthy Environments

Before we can discuss the healing possibilities of an environment, it is important to understand the qualities of a healthy environment that will not contribute to crisis. According to Macintyre there are two aspects of a healthy setting, namely: material features of the surroundings and psychosocial features of the population (Macintyre, 2002: 131). Material aspects relate to physical amenities such as houses and sport facilities. Psychosocial features relate to social cohesion, collective efficacy and empowerment. These aspects fall into five types of characteristics of a place that promote health and well being:

Material Influences (figure 2.4):

1. *Physical features:* these relate to the most basic necessities of human wellbeing, namely unpolluted air and clean water.

2.6


2.7


Figure 2.6-8: Some socio-cultural features: politics, religion and identity (Online).

2. *Healthy environments at home, work or play:* this includes the provision of: safe controlled work environments, inclusive housing and secure, clean recreation areas.
3. *Services:* for example health, education, policing, transport, street cleaning, lighting and welfare services.

Collective Social Influences:

4. *Socio-cultural features* (figure 2.6-8): these include the norms and values of the community's economic, political, religious and ethnic history. This also relates to systems of community support and community integration and to the intensity of crime and threats to personal safety.
5. *Reputation:* this relates to the identity of a place, in other words, how it is perceived by the residents and outsiders. This influences the self-esteem and morale of the residents, who make choices as to whether to move to or away from the area, which may have a ripple effect on the infrastructure (Macintyre, 2002: 131).

Day (1990: 30) also emphasises that in order to create healing and healthy environments, they must be designed from an ecologically responsible stand point. This includes not only limiting the effects of buildings on the surroundings but also the effects on the occupants. He also writes that it is a well established fact that producing environmentally responsible energy is more costly than simply conserving it, through responsible design (1990: 33). Decreasing negative effects on people's health can easily be achieved through simple additions, for example, a water fountain in an outdoor space in the city can freshen air and reduces air pollution caused by exhaust-fumes in those areas (1990: 35).

In conclusion, when considering a healthy environment, it is important to note what the basic needs are, specific to the area. For example, in some areas of Africa a bicycle is the main form of transportation where as in North America it is mainly a recreational plaything. Although basic human needs are universal, e.g. transport, their realisation is specific to a given society (Macintyre, 2002: 133).

THERE ARE TWO ASPECTS OF A HEALTHY SETTING, NAMELY: MATERIAL FEATURES OF THE SURROUNDINGS AND PSYCHOSOCIAL FEATURES OF THE POPULATION.

The Experience of Space

It is true that people's individual experiences shape the way they perceive their environments although many experiences are universal and can aid in the healing process.

> "*In this world we do not see things as they are. We see them as we are, because what we see depends mainly on what we are looking for.*"
> Sir John Lubbock (1834-1913).

Day (1990: 23) suggests that although everyone has unique associations and preferences there are some physiological effects, that will be discussed, to which no one is immune. He states that there are many qualitative aspects of our surroundings that have a universal effect. Day (1990: 23) also views the human experience of space through the understanding that human beings have four levels of being, namely body, life, feeling and moral individuality.

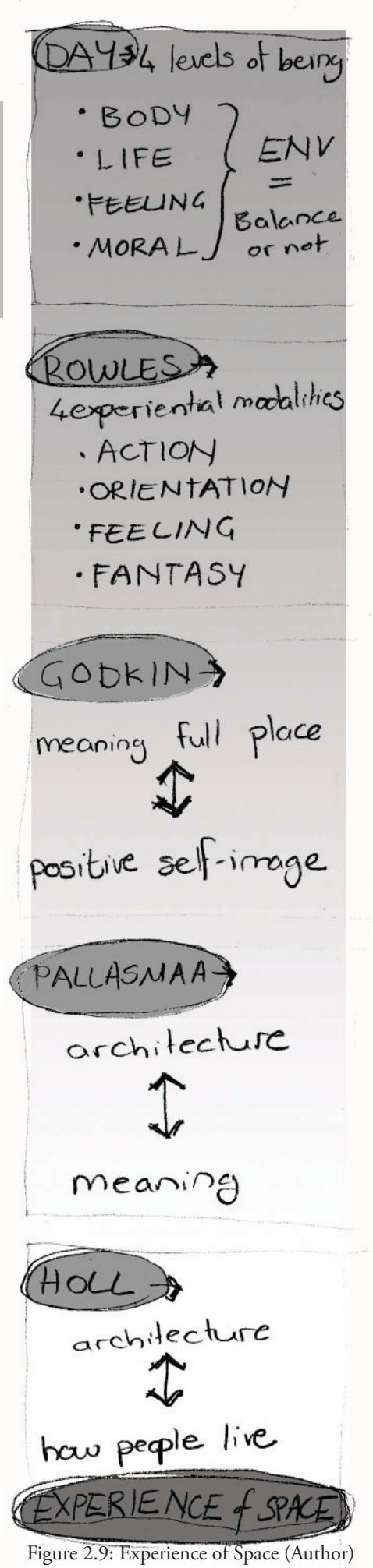


Figure 2.9: Experience of Space (Author)

Environments have the ability to either allow these four levels of being to be balanced or unbalanced (Day,1990: 23).

Rowles (1980: 58) suggests that there are four interconnected experiential modalities: action, orientation, feeling and fantasy. Investigating space experience through these four aspects aids in the understanding thereof and ultimately, aids in the creation of meaningful spaces.

The first aspect is action, which refers to movement within a physical setting. Rowles (1980: 58) defines three distinct levels of action. The first relates to immediate actions within a proximate physical location, for example, answering a telephone in one's own home. There is a certain level of control over the environment of one's home, for example, disabled or elderly people will rearrange their homes, positioning objects that are used often close to them. Here it should be noted, that although homes do provide some level of control, the design of housing should allow for even further flexibility. The second level of action refers to the larger movement of daily activities, for example going to the shops or visiting friends. Here individual circumstances play a large role on these actions, for example, elderly and disabled people will be more restricted in this movement. Other circumstances that can effect people's movement are, for example, how safe the neighbourhood is and other considerations of the broader environment. A neighbourhood with a high incidence of crime might prevent people from moving around at night or alone, where as a well-lit city street with an abundance of activity and passive surveillance might improve the situation. For people in abusive relationships, actions might be limited by the partner preventing contact with friends and family, leading to isolation and loss of self-worth. The third level of action relates to long distance trips for holiday or business and this action is encouraged or limited by resources.

Orientation refers to "mental representations of physical-social space providing orientation within a 'known' world" (Rowles, 1980: 58). This refers to psychobiological orientation, which is a preconscious sense of up and down, left and right, and back and front. Within the known world, surveillance zones are formed which occur when residents can look out at the neighbourhood and learn the rituals of neighbours and know if someone belongs there or not. This changes the neighbourhood from a physical space to a social space, offering security. Rowles (1980: 59) states that the knowledge and understanding of ones surroundings leads to a "sense of partial control" which aids in the process of healing and empowerment.

The next level of experience is feeling. This is the experience of a place that has a significant meaning. Feelings are infused within places, which in turn, evoke feelings and become symbols aiding in the creation of individual identity (Rowles, 1980: 60). These spaces could have shared meaning which fosters a mutual sense of community and belonging.

The last modality of environmental experience is fantasy (Rowles, 1980: 61). This is purely the experience of thinking about something else, which means you are thinking about another place and permits transcendence of location. This could be through reflection or reminiscing which is the experience of a series of spaces through time. Fantasy can also be experienced through projection, which transports the individual to a spatially removed environment. Specific environments could trigger memories of other places, providing a completely different experience of the physical environment. Pallasmaa


2.10


2.11


2.12


Figure 2.10-13: Some South African cultures and identities (Online).

(2005: 11) suggests that it is the profound reinforcement of one's sense of self that architecture should provide, that permits us the opportunity to participate in the "mental dimensions of dream, imagination and desire".

Godkin (1980: 73) also highlights the significance of the experience of feeling in a person's environments. He states "the places in a person's world are more than entities which provide the physical stage for life's drama. Some are profound centres of meanings and symbols of experience". He goes on to say that there is an important link between the attachment to meaningful places and the development of a **positive self-image** (Godkin, 1980: 74). A lack of self-worth, the feeling of being lost, and questioning one's identity and value is linked to the "sense of non-belonging to place" which Godkin defines as uprootedness (1980: 75). This feeling of "being apart and different from one's surroundings" can trigger feelings of self-doubt (Godkin, 1980: 75). Places that are perceived as threatening can impede the integrity of a person's identity. Places that foster feelings of rootedness are places where a person can anchor their uniqueness and be themselves in environments that also provide excitement (Godkin, 1980: 78). Places of rootedness show that a "positive image of place can provide a concrete focus for the attachment, retention and development of self-image" (Godkin, 1980: 79). Buttimer (1980: 166) states that cultural and personal identity is closely connected to place identity, for example, losing a home can often cause an identity crisis. For these reasons it is clear that physical settings play an essential part in the sense and experience of well-being (Godkin, 1980: 83). Pallasmaa (2005: 11) states that architecture should stimulate all the senses and thus "fuse our image of self with our experience of the world" before architecture can become life-enhancing. He suggests that architecture strengthens a sense of self and reality by articulating our experience of "being-in-the-world".

A positive self image is fostered in environments that offer health and healing. Day (1990: 23) simply states that "what feels better is better" which implies that environments that are enjoyable are also healthy for us to be in. According to him, the process of healing is "transformation at the inmost level". Outside stimuli, such as medicine, counselling and environment can initiate and support the healing process. Environment can support and balance the human spirit in the same intensity that it can starve and oppress it. This transformation is similar to the effect of **art**. Day (1990: 25) states that healing environments should have the same profound effect on a person as art does. He says that art has the ability to move and change a person so that they are never the same again. This experience is the process where an outer stimulus enables a person to make an "inner step".

> "*To uplift the spirit, places need to be in some way artistic*" (Day, 1990: 25).

Pallasmaa (2005: 11) suggests that **art** and architecture are similar in the way that they should both strengthen one's sense of self. Architecture ought to do more than provide mere visual seduction; architecture should in fact offer meaning. The meaning of a building goes further than architecture; "it directs our consciousness back to the world and towards our own sense of self and being". He states that the function of meaningful art, including architecture, is to "make us experience ourselves as complete embodied and spiritual beings" (2005: 11).

PLACES PROVIDE MORE THAN MERELY THE PHYSICAL STAGE FOR LIFE'S ACTIVITIES; THEY BECOME CENTRES OF MEANINGS.

However there has been a shift in contemporary culture away from the sense of self and towards separation. Pallasmaa sates that contemporary **art** has adopted a "chilling de-sensualisation and de-eroticisation of the human relation to reality". Art has stopped speaking to sensory pleasure or curiosity and started focusing on intellect and conceptualisation, isolating us from our surroundings. There is fortunately a new awareness of these issues and numerous architects, for example Pallasmaa, Holl and Day, are attempting to "re-sensualise architecture through a strengthened sense of materiality and hapticity, texture and weight, density of space and materialised light" (2005: 37).

> "*If we desire architecture to have an emancipating or healing role, instead of reinforcing the erosion of existential meaning, we must reflect on the multitude of secret ways in which the art of architecture is tied to the cultural and mental reality of its time*" (Pallasmaa, 2005: 34).

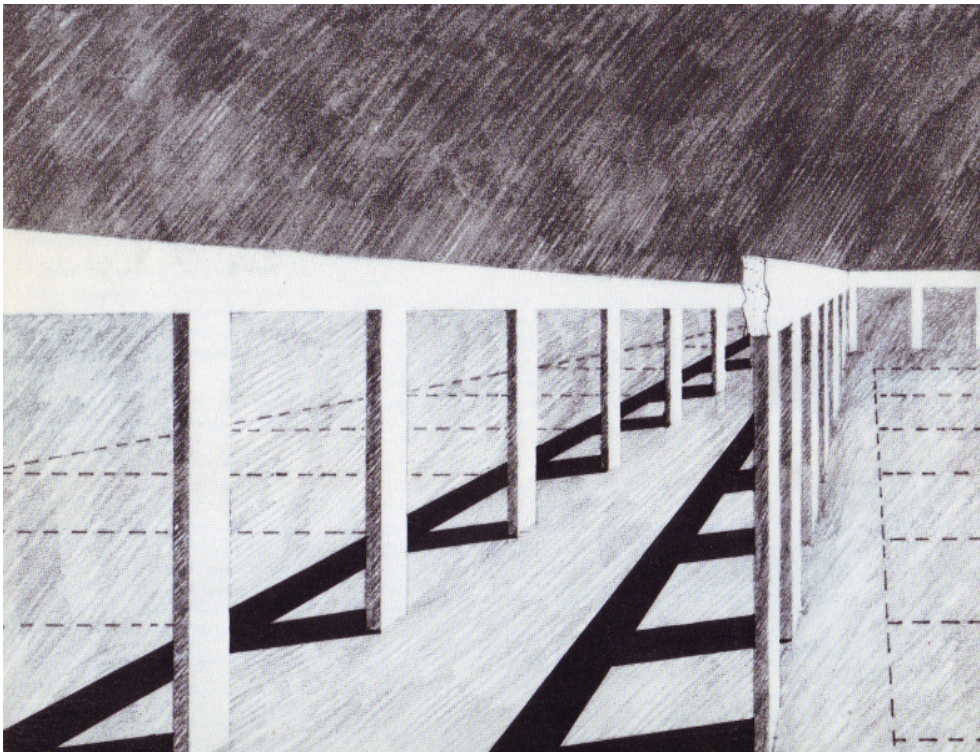
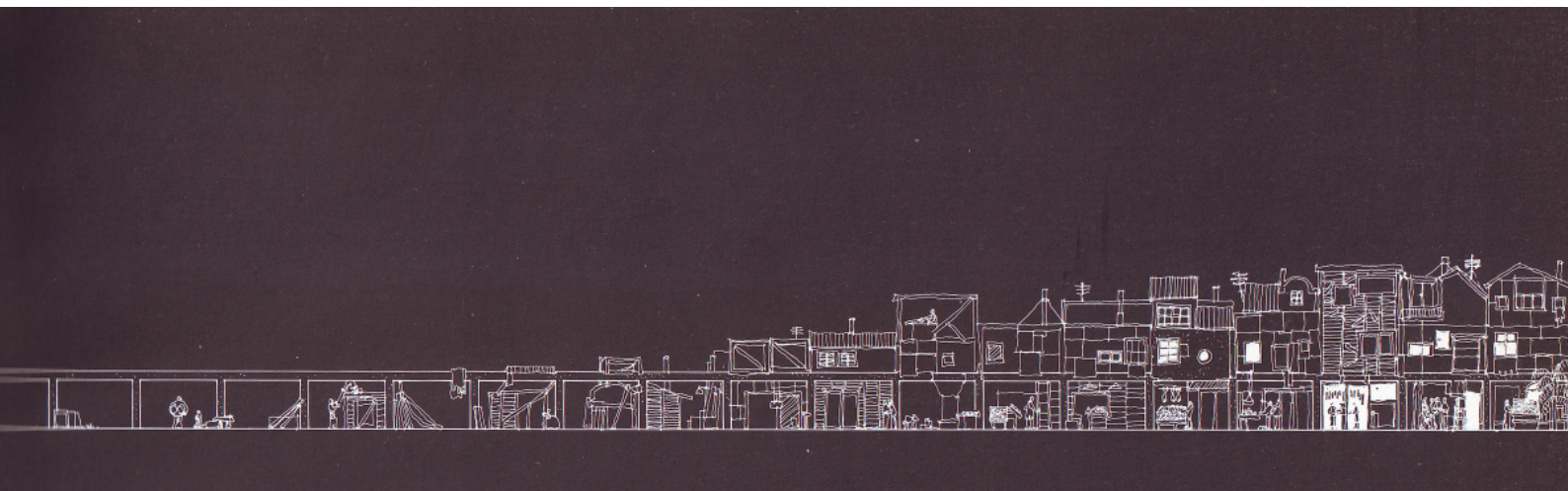


Figure 2.14 & 2.15: Holl's proposal for housing in the Philippines. **The degree of flexibility illustrates Holl's concern for the experience of the users** (Holl, 1989: 14+15).



Architecture is ultimately experienced through the **action** of utilising a building. This idea challenges the typical notion of architectural experience as a series of flat images, portrayed in the glossy photographs of architectural magazines. This action is what sets architecture apart from other art forms. Architecture becomes more than a visual experience; it becomes a series of encounters and confrontations. Distinct actions or activities frame or become the experience of home, for example, bathing, cooking, eating, sleeping and so on. Architecture's role is to order and initiate these activities and the movement associated with them (Pallasmaa, 2005: 63).

The **experience** of place is a main concern for the architect Holl. Holl's design philosophy is fundamentally based on phenomenology (Lippert, 1989: 4). He states that "architecture without idea –without a consciousness of the experience of architecture, its material, light, shadow, color, scale, and proportion –is only building" not architecture. Architects should be concerned with how people live, work and play within a space and focuses on the individual and the "poetics of life" (Holl in [Lippert], 1989: 4). The proposal for a competition for housing in the Philippines illustrates Holl's concern for the experience of the user as the project provides "the greatest degree of individual flexibility" (Holl in [Lippert], 1989: 15).

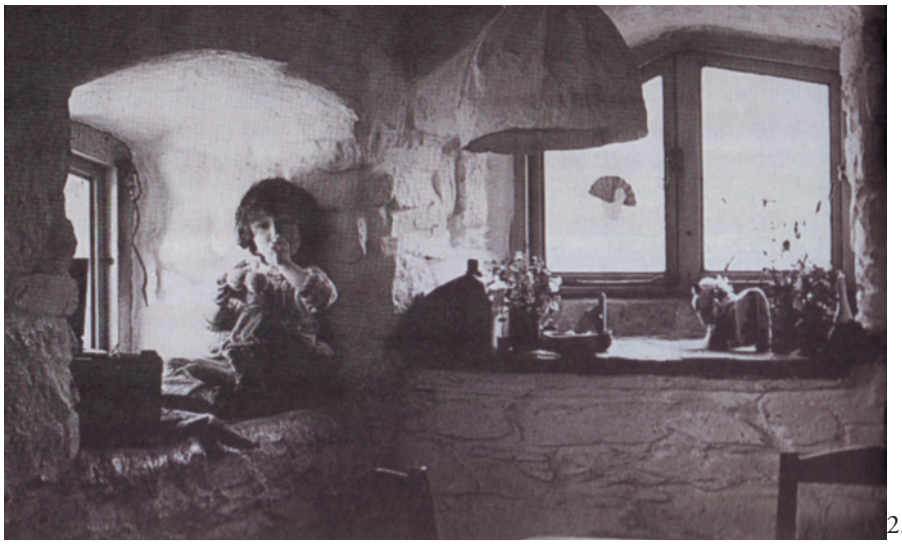
These views are similar to the views of the architect Aalto. He felt that architecture should serve man and that the role of architects is to discover the most appropriate form to serve this goal. According to Fleig, in all of Aalto's designs, it is visible that they were conceived through an intense understanding of human behaviour (Fleig, 1978: 6). His architecture was not motivated by theories but by the **observation of life**.

ARCHITECTURE BECOMES MORE THAN A VISUAL EXPERIENCE; IT BECOMES A SERIES OF ENCOUNTERS AND CONFRONTATIONS.

Universal Environmental Aspects that Contribute to a Positive Experience of Space and to the Process of Healing

As discussed above, there are some experiences that affect us universally that can aid in the creation of a healing environment. These experiences are perceived by our **senses** and are interpreted by our minds. Gibson defines sensory perception and the experience of space, not as passive receivers but as mechanisms aggressively seeking stimulus. He categorises senses into sensory systems and not detached senses. These categories are: the visual system, auditory system, the taste-smell system, the basic-orientating system and the haptic system (1977: 33). All the senses play a part in the experience of a place. The visual appeal of a place means nothing if it has a bad smell. The best advertisement for a store is the smell of its product, for example, the smell of freshly ground coffee or baked bread, which has a greater influence than what the store looks like (Day, 1990: 49). Holl, in the preface of *The eyes of the skin*, (Pallasmaa, 2005: 7) suggests the way a place feels, with its smells and sounds, is as important as the way it looks.

Day speaks about a few universal qualities that create healing environments. A first and very important aspect is the quality of **light** within a space. He says that although a fireplace is quite energy inefficient in producing light, it adds a different layer of value, because people enjoy sitting by a fireplace. This is also true for the quality of candlelight. He also says naturally-lit spaces are



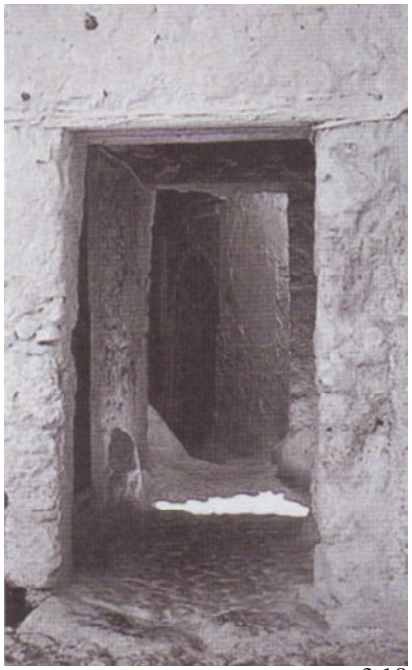
2.16

Figure 2.16: Lively natural light from two different windows within in room (Day, 1990: 21).

Figure 2.17: Curved corridor with different intensities of light and places to socialize (Day, 1990: 22).

Figure 2.18: Entrance into a building changes the inner state (Day, 1990: 23).

2.17



2.18

more inviting because certain hormones are stimulated by sunlight (1990: 21). Daylight, from two windows within a room, produces a light quality that is alive with ever-changing moods and colours throughout the day. Spaces should also have different intensities of light, focussing one's attention on what is important and preventing a sterile environment. Corridors that are straight, smooth and evenly lit create an institutional feeling, where as passages that are not straight, with space for chance social meetings and differing light intensities, are inviting. The entrance to a building also has a significant effect on one's experience of it.

> "*The sequence of preparatory experiences we pass through to approach, enter and use a building do more than affect our experience of it. They change our inner state which can both enhance our receptiveness to health giving qualities in our surroundings, and trigger transformative processes in our inmost being. All healing is found on such inner transformation, albeit initiated by outer agents. Threshold, sequence and 'oasis' have therefore important health-giving functions*" (Day, 1990: 23).

Holl emphasises the importance of light as he says space can not be experienced without it. He writes "light's shadow and shade, its different sources, its opacity, transparency, and conditions of reflection and refraction intertwine to define or redefine space" (Holl, 1989: 11).

Pallasmaa (2005: 46) says that vision is the perception of distance and separation. When we are involved in overwhelming emotional experiences, such as listening to music or kissing a lover, we close our eyes and therefore stop the distancing and separation of sight. Therefore deep shadows are important within a place of healing to hinder vision and facilitate tactile sense and unconscious peripheral vision, both of which bring one into ones surroundings, integrating one, providing a sense of connection. This way imagination and daydreaming is inspired, allowing thoughts to wander and ideas to be born. Mist or twilight produces a quality of light that takes the importance away from vision and encourages thought and meditation which aids in the healing process. This means that the window is of utmost significance and is not merely the absence of wall. The window is the mediator between two opposite spaces: inside and outside, enclosed and open, shadow and light.

> "*Homogenous bright light paralyses the imagination in the same way that homogenisation of space weakens the experience of being, and wipes away the sense of place*" (Pallasmaa, 2005: 46).

Pallasmaa writes that the quality of architecture is determined by the character of peripheral vision. The perception of reality in the unfocused realm of peripheral vision, which enfolds us within a space, is just as important to the experience of the space as the image that is in focus (2005: 13). The unconscious perception of peripheral vision provides us with a bodily and spatial experience which allows us to integrate with the space. This integration is opposed to the experience of focused vision, which "pushes us out of the spaces, making us mere spectators" (Pallasmaa, 2005: 13). Architecture which lacks stimulus in the sphere of peripheral vision makes users feel like outsiders. For example, the feeling of being outside, created by some contemporary buildings, is opposed to the experience of nature where all the senses and ones peripheral vision are stimulated.

> "*A walk through a forest is invigorating and healing due to the constant interaction of all sense modalities*" (Pallasmaa, 2005: 41).

Although the experience of **colour** is highly personal, there are some physiological experiences that are universal. These effects are, for example, that metabolic systems are increased by the stimulation of the colour red and decreased by the colour blue. Colours that stimulate glands are, for example: yellow which affects thyroid; blue which affects the pituitary; red which affects male sexuality and violet which affects female sexual glands (Day, 1990: 47). The colour red stimulates autistic children to participate in activities and blue helps to calm hyperactive children (Day, 1990: 48). These effects are created through the whole experience of the specific colour and not merely through a few coloured dots or elements. Overwhelming amounts of colour pigments within a space, for example, the walls, ceilings and furniture all of the same colour, are overbearing and dominating, forcing a mood which makes the space feel uncomfortable. However coloured light seems to invoke or suggest a mood and not force it the way that pigment does, and therefore can comfortably alter the experience of space. Green has a calming and peaceful effect which creates balance. However a room which has been painted green often becomes heavy and dead. Reflected green light can turn people's faces green making them look ill. A way to avoid all these negative effects is by simply allowing light to shine through foliage which produces a lively, peaceful mood (Day, 1990: 48). (See figure 2.19)

VISION IS THE PERCEPTION OF DISTANCE AND SEPARATION. MIST OR TWILIGHT PRODUCES A QUALITY OF LIGHT THAT TAKES THE IMPORTANCE AWAY FROM VISION AND ENCOURAGES THOUGHT AND MEDITATION WHICH AIDS IN THE HEALING PROCESS.

Figure 2.19: Pietermaritzburg Forest. Environments, such as forests, stimulate all the sense including peripheral visual which fosters a sense of connection and belonging (Online).


2.20


2.21


2.22


2.23

Pallasmaa (2005: 25) states that presently, vision is thought to be the most important sensory perception. This has changed from the past when hearing and touch were the dominant senses, before the event of writing and reading and more recently the advent of the television. It is interesting to note that many people in South Africa are illiterate and therefore connect and communicate through speech and listening. Therefore vision will not be of such importance for these people compared to the other senses. Visually dominated society results in the separation of one's self from the world, whereas we are united with the world through our other senses. Pallasmaa suggests that traditional or vernacular architecture has an established connection with the implied wisdom of the body and is therefore grounded in the sensory perception of touch and in movement (2005: 26). Pallasmaa states that visually based, detached architecture has never before been as rife as in the last 30 years. He says that contemporary architecture has taken on the strategy of advertising and that buildings have become image products, completely detached from experience and the user (2005: 30). This obsession with the visual, means that buildings are losing their tactility and with it "measures and details crafted for the human body" (2005: 31). Without this tactility, buildings become "repulsively flat, sharp-edged, immaterial and unreal" (2005: 31). This sense of unreality is perpetuated by the increased use of reflective glazing in contemporary buildings. These flat sharp buildings reflect ones gaze making it impossible to "see or imagine life behind these walls" adding to the alienation and isolation from the buildings around us.

The physical feel of an environment also has a great effect on one's experience of space. We continuously **touch** our environment through the surfaces on which we walk and sit and the door handles and counter tops that we touch with our hands. Pallasmaa states that door handles are the welcoming or hostile handshakes of buildings (2005: 56). Our skin interprets texture, temperature, density and weight of matter. Surfaces that are organic and that breathe feel more pleasant than artificial surfaces. An example would be the difference between plastics and woods (Day, 1990: 50). Pallasmaa says that there is a powerful feeling of connection between the sensation of home and the naked skin. The home is perceived or associated with the experience of intimate comfort and warmth, for example, the surrounding warmth of a fireplace (2005: 58). Perhaps in warmer climates than those to which Pallasmaa is accustom, the home could be associated with refreshing coolness; a sanctuary from scorching heat.

> "*Standing barefoot on a smooth glacial rock by the sea at sunset, sensing the warmth of the sun-heated stone through one's soles, is an extraordinarily healing experience, making one part of the eternal cycle of nature*" (Pallasmaa, 2005: 58).

The sounds within an environment also affect us, for instance the sound of water is calming, in contrast to the sound of harsh echoes or resonates (Day, 1990: 50). Hearing is a sensory experience of incorporation, whereas sight is isolating and directional, "sound is omni-directional". Sound approaches you. Buildings themselves respond to us by returning our sounds as echoes. Space can be perceived, understood and ordered through an echo, although this is usually an unconscious background experience (Pallasmaa, 2005: 50). This background experience of sound is perfectly illustrated by simply watching deleted scenes of a movie, before the soundtrack is added. The story becomes completely hollow and uninteresting.

Figure 2.20-24: The five senses that experiences are perceived with (2010).

Figure 2.25: Vegetation softens surroundings aiding in the healing process (Author).

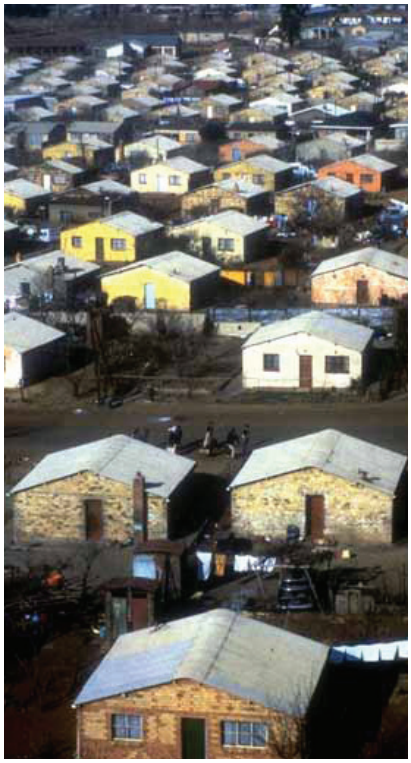


Figure 2.26: The horror of sterile, repetitive environments (Online).

> "*The echo of steps on a paved street has an emotional charge because the sound reverberating from surrounding walls outs us in direct interaction with space; the sound measures space and makes its scale comprehensible. We stroke the boundaries of the space with our ears*" (Pallasmaa, 2005: 51).

An important auditory perception that can be created by architecture is the experience of tranquility. Silence reminds us of the past and allows us to meditate. As Pallasmaa states "architecture emancipates us from the embrace of the present and allows us to experience the slow, healing flow of time" (2005: 52). Just as silence allows our minds to wander, so too do **smells**. A scent can trigger a memory of a place in great detail, transporting a person from one place to another in an instant.

However the design of only these surface phenomena of smell/ taste, sight, touch and sound create cosmetic environments. Day states that the **meaning** of an environment is conveyed through the spirit of place. For example, mass housing systems, cookie-cut and imposed onto the landscape will not acquire a profoundly better experience if the street noise is buffered or if the buildings are painted with attractive shades (Day, 1990: 50). The design process must be a holistic one.

> "*The harder and more lifeless our surroundings are, the more tired, tense and sapped of life we tend to become. The softer and more alive they are the more renewed, relaxed and healed we tend to be. Soft lively air rather than rough funnelled draughts, absorbed sounds rather than hard echo, moderated enlivened light dancing perhaps off water or through leaves from different windows with their ever changing interplay of subtly different light and shadow. Vegetation brings softness, life and seasonal rhythm*" (Day, 1990: 52).

The sterile, alienation and flatness of contemporary buildings is perpetuated through the loss of **materiality**. Natural materials, such as brick, stone and wood add meaning to our environment. This meaning comes from the honesty of natural material, which expresses its age, history and origin. Artificial materials, for example sheets of glass and synthetic plastics, tell us nothing; they are scale-less, ageless and without a history or origin (Day, 2005: 32).

Day emphasises another aspect of the environment that is of utmost importance, namely **variety**. He says that we can get used to environments if they are all similar, for example a person will notice the bad smell of an industrial area at first but will soon get use to the stench (1990: 57). Day states that variety is what makes us aware of our experiences, which in turn, allows us to start perceiving the meeting or joining of elements. Elements can meet in different ways, at hard edges or with subtle blurs, and this adds to the experience of the space. The way that elements meet can be described as confrontation or conversation. If elements respond to each other they are in conversation and produce humane environments (1990: 70).

VARIETY IS WHAT MAKES US AWARE OF OUR EXPERIENCES, WHICH IN TURN, ALLOWS US TO START PERCEIVING THE MEETING OR JOINING OF ELEMENTS. IF ELEMENTS RESPOND TO EACH OTHER THEY ARE IN CONVERSATION AND PRODUCE HUMANE ENVIRONMENTS.

Aalto (in Fleig, 1978: 233) states that society should not grow indefinitely. He says that there must be some kind of meeting or amalgamation of individuals into groups because vast cities with no grouping isolates individuals. Being part of a group in an important aspect of the human experience of space. Aalto also warns against the dangers of mass production that leads to sterile environments, with no variety, instead of mixed environments that lead to the formation of groups and communities within a city.

In conclusion it is of utmost importance to have a holistic view of the experience of space and to consider all the aspects that contribute to experience. By designing with a holistic view of the experience of space, a meaningful, healing environment can be created. Through the use of universal aspects, spaces can be manipulated to best suit their proposed use while bringing meaning, healing and joy to their inhabitants.

Figure 2.27: Maslow's hierarchy of needs (Maslow, 1973: 374 adapted by Author).

Figure 2.28: Home as the centre of ones lived world (Author).

The Experience of Home and Homelessness

Maslow (1973: 374) states that humans are perpetually in want and motivated to relieve their state of need. He defines a hierarchy of needs; basic needs being physiological, safety and belonging; and being needs defined as esteem and finally self-actualisation. The need for a home falls into the category of the primary basic need for safety. When the first basic physiological needs, such as food, are not met, the other needs essentially do not exist for the individual, but as soon as the basic needs are met, the other needs become important. For this reason, all the basic needs of an individual must first be met before they can heal and ultimately become a contributing member of society.

The experience of home, according to Bollnow (1961: 33), is the special centre of a person's life. The profound task of man is to find his way home. Everyone is at home somewhere and this home becomes the central point from which one builds his/her spatial world. A person's lived space arranges itself around a central point which is a person's residence. This experience of home is related to the fact that all the nations of the world considered their land to be the centre of the world before Columbus's discovery of America (Bollnow, 1961: 32).

The activity of dwelling is not like any other. It is the process of realising one's true essence and this process is initiated through the experience of one's residence. Bollnow states that a person requires a firm dwelling place, rooted to the ground by solid walls, to prevent being "dragged along helplessly by the stream of time" (1961: 33). The characteristic of a house is the creation of a special and private space out of universal space and thus defining inner and outer space. Outer space becomes the realm of openness, abandonment and danger. The inner space is a hidden area of protection and offers relief from continual anxious alertness. This relief allows a person to return to him/herself and is the greatest purposes of a dwelling. Therefore a house should be an inviolable place of peace.

Avdinli (2005: 28) suggests that although a home is a space of peace and security, being locked up in it, to protect one from the dangers of the outside space, will soon turn a home into a prison. However dangerous the outside is, it must be explored. According to Bollnow, there are three dimensions of outside space. One does not immediately enter into a hostile place on leaving home, one first enters into a known neighbourhood and then progresses to

Extract from The South African Bill Of Rights:

Section 26: Housing

(1)Everyone has the right to have access to adequate housing.

(2)The state must take reasonable legislative resources, to achieve the progressive realisation of this right.

(Constitution of South Africa, 1996, Chapter 2, section 26)

the comparatively unknown and then to the completely unknown. The first dimension of outside space is breadth. This is open space, outside the known world of the dwelling which allows freedom of movement and provides an absence of restrictions. These wide open spaces provide upliftment and joy. Strangeness is the second dimension which is the space that one no longer knows. This leads to a feeling of helplessness and one feels on the outside of the environment. This is foundation of the experience of being homesick. The last dimension of outside space is distance. This is the feeling of being allured or enticed by unknown things far away. This feeling comes from the desire to break away from the monotony of repetitive everyday life, but ultimately the traveller will return to the centre of the world - their home (Bollnows, 1961: 35). Housing is often defined as having a roof over one's head, but this is a purely quantitative and material outlook. In terms of qualitative aspects, a dwelling is the fundamental condition of humanity and a home becomes a space for thinking, remembering, learning and feeling.

The experience of home, according to Relph, is associated with the feeling of "insideness" which is related to the sense of place (1976: 49). This is the sense of connecting to the central place within the immediate experienced world, connecting to a home. This connection stems from the fusion of surroundings and humans (Cox & Holmes, 2000: 67). Sense of place and "insideness" is related to the feeling of being inside a place and not isolated from it. Being inside a place, as opposed to secluded form it, means one feels protected and enclosed. This experience of protection and safety is referred to as "at-homeness" by Seamon (1979: 90), which leads to "existential insideness". As Lang (1985: 201) suggests, this "existential insideness" is the process of assimilation and incorporation of the home into the "fabric of embodied existence".

Cox (2000: 68) suggests that the sense of at-homeness is composed of five elements. The first is rootedness, which is the experience formed by the ability of a dwelling to "organise the habitual, bodily stratum of the person's lived space" (Seamon, 1979: 79). The second is the experience of territory and appropriation, which is associated with control and possession which leads to a sense of empowerment. The third component of at-homeness is the experience of being at ease within one's home. This is related to the freedom of being who you are, without the pretence of a public façade. The fourth is the ability of a home to stimulate regeneration and restoration, through the provision of an environment which is peaceful and restful. The last aspect connected to at-homeness is the experience of warmth associated with home. This is associated with a tone of companionship, concern and happiness which is more a product of house-mates than of the space (Cox, 2000: 68). The experience of homelessness is referred to as "existential outsideness", which is the sense of un-attachment and alienation from place (Seamon, 1979: 90). Buttimer (1980: 171) relates to the experience of rootedness and at-homeness with the notion of "horizons-of-reach". This refers to the notion of breathing, where breathing in relates to coming home and breathing out refers to moving beyond or outside the home. Reaching or breathing is movement through physical or emotional realms. It could be by imagination and thought, which Rowles refers to as Fantasy (1980: 61), through physical movement, or through passive communication by telephone or assorted forms of mail. The degree of reach is associated with one's level of at-homeness. A feeling of well-rootedness allows a person to explore, and excessive

THE WORD HOBO COMES FROM THE SAYING "HOMEWARD BOUND".
THE PROFOUND TASK OF MAN IS TO FIND HIS WAY HOME.

Figure 2.29: Homeless man (Online). The definition of homelessness is not simply a person who does not have a roof over his or her head. Being homeless means being "deprived of the normal social and economic supports of home" (Bunston, 1992: 152)

exploration implies that a person is seeking further nourishment from outside the home (Buttimer, 1980: 172). The sense of rootedness could not be offered by a person's primary dwelling place which renders them homeless. Some homes are experienced as cold, unsafe and unhappy environments, which means that rootedness could be found in a "place of temporary refuge", for example a shelter, and not at the primary residence (Cox, 2000: 68).

Healing Environments for People in Crisis: particularly the homeless

The **definition of homelessness** is not simply a person who does not have a roof over his or her head. Being homeless means being "deprived of the normal social and economic supports of home" (Bunston, 1992: 152). This definition includes people who have shelter but for whom the environment is "unstable, insecure or substandard" (Bunston, 1992: 152). Although there are many reasons why people end up on the street, according to Downie (in Brown, 2005: 24), they have one thing in common; they all lack peace. For this reason, safety is the most important aspect of a place designed for the homeless (2005: 25).

To investigate a healing environment, let us consider the **basic needs of homeless people** obtained by a study done in Toronto. The study suggests that the basic needs are "food, shelter, safety, belongingness and esteem". The most important concerns stated by the homeless people in the study were "housing finance and employment, health, nutrition, personal appearance and hygiene, violence and social networks" (Bunston & Breton, 1992: 149).

The aim of a shelter for homeless people is to provide a space around which they can "focus a daily life path" (Bunston, 1992: 156). This is usually the role of a home, although these people's experiences of home are very different, as they have been forced to leave. This means that a shelter will be their first experience of a true home. Institutions such as homeless shelters have people staying for an average period of a year, because some of the residents have mental disorders and other issues which may take quite a while to address. This extended time period means that the institution will become a home and therefore the physical and social environment becomes very important (Mahnke F. & Mahnke R., 1987: 97).

The dilemma with shelters is that they cannot replace "a sense of rootedness" which a home provides. This is because shelters most often lack a sense of privacy and create a sense of insecurity because of the time restrictions associated with them (Bunston, 1992: 151). Although shelters do emulate the home by providing shelter, other basic needs, and very importantly, a community network of other people in similar situations, these institutions also "encourage dependency on the staff" (Bunston, 1992: 150). This dependency results in a lack of self-esteem and despondency. According to Cave (1998: 109) institutions are frequently planned "for staff ease of use" instead of being designed for occupant comfort and intend on restricting the occupants' control over the environment leading to dependency.

THE AIM OF A SHELTER FOR HOMELESS PEOPLE IS TO PROVIDE A SPACE AROUND WHICH THEY CAN "FOCUS A DAILY LIFE PATH". THIS IS USUALLY THE ROLE OF A HOME, ALTHOUGH THESE PEOPLE'S EXPERIENCES OF HOME ARE VERY DIFFERENT, AS THEY HAVE BEEN FORCED TO LEAVE.

ALTHOUGH THERE ARE MANY REASONS WHY PEOPLE END UP ON THE STREET, THEY HAVE ONE THING IN COMMON; THEY ALL LACK PEACE. FOR THIS REASON, SAFETY IS THE MOST IMPORTANT ASPECT OF A PLACE DESIGNED FOR THE HOMELESS

Design Strategies for Healing Environments Inhabited by People in Crisis: particularly the homeless

In the designs of institutions such as homeless shelters radial designs have been found to increase staff satisfaction without negatively influencing occupant spaces. For institutions with a dormitory set up, it has been found that suite designs, with two to three people in a room separated by internal partitions, are preferable to corridor designs with one to two people sharing a room (Cave, 1998: 109). Privacy can be improved by regulating the number of occupants sharing a room, by allowing the opportunity for occupants to make their own territory and allowing residents to keep their personal belongings (Cave, 1998: 110). Good self-esteem is maintained by giving the residents freedom of choice, which includes allowing them to determine their own routines and activities and giving them responsibilities. This will decrease the feeling of helplessness. Good self-esteem is related to socialisation and increased activity levels which are beneficial for healing (Cave, 1998: 110).


2.30


2.31


2.32

It is important for these facilities to eradicate an institutional appearance. An institutional atmosphere creates barriers between the staff and the occupants, which creates a feeling of hostility and mistrust. For these reasons it is important that staff do not wear uniforms so that they will be able to develop less formal relationships with the occupants (Mahnke F. & Mahnke R., 1987: 97).

A Californian **mental health centre** for mentally disturbed children used colour to create a successful healing environment. According to Day (1990: 22), despite people's personal taste, colours have universal physical characteristics and physiological effects. A variety of colours were used at the mental health centre, namely: pastel orange, yellows, peach, light green, turquoise and blue, combined with copper and rust. The rooms of the adolescents where painted alternately with warm and cool colours so that "staff could try to assign introverted personality types to surroundings that suited them best" (Mahnke, 1987: 98). The children's area had paintings which depicted scenes of gentleness and caring. The adolescents' space was filled with paintings of various styles, from impressionism to contemporary work. It is important to provide a stimulating environment for people with mental illnesses because in bland surroundings the mind seeks stimulation and with mental illness this stimulation often occurs in the form of hallucinations. On the other hand over-stimulation could be difficult to process and could overwhelm the patients. The careful attention to environment of the mental health centre had drastic results. As the facility was changed, the deliberate vandalism, which was a major problem, became less frequent and eventually ended. Some sceptics said that the results were purely because of a change in environment and not the environment itself. This however was unfounded because the facility had previously been redecorated with no effect. This illustrates that the correct use of colour, light and sensory variety can create more appropriate environments (Mahnke, 1987: 98).

Figure 2.30-33: Colour has a profound universal effect on peoples experiences (Online).

Pine Street Inn, in Boston, is an organisation which provides food and shelter for destitute and homeless people. **Estelle's Garden**, designed by Jennifer Jones, provides a "sense of safety, calm and quiet" for the women at the shelter (Brown, 2005: 24). The garden is designed as an enclosed place, to create a type of sanctuary which provides a sense of security. A gate, covered with vines, creates a secure barrier to the street while still providing a certain degree of screened visual connection to the world outside (Brown, 2005: 26).

Plants and water features soften the urban edge, bringing a glimpse of nature into the industrial area of Boston where the shelter is situated. Nesting birds, in one of the garden's trees, created much excitement for the women, illustrating the importance of nature in these environments.

Another important feature of the landscape is that it offers flexibility and choice to the users. There is specifically designed seating area for women who would like to socialise and individual seating for women who would like to sit alone and quietly enjoy the space. The curved form of the seating arrangement also allows people to "share the space without having to make eye contact" as they can face in different directions (Brown, 2005: 28). This is important because many of the users of the space may be troubled, which could lead to distrust of other people.

Although Pine Street Inn caters for both men and women it is very important that they are clearly separated. The inn has separate entrances for men and women at opposite ends of the large building. The staff offices and vast kitchen separate the two facilities. One of the female residents noted that that she was not even aware that the shelter catered for men for a long time.

Other important considerations for the space were as follows: the space had to have universal accesses for disabled people possibly in wheelchairs. An area, protected from the elements, was also to be provided for smokers. It was greatly important that the staff could observe all areas of the space from inside the building for security reasons.

Figure2.34: Plan of Estelle's Garden (Brown, 2005: 24)

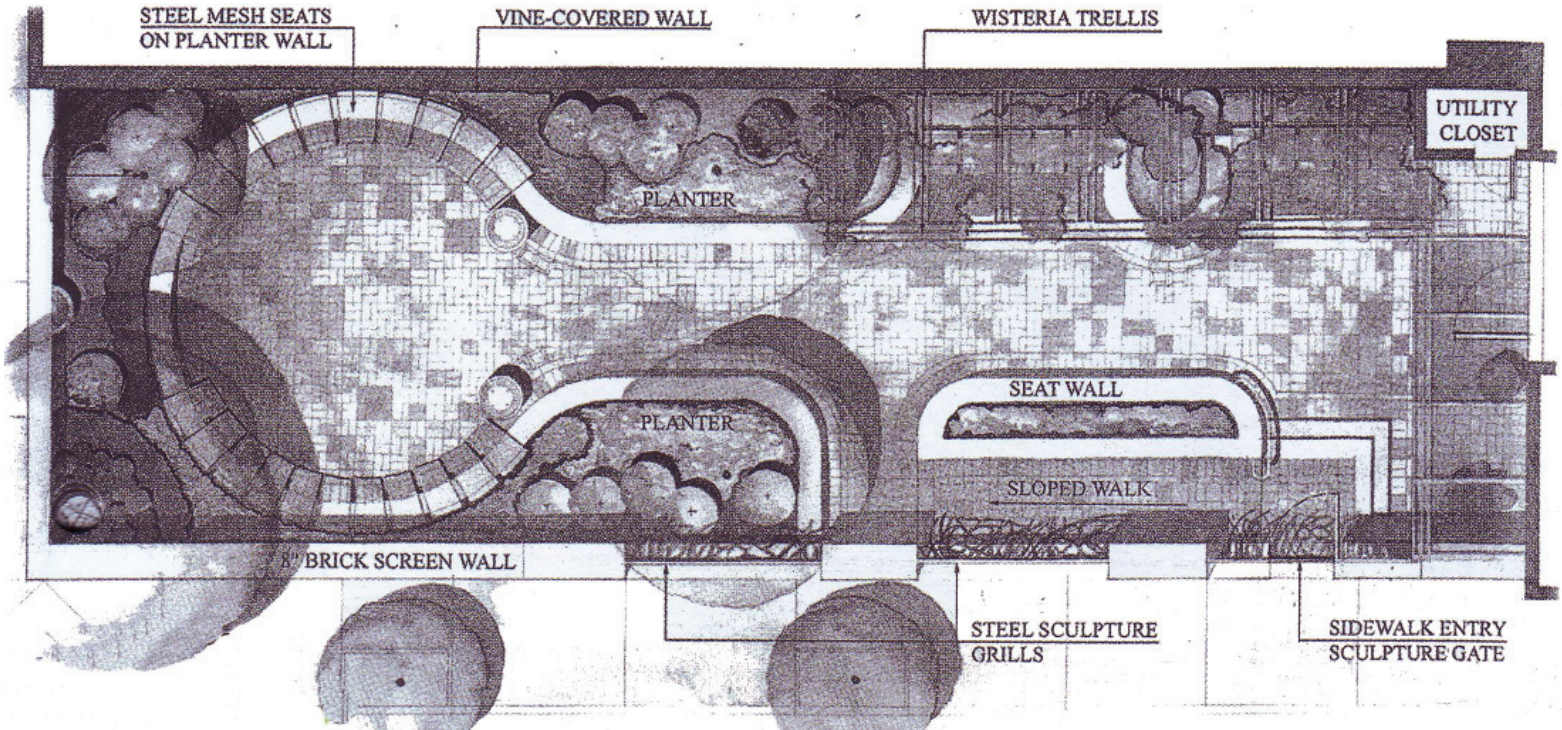


Figure 2.35: Van Ryn Place of Safety's quality of light (Comrie, 2003: 30)

Van Ryn Place of Safety is a home for people in crisis, which incorporates specific design considerations. The shelter provides accommodation for orphans and children under the age of 18 awaiting trail in Benoni. The architect Henri Comrie says that although they would "never be able to sense the real sadness" of these children and their stories, the architect's ultimate aim was to give "lightness to the place" and to create intimate spaces. He states that the goal of the architecture was to create a "light hearted presence but without being frivolous" (Comrie, 2003: 27).

In this project, security and detention facilities were the main concern. This aspect created a challenge in producing buildings that where connected to exterior spaces. This connection was consciously achieved visually through larger than conventional windows to allow for natural ventilation and "abundant views" (Comrie, 2003: 30). The buildings were also arranged to create "positive in-between spaces or open-to-sky rooms" (Comrie, 2003: 28). These spaces provide the children with a choice of spaces in which they can interact and play.

Natural light for the interior spaces was also of utmost importance. Natural light was "invited in" through the use of large windows, polycarbonate sheeting and borrowed light from communal spaces through glazed interior walls (Comrie, 2003: 30).

A prevailing problem for architects in the design of institutional projects, such as Van Ryn Place of Safety, is that the client is focused on the "functional layout of plans" (Comrie, 2003: 27). It is therefore the responsibility of the architect to satisfy both the ultimate functional layout while still creating layering and ensuring the spatial integrity of the project. Although simple and affordable materials were used it was still possible to produce a competent design (Comrie, 2003: 30).

THE GOAL OF THE ARCHITECTURE WAS TO CREATE A "LIGHT HEARTED PRESENCE BUT WITHOUT BEING FRIVOLOUS" (COMRIE, 2003: 27).

Figure2.36: Spatial layout creating intimate spaces (Online)

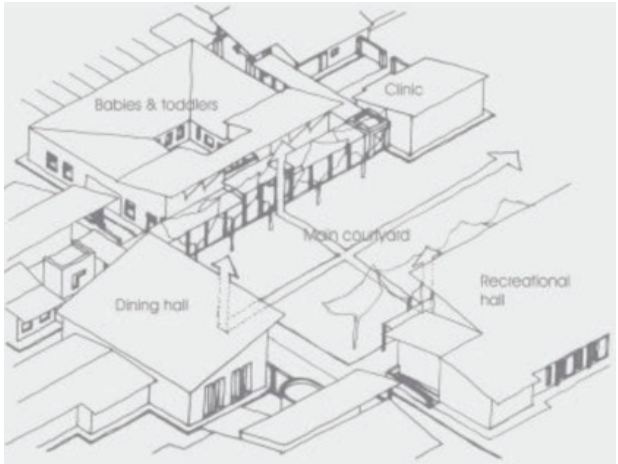


Figure 2.37: Drawing illustrating the concept of "Borrowed light" (Comrie, 2003: 30)

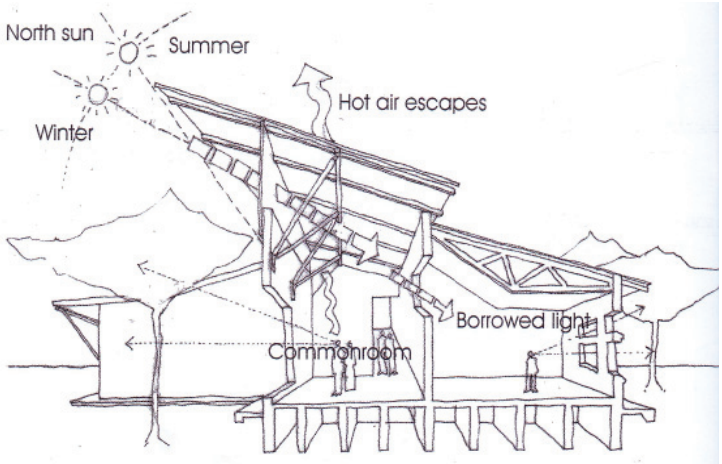


Figure 2.38:The southern wall of Cité de Refuge is a sheer glass curtain wall, to bring in an abundance of natural light. Due to excessive heat gain a brises soleils system was later installed (Online).

Cité de Refuge, a Salvation Army refuge in Paris, was designed by Le Corbusier and Pierre Jeanneret in 1933. The shelter was designed to house 500-600 homeless people. One enters into a round reception room, with the shared utilities found on the ground floor and separated from the dormitory block. The components of the building reflect Le Corbusier's interest in ocean liner design. This is evident in the series of large rooms on ground floor which imitates the sequence of lounges found on a ship. The steel canopy, over the entrance of the reception building, resembles a footbridge of a ship. The dormitories, on the upper levers resemble the decks of a ship. The sequence of modular dormitories replicates the "monotonous repletion of ships' cabins" (Cohen, 2004: 51). The apartments on the top level also resemble a command post of an admiral.

A radical approach was used to bring light into the space which was different from the dark neo-gothic and Victorian facilities that where previously used. The building's southern facade is a sheer glass curtain wall which was intended to work with a system of double glazing and air-conditioning, which was never realised. Due to the large amount of glazing on the southern façade, the fact that the windows cannot open and the lack of a air-conditioning system, means that the building became unbearably hot in summer. To prevent the occupants from overheating, Le Corbusier's trademark sunshades, brises soleils, where later added after the façade was destroyed in World War ll.

Figure 2.39: The trusses of Julian Street Inn's dining hall bring energy to the centre (Online).

Figure 2.40: Transitional space between inside and outside at Julian Street Inn (Online).

Julian Street Inn, a homeless shelter, in San Jose, California, was designed by Christopher Alexander in 1987. The design approach for this project included a strong client participation and local construction materials and methods. According to Alexander, the use of patterns, in the design process, brought a positive emotion into the building form. The trusses of the dining hall, whose drawings where only done after construction had started, create a space which brings energy to the centre (Groat & Wang, 2002: 197). Although materials, such as mass produced concrete blocks and roof tiles where used, the building still has an overwhelming sense of being hand crafted (Fisher, 2000: 59).

The Maternity and Children's Hospital, in Madrid Spain, designed by Rafael Moneo was completed in 2005. This place of healing aimed to humanise the extremely large building by breaking the spaces up into sequences of smaller spaces ordered around courtyards. Instead of the fragmentation or breaking down of the large building, the design started by organising the smaller units that eventually grew to build up the whole (Bertolucci, 2005: 56).

The use of courtyards not only allows the building to be perceived on a human scale but courtyards supply a permeability bringing light and air into the spaces and providing the patients with views out. Patients have views onto courtyards and glazed corridors beyond them, making the activity and movement of the hospital visible and aiding in the feeling of connection to the outside world while still retaining patient privacy. Folding wooden shutters give the patients control over their environment by being able to close off the views and control the amount of sunlight in their rooms (Bertolucci, 2005: 57).

The building itself turns its back on the street creating an impervious exterior edge shielding the occupants from the world in a space that resembles a self

Figure 2.41: The Maternity and Children's Hospital draws patients in through a glazed wall which forms a break in the impervious exterior edge which shields the occupants from the outside word (Online).

