

https://dspace.org/

Holistic therapy: the antidote: art and architecture

Mafisa, Mantheki Karabo

2012-07-05
http://hdl.handle.net/10539/11622

Downloaded from a DSpace repository. https://dspace.org/

Holistic Therapy

The Antidote: Art and Architecture



Fig. 47

Holistic Therapy

The Antidote: Art and Architecture

By

Mantheki Karabo Mafisa

This document is submitted in partial fulfilment for the degree:

Master of Architecture [Professional]

At the University of the Witwatersrand, Johannesburg, South Africa, in the year 2011

Johannesburg, Gauteng, South Africa, 2011
© Mantheki Karabo Mafisa 2011

With special thanks to
Mohammed Munchi
Henning Ramus
& Marilize Van Dyk

Author's Declaration

I, Mantheki Karabo Mafisa [0502842g] am a student registered for the course Master of Architecture [Professional] in the year 2011. I hereby declare the following:

I am aware that plagiarism [the use of someone else's work without permission and/ or without acknowledging the original sources] is wrong. I confirm that the work submitted for assessment for the above course is my own unaided work except where I have stated explicitly otherwise. I have followed the required conventions in referencing thoughts, ideas, and visual materials of others. For this purpose, I have referred to the Graduate School of Engineering and the Built Environment style guide. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the source of the ides or words in my own work.

This book is dedicated to

My cousin, Mareka Mahlomola Mafisa,
And my father, Nano Ernest Mafisa.

Acknowledgements

I would like to thank God for getting through all obstacles in my life and always making my dreams come true. Without you all would not be possible.

To my family thank you for constant support in all I do and dealing with the late pick up's from campus, the tears of frustration and dealing with this strong headed person called me! Thank you for moulding me into the woman I am today. Thank you Deddy for always doing everything in your power to make everything possible for me. There aren't enough words in this world to describe my gratitude and how I feel so blessed to have been given you as a father. You're my hero. I hope I can continue showing you all that is owed to you for all you have given me.

Thank you Mohammed Munchi for your guidance and support and for helping me rediscover the art of drawing again. I fell in love with architecture again. To my mentors Marilize Van Dyk and Henning Ramus, thank you for believing in me, motivating me and keeping me geared me in the right direction and showing me the reality of the situation. Basically thanks for keeping it real.

Thanks to my colleagues, Chayneeka Jayawardena, Kutlwano Parkinson and Mukuka Mofu for always keeping me focused and being the support I needed that has gotten me this far. To all those who contributed Gift, Keabetswe, Mapaseka (Mpaci), Thulisa, Lebo, Ntokoso, Rithabile, Tumi, Dixi for helping out with whatever you could. Your contribution is much appreciated! Thank you!

ABSTRACT

Holistic Therapy

The Antidote: Art and Architecture

The aim of this thesis is to investigate how art and architecture can inform healing or provide space and events where healing can take place. Mental health has been a debated topic to centuries and still today, the common being has not grasped its complexities that bound us all unique. The stigma created by human perception has hindered our knowledge which has resulted in segregation.

The arts and art therapy have, over the years, been used to heal different aliments such as cancer, mental illness, aids, abused woman and children, the elderly and have been successful in doing so as it heals across all ages and race. The question I pose is can architecture do the same? Furthermore, can architecture be used to create spaces that encourage or induce healing?

The architectural intervention aims to re-integrate these segregated communities, specifically people with mental illness, back into society. The intervention aims to offer a place for rehabilitation, a place for healing, a half way house, a place for economic independence for those with mental illness and challenge traditional mental hospital model in order to de-stigmatise mental disability.



Holistic Therapy

The Antidote: Art and Architecture

CONTENTS

Chapter 1 Theory - Art as Healing pg. 8

Prelude pg. 9
Art as Healing - Introduction pg. 10
Art + therapy = Art therapy pg. 12
Architecture as a Healing Space pg. 18
Conclusion - Site criteria pg. 24

Chapter 2 Healing a dead space pg. 26

Site selection pg. 27
Site variations pg. 28
Site rationale pg. 30
Site introduction pg. 31
Site Analysis pg. 34

Chapter 3 Precedents pg. 46

Prelude pg. 48
Precedents pg. 49
Conclusion pg. 68

Chapter 4 Theory - Psyche of Space pg. 70

Prelude pg. 71
Introduction pg. 72
The Psyche - focus on Mental Illness pg. 73
Psyche of Space pg. 74
De-institutionalizing the Institution pg. 76
Conclusion pg. 77

Chapter 5 Programme pg. 78

Solving the problem pg. 80
Programme proposal pg. 84
Programme definition pg. 84
Programme resolution pg. 85
Programme connection to theory pg. 87
Programmatic schedule of accommodation pg. 88

Chapter 6 Design pg. 90

Design brief pg. 91
Concept rationale pg. 92
Design development pg. 94
Programmatic massing pg. 102
Site responses pg. 104
Third design review pg. 106

Chapter 7 Building Technology pg. 118

Con-text-ural Section pg. 122
Retaining walls pg. 123
Bio-diverse roofs pg. 124
Rammed earth walls pg. 126

List of figures pg. 128

Reference List pg. 118

Chapter 1

THEORY/ Art as Healing

- Prelude
- Art as Healing- Introduction
- Art + Therapy = Art therapy
- Architecture as a Healing Space
- Conclusion- Site criteria



PRELUDE

In the search of exploring how art can be a remedy for healing I came across art therapy. Art therapy is an alternative therapy that has been used since the late 1940s to help patients heal from physical and mental abuse and its associated illnesses. Art therapy's treatment process begins with healing the mind or the "self" in order to bring about holistic healing and change in a person's life. The following chapter explores the notion of how art , primarily art therapy, achieves this.

INTRODUCTION



Fig. 2.
Basotho iron age rock art -
An artistic expression relaying a lived experience

Art has always been a part of our culture, tradition and society. The human race has evolved with some form of art within cultural practices since our early beginnings and it seems inherent in all of us whether it is through praising of the gods, healing or rites of passage. Yet, as evident as this may be, many disregard the healing qualities that art possesses and the enhancement of lateral creativity that it can bring to us. To look at art as a tool for healing we have to transcend thresholds that rigidly bind us to the confinements of our rational consciousness. We need to understand art beyond the traditional technical approach of artist and canvas. We need to free the boundaries from the mundane rules of art and explore the therapeutic qualities that it can enhance in all of us. The arts, whether in the performing arts (acting, dancing, singing), painting/sculpting, cooking or even gardening are a form of meditation where the creator is in tune with his/her centre. In this sense, art is a spirit that one unconsciously experiences with a sense of a healing.

For me, art is the creation of what the soul is crying out to express. It is the harmony that fine-tunes the soul with what is real and tangible. If we are all architects of our reality, then art is an expression of how we see ourselves within ourselves in relation to the world around us. This means that artistic expression is personal and it is a journey of self-discovery -much like healing.

It may be that the tendency to ignore this element of art lies with a misunderstanding of the perceptions of healing. Esther M. Sternberg (2010:14) defines healing as: "...If Illness and health are nouns, then healing is a verb. It is movement in a desired direction- a journey that takes you from illness to health." By this interpretation, therefore, healing is an action: a decision one makes in search of better well-being.

I perceive a certain ignorance on man's part when it comes to denying art as a form of healing or not seeing it as effective in bringing about positive change in a person's life. Tessa Dally (1984:25) elaborates on how people often neglect the concept of art as healing based on how they perceive their own creativity or their relationship with art in general. This lack of understanding is a hindrance for people to gain insight into art's meaning or message because art is an abstract means of communication. Art is detached from what is real and is more connected to what is felt and believed by our unconscious mind. In essence, it is from this emotional connection where the belief and will to heal begins.

With this in mind, I would like to explore art therapy to see how art can be used as a tool for healing. Art therapy takes a psychological approach by looking at the effectiveness of art to promote healing. It is a therapeutic experience aimed at connecting with the inner-self to bring about change in a person's lived experience. The question that needs to be asked is that, if art does have a healing effect how can architecture as an artistic science contribute to this? Can our environments cause us to heal or can it make us sick? I would like to explore the architecture which can be used as a tool for healing.

Healing is..." a journey that takes you from illness to health." (2010:14).

ART + THERAPY = ART THERAPY

Art is an inherent feature in every society. It was used by our forebears as a medium through which to communicate and document important events revealed by way of trances and visions. The art became a historical record of the society's existence, linked as it was to spiritual rituals performed to guide future aspirations, dreams, wishes, rites of passage and the way of life of that society.
Clearly, it can be said that art has been linked as far back as the beginnings of our human heritage: whatever its form, medium or cultural background, art has been a symbol of humankind's personal and cultural progression. By simultaneously reflecting and predicting social trends, art has continued to cultivate a tradition of being a medium of personal expression and creative enlightenment. The visual arts in particular – be it drawing, painting, sculpture, dance, music – have been seen through a poetic lens as a creative rite.

Yet there is more to art than this– there is also the neglected aspect of its healing properties and qualities. The notion of art as therapy gained momentum over the past 70 years since the term "art therapy", first used in the 1940s, and the professional training of art therapists was established in the late 1980s in Britain (Fuller 1983: ix). Although art therapy has longer established roots in disciplines such as education, aesthetic art, psychology and psychoanalytic tradition, art therapy *per se* defined as *"...the use of art and other visual media in a therapeutic or treatment setting." (Dalley 1984: xii), is complex and diverse in its range of treatment.* It can be applied in a situation with *"...a child scribbling in crayons to express him or herself, to the mentally handicapped man working with clay to the graphic painting by a woman, deeply depressed,"* (Dalley 1984: xii).
The therapy bond is through a flow of communication between client, art and therapist and *vice versa*.

However, as these methods may be translated into forms of art, the main purpose of art therapy is that the creator and the process become the most important aspects in the creation of the artwork. Art then becomes a means of non-verbal communication to achieve both a conscious and unconscious state of expression. Sigmund Freud, pioneer of the disci-

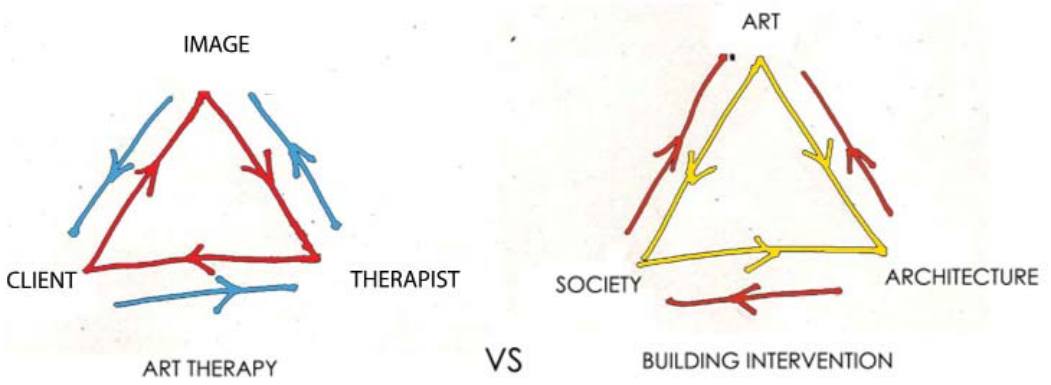


Fig. 2.
Basotho women's initiation:
Their bodies are painted in decorative artistic patterns and motifs celebrating a rite of passage

pline of psychoanalysis, made the distinction between primary and secondary processes of the human mind. He said the imagination, symbolic, non-verbal and non-discursive modes of thought belonged to the primary processing part of the mind, whereas the rational, verbal and analytic modes of thought belonged with the latter. These modes of processing represent the unconscious and conscious mind, respectively.

Both these processes are *"...adaptive and necessary for creative and healthy human life at any stage of development."* (Fuller 1983: x) and they have a complementary function to each other. Therefore, in any creative process both are equally important. The question is: when an architect creates or designs a building is he/she creating the building only from personal consciousness (all that is clear, correct and rational) or does his/her passion for what is being created become the driving force of his/her craft? Can one then say that the unconscious mind takes over and he/she is then driven by what is felt?

The Oxford Dictionary defines the unconscious as "the part of the mind containing psychic material that is only rarely accessible to awareness but that has a pronounced influence on behavior ". This inter-action between the conscious and subconscious state of being means that by focusing on the conscious and unconscious mind in therapy, a therapeutic change is then possible, and this is what informs healing. "Therapy is the desire to bring change and clarity to human disorder" (Dalley 1984: xii). As Ullman (1961: 19) explains:
"A therapeutic procedure is one designed to assist favorable changes in personality or in living that will outlast the session itself." The aims and effects of therapy are meant to produce a permanent change in a person's life. Thus the very essence of art therapy is the therapeutic outcome in the process of creating or as Freud (1973: 423) puts it *"For there is a path that leads back from fantasy to reality- the path, that is, of art."*



The flow of art therapy during a therapy session compared to an architect designing a building

This is not to ignore that creativity is another important aspect of therapy. In fact, the creative process in art therapy is linked to how a person brings something new into their own existence. It is this ability that provides the potential force for therapy. A Freudian perception would see the genesis of creativity as personal conflict (Dalley, 1984), meaning that the unconscious defence mechanism acting against neurosis[1] allows inner conflicts to be expressed in an act of creativity. This expressed in a pictorial sense is described as a dream or a dream state to Freud 1962: 90), who likens art to dreams...
"We experience it [a dream] predominantly in visual images; feelings may be present too, and thoughts interwoven in it as well; the other senses may also experience something, but nonetheless it is predominantly a question of images. Part of the difficulty of giving an account of dreams is due to our having translated these images into words. "I could draw it", a dreamer often says to us, "but I don't know how to say it."

1 Definition: A functional disorder in which feelings of anxiety, obsessive thoughts, compulsive acts, and physical complaints without objective evidence of disease, in various degrees and patterns that dominate the personality.

"For there is a path that leads back from fantasy to reality- the path, that is, of art" (Freud 1973:423).

Art therapy encourages this pictorial of the self and the art produced is seen as a spontaneous process released from the unconscious through introspection. Therefore making the art produces a projection of what is felt, experienced or of the self.

On the other hand, Jungians[2] define creativity as finding form to express inner feelings, beliefs and thoughts and to see these as an important experience in the art process. Carl Gustav Jung, as pioneer of analytical psychology, believes that the function of creativity is to restore psychological balance through symbolic meaning. He defined the creative process as that through which an idea or conceptual thought is born and eventually the art is manifested in the creative process of making. As Naumberg (1958: 511) explains:

"The process of art therapy is based on the recognition that man's most fundamental thoughts and feelings derive from the unconscious, reach expression in images rather than words."

Through the process of creativity, a person is both physically and emotionally engaged. By this definition it is thus the fusion between art and therapy that informs healing or adheres to a therapeutic state since both are a natural consequence of each other. Even though art, in its own right, is therapeutic, patients cannot necessarily paint their way back to health. It is only with the help of a therapist that emotions and conflicts surface to help the patient. The art that is created is done with the full understanding of its creator that it may be psychologically analyzed to its fullest capacity. The art is not necessarily beautiful or obvious in its meaning and content. It is up to the therapist to pick up on the significance.

"Unlike dreams, art therapy creations can be represented in concrete form for all to see. The choice of colours and materials used are sometimes be significant. It is not just what is depicted, but how it is depicted and why it is depicted in a particular way that is talked about. The picture, once it is created forms, like a photograph, a permanent record of the state of mind of the subject and of the way he constructed his life situation and the people important to him at the time. The creation can be referred back to minutes, weeks, months or years before and is viewed in conjunction with subsequent pictures. A sequence of pictures can often graphically reveal changes in attitudes or relationships over time."
John Birchnell (1984:37)



Expressing what is felt through art not spoken word

Communication, though not verbal, in art therapy is very important. As language is often a barrier, the medium through which therapist and patient may communicate is best done through art. Mental illness, trauma or anxiety may be the source of the language barrier and art therapy then allows the patient to express him/herself outside the boundaries of language. Through this process of expressing innermost feelings the patients can liberate themselves and begin the process of healing. The emotions and thoughts communicated in the art work may be discussed after the session with a therapist. Through retrospection and reflection of innermost feelings the patient can begin to make an effective and permanent change in his/her life. It is only from this change and acknowledgement of the self that one can change and grow.

"Action" therapies add even greater value to art therapy. Known as catharsis[2], these therapies become a powerful release of emotions and enable the subject to connect with the suppressed emotion and vent it out. This is done by attaching a string of emotions to an object or character represented in a picture and through artistic expression exerting the emotion. This represents a safe, half-way stage as with physical gestures or words the subject can confront conflict without it being physically displayed in the same space.

---

2 The purging of the emotions or relieving of emotional tensions, through certain kinds of art such as drama, dance or music

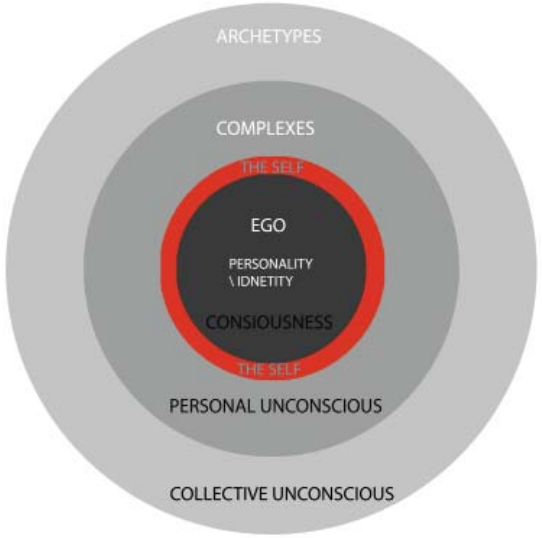
ART THERAPY IN A SPACE OF THE "SELF"

Art in a therapeutic environment is viewed in a completely different way. Carl Jung contributed to art work, not only in the fields of psychopathology and neurosis, with what he calls the Self. The Self, to Jung was far more important in the human psyche than the Ego which he defined as the centre of consciousness. His theory was that if the Ego preserves the conscious mind against the unconscious, then the Self resolves the inherent conflict as it is positioned between the two, and relates to both equally and thus forms the centre of the man's totality (Jung, 1981).