Figure 2.42: The Health Centre's unimposing scale fits into the natural environment creating a welcoming atmosphere (Online).

contained city in its scale and complexity. Patients are drawn into the building by a break in the impermeable façade where a glazed wall extends the full height of the structure flaring out at above the entrance creating a protective canopy (Bertolucci, 2005: 58).

The notion of human scale is brought through to every detail as evident in the non-clinical furniture. This attention to detail means that although the hospital still conforms to the stereotypical efficient, hygienic environment, it is far from intimidating. The design takes care of not only the body, but the soul, which illustrates the designer's understanding of what it feels like to be a patient (Bertolucci, 2005: 58).

Guenther 5 are the architects who designed **The Patrick H Dollard Discovery Health Centre** in New York State, 2005. Their main focus was social responsibility. The client's belief that there is a strong connection between patient well-being and environmental health guided the design decisions. Energy efficiency is achieved through insulation, orientation, solar shading (brise soleil and reflective metal roofs), natural light and material selection based on recycled, biodegradable and life cycle costs (CS, 2005: 72). The architecture aimed to be intentionally un-institutional, modest and humanly scaled. The unimposing scale, views, use of natural materials and light creates a welcoming environment, alleviating the fear and stress usually associated with medical visits (CS, 2005: 68). In conclusion the environmental benefits as well as the humanity and dignity of the spaces and the connection to the surroundings have an "important enhancing effect on the quality of life" of the patients (CS, 2005: 72).

Conclusion

It has been revealed that the environment does influence an individual's health and healing in different ways. Although people's individual experiences shape the way they perceive their environments, many experiences are universal and can aid in the healing process. Universal design aspects that should be incorporated in the creation of healing environments for people in crisis, specifically in reference to the design of a homeless shelter, will be summarised below.

In order to counter homelessness, through healing and rehabilitation, the environment must cultivate a sense of ***empowerment*** and self-worth. This sense of empowerment is achieved through the notion of ***connection***, ***independence*** and ***transition***.

In order to counter homelessness, the environment must foster a sense of ***connection***. There are three main types of connections that should be promoted by one's surroundings. The first is the **connection to meaningful place**. This is achieved through a strong sense of place as there is an important link between attachment to meaningful places and the development of a positive self-image (Godkin, 1980: 74). This is also achieved through a sense of rootedness, which is the experience formed by the ability of a dwelling to "organise the habitual, bodily stratum of the person's lived space" (Seamon, 1979: 79). The second form of connection with one's surroundings should

HEALING BY MEANS OF EMPOWERMENT, TROUGH CONNECTION, INDEPENDENCE AND TRANSITION.

foster to counter homelessness, is **connection to the world**. Pallasmaa (2005: 46) states that one must feel part of one's surroundings and not isolated from them. This is achieved through one's surroundings stimulating all the senses. Peripheral vision is very important in the process of connecting one to the surroundings and therefore, it should be stimulated. This is most effectively achieved through the use of changing light intensities. This means that a window is the mediator between two opposite spaces: inside and outside, enclosed and open, shadow and light, and therefore is of utmost importance (Pallasmaa, 2005: 46). The third type of connection is the **connection to life**, such as nature, fauna and flora. One feels connected to nature and at the same time this feeling of being part of something bigger places one's troubles into perspective as one sits under the shade of a tree that will be there long after you have gone.

In contrast to the feeling of connection, for a person to heal, a sense of ***independence*** is of utmost importance. This is fostered through a sense of **control** which is achieved within an environment by **flexibility** and **choice**. Passive surveillance, which also aids in the sense of connection, provides knowledge and understanding of one's surroundings which leads to a "sense of partial control" which aids in the process of healing and empowerment (Rowles,1980: 59). **Ownership, responsibility** and **economic opportunity** also promote a sense of independence.

Finally the environment must allow for the process of ***transition***. This refers to the healing process and moving through different levels of growth. Transition talks about layering, future, process and security.

The recurring universal design elements of focus, in the design of healing environments for vulnerable people in crisis are as follows:

- Connection to a meaningful place, to the world and to life
- Independence, control, flexibility, choice, ownership, responsibility and economic opportunity
- Transition and growth
- Natural ventilation, light and views
- Protection and security

By creating environments that focus on the above elements, an appropriate setting for the healing of people in crisis can be created.

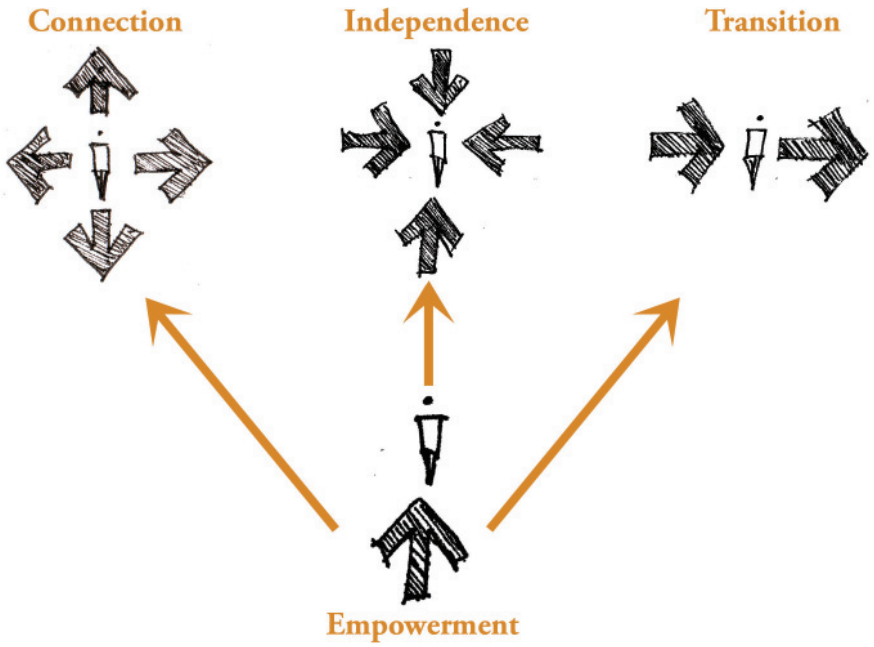


Figure2.43: Diagram illustration the sense of empowerment achieved through the notion of connection, independence and transition (Author).

Summary of theoretical investigation

Below follows a summary of the knowledge gained by the theoretical investigation that is specifically important to the design of shelter for the homeless. In order to counter homelessness, through healing and rehabilitation, the environment must cultivate a sense of empowerment and self-worth. This sense of empowerment is achieved through the notion of connection, independence and transition. The design of the shelter will incorporate these notions in the following ways:

1. Connection

•Connection to meaningful place/ rootedness:

This is achieved through the design of an appropriate "home", a place you can call "home", a place that is unique, responsible and significant. This in turn is realised through truly understanding the problem and the context through investigation.

•Connection to the world:

This is accomplished through the design of stimulating surroundings that add value to everyday activities. This in turn is achieved through changing environments and avoiding monotonous and sterile surroundings. The shelter's communal areas will have many different atmospheres, that transition into one another. To avoid long monotonous corridors and to promote independence, semi-private staircases will be used, catering for only two units per floor.

Connection to others within the world is also of utmost importance. This is achieved through the location of the site in an established residential area. The location means that the residents will be connected to the community through socialising, recreation, schools and religious institutions. Working in the shops and workshop will give the residents of the shelter further opportunities to interact with the greater community. The shelter itself will promote awareness of the social problem and the support available, through the prominent location of the shelter on the corner of Church and Hamilton Streets, through the Educational Community Centre and through the residents themselves. Within the shelter, the design will encourage social support by creating opportunities for chance meetings in spaces specifically designed to encourage people to linger. Seating is also designed so that people face each other in order to encourage socialising. The first phase of accommodation is shared, thereby offering social support.

•Connection to nature.

The shelter offers a large, open, green space for socialising and relaxing within a living, growing environment. The communal food garden gives the residents an opportunity to work with nature and harvest the benefits thereof. Fauna is brought to the upper floors through the use of planters at every unit so that the residents can be personally responsible for their plants, care for them and watch them grow. In many shelters pets are a welcome addition and provide a sense of connection for the residents. This is a possibility for the shelter to consider. The units are also naturally ventilated, are naturally lit and have views to the outside connecting to the surroundings.

2. Independence

This is achieved through ownership, responsibility and economic opportunity. Independence is also realised through a sense of control which is achieved within an environment of flexibility and choice. Flexible furniture within the units allows the residents to change their environment as it suits them, giving them control, ownership and responsibility over their surroundings. Movable shutters also give occupants

control over the level of privacy, light and views from their units. Choice is offered in the form of different communal areas. Passive surveillance of the inner courtyard and of the street, which also aids in the sense of connection, provides knowledge and understanding of one's surroundings which leads to a notion of control and in turn, independence.

3. Transition

This refers to the healing process and moving through different levels of growth. This is also related to the transition from being homeless, to having a temporary home at the shelter, to finally having a permanent home. Within the shelter, the stages of accommodation, first phase communal living and second stage private living, relate to the notion of transition. Hierarchy of space within the shelter from public to private spaces also relate to the concept of transition (see diagrams below).

In conclusion, the investigation gave rise to the above-mentioned universal design aspects that should be incorporated in the creation of healing environments for people in crisis, specifically in reference to the design of a homeless shelter.

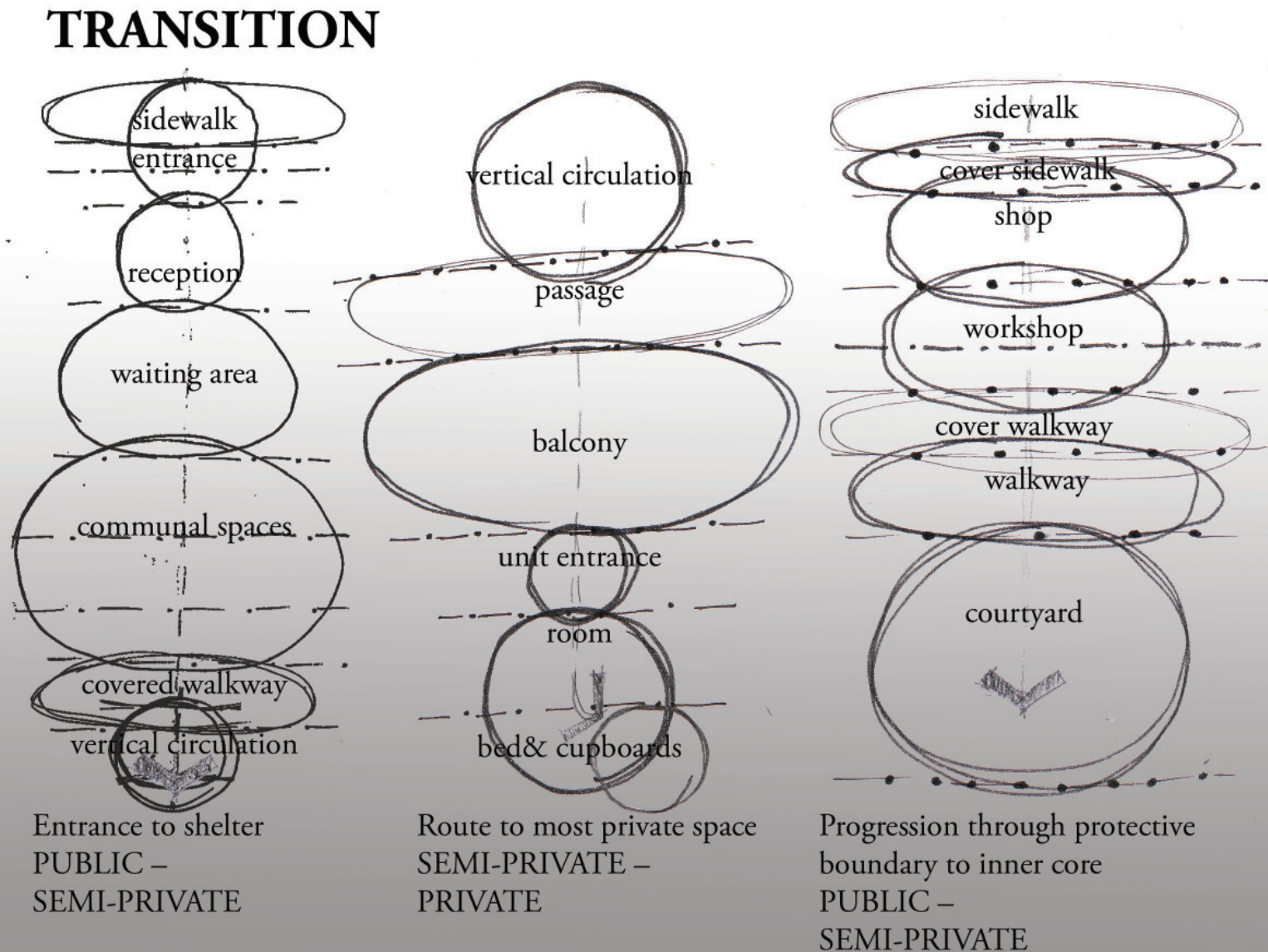


Figure 2.44: Diagram illustrating the concept of transition (Author)

03. Context & Site

Welfare Organisations

within Pretoria Central

The figure belows indicates the locations of all the existing welfare organisations within Pretoria Central. The majority of charities and government grants cater for the elderly, the disabled, HIV positive people and children. This means that the destitute adult homeless have very few options as illustrated in figure 3.1.

Currently there are only two facilities that cater for the adult urban homeless. One such organisation is The Salvation Army, whose main focus is on the elderly and the disabled, but has opened their doors to the adult homeless to give them an opportunity to find their feet. They have space for 50 people in total. This facility does not focus on the rehabilitation of the homeless and essentially provides shelter and some counselling. The other organisation is The Potter's House which provides support and shelter to 25 homeless and abused women. Both organisations admitted that the facilities available in the area are entirely inadequate and for this reason, a specifically designed homeless shelter in Pretoria Central that focuses on the healing and reintegration of the adult homeless, is a necessity. See Appendix for more information on *The Salvation Army* and *The Potter's House.*

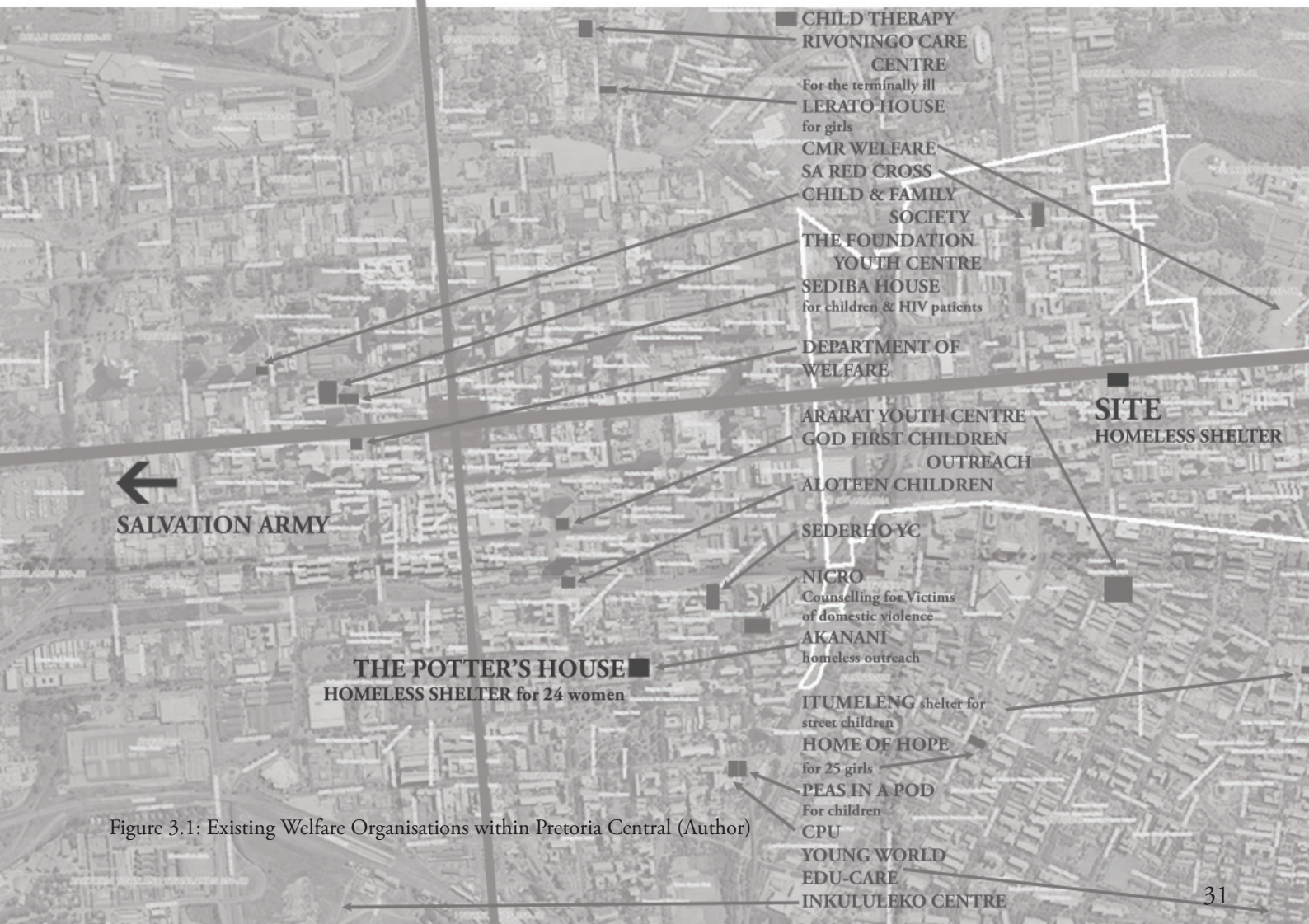


Figure 3.1: Existing Welfare Organisations within Pretoria Central (Author)

The current situation of homeless shelters in Pretoria Central

The Potter's House
288 Burgers Park Lane, Pretoria Central, Tshwane

The Potter's House is a shelter for women in crisis and for their children. The centre provides a drop in shelter where they can stay for a few days and also provides transitional housing where the women stay for a longer period of time. The shelter has room for 24 women. The transitional housing facility offers counselling and training and aims to reintegrate the women into society. According to the programme manager, very few shelters provide services other than basic shelter and do nothing to improve the situations of the people in crisis and for this reason there is a great need for these types of facilities.

The current facility across from Burger's park is squeezed in behind the offices of the larger organisation. In the design of the shelter it is evident that there has been little thought about the experience of the user and the spaces are purely functional with minimal size and cost. The focus of the facility's design, does not appear intended to create an environment that promoted healing, but merely a functional design, which Davis states "entails fitting the requisite number of beds in a given space" (Davis: 2004, ix).

One enters the shelter through reception, which has the same nervous coldness of a doctor's waiting room, with glaring eyes judging and being judged. There is no place for children to play and they are made to sit still and quiet, adding to the tension in the room. A long passage leads off the waiting room to a row of tiny assessment offices which creates a monotonous and sterile environment.

Once accepted into the facility, there is little space for ones own belongings. Cold, sterile characterless, cramped rooms with no views, or northern light and warmth, are meant to become a person's home. Godkin states that there is an important link between a person's attachment to meaningful spaces and the development of a positive self-image (Buttimer & Seamon [Godkin], 1980: 74). This illustrates the impact of these surroundings and how vital it is that they are appropriately designed for the purpose of healing and empowerment.

For recreation there is a small communal lounge but because of its placement and the fact that it can not be passively surveyed, it is locked. There is a tiny playground that is dusty and squeezed into the circulation space between the chapel and the laundry. There is another cramped space called the peace garden. It is such a necessary space where the woman can sit alone in quiet and meditate. Unfortunately the space is in fact placed in the alley between the organisation's offices and the neighbouring building with too little sunlight for the few plants to grow. The space also overlooks the washing lines further down the alley.

The physical environment of the centre has such an intense feeling of unimportance, as it is forced into left-over space and left behind in the shadow of the seemingly more important neighbouring buildings. It is purely utilitarian with no thought for the fact that this is a desperately needed safe haven for the people in crisis who go there for a new beginning.

The only elements that make the environment feel inviting is the mosaic work, that was done by the women, on the walls and floors around the centre. The air is also filled with the scent of delicious smelling lunch and most importantly the whole place has a special energy created by the caring, smiling faces of the volunteers and the grateful women buzzing around the shelter.

Figure 3.2 &3:
TLF Offices Burgers Park, Potter's House located behind.

Potter's House Reception (Author, 2010)

Urban Framework

This chapter investigates the context of the project, focusing on historical, social and physical conditions of the site within the context of Tshwane. First, an Urban Framework for the area is proposed, which focuses on the open space system within Pretoria. Secondly, welfare organisations with in Pretoria are identified and the current situation of homeless shelters is discussed. The current milieu as well as the history of the suburb Arcadia is then investigated, followed by an investigation of the site itself.

According to the ReKgabisa Framework that is currently being implemented in the city, there are three major nodal points on which they are focusing: the Union Buildings, Freedom Park and Church Square. The area that these points encompass is where the future interventions are proposed. The study area is defined as Pretoria Central Business District, Sunnyside, Arcadia and Hatfield. This area is defined through the identification of existing boundaries defining the larger city centre. These boundaries were identified as the following:

- **Northern** Ridge: Meintjieskop
- **Southern** Ridge: Salvokop
  Southern trail track extending to the east
- **Eastern** main north-south movement route: Duncan Street, which forms a barrier between the more commercial portion of Hatfield and the more suburban area to the east
- **Western** main entrance: from the south to the city, Potgieter Street, where a clear change occurs from CBD to a more industrial area.

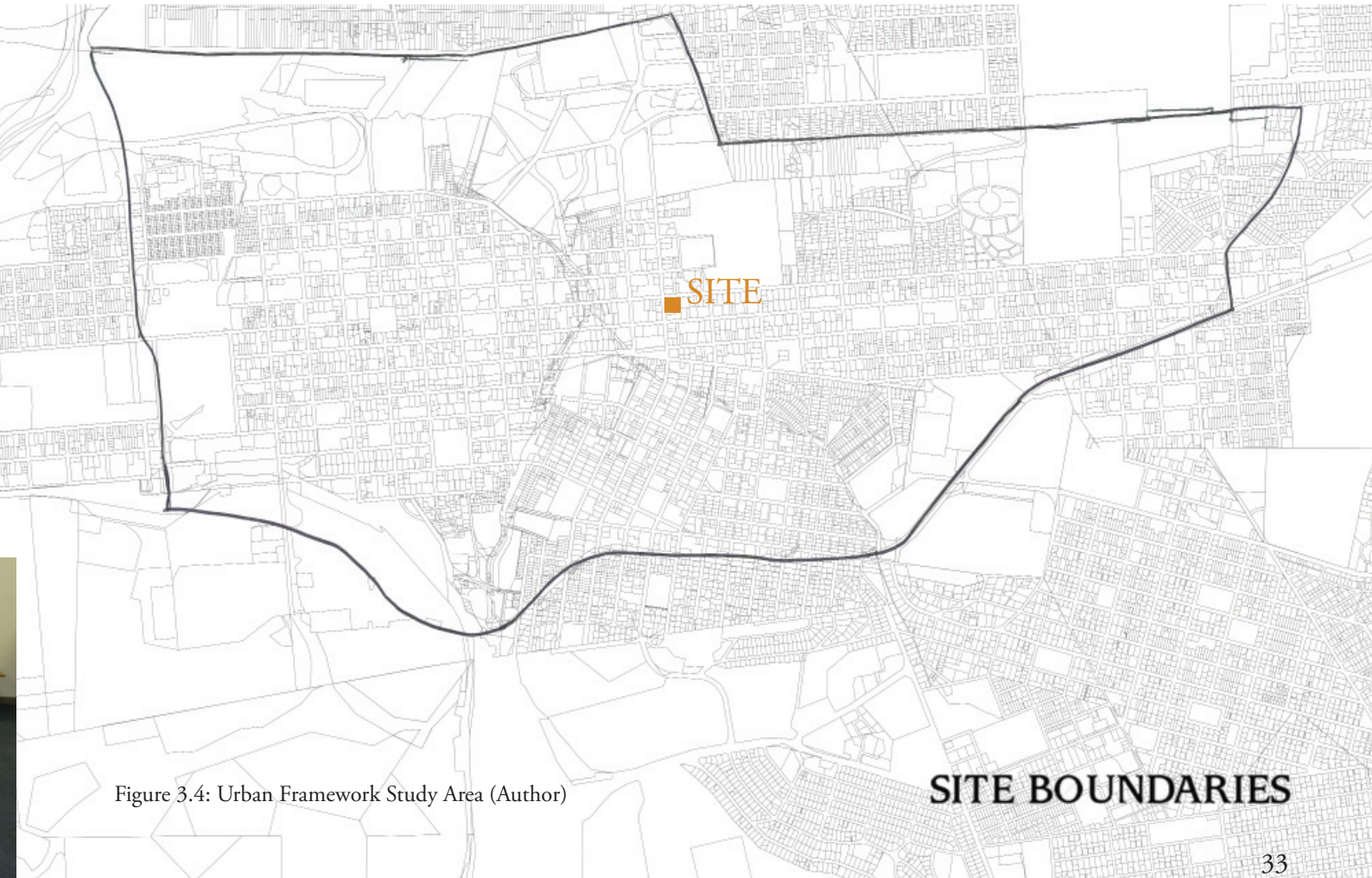


Figure 3.4: Urban Framework Study Area (Author)

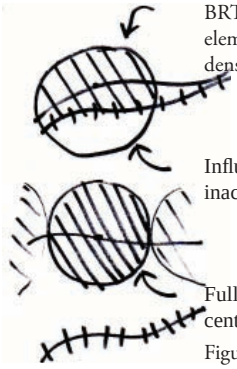


Figure 3.5: BRT Route (Author)

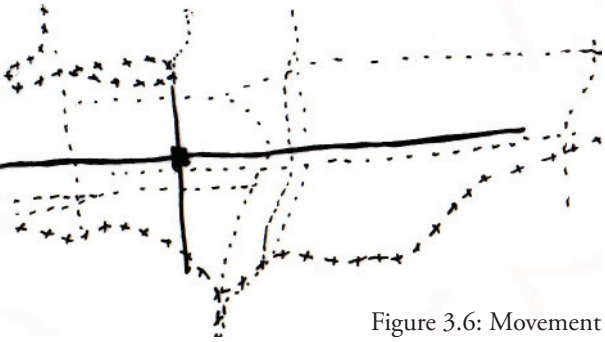


Figure 3.6: Movement (Author)

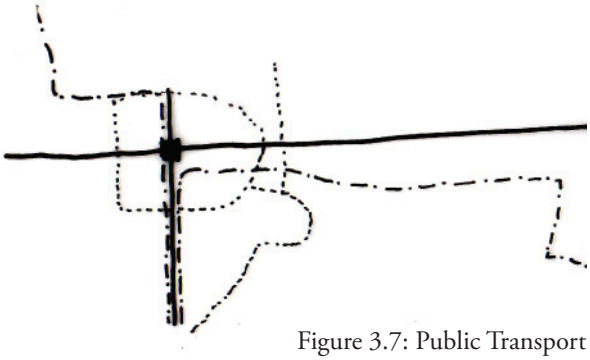


Figure 3.7: Public Transport (Author)

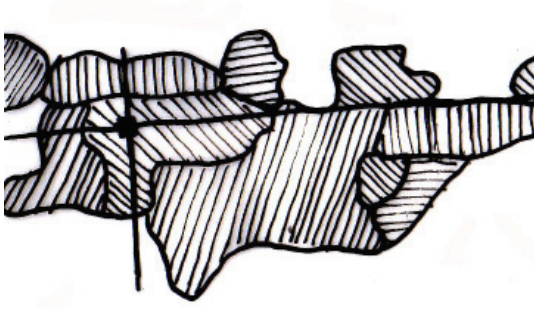


Figure 3.8: Districts (Author)

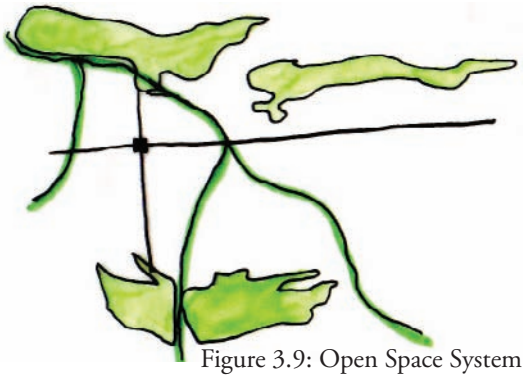


Figure 3.9: Open Space System (Author)

The intention of the framework is to explore development flexibility, thus ensuring structures that can respond to changing markets and development requirements. The main vision is to create a 'World Class African City'; a city that is easily identifiable as an administrative capital. It is not just a place for living and working; it should embrace its cultural identities.

The city was analysed through the identification of 4 major urban structuring elements. These elements are:

Movement. Here the Metrorail, Gautrain, Ceremonial routes and important destination points were mapped. Major routes, namely through routes, entrance routes, and routes used within the city were also identified. See figure 3.10.

Public Transport. Here the Bus Rapid Transit (BRT) routes and feeder routes were mapped (see figure 3.11). Through this exercise it was determined that the proposed BRT route is not in the optimal position. There are different levels of transport for example, pedestrian, taxis, busses, BRT, Gautrain, Metrorail, etc. These elements should feed each other, creating a complex hierarchical web. The original BRT route did not add to this web as it simply followed the existing Metrorail tracks. Not only is this a doubling of systems but because it ran against the track its circle of influence on the city as a structuring tool would be halved, and therefore it was moved to a more central route (see figure 3.5).

Districts. This is the main character or feel of an area. There were five different districts identified within the study area (see figure 3.12) namely:

Residential, low & high density
Offices, low & high density
Industrial, low & high density
Institutional
Marabastad, with its unique character

Open Space System/ Green Structure. This is defined as naturally occurring elements within the city, including rivers and areas of abundant vegetation such as the naturally occurring ridges on the north and south boundaries of the city centre.

Form this analysis it was found that the major structuring element within Pretoria city centre is the large number of Open/ Green Structures. It was identified that Pretoria is structured within the natural boundaries of the green ridges to the north and south and that the CBD is defined by the locations of rivers to the west and east. For these reasons and the abundance of vegetation with in the CBD, Pretoria has a unique green character. Through this understanding of the importance of natural elements within the city, it was decided that these Green Structures should be protected, enforced and celebrated. This was done by the introduction of BROWNnodes, linked with BROWNways, to important Green Structures. These BROWNways will have a unique character, where landscaping and flora will be of utmost importance to identify these streets as significant linking and structuring elements, with in the city (see figure 3.13).

THE MAJOR STRUCTURING ELEMENT WITHIN PRETORIA IS THE LARGE NUMBER OF OPEN/ GREEN STRUCTURES.

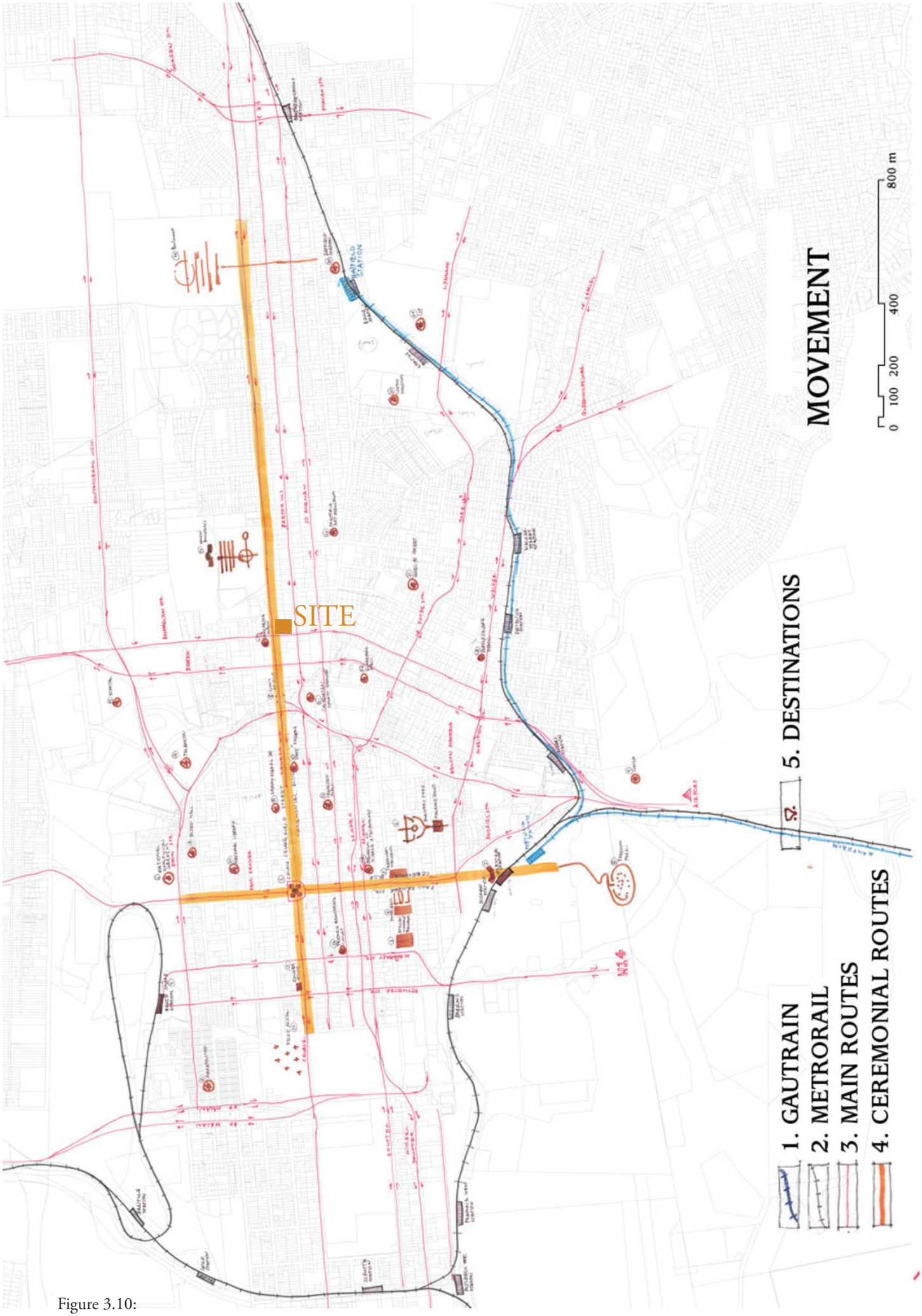
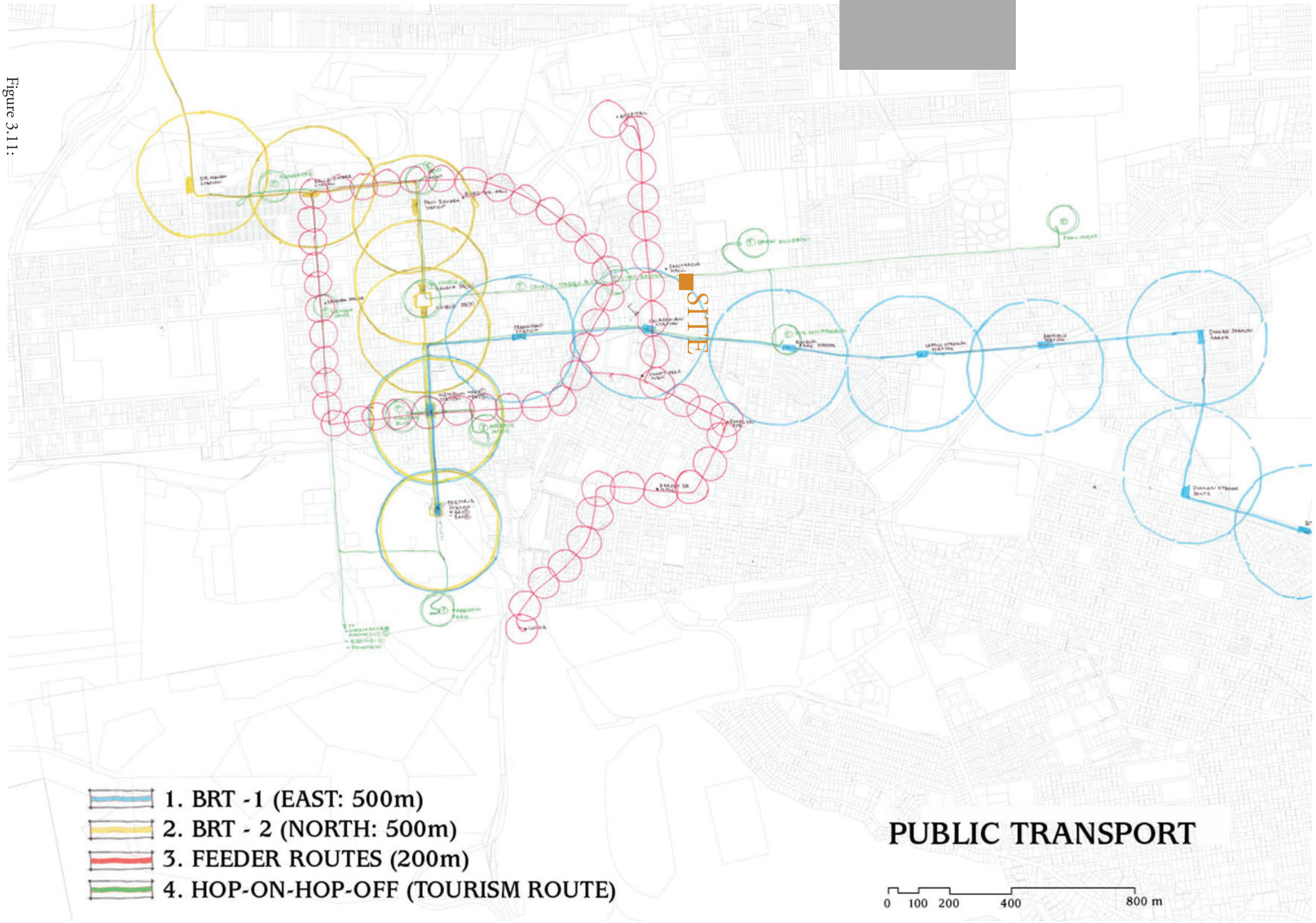

SITE
MOVEMENT
0 100 200 400 800 m
1. GAUTRAIN
2. METRORAIL
3. MAIN ROUTES
4. CEREMONIAL ROUTES
5. DESTINATIONS

Figure 3.10:

Figure 3.11:



SITE
DISTRICTS
*LD = LOW DENSITY
*HD = HIGH DENSITY
0 100 200 400 800 m
1. RESIDENTIAL - LD
2. RESIDENTIAL - HD
3. OFFICE - LD
4. OFFICE - HD
5. INDUSTRIAL - LD
6. INDUSTRIAL - HD
7. COMMERCIAL
8. MARABBASTAD
9. INSTITUTIONAL

Figure 3.12:

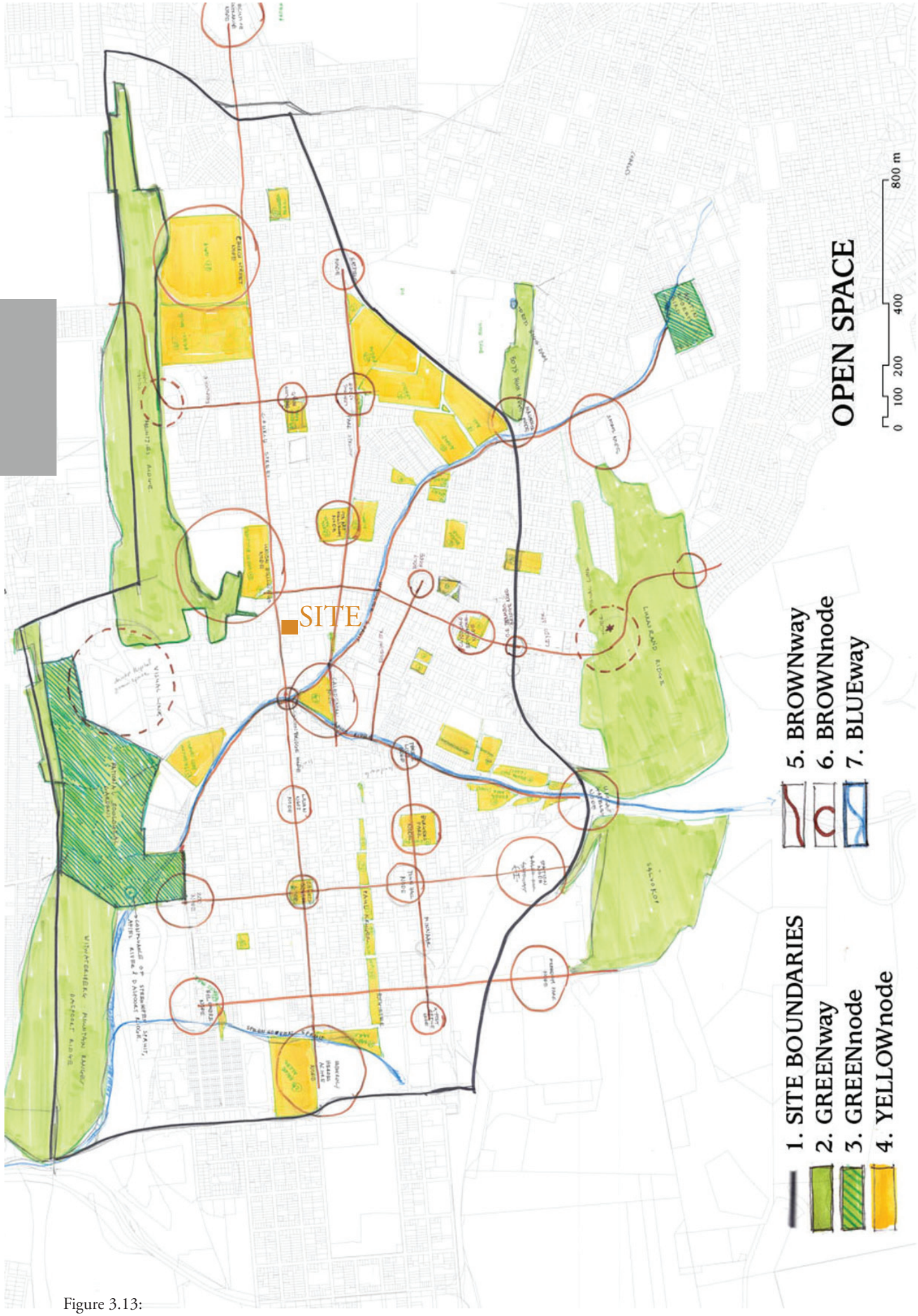

SITE
OPEN SPACE
0 100 200 400 800 m
1. SITE BOUNDARIES
2. GREENway
3. GREENnode
4. YELLOWnode
5. BROWNway
6. BROWNnode
7. BLUEway

Figure 3.13:

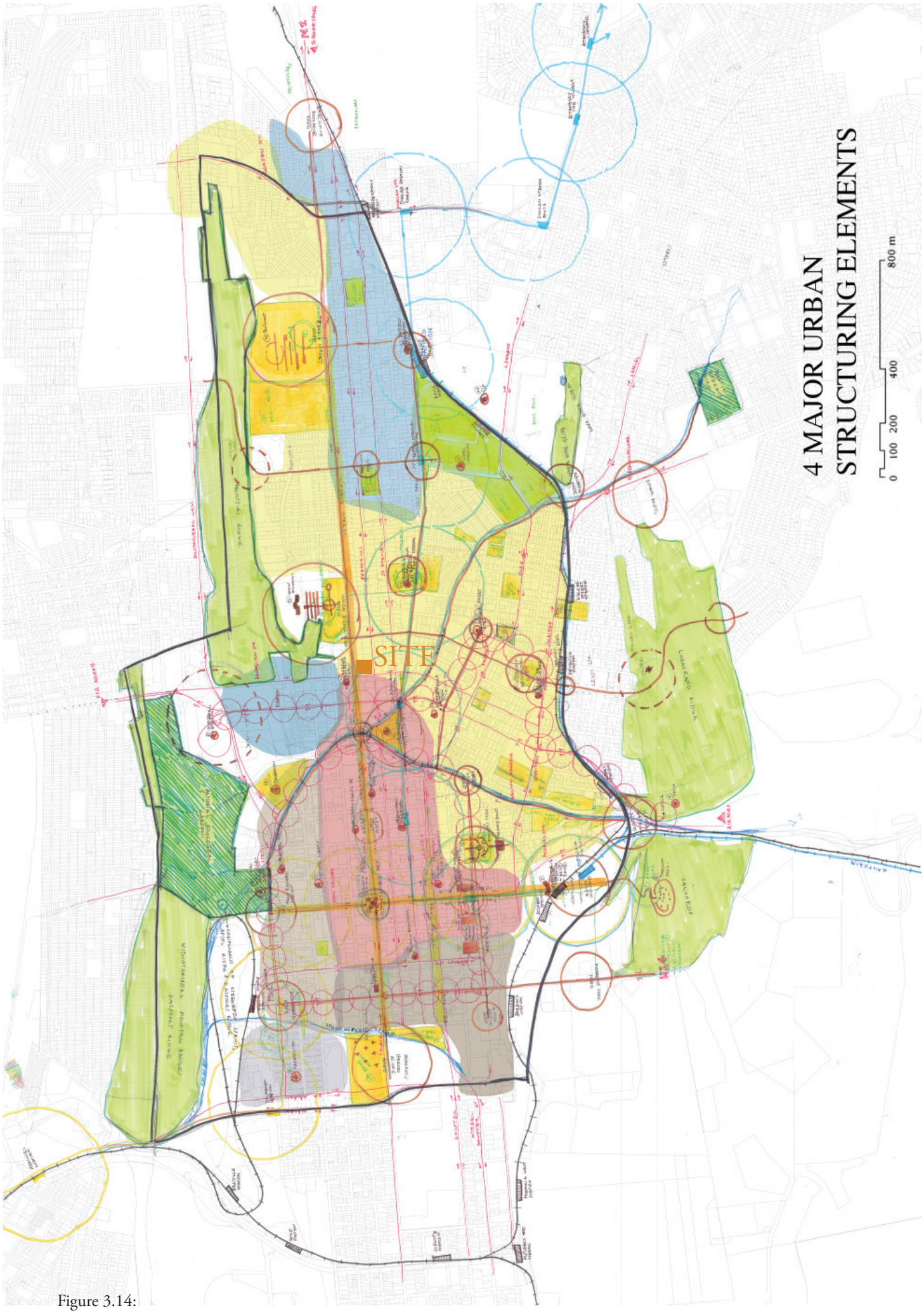


Figure 3.14:

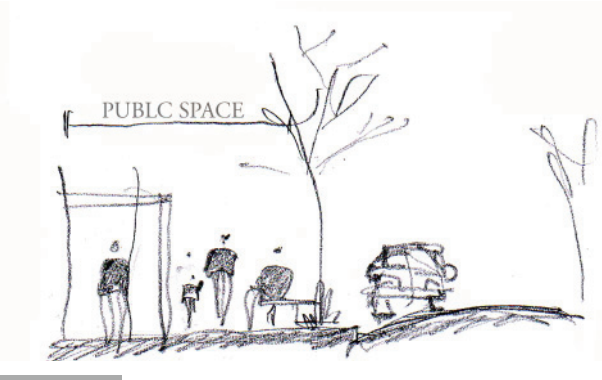


Figure 3.15: Ceremonial Route and BROWNway:
- street furniture
- shaded sidewalks
- existing trees kept
- planters (Author)

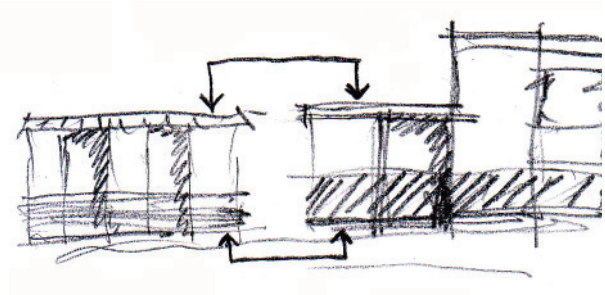


Figure 3.16: Heritage:
- stepped back
- stepped down
- "plinth"
- repetition of street edge (Author)

- 5min. walk
  500m
- high density

Figure 3.17: Outside 500m radius of BRT stop (Author)

The Urban framework design guidelines are informed by the following:

•'Former TAFE Site Urban Design Guidelines', August 2006.
•Housing, City Planning and Environmental Management Depart ment. City Planning Division- Streetscape management section, Second Edition, August 2007.
•Gauteng Spatial Development Framework, Phase 1 and 2, Gauteng Department of Economic Development. Prepared by: GAPP Architects and Urban Designers, Rode, Business Enterprises and Mandala GIS, June 2009.
•City of Tshwane Spatial Development Strategy 2010 and beyond, April 2007.
•City of Tshwane integrated development plan draft, 3rd revision (March 2009) for 2009/2010.
•ReKgabisa Tshwane Inner City Programme, February 2006.

Implications for the shelter

In conclusion the Urban Framework defines the site of the shelter on the corner of Hamilton and Church streets as being:

•On a **Ceremonial Route** and a tourist bus route: Church Street. A Ceremonial Boulevard forms the visual and physical link between other higher-order city structuring elements, such as important functional nodes and public urban spaces (i.e. squares, parks, land marks, boulevards, historical buildings). (Movement)

•**Adjacent to a heritage building**, namely Arcadia Mansions, which was built in 1927. According to the urban framework, new development in the vicinity of heritage building should respond sensitively to its scale, prominence and architectural era and materials. (Movement)

•**BRT** stations are structuring elements within the city as it is desirable to be near such stations. A 500m radius around these stations should have a very high density because of the favourable walking distance to the station. The selected site falls just outside the 500m radius and therefore is not required to have a very high density. (Public Transport)

•A **High Density Residential District**, which forms a transitional zone between an established residential area to the east and the commercial area of the CBD. (Districts)

•On a **BROWNway**, which are defined as linkages, aimed at connecting the GREENways (open Space) in the city. BROWNways are linear elements that aim to enhance the spatial character of the city. BROWNways are characterised by human intervention in terms of formal and informal landscaping elements. Tree planting is the main spatial definition element and must be facilitated at all times. Pedestrian movement is critical and must be encouraged through the provision of well developed walkways and street furniture (benches, litterbins, etc). (Open Space)

CHURCH STREET, A CEREMONIAL BOULEVARD FORMS THE VISUAL AND PHYSICAL LINK BETWEEN OTHER HIGHER-ORDER CITY STRUCTURING ELEMENTS.

Arcadia

Arcadia is a well established residential area in the city of Tshwane. Pretoria City Central borders Arcadia to the west, Sunnyside is found to the south and Hatfield to the east. The suburb terminates against Meintjies Ridge to the north.

Although Arcadia is an established residential area, it is well known for the hotels in the area because of its proximity to the Union Buildings, the presidency and the numerous embassies in neighbouring suburbs, for example, Lisdogan Park, Eastclyffe and Eastwood.

The word 'Arcadia' comes from the name for a region of Greece, which was named after the mythological character Arcas, the son of Zeus and Callisto (http://arcadia.ceid.upatras.gr/arkadia/home.htm).

Figure 3.18: The suburb Arcadia in relation to Church Square (Author)

In 1856, Andries du Toit, a presidential advisor, bought the area, known as Arcadia today. Mr. du Toit then surveyed his land for the following two years. The area was bought in 1868 and developed by Stephanus Meintjies, who lived there and put up a mill (Swanepoel, 2007: 6). See figure 3.19. The mill was powered by water from the Apies River. This development meant that Pretoria stretched from Boom Street in the North to Scheiding Street in the south and from Potgieter in the west to Prinsloo in the south, see figure 3.21. Mr Meintjies was honoured for his work by the naming of Arcadia's bordering northern ridge, Meinjieskop. T.W. Beckett bought a portion of Arcadia in 1889, and built a new imposante woonhuis "Merton Keep" which later became part of the French embassy after renovations (Swanepoel, 2007: 2).

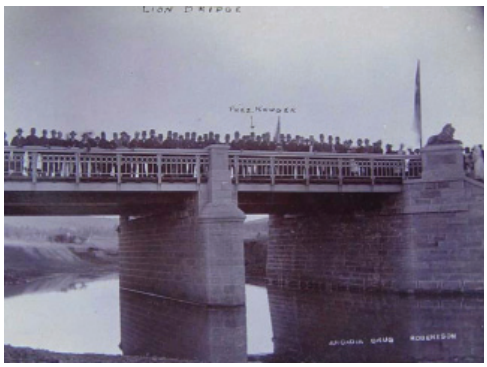
Figure 3.19: In this photograph the mill can be seen on the left side of the road and Mr. Meintjies' residence on the right (Swanepoel: 2007, 7).

Figure 3.20: A later photo taken at the same place (Swanepoel, 2007: 7).

Figure 3.21: Map of Pretoria in 1841, 1855 (Corten & van Dun, 2009: 12) & 1889 (Andrews, 1989: i).

Figure 3.22: Photo of Meintjes' residence, with white-washed walls, a thatch roof and large stoep (Swanepoel, 2007: 8).

Figure 3.23: S. J. Meintjies sold a portion of the mill to his son, E. P. A. Meintjies in 1887. E. Meintjies later rebuild the mill calling it Arcadia Mills (Swanepoel, 2007: 9).



In 1887, Sytse Wierda was appointed Movement Engineer and Architect. His first project was to design a bridge over the Apies River at the area called Meintjies Drift in Church Street, today known as Lions Bridge.
Figure 3.24: Photo of the opening of the bridge by President Kruger (Swanepoel, 2007: 10).

Figure 3.25: A photo taken later of Lion's bridge. The four bronze lions where cast in Scotland by MacFarlane Sun Foundry (Swanepoel, 2007: 10).

Figure 3.26: Present day photo of Lion's Bridge (Author).

Arcadia is a well established residential area in the city of Tshwane.

The Site

Site: 555 Church Street, Arcadia
C/o Church Street and Hamilton Street
Erf 78

Size: 58.250m x 34.635m = 2017.49m²

Existing Zoning: Special

Maximum height:	19m
Coverage:	60%
FSR:	2,0

No deliveries from Church Street

The selected site is on the corner of Church and Hamilton Streets, in Arcadia, Tshwane. The site was selected because it is a transitional zone between the residential area to the east and the commercial area towards the city centre. The established residential area means that the shelter can integrate into the existing community and prevent isolation of the development. The busy streets also provide an excellent opportunity to promote awareness of the current social problem and of the support systems available.

THE SITE WAS SELECTED BECAUSE IT IS A TRANSITIONAL ZONE BETWEEN A RESIDENTIAL AND A COMMERCIAL AREA.