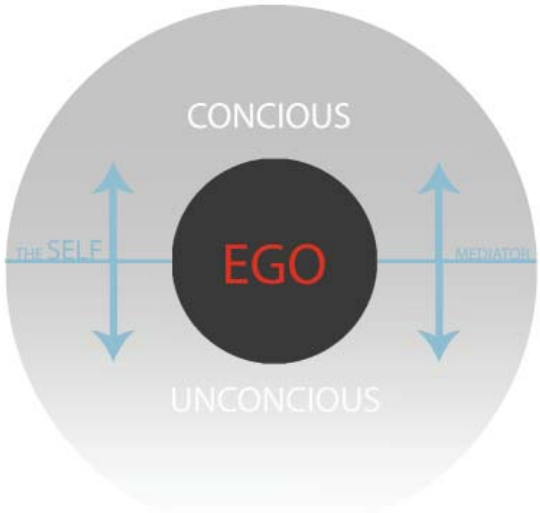
It is interesting to learn that the spontaneous depiction of the Self in human beings is often of a geometrical or numerical nature such as that of a circle and square. The square, reflects a child and a circle usually represents an adult's symbolic wholeness in every culture from the earliest times of man. This shape suggests an inner desire for order and inner security which is fundamental in the development of the personality. The Self is what is nurtured and healed in therapy, the fundamental core of the whole process. This is what needs to show itself during therapy. For this, much-needed appearance and development of the Self, it is imperative that the environment is an appropriate therapeutic "space".

This space in art therapy is both figurative and literal. In the figurative sense, space, is where the therapist creates a "*free and sheltered* space" (Kalff 1980:29) in which a person gains a sense of security where they are safe enough to show their total personality, the Self.

The subject is then able to trust and confide in the "mother's"[3] support because of the established internal environment. This "potential" or "free" space is a place created by both therapist and subject, where fantasy meets reality, where creativity meets emotions in the therapeutic creation of art. This "free" space has to be created in different environments and therapeutic communities: in schools, mental hospitals, prisons and other places of rehabilitation, in order to create a therapeutic bond. The literal space is therefore as important as the figurative ther-



Jung's model of the Psyche interpretation by author



Jung's model of the Psyche interpretation by author

3 The "mother" in art therapy and psychology relates to the persona of the therapist.

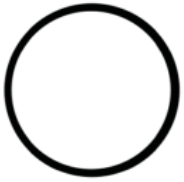
apeutic space experienced between the subject and the therapist. A comfortable, safe space needs to be created allow the subject to open up to the therapist. This is where therapy begins to use the external world and the built environment to relate to an internal state of being. A place where the therapists needs to *"stay with a client in the space they are in..."* Haley Berman[4]

4 The founder of Lefika La Phodiso, an NGO art therapy centre, in Parktown Johannesburg

JUNG SYMBOLS OF IDENTIFICATION



The Child



The Adult



The Self

ARCHITECTURE AS A HEALING SPACE

How then, does architectural space appropriate this idea? Can a space make you sick or can it help you heal? Healing in psychology, medicine and even in the spiritual sense involves a process where the patient or the recipient receives a physically external antidote in order to help them heal. It is then up to the patient to take the inward step of acceptance and retrospection in order to progress the healing. However, if we ignore the qualities of physical context it could involuntarily slow the healing process.

Easter Sternberg (2010), divulges that a study published in Science magazine in 1984 showed that when hospital wards looked out onto nature the patients healed faster. It was modernist architect, Roger Ulrich who performed the experiments that proved that window views could affect healing. Ulrich chose 46 patients, 23 of which had beds near windows that overlooked a landscape of trees and the other 23 looked onto a brick wall. After studying their vital signs and their pain medication doses it showed that the patients that were positioned by the window needed fewer doses of pain medication and were healing at a rapid rate than the others. These new discoveries, at the time, influenced new hospital design with bigger windows and skylights to allow more natural light into the wards to help patients heal. Hospitals also had solariums[6] at the end of every ward so that patients could sit and absorb the healthy rays of the sun. This meant that hospital wards provided for treatment facilities in the ward where medication and rest were provided for, and
healing facilities where one could relax and enjoy nature and the healthy rays of the sun. In addition, natural sunlight and air were the most effective ways of purifying the air and killing bacteria.

The idea of the window was not only an apparatus to bring light in to a building; it had become a “portal” that transcended patients from the painful reality of illness to a space of meditation that lead to relief. It was a way of accessing memories of better times and places that progressed patients to better health.



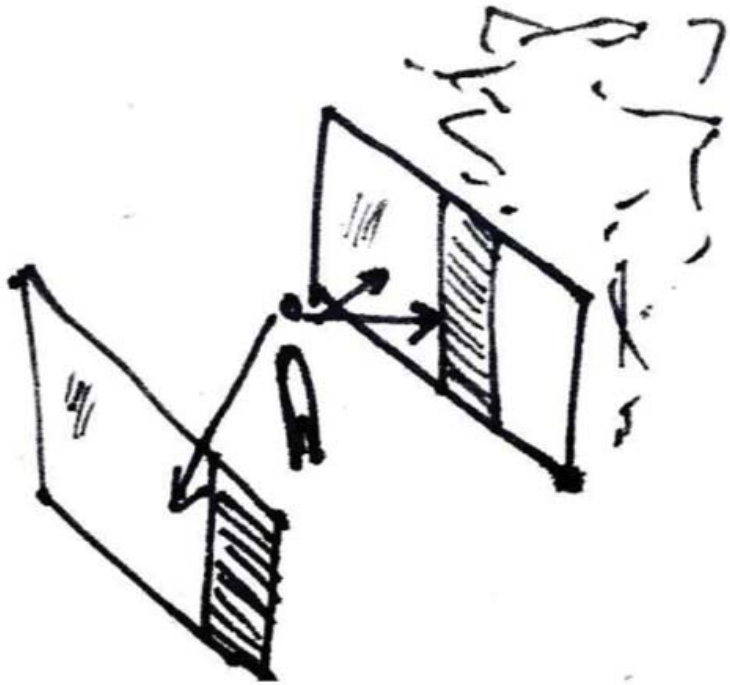
Window as a “portal” into health

The window as a portal in the late 19th century, conferences such as the Woods Hole Conference were held to influence supportive workshops that would help encourage and give architects and neurologist the necessary tools that could promote healing. After a series of introductory lectures architects and neurologist broke up into two separate groups to brainstorm about the effect of the window. The architects measured light intensity, wavelength, colour, temporary airflow and levels of activity in a room. The neurologists measured the responses such as stress and relaxation. They also monitored the patients stress hormones in saliva, changes in heart rate and breathing, and doses of pain medication and the length of hospital stays. In the end, both groups decided that by improving and monitoring of all the above, the patients' physical environment and stimuli received can help speed up the process of recovery and healing.

"...elucidating how the brain perceives physical space, how we remember and navigate the world around us, and how all this can affect emotions..." We can begin to link "those who design physical space with those who seek to understand the brain's responses to it." (Sternberg 2010:10)

Nature is an important asset to the built environment. It introduces the Self to a space of calmness and serenity. It provides a space for meditation and reflection that allows one to connect with the Self. The use of natural elements such as greenery and water appeals to all the senses which help in the healing process. Architecture as compared to any other art form can have spiritual benefits to human beings and to the natural landscape or environment which it displaces and harms when it is constructed. The ideal would be when architecture and nature complement and respond critically to each another and allow for a symbiotic coexistence.

Certainly, our physical space affects the way we feel and react. The process of healing and recovery is brought about by how we feel in a space. This is enabled by the fact that the cells and molecules in our brains produce a blend of signals called Intola perception. They help in enabling us to sense and negotiate the space around us. We can determine how the nerve chemicals in our brains affect us according to the way we react to our environment which inadvertently influences our immune systems to help us heal. This brain function reinforces



The connection with nature. Creating spaces that have an indoor outdoor relationship

the argument that our environments can make us sick as much as they can be a powerful variable in healing us.

Nerve chemicals create the mood balances involved in creating our perception of the world around us. As human beings, we create an image of place based on the information we receive through our senses, which in turn creates a sense of place. As our perception of place changes, so does our mood and our health. In our mind places, feeling and moods are intertwined, therefore by evoking certain moods and emotional memory in a physical space one can cause brain hormones and chemicals to change in a positive way to help healing.

If our senses are an important factor in how we perceive and react in a space then we can discern that the senses are much like are in that they are like a "...gateway between reality and our feelings" (Day, 1995: 49). Our senses are also significant as they tell us what is impor-

tant in our environment and architecture is a sense of environmental design, an art, which can be used to nourish the senses.

Phenomenological theories of architecture are based on the experience of space and are largely focused on the elevation of all the senses to achieve a heightened experience.

One can consider architecture as a vessel for human experience as humans, naturally, experience their surroundings through the senses: smell, sight, touch, smell, sound – all must be aroused. However, due to the hierarchy of the sense of sight, architecture is usually only experienced visually while other senses have been neglected. This produces architecture that is visually biased and devoid of any lived experience.

Sensual architecture, however, attempts to consider all the senses while fusing the sense of self with the experience of our surroundings. This creates buildings that allow the Self to be comfortable and enables one to be free to express oneself in a space moulded and crafted for living. These spaces, then, become like art, in that they enable the expression of Self in a fulfilled existence. It is my contention that architecture should be a creation of space that strengthens and stimulates the Self.

Since all the senses connect to the Self physically and emotionally through emotional memory there is no reason why they cannot be used to create an enriched layering of spaces. Pallasmaa, (2005) elaborates:

...the sense of self, strengthened by art and architecture, allows us to engage fully in the mental dimensions of dream, imagination and desire... [so that] Instead of merely creating objects of visual seduction, profound architecture relates, mediates and projects significance, It defines horizons of perception, feeling and meaning; our perceptions and experiences of the world are significantly altered by architecture.



A sacred space in cave in the Lesotho Mountains. This space offers a heightened sense of acknowledgment of one's surroundings, spiritual centre and consciousness of the self

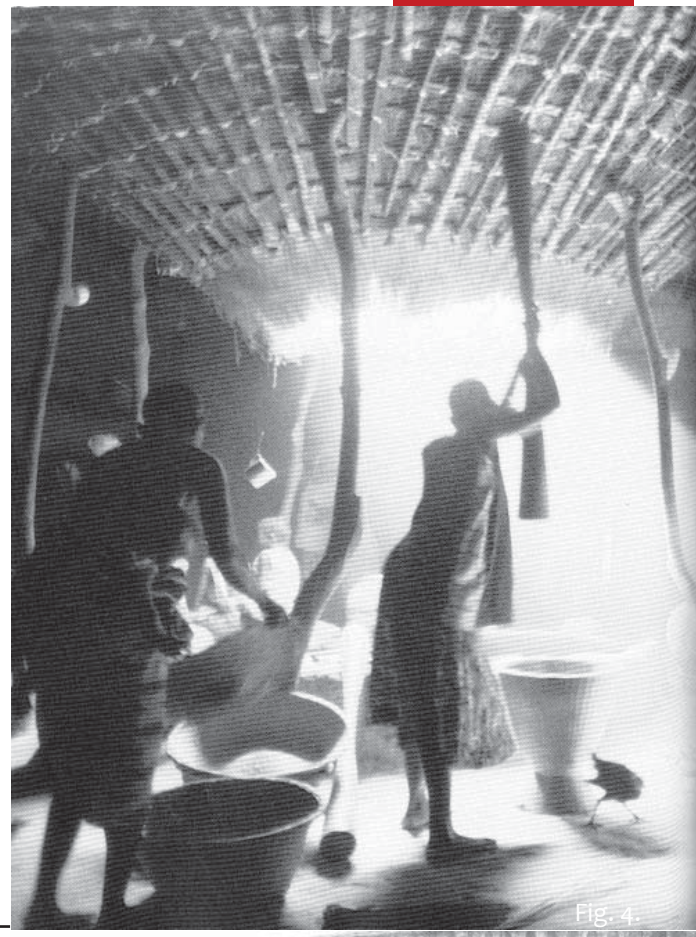
Fig. 3.

Architecture is a means by which a human being explores and experiences his surroundings. We experience our world through constructed form. Therefore, by understanding one's existential space, which is the relationship between the human and his environment, one can begin to define oneself within one's environment. Architecture, in terms of space-making, is an intimate reflection of the user and how he/ she perceives their space. Man lives when he can orientate himself within an environment and proclaim his identity, so that he experiences his environment as a meaningful experience. The sense of place is therefore important in the "art of space making" as it helps the user define the use of space and how to use it.

People all over the world perform similar functions and tasks such as cooking, eating and sleeping but they all take place in different ways and demand different spaces according to different cultural traditions and environmental conditions, this being their "human nature" or "social identity". Thus the essence of place, removed from its functional approach is its identity to the user. This "place" can be experienced with all
our human senses and memory so making the space more meaningful.

An intuitive process occurs in the success of architecture and place-making. This is the moment the user becomes the architect of the space and an instantaneous balance of experience occurs when the user becomes the architecture and the architecture becomes an extension of one's self - that is when architecture is "experienced".

Vernacular architecture such as that of the Ndebele people in South Africa provides lessons we can learn to achieve architecture that is both sensual and what phenomenologist's call the "lived experience". Vernacular architecture responds to climate, materials, social form, local resources and rendition. It concerns itself with materiality, texture and the enrichment of the senses. Peter Zumthor (2006) writes on human experience in architecture that form is developed out of human experience as seen in vernacular architecture. He believes that the architecture should be created as a result of sound, light, materials and construction. In vernacular architecture, the architecture is shaped by the hand and is moulded from the expression of traditional identity and the inner self. It is created through a silent meditation of moulding materials into spaces and light apertures. The craft of making creates interesting shapes, patterns and colours that capture light which enhances their beauty. Zumthor



Users defining space
Light and the quality of light is celebrated

Fig. 4.



Intuitive process shown by architecture moulded from the earth by the hand

Fig. 5.

also establishes the connection between light and the quality of life. He says the presence of light in architecture indicates the presence of life, which reveals the quality of life (2006:61). Light in architecture is very important as it captures the essence of a space which gives it character. A character, that is remembered and which can be recalled in memory through the senses. This light quality has the ability to transcend its user to therapeutic state of mind that is recalled far beyond its lived experience. The experience of a place may be influenced by much fragmented reasoning based on the user's memory, emotions and cultural background; however something will be remembered of the experience. As Pallasmaa (1986:449) observes:

The artistic dimension of a work of art does not lie in the actual physical thing; it exists only in the consciousness of the person experiencing it...Its meaning lies not in its forms, but in the images transmitted by the forms and the emotional force that they carry.

Colour and light are the essentials in architecture as they influence the way we live and, as mentioned above, Zumthor (2006:61) reveals the quality of that life Well-controlled lighting can enhance the feeling one gets when one walks into a space which can inculcate feelings of well-being and comfort or opposes fear and discomfort. Colour and light can be used to stimulate the senses and evoke emotion. In architecture, more especially in its vernacular all over the world, colour and light provide significant meaning.

Jean-Philippe Lenclos (1999), describes the connection with colour as being symbolic and sacred in different parts of the world. In his investigation of vernacular architecture worldwide he discloses the different meanings of colour and how its symbolism is diverse and touches upon the "human" with regard to religion, morals, customs, psychology, art and habitat (1999: 24). He also looks at how the Ndebele and Sotho people decorate their houses. It is not only as a solely decorative element as it carries a "sacred quality, bearing witness to their faithfulness to tradition." (1999: 25). The Basotho women paint their houses in symbolic colours that

"The artistic dimension of a work of art does not lie in the actual physical thing; it exists only in the consciousness of the person experiencing it...Its meaning lies not in its forms, but in the images transmitted by the forms and the emotional force that they carry," (Pallasmaa1986:449)

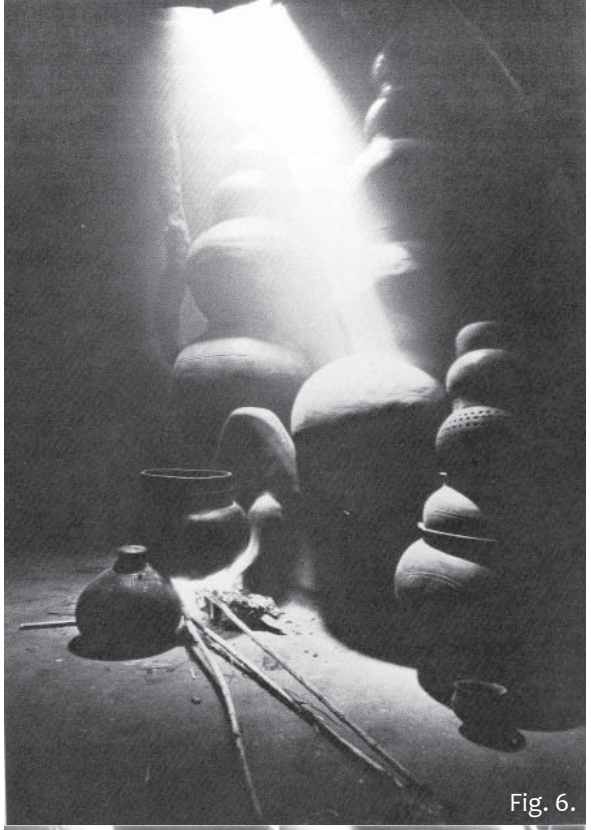


Fig. 6.





Fig. 7.

are important in the initiation process into womanhood. The "woman" is thus an extension of her home. The colours and patterns she paints on her home are a meaningful reflection of herself and her identity. Moreover in the coming and going of the rains and the arrival of new seasons she will mould and sculpt again, so practising her craft on a new canvas where she is free to express her creativity. The tradition of mural painting was originally done by the Sotho and was later adopted by the Ndebele (Zuthor,1999: 154). The mouldings and paintings made by the hand, represent an interesting notion of art and architecture. They are done as a form of prayer to the ancestors to mediate between human beings and God and to ask for rain and fertility (Zumthor, 1999: 154). This type of architecture is not purely ocular-centric, therefore, but is rather a dedication to God and the ancestors. It is also a symbolic indication of a healing bond between human beings and the ancestors as Zumthor (1999: 10) explains:

It seems anchored in ancient, elemental knowledge about man's use of materials, and at the same time to expose the very essence of these materials which is beyond all culturally conveyed meaning.

Zumthor also believes that the core of architecture lies in its construction, choice of material and how it is all put together. These basic architectonic qualities are passed down from generation to generation, formulating an architecture that has structural integrity and is true to its function.

The element of the "art" on architecture is one that is not solely ornamental and decorative, but that it has a spiritually symbolic function and is layered with meaning. When observing

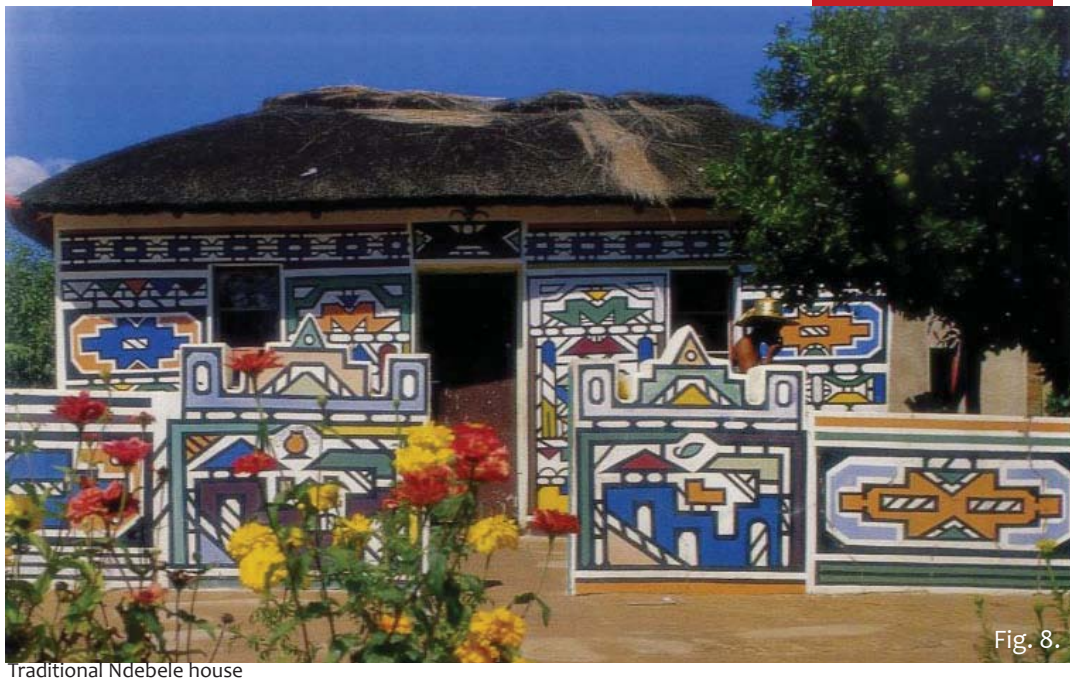


Fig. 8.
Traditional Ndebele house
Its colours and patterns convey meaning of the woman, a home and the ancestors

CONCLUSION

the intuitive process of making architecture, it's almost as if we formulate our own "abstract" ideas of what we envisage a space to be, through special images from memory we assemble architecture to be a part of the real world.

It not only seems that art is inherent in all of us, it is also possible that architecture is inherent in all of us. From the development of the first human shelter, humans have always connected the craft of making to a significant act of personal growth and of being in tune with ourselves and the world around us, which is essentially an act of healing and therapy. As an act of healing it is symbolic of our perseverance as a species to live a fulfilled existence.

In exploring art as healing, architecture as an art and lastly, architecture as a healing space, I can deduce that the common bond between them is that art does have healing qualities and it can be said that such healing qualities provide therapeutic harmony in all of us. I believe its effects may be limitless in measuring the benefits to the Self. The journey of healing through art seems to be a process of retrospection, Self growth and Self discovery. This investigation has brought about key design objectives that may be crucial in my site criteria and space making concepts for my architectural intervention.

The connection to Self: Healing begins when one is in a space of retrospection. The space however is one that must be comfortable and a reflection of oneself.

The connection with the City: The city environment is harsh and busy and tends not to offer many places or spaces of retrospection and contemplation. The site should be a part of the city but detached from the fast pace. The end-user should be able to arrive conveniently with public transport to the site to allow a large catchment of people seeking a place for healing. The site should also be in a place that is not difficult to navigate and find.

The connection to Nature: Human beings cannot live without natural surroundings. The symbiotic relationship that exists between the two is one that has to be nurtured. A physical and visual link with nature has positive beneficial qualities that help in healing and health in general.

The connection with Light: Natural sunlight kills harmful bacteria and cleans

air. Apart from these obvious natural benefits of sunlight, natural light - when controlled - gives a space character that is sensual so giving a space an emotive quality which can be felt by the end-user. Light is also a symbol of growth and life as it benefits the natural world in that way.

Healing of Dead spaces: Our physical environments affect the way we feel and react. It is necessary to appeal to all the senses to create sensual architecture that can be comprehended by the Self in order to be comfortable enough and feel at one with the architecture. Bearing in mind that spaces and places that appeal to the senses are recalled and become a part of the user, vacant, deserted places in the city need to be healed and given a purpose. To combat dead spaces in the city the choice of site may either be within the city or on its outskirts, where new developments are taking place.

Chapter 2



SITE/ Healing a dead space

- Site Selection
- Site Variations
- Site Rationale
- Site Introduction
- Site Analysis



The journey to find a site that is suitable for an intervention that deals with therapy and healing presented lots of options in a city as diverse as Johannesburg. In order to find the ideal site I used the site criteria that I deduced from my theoretical investigation that became the basis of defining where the appropriate site should be.

I looked for a site that dealt with healing a 'dead' space in the city, that would in turn give back to its micro community and the macro community of the city's inhabitants at large in the form of a green space or a space that could become an urban platform for the public to express itself.
Moreover a space that would help defeat social boundaries offering a space that is neutral as a space or place for healing. The site criteria also deals with the connection to a sacred space because as human beings it helps us transcend on a path of healing as we connect to our spiritual 'self'. This sacred space in not in a form or a place of worship specific to any kind of dainty but rather a place that allows for contemplation.

The site also has to be within the city as a city is a place that brings people together, it's an Interconnected web of people that come together with their different causes unified in a city landscape. The urban landscape is a place where intimacy boundaries collide in urban sprawl creating an energy that makes one conscious of one's personal existence and coexistence with fellow mankind and more importantly one's surroundings. Nature is the binding aspect that I believe completes the cycle of our mutual existence in our surroundings. Nature also softens the harsh urban landscape, its contradiction with hard 'immortal' materials that make up our urban environments juxtaposed by genetic living material reconnects human beings to the notion that life is a cycle of change, growth, healing and decay. Using the site criteria stipulated above as inspiration, these are the site variations I discovered.



Aerial images from Google Earth

SITE VARIATIONS

Connections:

Site

		City	Noise	Nature	Visibility	Pedestrian	Public trans.	Dead space	Sacred space	Notes
27<	1. Baragwanath taxi Rank	3	-5	0	-1	10	5	10	5	This site would have been too busy and most likely only accessible to people living in Soweto. Even though the site is in close proximity to a church its also in a contrasting environment of liquor stores, a run down motel etc. The site is only accessible via taxi and private car.
15<	2. Chris Hani Road	8	1	0	3	-9	5	7	0	This site is on a busy main road, easily accessible from the highway from the city into Johannesburg, however, public transport doesn't stop there and the flow of traffic is too busy. A positive notion is that the site is close to Chris Hani Hospital.
31<	3. Newtown	8	-4	0	8	8	6	5	0	Newtown is Johannesburg's cultural precinct so the building would have been well placed if its main focus has to do with art. The site is an under used parking lot so the project would give a useful building to the city, however its surrounding building context did not link to the buildings function as a place for healing.
37<	4. Nelson Mandela Bridge	9	-6	0	10	10	6	8	0	This site I thought would be ideal as it was a space that needed to be healed and the project would give the space meaningful connections to the city and the general public. It is close to public transport and the highway moreover the building could potentially become an iconic city building.



SITE VARIATIONS



Notes

The site is on the old Johannesburg Hospital precinct that is based in the health precinct of Johannesburg which related to my thesis topic however the existing high rise apartment buildings would look down onto the site where intimate/private programme is positioned. The site is close to public transport nodes such as taxi's and the gautrain. The surrounding context is busy with pedestrian movement and active retail

This site sits on the outskirts of Hillbrow and Parktown. It is easily accessible by all forms of public transport and is within close proximity to Parklane Hospital and Johannesburg General Hospital. The site is currently a building site for Wits University new student residence.

The site is close to in an abandoned part of the city even though it's in Parktown. An important aspect of this site being a part of the options is that it is right opposite most of Johannesburg's Mental disability NGO offices that are house in what was the old Johannesburg Children's Hospital. The site seem detached from the city even though it is in the city regarding its connectivity and low pedestrian and vehicular traffic levels

This site is in a decapitating neighborhood on the edge of Bertrams. This site is in a quiet however dangerous residential area, definitely in a place that needs healing. The site is shares an iconic visual link with the city yet remains detached on a hillside surrounded by natural landscape.

Connections:

	Sacred space	Dead space	Pedestrian	Public trans.	Visibility	Nature	Noise	City	
5. Hillbrow	5	5	10	3	8	6	9	10	>56
6. Park lane Hospital	0	2	1	3	9	5	6	10	>36
7. Parktown	0	8	-7	5	1	0	2	7	>16
8. Hillview/Bertrams	8	9	6	8	5	10	2	10	>58

Site

The site intensities numeric rating system is based on observations and assumptions of each site.

Aerial images from Google Earth

SITE RATIONALE

The site I have chosen is the Bertrams site. This site is ideal as it is coherent with the site criteria that I have deduced from a theoretical approach. The site is on a valley slope that falls between Hillview and Bertrams. The site is still largely untainted by any built structure and is still in its natural condition, which is abundant with indigenous foliage cascading down the hill.

Finding a site that was well connected to nature was imperative to my theoretical underpinnings of my the desired intervention. The site is in a residential suburb east of the Johannesburg city centre therefore the site visually connects with the city away from its escalating intensities. This offers a space that has low noise levels, where intimate connections with the self can be made in a conducive environment.

Bertrams is an area that is challenged with socio-economic issues such as crime, unemployment, poverty, crime etc and as a result the area is in a state of dilapidation and decay. The chosen site is a formation of four house stands, of which two site are comprised of houses that are in a state of severe degradation and have been illegally occupied. This presents an opportunity to heal the immediate site and provide an urban space that can be used by the community of Bertrams as public open space is scare in the area.

Furthermore the intervention, tied with the Johannesburg Development Agency's (JDA) future plans to create housing and commercial developments in the Bertrams, it will also become an urban development catalyst that could spark redevelopment healing not only the suburb and community of Bertrams but the Johannesburg community at large.





SITE INTRODUCTION

Bertrams is one of Johannesburg's oldest inner city suburbs with houses dating back from 1920 and art deco apartment blocks dating back from 1940. It is positioned in between Highlands and Troyeville to the north and south respectively. Bertrams was originally conceived as a middle-class suburb, adjoining Old Doorenfontein which was a suburb for the wealthy.

Today Bertrams is an area that is facing a socio-economic crisis that is characterized by poverty, crime, drug and alcohol abuse, unemployment, xenophobia, high occupancy rates, slum lording (GEP Bertrams Derby Road Precinct Draft Precinct Plan, section 2) to mention a few. Living conditions in the suburb are dilapidated and have gone through a state of degradation.

Institutions that are still in the area are the Gerald Fitzpatrick Home for the Aged, Gauteng Mental Health Society and Social Services at the bowls. These institutions have many community outreach programmes that play a critical role to the Bertrams residents.

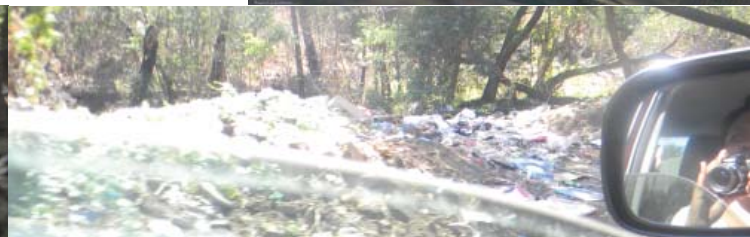












SITE









Of the city >>>>

Hunter str. No 3, 4, 5, 6,







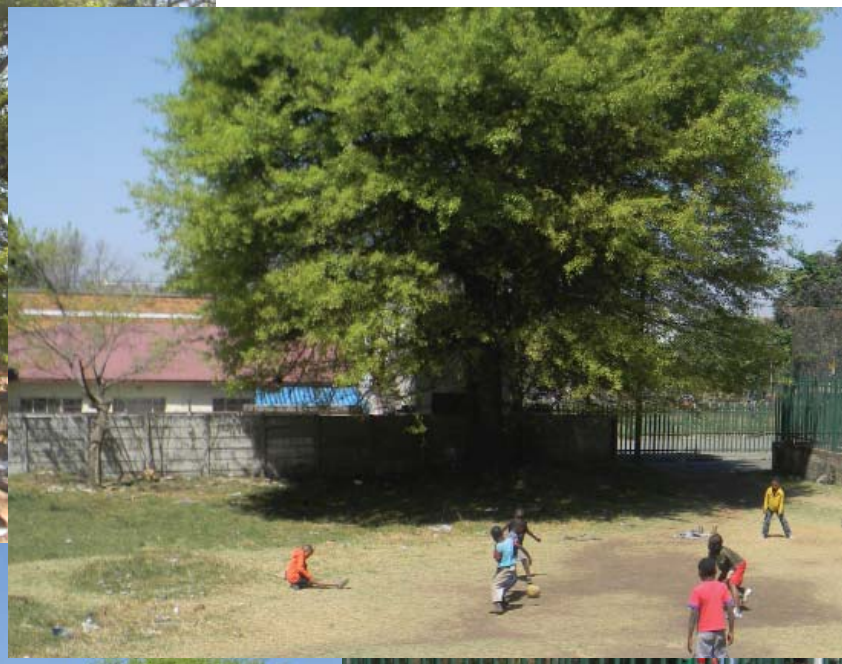


<<<<< Back to nature













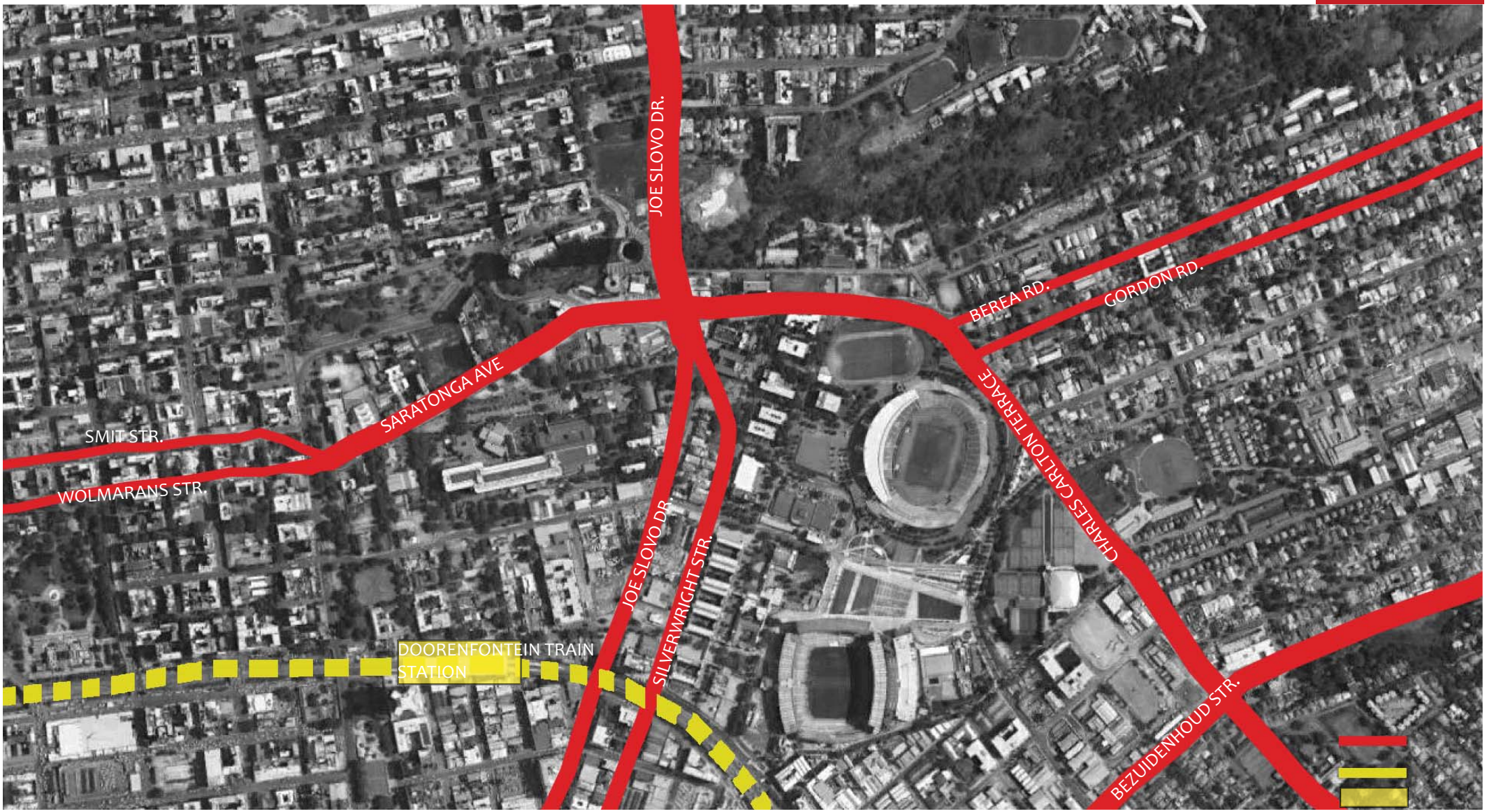


SITE ANALYSIS

Area boundaries



Primary arterial routes



Aerial images from Google Earth





<<< The journey from site leading back to the city on Charles Carlton Terrace GEP Bertrams Derby Road Precinct