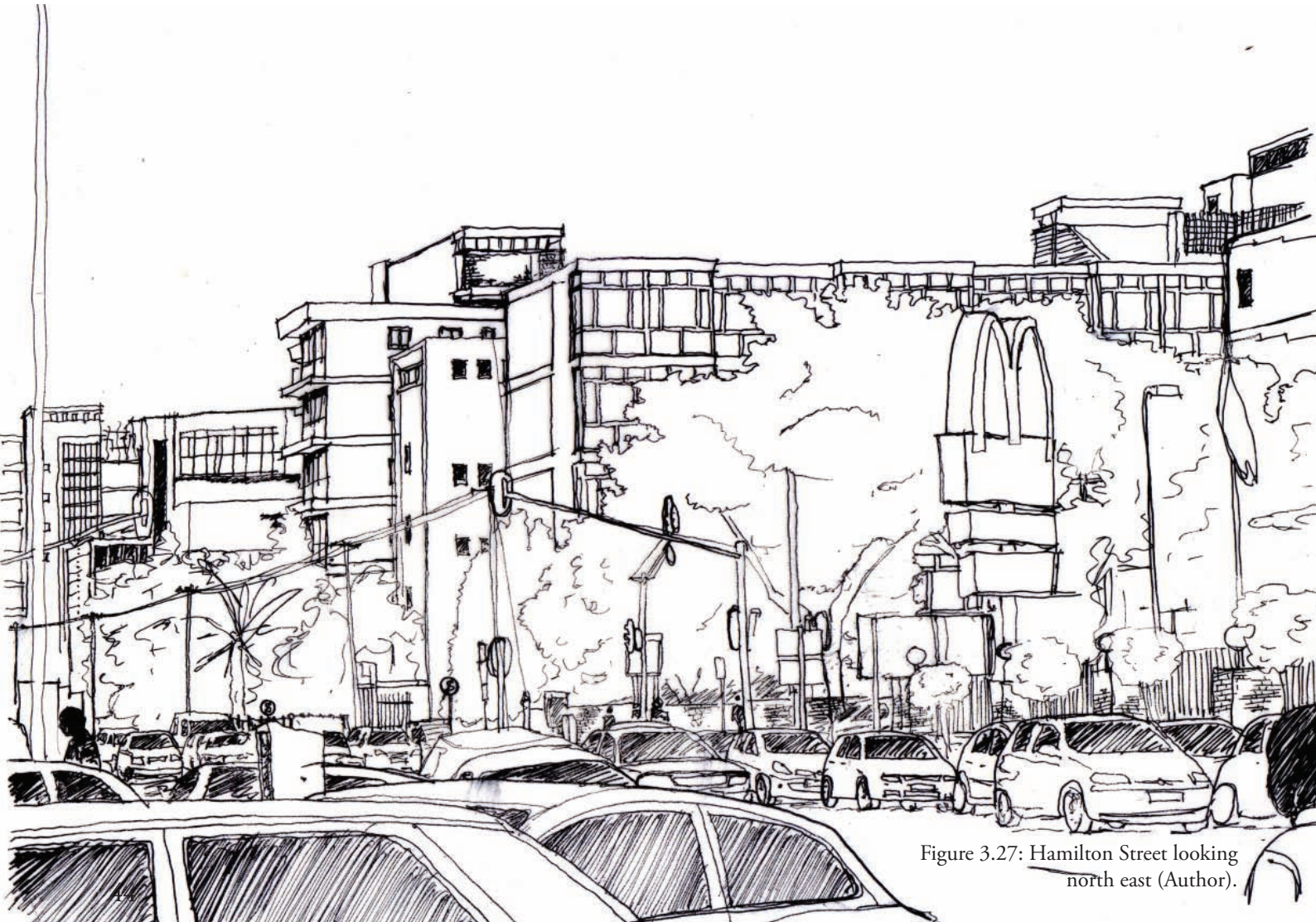


Figure 3.27: Hamilton Street looking north east (Author).

At an urban scale, the development provides an opportunity to densify the city, improving the quality of the city itself and counteracting urban sprawl. The site is currently completely underutilised with a small single story building in the middle of the site surrounded by an excessive amount of parking. The parking becomes even more unnecessary according to our urban framework which promotes fewer cars in the city. The site is also within 500m of a BRT station so public transport will be available. The intervention will focus on defining the street edge and activating it through commercial activities. The building itself will also focus on passive surveillance and 24 hour activity to promote safety in the city. The current programme on the site is a McDonald's which will be retained in the new development activating the street and creating a buffer zone between the public street and the private shelter. McDonald's could also be involved in supporting the shelter as they are involved with charities.

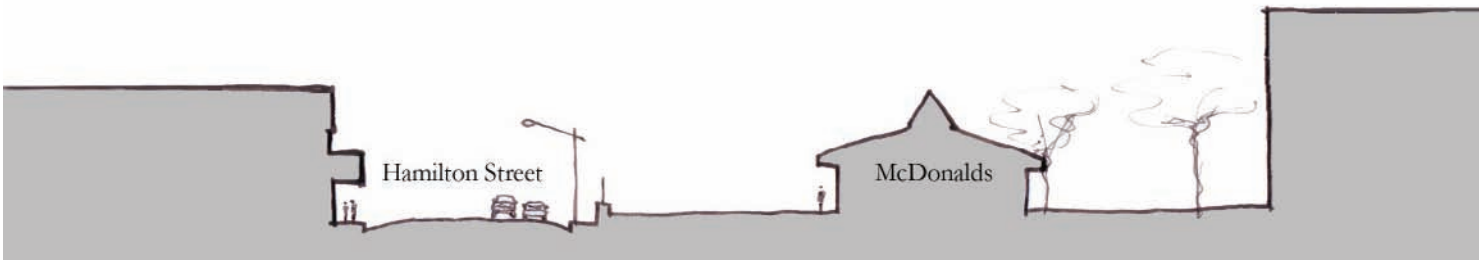


Figure 3.28: East- West section of the current site condition (Author).

Figure 3.29: 3 Dimensional view of the current site condition, indicating the number of levels of neighbouring buildings. This figure illustrates that although Arcadia has areas where there are very high buildings, which are predominantly flat blocks, the site is located in a fairly low scale area which allows the development to have a human scale, permitting the residents to be connected to the street and ground level and not isolated high up in a skyscraper (Author).

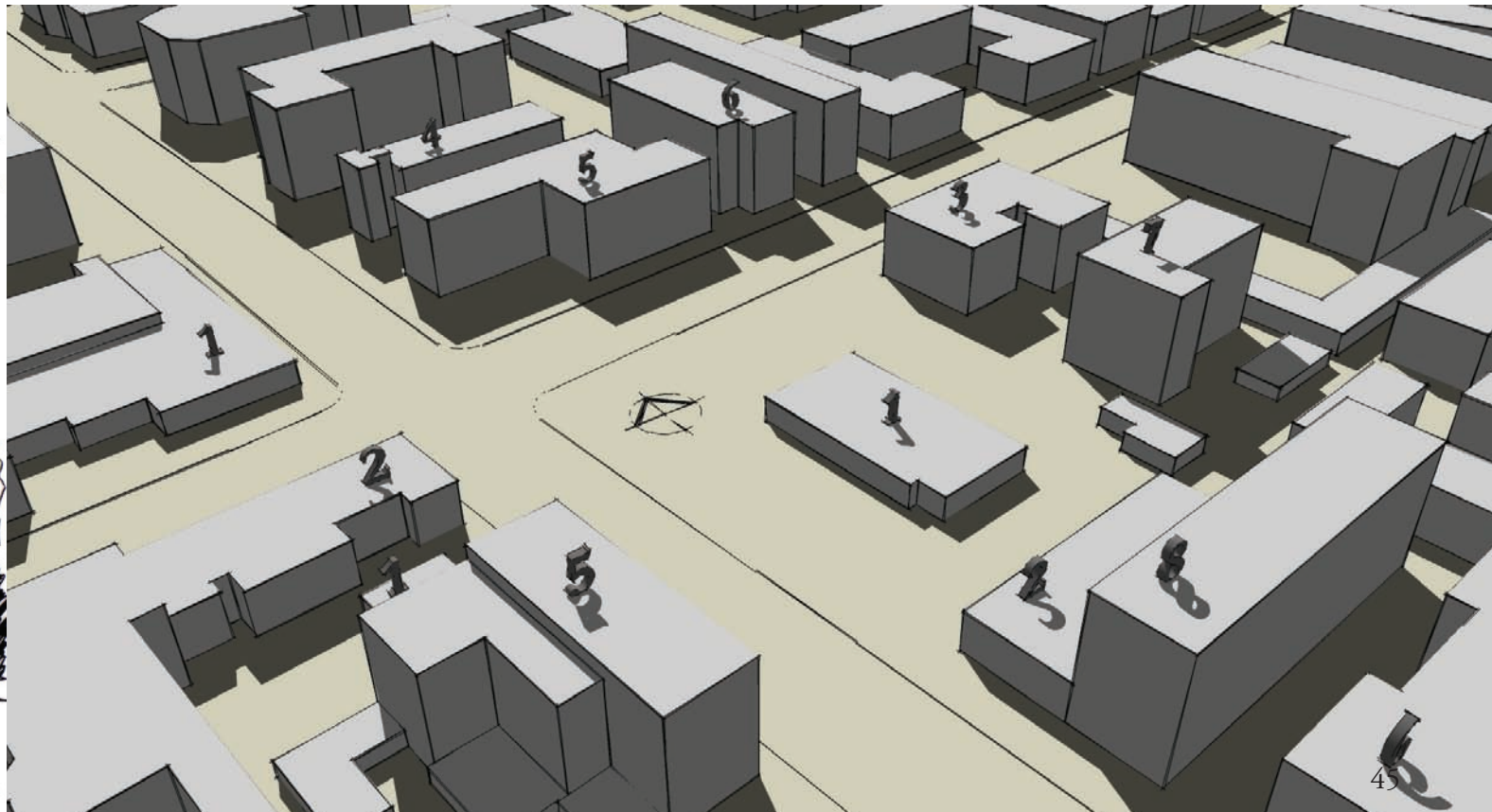


Figure 3.30: North view of current site condition, neighbouring building to the east, 3 storeys and to the west, across the road, 2 storeys)(Author).

NORTH VIEW of SITE

INTERVENTION WILL AIM TO:
- Activate street edge
- Increase density: height & coverage
- Retain current programme as buffer between public &private
- Be environmentally responsible

THE SITE OFFERS:
- Good location to promote awareness: busy street
- Transitional Zone between residential area in the east & commercial area in the west
  Residential area: integration into community
  Commercial area: economic opportunities
- Access to recreational areas & to schools

360° VIEW FROM SITE

view to the south — to the west

// COMMERCIAL

 Figure 3.31: 360° view from site (Author)

N URBAN FABRIC

3.32

Figure 3.32: Existing single storey building, currently used by McDonalds, to be demolished (Author)

Figure 3.33: Illustrating the amount of under-utilised space on the site (Author)

Figure 3.34: Illustrating the dead city sidewalk caused by the un-interactive palisade fence around the site (Author)

to the north to the east

// RESIDENTIAL \

Site Climate:

Pretoria, which is at a latitude of 25.77º south, falls into a climate zone which has a distinct dry and rainy season during winter and summer respectively. The area has large variations in daily temperatures and strong solar radiation with moderate humidity levels (Holm, 1997: 69).

Pretoria Climate:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
Maximum average monthly temp (ºC)	28.6	28	27	24.1	21.9	19.1	19.6	22.2	25.5	26.6	27.1	28	**24.8**
Minimum average monthly temp (ºC)	17.4	17.2	16	12.2	7.8	4.5	4.5	7.6	11.7	14.2	15.7	16.8	***12.1***
Average monthly relative humidity (%)	58	60	60	60	55	53	50	46	45	50	54	57	***54***
Average monthly rainfall (mm)	136	75	82	51	13	7	3	6	22	71	98	110	***56***

Table 3.1 Pretoria Climate (adapted from Holm, 1997: 69)

Vertical sun angle at 12:00 solar time	Solstices (21 March/23 September)	Winter (22 June)
Pretoria	64. 23º	40.73º

Table 3.2: 12:00 sun angles for Pretoria (adapted from Holm, 1997: 72)

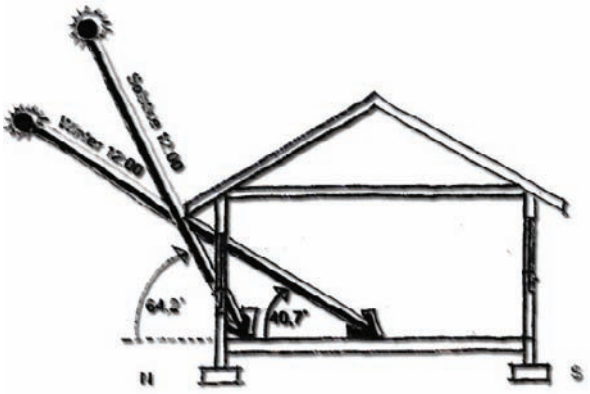


Figure 3.35: 12:00 sun angles for Pretoria (Holm, 1997: 72)

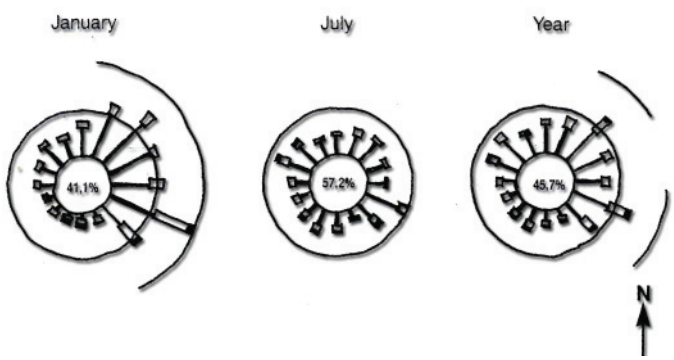
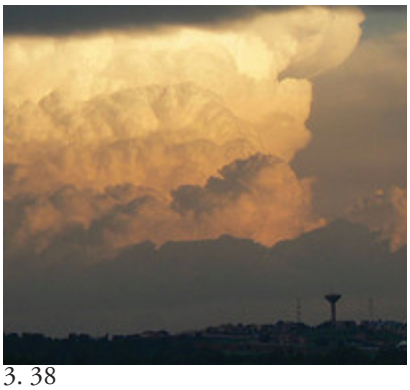


Figure 3.36 : Wind rose for Pretoria (Holm, 1997: 70)


3. 37


3. 38


3. 39

Figure 3.37-39: Weather over Tshwane (Online)

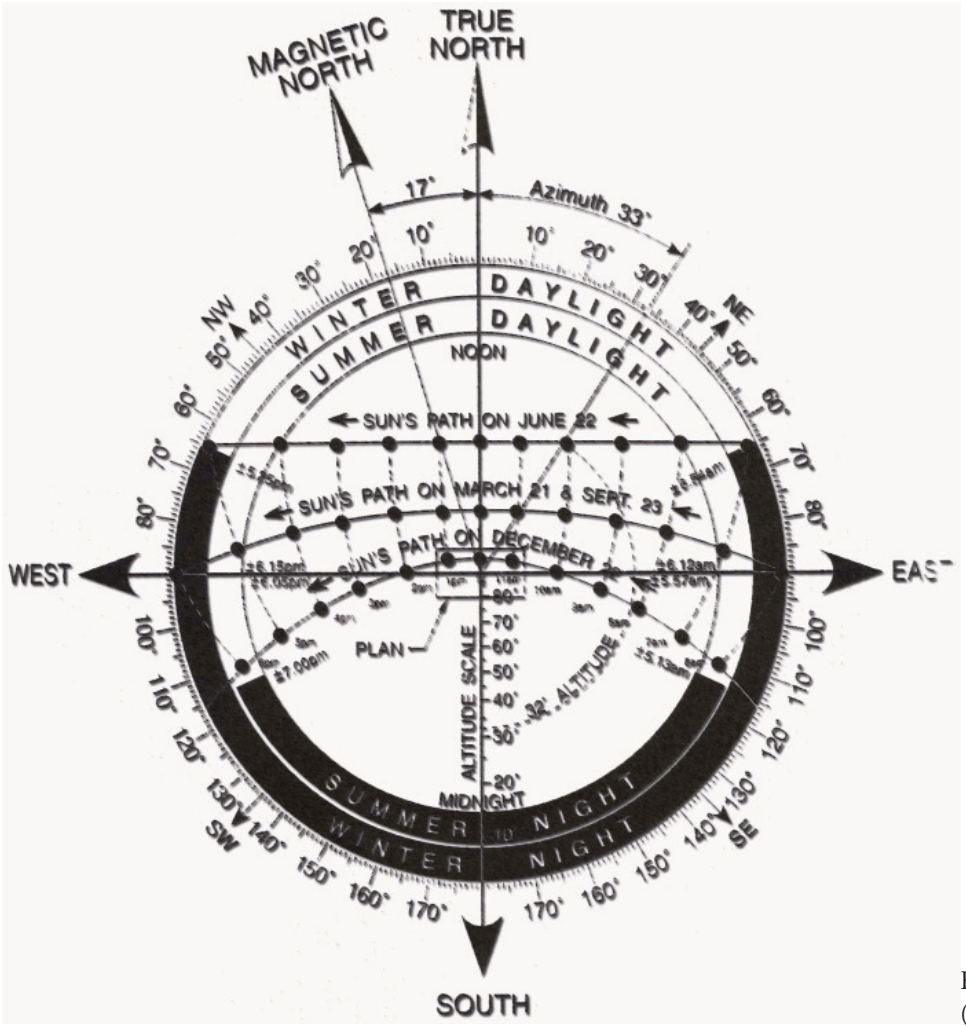


Figure 3.40: Solar chart for Pretoria (Grobbelaar, 2006: 40)

It is important to take climatic characteristics into consideration in the design process. For the design to be appropriate to Pretoria's climate, the following aspect will be incorporated:

•North orientation for heat gain in winter
•Limited openings on the eastern and particularly on the western facades to prevent excessive solar heat gain and glare.
•Shading by means of overhangs and shutters to prevent excess heat gain during the warmer seasons.
•Due to the distinct dry and wet seasons, rainwater collection to irrigate gardens during winter is important.

History of the site

As illustrated by the aerial photograph (Figure 4. 27), taken in 1947, the city fabric in the area has changed from single storey detached dwellings to multi-storey flat blocks, as seen in figure 4. 26, taken in 2010. Although the scale of the city fabric has changed, the environment has remained residential becoming more commercial to the west and the city centre.

Figure 3.41: 1947 Aerial photograph of the site and surrounding, with drawing showing the foot prints of buildings around the site (University of Pretoria Library Services Africana Collection & Author).

Figure 3.42: 2010 Aerial photograph of the site and surrounding, with drawing showing the foot prints of buildings around the site (University of Pretoria Department of Geography & Author).

04. Design Development

Concept

The project concept was derived from the aim of the centre, which is to aid in the healing process of the homeless. The aim is to achieve healing of the homeless through empowerment, which incorporates a sense of connection and independence and ultimately, results in these individuals being transitioned back into society as a contributing member. This is the process of positive change which the shelter ultimately aims to facilitate. For this reason, the architectural concept is one of facilitating change and this notion of continuous change or flux is what drives the design decisions.
(See diagram on the next page)

HEALING BY MEANS OF **EMPOWERMENT**,
THROUGH **CONNECTION, INDEPENDENCE** AND **TRANSITION.**

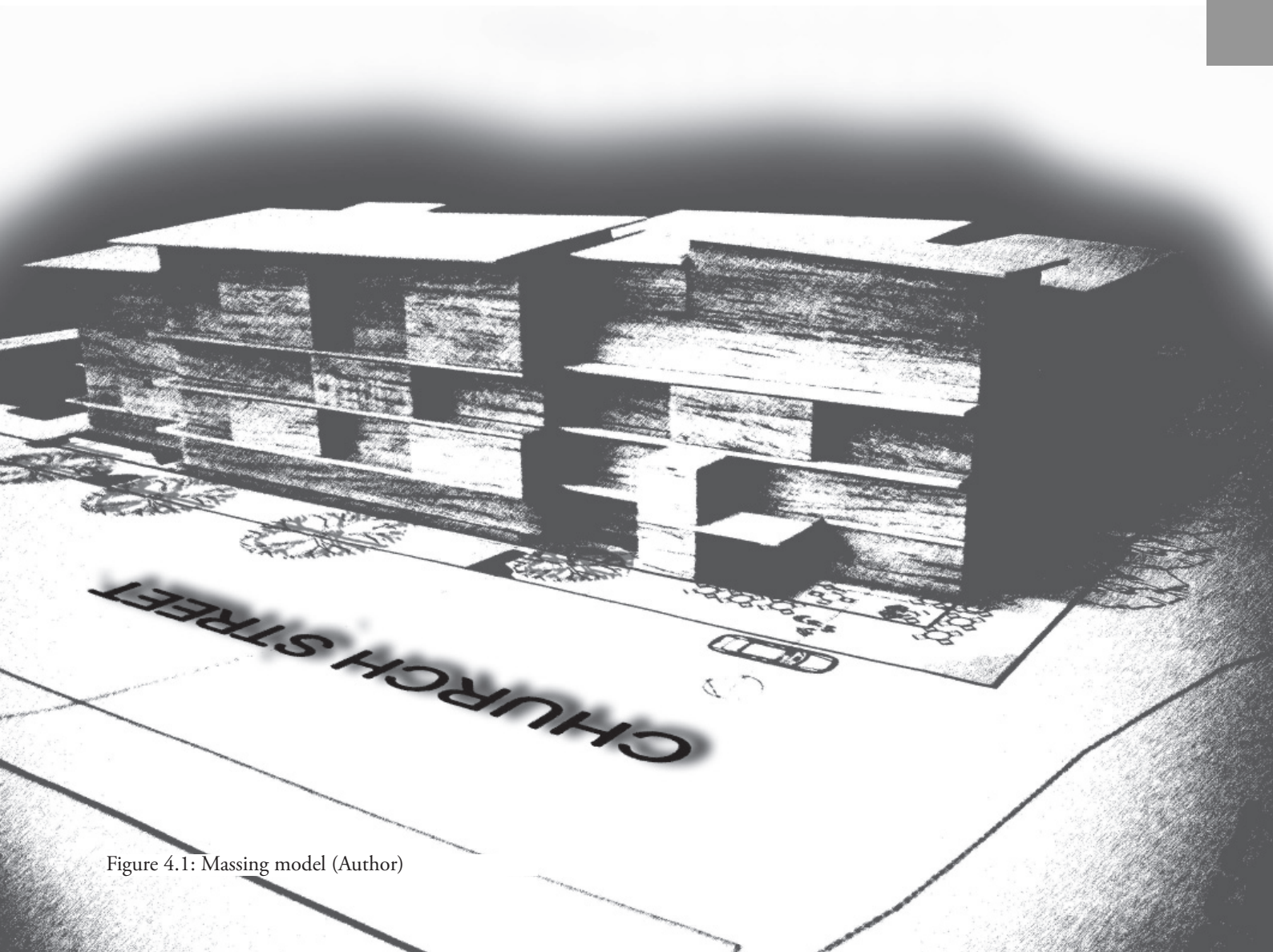
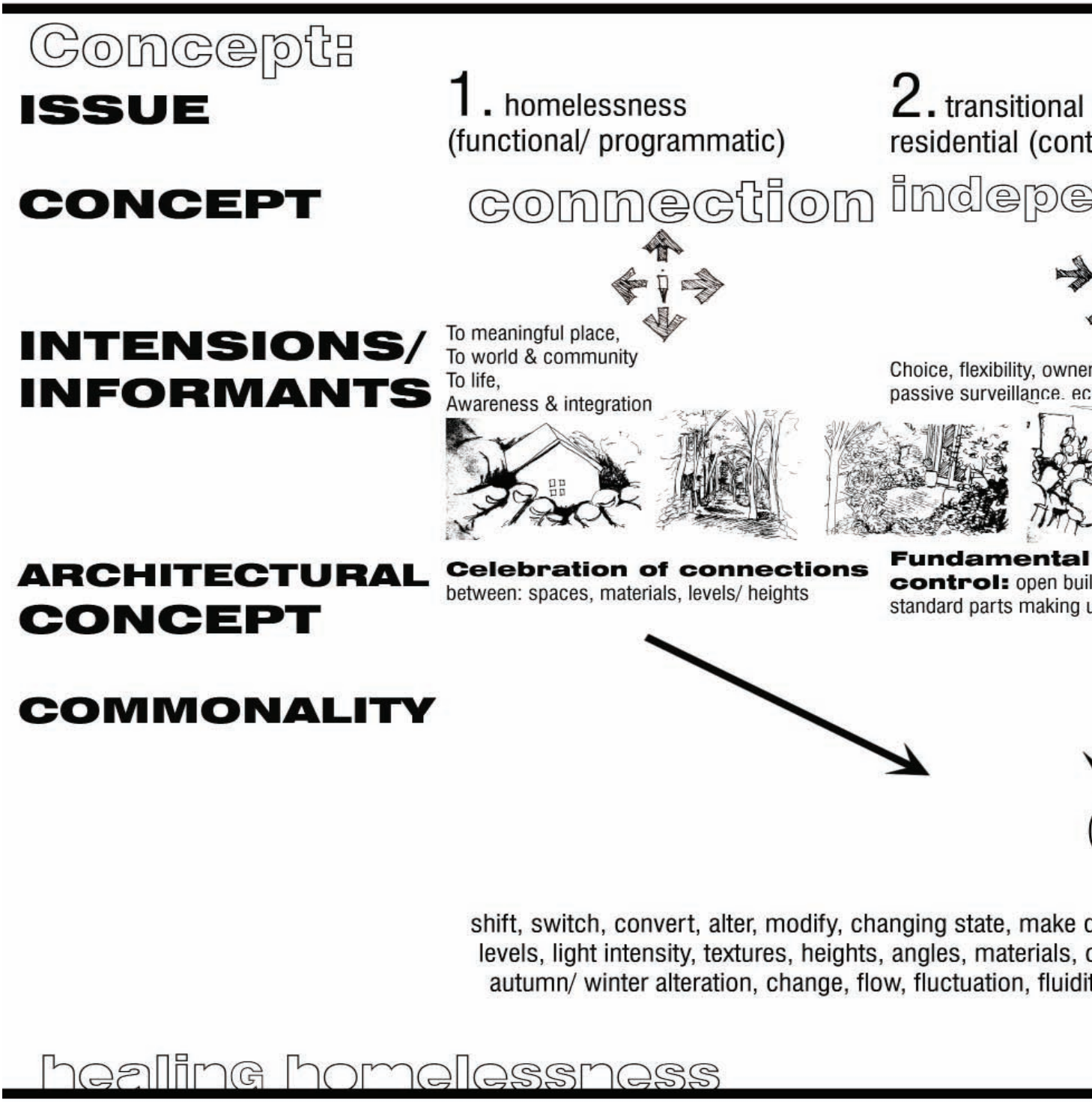


Figure 4.1: Massing model (Author)



Figuree 4.2: Concept Diagram (Author)

zone Commercial/
extual)

3. transitional zone…

4. healing space (architectural intension)

ndence

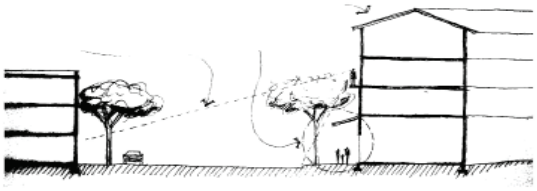
transition

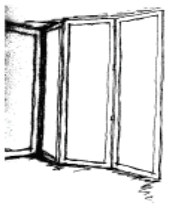
Empowerment

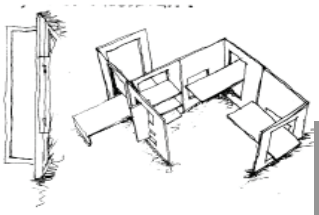
rship, responsibility, control:
onomic opportunity

Process, layering, safety

Encouragement, enablement, liberation, inspiration, confidence, enfranchise, emancipation. Meditation, counselling, strength, power, upliftment.







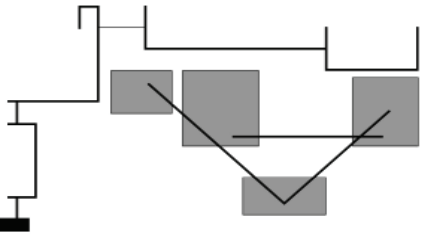
flexibility &
ding, screens, clipping in,
p different wholes,

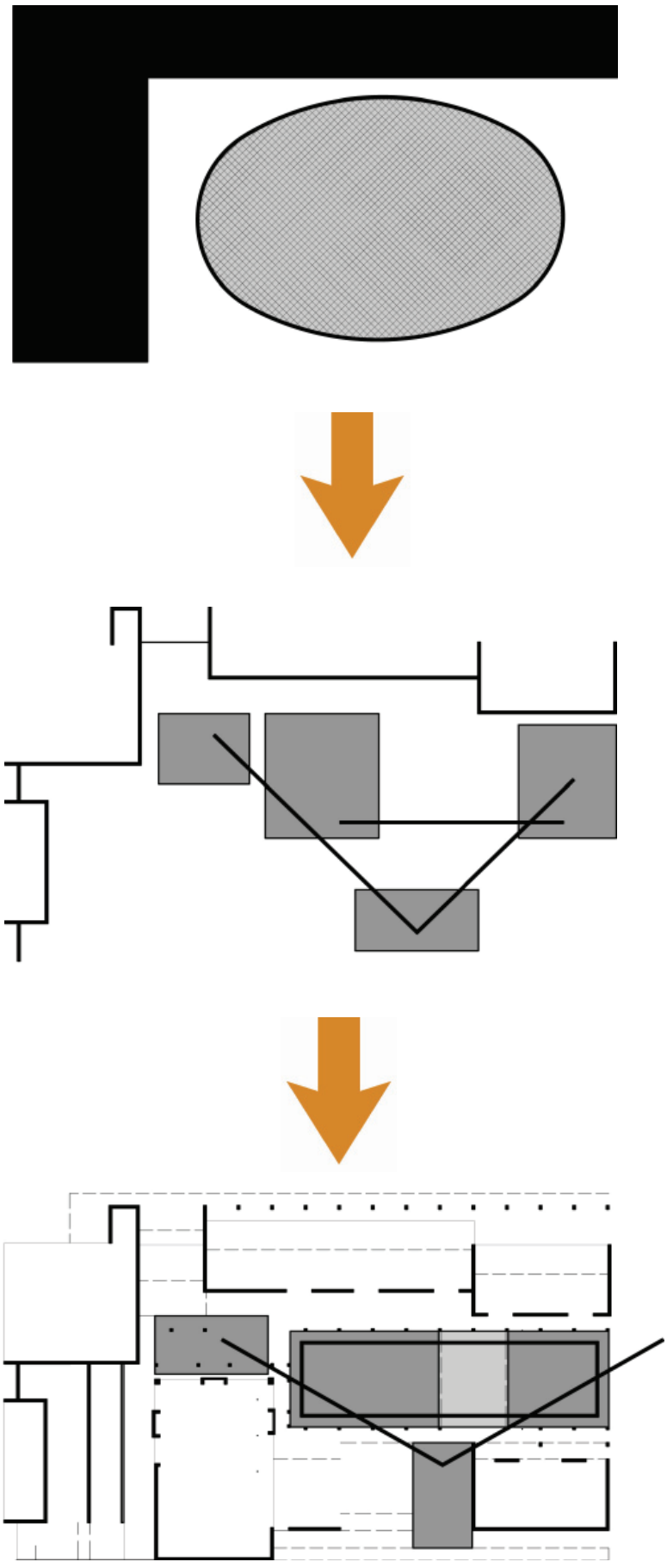
Movement - process - growth

Connection
Independence
Transition

CHANGE

ifferent, transformation, FLUX, continuously changing:
ld/ new, linear/ diagonal/ curved, day/ night, spring/ summer/
y, modification, motion, mutation, transition, metamorphosis





The project was envisioned as a protective boundary on the street edge and a private inner core that is a home and becomes the centre of the users' lived world. Through the concept of change, the design aimed at offering varying environments, thereby providing the users with choices. In a development like this, the communal areas become the most important spaces, and in a climate like Pretoria, these spaces are most often outdoors. For this reason the most important elements are the courtyards. The buildings were ordered around the courtyards which form a series from public to private, providing changing atmospheres and giving the users choices.

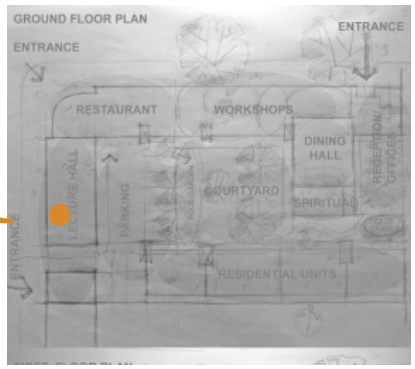
The protective boundary is made up of different commercial activates where people from the shelter can learn practical skills and receive an income, promoting independence. A portion of these spaces can also be rented out to generate income for the shelter. Apart from the practical experience inhabitants can gain in these spaces, academic skills are taught at the educational community centre, which caters for the greater community and furthermore becomes a protective boundary to the shelter. It can also be rented out to private organisations.

Opposite figure 4.3: Development of parti diagram, illustrating the changing environments of the protective boundary as well as the private inner system of courtyards (Author).

The project was envisioned as a protective boundary on the street edge and a private inner core that is a home and becomes the centre of the users' lived world.

Concept development

1.



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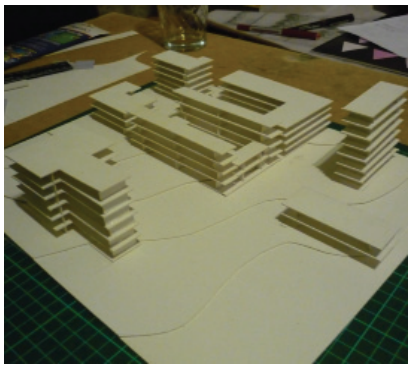
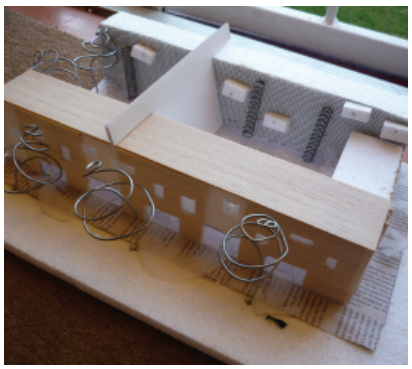




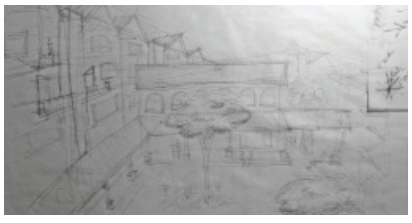
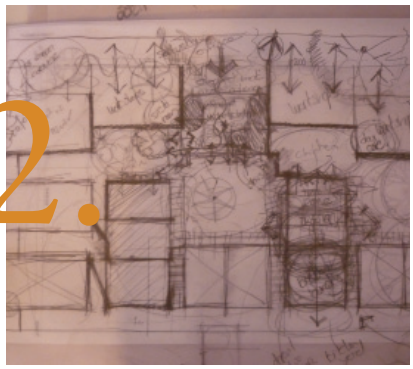


Figure 4.4: 1. Protective boundary on street edge, private inner core.
Increase density and activate street edge.

2.



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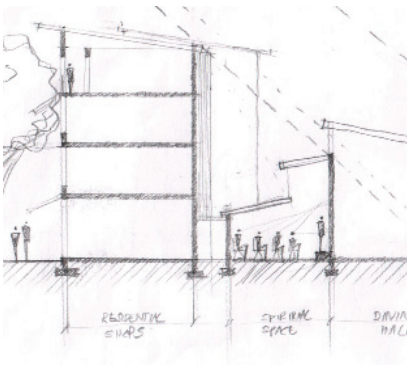


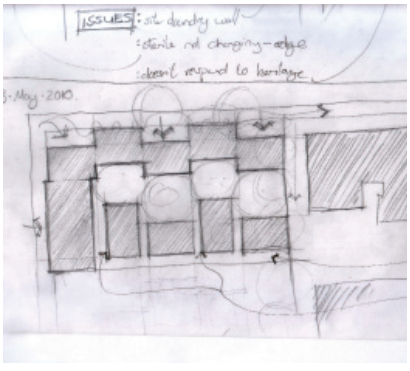
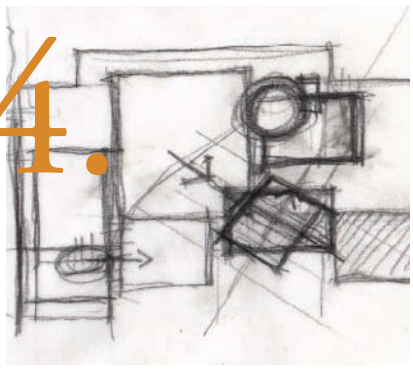


Figure 4.5: 2. Break up monotonous straight street edge.
Step back to respect heritage building.
Break up large inner courtyard into more intimate spaces

3.

May

4.



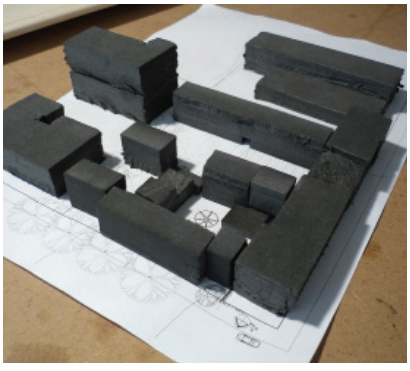
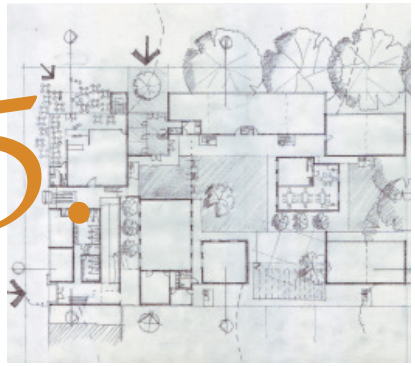


Figure 4.6: 3. Move food garden out of building shadow.
Entrance moved closer to prominent corner.

4. Street edge definition improved.
Hall becomes multi-functional/ changing function, facilities shared.

5.



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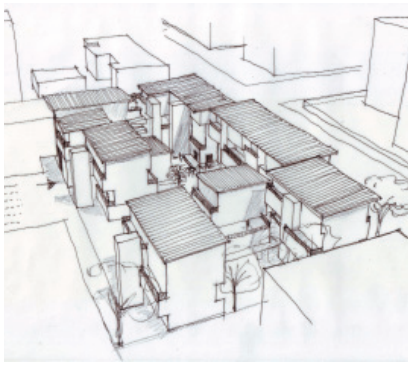
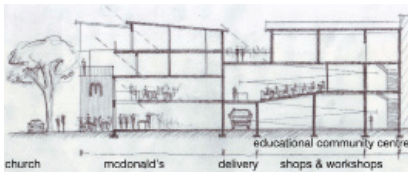




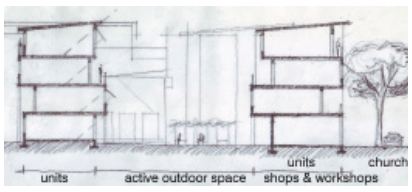
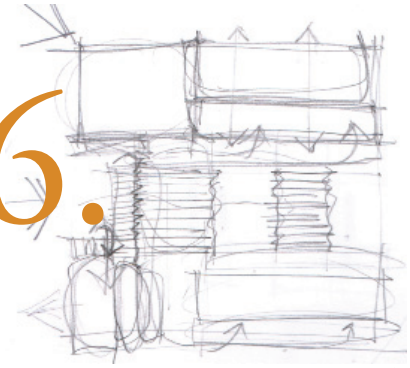


Figure 4.7: 5. Individuals living within a community expressed through articulation of individual units.
Changing environments introduced within units, living out onto public street or private courtyard.

6.



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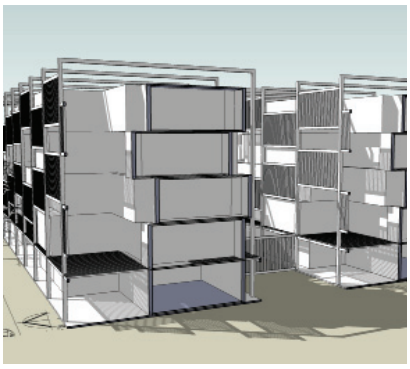
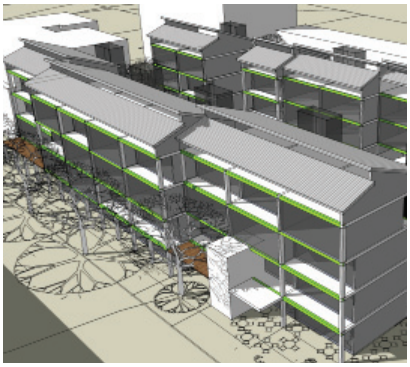




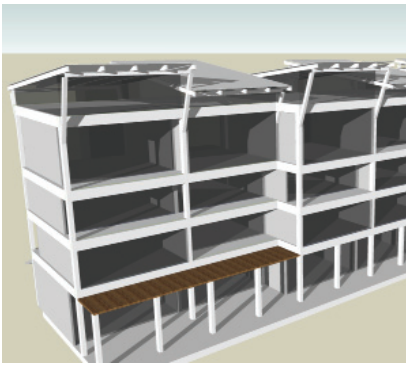
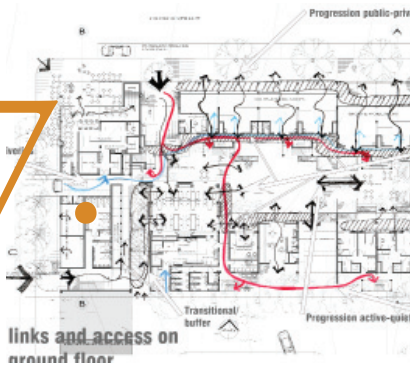


Figure 4.8: 6. Large inner courtyard reintroduced, with flexible partitions: smaller spaces or one large space – changing environments.
Notions of transition between public and private introduced.
Internal space independent of structure.
Roof construction independent of structure.

7.



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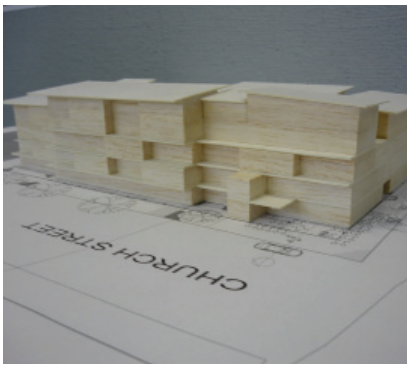
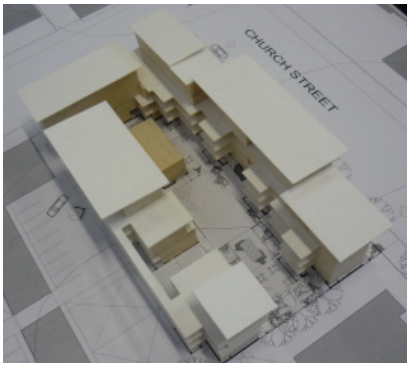




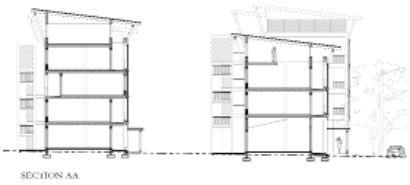
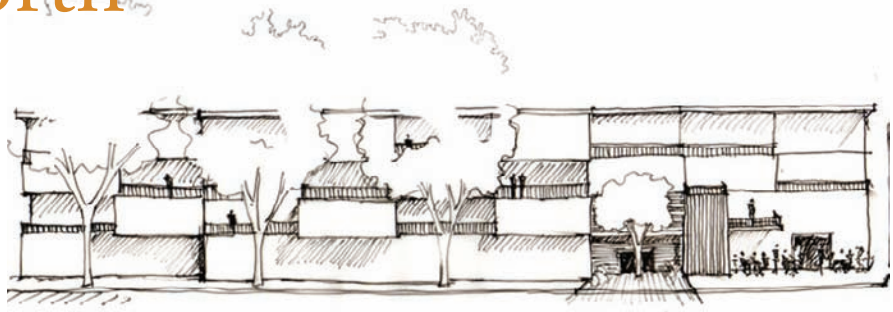


Figure 4.9: 7. Roof structure forms protective transitional zone & expresses entrance.
Notions further refined.

Figure 4.4-9 Concept development (Author)

Development of street edges

north



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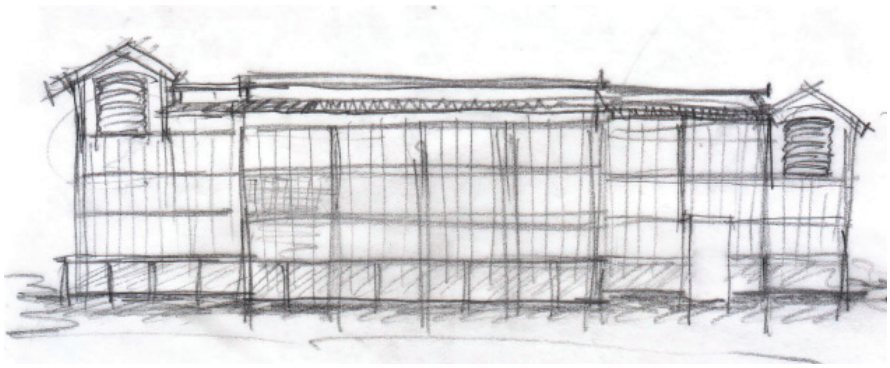

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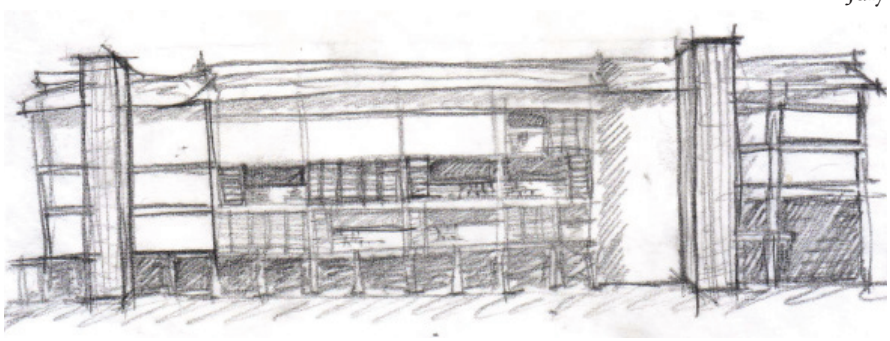

August

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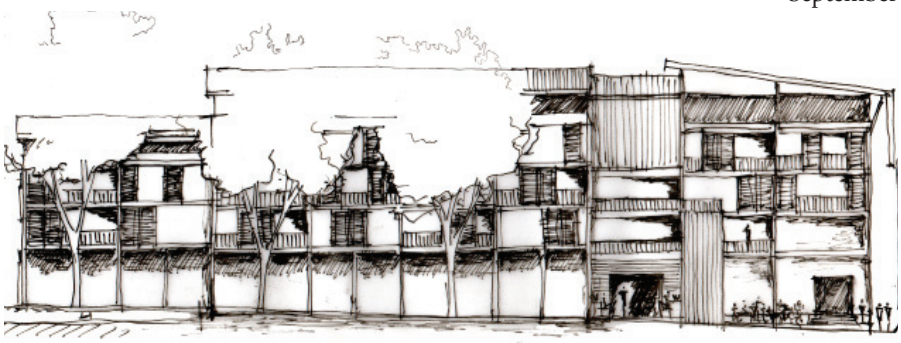
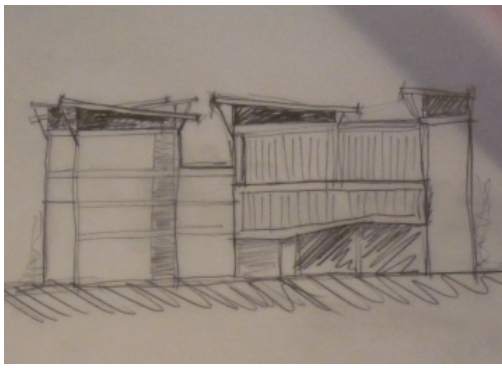
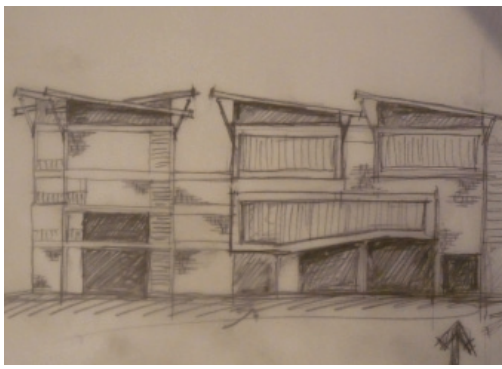
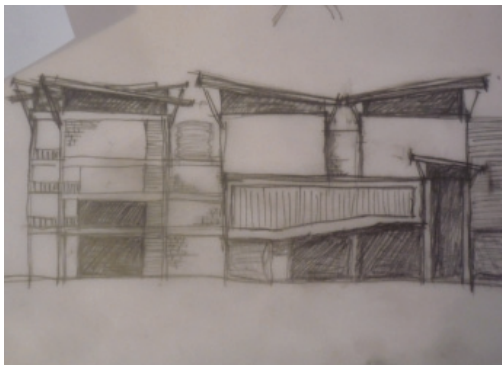


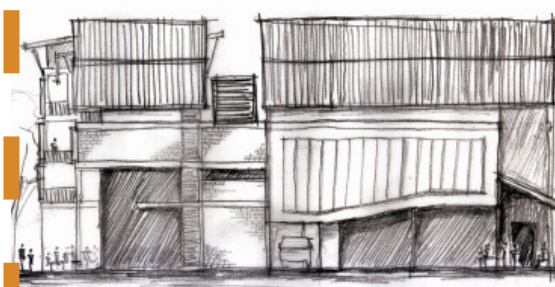
4.10

west









4.11

The **concept of change** comes through on many levels:

•On an urban level the mixed-use project provides changing functions.

•On the street edge different environments are achieved by stepping back or projecting onto the side walk. The section of the building relates to the plan and provides the units with changing environments; living out onto the street or the private courtyards. This also illustrates the notion of individuals living within a community as the elevations reflect the individual units. This is further illustrated by movable screens, allowing users control over daylight and privacy.

•The commercial spaces change in function from a place of income, a place of training and a place to interact and connect with the greater community, also forming the protective boundary for the shelter.

•Within the shelter itself, changing communal environments allow choice for the users.

•The dining hall of the shelter changes in function as it can also be used by the Educational Community Centre and as Emergency Shelter.

•Within the Educational Community Centre the ramp is both a means of vertical circulation and an exhibition space, where local art and information can be displayed and accessed by the community. The ramp also forms a barrier between the shelter and the community centre but still allows a visual link to be formed.

•On the scale of the units; the first stage of accommodation is communal living with 3 to 4 people per room, which provides social support to the residents. The next stage is private accommodation, which relates to the concept of transition before finally leaving the centre.

•Moveable shutters also allow residence to change the levels of privacy and natural light of the units.

•On a detailed scale, the furniture of the rooms will also allow for flexibility and changing environments, providing the users with control over their surroundings and enforcing independence.

•On the overall scale, the building itself will follow principles of open building systems, allowing the building to be adapted for future use such as social housing, higher income housing or offices. This will be achieved through separating services from the structure and designing the spaces to facilitate these uses.

Opposite page
Figure 4.10: Development of northern façade (Author)
Figure 4.11: Development of western façade (Author)

Site plan

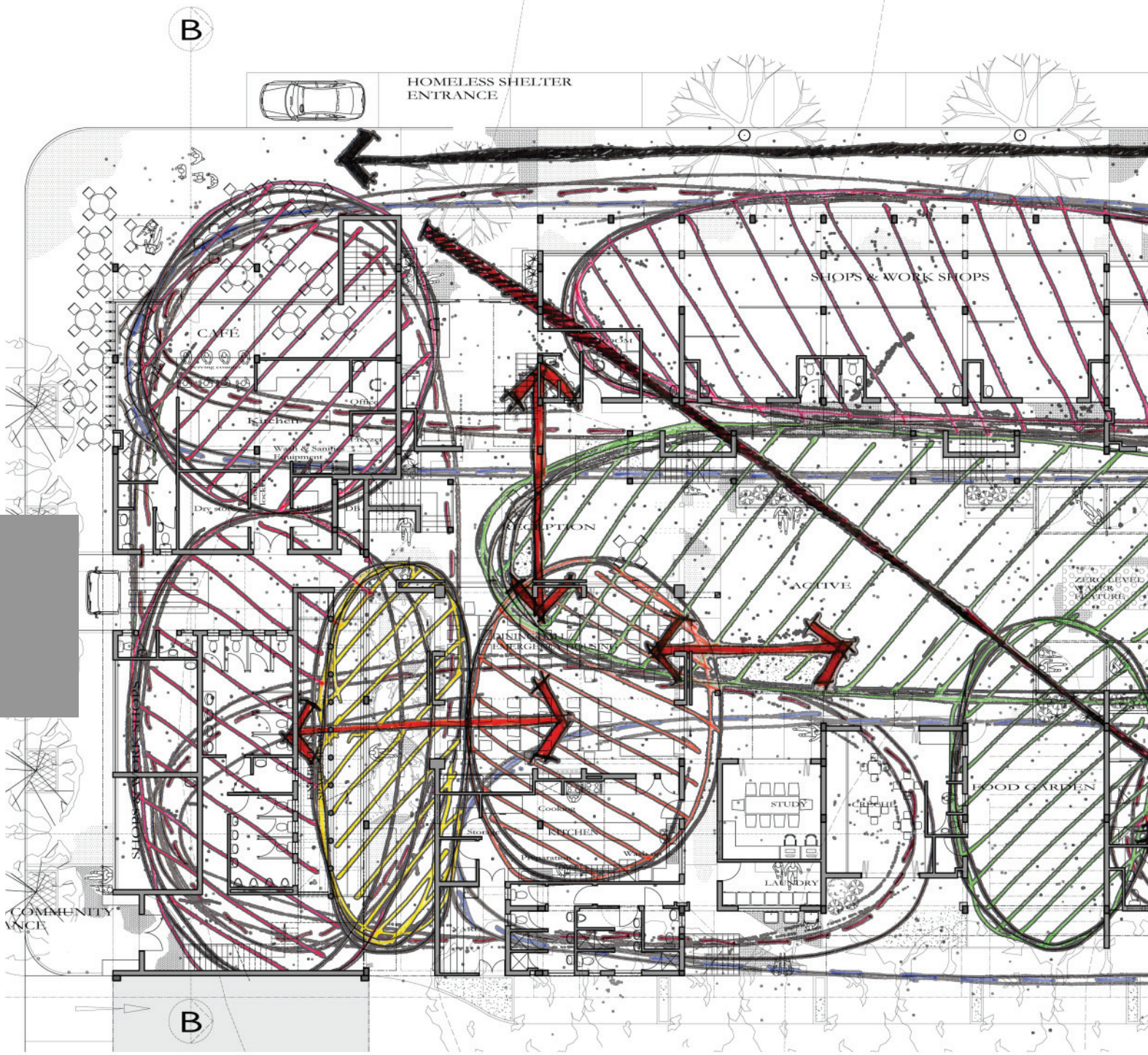
Figure 4.12: Site Plan (Author)


STREET
HOMELESS SHELTER
ENTRANCE
(5 STOREYS)
A
SHOPS & WORK SHOPS
SHOPS & WORK SHOPS
SICK ROOM
EXISTING HERITAGE
BUILDING
ARCADIA MANSIONS
3 STOREYS
RECEPTION
ACTIVE
QUIET
UNITS FOR DISABLED RESIDENTS
FOOD GARDEN
STUDY
CRECHE
KITCHEN
Cooking
Preparation
Wash up
LAUNDRY
C
A
USING
FLATS
7 STOREYS

Ground floor plan

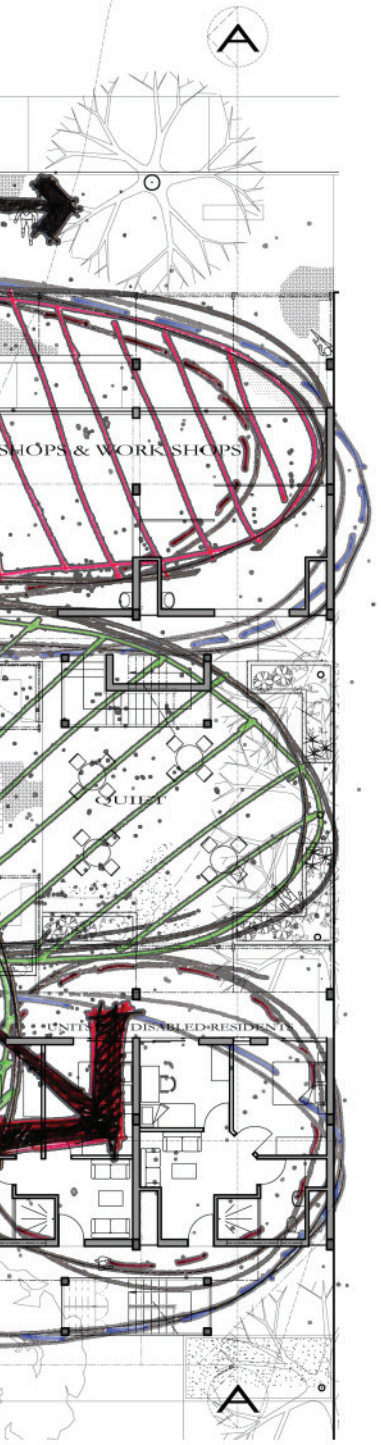
Figure 4.13: Ground floor, scale 1:200 (Author)

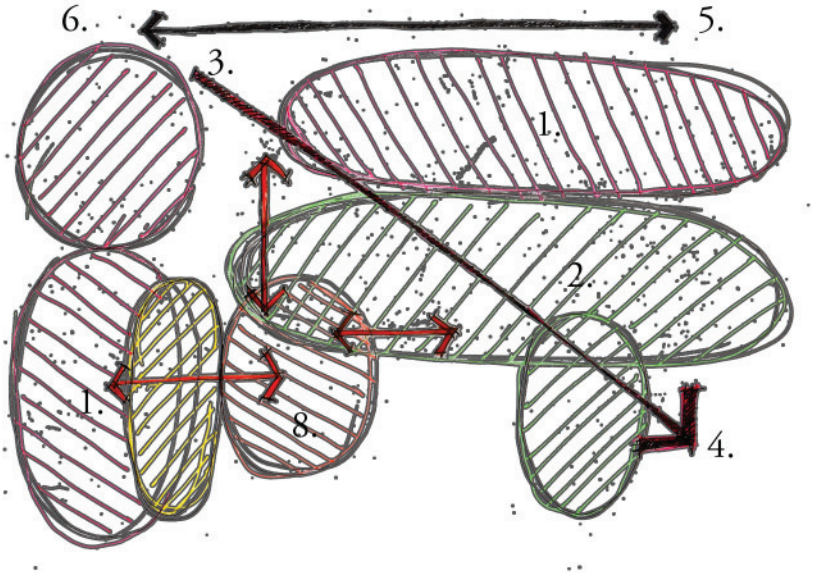
Ground floor plan
scale 1:200



explanation of plan

Figure 4.14: Explanation of plan (Author)



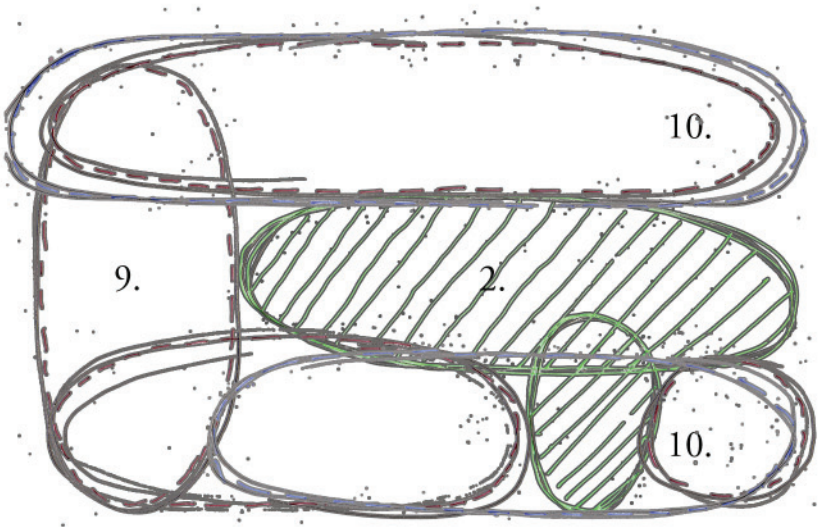


The project was envisioned as a protective boundary (1) surrounding a private inner core (2).