Aerial images from Goggle Earth

SITE ANALYSIS

Iconic landmarks



Visual connection of the iconic city buildings from the site

Movement structure

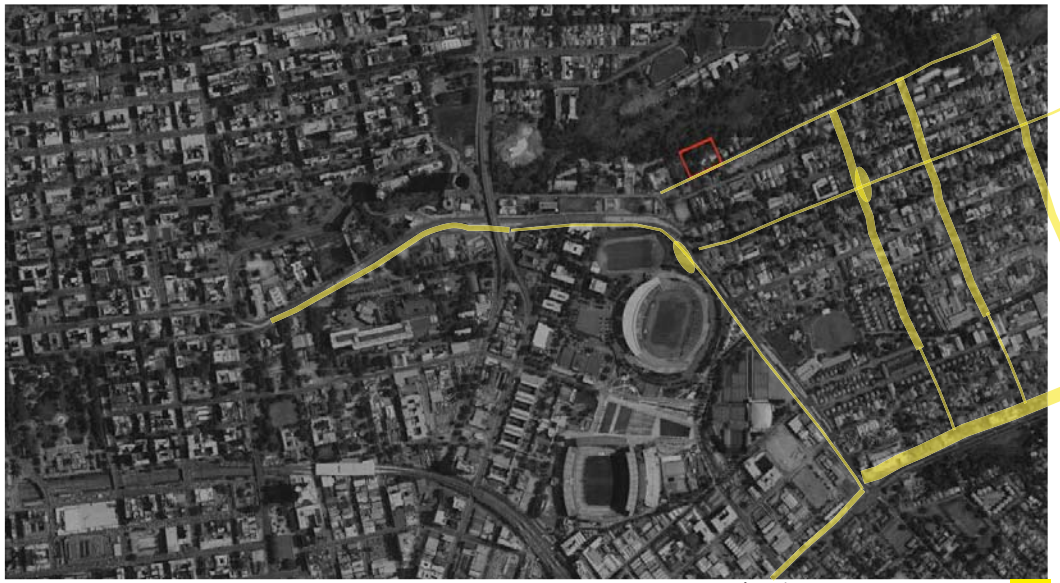


Bus route

BRT route
BRT station



Mini bus taxi routes
Taxi interchange

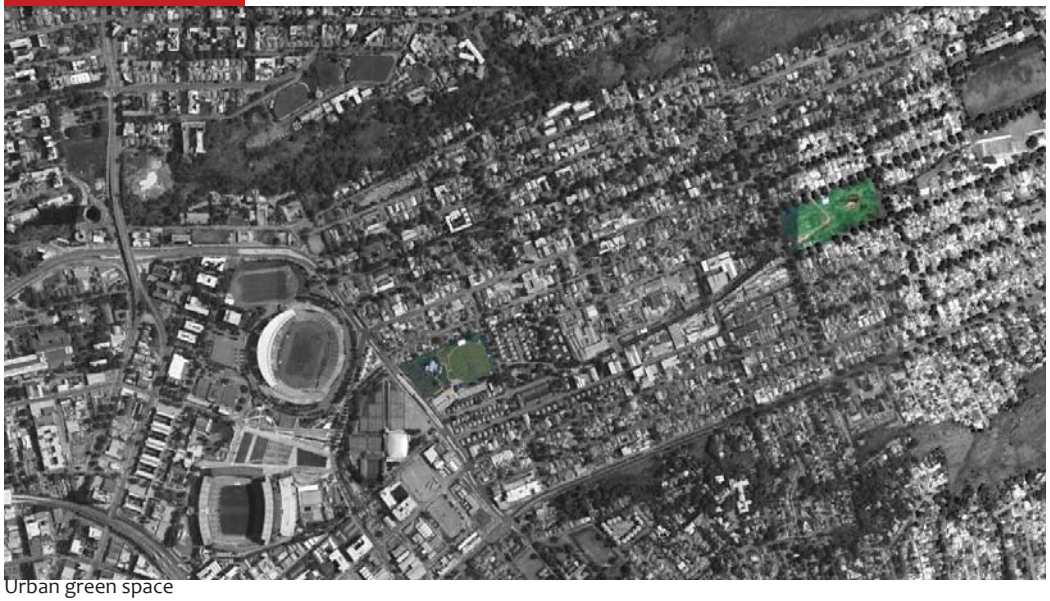


Pedestrian Movement

Aerial images from Google Earth

SITE ANALYSIS

Heritage sites



Urban green space



JDA catalyst development in close proximity to site



Heritage sites







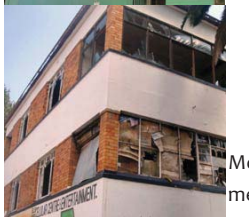
Historic pepperpot housing cluster in a state of dilapidation



1920 house with veranda



Art Deco style- two storey Luxor block



Modernist dilapidated apartment building

Land use

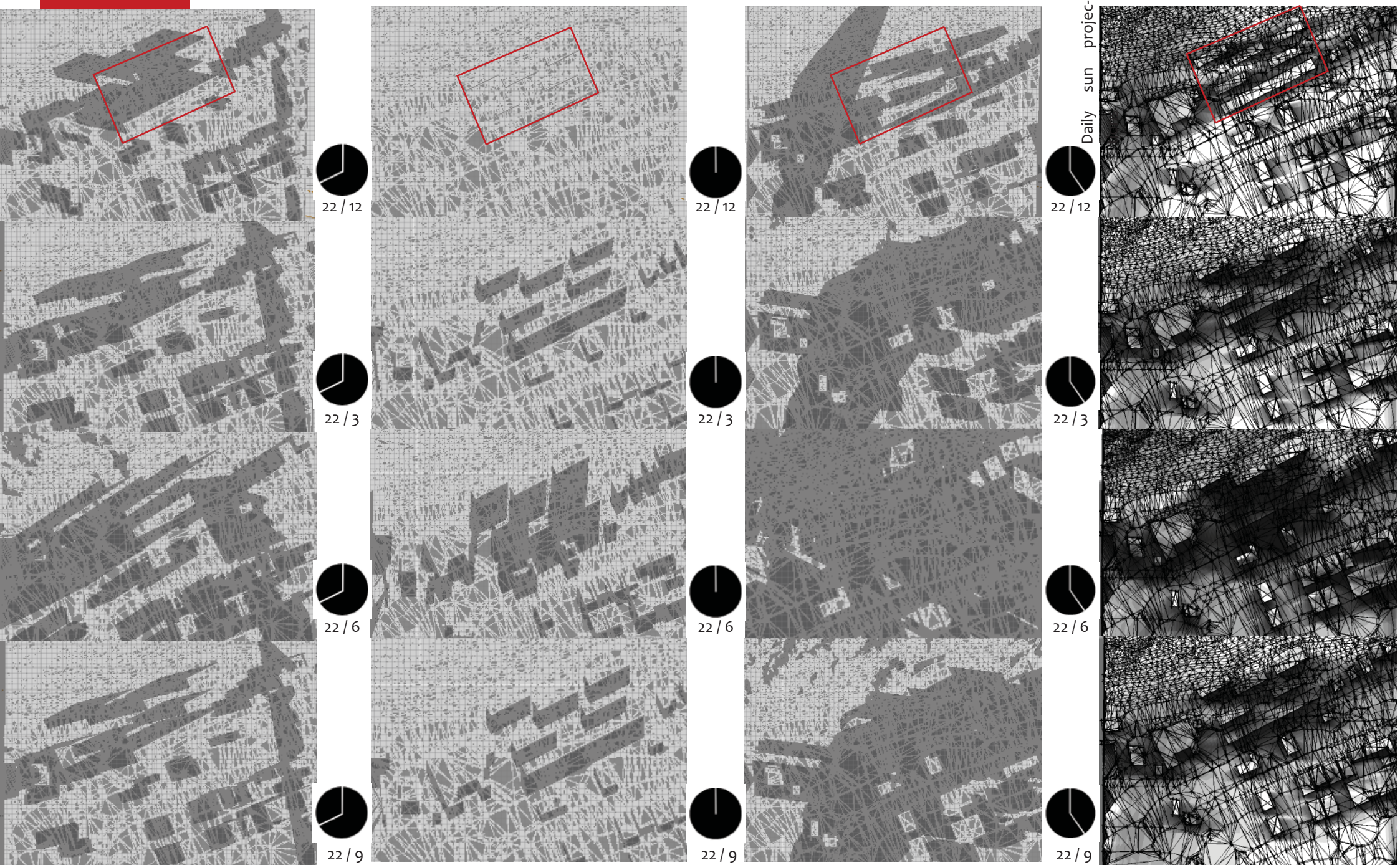


Images from GEP Bertrams Derby Road Precinct Draft Precinct Plan, section 3, please see references.

Aerial images from Google Earth

SITE ANALYSIS

Sun analysis



Site scale comparison exercise

This scaling exercise compares the chosen site to buildings which have are intended to be places of healing and wellness for different uses and users. This exercise also helps put programmatic features of the intervention into perspective.



Paimio Sanatorium, Finland



Therme Baths Vals, Gaubunden, Switzerland



Tara Hospital, Sandton, Johannesburg



Gauteng Mental Health Society, Bertrams, Johannesburg



Helen Joseph Hospital, Ward 2



Walberton Halfway psychiatric House, Parktown, Johannesburg

Aerial images from Google Earth


FOR SALE

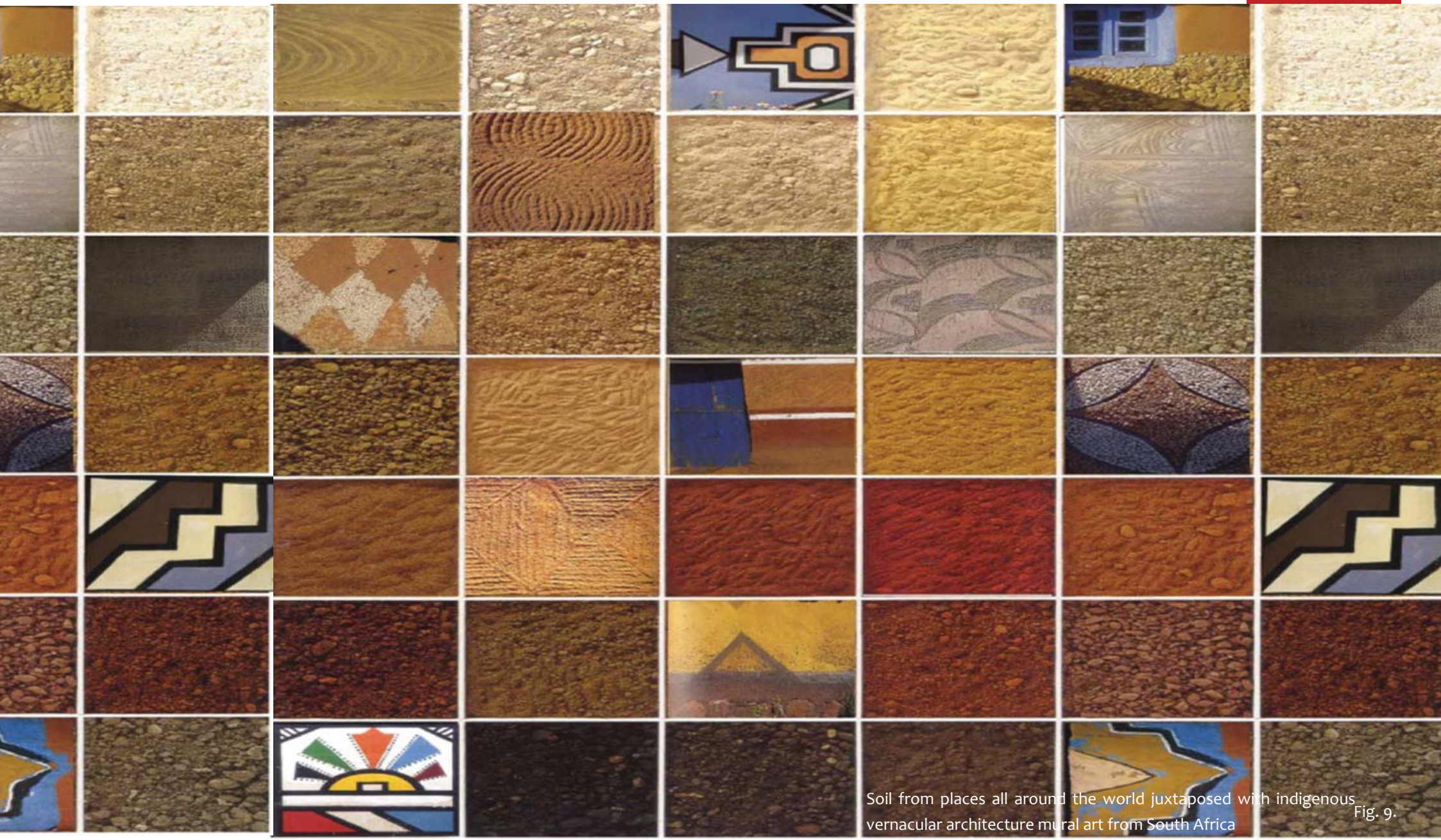


Street elevation of site from Terrace Road

Chapter 3

PRECEDENTS/

- Paimio Sanatorium, Aalva Aalto
- Therme Baths Vals, Peter Zumthor
- Central Gauteng Mental Health Society
- Helen Joseph Psychiatric ward 2
- Vernacular Architecture- Sotho Architecture
- Vernacular Architecture- Lela Architecture



Soil from places all around the world juxtaposed with indigenous vernacular architecture mural art from South Africa

Fig. 9.

PRELUDE

Through the study of these precedent studies I aim to investigate architecture that provides environments that are conducive to healing, have therapeutic qualities and have a sensory approach to design. The environments must show case how architectural spaces should or can be designed to improve a patients well-being. These will offer pivotal design criteria intended to achieve the desired therapeutic setting of my intervention. These precedent studies will provide positive tools and effects that may be used to in designing beneficial environments for the facilities users, staff and the general public. They will also assist in providing guidelines to follow to achieve the desired intervention.

Aalvar Aalto



Fig.10

"I mean the question of variability, the possibility of interaction between man and his environment and his objects, where the environment fulfil is the psychological need for constant regeneration and change. An ordinary cure for present-day man's nervous disorders is changing his environment. It is obvious that his most intimate surroundings should be created with what I would almost like to call the automatic possibility of constant change."
Aalvar Aalto, 1935 (1978:50)

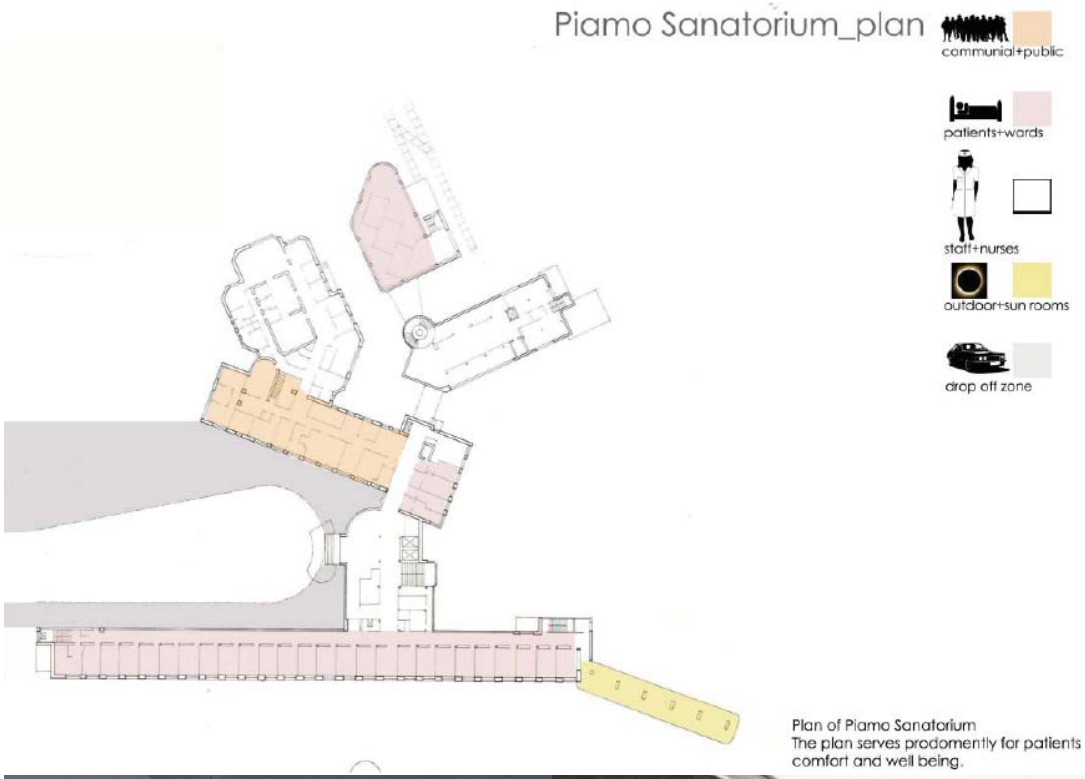
AALTO

Aalvar Aalto's rise to success as a modernist architect to the level of modernist pioneers such as Walter Gropius, Le Corbusier and Mies van der Rohe is by his new architectural visions of his time to service the sick and isolated people, this predominantly largely seen the design of his sanatoriums in modernist times. He practiced his own version of modernist architecture diverging from the dogma of modernism (1998:11).

Aalvar Aalto believed that architecture should not just operate solely as a functionalist machine but it should be well suited for its inhabitants and users as he had identified , long before explorations of environmental psychology that our surroundings the effect us. This is evident in the design of Paimio Sanatorium in Finland. Aalto had the opportunity to site the sanatorium on the mountainous pine slopes of Finland that boosted beautiful views all round the site. Nature became a driving factor for the design as the plan fans out 'bio-dynamically' positioned to the compass over the site taking full advantage of its views and natural sunlight.