The entrance (3) of the shelter is placed closer to the commercial area to form a progression from public to private spaces culminating in units for disabled residents (4) on the ground floor.

The location of the site allows the residents the opportunity to connect with the established residential (5) area through recreation, socialising, schools and religious establishment to prevent isolation. The commercial area (6) allows access to commercial activity promoting independence.

The communal dining hall (8) is positioned in the space so that the space can be used for various activities, including activities of the shelter as well as those of the Educational Community Centre. It can also be used as emerging housing.



The inner core (2) is made up of the outdoor communal space and is given the greatest importance with the internal spaces (9) placed around it.

Residential units (10) are orientated north and create two different levels of privacy, namely units on the street edge and more protected units to the back of the site, integrating the concept of transition

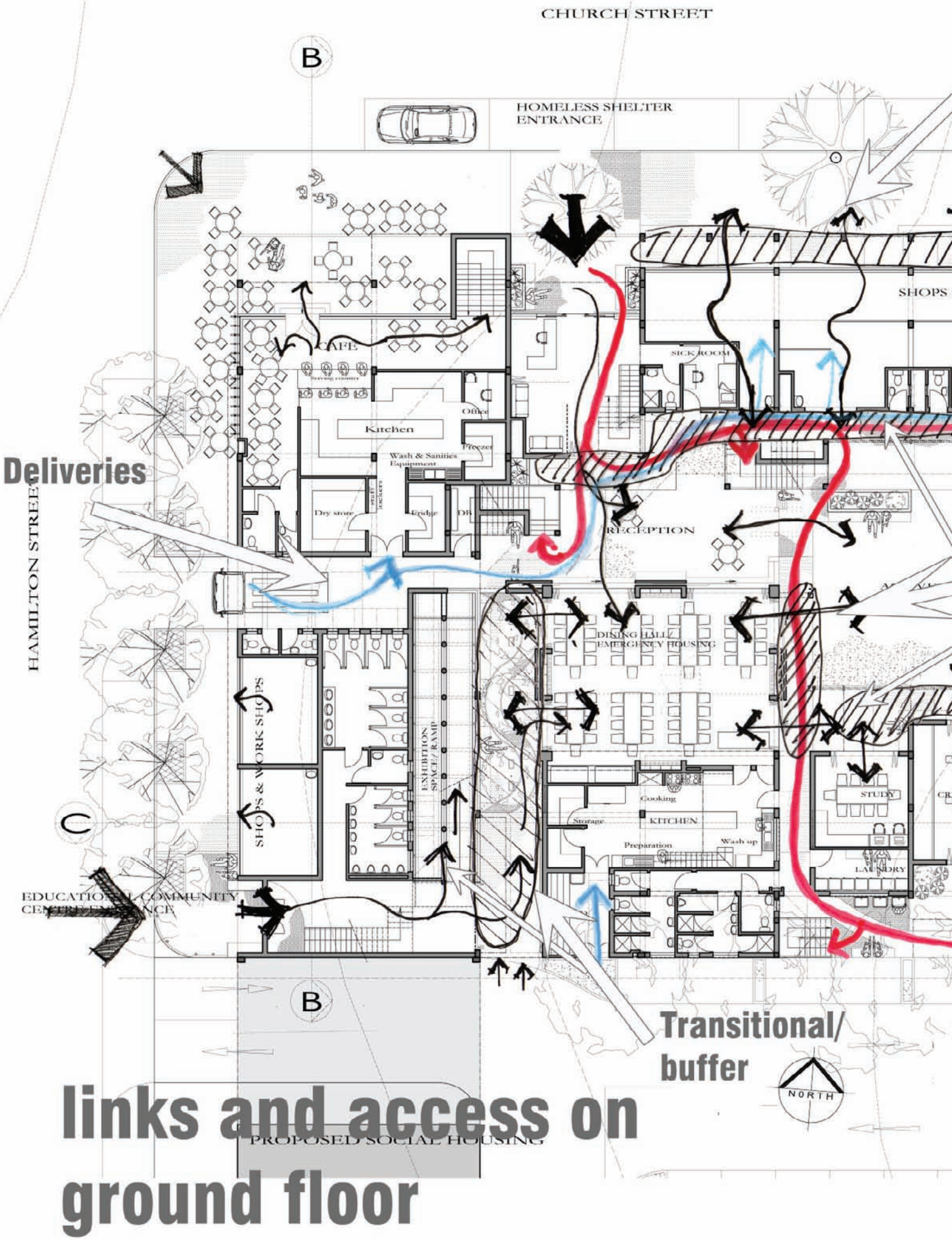
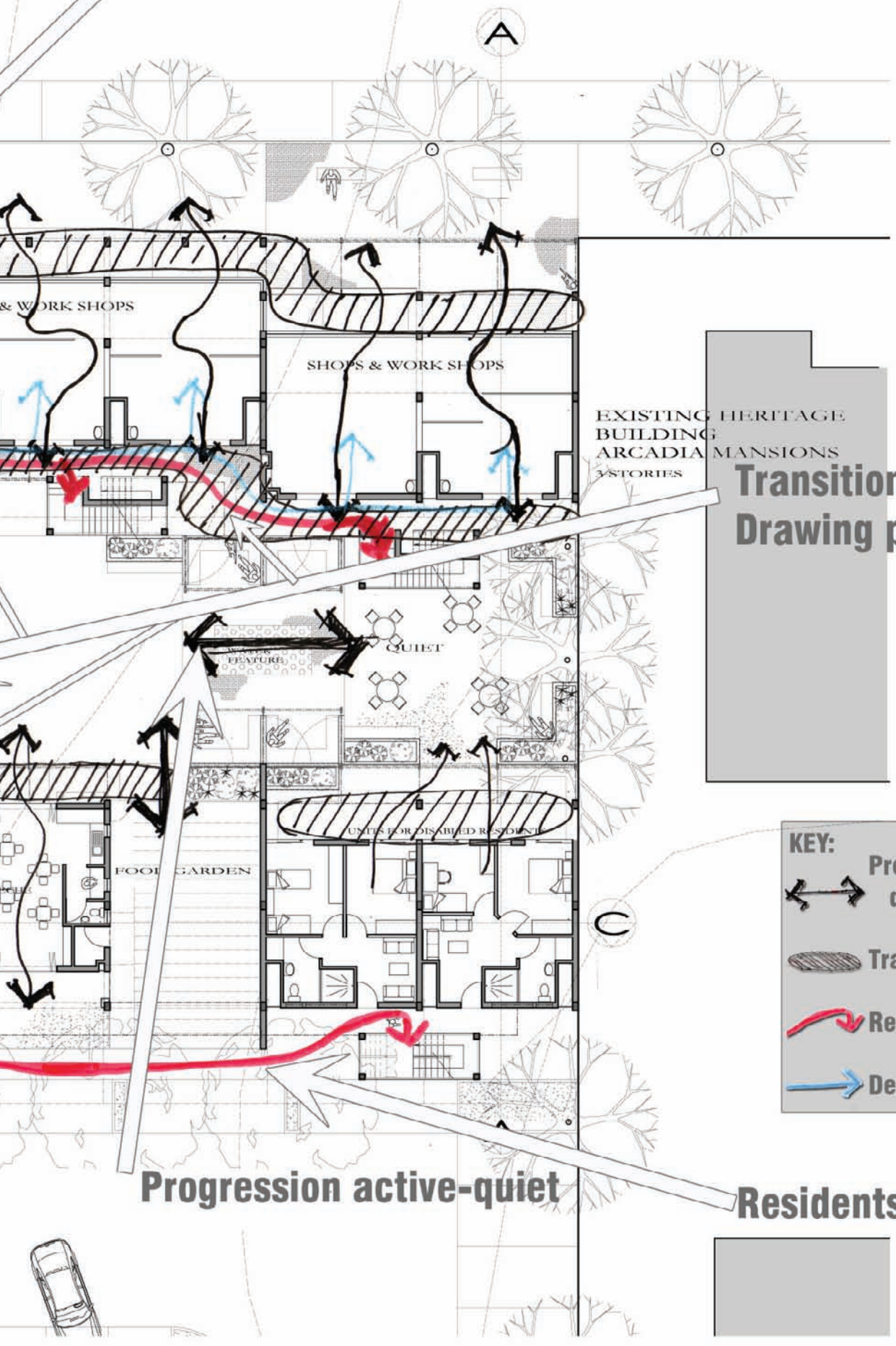


Figure 4.15: Links and access on ground floor (Author)

Progression public-private



Transitional zone
Drawing people out

KEY:

- Progression/ transition/ directionality
- Transitional zone
- Residential circulation
- Deliveries

Progression active-quiet

Residents' circulation

Section AA

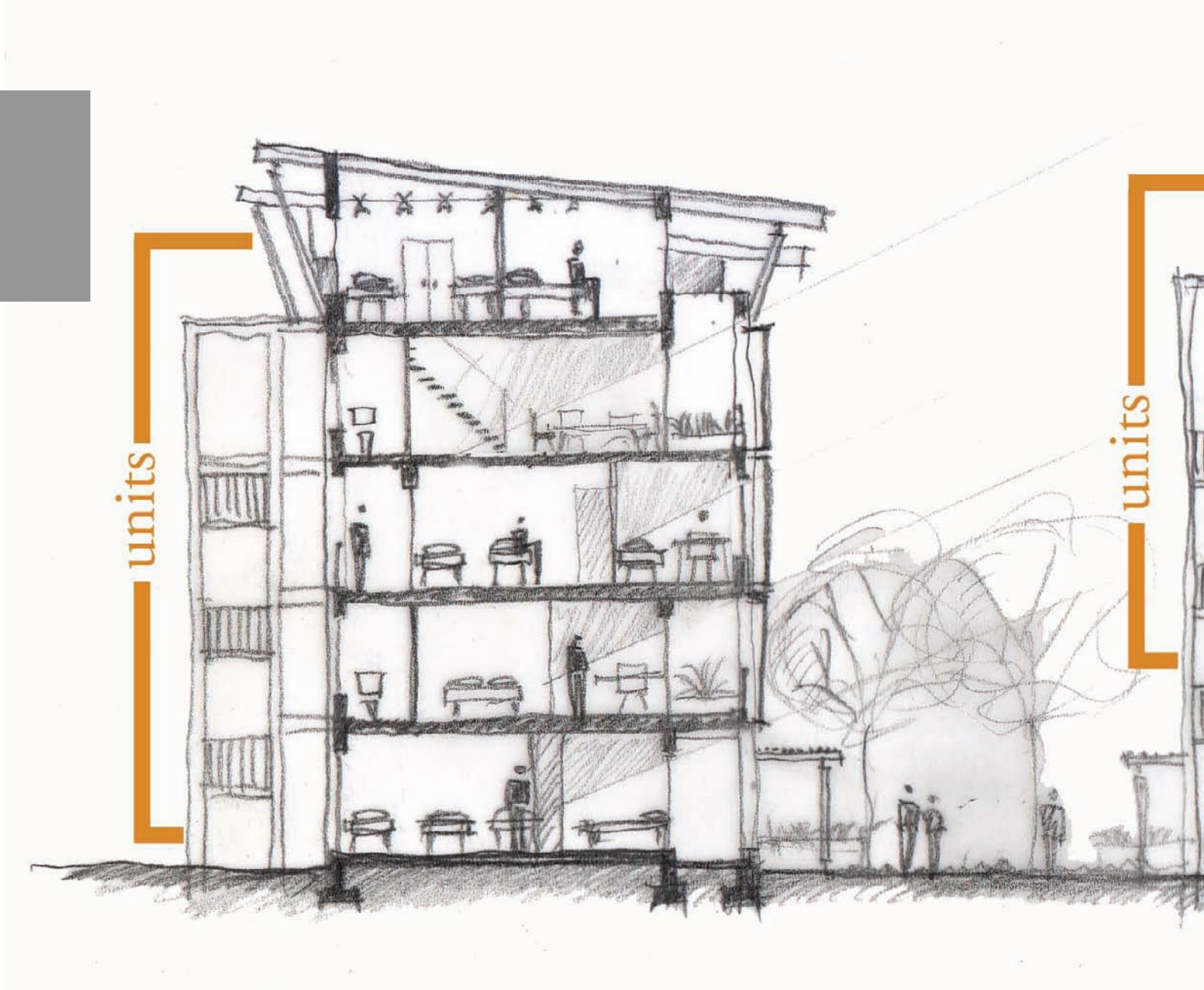


Figure 4.16: Section AA (Author)

shop

Section BB

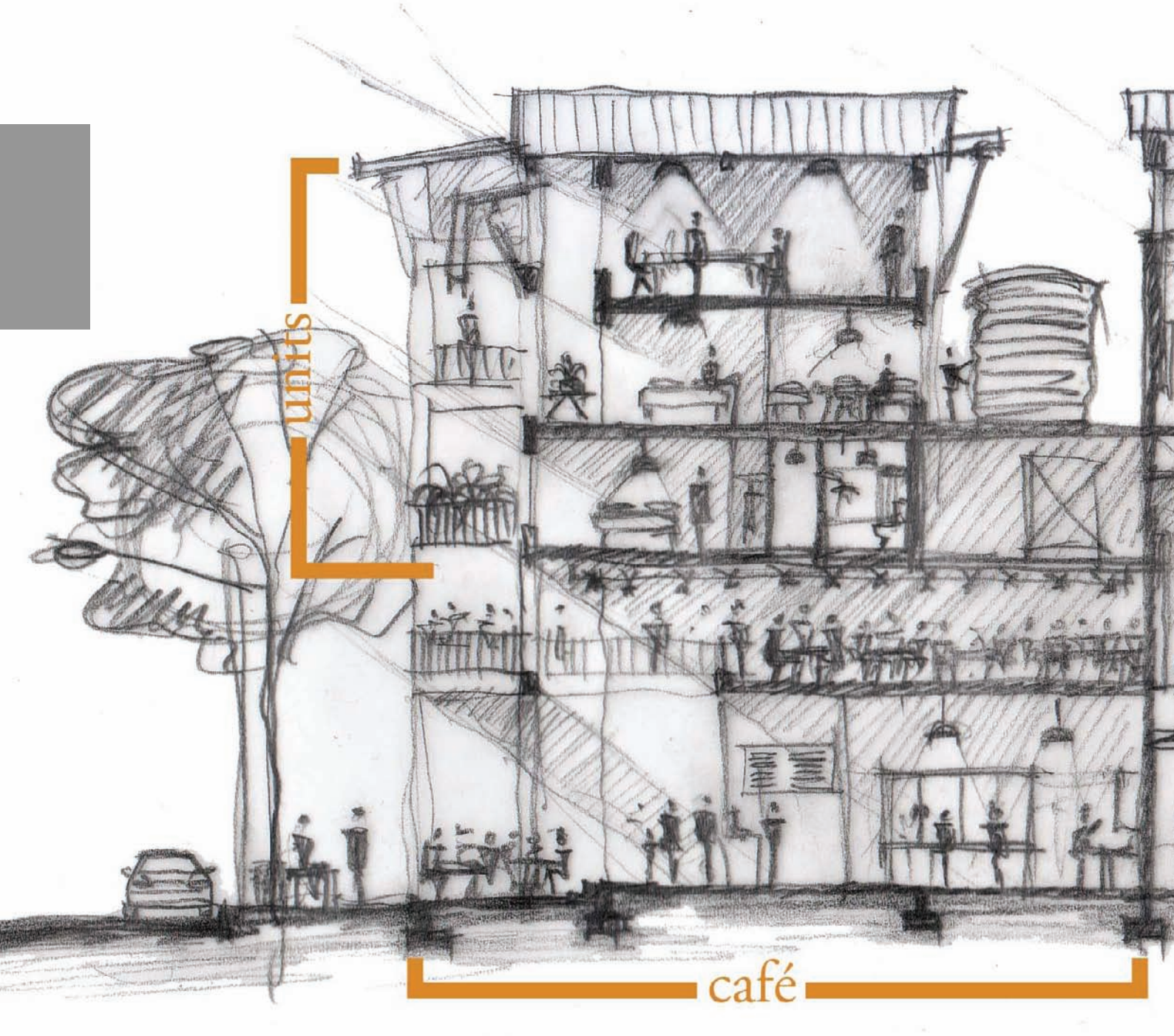
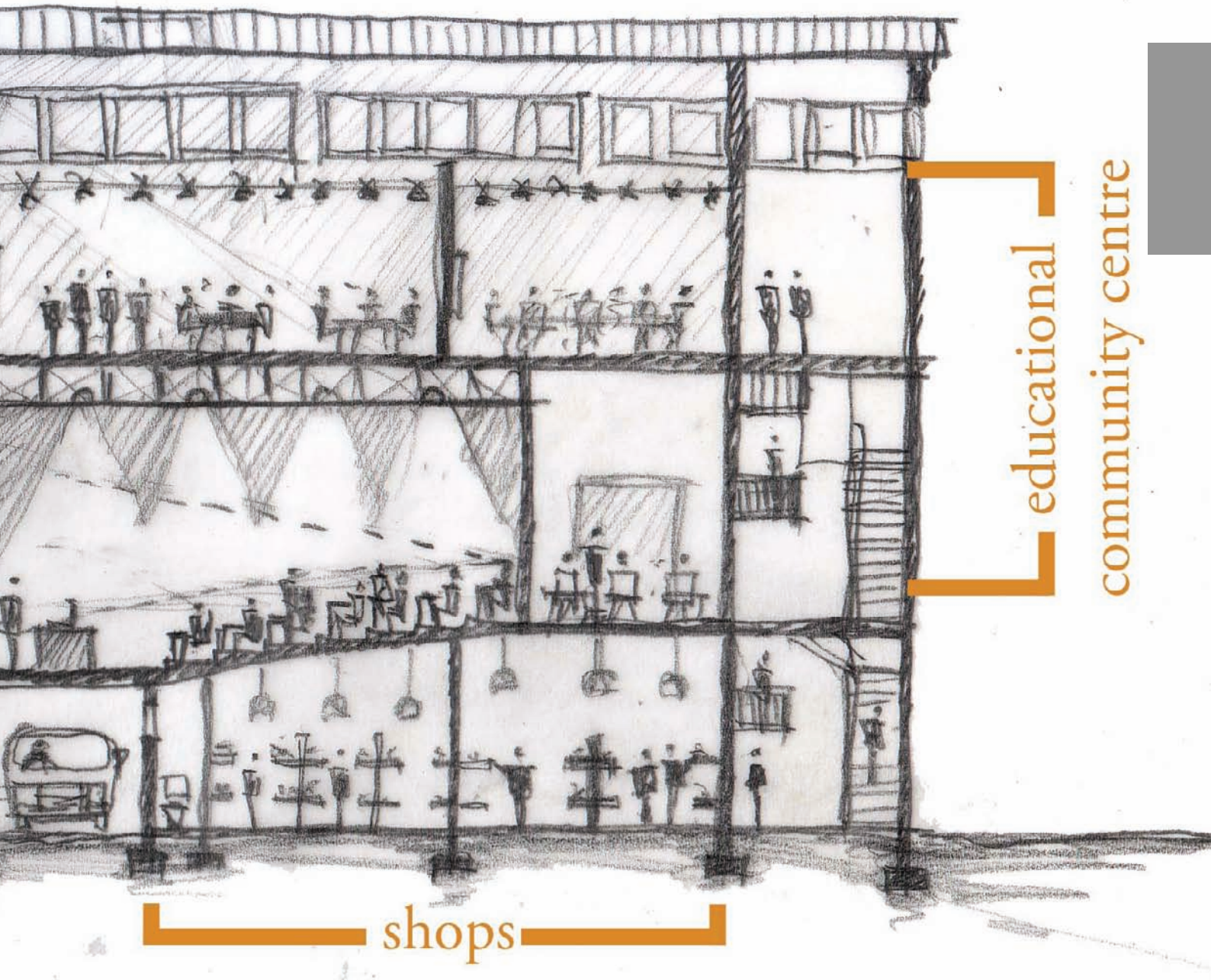
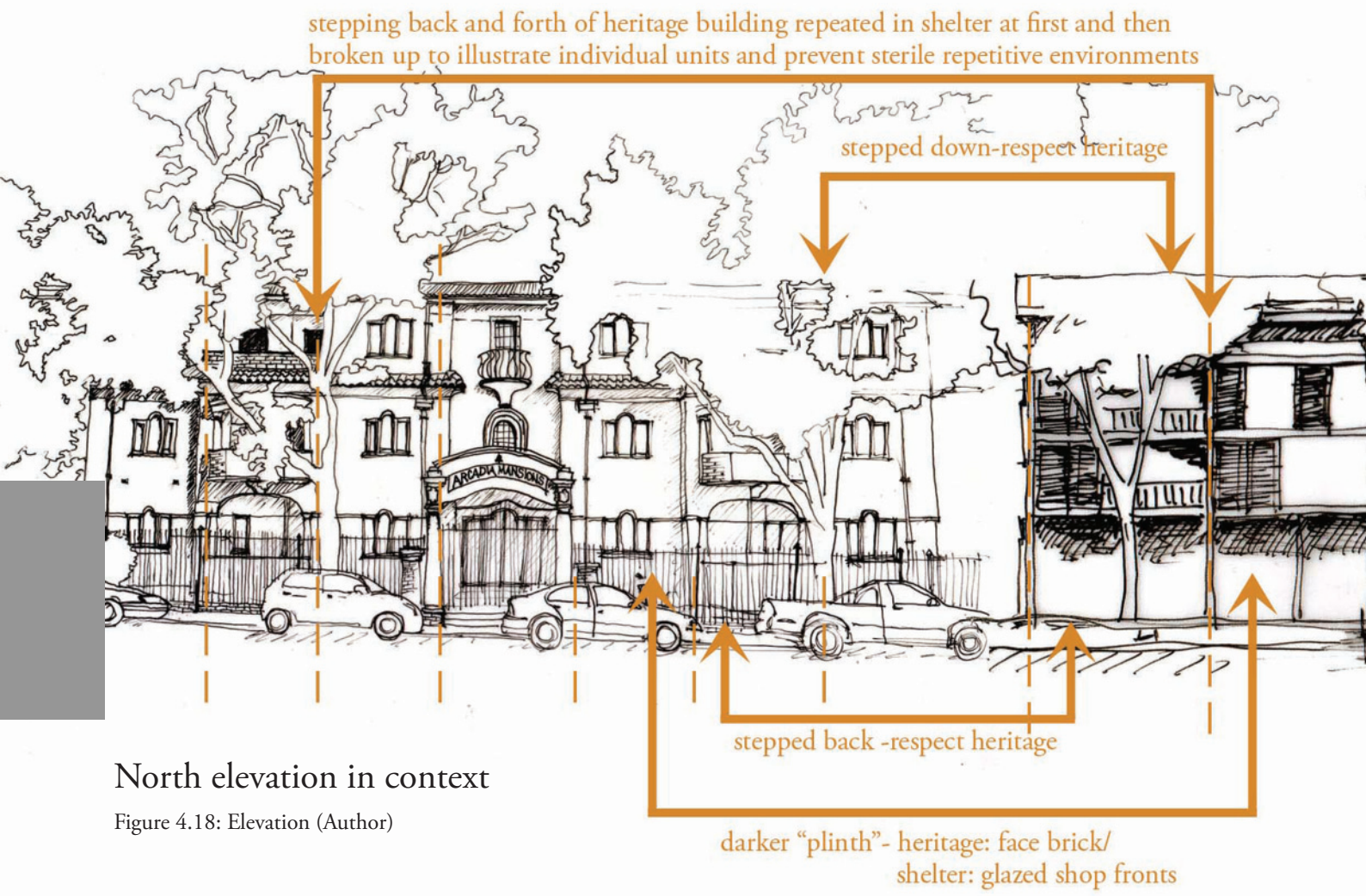


Figure 4.17: Section BB (Author)


educational
community centre
shops



North elevation in context

Figure 4.18: Elevation (Author)

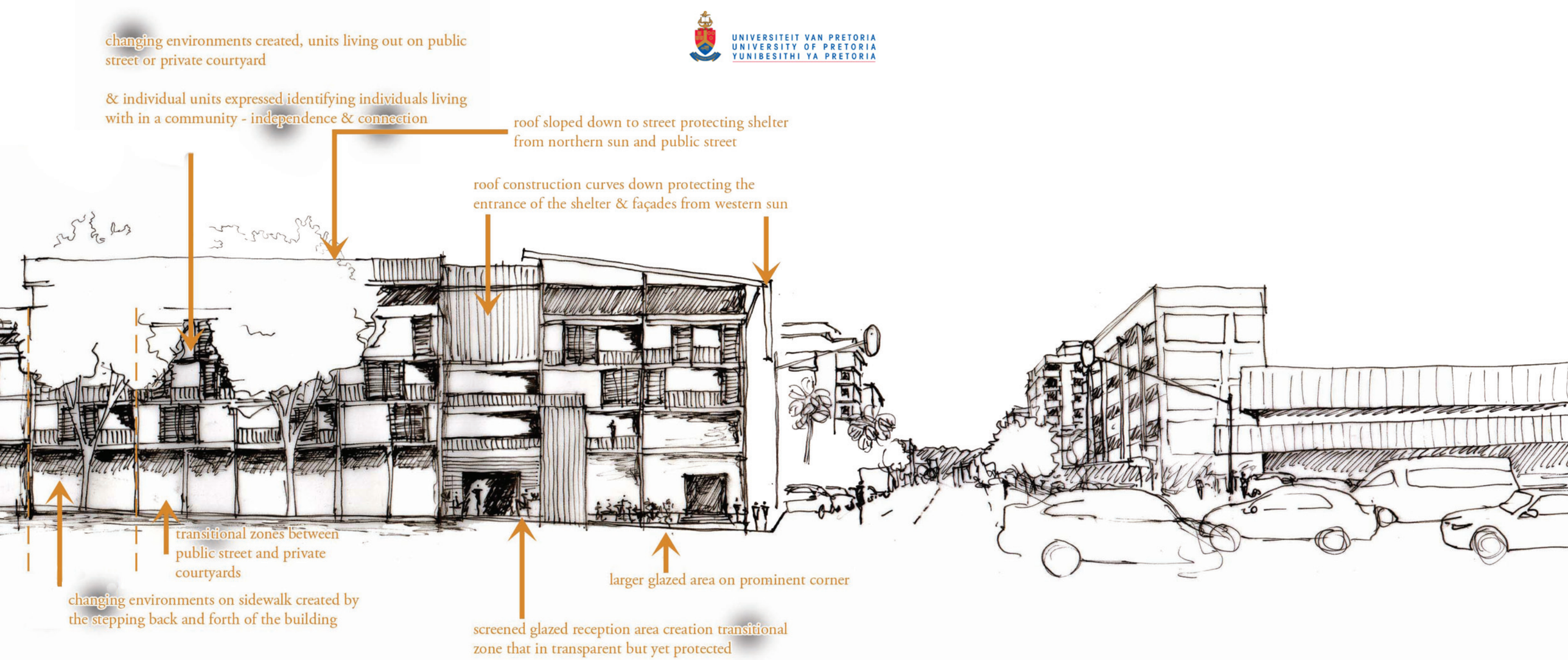
Explanation of facades

In accordance with urban framework, the proposed building is to respond to the heritage building, Arcadia Mansions, in the following way:

- •stepped down -respect
- •stepped back - respect
- •darker "plinth"- heritage: face brick/ shelter: glazed shop fronts
- •stepping back and forth of heritage building repeated in shelter at first and then broken up to illustrate individual units and prevent sterile repetitive environments

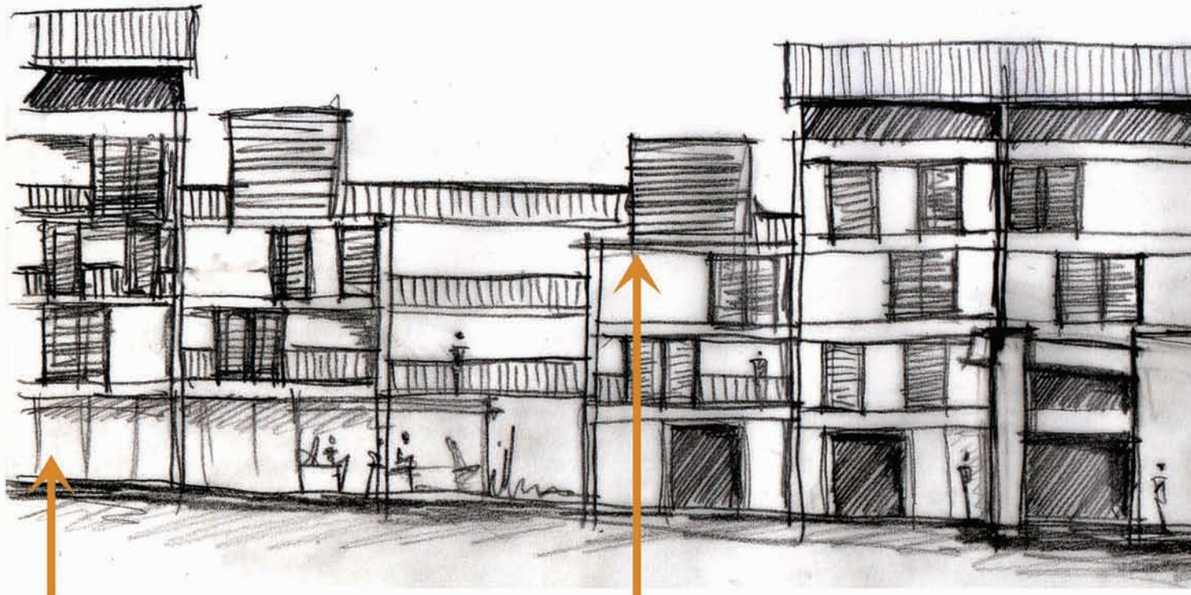
In accordance with the design concept:

- •changing environments on sidewalk created by the stepping back and forth of the building
- •changing environments created, units living out on public street or private courtyard & individual units expressed identifying individuals living within a community - independence & connection
- •movable shutters giving residents control over sunlight, views and privacy, also illustrates individuality through the different positions that the shutters will be left in
- •roof construction independent of structure
- •transitional zones between public street and private courtyards



•screened glazed reception area creating transitional zone that is transparent but yet protected
•roof construction curves down protecting the entrance of the shelter & façades from western sun
•larger glazed area on prominent corner
•roof sloped down to street protecting shelter from northern sun and public street
•auditorium expressed on façade “advertising” educational community centre
•shop fronts edge streets to activate sidewalks & interaction between residents and greater community is promoted – connection
•vertical circulation ramp and outside space form a buffer zone between shelter and community centre – transition
•rain water collection tanks, used to water the food garden, expressed in the facades to promote awareness of water conservation
•transitional zones between semi-public courtyards and private units on ground floor
•roof construction independent of structure curves down, becoming dependent and protects.

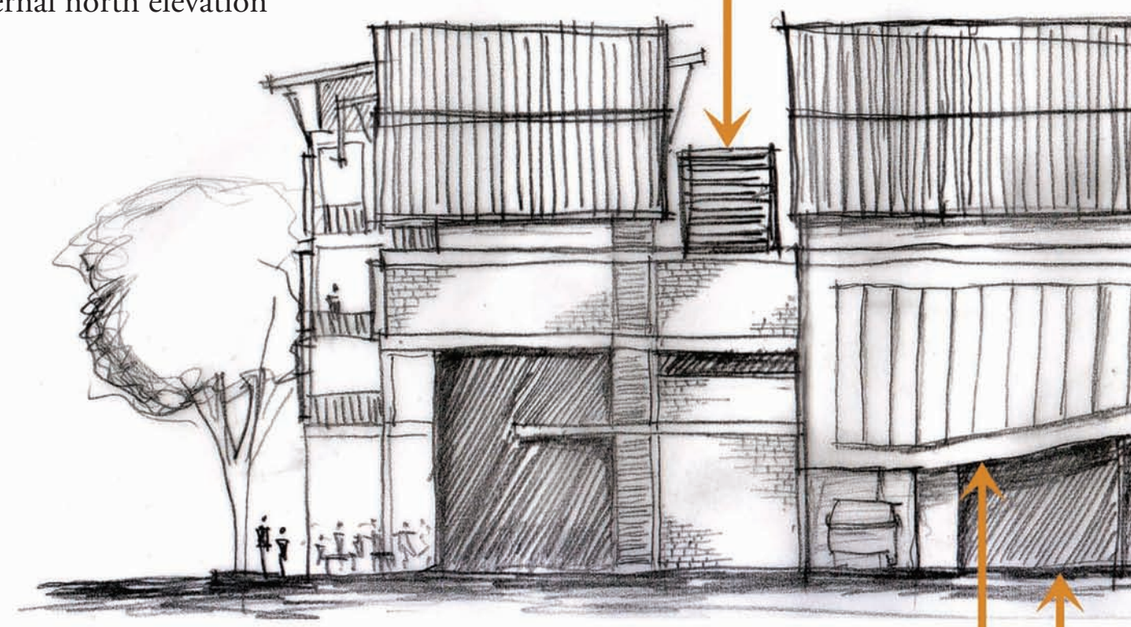
NORTH ELEVATION



transitional zones between semi-public courtyards and private units on ground floor

rain water collection tanks, used to water the food garden, expressed in the facades to promote awareness of water conservation

Internal north elevation



West elevation

auditorium expressed on façade "advertising" educational community centre

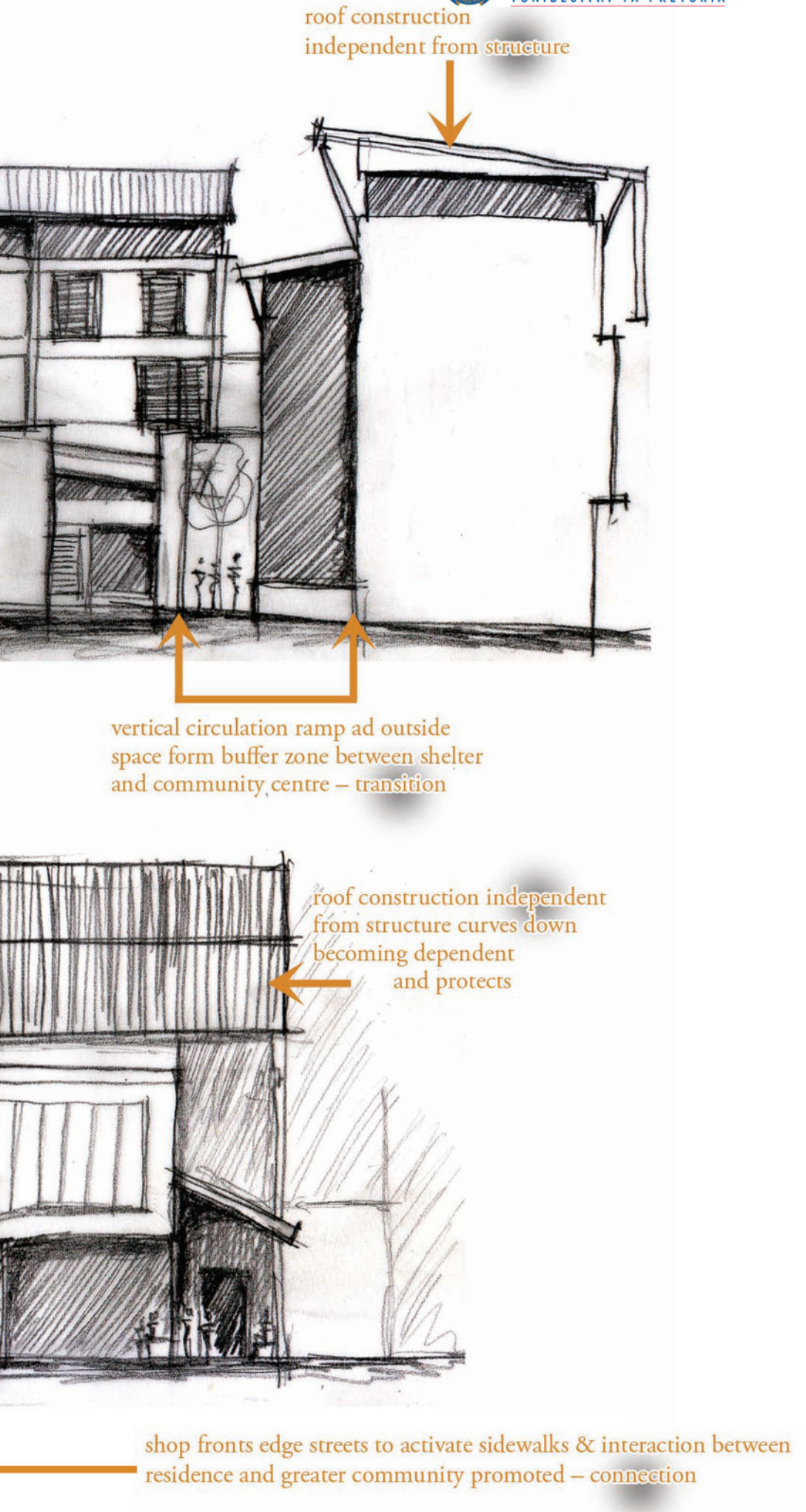
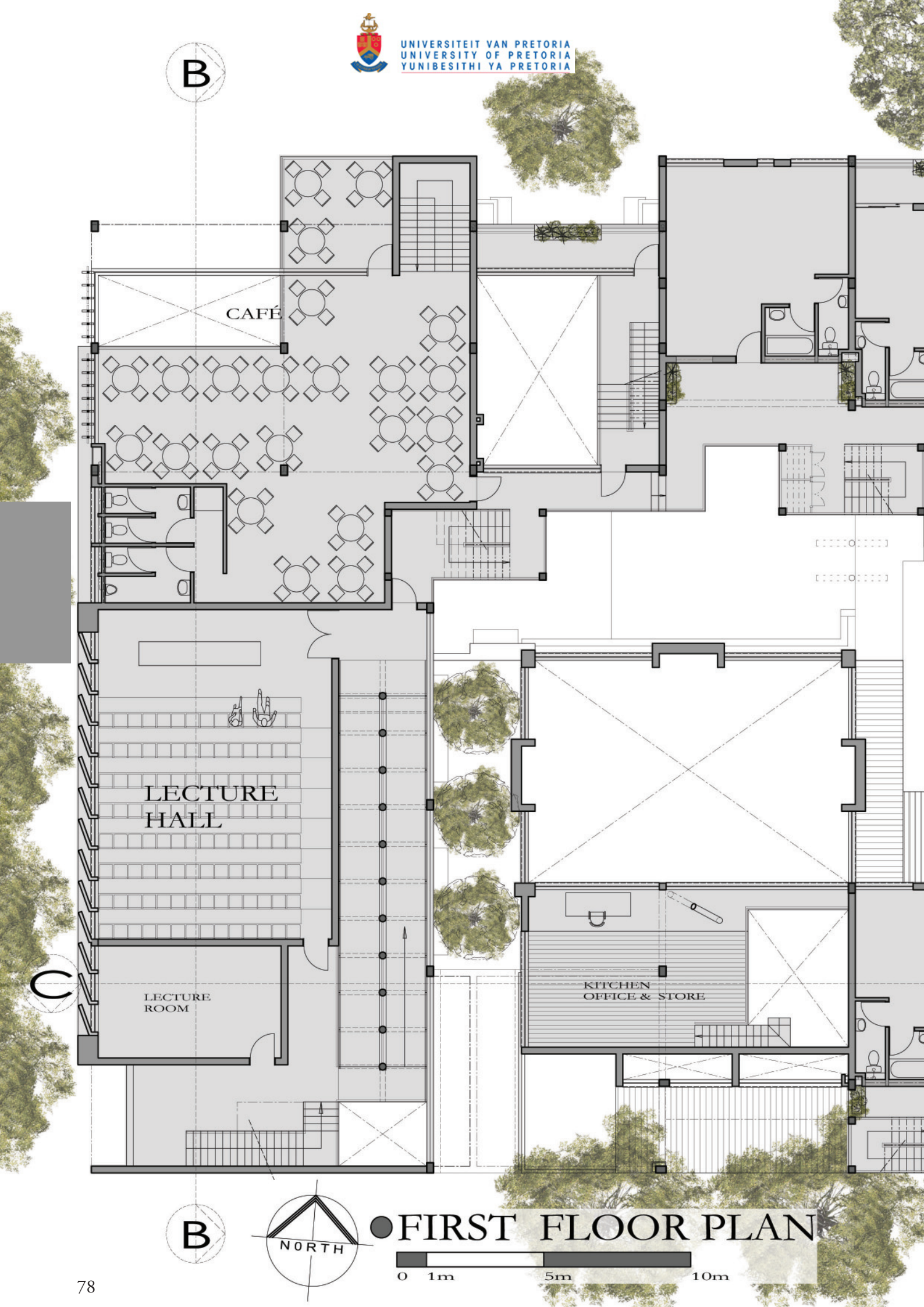


Figure 4.19: Elevations (Author)

GROUND FLOOR PLAN

Figure 4.20: Ground floor plan (Author)



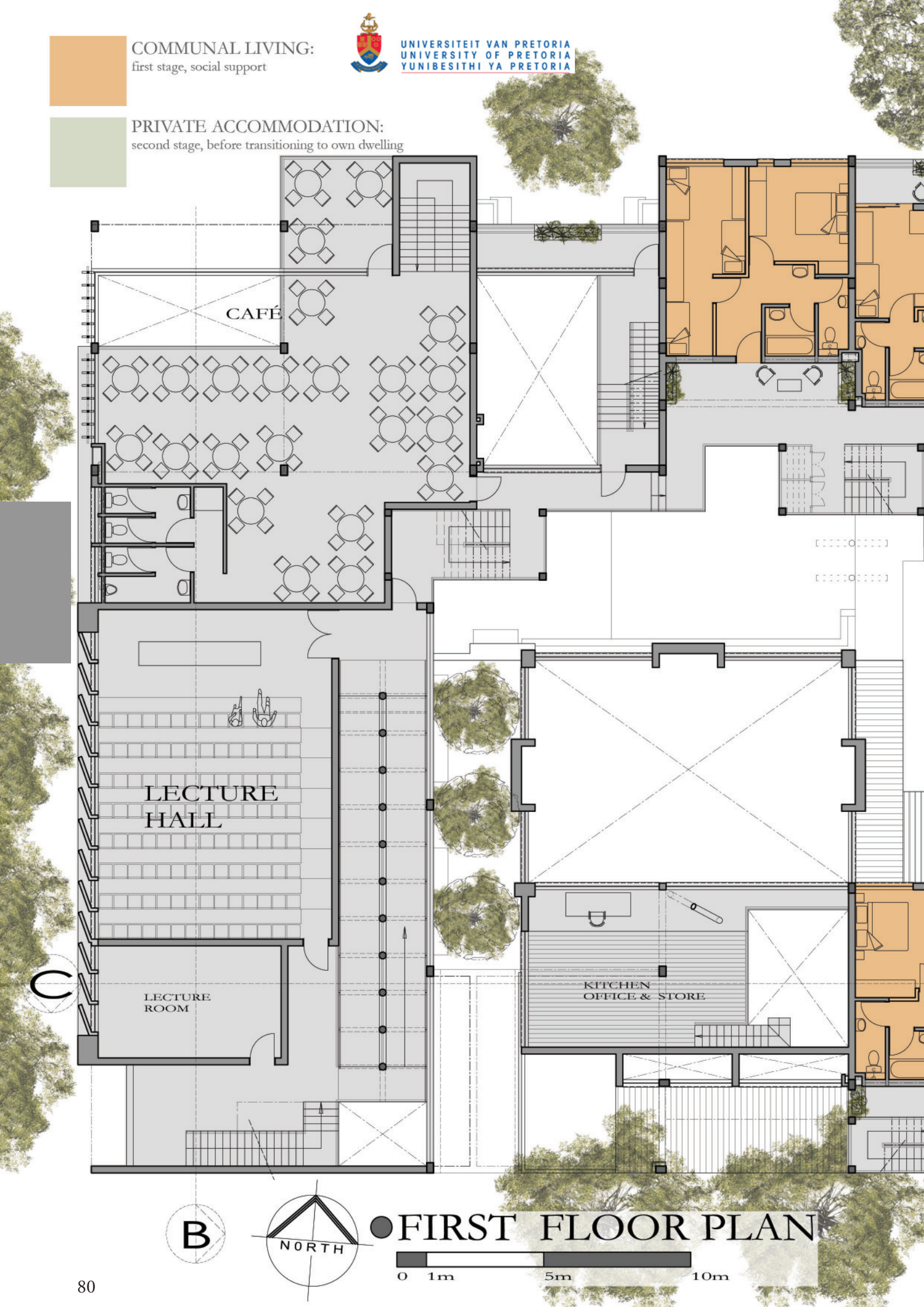
FIRST FLOOR PLAN

Figure 4.21: First floor plan (Author)

COMMUNAL LIVING:
first stage, social support

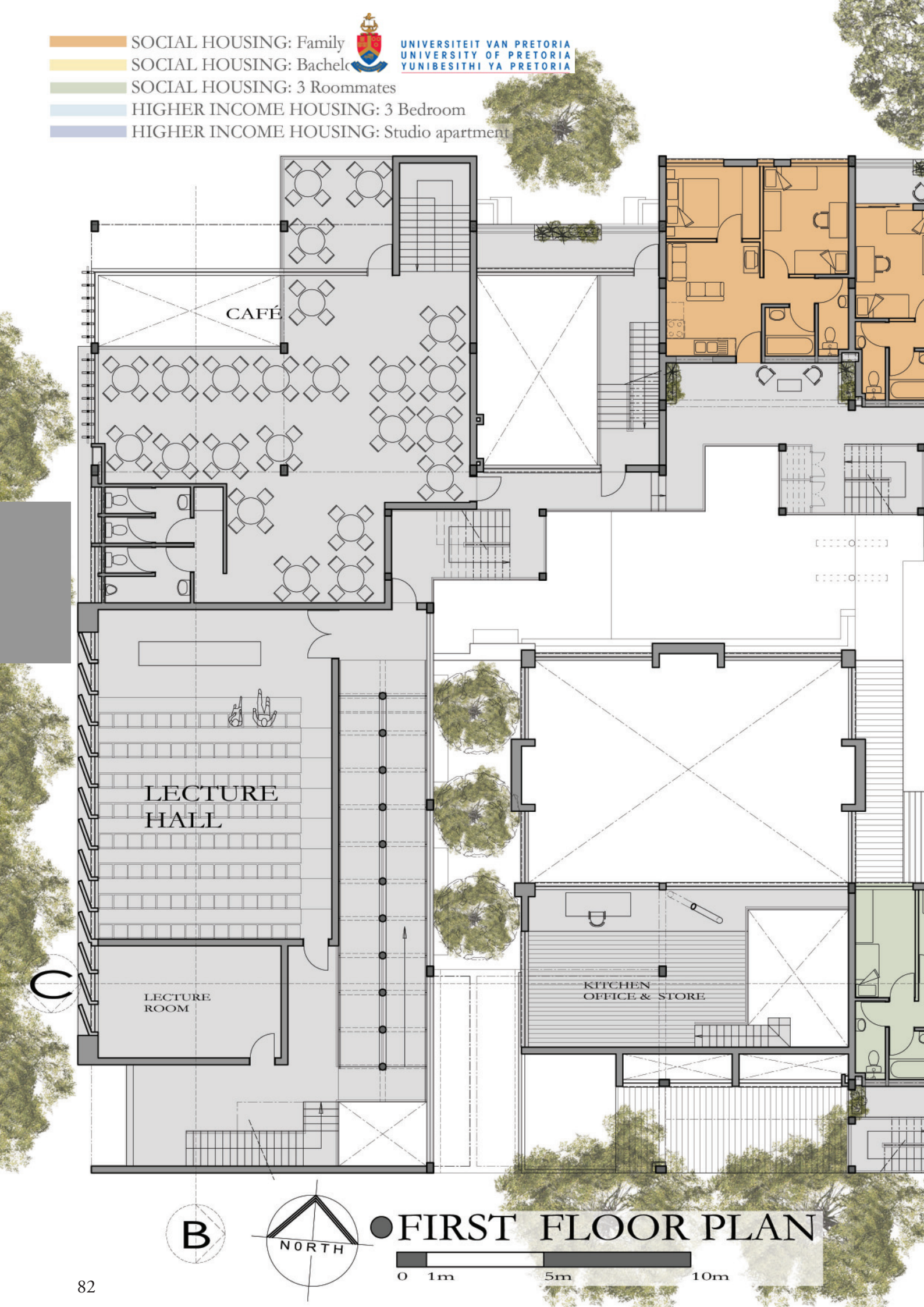
PRIVATE ACCOMMODATION:
second stage, before transitioning to own dwelling

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



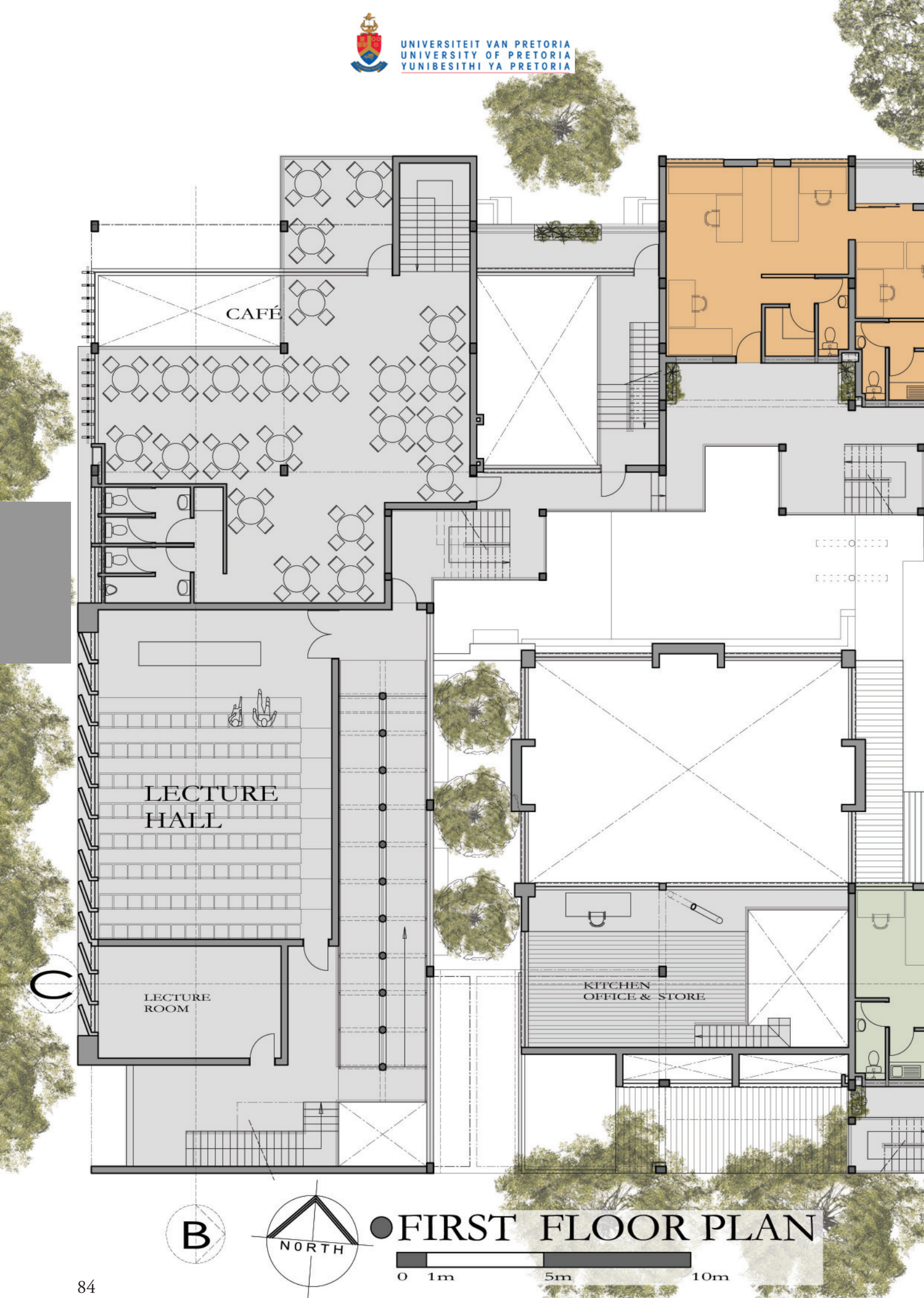
FIRST FLOOR PLAN

Figure 4.22: Shelter for the homeless (Author)


SOCIAL HOUSING: Family
SOCIAL HOUSING: Bachelo
SOCIAL HOUSING: 3 Roommates
HIGHER INCOME HOUSING: 3 Bedroom
HIGHER INCOME HOUSING: Studio apartment
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
CAFÉ
LECTURE HALL
LECTURE ROOM
KITCHEN
OFFICE & STORE
C
B
NORTH
FIRST FLOOR PLAN
0 1m 5m 10m

OPEN BUILI NATIVE USE: B
COMBINATION SOCIAL & HIGHER INCOME HOUSING

Figure 4.23: Social and higher income housing (Author)



FIRST FLOOR PLAN

OPEN BUILDING: ALTERNATIVE USE: C

OFFICES

Figure 4.24: Offices (Author)

SECOND FLOOR PLAN

Figure 4.25: Second floor plan (Author)

THIRD FLOOR PLAN

Figure 4.26: Third floor plan (Author)

FOURTH FLOOR PLAN

Figure 4.27: Fourth floor plan (Author)

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Emergency housing:

Alternative use for dining hall

GROUND FLOOR PLAN

Figure 4.28: Emergency housing: Alternative use for dining hall (Author)

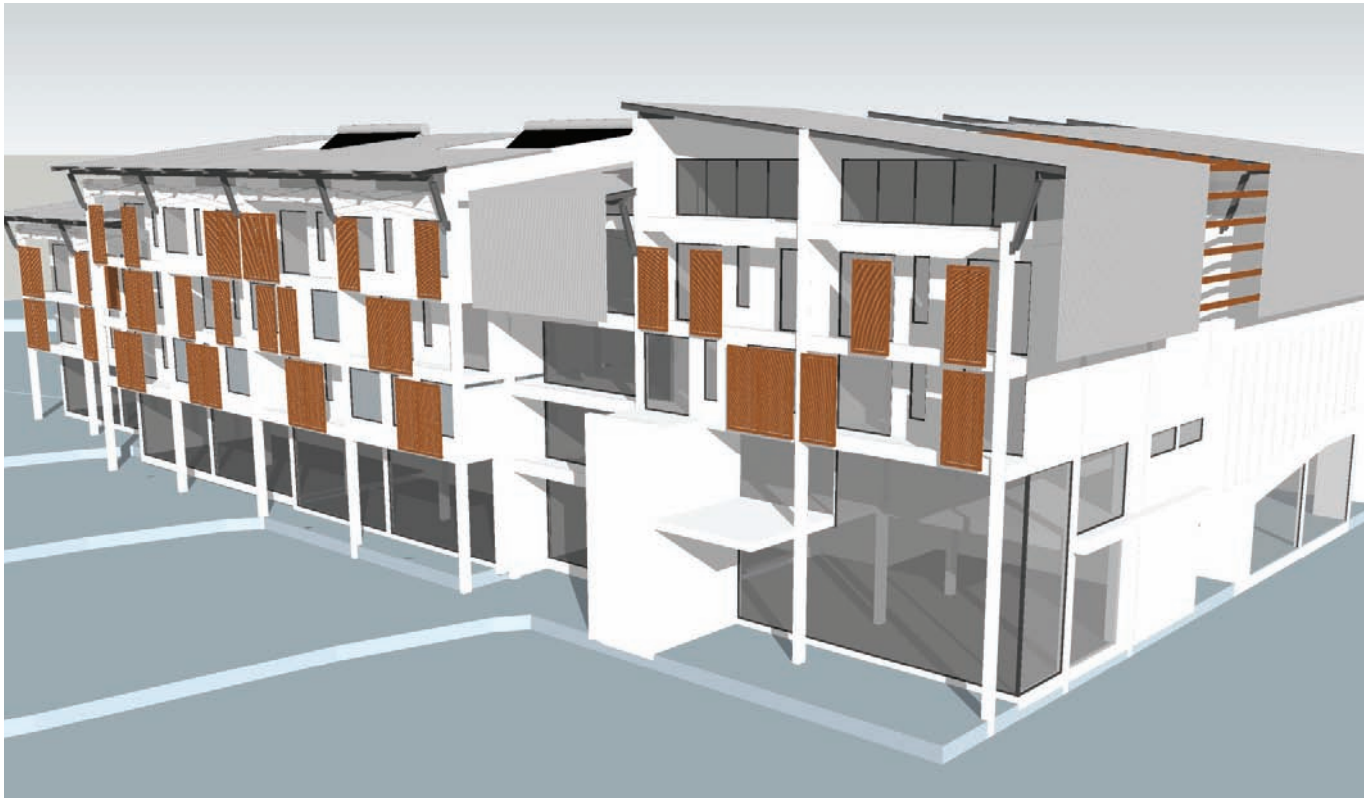


Figure 4.29: 3D (Author)

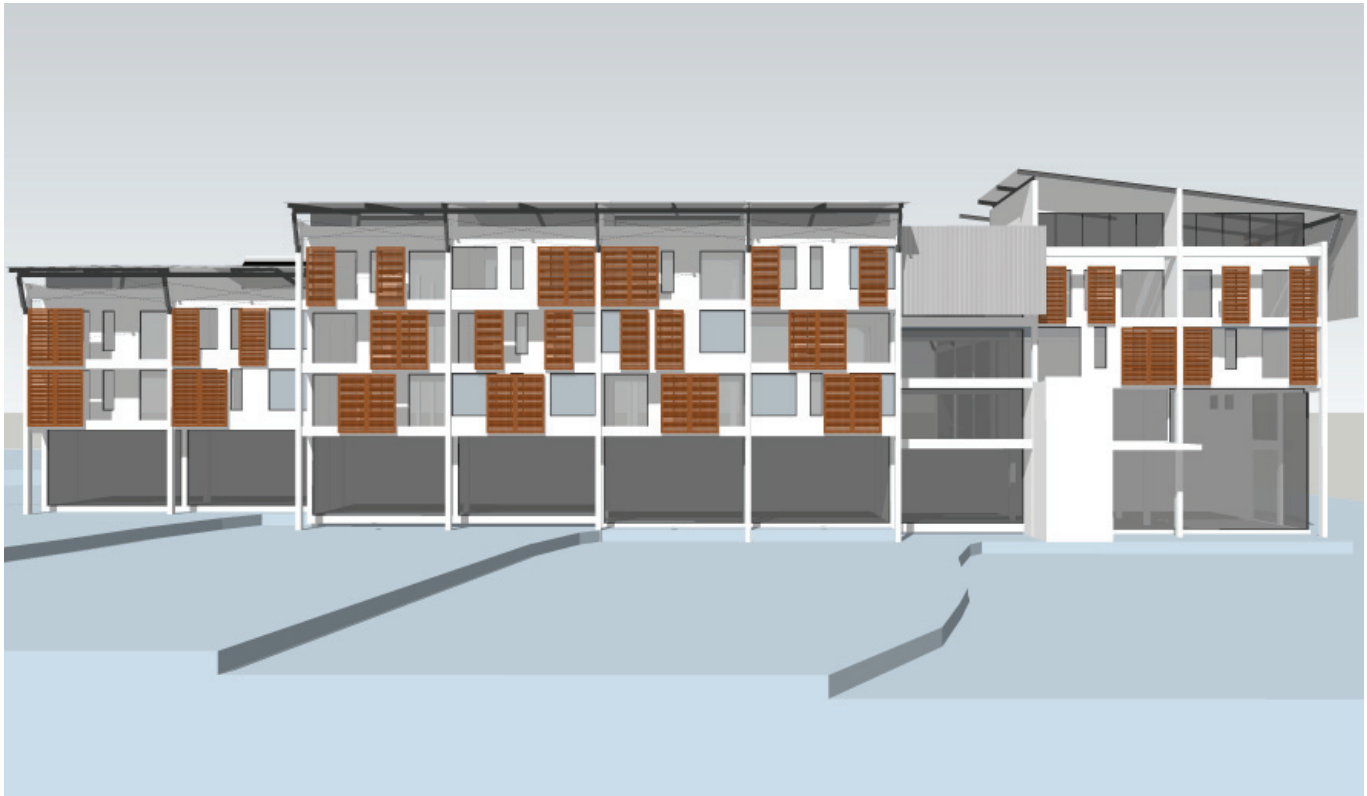


Figure 4.29: 3D (Author)

05. Technology

The manifestation of the technical detailing of the project is derived from the same concept which drove the design process, namely; healing through empowerment by means of connection, independence and transition. The **independence** of elements and materials are expressed through the manner in which they are connected. These **connections** are elaborated and celebrated. Structural elements are also used to illustrate the directionality of the building's **transition** from public to private.

CONNECTION, INDEPENDENCE, TRANSITION

Figure 5.1: The roof construction is independent from the concrete frame structure (Author).

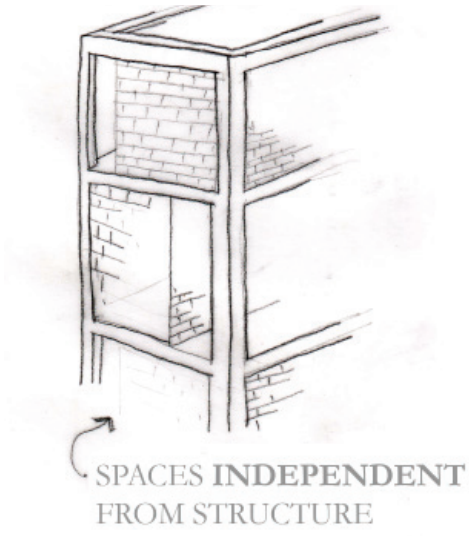


Figure 5.2: Individually units are positioned independently from the structure (Author).

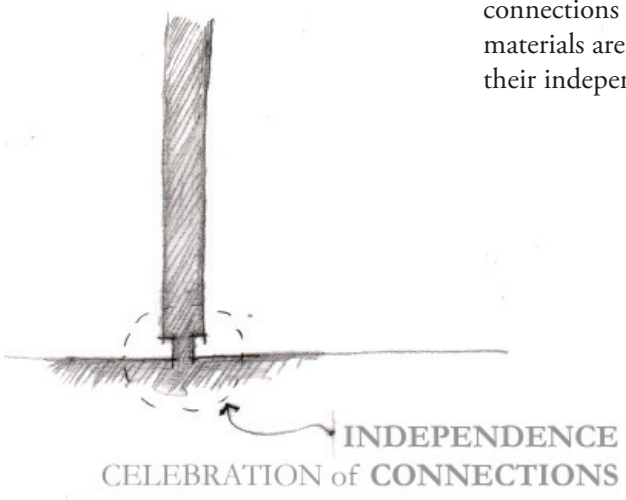


Figure 5.3: By celebrating the connections different elements and materials are joined to illustrate their independence (Author).

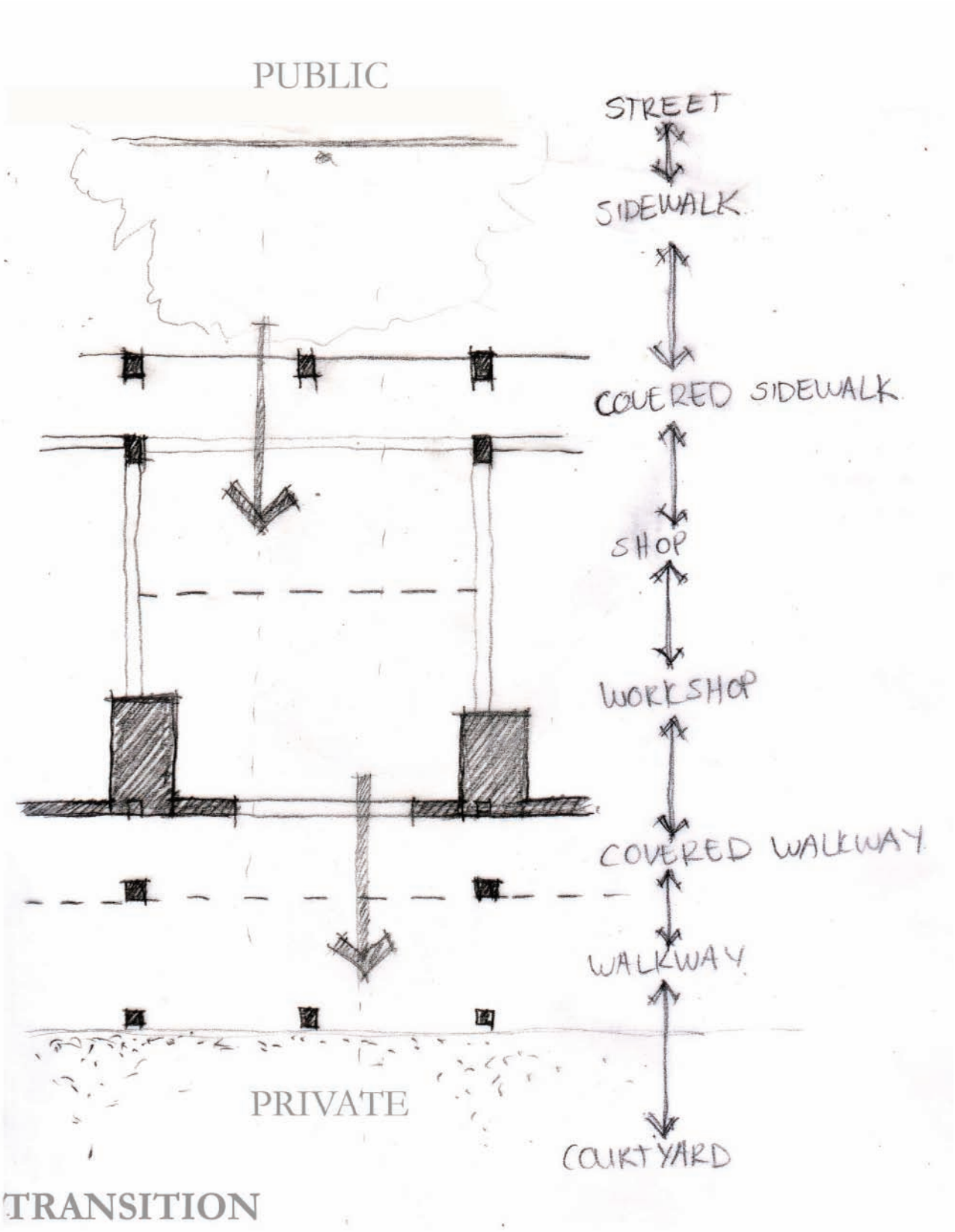


Figure 5.4: Structural elements are used to illustrate the directionality of the building's transition from public to private (Author).

This chapter investigates the technical resolution of the shelter in terms of the concept of healing through empowerment by means of connection, independence and transition as explain above. The technical resolution is expressed through the following illustrations:

- Section AA, scale 1: 100
- Section BB, scale 1: 100
- Section CC, scale 1: 100
- Section AA, scale 1: 50
- Structural system
- Rain water collection
- Natural light
- Ventilation
- Material palette
- Sustainability: passive design
- Details A-E

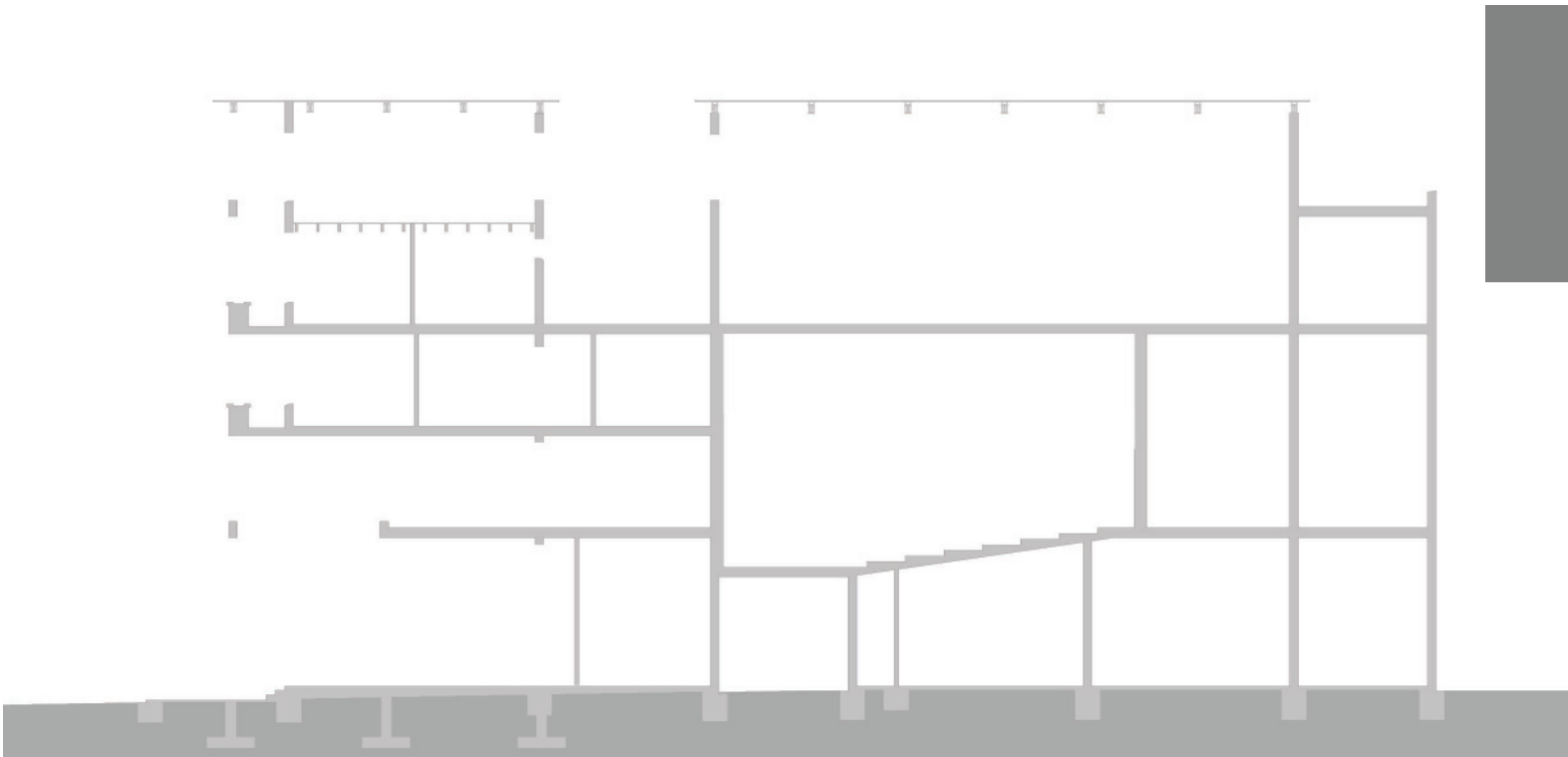
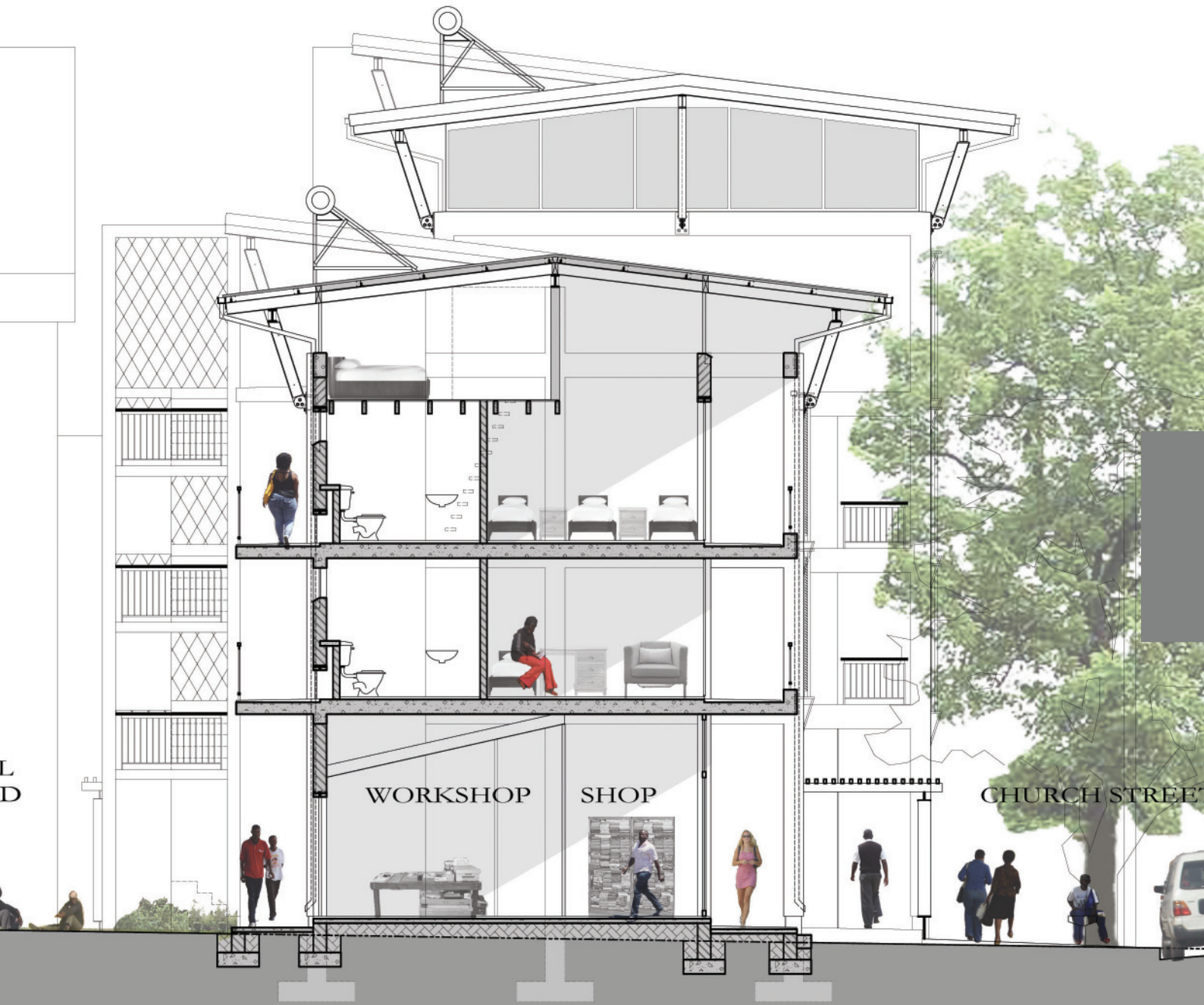
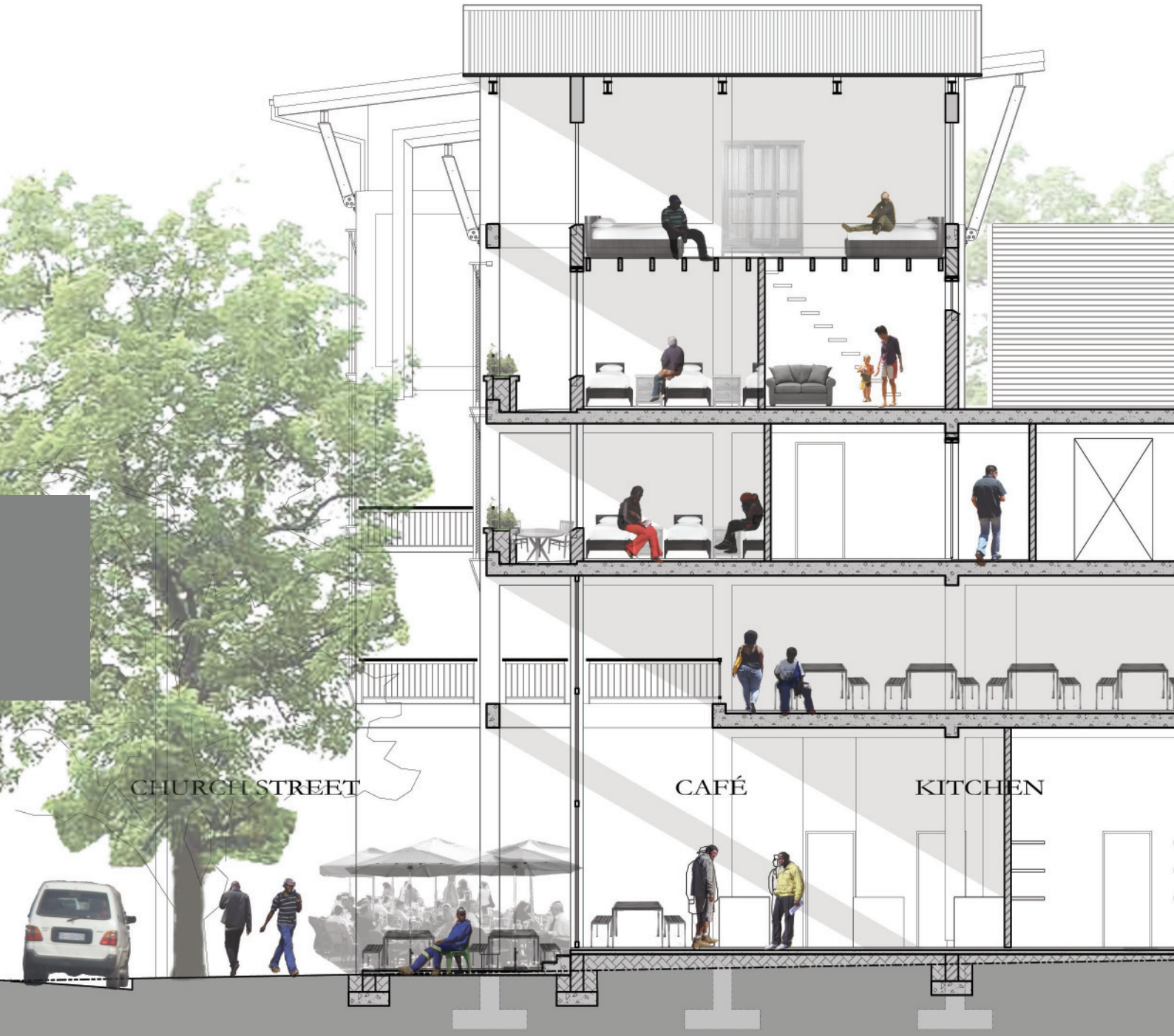


Figure 5.5: Structure and internal space (Author)

SECTION AA
scale 1: 100

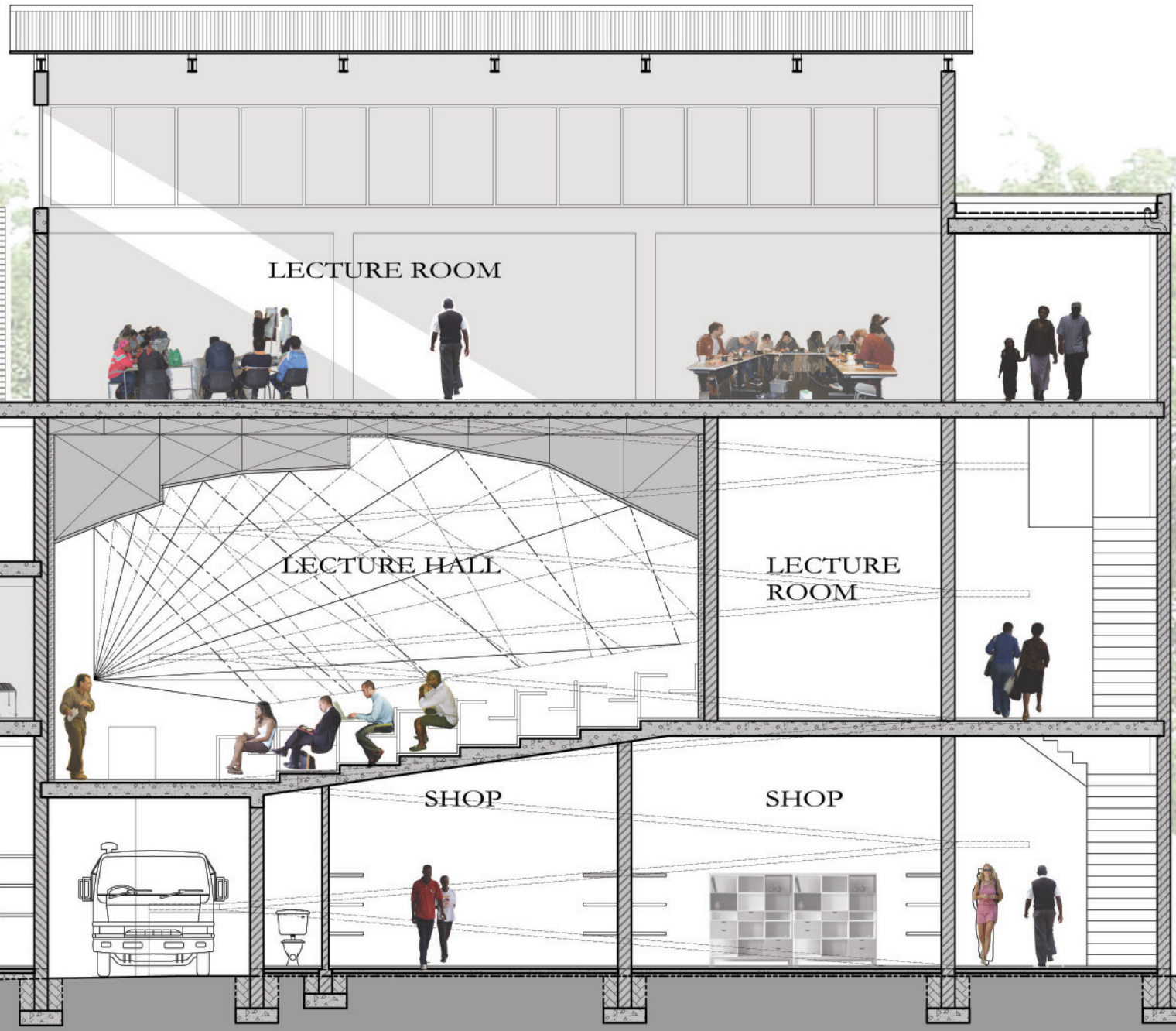
Figure 5.6: (Author)


WORKSHOP
SHOP
CHURCH STREET



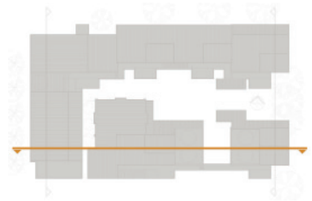
SECTION BB
scale 1: 100

Figure 5.7: (Author)


LECTURE ROOM
LECTURE HALL
LECTURE ROOM
SHOP
SHOP

SECTION CC
scale 1: 100

Figure 5.8: (Author)



CRÈCHE

STUDY

KITCHEN

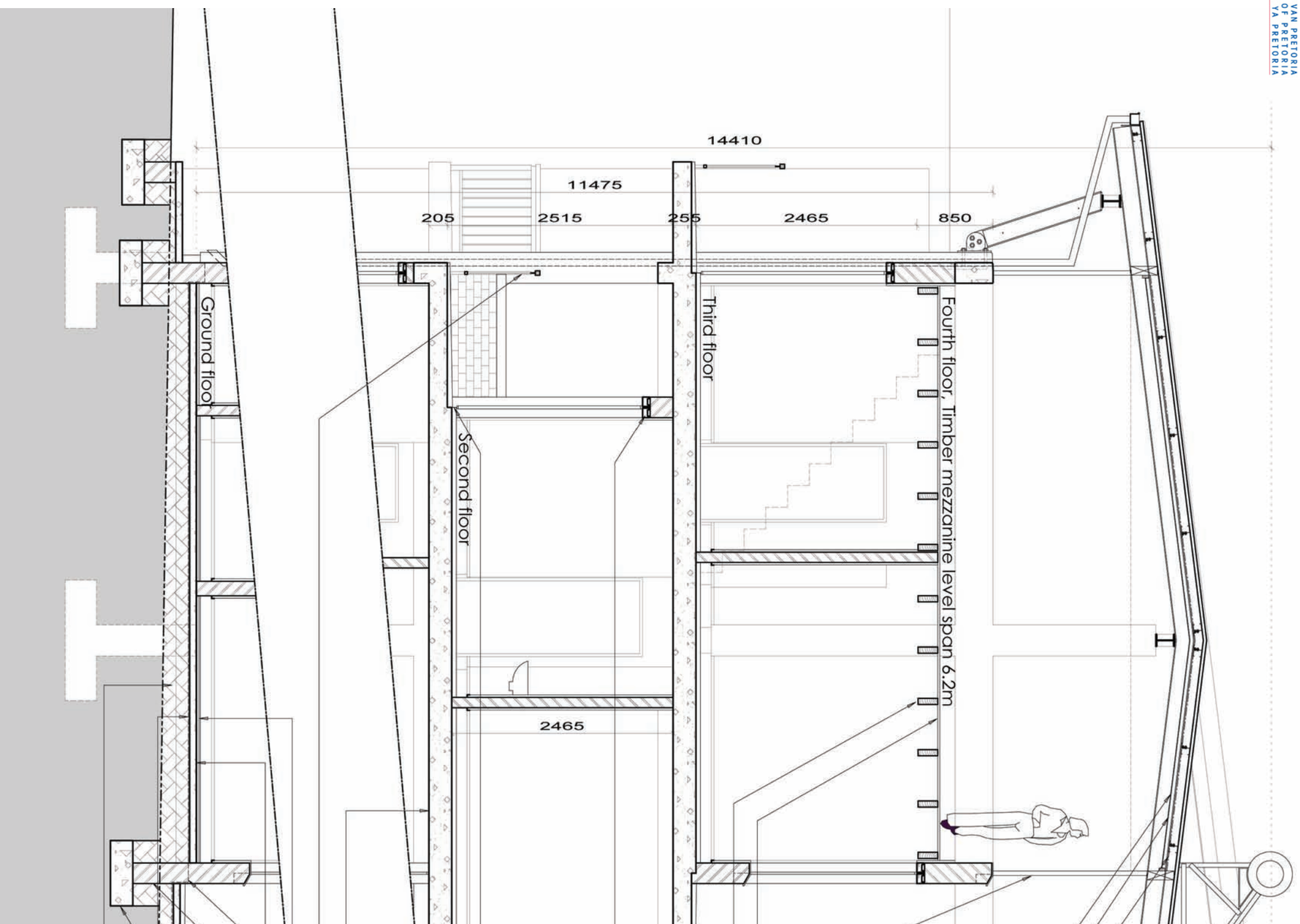
EXHIBITION SPACE

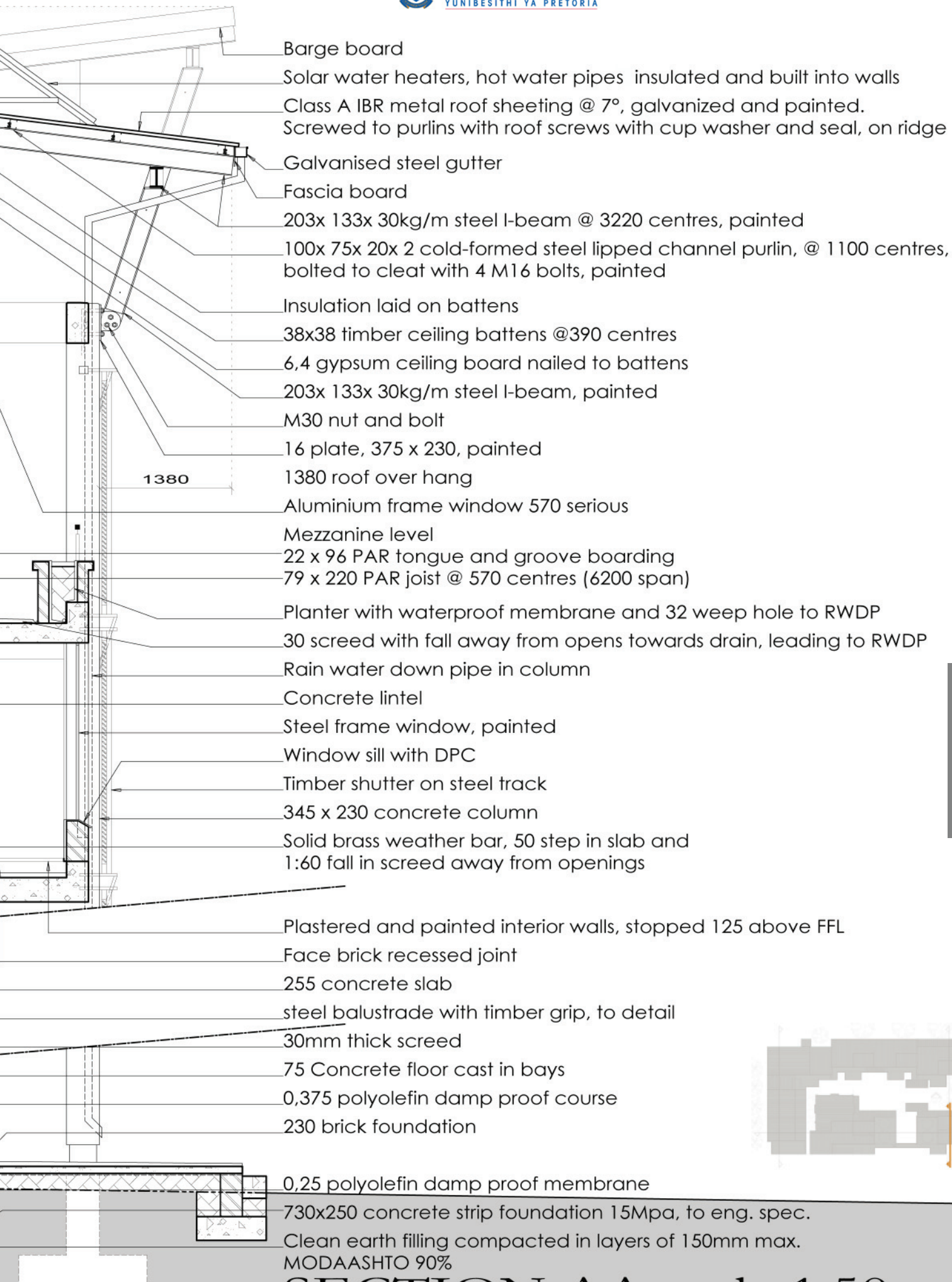
LECTURE ROOM

LECTURE HALL

SHOP

SECTION CC





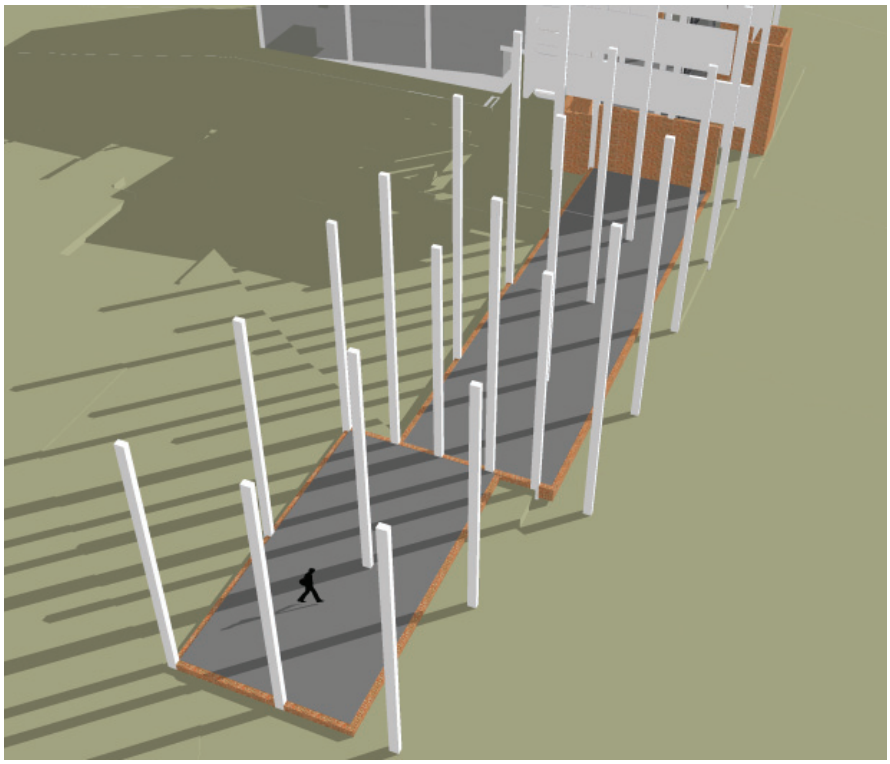
SECTION AA scale 1:50

Figure 5.9: (Author)

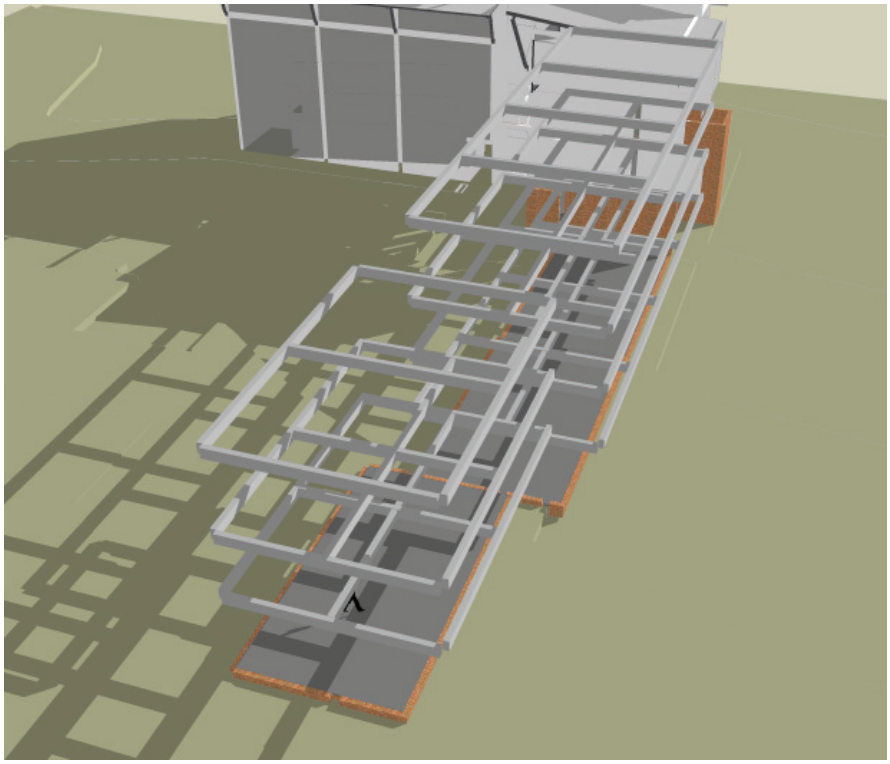
STRUCTURAL SYSTEM

of northern units along Church Street

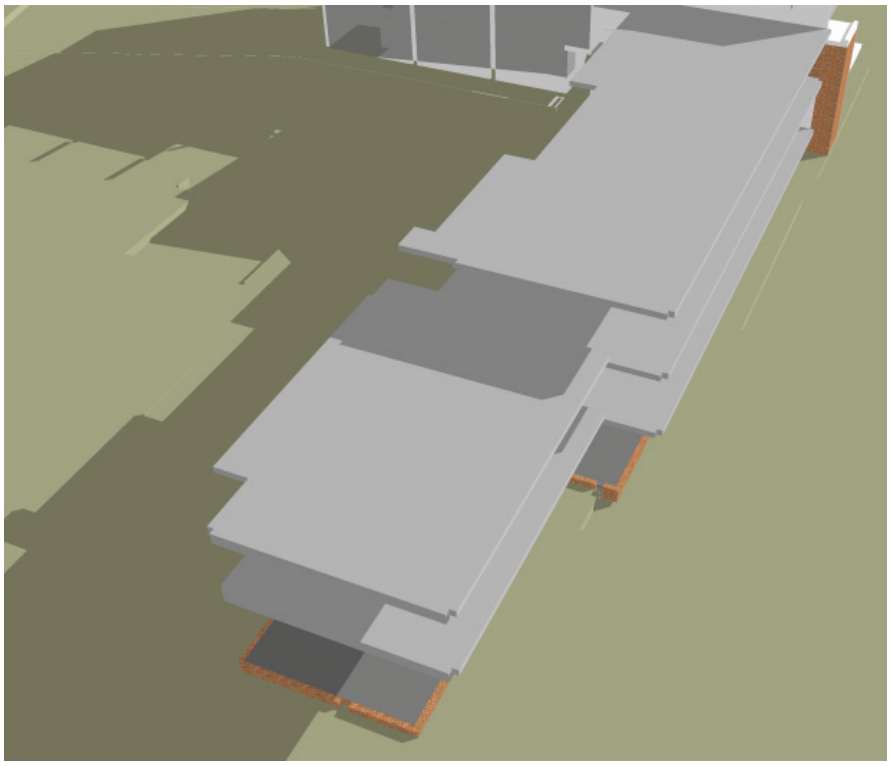
The figures below illustrate the different components of the structural system. Although the concrete structure consists of various components namely columns, beams and slabs, it functions as one system. Figure 5.10-13 (Author)



5.10 Concrete columns

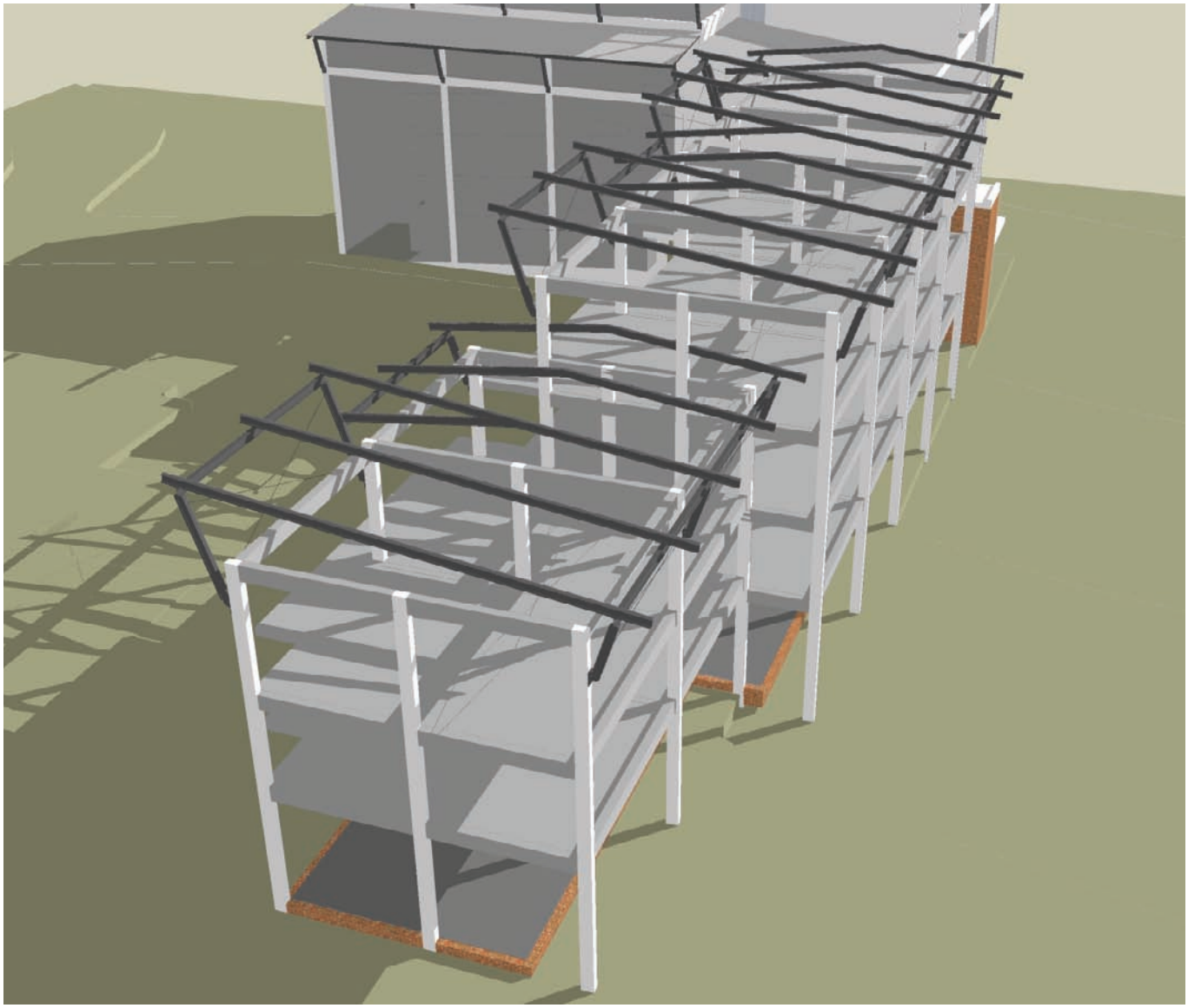


5.11 Concrete beams



5.12 Concrete slabs

5.13 Full structural system. Infill and coverings omitted for clarity.



•Rain water collection to irrigate gardens, particularly in dry winter months

•Average annual rain fall for Pretoria: 674 mm (0.674m)
•Volume of water tank: 3.5m diameter, 3m height = 28.8m³

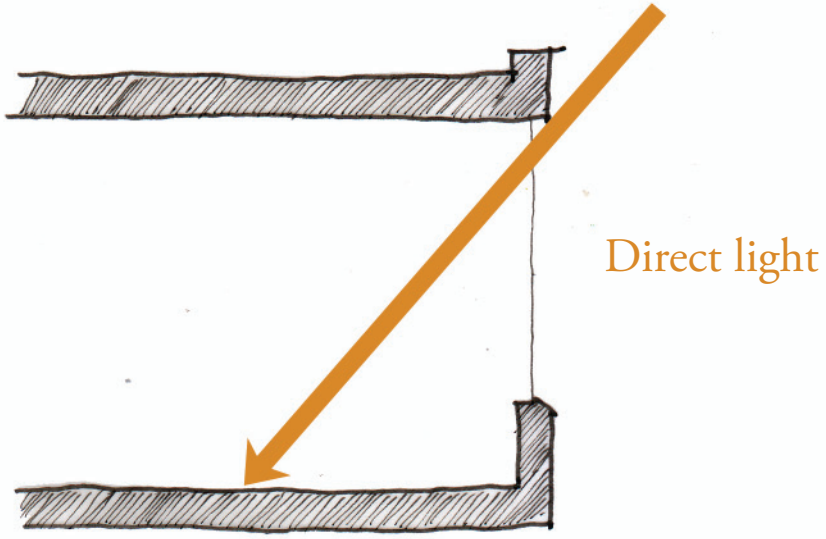
•Roof area A, for water collection: 240m²
240m² x 0.674m = 161.76m³
Therefore water tank can be filled and emptied 6 times annually (regular use)

•Roof area B, for water collection: 174m²
174m² x 0.674m = 117.276m³
Therefore two water tanks (volume 57.6m³) can be filled and emptied twice annually (long term storage)

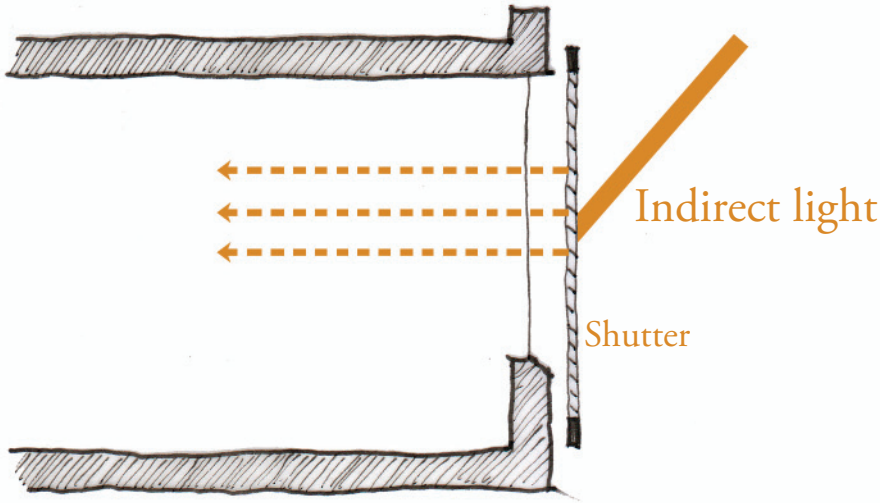
•Roof area C, for water collection: 82m²
82m² x 0.674m = 55.268m³
Therefore two water tanks (volume 57.6m³) can be filled and emptied once annually (long term storage)

RAIN WATER COLLECTION

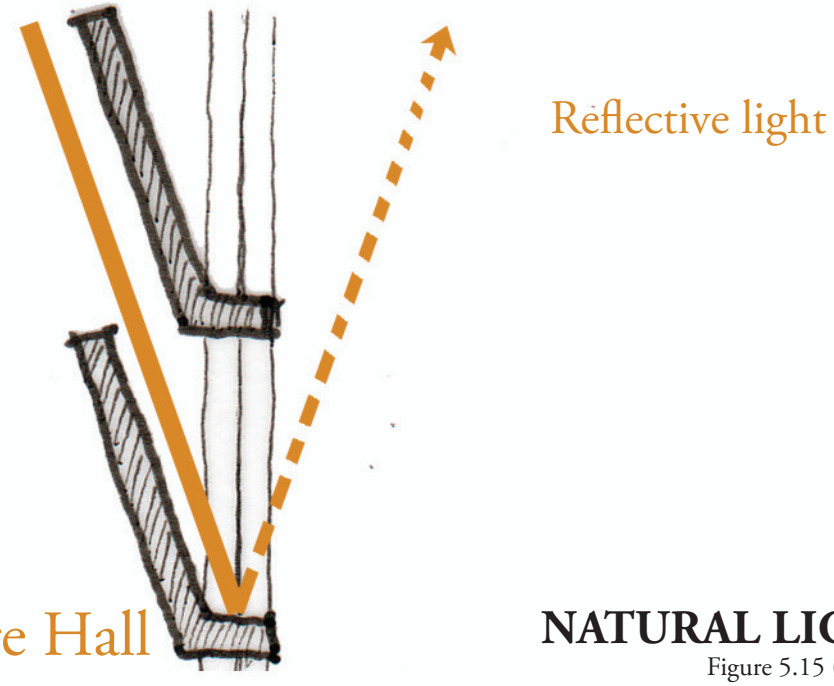
Figure 5.14 (Author)