Sanatoriums were ideal for principles of functionalism and modernism as they were predominantly focused on light, fresh air, sun and connection with nature. However, Aalto also focused his effects on creating a building that would combine recent medical and psychological views together with advanced construction technology at the time to creating a building that would function like a *"medical instrument"*(1994:68-69)

The Sanatorium's shape of plan is derived from the separation of different health variants of the patients so that similar groups are close to one another to form a wing. The wings are linked by the central building that has common services and functions needed in all the buildings. The building services are intelligently hidden in central columns that can be maintained from the corridor away from the patients. Paimio Sanatorium is unique as it pays attention to the patients needs. The wards are stacked with ribbon windows that form a continuous band around the building that open out to cantilevered sun balconies that are south facing to allow optimum light into the wards. These long balconies allow patients to come out to enjoy the healthy rays of the sun and air in groups. The healthier patients can use the roof top solarium that has spectacular views of the surrounding landscapes and tree tops.



Plan of Piamo Sanatorium
The plan serves prodomently for patients comfort and well being.



Fig.11

Sun balconies on the edge of the sanatorium



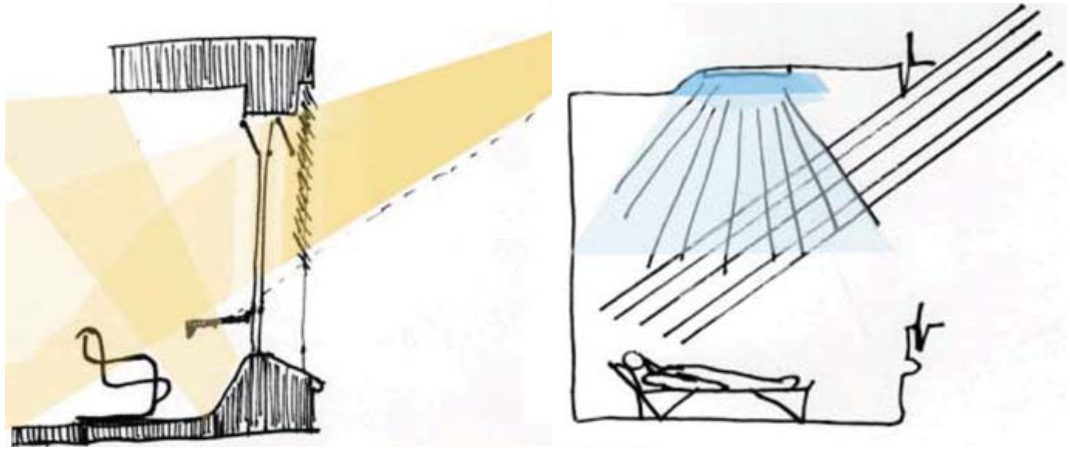
Fig.12

Patients can enjoy view out to the natural landscapes on the pine slopes of Finland

Paimio Sanatorium, Finland

Aalto states that "the ordinary room is a room for the vertical person so on must be designed with that in mind" (1995:56), thus the two-bed rooms are predominantly with that in mind: the ceilings are painted darker than the walls to have a more restful gaze; the room light is mounted away from the wall and the patients head to avoid harsh light, is then reflected off the walls and ceiling where a semi circle is painted. The slabs are canted to reflect light back into the room to provide a sense of visual release.

Colour is very carefully thought of as colour schemes vary around the hospital to stimulate and soothe according. Main circulation routes are bright in colour and shared, more public spaces are painted in calmer tones. The design approach of Paimio Sanatorium is for the patients well being and is dedicated to catering to the needs of its patients manifested in every detail, prevalent quality of natural light and sunlight. Its spatial qualities and therapeutic environment was beneficial to the treatment of what was the then prominent virus, Tuberculosis till today's adapted function as a conventional hospital. This Sanatorium's healing properties must be commended for its functionalistic approach and service to the people of Finland.



Sections through Aalto's "ordinary" room. The focus being on light quality to improve wellness



Fig.13

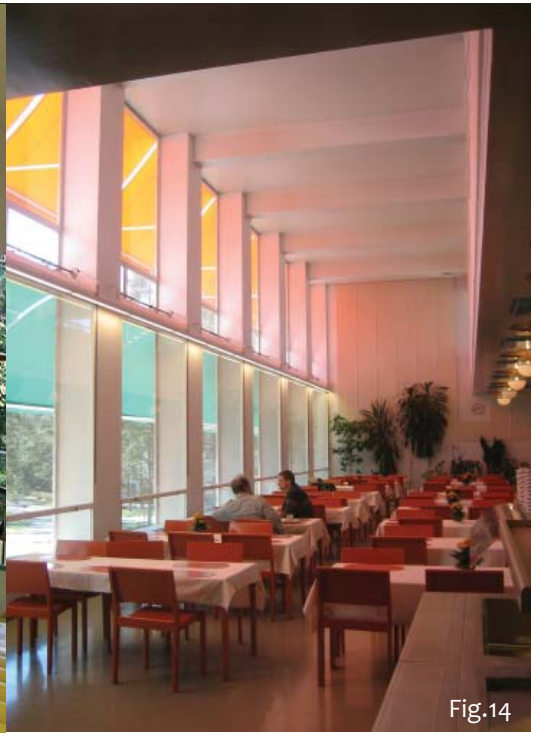
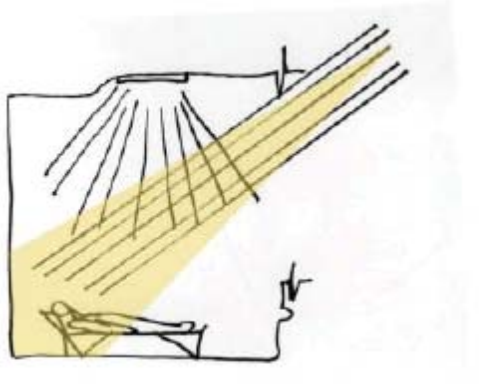


Fig.14

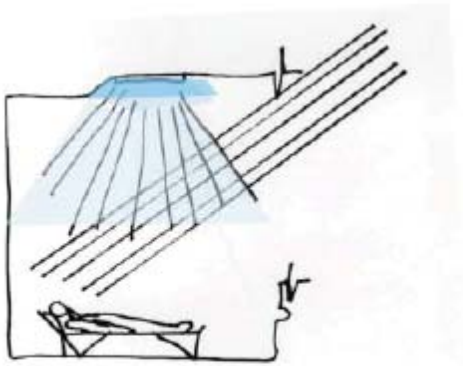
The colours and furniture of the Sanatorium were carefully chosen to provide a healing environment.

Precedent: Paimio Sanatorium, Finland

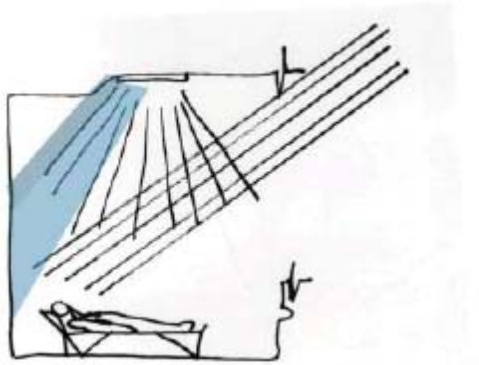
The "ordinary" room



Rooms are designed wtih precise propotions so that patients can get adequate sunght when they are not healthy enough to get out of bed.

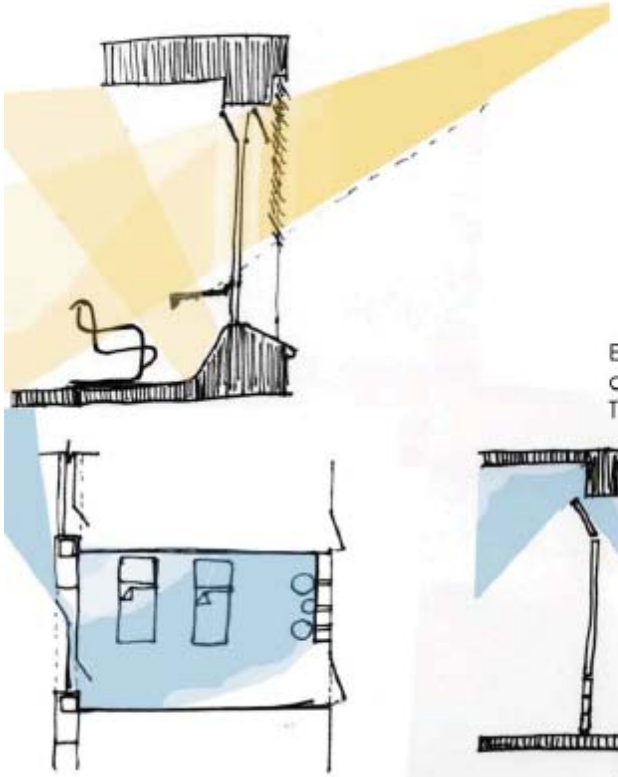


Artifitial lighting is designed so that it does not have a cause harsh glare into the patints eyes causing discomfort. Light is reflected from a semi circular band painted around the light fitting and the walls.



The ceilings are designed slightly slanted to direct the light source on to the walls instead of directly onto the patient.
The ceilings are painted a darker colour so that they dont reflect harmful glare from the suns rays so that the patient can have a restful gaze onto the beautiful landscape.

Refreshing living spaces

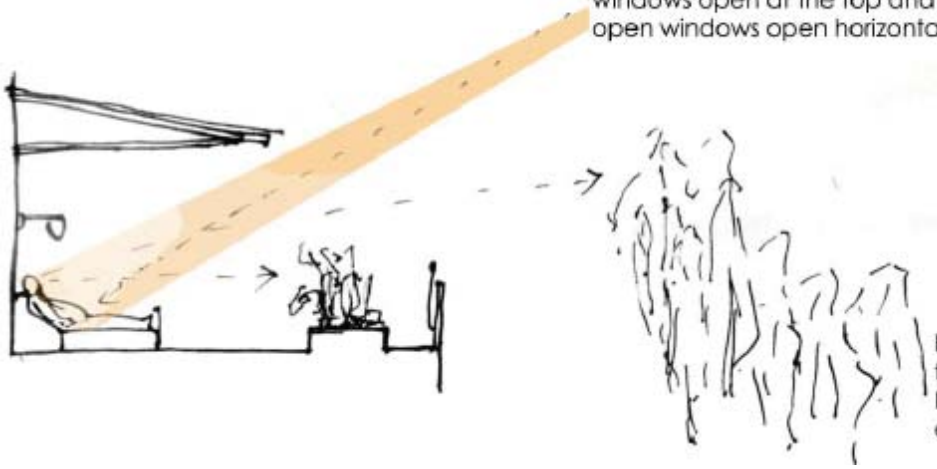


External blinds sheld the window from heat gain and allow desired light into the room as they can be adjusted from the inside.
The slabs are canted to reflect light into the room.

Plan of two bed room

Section

Alvar Aalto is famous for the L-shape windows he designed for Piamo Sanatorium. These windows open at the top and the bottom to provide for maximum ventilation. The bottom open windows open horizontally and the top windows drop down.



Healthier patients can either go out onto the roof garden or enjoy the sun from balconies that extend from the Sanatorium wings. Long roof overhangs sheld patients from the sun while patients can enjoy views of the surrounding landscape and the outling planters

ZUMTHOR


Fig.15


Fig.16


Fig.17


Fig.17

Site plan of the thermal bath vals surrounded by hotel

The work of Peter Zumthor exemplifies what sensual architecture should be. He treats his architecture as ***" a bodily mass, a membrane, a fabric, a kind of covering, cloth, velvet, silk"... "A body that can touch me"*** Peter Zumthor (2006:23).

He looks at architecture with a poetic quality that he exhumes to his work. His work on Theme Vals provides a clear insight of designing with the senses and how he works sensitively with lighting and materiality.

"The sense that I try to instill into materials is beyond all rules of composition, and their tangibility, smell and acoustic qualities are merely elements of the language that we obliged to use. Sense emerges when I succeed in bringing out the specific meanings of certain materials in my buildings, meanings that can only be perceived in just this way in this one building." (Zumthor 1999:11)

The building sits isolated as if it were a grass covered stone sunken into the mountain, understated so that it does not take away from its impressive natural landscape. Zumthor wanted to keep the building as natural architectonic structure that avoids natural forms but rather as a homogenous stone mass that depicted a sense of being hollowed out of the sunken spring water basins and galleys *"chiselled out of the dense mountain rock"* (1998:157). The initial proposal of the building being a cave brought forth the idea cutting through the stone mass that filters light from the top into the engraved spaces. The ceiling consists of cantilevered concrete slabs separated with fissures to allow light into the spaces giving these spaces an emotive feel. All the senses are stimulated through the experience of the space, materials and the light that eludes plays on them.

Therme Bath Vals, Gaubunden



Fig.18
Inside the bath chambers light seeps through light fissures



Fig. 19.



Fig. 20.



Fig. 21.

"... there was a feeling for the mystical nature of the world of stone inside the mountain, for darkness and light, for the reflection of light upon the water, for the diffusion of light through steam-filled air, for the different sounds that water makes in stone surrounding, for warm stone and naked skin, for the ritual of bathing. " Peter Zumthor (1998:156).

The water, light and heat define areas in the ritual of bathing at the Therme Vals. Tunnelled passages lead bathers from change rooms to the other side of the bath.

The spring water is poured from wall mounted copper pipes that stain the stone beneath it. The changing rooms lead out onto long balcony spaces that overlook the therme that ramp down to the baths. Below the baths are therapy rooms for massage and physiotherapy.

The simplicity of the architecture, fixture and materials doesn't take away from the eluded environment but rather adds sensual depth to the design of all the spaces. Zumthor invites the body into a new recollection of memory and encryption of texture, temperature, light and sound are not only read visually but are also comprehended by the sense of touch.

The Gauteng Mental Health Society is a halfway house established in 1919 for people who

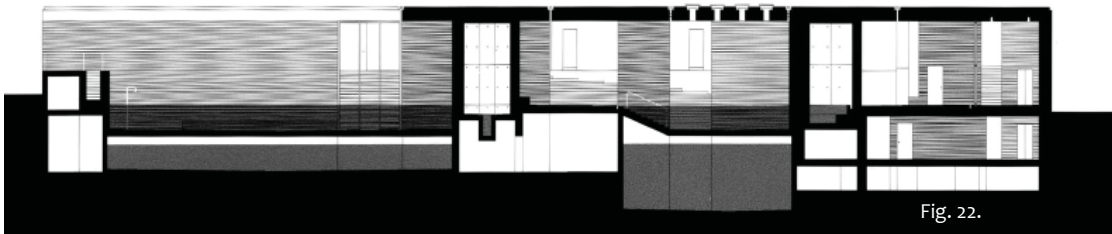


Fig. 22.

Central **Gauteng Mental Health** Society





suffer from mental illness and intellectual disabilities. It offers a wide range of psychological services and residential care for people who are affected by mental disability. It is a non government organization that work towards empowering powering children and adults with mental disability with skills, therapy and an independence in the society in which they are stigmatized upon.

Most of the service users are suppose to stay at the centre for 3years maximum but due to neglect or abuse by their care takers they end up staying there permanently.

Various programmes are run on a daily basis of which all their service users take part in on a daily basis. Programme such as art, cooking, woodwork workshop, T-shirt and cap printing and protective contract work. All of these beneficial to all the service users as they are to some degree responsible in the daily running of the facility and these programmes may help them generate an income for themselves with a small portion going to the organization.

The facility, once an men's hostel, is cantered around a large courtyard that seems to be the "life" of the centre. The courtyard is a place for interaction with its users. Sport activities such as boxing, netball are enjoyed there. The courtyard also provides small setting areas where conversation is shared amongst its inhabitants. A double storey resident accommodation borders the courtyard allowing the ground floor rooms to open out onto the courtyard and the level above, onto balconies that circulate the circumference of the courtyard.

There are 49 rooms that house 2 service users equipped with two beds and a wash hand basin. Sun filters into the courtyard resonating heat and adequate sunlight in the surrounding rooms and balconies. However, the defining character of this place is not necessarily its modest 19th century colonial architecture but rather the social interactions it caters for in the spaces provided for people who are mentally ill or intellectually disabled who would not experience life in the same way if they were institutionalized in another facility of this kind.





Views of the courtyard

The spaces give its user an uplifted approach to life and a healthy lifestyle, taking prescribed medication is not a problematic issue in this setting. In these spaces the patients walk around freely and are not confined in a morbid incarcerated environment. Here, simple cool tones colour the walls and multicoloured art work frame wall spaces making the spaces more cheerful and memorable.

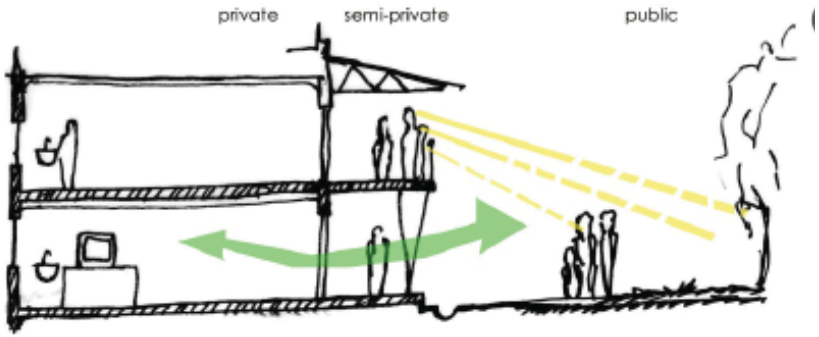








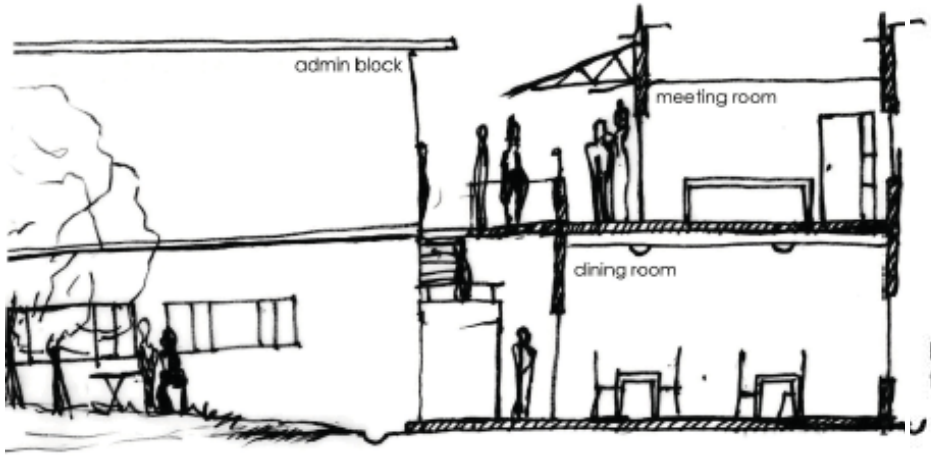
Ward 2 of Helen Joseph hospital is a 72-hour psychiatric and mental health assessment unit for adults. The hospital is situated in a medium dense urban environment of Johannesburg. The



There exists an indoor outdoor relationship, the outdoor's connectedness is experienced.
The courtyard is the "life" of this place facility
One can observe the courtyards views from the edge of the balconies



The residents share their rooms however time is spent outside during the day due to poor indoor light quality and warmth from the sun.