1. Units

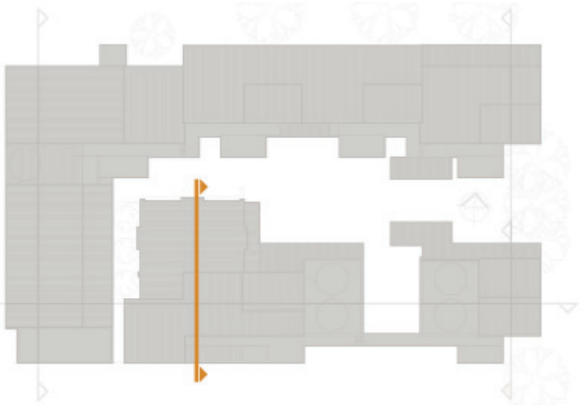


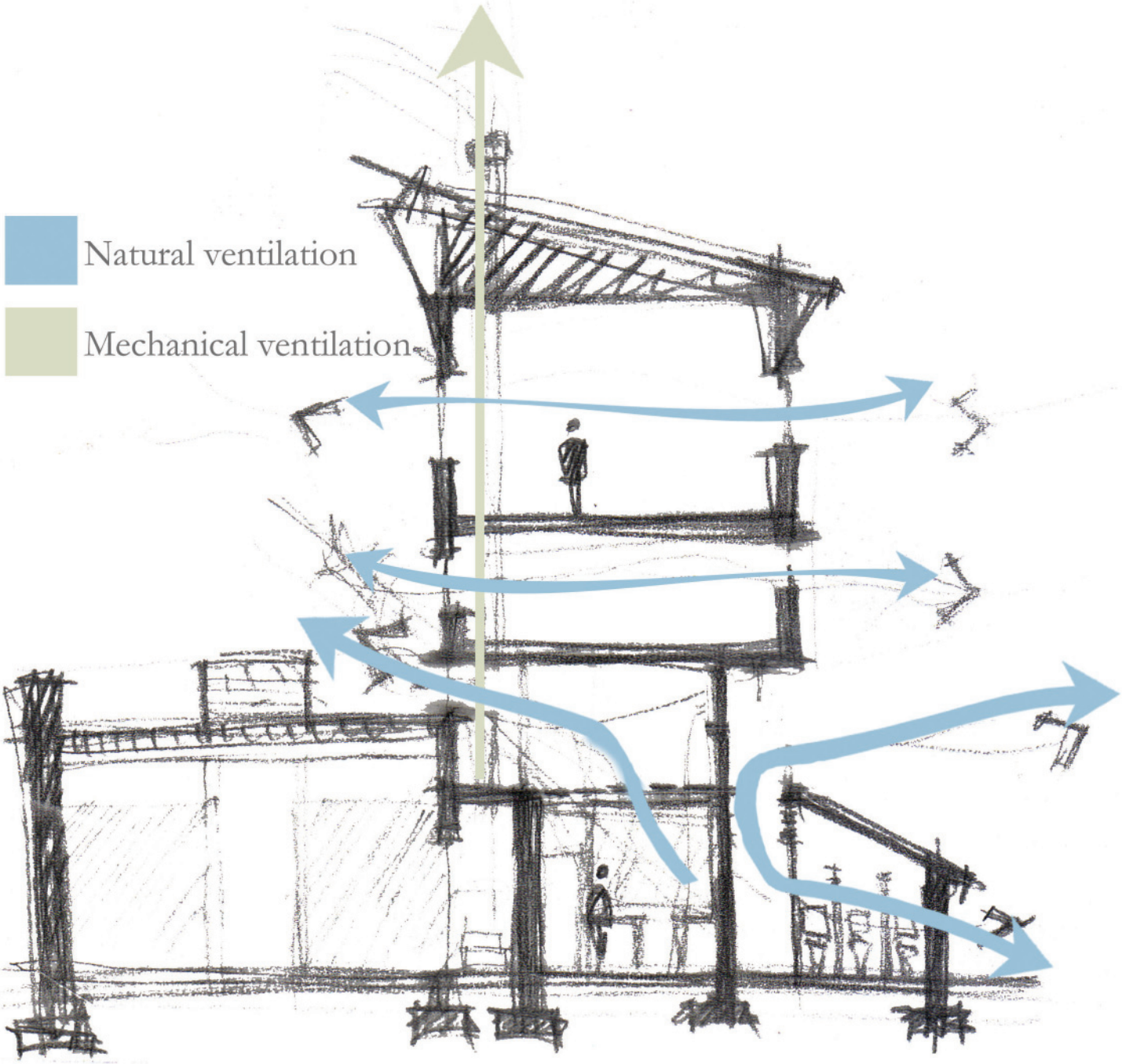
2. Units



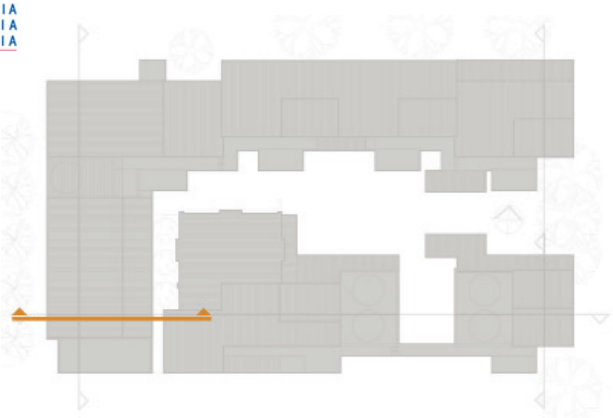
3.Lecture Hall

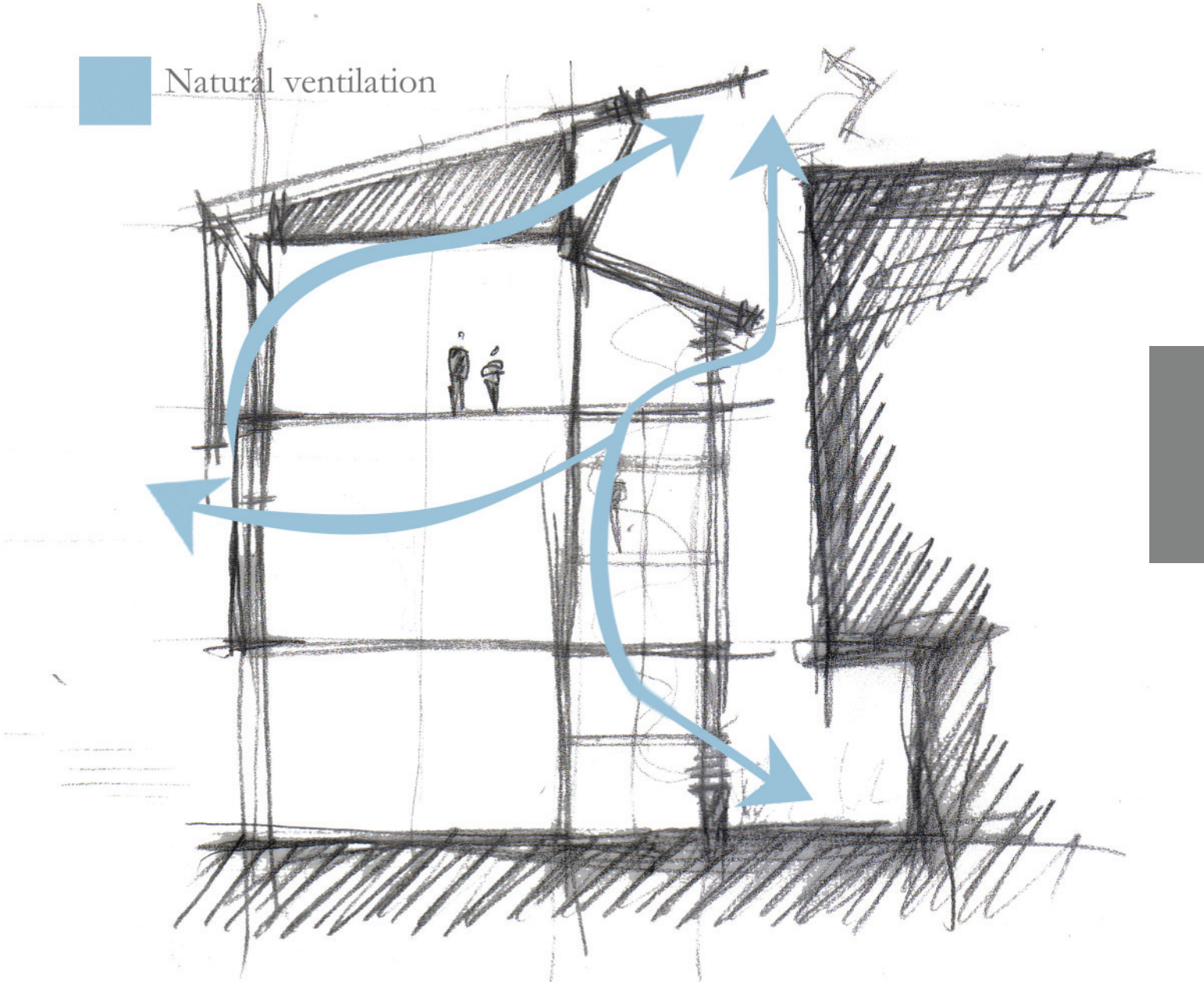
NATURAL LIGHT
Figure 5.15 (Author)



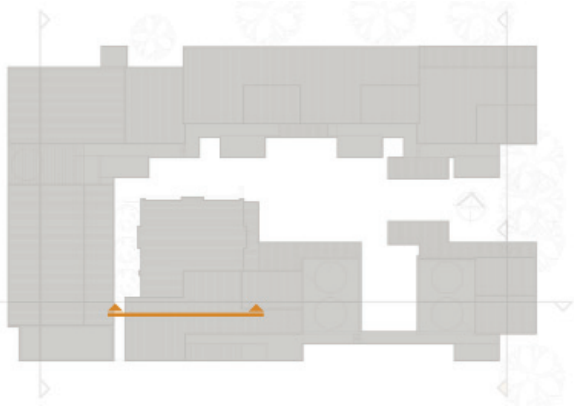


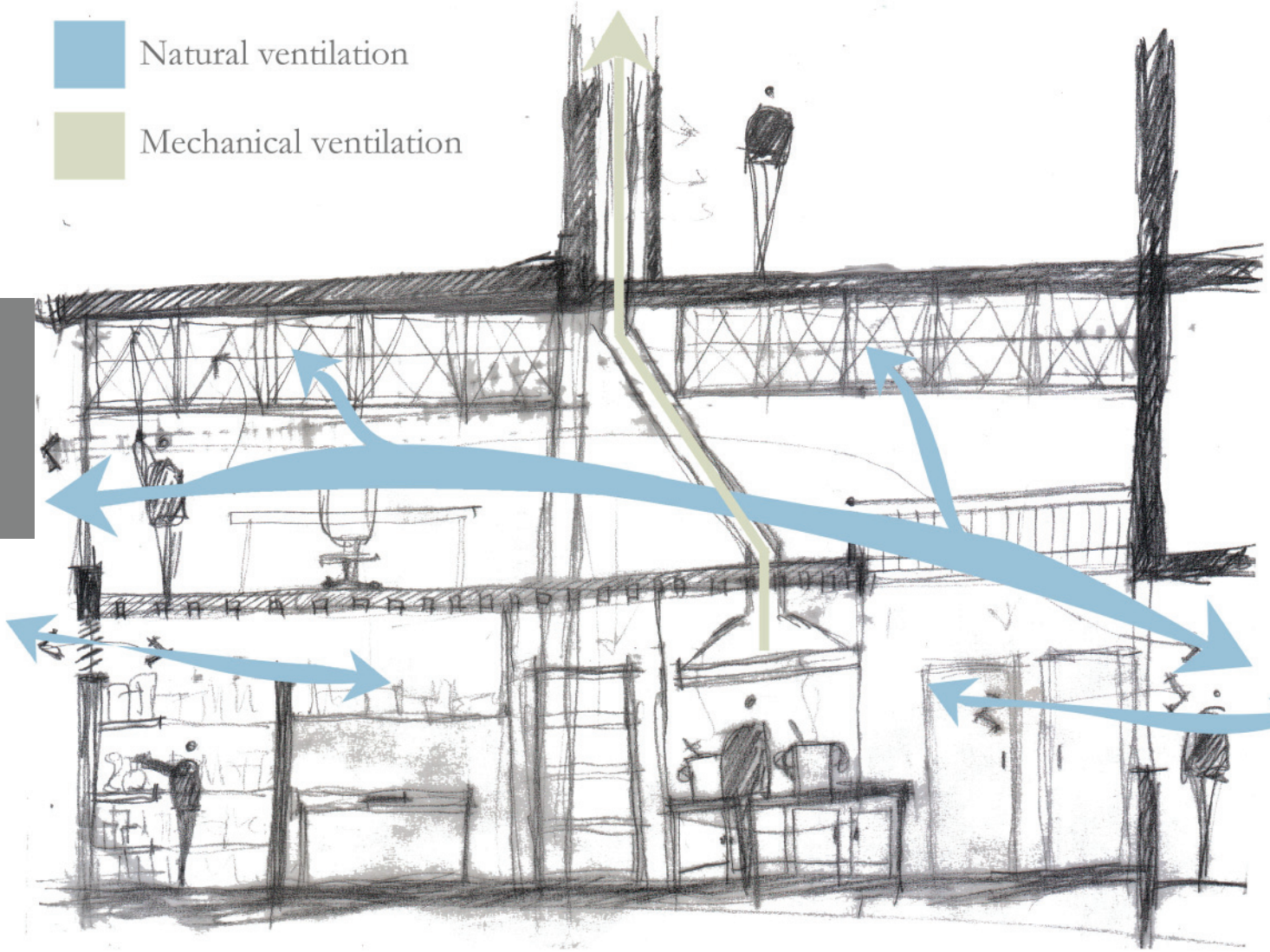
VENTILATION: KITCHEN, COMMUNAL ABLUTION FACILITIES & UNITS
Figure 5.16 (Author)





VENTILATION: EDUCATIONAL COMMUNITY CENTRE & EXHIBITION SPACE
Figure 5.17 (Author)





VENTILATION: KITCHEN
Figure 5.18 (Author)

MATERIAL PALETTE

Figure 5.19: Shelter entrance – timber screen, transitional layers (Messedat, 2007: 223)

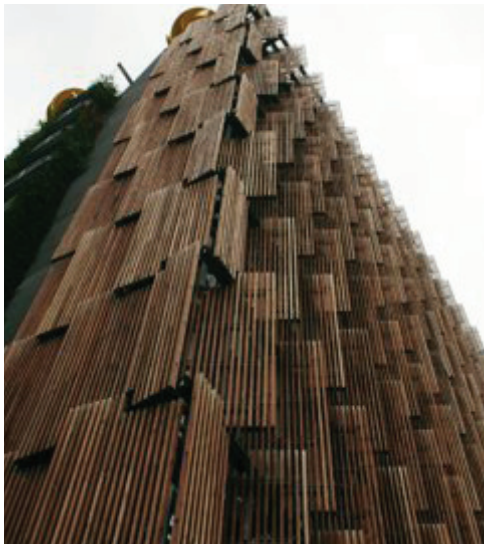


Figure 5.20: Timber shutters for units (Online)

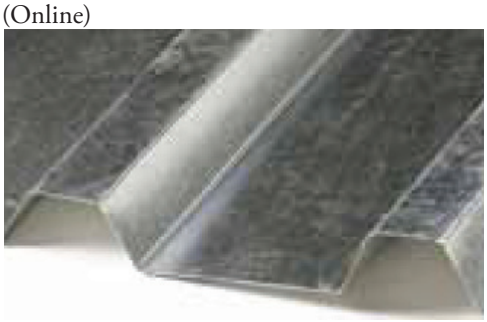


Figure 5.21: Roof covering IBR (Online)

Figure 5.22: Brick infill (Online)

Figure 5.23: Structural System – Concrete columns (Online)

Figure 5.24: Roof structure - I-beams (Online)

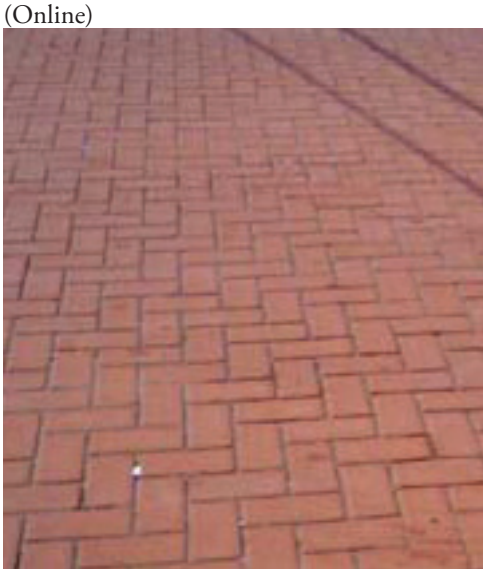
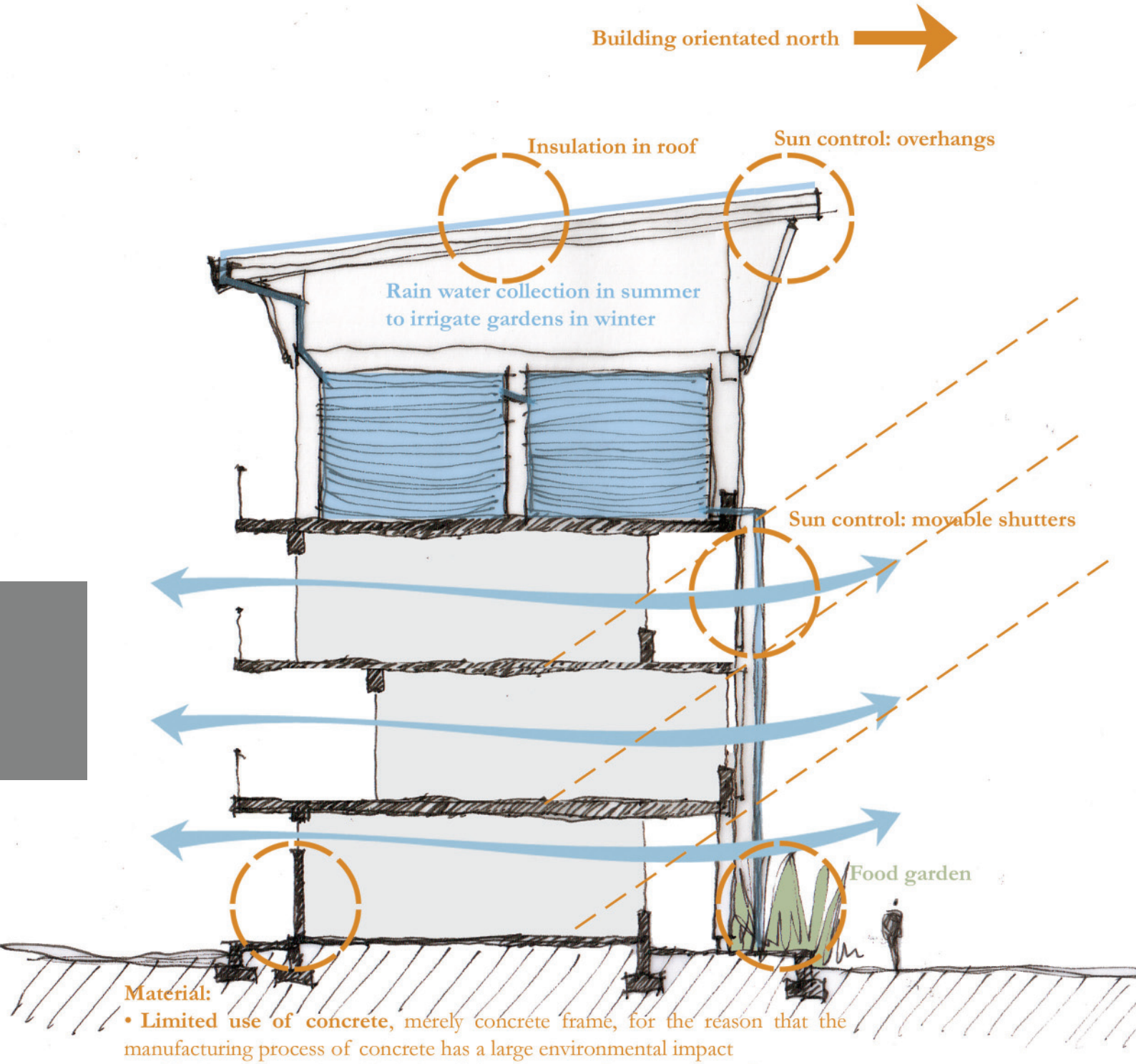


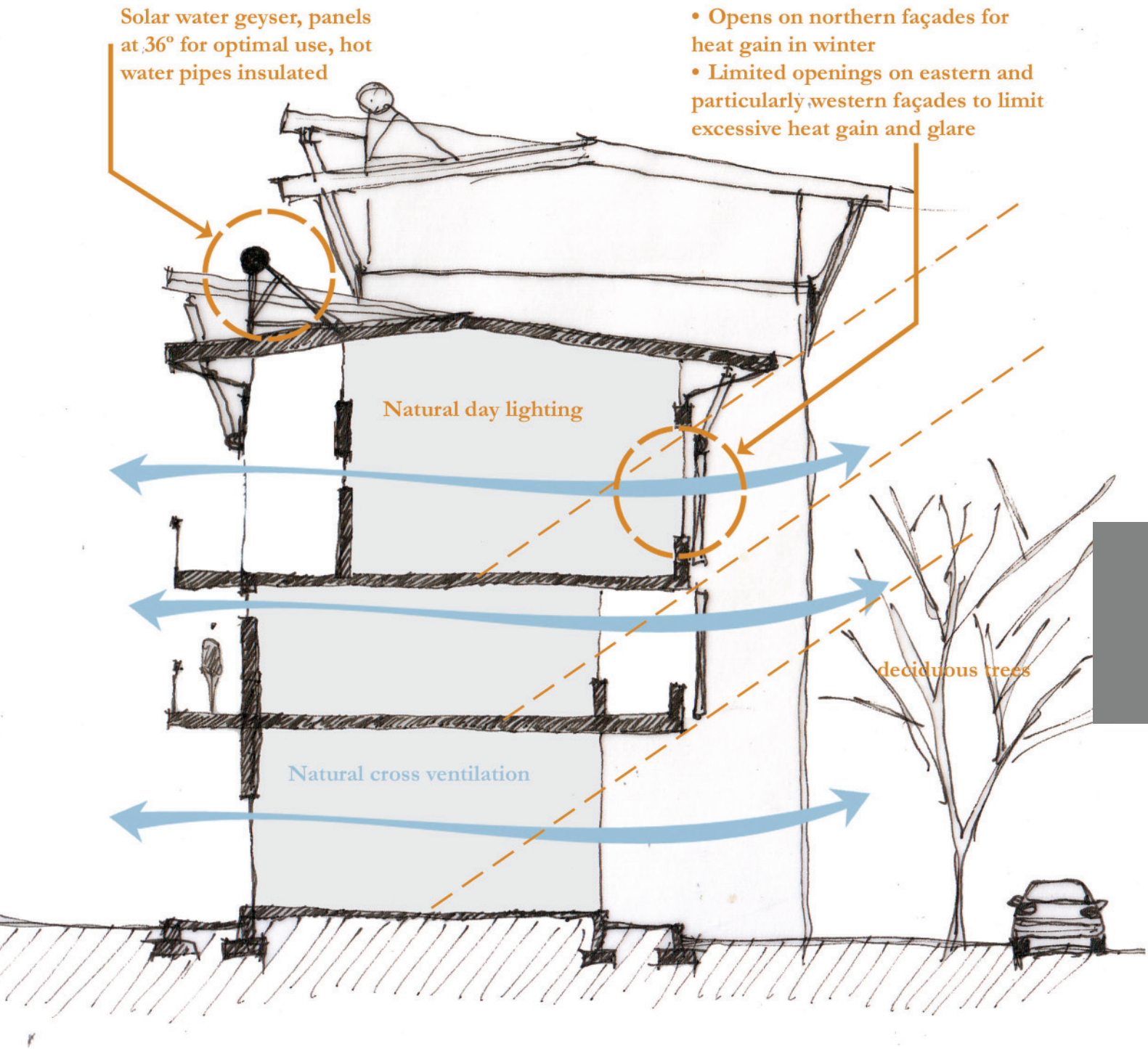
Figure 5.25: Herring bone paving used in space designed to linger: entrance of shelter and Educational Community Centre (Online). Walkways on ground floor - stretcher paving.

Open building design for prolonged future use



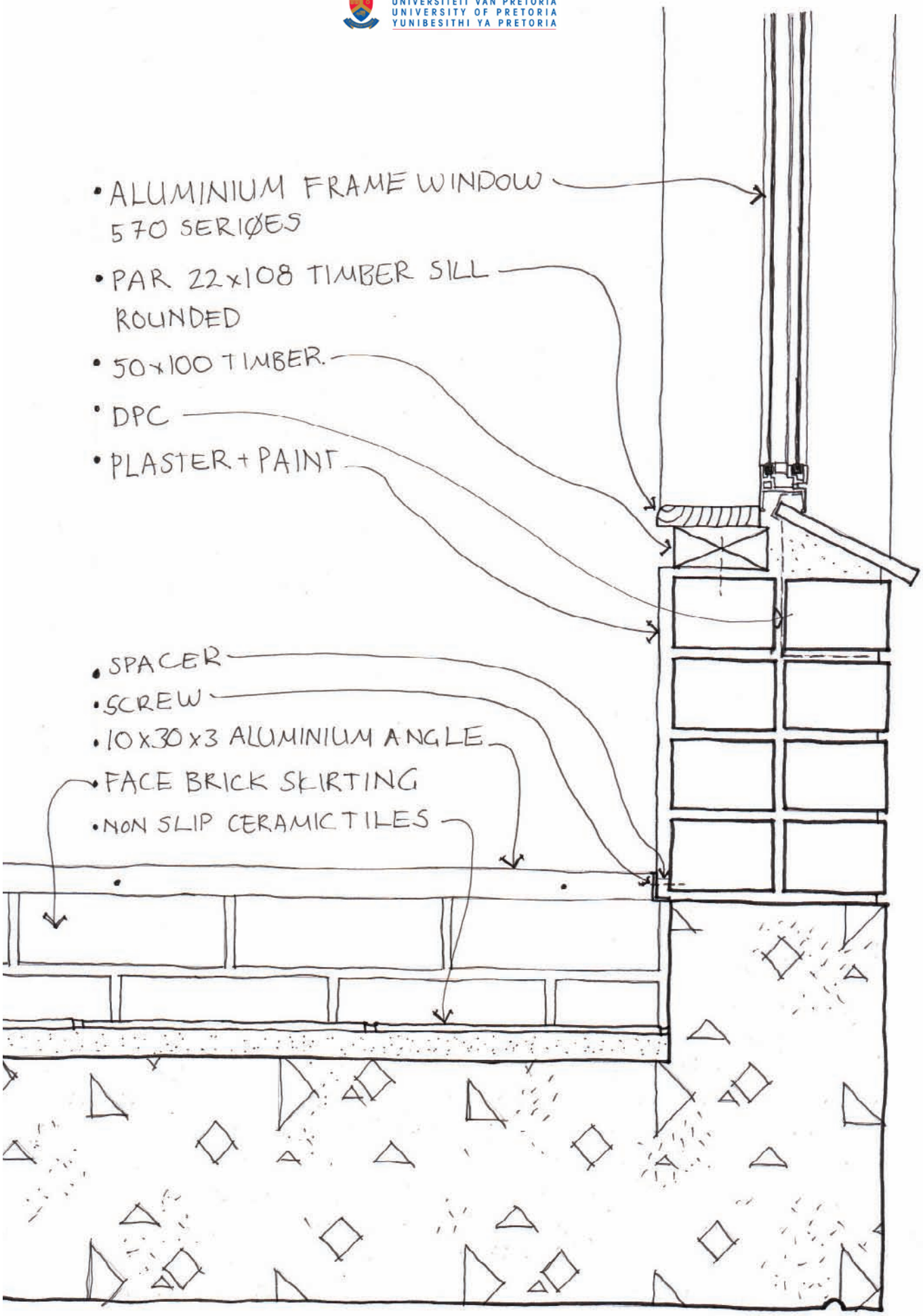
Material:

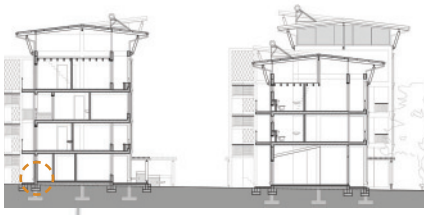
- **Limited use of concrete**, merely concrete frame, for the reason that the manufacturing process of concrete has a large environmental impact
- Infill: **Locally produced bricks**. Although a significant amount of energy is used for the firing of clay bricks it is still less than the energy consumed by comparable concrete masonry (Thompson & Sorvig, 2000: 314)
- **Local materials**
- **Durable materials**
- **Low maintenance materials**

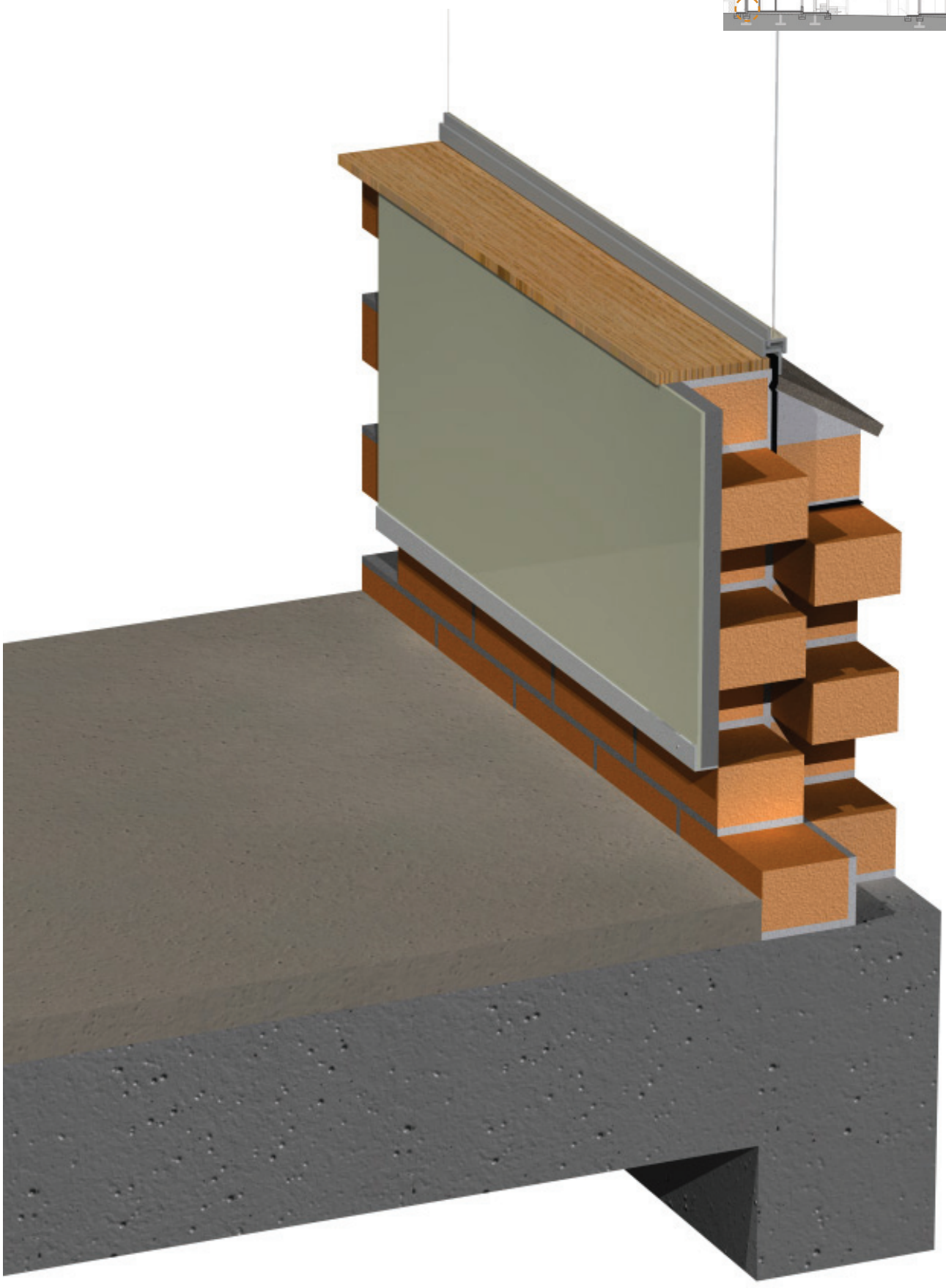


SUSTAINABILITY: PASSIVE DESIGN

Figure 5.26 (Author)

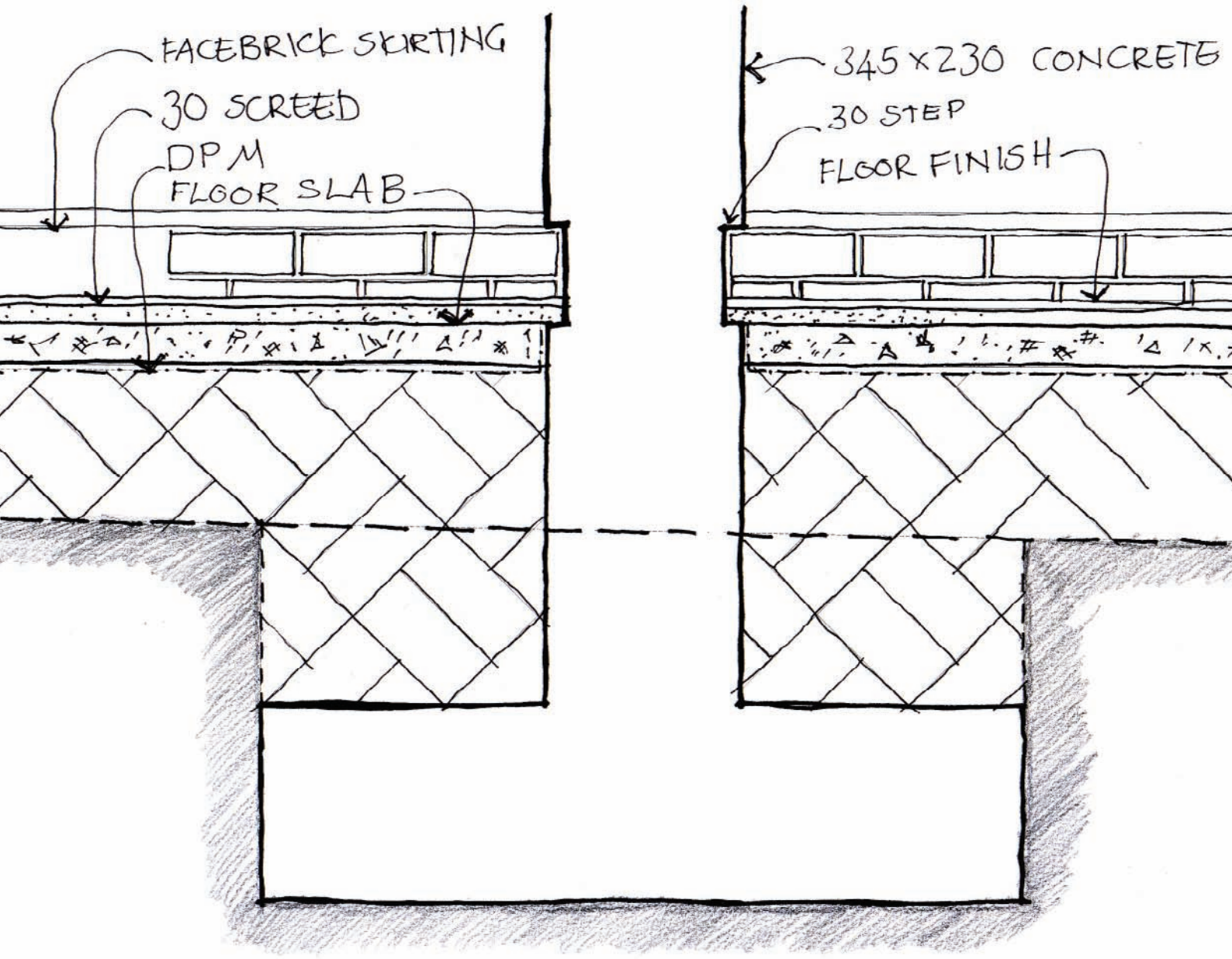

• ALUMINIUM FRAME WINDOW 570 SERIØES
• PAR 22x108 TIMBER SILL ROUNDED
• 50x100 TIMBER.
• DPC
• PLASTER + PAINT
• SPACER
• SCREW
• 10x30x3 ALUMINIUM ANGLE
• FACE BRICK SKIRTING
• NON SLIP CERAMIC TILES

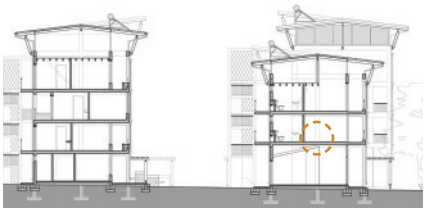


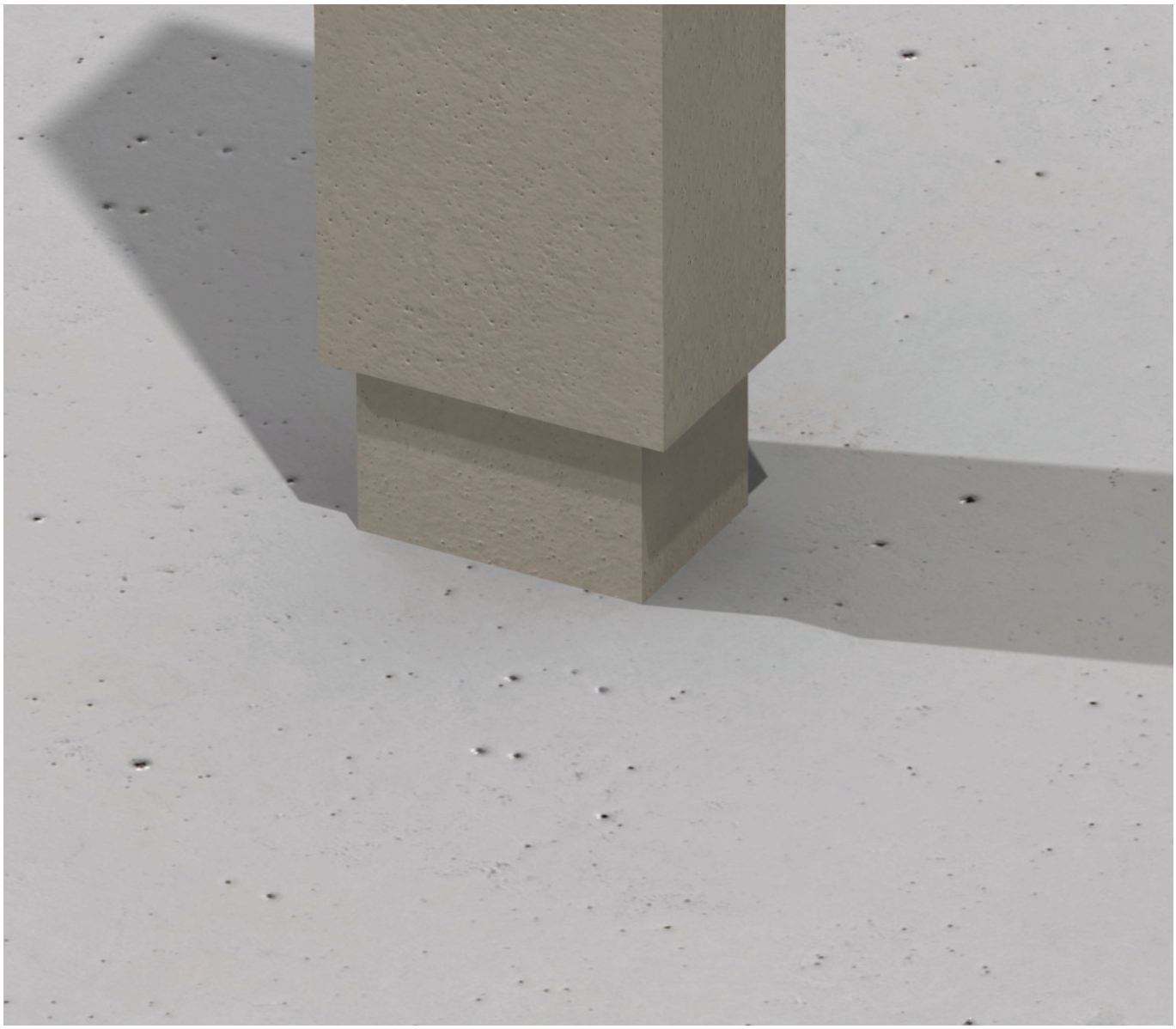


DETAIL A: WALL/ FLOOR

Figure 5.27 (Author)

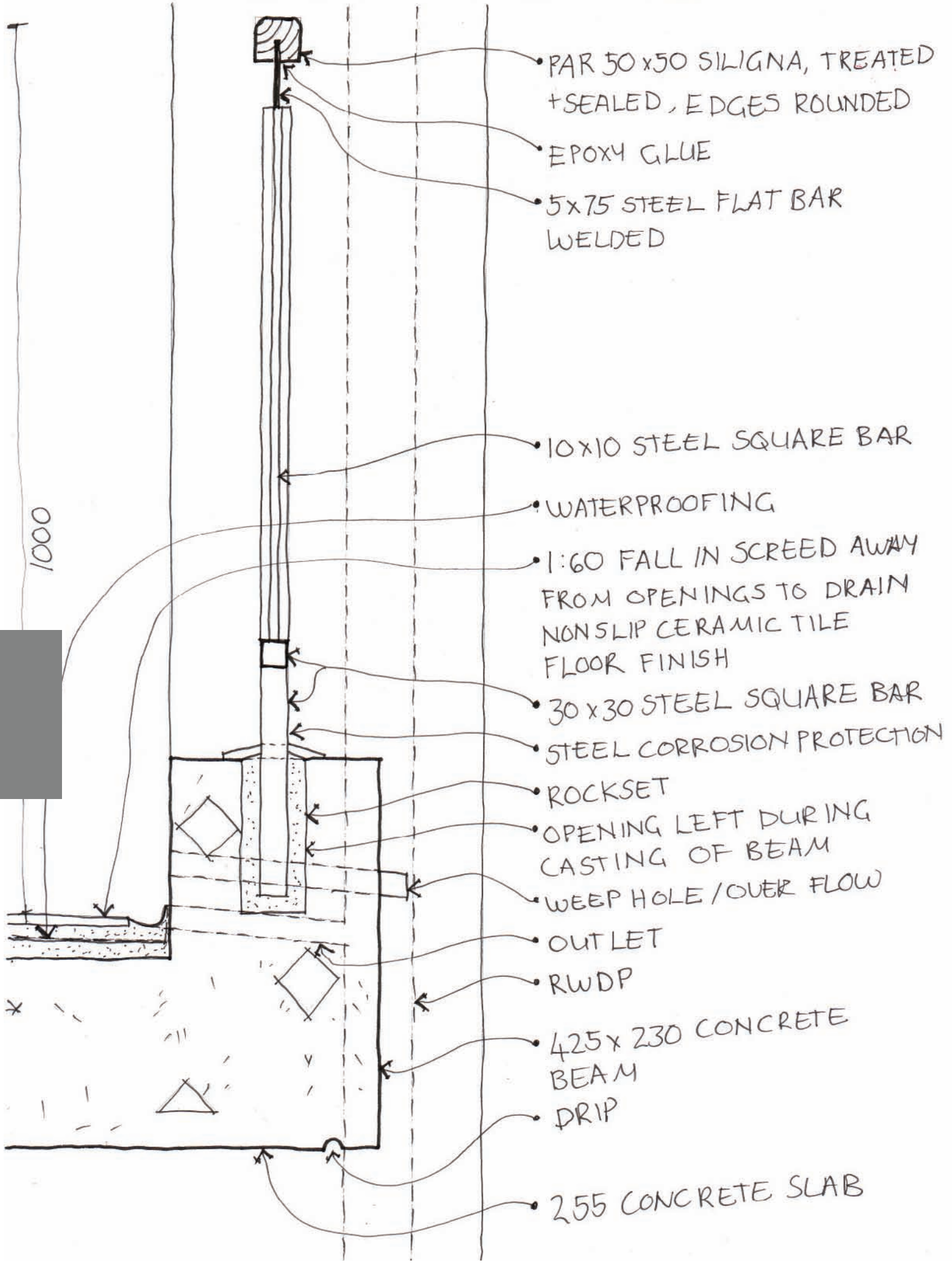

FACEBRICK SKIRTING
30 SCREED
DPM
FLOOR SLAB
345 x 230 CONCRETE
30 STEP
FLOOR FINISH

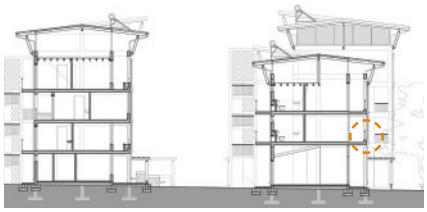


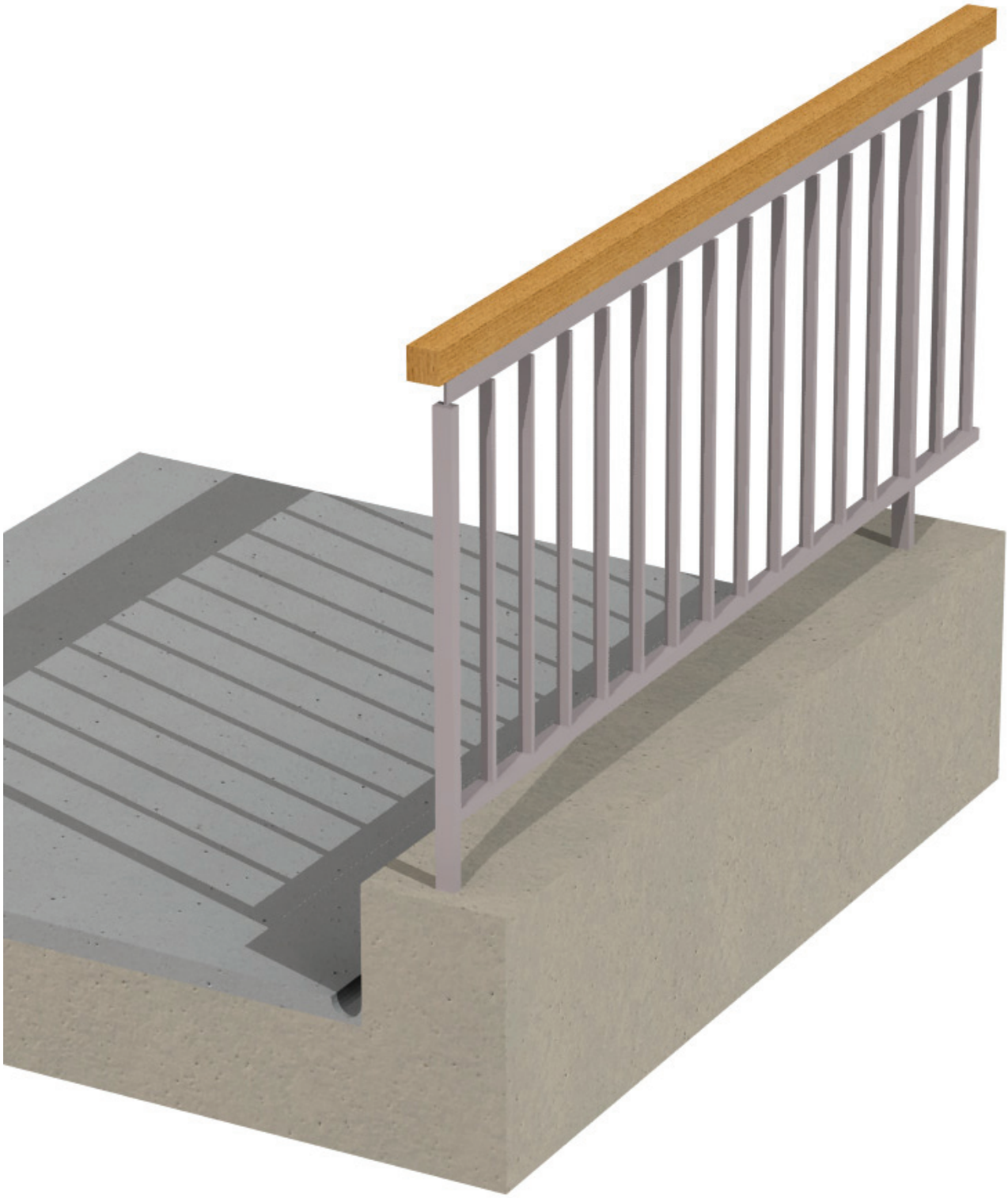


DETAIL B: COLUMN/ FLOOR

Figure 5.28 (Author)

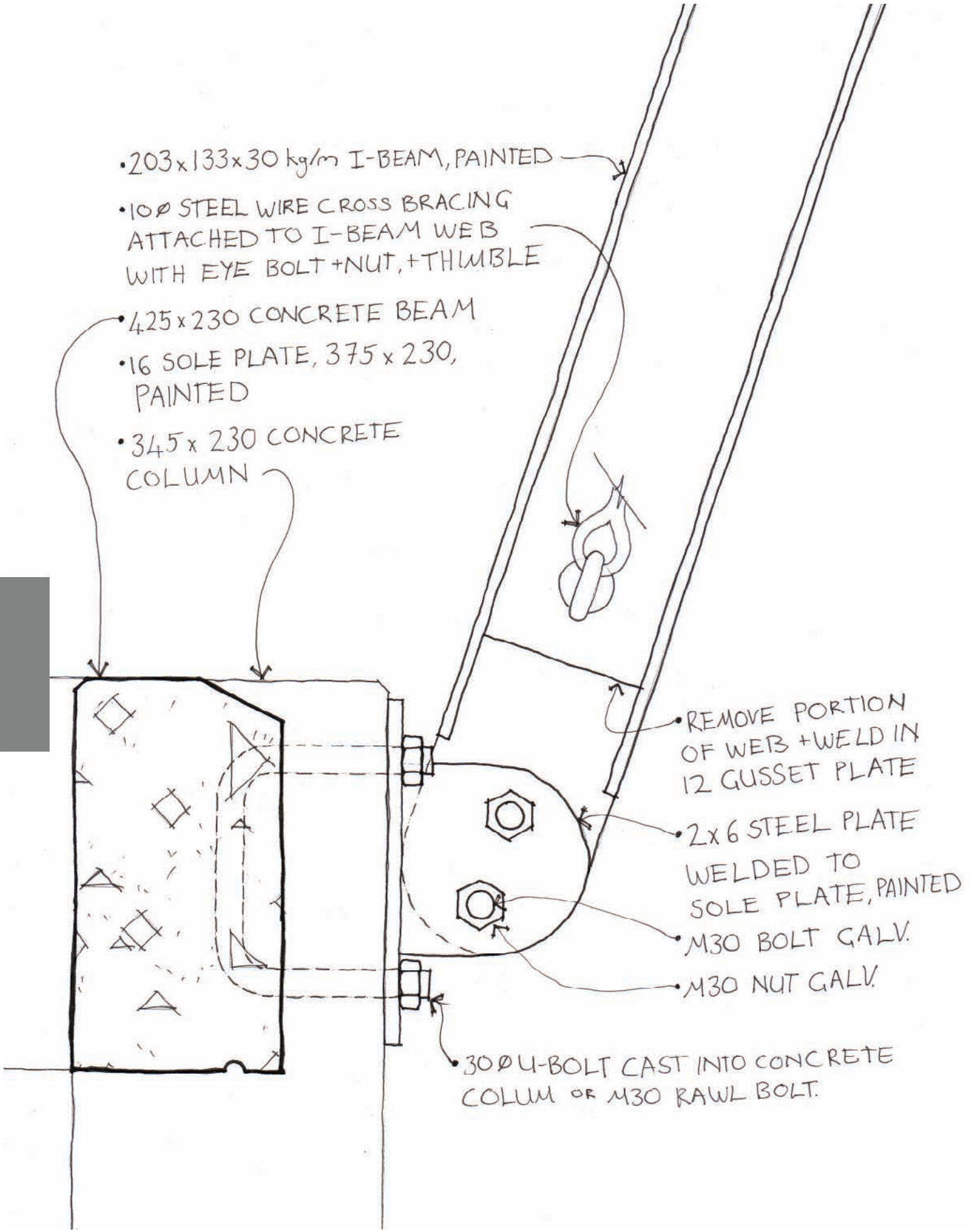

PAR 50 x 50 SILIGNA, TREATED +SEALED, EDGES ROUNDED
EPOXY GLUE
5 x 75 STEEL FLAT BAR WELDED
10 x 10 STEEL SQUARE BAR
WATERPROOFING
1:60 FALL IN SCREED AWAY FROM OPENINGS TO DRAIN
NONSLIP CERAMIC TILE FLOOR FINISH
30 x 30 STEEL SQUARE BAR
STEEL CORROSION PROTECTION
ROCKSET
OPENING LEFT DURING CASTING OF BEAM
WEEP HOLE / OVER FLOW
OUTLET
RWDP
425 x 230 CONCRETE BEAM
DRIP
255 CONCRETE SLAB
1000

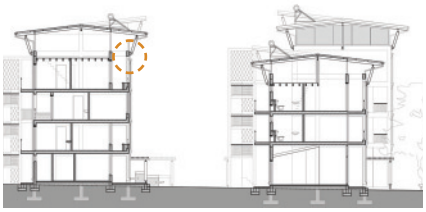


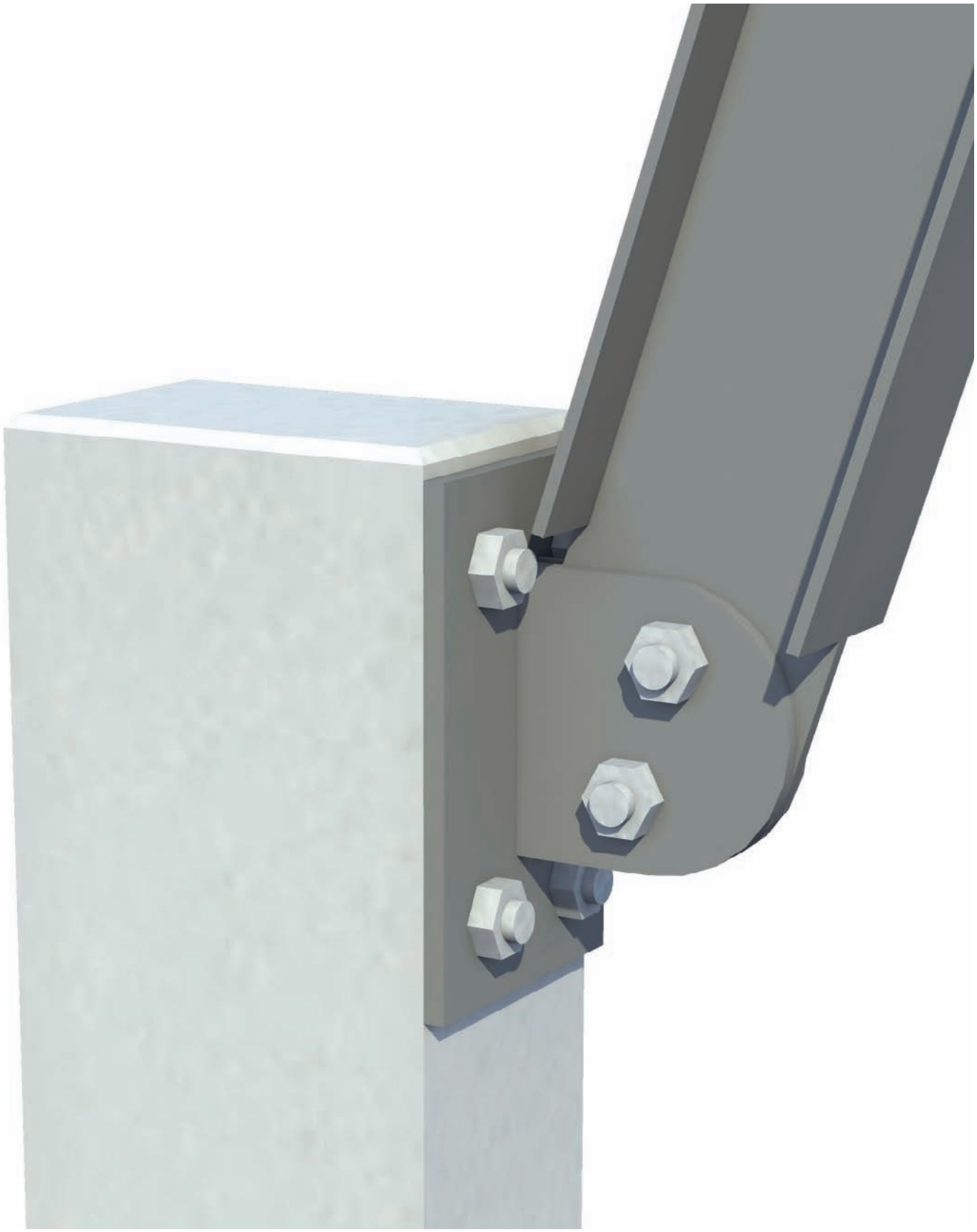


DETAIL C: BALCONY BALUSTRADE

Figure 5.29 (Author)

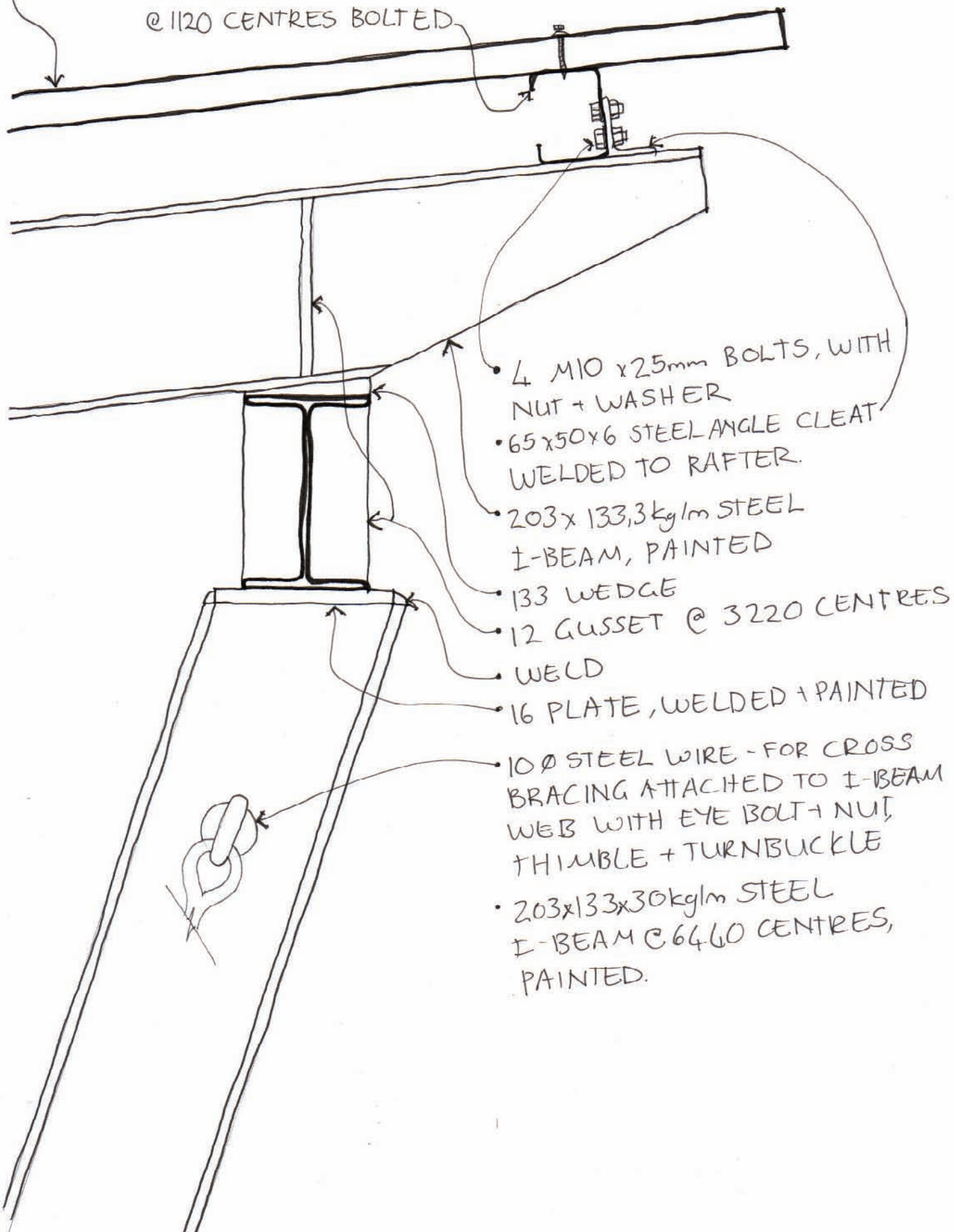

•203x133x30 kg/m I-BEAM, PAINTED
•10ø STEEL WIRE CROSS BRACING ATTACHED TO I-BEAM WEB WITH EYE BOLT +NUT, +THIMBLE
•425x230 CONCRETE BEAM
•16 SOLE PLATE, 375 x 230, PAINTED
•345 x 230 CONCRETE COLUMN
•REMOVE PORTION OF WEB +WELD IN 12 GUSSET PLATE
•2x6 STEEL PLATE WELDED TO SOLE PLATE, PAINTED
•M30 BOLT GALV.
•M30 NUT GALV.
•30ø U-BOLT CAST INTO CONCRETE COLUM OR M30 RAWL BOLT.

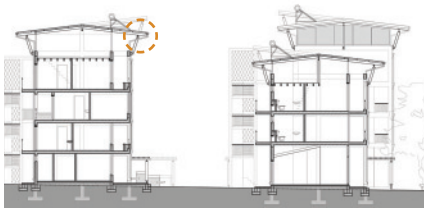


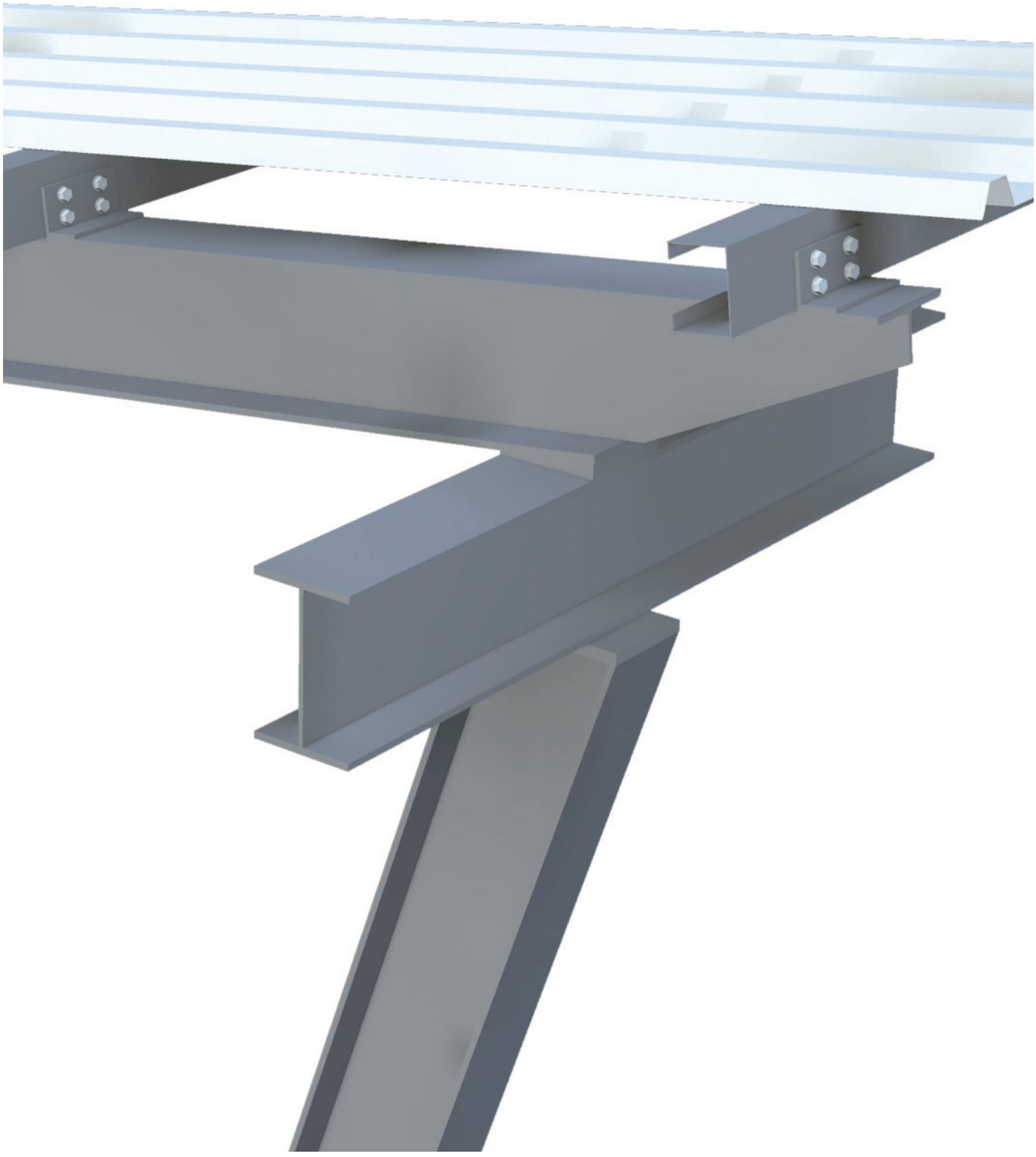


DETAIL D: ROOF STRUCTURE

Figure 5.30 (Author)


CLASS A IBR, GALV. METAL ROOF SHEETING @ 7° SCREWED WITH ROOFING SCREW WITH CUP WASHER + SEAL ON RIDGE
100 x 75 x 2 COLD-FORMED LIPPED CHANNEL @ 1120 CENTRES BOLTED
4 M10 x 25mm BOLTS, WITH NUT + WASHER
65 x 50 x 6 STEEL ANGLE CLEAT WELDED TO RAFTER.
203 x 133,3 kg/m STEEL I-BEAM, PAINTED
133 WEDGE
12 GUSSET @ 3220 CENTRES
WELD
16 PLATE, WELDED + PAINTED
10 Ø STEEL WIRE - FOR CROSS BRACING ATTACHED TO I-BEAM WEB WITH EYE BOLT + NUT, THIMBLE + TURNBUCKLE
203 x 133 x 30 kg/m STEEL I-BEAM @ 6460 CENTRES, PAINTED.





DETAIL E: ROOF STRUCTURE

Figure 5.31 (Author)

06. Conclusion

In conclusion, this dissertation proposes that through an in depth understanding of the problem and the context and through extensive investigations, responsible, appropriate and meaningful architecture can be created that ultimately improves the quality of life, not only of the users of the project, but of the users of the city as well.

It was found that the environment can aid in the healing and rehabilitation of people in crisis, specifically in reference to the homeless, through accurate problem-solving responses. At the start of the investigation it was believed that the main response to the situation of homelessness in an architectural sense, was to create an environment that focused on safety and protection for the obviously vulnerable homeless. Through the investigation it was however concluded that the answer to the question of a suitable environment for healing of the homeless is one that promotes empowerment over and above protection. It was further established that the notion of empowerment can be achieved through the concept of connection, independence and transition.

The product of the investigation is a shelter for the homeless in the suburb of Arcadia in Tshwane, which falls in a transitional zone between a well established residential area and a commercial area. The shelter can be defined as transitional housing for the adult urban homeless and their children, which focuses on the healing and ultimate rehabilitation of homeless people, including the reintegration of these people into society. The significance of the project is that the development becomes a metaphor for the reintegration of people into society. The project aims to empower people to become contributing members of society and discontinues the cycle of destitution by providing an opportunity for economic activity and by improving the physical environment for the homeless as well as the physical environment of the community in general.

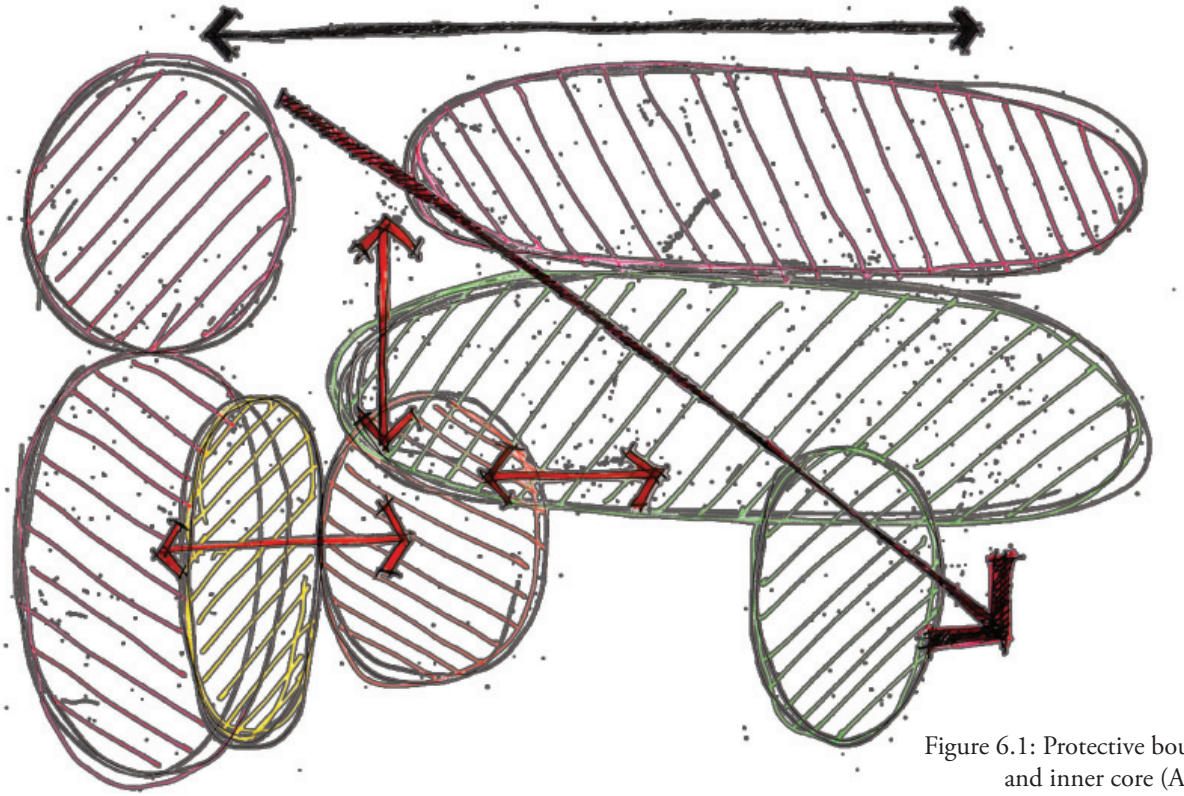


Figure 6.1: Protective boundary and inner core (Author)

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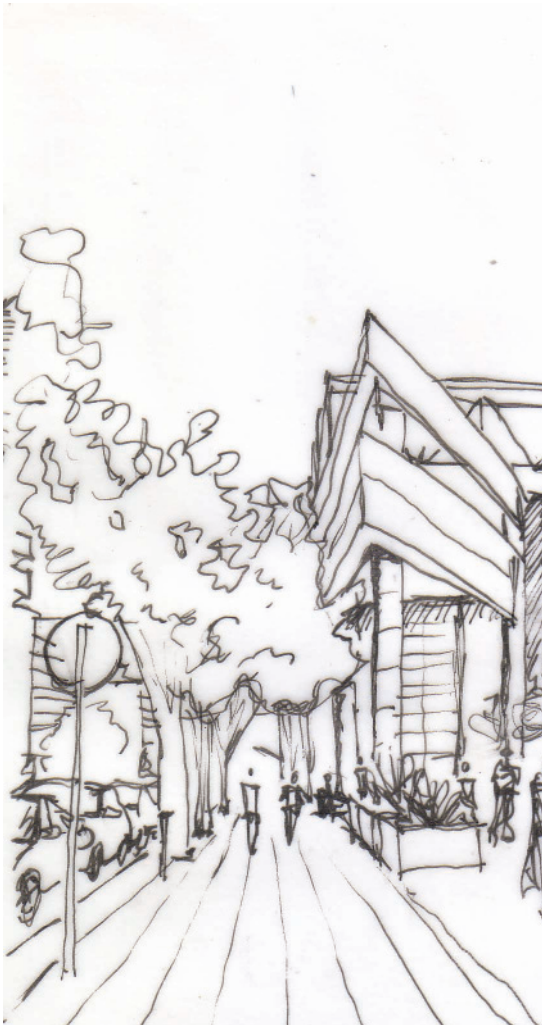

Figure 7.1: Sancardia, North West c/ o Hamilton and Church Street (Author)

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Figure 7.2: Hamilton Street (Author)

08. Appendix

THE POTTER'S HOUSE

288 Burgers Park Lane, Pretoria Central, Tshwane

Figure 8.1: Entrance to Tshwane Leadership Foundation Complex, Burgers Park (Author)

Interview with Lettie Malhepo, Programme Manager, 1 March 2010

The Potter's House offers transitional housing to women and their children in crisis. The organisation is located opposite Burgers Park, in Pretoria CBD, and is part of a larger organisation namely, Tshwane Leadership Foundation. The following questions were asked in the interview:

•How many women can stay at the shelter and who are they?
There is space for 24 women and their children at a time. These women are from all walks of life and of all races; they are normal people what found themselves in terrible situations.

•For what time period can they stay at the shelter?
The women can stay for anything from one to three nights, to three weeks, to six to twelve months.

•To what age can children stay at the shelter with their mothers?
Girl children can stay with their mothers at any age and boy children can stay up to the age of 12 years.

•How does the accommodation work?
There are two beds in a room. Two single women can share a room or a mother and her children. Two rooms then share a bathroom.

•Who washes the clothes?
They wash their own cloths with a communal washing machine and have specific days that they can use the washing line.

•Who makes the food?
There are hired staff to make food in the week and then the women make their own food on weekends, they eat together in a communal dining hall. The reason why staff is hired to make food is because some of the women have strained relationships with each other and refuse to eat the food each other prepare which leads to the food being wasted.

•Is there any assistance for couples with problems?
Couple can come to the facility for counselling and the organisation sometimes also have interventions for the husbands. The organisation does follow up on the situations.

•Is there help for people coming in off the street at any time?
There is a house mother on duty 24 hours a day, so the women can get assistance at any time. There is also a security guard so there is not a problem with violent hus-

bands at the centre.

•What education is offered to the women?

There is a wide range of skills development available to the women.

On site: Fabric painting
Laundro mat

Off site the organisation has networks with the follow places where the women can receive training:

Sowing training, where the women then make wedding dresses in the evening at the centre.

Pop up is a life skills centre where they learn:

- Computer skills
- Child early development
- Security
- Mosaics

Other than training and care for their children the women take part in:

- Swimming classes
- Aerobics
- Spring cleaning
- Devotion
- Counselling and support groups
- Parenting classes
- 3 day camps

•What is the first step when some body comes to the centre?

On arrival the women are assessed and then help with getting an ID, retrieving her belongings and helped with opening a case against her abuser by the on site legal centre.

•How do the women hear of the centre?

The women hear of the shelter through, churches, social workers, clinic, hospitals and at police stations.

•What facilities are there for the children?

The children go to off site day care. Babies go to the day care at Lerato House in the north of the CBD and children from age 3 to 7 go to day care at Inkululeko Community Centre in Salvokop. Both Lerato House and Inkululeko Community Centre are affiliations of Tshwane leadership Foundation.

•What facilities are offered at the centre?

The current facilities are:

- 12, 2 bed bedrooms
- 1 bathroom for 2 bedrooms (6)
- Kitchen
- Dining hall
- Lounge
- Chapel
- Peace garden (outside quiet space where the women can be alone and reflect)
- Playground
- Homework room
- Laundry and washing line
- Offices
- Reception and waiting room
- Assessment and counselling offices

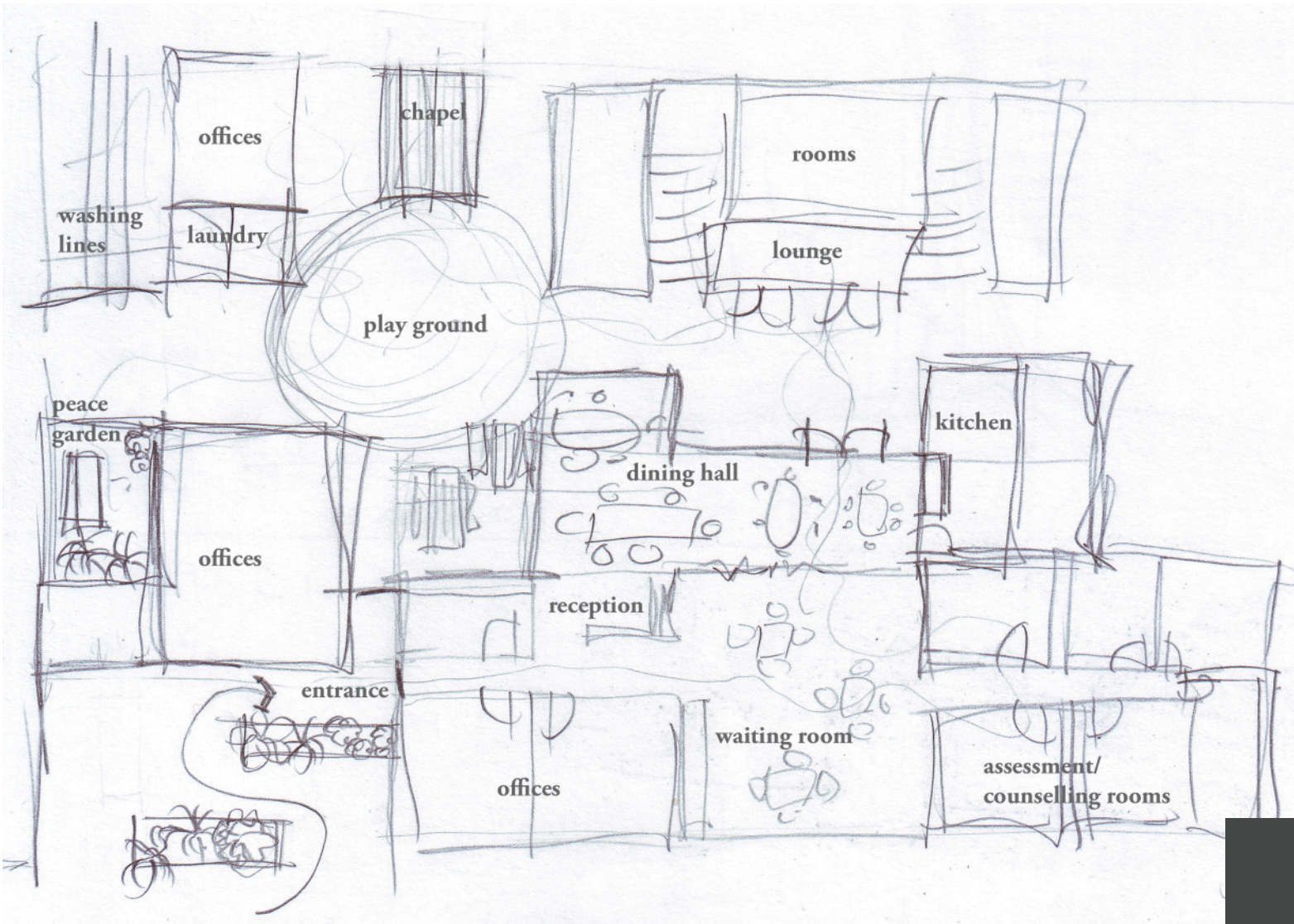
•Does the facility need anything else at the moment?

Their wish list includes:

- A camera and video camera
- A larger playground for the children
- An upgraded peace garden
- Parking spaces for the women who have their own cars

[although I was shown the shelter I was only allowed to take a photo of the reception]

Figure 8.2: Plan of The Potter's House (Author)



The Salvation Army

219 Church Street, Pretoria West

Figure 8.3: Sign from street (Author)


Figure 8.3: Entrance (Author)


Figure 8.4: Approach (Author)


Figure 8.5: Garden (Author)

"*The Salvation Army is an integral part of the Christian Church, although distinctive in government and practice. The Army's doctrine follows the mainstream of Christian belief and its articles of faith emphasise God's saving purposes. Its objects are 'the advancement of the Christian religion… of education, the relief of poverty, and other charitable objects beneficial to society or the community of mankind as a whole.'*The movement, founded in 1865 by William Booth, has spread from London, England, to many parts of the world.*

Whether it's embracing the homeless, uplifting the abused or abandoned, training and mentoring the disadvantaged, providing character building programs for youth, or assisting the displaced or elderly, The Salvation Army's goal remains the same: serving the most people, meeting the most needs. HEART TO GOD - HAND TO MAN"
(http://www.salvationarmy.org.za/index.html).

The Salvation Army's Care Centre in Church Street offers accommodation for pensioner, adults over the age of 25 and people with disabilities.

Interview with Colette, Major at The Salvation Army Care Centre Church Street, 20 May 2010

•Who can stay at the centre, is there any costs for the residents and how long can they stay?

Pensioners and people on disability grants stay permanently at the centre and pay two thirds (²/3) of their grant to the centre, which is usually about R700, 00 a month.

Low-income or no-income men and women over the age of 25 can stay at the centre for up to 3 months while they "find themselves again and look for employment". This time period is extended if necessary; currently there is an occupant that has been staying at the centre for 5 months because they can not find a job.

People off the street can also stay at the centre for a few days in emergencies.

•How many people does the centre cater for?

The centre caters for 51 adults and is currently full, there are about equal numbers of men and women among the adults and more female pensioners. The residents have single rooms and communal bathrooms, women and men have separate bathrooms. The centre tries to keep the men and women's rooms on opposite sides of the building. The emergency accommodation annex has 3 bedrooms; 2 bedrooms with four beds and 1 room with two beds, also with communal bathrooms.

•Are children allowed at the centre?

Yes there are currently four children living at the centre, a four month old with his family, two 6 and one 8 year old with their mothers. The centre does not really cater for children as it is not the ideal place to grow up, but the social worker does make sure that the older children are registered at school and that they attend.

Figure 8.6: The Salvation Army (Author)


Figure 8.7: Dining Hall (Author)


Figure 8.8: Kitchen (Author)


Figure 8.9: Chapel (Author)

•What education is available to the residents?
The centre collaborates with organisations such as Pop-up and Vodacom, who offer training, life-skills courses and counselling. The centre provides the transport for the residents.

•Are any of these services offered at the centre?
Counselling is offered to the residents by the social worker and by Colette herself as she has training in health and social welfare.

•How do people hear about the centre?
People hear about the centre through word of mouth, social services, churches and through the network of hospices and other welfare organisations, for example Red Cross, which the Salvation Army is part of.

•Is there assistance for people from the streets at any time?
The staff live on the premises and therefore can attend to any situation that may arise at any time.

•Who washes the clothes?
The residence wash their own clothes in the washing machines provided.

•Who prepares the food?
The centre provides three meals a day and tea in the morning and the afternoon. Men and women eat together. The centre employs staff to prepare the food. Although the residents do not make their own food they have to help with cleaning, working in the garden and do sometimes help out with maintenance such as painting.

•How is the centre funded?
The centre runs mainly on donations from private organisations and from churches and does not receive any government funding, subsidies or grants.

•What is the aim of the centre?
The centre aims to be a home for these people and to be comfortable and welcoming as a home should, for this reason pets are very important, dogs, cats and a parrot help make the centre feel welcoming.

The Salvation Army aims to spread the Christian religion and so the residents are expected to attend daily devotions at the chapel and church services every Sunday, although the Major did say that some do try and "get out of it".


Figure 8.10: "Library" (Author)

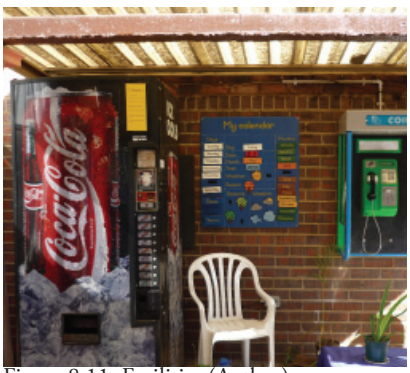


Figure 8.11: Facilities (Author)


Figure 8.12: Social space (Author)

McDonald's
555 Church Street, Arcadia


Figure 8.13: McDonalds (Author)


Figure 8.14: Deliveries (Author)


Figure 8.15: Dry store (Author)

Interview with McDonald's Manager, Nobantu
24 May

•How does the kitchen work?
It's basically a production line; the food is delivered on one side of the kitchen and service at the other side.
See plan and photographs

•How many costumers are served?
There are on average 1000 costumers served every day.
During lunch time for 12 pm to 3 pm, 120 customers are served per hour, while our target is 140. 70 cars are also served during that time per hour.

•How many people work at the restaurant?
30 -35 people work here a day in 8 hour shifts, so that's about 10 people at a time. There are 65 people employed currently. McDonalds has won "the best company to work for" in 2010.

•How often are deliveries made?
Twice a week on Monday and Thursday.

•How is the garbage handled?
There is one big bin in the kitchen that is take outside when it gets full and then the garbage outside is collected everyday.

•Where is the food stored?
The food is stored in a 4x 3m dry store, a 2x 3m fridge and a 2x 3m freezer.


Figure 8.16: Fridge (Author)

Figure 8.17: Freezer (Author)


Figure 8.18: Wash & Sanitise Equipment (Author)


Figure 8.19: Kitchen (Author)


Figure 8.20: Kitchen (Author)


Figure 8.21: Deep fryers (Author)


Figure 8.22: Ovens & warming drawers (Author)

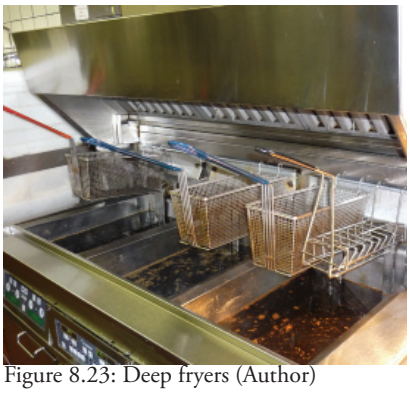


Figure 8.23: Deep fryers (Author)


Figure 8.24: Kitchen (Author)

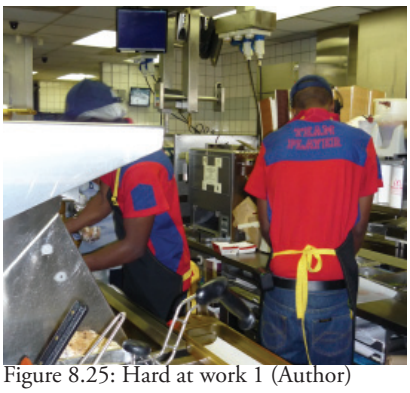


Figure 8.25: Hard at work 1 (Author)


Figure 8.26: Hard at work 2 (Author)


Figure 8.27: Hard at work 3(Author)


Figure 8.28: Staff room (Author)


Figure 8.29: Restroom (Author)


Figure 8.30: Restroom ventilation (Author)

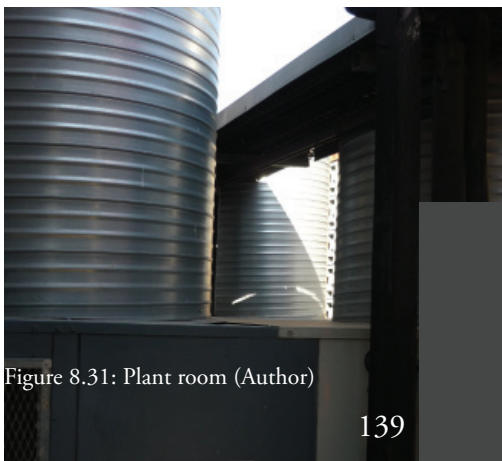


Figure 8.31: Plant room (Author)

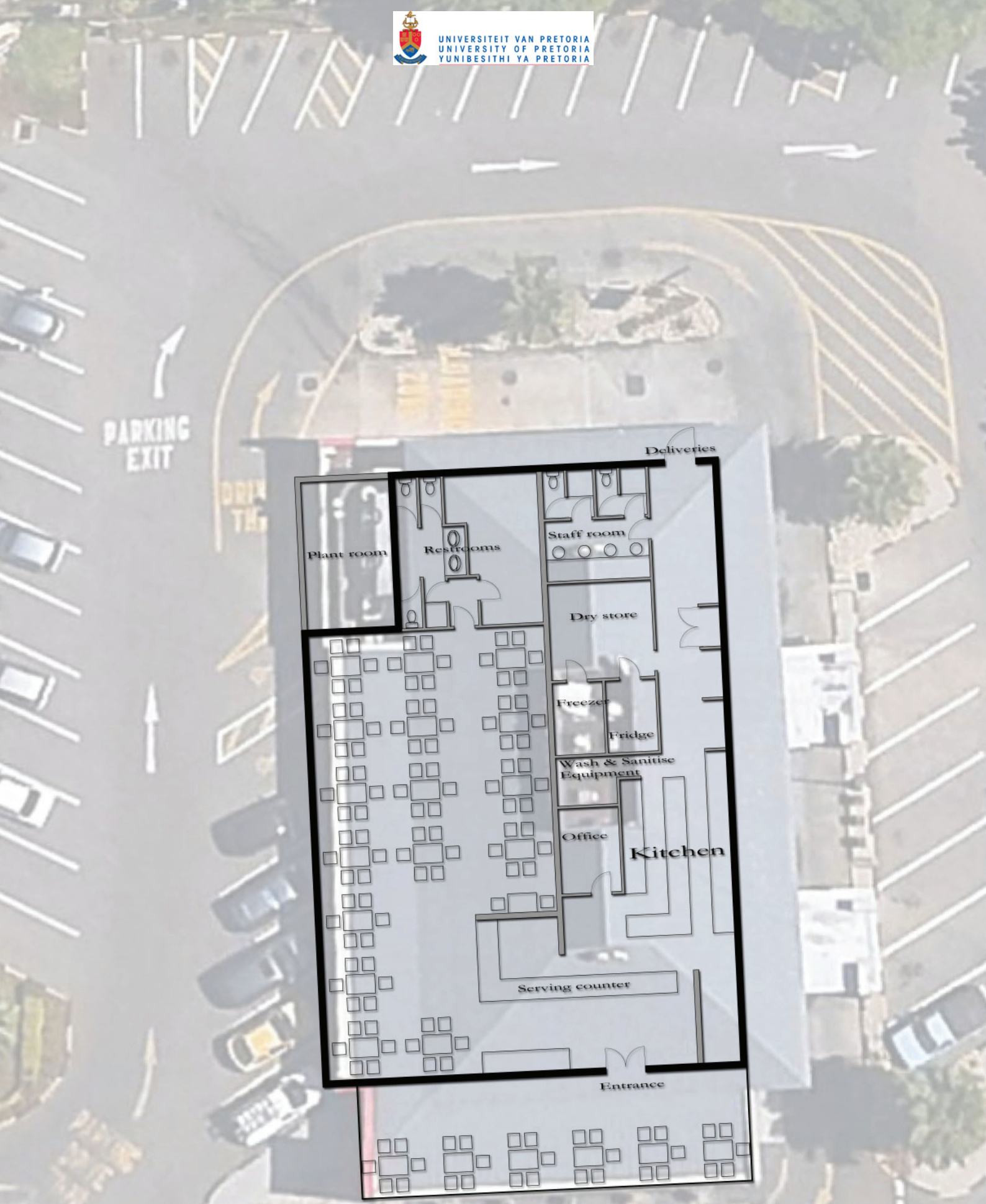


Figure 8. 32: Plan (Google Earth & Author)

Housing Precedents

Figure 8.33: Cité de Refuge_ Le Corbusier_ light (Online)

Figure 8.34: Julian Street Inn_ Christopher Alexander_ design for user (Online)

Figure 8.35: 68 Social Housing_ Magén Arquitectos_elevation treatment (Online)

Figure 8.36: Brickfields_Savage + Dodd & ASA Architects_ accommodation (Online)

Figure 8.37: Frans van der Werf _individual Expression (van der Werf, 1993: cover)

Figure 8.38: Quinta Monroy _Elemental_flexibility (Online)

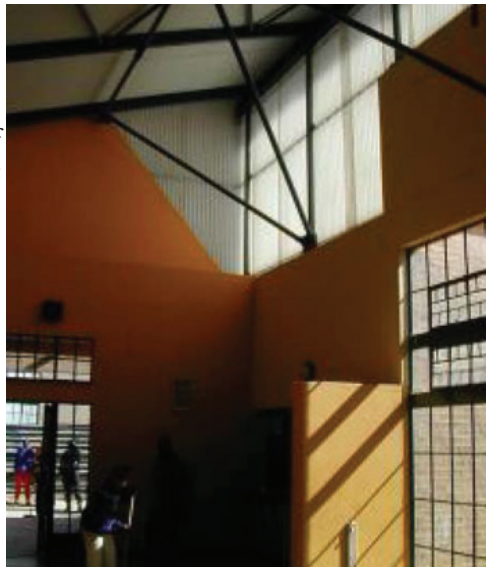


Figure 8.39: Van Ryn Place of Safety_Henri Comrie_light (Comrie, 2003: 30)

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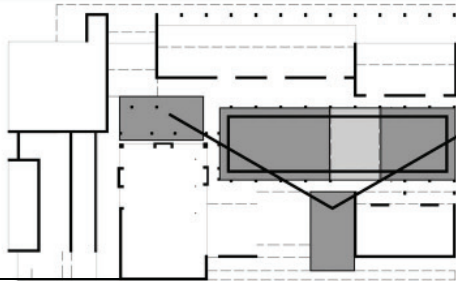
YUNIBESITHI YA PRETORIA

North- West Corner

09. Appendix



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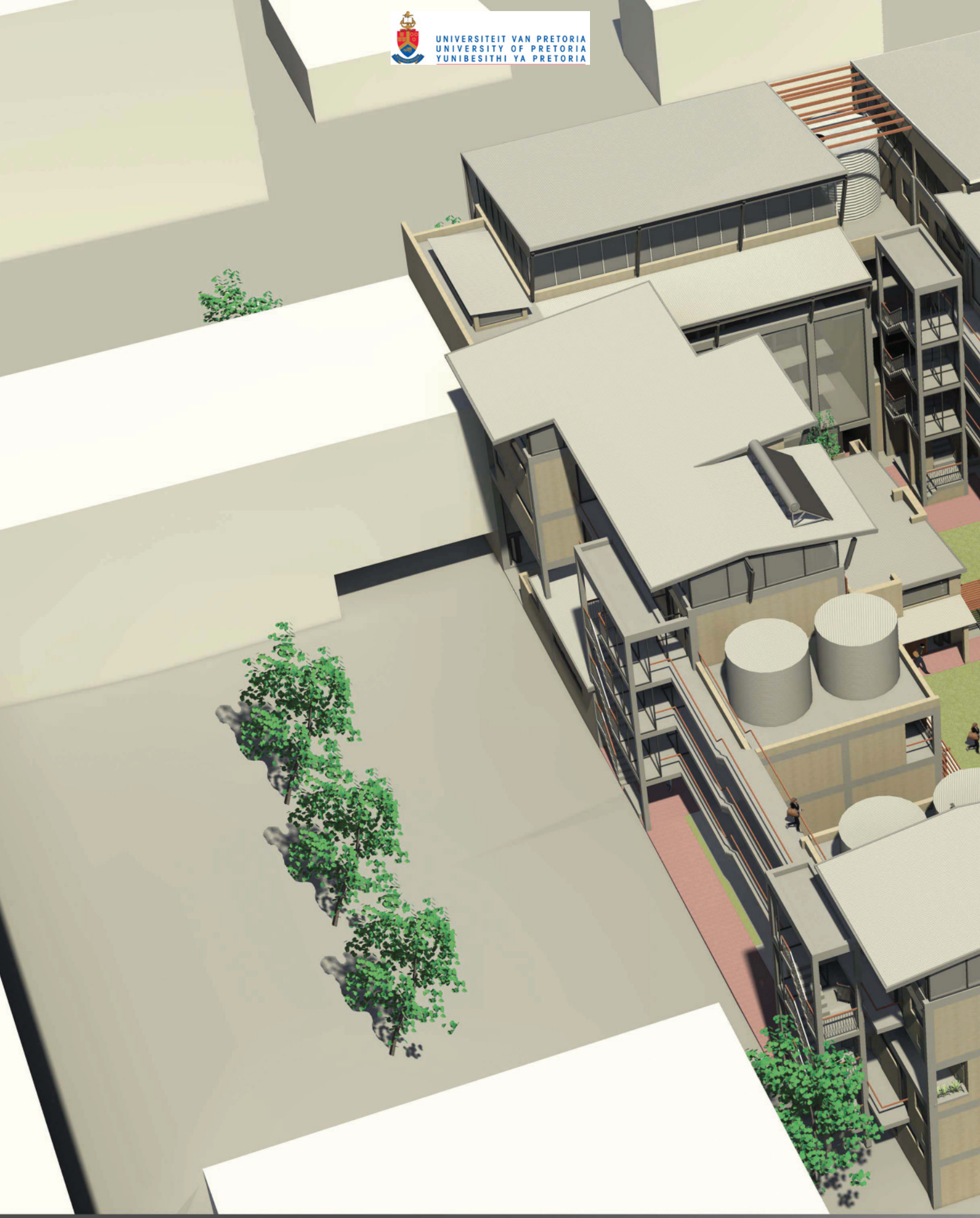

South- East Corner

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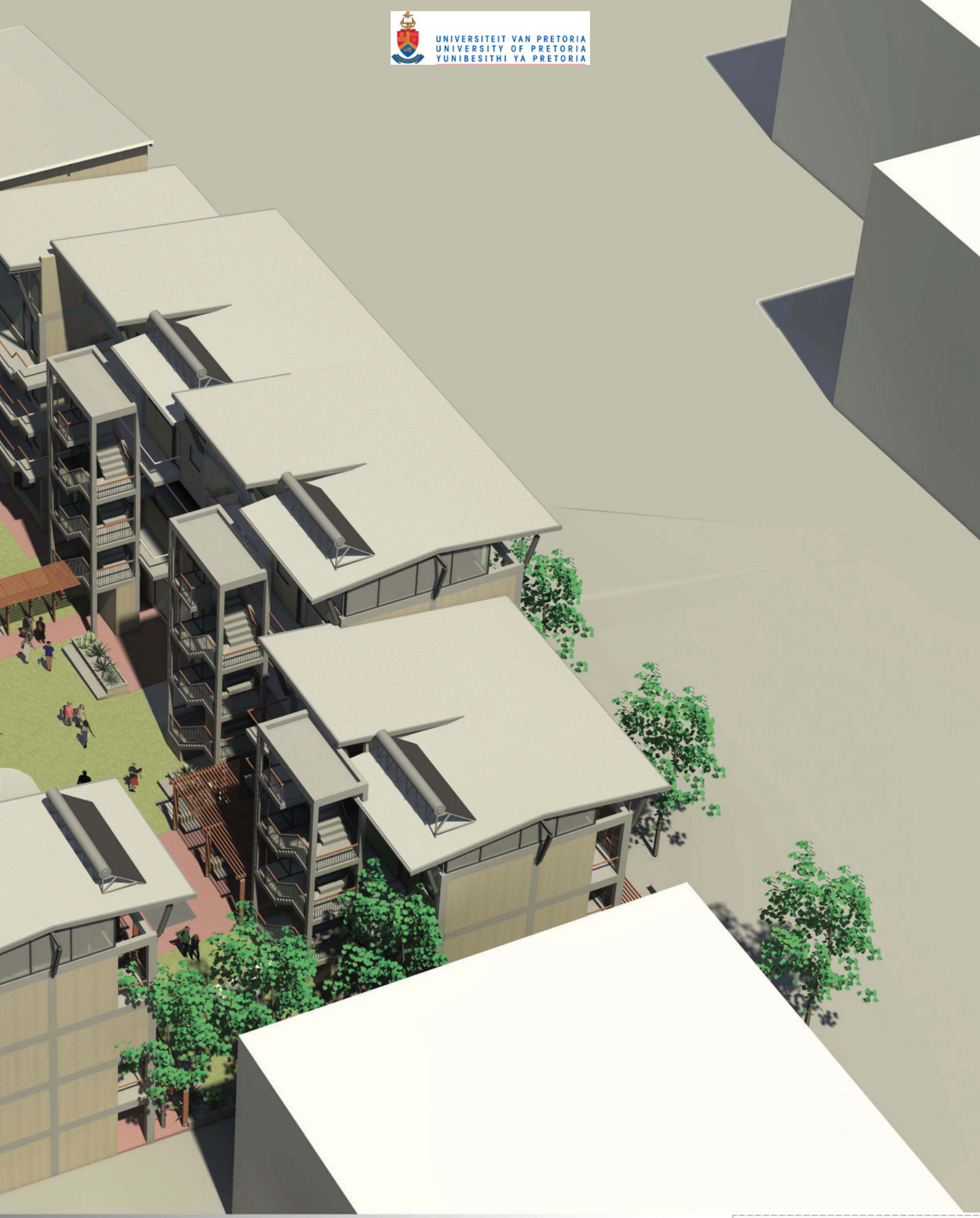
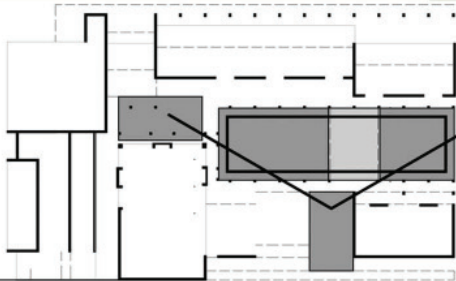
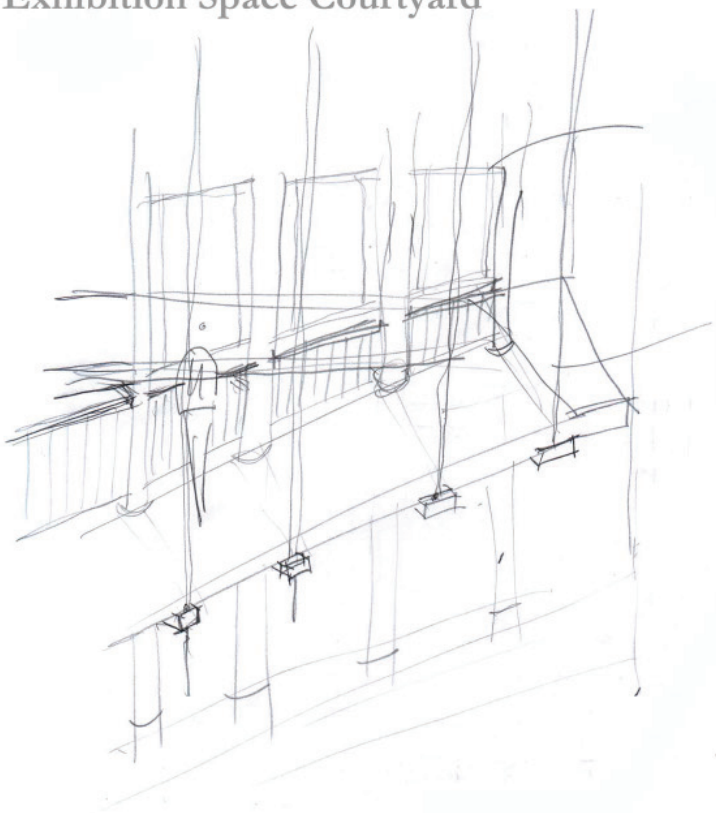
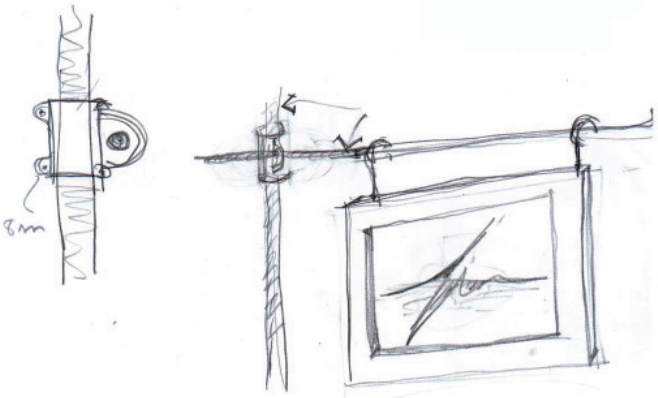




Exhibition Space Courtyard

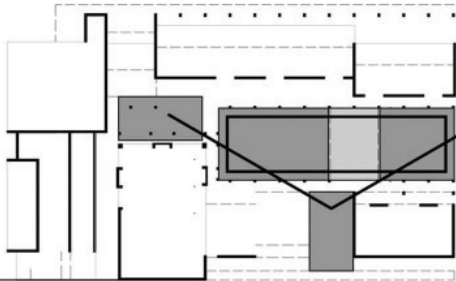




Exhibition Space Ramp

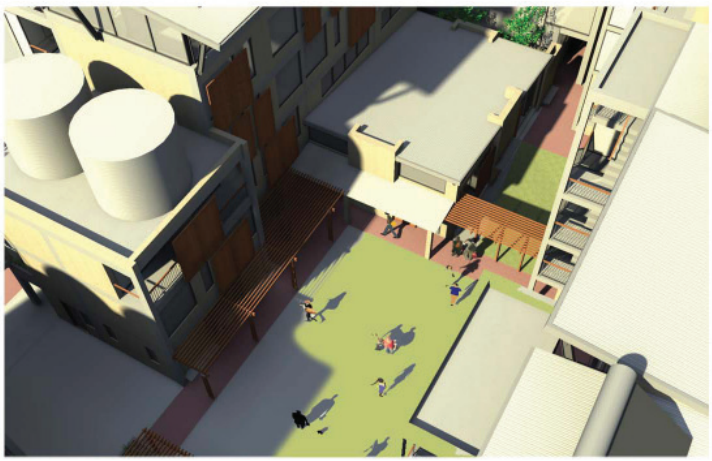
3 Dimensional views

West Elevation



Dining Hall & Ramp

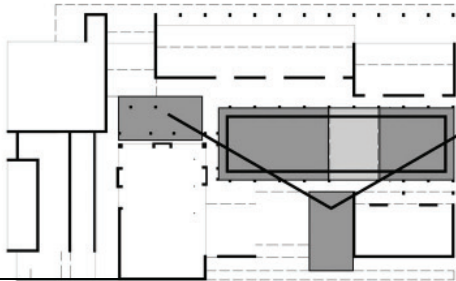
Courtyard



Courtyard

3 Dimensional views

Courtyard



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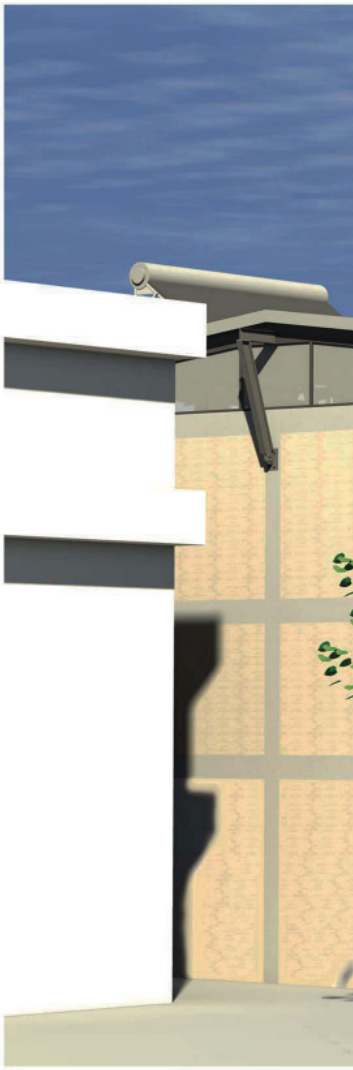
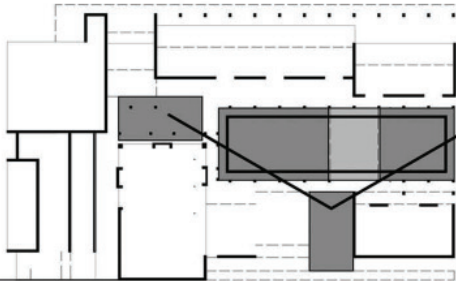
North- East Corner



3 Dimensional views

South Elevation



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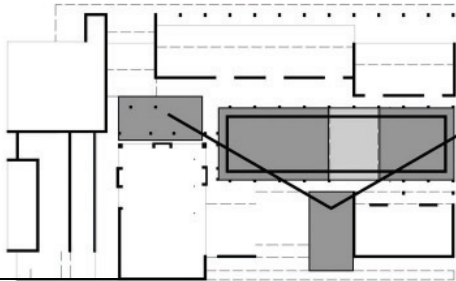
North Elevation

Bird's eye view



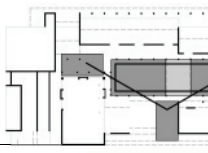
North Elevation in Context

roof sloped down to street protecting shelter from northern sun and public street

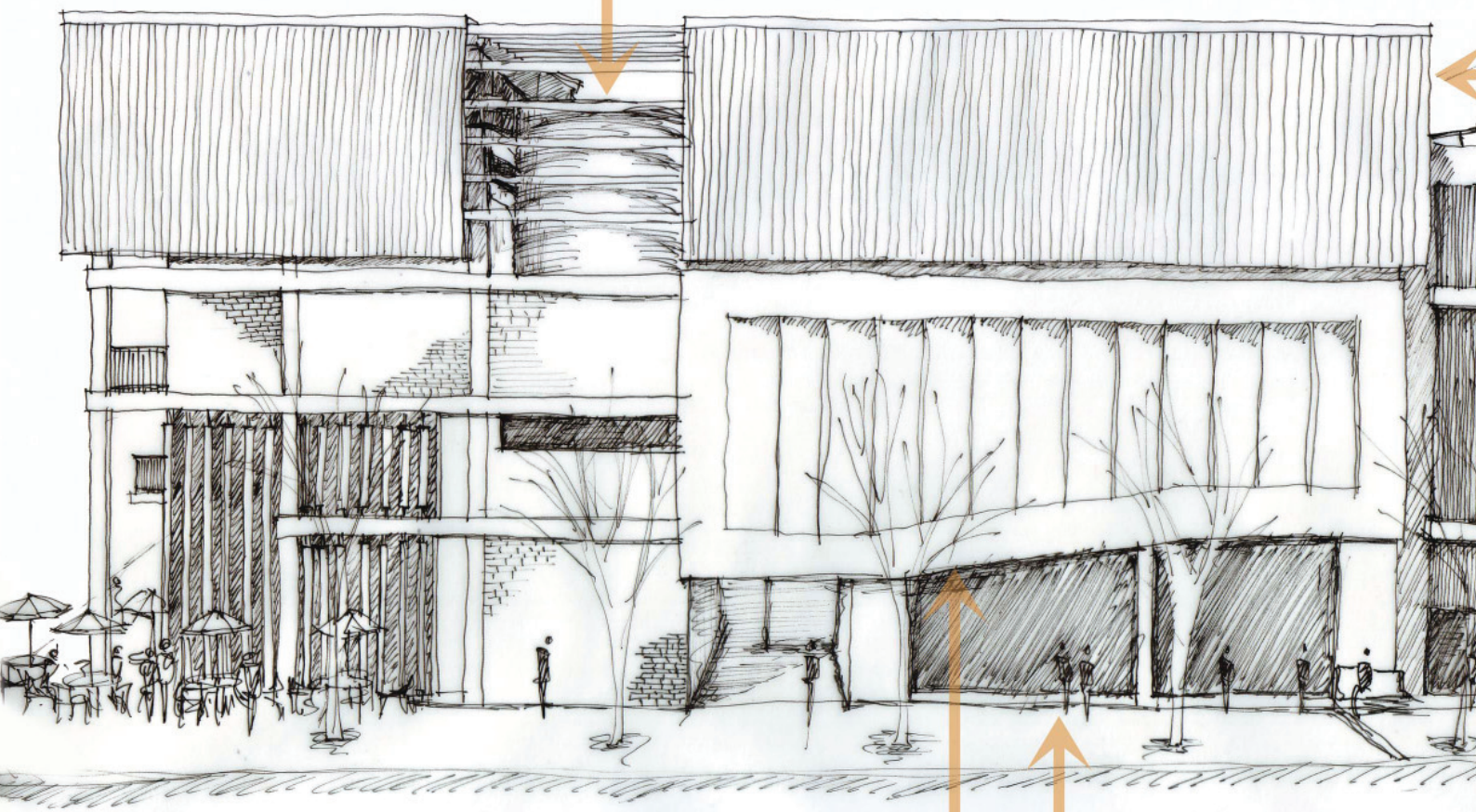
roof construction curves down protecting the entrance of the shelter & façades from western sun

larger glazed area on prominent corner

screened glazed reception area creation transitional zone that in transparent but yet protected