People always occupy each space, different activities happen throughtout the course of the day



Helen Joseph Hospital, Ward 2

Psychiatry Ward

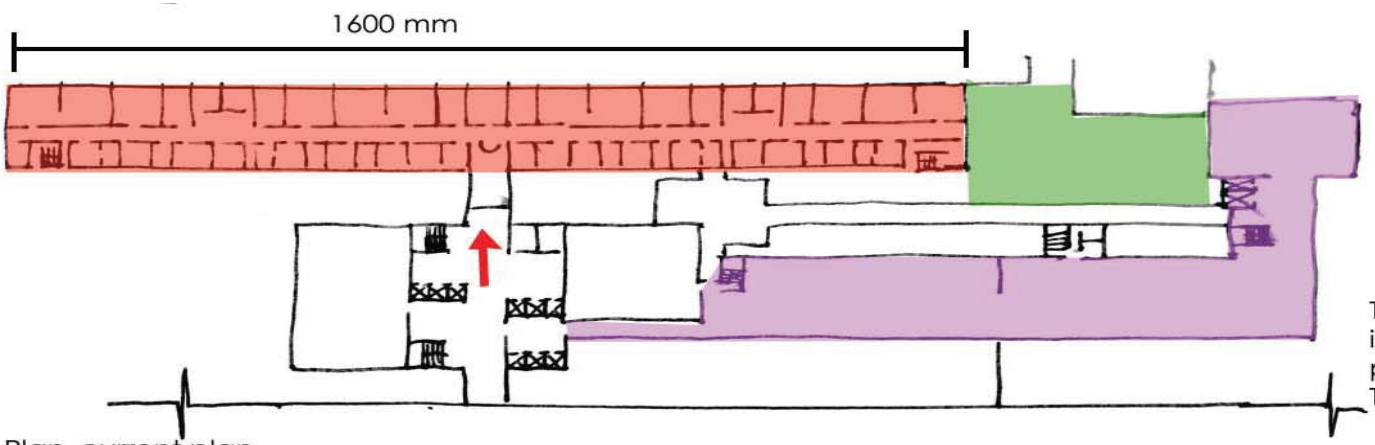
unit is meant to asses patients that come into the hospital voluntarily or involuntarily, for 72 hours then either refer them to an acute institution for longer confinement or to a specialist for further assessment and medical care. The ward can take up to 30 patients at a time with two patients, whether male or female, sharing a room.

The commotion and large unit capacity of a the psych ward is facilitated in a 160m long ward. Inadequate space is provided for the sufficient and efficient running of this ward that is meant to help patients who suffer from mental illness. According to the Mental Health Act, No 17 of 2002, spatial requirements are as follows: spaces should communicate clear identity, communal leisure space, outdoor spaces, visual connection with circulation space and group activities, and open lines of sight.



Plan_service user space

The ward, unfortunately doesn't comply to this act only due to depreciating standards of existing hospitals in South Africa. The ward is circulated through a single corridor that runs the length of the ward. The corridor is dimly lit with florescent lighting as natural sunlight doesn't reach it. Due to the insufficient space in the ward, doctor's offices sit in between patient rooms and public toilets, visitors are received in the entrance foyer that is constantly guarded. The environment in the word is morbid and depressing. The ward has extended its range of ser-



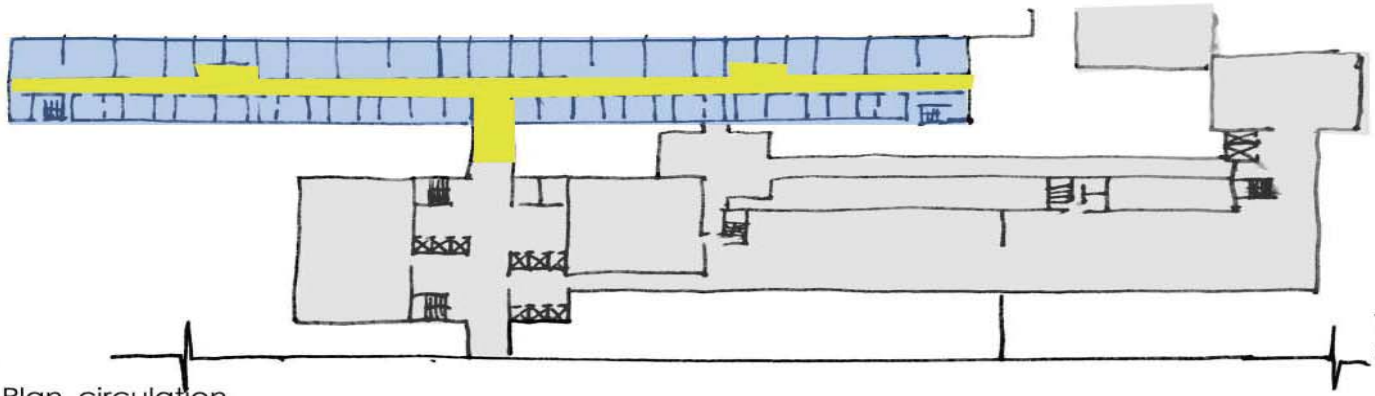
Plan_current plan

current psych ward

unused green space

unused building shell

The current HJH psych ward is only 160m long and is serves +-30 patients doctors therapists, nurses and patient visitors.
The remainder of the floor space still remains unused

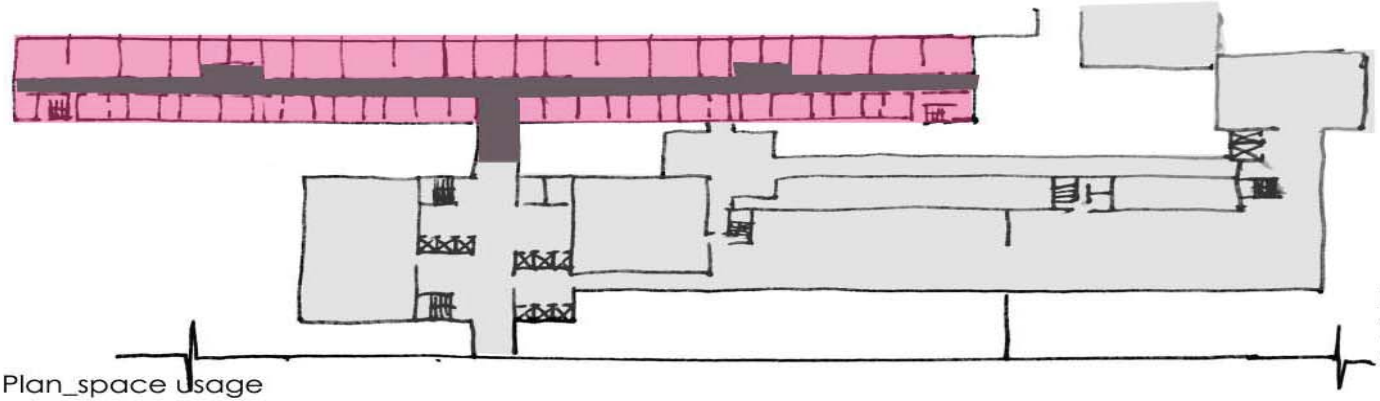


Plan_circulation

user specific

unit circulation

The ward has controlled access with limited circulation routes.



Plan_space usage

medical+professional use

leisure

Due to inadequate space there is insufficiant space for patient or staff leasure-circulation space is used as leisure space..

vices however no additional structures have been made available.

The state of the ward is disheartening but it plans to renovate and improve the space are within future plans of the hospital. The current phase 1 refurbishment where simply achieved by painting the walls in warm and vibrant colours. Even though this is a small initiative, considering what still needs to be done to meet the standards of the Mental Health act, the ward feels more accommodating and less daunting.

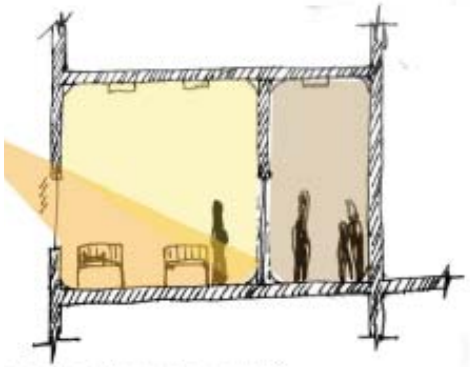
The patients of Ekukhanyeni/ ward 2, even though temporary, also seem to be affected by these spaces with tame and distant expressions. The environment echoes confinement and seclusion from anything or anyone. As they are passed on to bigger institutions of mental illness how will they remember their stay? Or have they received their short lived healing?

Vernacular Architecture - Southern Sotho and Ndebele Architecture
This precedent study with focus on Sotho and Ndebele architecture, both indigenous to South Africa. The two tribes pride themselves in creating architecture by the hand and is decorated



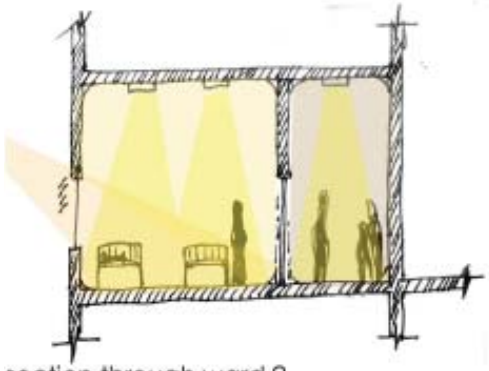
This is my interpretation of how i think space should be shared in a mental health facility such as this one accroing to its functionality.

Ward 2



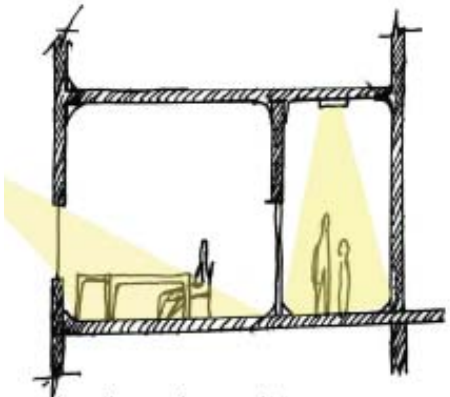
section through ward 2

The natural light doesn't enter the narrow corridor resulting in a dimly lit walkway.
The sun shading device blocks out sunlight as they cover the full height of the window and they aren't adjustable they can't be regulated to bring in sufficient light.



section through ward 2

The artificial lighting is directly above the patients head -this causes frustration and an unbearable glare. This is not condusive for the patients well being thus creating an uncomfortable environment.



section through ward 2

The visual comfort and light source in both these spaces is not appropriate for any of the functions and tasks that need to be fulfilled in both these spaces.

Vernacular Architecture


Fig. 23.

Sotho Architecture


Fig. 24.
A typical Free State house

The Basotho people are found in Lesotho or in the Free state. These 'people of the mountain' are custodians of a very rich and unique cultural background. They are well known for the decorative blankets, triangular straw hats and their vibrantly painted homes. The traditional Sotho home is usually circular capped with a cone thatch roof however in the Free State The houses tend to be rectangular with thatch or metal sheet roofs. These houses usually have a stone base for foundation and wall construction to offer stability and to keep out the rain. The houses are predominantly built from mud and straw. The architect is both man and woman but it is predominately a Sotho woman's role too actively build and decorate her house and courtyard (1999:152). This is due to the symbolic connection of a woman and her home.

The Sotho house is a metaphor of the womb and creation as they as a society believe that human beings emerged from a cave deep in the earth. The symbolism of the home and its links are emphasized during a woman's initiation where she is decorated in the colours red/ocher, black and white. These colours are symbolic earth/blood/ fertility (red), rain/ ancestors (black) and purity/transitional states and enlightenment (white) (1998:15) are used in the decoration of the house.


Fig. 25.


Fig. 26.



Litema At of the Earth

This mural art is called Litema, derived from the word ‘ho lema’ which means to cultivate. This art of the earth, letima, consists of four techniques: engraved patterns, mural painting, relief mouldings and mosaic. However it is up to the creator how the techniques are applied. This deeply symbolic embedded architecture is crafted and moulded by the hand. The result is an expression of the one’s self. The masterpiece is also buried in meaning, in the form of an artistic mural and home that speaks of prayer and praise to the ancestors in the hope that is will bind the home steadfast and strong with hopes of future aspirations to come.

In this way the Basotho woman becomes a master of her craft in both art and architecture. This the basis of the notion “architecture without architect”, providing a valuable example about art on architecture and emotive sense of architecture sculpted and moulded from the earth by the hand.



Fig. 31.



Fig. 32. Basotho women initiation ceremony.



Fig. 33.



Fig. 34. Fig. 35. Fig. 36.



Fig. 37.

Basotho woman decorating her house in the art of

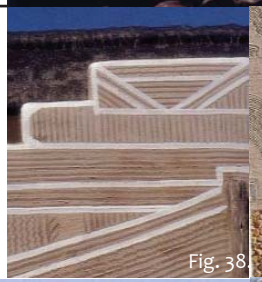


Fig. 38.



Fig. 39.



Fig. 27.



Fig. 28.



Fig. 29.

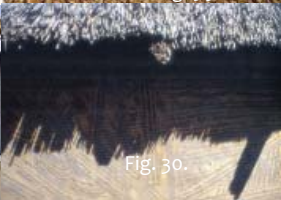
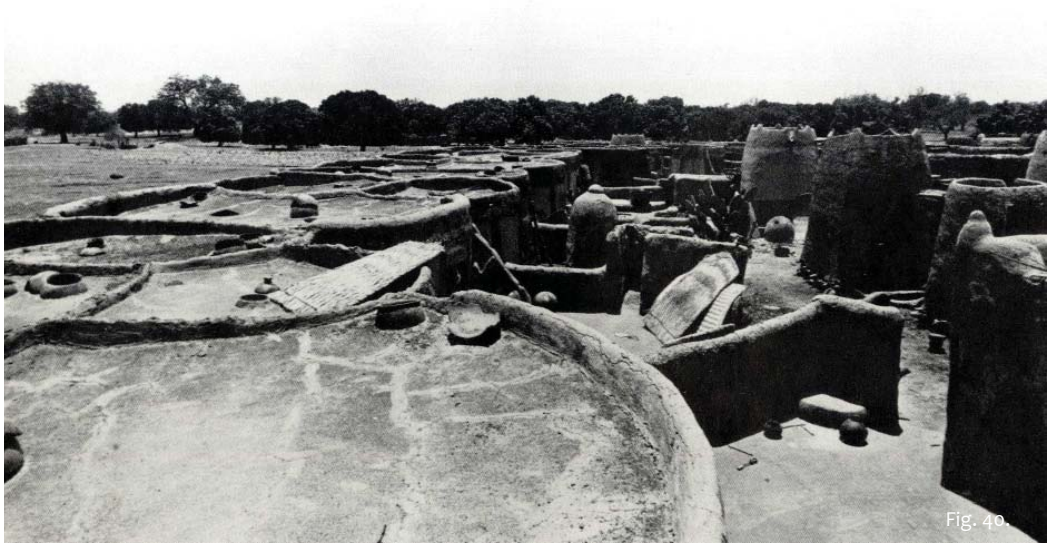


Fig. 30.

Vernacular Architecture

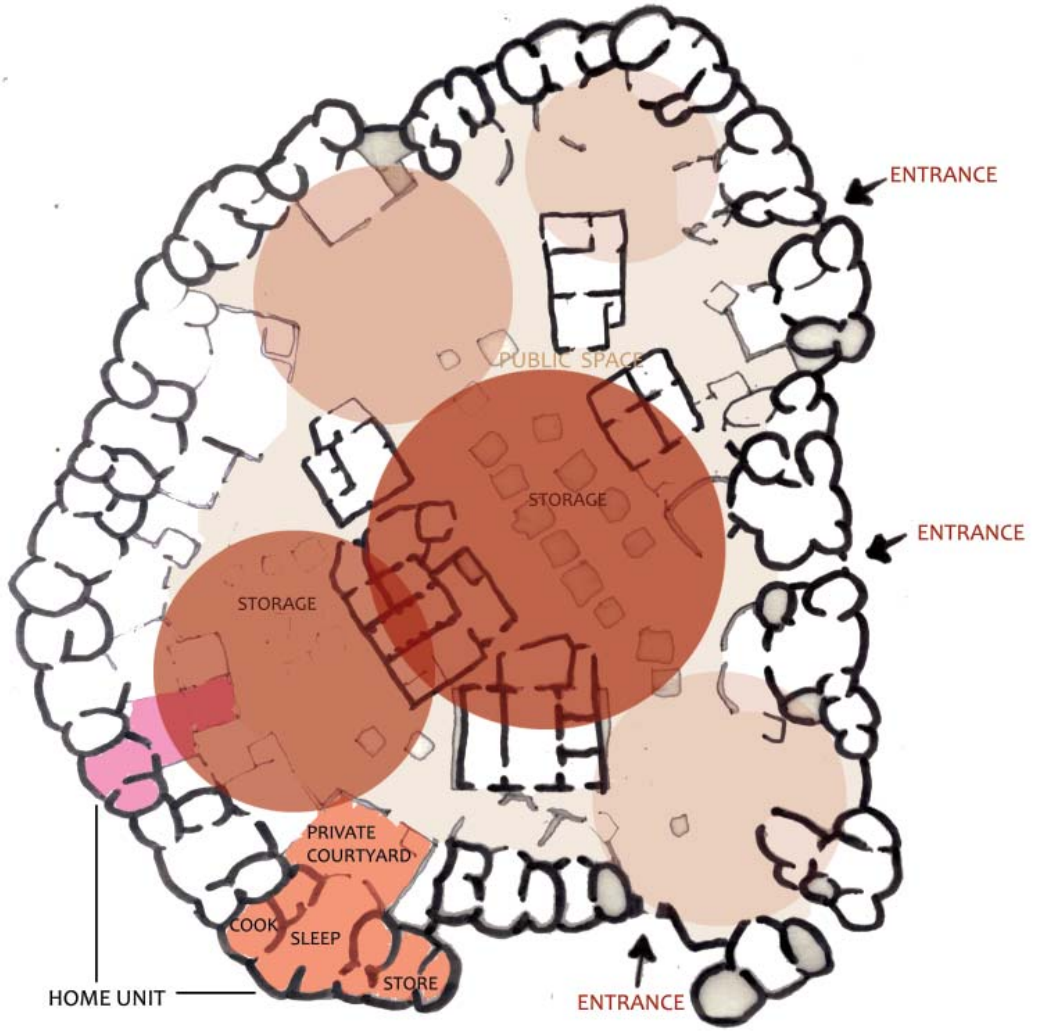
Lela Architecture



The Lela family compound

Important lessons can be learnt from African vernacular architecture. As diverse as this subject is vernacular architecture is not only unique to our continent, it has unique practical tectonic skills one can learn from. Transcending ideas of space planning, transitional living spaces between inside and outside and a poetic light quality with an intended play on light and shadow.

There are a variety of principals and building techniques that can emerge from primitive architecture and settlements. The vernacular is usually determined by climate, soil and lifestyle of any particular group of people, these factors determine the form of the building and the choice of building materials which is specific to different climate zones (1985:2). I will specifically look at the Lela architecture that originate from Gurunsi, north of Ghana to plough richness from their architecture that I believe will be significant to my thesis.



Plan of Lela compound

The Lela people of Gurunsi have a "fortress" like settlement as described by European explorers (1985,27). Their defensive approach to their architecture is may be due to their enclosed homestead as entrances into the are not celebrated but rather suggested. The families living quarters are built close to one another however still providing private zones separate spaces for each family unit, transitional spaces and shared public spaces. What appeals to me is the organic nature or form of the compound however spatial hierarchies are prevalent in its design separating private space and public space through transitional living spaces.

This earth moulded architecture receives its light from roof apertures that bring serene atmosphere in the cool, mud plastered interiors. The thick earth walls offer thermal mass to the houses keeping them cool during the day and warm at night. The roof coverings of semi open spaces are put up to provide the role of horizontal brise-soleil that shades adjacent spaces. The houses are moulded from the earth with places for daily tasks sculpted in the architecture as part of its design. Demonstrating that with architecture made by the hand, form does follow function.



Fig. 41.
Inside a woman's unit

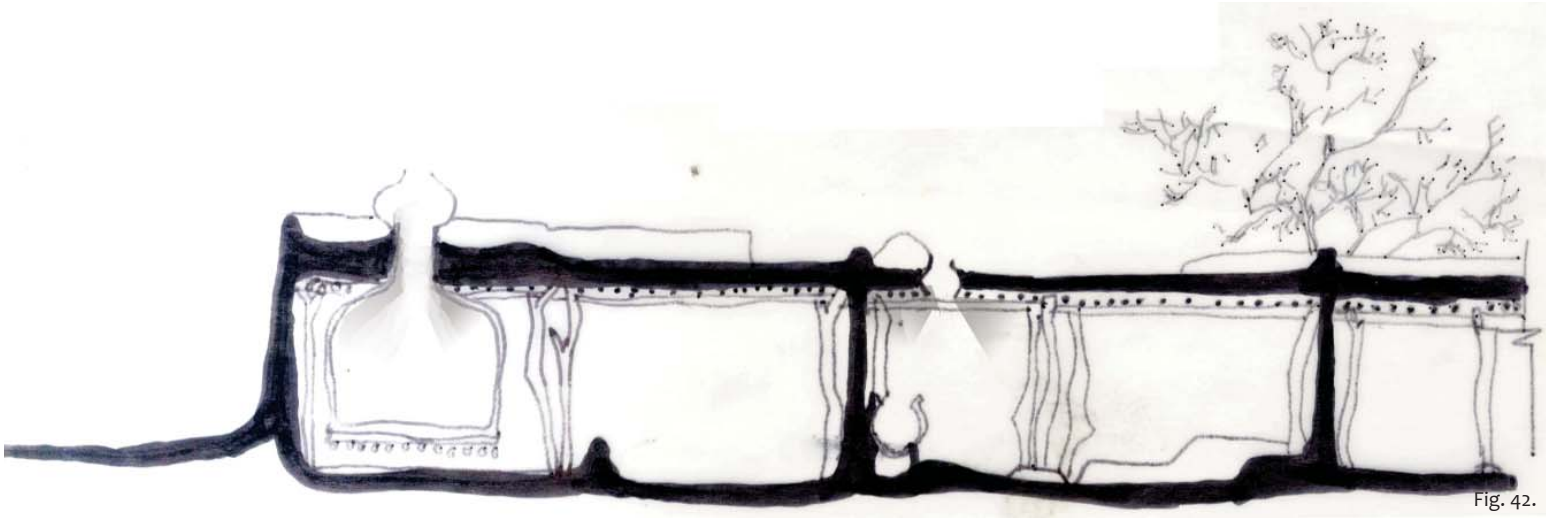


Fig. 42.
Section through Lela compound - earth moulds functional surfaces - light filters in from above

Conclusion

The observed precedents in their diversity show how architecture can be made as a therapeutic tool that can inform healing. They demonstrate how the built environments affect us and how architecture has the ability to mould and shape the perceptions of its users. These precedents provide the evidence that architecture is not solely and artistic expression from its creator and only for the appeasement of the eye but rather it is about human existence and experience the experience of space. I certainly think that a therapeutic quality is defined in the relationship between any human being and architecture which is beneficial to our existence.

Architecture can be crafted to suit the psychological needs that can be beneficial to the user and aid in the clarification of space. I believe the phenomenological approach to architecture is what constitutes architecture as an art. Juhani Pallasmaa expresses this in his book Polemics saying "Every touching experience of architecture is multi-sensory; qualities of matter, space and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle." (1996:28). The sensory conversation we have with architecture on a daily basis is the art of architecture. Pallasmaa also speaks about architecture providing the world with material structure to societal institutions in our daily lives (1996:28), it is this interaction we have with architecture on a daily basis that frames our daily activities and experience of space.

After critically looking at my chosen precedent I analyzed each case study picking up what was constructive and destructive in each architectural intervention that could help me develop my ideas further with regards to the design of my own intervention. By the use of a SWOT analysis I highlighted attributes form each case study which informed my design drivers.

Gauteng Mental Health Society

S
>Patient interaction
>Courtyard
>Connection with community
>Availability of group homes

W
>Small rooms > no light
>No space for physical activity
>Dark spaces in building
>Insufficient parking
>No community interface
>No visitors space

O
>Sense of community
>Public interaction

T
>High crime rate in community

Helen Joseph Psychiatric Ward 2

S
>Secure

W
>Insufficient use of space
>No visitor room
>Shared male and female rooms
>Ward is small
>No connection with outdoors
>No visual link in wards
>No recreational space

O
>Extension of ward
>Create visually pleasing spaces

T
>Staff can monitor patients at all times

Paimio Sanatorium

S
>Sun balconies
>Sun rooms
>Visual connection with nature
>Large Windows
>Great light quality

W
>No patient interaction
>Tall building

O
>Atrium spaces
>Nurse supervision

T
>Secluded in a hill

Therma Bath Vals

S
>Expression of natural materials
>Light Quality
>Sensory architecture

W
>Planning not clear
>Secluded

O
Interaction with hotel

T
Secluded in a hill

Sotho architecture

S
>Hand made quality
>Innovative
>Spiritual connection with architecture

W
>Needs to be regularly repaired seasonally

O
>Connection to self
>Artistic

T
>Weather/ the elements

African vernacular Lela architecture

S
>Hand made quality
>Sensual light quality
>Connected to courtyards
>Transition spaces between inside and out
>Cool interior spaces

W
>Needs to be regularly repaired seasonally

O
>Connection to self

T
>Weather/ the elements

CONCLUSION

>Light is important- light quality
>Patient interaction
>Courtyard - Central courtyard
-Space for physical activity
-Communal space/ place
>Natural materials
>Intermediate gradients
>Intermediate spaces between inside and outside
>Interaction with general public and immediate community

Chapter 4

THEORY/ Psyche of space

- The Psyche- focus on Mental Illness
- Psyche of Space
- De-institutionalizing the institution
- Conclusion

PRELUDE

The following chapter reveals the reason how I came to the thesis question and identifies the user group of a place of healing. The subject is about the psyche of space with regards to the how we perceive space and what existential space is. This chapter also looks briefly at the climate of mental health in Johannesburg and how one can move away from an institutional model of mental health can to develop a suitable model for healing.

Introduction



I first met my cousin when he was 31 years old and I was 10. My entire family had never heard of him or met him. He was a secret. A well kept secret - hidden away in a remote mental asylum on the outskirts of Bloemfontein. He had been living a secluded life and had been moved from one institution to another from when he was a few months old. Hidden away from society on the outskirts of civilization there we found him, in a cold concrete prison-like confinement, secured with red bricks and bars, Mareka Mahlomola Mafisa crouched in a corner unconsciously unaware of our presence but consciously aware of his surroundings.

When I first saw him he was banging his head against a concrete wall, his physic and limbs shrunken as if he was a child. We all stood around the cold, concrete room in which he was confined afraid to touch him or say hello. He could not speak. As we all went forward to touch him I could not help but notice the big bump on his head on which he spent hours beating himself against a wall.

Surely this could be different. He could be in a in a different environment more conducive to healing, mentally and physically. He could be in a space where he could have grown into the unique soul he was meant to be in this world and in a place connected to life and secure enough to attend to his needs. Mareka Mahlomola Mafisa lived an empty and dark life and later died in confinement on the 27th May, 2011 at the Bloemfontein Oranje Hospital due to the social stigma that masks mental illness.

Stigma, as defined by Oxford Advanced Learners Dictionary is “a mark of disgrace or infamy; a stain or reproach , as on one’s reputation; feeling of disapproval that people have about a particular illness or ways of behaving.” Is this how the world perceived him? It seems to me that invisible social divisions have bred a culture of ignorance, segregation and stigma against people who have mental illness and my focus is on the subject of spaces and places of interaction for people with treatable mental illness and intellectual or learning disabilities. Such places and spaces of interaction with the public are rare and in most cases do not exist and I feel this is the key solution to help erode the stigma of mental illness and end the history of confinement and segregation from society.

The Psyche- focus...Mental Illness

Mental illness affects more than five million South Africans at some time in one year. Mental illness may also affect any one person at different stages of growth. A report by the Mental Health Information Centre (2002) shows one out of every five South Africans suffers from mental illness. It may come as a shock to learn that on average, 25% are general practitioners have a mental disorder and 20% of high school children think about fatally harming themselves. In addition, many more thousands of South Africans seldom admit to having any type of mental illness when in fact they do.

There are over 400 mental illnesses listed in the Diagnostic and Statistical Manual of Mental Disorder (DSM), and even though these illnesses are well documented they are not well understood by members of society resulting in many mentally ill people being prejudged and stigmatised within their social circles and family. One description of mental illness explains the condition as being unable to:
..." think and communicate clearly, learn and grow emotionally, deal productively and realistically with change and stress, and form and maintain fulfilling relationships with others." (Cited 20 October 2011)from (http://www.libraryindex.com/pages/3008/Mental-Health-Illness.html">*Mental Health and Illness - How Many People Are Mentally ill* Types Of Disorders, Pervasive Developmental Disorders, Depression, Bipolar Disorder).

It appears that mental illness is a part of human growth and is most likely experienced in situations of stress, emotional distress and how one perceives oneself. This can cause a person to have trouble in coping with daily activities, relationships and other responsibilities. However, in some cases mental illness can be genetic and a natural occurs in the case of intellectual disabilities and learning disorders. Foucault (1954:9) perceives mental illness as defining the wholeness of a person and not what social perceptions would often say is missing:
"... the illness is a general reaction of the individual taken in his psychological and physiological totality."



Fig. 43.

Interesting fact: People with high creativity have similar psychological taints as those with Schizophrenia and Bipolar disorder.
High creativity skills has been commonly found in people who have mental illness in their family gene pool.
Professor Frederick Ullen of the Karilinska Institute measured the creativity in healthy individuals compared to that of those who have Schizophrenia. "The study shows that highly creative people who did well on the divergent tests had a lower density of D2 receptors in the thalamus than less creative people," ..."Schizophrenics are also known to have low D2 density in this part of the brain, suggesting a cause of the link between mental illness and creativity."

(Http://adsoftheworld.com/blog/creative_people_are_just_high_functioning_schizophrenics, cited 2011/10/23)

Psyche of space

The more we understand the natural occurrence of mental illness and appreciate that it can affect anyone the more we will begin to start accepting people who have mental illness and intellectual disabilities.

Winston Churchill (1959: 21) succinctly expressed the effect of architecture and our surroundings with the comment that: *"We shape our buildings and later they shape us."*. He appreciated that architecture has the ability change social perceptions and how we feel in our physical environment. Even though our perceptions of architecture as architects may vary it is, I believe, the common goal of all architects that their work evokes a human response. The human psyche is the basis of how we perceive and understand space. If, as I have argued in the previous chapter, architects and their craft have a healing effect on the Self, so should architecture aim to do the same when designed for psychiatric treatment.

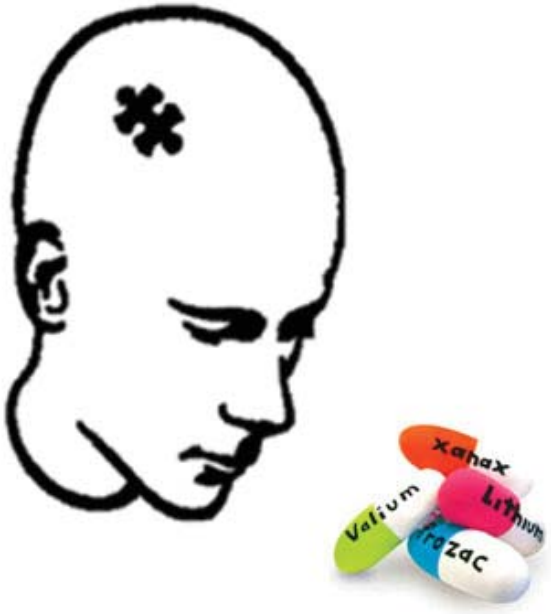
The history of psychiatry has been one of trial and error both in the Western medicinal and architectural fields. It was Thomas Kirkbride, a psychiatrist from Philadelphia, and architect Samuel Sloane who first conceived mental hospital architecture as a specialized field in 1875 (Kirkbride & Sloane,1959: 1). They advocated principals that they discovered in their relevant disciplines and created certain essential design specifications applicable to psychiatric care which took account of the "moral treatment" of patients in psychiatric treatment facilities. These principles were considered morally just and inclusive of all societal hierarchies. Over a century later, Kirkbride and Sloane's theories have become outdated due to technological advancement, however, mental hospital design remains frozen in the industrial age of indestructible reinforced concrete structures and hard brick much like prison architecture. Unfortunately, psychiatric treatment facilities are still human depositories where people are cast out of our societies to the outskirts of our cities. It goes without saying that psychopaths and



Fig. 44.
The distorted view of the traditional mental asylum from Carla Yanni's book Architecture of madness

people with untreatable or acute psychosis should be in remote hospitals but more appropriate facilities are needed for people with treatable mental illness and those with intellectual disabilities in our "metropolitan communities" to serve people with milder conditions of mental illness. This is particularly important as treatment and treatment programmes for the latter differ markedly from that of acute patients.

Physiological therapies such as occupational therapy and physiotherapy have advanced from the early days of frontal lobotomies, tranquilizing drugs and electric shock treatments that dehumanized patients, yet there still exists a contradiction between the advance of treatment programmes and existing hospital design. Psychiatric hospitals in South Africa are filled to capacity and are under-staffed due to a scarcity of trained professionals. Of the government psychiatric hospitals that serve Johannesburg's population of 3.8 million, Weskoppies Hospital can only cater for 1 000 patients, Sterkfontein Hospital caters for 600 patients and Tara Hospital caters for only 140 patients. These hospitals are referred patients by local government hospitals that are also struggling with a surplus of patients due to the "revolving door phenomenon" caused by fragmented and scarce regional community psychiatric services as well as patients discontinuing medical treatment and therapy (African Journal of Psychiatry, 2011: 113). Furthermore, are hospitals for the mentally ill achieving the goal of rehabilitating people? It seems that the general consensus of many psychologists and psychiatrists on the effects of "institutionalization" on any person in is that it promotes a "...deterioration of moral and a suppression of incentive to make constructive moves." (Source?1959: 2). We are today experiencing a crisis with a shortage of beds and space in psychiatric hospitals, but I do not think the solution would be to build bigger psychiatric hospitals and acquire more beds. Psychiatric hospitals in Gauteng that would support the increasing demand of patients needing psychiatric assistance are few. Moreover, the current state of "institutional " care is determined by the existing hospital design which, I feel, limits the mental wellness and recovery of patients in these types of institutions. I would suggest supporting therapy centres to help combat the "revolving door syndrome" by developing alternative therapy programmes such as art therapy, occupational therapy and support groups. All of which would assist in keeping patients on the correct medication.



Art THERAPY + healing ENVIRONMENT = BUILDING TYPE = social REHABILITATION

De-institutionalizing the Institution

The effects of being institutionalized often make it difficult to readjust to the "outside world". Thus with the engagement of public interaction and a comfortable living environment both the recovery and rehabilitation into society can be established when people leave psychiatric treatment facilities - thus achieving the goal of the treatment programme and therapy.

The environment that one is put into during a rehabilitative programme is very important as it affects the rate of the recovery process and a patient's susceptibility to the treatment and therapy and inevitably the response to healing. Mental health facilities have, in the past ,been reminiscent of prisons as the logic of detaining or "institutionalizing" a person outside general society rested on the hope that they might recover and come out rehabilitated. The irony is that the opposite effect is achieved as an "institutional atmosphere" hinders the rehabilitation process and instead results in patients becoming a reflection of their surroundings.