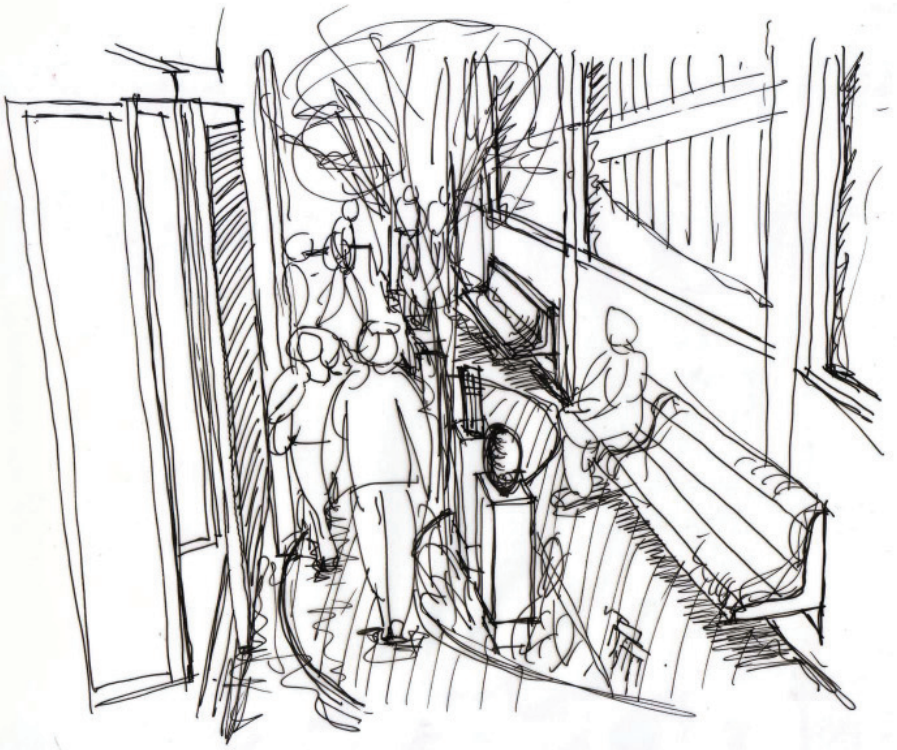
rain water collection tanks, used to water the food garden, expressed in the facades to promote awareness of water conservation



shop fronts edge streets to activate residence and greater community

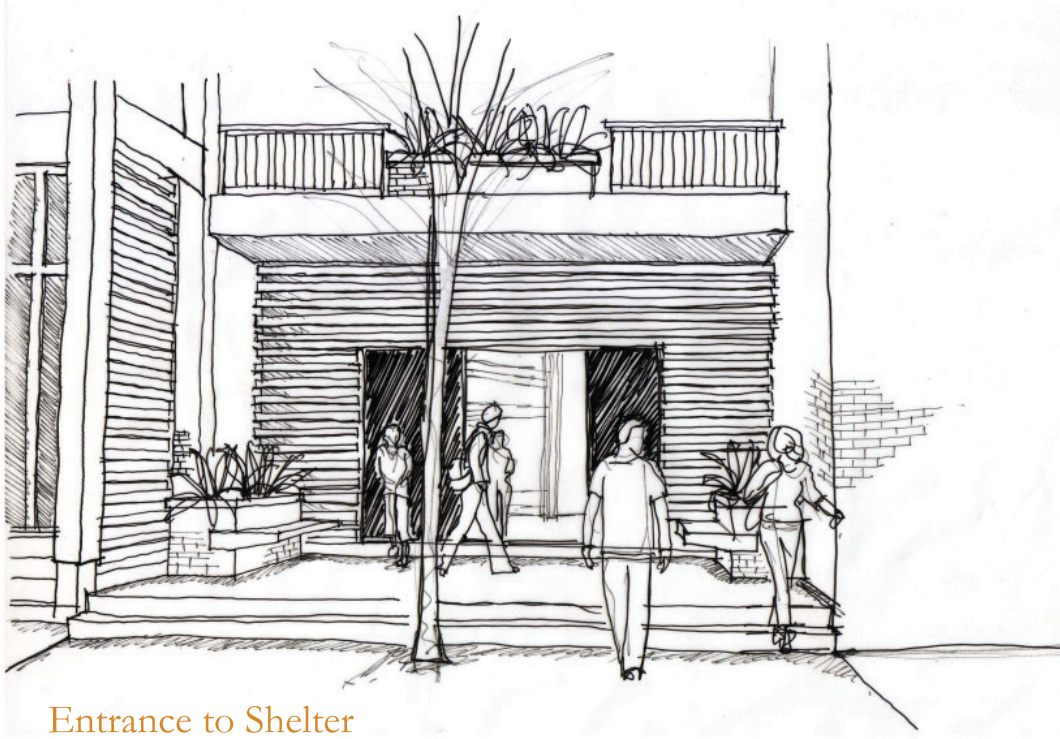
auditorium expressed on façade "advertising" educational

West Elevation



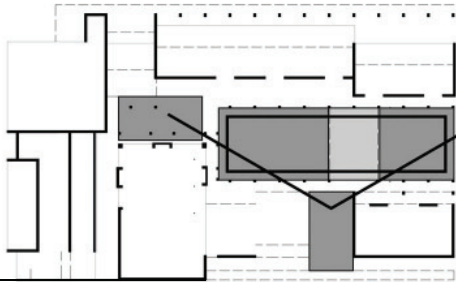
Exhibition Space

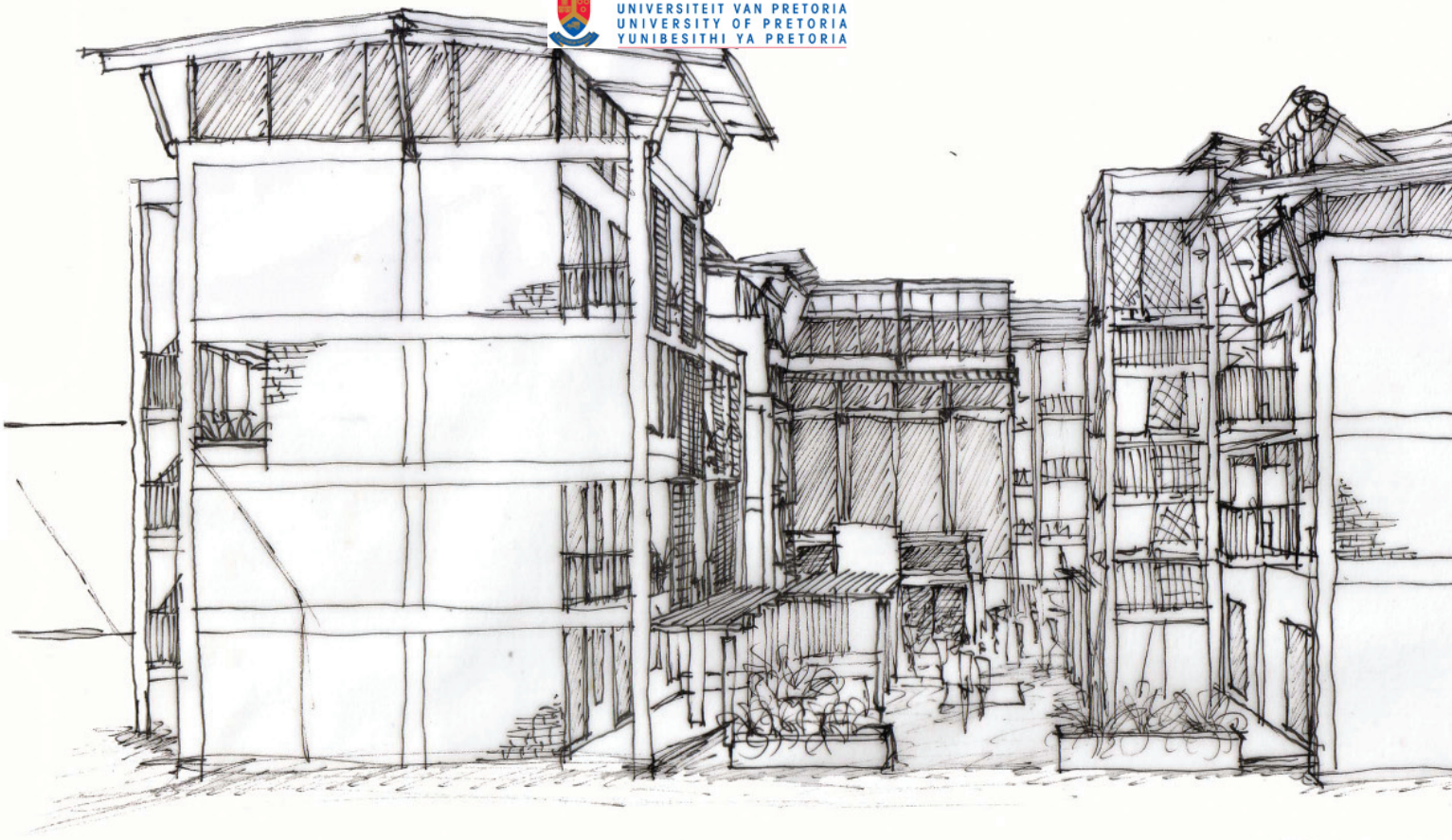
roof construction
independent
from structure curves down
becoming dependent and
protects



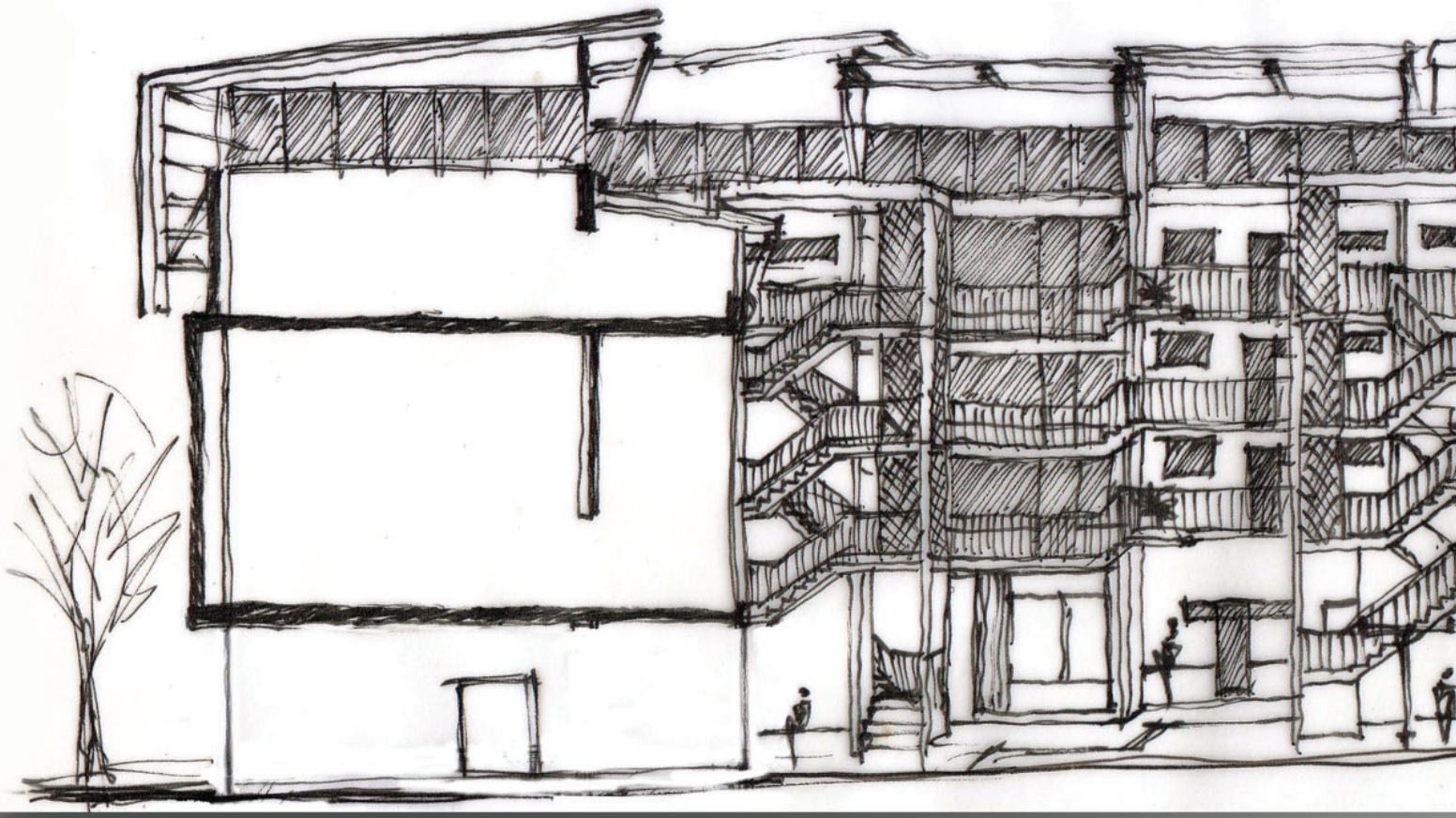
Entrance to Shelter

e sidewalks & interaction between
promoted – **connection**

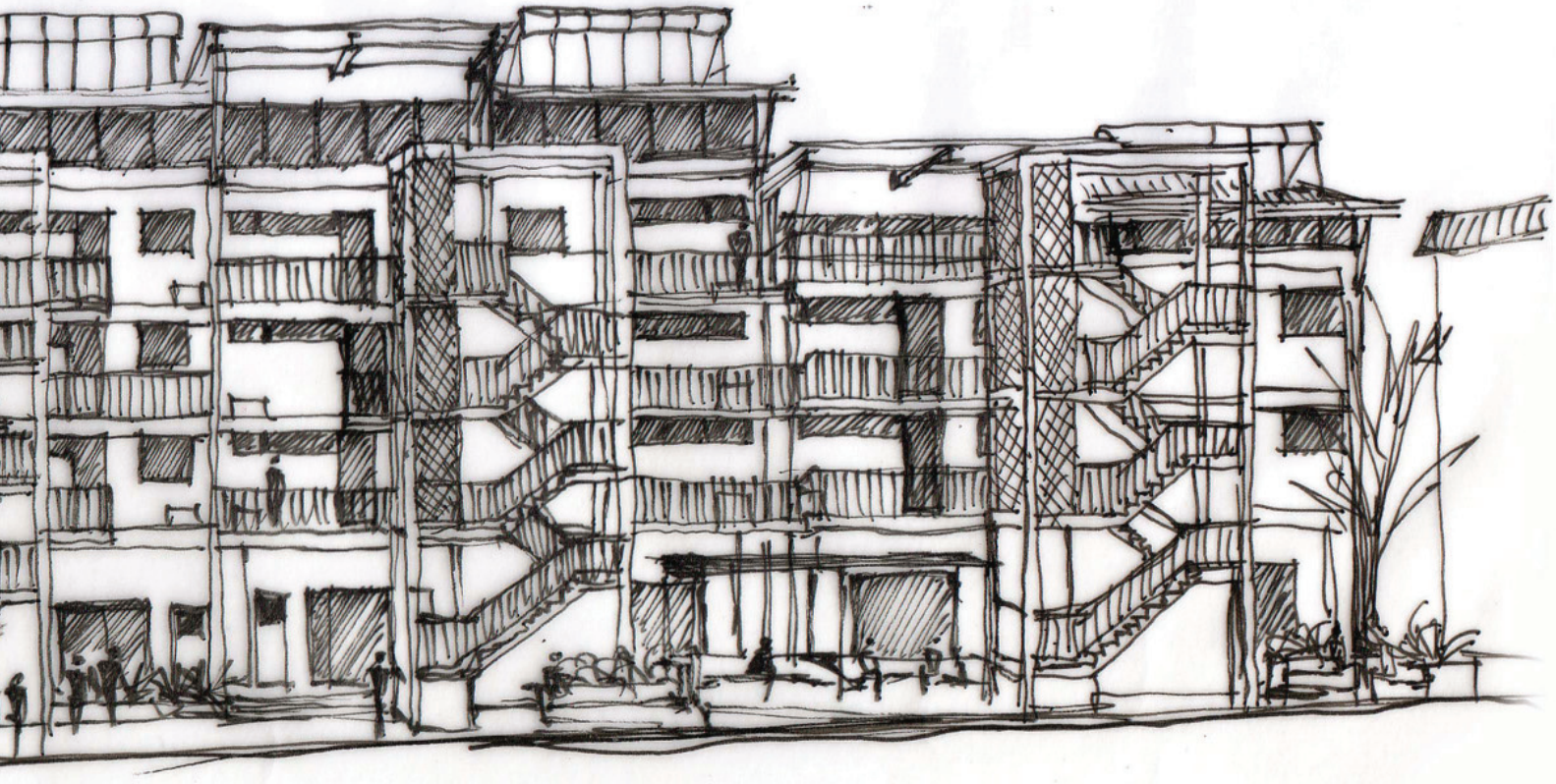


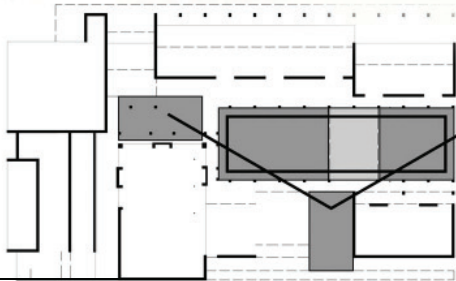


East Elevation

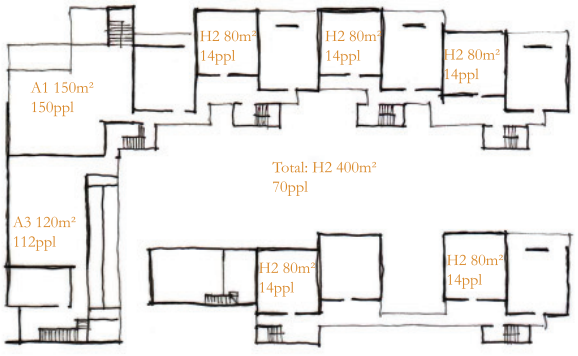


Internal South Elevation





Ground floor plan



First floor plan

Class of occupancy & population

EDUCATIONAL Community Centre:
A3: Places of instruction
Occupancy where school children, students or other persons assemble for the purpose of tuition or learning.
Population; Number of fixed seats or 1 person per 4m²

WORKSHOPS AND SHOPS:
B3: Low risk commercial service
Occupancy where a non-industrial process is carried out and where neither the material handled nor the process carried out falls into the high or moderate risk category.
Population; 1 person per 10 m²

F2: Small shop
Occupancy where merchandise is displayed and offered for sale to the public and the floor area does not exceed 250 m²
Population; 1 person per 4 m²

RESTAURANT/ CAFÉ:
A1: Entertainment and public assembly
Occupancy where persons gather to eat, drink, dance or participate in other recreation
Population; 1 person per m²

HOMELESS SHELTER:
H2: Dormitory
Occupancy where groups of people are accommodated in one room.
Population; 1 person per 5 m²

49x 40m² = 1840m²
Max residential population: 322ppl
AVERAGE POPULATION: 200PPL

Typical floor plan

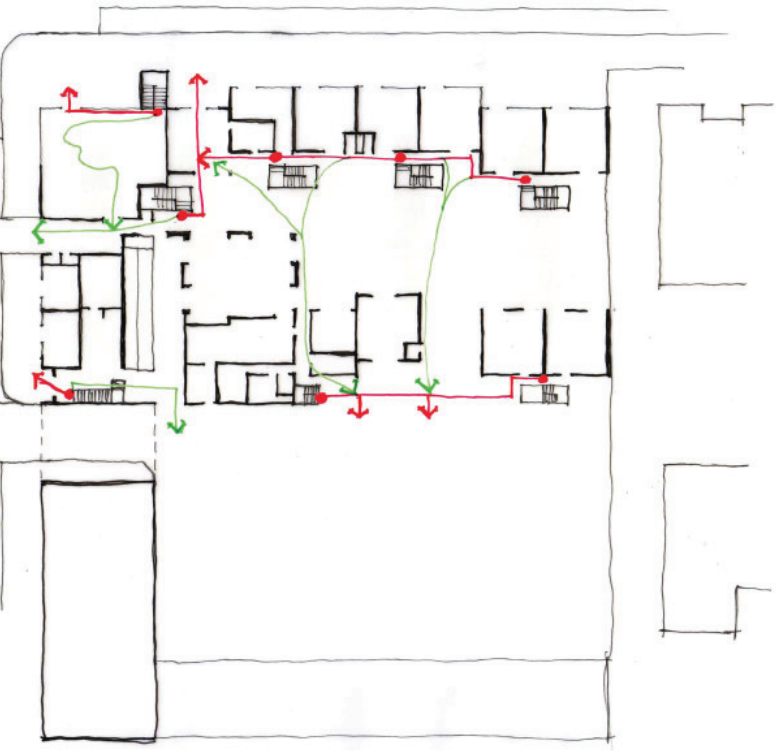
Provision of fire hydrants

Hydrants
In accordance to TT35, SABS 1128: Part ii
Hydrants required for building exceeding 12m in height
Hydrant to be provided with a length of appropriate fire hose **24 m** in length together with couplings and a 16 mm internal diameter nozzle

Portable fire extinguishers: TT37
A3, F2, A1, H2: 1 per 200m², 4.5kg dry chemical portable fire extinguisher

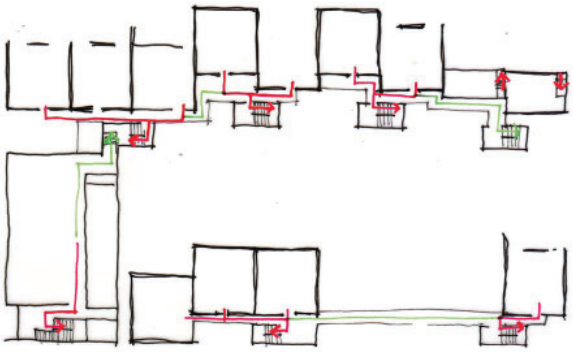
B3: 1 per 400m², 9kg dry chemical portable fire extinguisher

Fire Protection:
in accordance with SABS 0400 – NBR – Part T



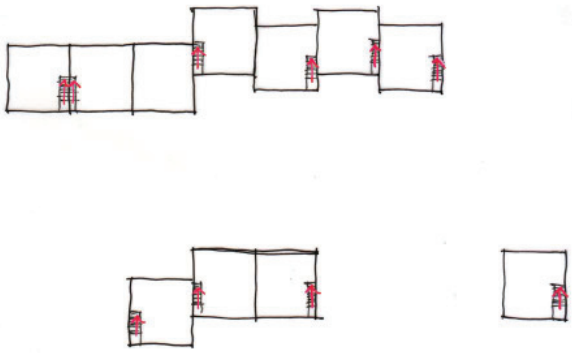
Ground floor plan

Second floor plan



Third floor plan

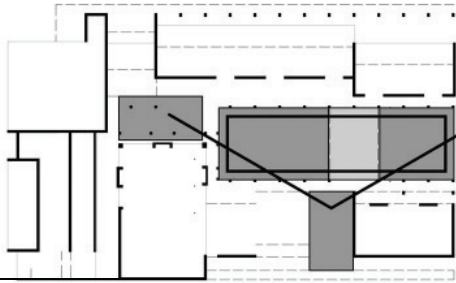
First floor plan



Fourth floor plan

Escape Routes: TT 16

Two routes less than 45m in length



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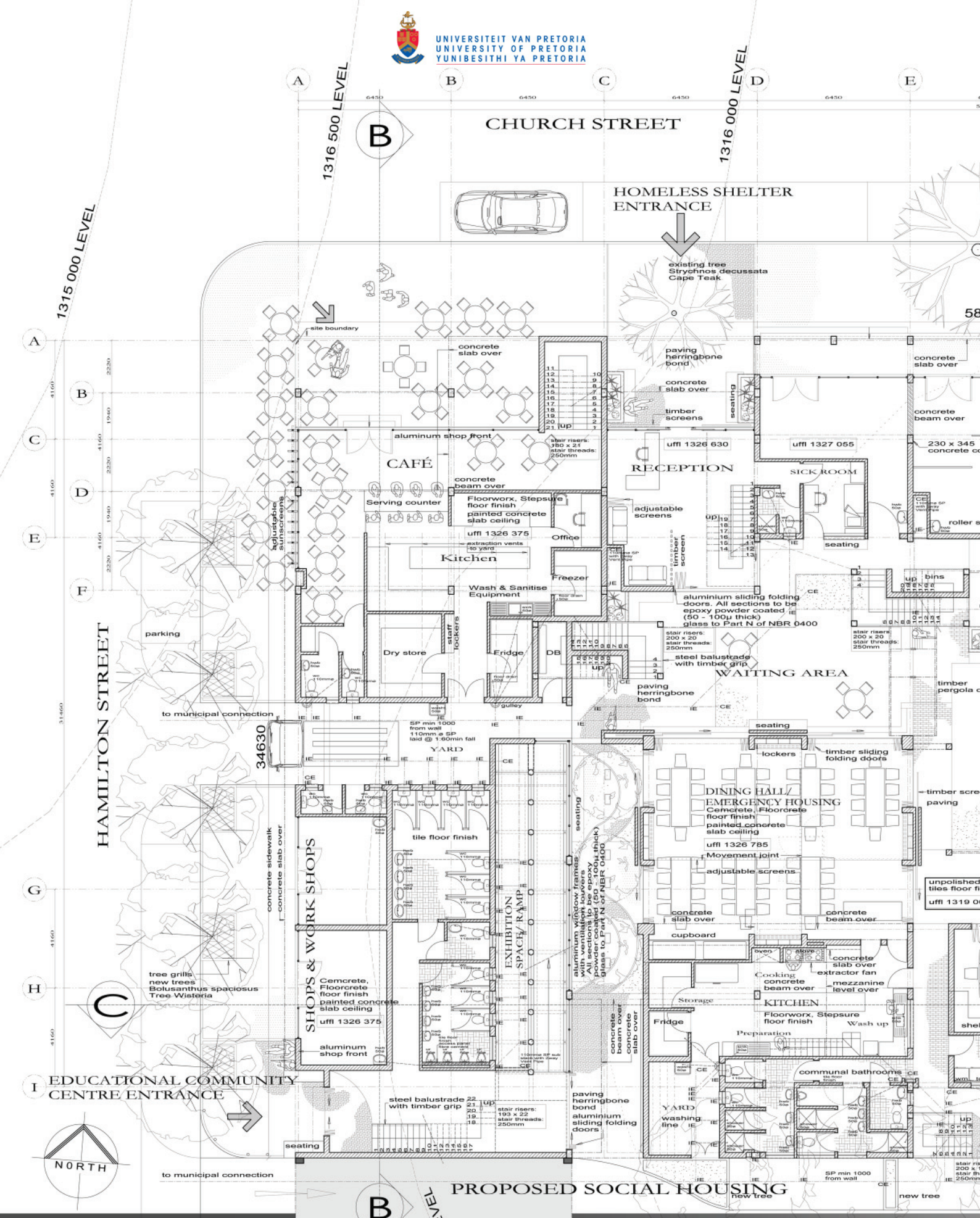

Ground Floor Plan

Scale 1: 100

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F G H I J

1316 500 LEVEL

1327 000 LEVEL

6450 6450 6450 6450

parking

existing tree English plane

concrete sidewalk

existing tree Jacaranda

seating

existing tree English plane

paving herringbone bond

RWDP

granolithic screed floor finish

timber pergola over

aluminum shop front

SHOPS & WORK SHOPS

Cemcrete, Floorcrete floor finish

painted concrete slab ceiling

uffi 1327 395

gypsum ceiling line

infill, dry stacked hydroform blocks allowing shops to change in size according to requirements

adjustable screens

SHOPS & WORK SHOPS

Cemcrete, Floorcrete floor finish

painted concrete slab ceiling

uffi 1327 650

230 x 345 concrete column

existing tree removed Harpephyllum caffrum Wild plum

1327 500 LEVEL

duct covered with fibre cement board

paving stretcher bond

concrete slab over

bins

paving herringbone bond

steel balustrade with timber grip

planter

seating

paving

SP min 1000 from wall

seating

bins

existing tree Harpephyllum caffrum Wild plum

EXISTING HERITAGE BUILDING
ARCADIA MANSIONS
3 STOREYS

stair risers: 200 x 20 stair threads: 250mm

Steel floated concrete floor finish with slip prevention grooves

ACTIVE

ZERO LEVEL WATER FEATURE

QUIET

existing tree Harpephyllum caffrum Wild plum

existing tree Harpephyllum caffrum Wild plum

seating

timber pergola over

paving stretcher bond

seating

seating

timber pergola over

stoep

non-slip ceramic tiles floor finish

porcelain

cupboard

UNITS FOR DISABLED RESIDENTS

230 x 345 concrete column

timber sliding folding doors

FOOD GARDEN

non-slip ceramic tiles floor finish

painted concrete slab ceiling

uffi 1327 970

STUDY

uffi 1327 000

CRÈCHE

uffi 1327 250

infill, dry stacked hydroform blocks

vinyl floor tiles Floorworx Noramment floor finish

store

UNIT 1

UNIT 2

LAUNDRY

concrete beam over

duct covered with fibre cement board

concrete slab over

concrete slab over

washing line

Washing line- expanded metal cage V.E.M.6355H

stair risers: 200 x 13 stair threads: 250mm

110mm ø SP laid @ 1:60min fall

parking

new tree

new tree

new tree

existing tree Harpephyllum caffrum Wild plum

1327 000 LEVEL

1327 500 LEVEL

1328 000 LEVEL

NOTES

1. All levels and dimensions to be checked on site prior to commencing the work.
2. All work to be in accordance with the National building Regulations and Local Authority by-laws.
3. Any errors, discrepancies or ommisions is to be reported to the architect immediately.
4. Figured dimensions to be taken in preference to scaled dimensions.
5. These architectural drawings are to be read in conjunction with engineers and consultant drawings where applicable.
6. Strength and stability of all walls to engineers specification. Eng. to design and specify foundations & roof construction.
7. Foundations to boundary walls not to encroach over boundary lines.
8. Brick force reinforcing to be installed in substructure brickwork every four courses.
10. All balcony balustrade walls to be anchored to eng. detail to conc. slabs.
11. Dpc 170mm min. above finished ground level.
12. Soil poisoning against all new foundation walls and under all new floor structures; written guarantee for 10 years provided.

glazing note:

all glass according to sabs 0400 part h, sabs 0137 glass thicknesses must be as follows for different areas:
area: < 0,75m² : 3mm thick
area: 0,75m²-1.5m2 : 4mm thick
area: 1,5m²-2.1m2 : 5mm thick
area: 2.1m2-3.2m2 : 6mm thick
all glass lower than 500mm : safety glass with markers.
all entrance doors sidelights to be safety glass with markers.

drainage note:

1. all soil pipes under the building or footings to be encased in concrete of min. 150mm thick all around pipes.
2. inspection eyes at all bends and junctions of drains, with marked covers at ground level.
3. all waste pipes to be accessible over the entire length.
4. no drainage bends or junctions in or under floors.
5. provide i.e.'s at each end of encased drain where same passes underneath the building as near as posible to foundations.
6. waste pipes under floors to be sleeved.
7. min. fall of 110mm pipes to 1:60 with min. of 300mm cover.
8. waste pipes to basins to be min. 40mm and to all other fixtures min. 50mm.
9. provide 2 way ventvalves to any vertical soilpipe lower than roof heigtht

SCHEDULE OF AREAS

GROUND FLOOR:	1055m²
FIRST FLOOR:	947m²
SECOND FLOOR	912m²
THIRD FLOOR	872m²
FOURTH FLOOR	459m²
TOTAL:	4245m²
SITE AREA:	2017m²
COVERAGE:	52%
FSR:	2.1

nr.	revision	date

project
SHELTER FOR THE HOMELESS
ERF 1517, 555 Church Street, Arcadia, Tshwane

drawing title
GROUND FLOOR PLAN

project nr.	date
1001	11/2010
drawn	scale
ME	1: 100
drawing number	revision
1001-110	00-00

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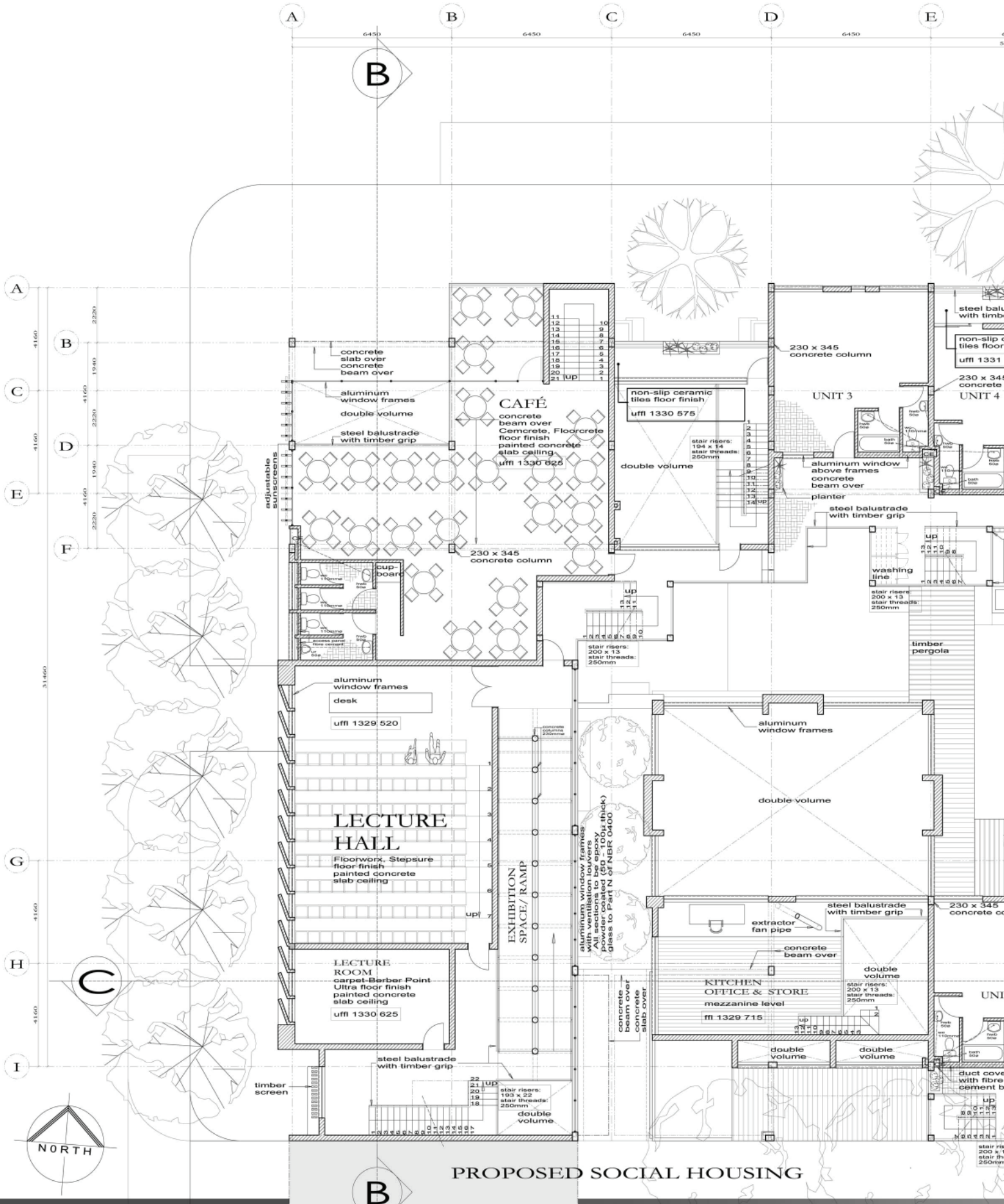

First Floor Plan

Scale 1: 100

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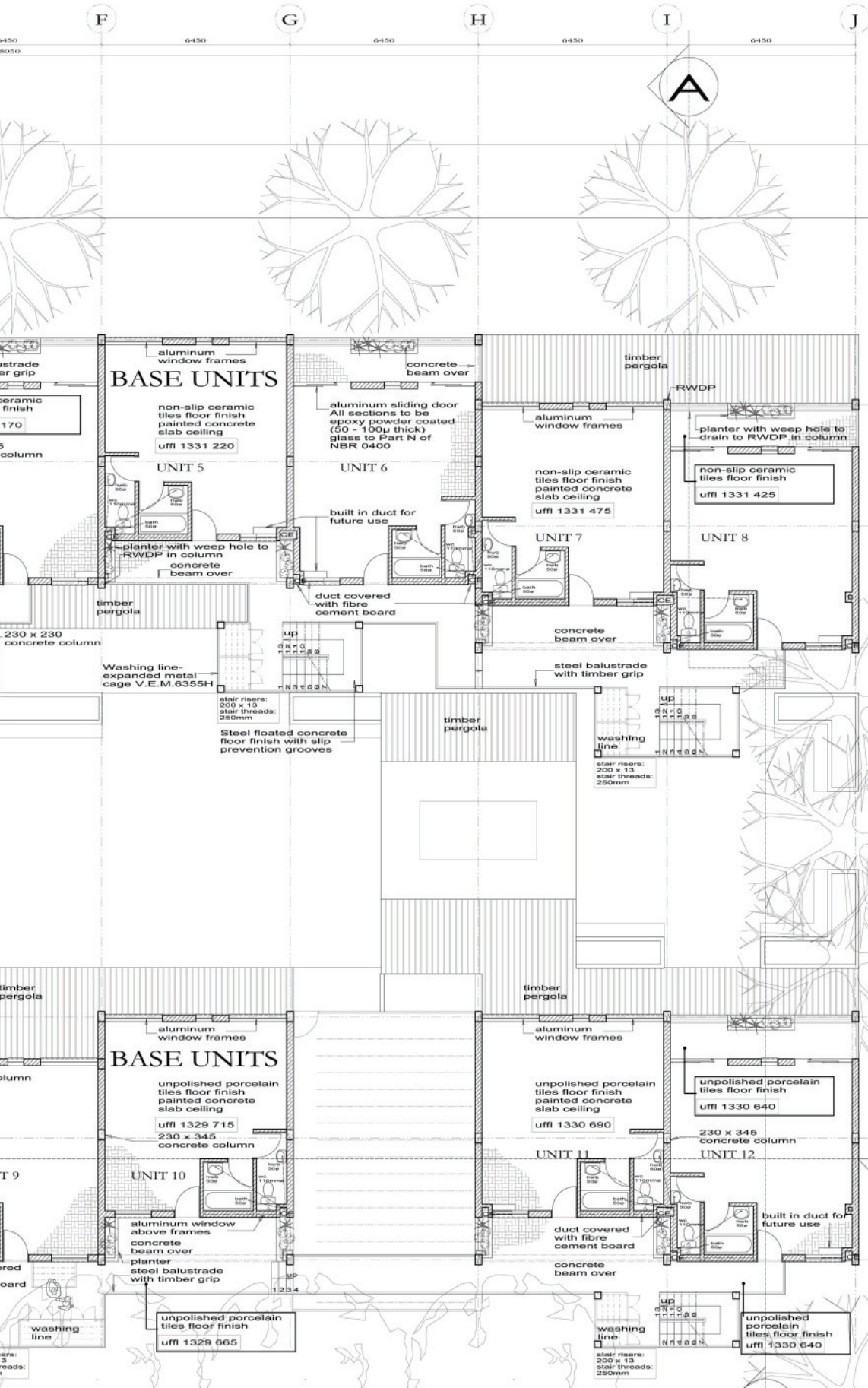

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EXISTING HERITAGE BUILDING
ARCADIA MANSIONS
3 STOREYS

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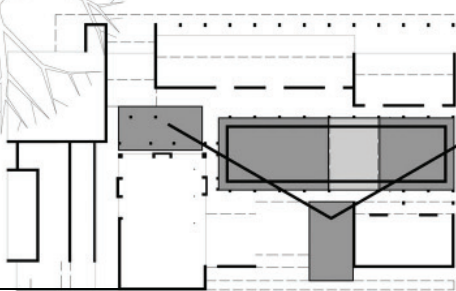
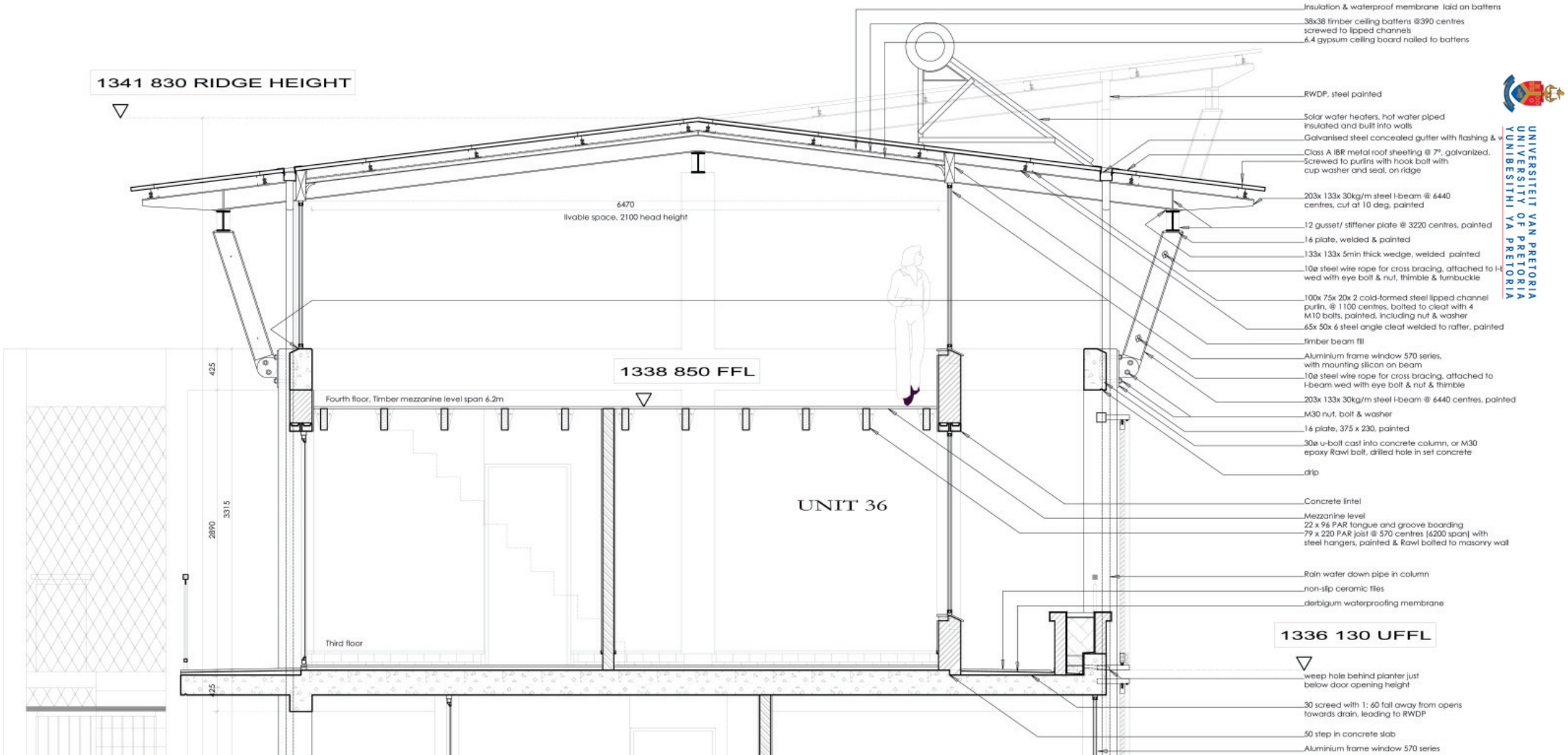
nr.	revision	date

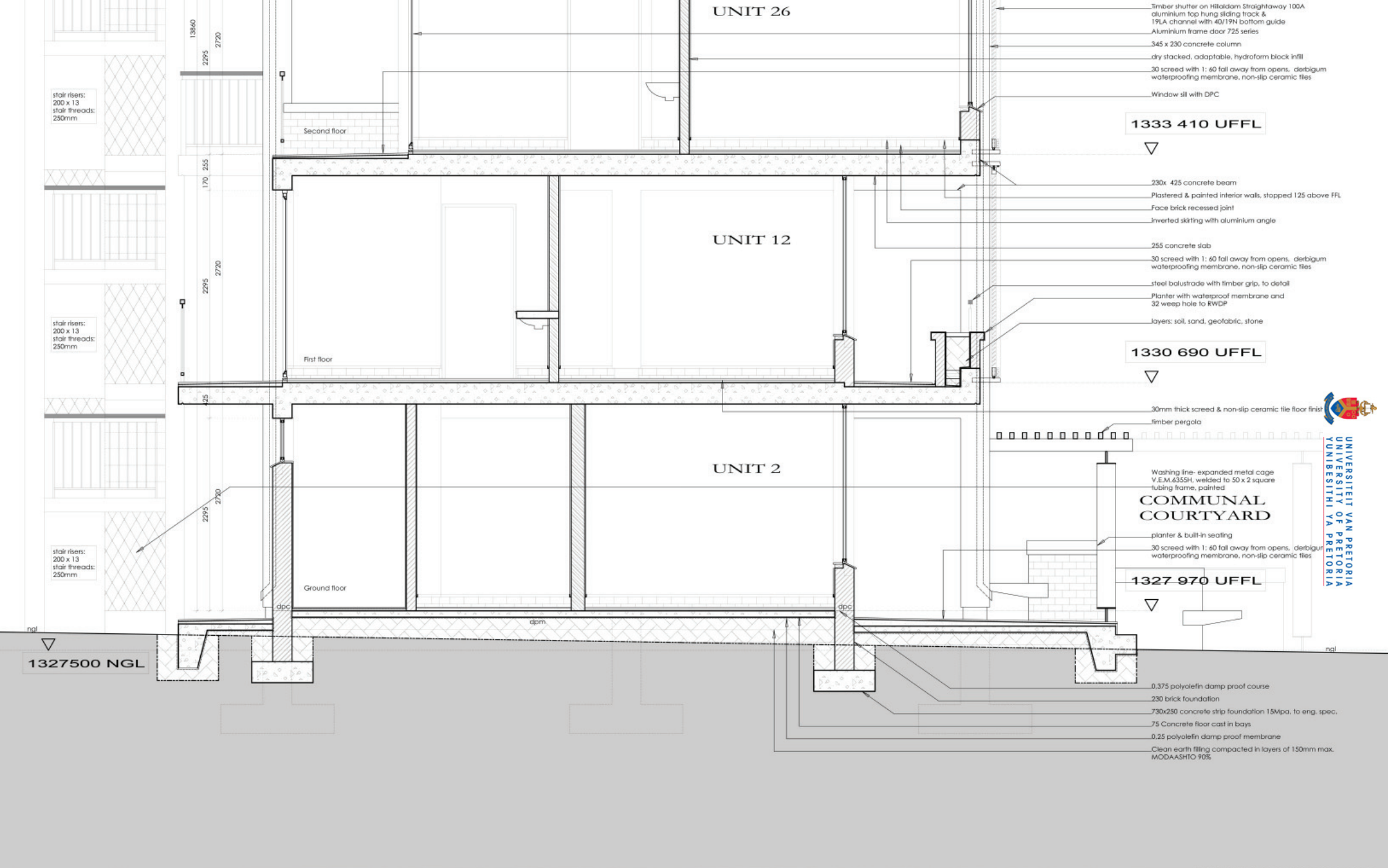
project
SHELTER FOR THE HOMELESS
ERF 1517, 555 Church Street, Arcadia, Tshwane

drawing title
FIRST FLOOR PLAN

project nr.	date
1001	11/2010
drawn	scale
ME	1: 100
drawing number	revision
1001-120	00-00







Section AA

Scale 1: 20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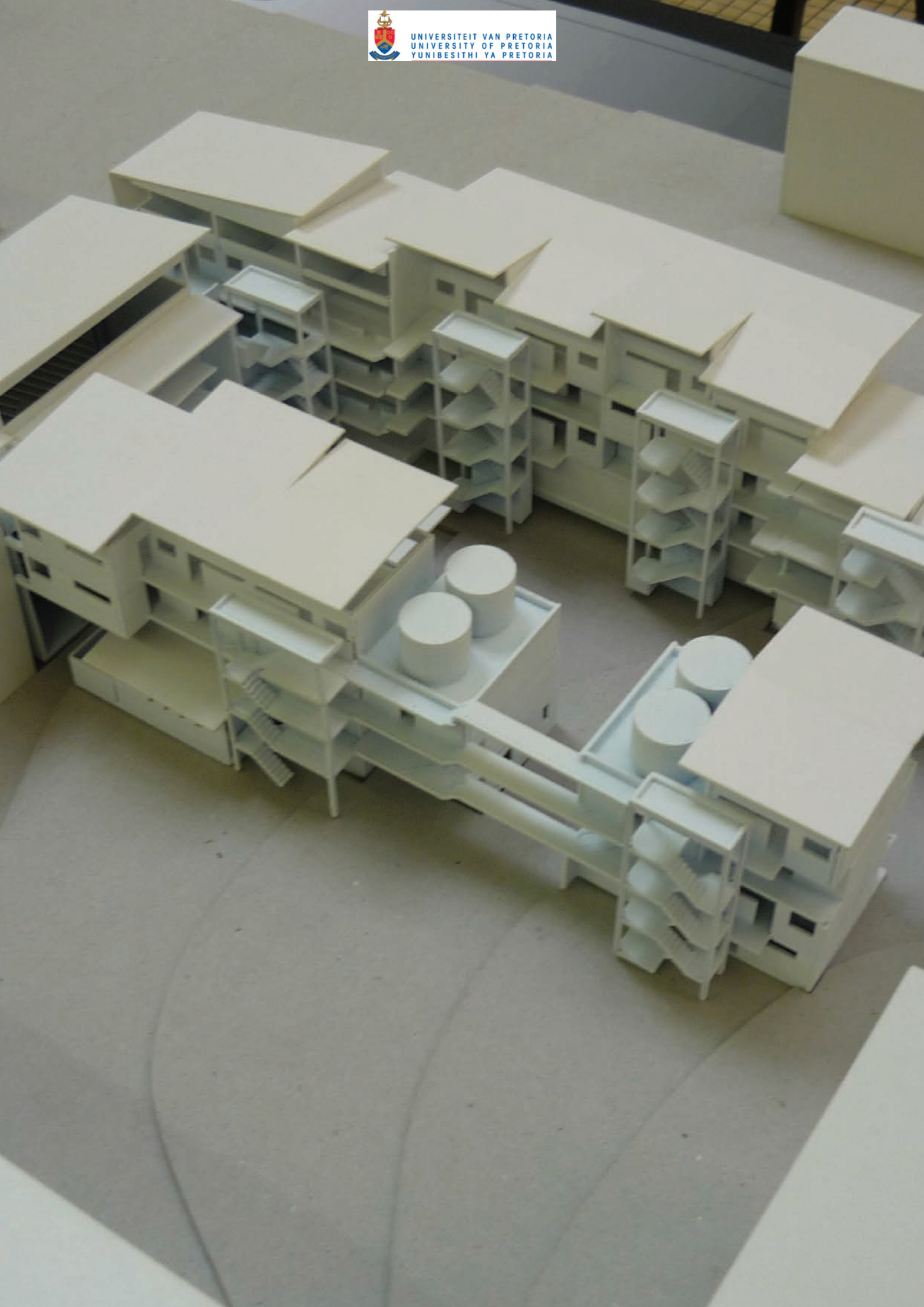

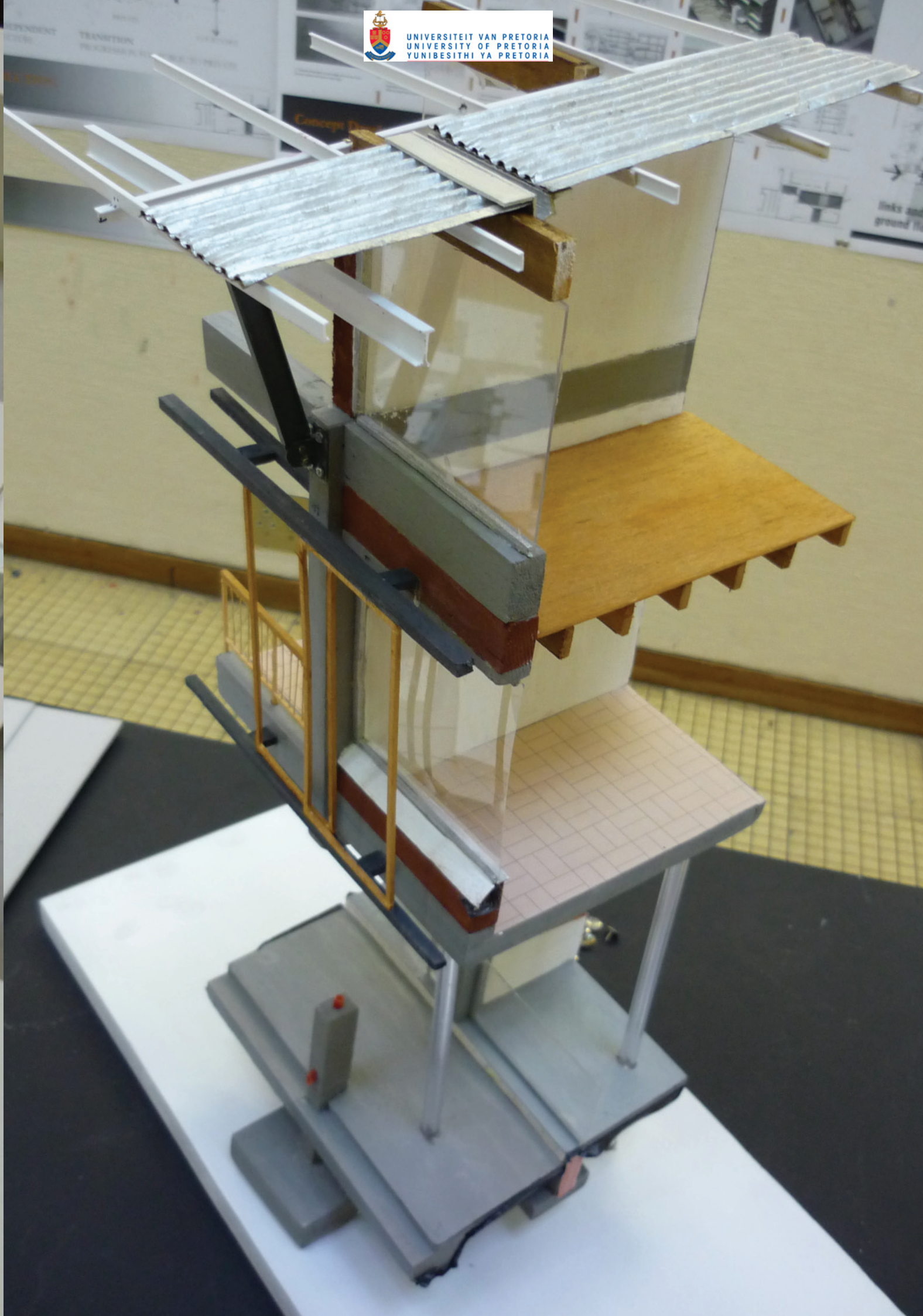
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