Robert Sommer (1974: 7) in exploring hard, institutional architecture and how to humanize it, cites Winston Churchill's statement that:
"... the health of a society can be diagnosed from the state of its prisons. Today, in physical form as well as in rules governing the conduct of occupants, the prison has become a model for schools, housing projects, and commercial buildings designed for security and custody."

Sommer makes a valid point and it remains true today regarding the design of psychiatric treatment facilities where the emphasis on security outweighs the therapeutic effect. Even though psychiatric treatment facilities should have administrative policies, the strongest emphasis of treatment should be the rehabilitation of patients and the patient's well-being. A building designed for people with mental illness and intellectual disabilities should be built with diversity of spaces that can accommodate advanced treatment programmes, facilitate community interaction, establish patient privacy and instill skills development and training in order for its occupants to socially adjust in society.

In order to break the bounds of the traditional institution we need to change the "institutionalized atmosphere" from lessons learnt. These are:

> Psychiatric treatment facilities should not be isolated entities on the edge of cities and towns. Patients should, while still in recovery, be a part of society and not ostracized to detached institutions.

> The architecture of mental wellness treatment facilities should abandon prison-like architecture of high walls, multi-storey brick and concrete and screened barred windows. This type of architecture only fuels the assumed notions of society about the mystery and danger related to patients with mental illness and intellectual disabilities.

> Moreover it would also help if maximum security units of the "criminally insane" were not in the same facility as that of people with treatable types of mental illness. This also would help reduce public concerns and fears about mental health facilities.

> Materiality is another concern. The use of building materials should be variable and not distinctively chosen because it is readily available and easy to maintain. The conventional materiality of psychiatric hospitals is usually stigmatized by the general public. Thus different material options should be observed so that the architecture is not distinctly identifiable as "mental health architecture" thus branding and stigmatizing the architecture.



Conclusion

> The facility should be situated to allow for community interaction.. The treatment programme should enable the ordinary activities to be scheduled as part of the treatment programme such as shopping, personal grooming, etc.

> Ideas of "secure" nursing stations, sleeping quarters, etc, should be abandoned because it prohibits or limits personal contact with patients.

> The internal environment should look inviting with the use of art work and lots of light to soften the space.

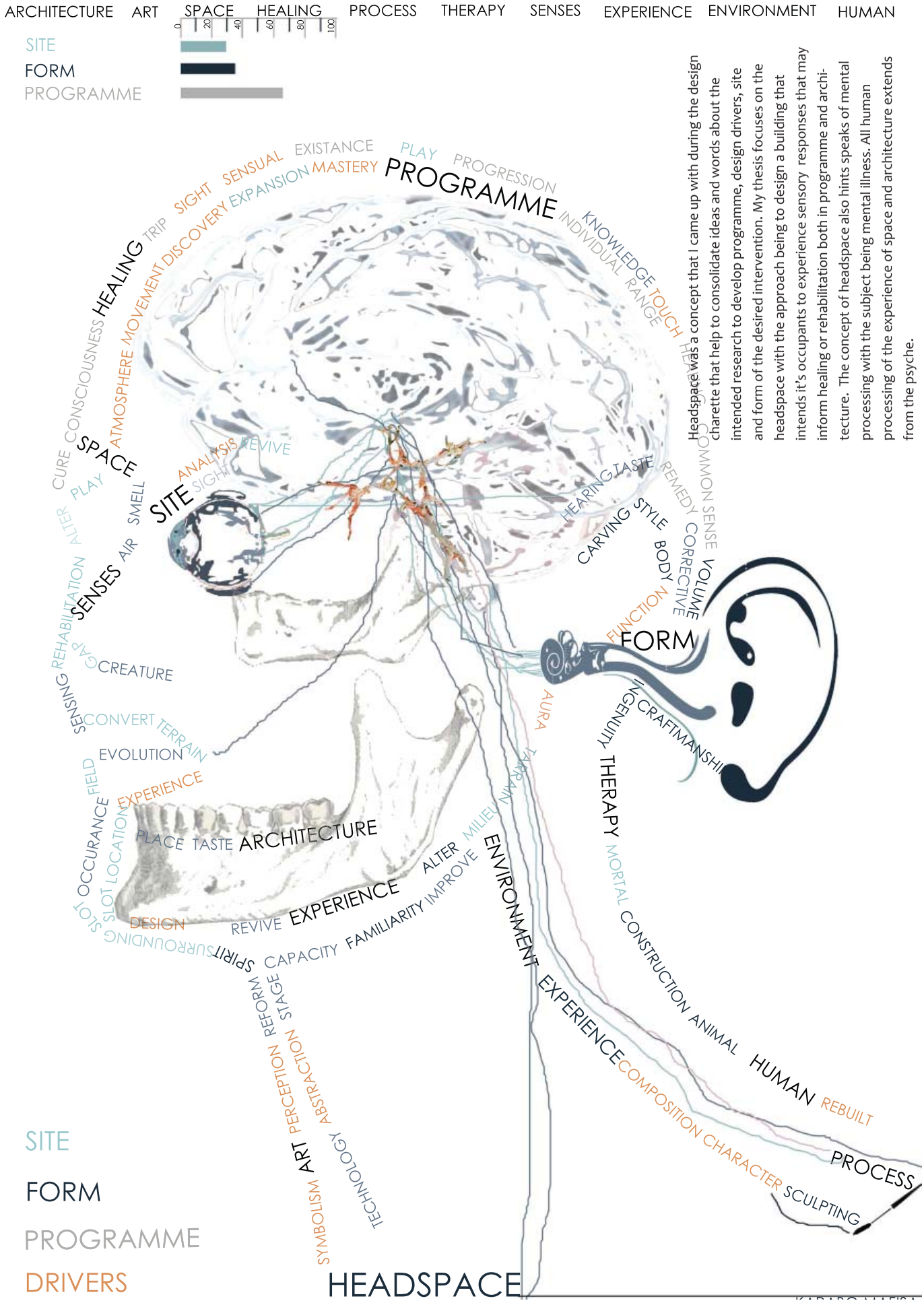
> Outdoor interaction should be encouraged and a visual connection of outdoor spaces and environment should be experienced from the inside of the architecture.

The design of psychiatric treatment facilities should be sensitive to world of the mind in which matter, information processing and the experience of space are fused. As our lived reality, which forms the basis of how we use space and interact in space is defined by architecture and the tangible world it creates around us, this space can be an antidote for healing and rehabilitation. Therefore, one needs to understand space as a geometrical, physical entity and as a lived existence which is the psyche of existential space. It is experienced both consciously and unconsciously. The root of every human being's spatial psyche determines how we feel in a space - if it can make us ill or bring us back to health.

Chapter 5

PROGRAMME/

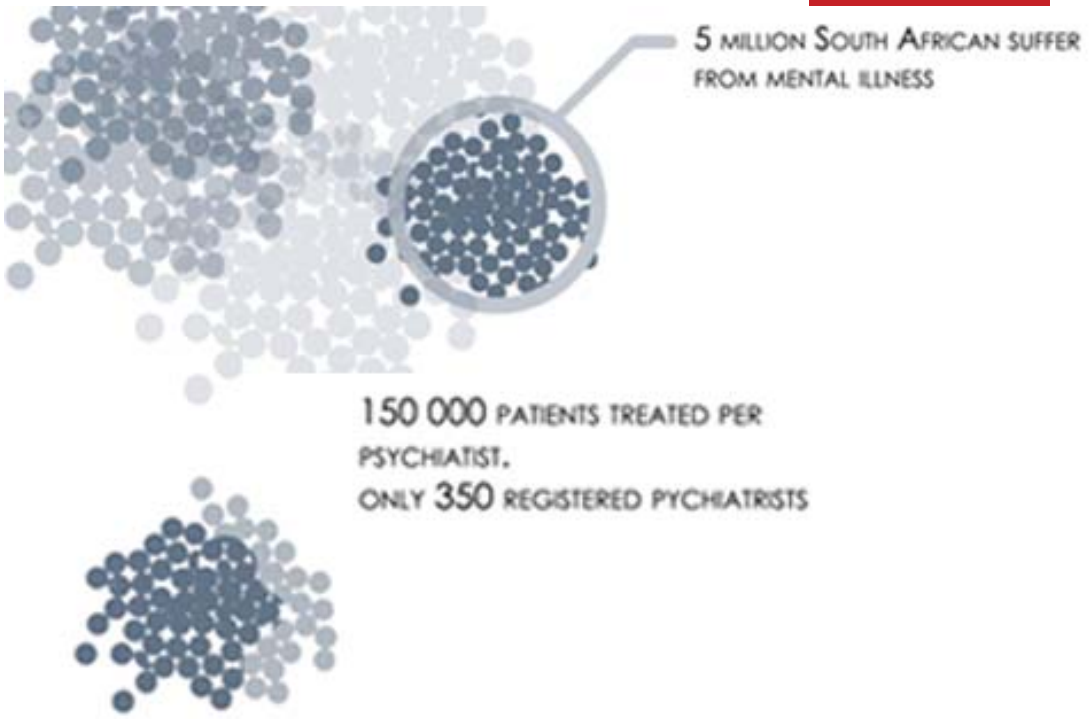
- Solving the problem
- Programme proposal
- Programme resolution



Headspace was a concept that I came up with during the design charette that help to consolidate ideas and words about the intended research to develop programme, design drivers, site and form of the desired intervention. My thesis focuses on the headspace with the approach being to design a building that intends it's occupants to experience sensory responses that may inform healing or rehabilitation both in programme and architecture. The concept of headspace also hints speaks of mental processing with the subject being mental illness. All human processing of the experience of space and architecture extends from the psyche.

THE PROBLEM...


KRUGERSDORP
ROODEPOORT
FLORIDA
JOHANNESBURG
ORLANDO
ALBERTON
Bimville
Venterspos Lokasie
Van Wyks Rust
Rietfontein
Klipriver
Rietspruit
Windmill
Meyerton
Meyerton Location
Riversdale
Henley on Klip
Henley on Klip Station
Eatonside Siding
Witkop
Klipkop
Kaalfontein
Wildebeestfontein
Cardoville
Elandsfontein
Doornkuil
Walkerville
Klein Rietspruit
Rietspruit
Vlakplaats
Rietkuil
Redan
Redan Station
Middelplaats
Sterkfontein
Loskop
Schoongezicht
Angus Station
Rooikop
Natalspruit
Klipriversberg
Turffontein
Jabavu
Moroka
Nancefield
Limeacres
Lenz
Sewage disposal works
Factories
Pumphouse
Zuurbekom
Midway Station
Hartzenbergfontein
Enkeldoorn
Bronkhorstfontein
Platberg
Perdeberg
Faroasfontein
Kingston
Stud farm
Dairy farm
Inn
Daleside
Sukkerbosch
Factory
Pottery works
Windmill
Klipkop
Sprogfield Hut
Collieries
Northdene
Burtthorn Siding
Vlakplaats
Rietkuil
Voigrand Siding
Kromdraai
Driefontein
Asbestos
Oaktree
Zonnehoewe
Thornbush
Honeydew
Ferndale
Sandown Hospital
Craighall
Inanda
Allendale
Wilshire Farm
Ruins
Glenamonte
Beckedan
Battery Siding
Robinson Lake
Gold
Wippoortje
Lewisham Location
Little Falls
Fontainebleau
Blackheath
Lindeen
Kew
Edenvale
Germiston
Randfontein
Middelvlei
Kocksoord
Wheatlands
Kandgate
Durban Roodepoort Deep Gold Mines
Maraisburg
Cemetery
Fordsburg
Johannesburg Station
Rosherville Dam
New Canada
Crown Mines Limited
Baragwanath
Orlando Dam
Turffontein Racecourse
Kosterfontein
Racetrack
Nancefield Station
Jabavu
Bimville
Klipriversberg
Albertynshuis
Pumphouse
Zuurbekom
Limeacres
Lenz
Sewage disposal works
Factories
Van Wyks Rust
Bronkhorstfontein
Enkeldoorn
Hartzenbergfontein
Platberg
Rietfontein
Klipriver
Rietspruit
Windmill
Perdeberg
Faroasfontein
Kingston
Stud farm
Doornkuil
Walkerville
Dairy farm
Inn
Daleside
Witkop
Sukkerbosch
Factory
Schoongezicht
Angus Station
Rooikop
Natalspruit
Klipriversberg
Turffontein
Jabavu
Moroka
Nancefield
Limeacres
Lenz
Sewage disposal works
Factories
Pumphouse
Zuurbekom
Midway Station
Hartzenbergfontein
Enkeldoorn
Bronkhorst



Current health institutions are burst with patients but suffer from a lack of resources such as staff and alternative therapy and medical treatment methods. Mental health institutions in the Gauteng area are Weskoppies, Sterkfontein that can cater for 600-1000 patients, Government hospital (Johannesburg General Hospital, Chris Hani Hospital and Helen Joseph Hospital) can cater for a maximum of 160 patients, and Tara Private Hospital that can cater for 140 patients. These health facilities are under staffed and have limited resources. Moreover once symptoms are controlled and medication is advised by doctors and patients are released, the patients cannot access the prescribed medication from clinics as there are no support structures for the patients to guide in the process of recovery, therapy and self medication. The symptoms thus, represent themselves causing a vicious cycle[1].

1 Information obtained from 22 February 2005 article by Jillian Green in her article "Caring for Mentally Ill is a Heavy Burden".



THERAPY

THERAPY CENTRE



The focus of this intervention is to put an end to the vicious cycle of people being admitted to psychiatric hospitals and wards by making sure supporting structures present themselves in the South African context that can be accessed by anyone who requires assistance with mental illness. The facility will be able to provide therapy, support groups while the patient is on their prescribed medication and/or are home bound. The programme also extends itself as a halfway house and a research facility for mental illness. It will be a centre that unifies dispersed Mental Health NGO's so as to allow people to find assistance and information in a centralized facility.



PSYCHIATRIC WARDS IN JOHANNESBURG

Only four psychiatric treatment facilities in Johannesburg, of the four that exist only one has an out patient therapy programme, which is Tara Hospital.

PROGRAMME PROPOSAL

Objectives

- Provide a therapy centre to serve the needs of those who suffer from mental illness and intellectual disabilities.
- Help combat the stigma against people who have mental disabilities.
- Provide a therapeutic support system in communities around South Africa and family networks
- Uphold Mental Act 2005 to provide suitable and lawful architectural space and healing environments

Programme definition

- Needs of home bound patients who suffer from mental illness and intellectual disabilities.
- House various therapies such as art therapy, speech therapy, physiotherapy and occupational therapy.
- Active rehabilitation programme that is structured according to growth development phases
- Half-way house recovery programme
- On-site skills workshops and aid with self sustaining economic programmes and workshops

The intervention is predominately an art therapy centre however, through researching mental about mental disability and looking for alternative methods to help heal the illness, I discovered that other therapies such as physiotherapy, occupational therapy and speech therapy will be needed in order to fulfill the goal of creating a wholesome therapeutic space. All of these therapies are beneficial programme as they help encompass it as a place for well being and healing. The multi- therapy centre extends the programme to the local residents of Bertrams in the form of a green public space, a library and other amenities attached to the intervention.

Therapy

Therapy such as Art therapy, Occupational therapy, Physiotherapy and speech therapy. This aspect of the programme is exclusively for the patients that are temporarily staying at the intervention.

Art Gallery and artist studio's

Art is the healing apparatus in the centre and it is also a unifying aspect amongst all humankind. Art is the tool that will be used to communicate across all boundaries i.e. Mental illness, stigma. The art gallery will help de-stigmatise mental illness and institutions that help in the healing of such illness. The gallery will show some of the art work done by patients and home bound patients twice a year. The gallery will also show case other artists and the work of the on site art therapist /artists who assist in the art therapy programme. These artists will have on site studio's. The gallery is another way to inform social integration.

Halfway House

The Therapy centre has a recovery house to allow people to begin the process of healing and reintegration with society, while still providing monitoring and support . This part of the programme is for patients who have either previously in a psychiatric institution or a person or home bound patients that want to gain independence. They will be allowed to stay for a period of 1-6 months. An active therapy programme will be run where on site patients and home bound patients can attend the therapies listed above and individual and group therapy.

Workshops

In order to allow for economic integration back of patients back into society. The protective workshops will teach the patients life skills and craft skills so that they can develop a skill they either have or a new skill to help them earn a living outside of the centre care. There will also be contract workshops that allow for contract work to be done on site from an external employee. This will help them generate an small income while they are at the facility.

NGO offices

NGO offices are imperative for the functioning of the centre as they bring in new clientèle to the centre. Furthermore, mental illness and intellectual disability NGO are dispersed all over the city and hey don't share the same vicinity with doctors and therapy counsellors

.

Day care centre

The day care centre is for home bound people with mental illness and intellectual disabilities that can not look after themselves or have no one to look after them during office hours.

Medical Centre

The medical centre is a needed to help end the vicious cycle of people going in and out of hospital because they did not stay on the correct medication prescribed by their psychiatrist. The causes of this may be that the patient is unable to find the medication prescribed at their local clinic or a support structure that encourages one to stay on their medication. There will be a pharmacy and medical professionals offices such as social workers, a general practitioner who will come in twice a week.

Knowledge centre

This will be a part of the centre aimed at informing people about mental illness and giving people advice with regards to mental disability. This is another initiative to try defeat the bounds of the stigma of mental disability.

PROGRAMME



KEY



ART

ARCHITECTURE

THERAPY

HEALING

SPACE

PROCESS

SENSES

KNOWLEDGE

EXPERIENCE

HUMAN

ONE

ENVIRONMENT

THERAPY	Art Therapy Occupational Therapy Speech Therapy Physiotherapy
ART	Art Workshop Artist Studio Gallery
WORKSHOPS	Protective Workshop Contract Workshop
ACTIVE REHABILITATION	NGO Offices
HALFWAY HOUSE	Residence accomodation Medication administration
MEDICAL	Pharmacy
PUBLIC / COMMUNITY	Urban/green space Library Knowledge Centre Coffee Shop After Care for Children and Elderly
ADMINISTRATION	Reception Management Offices

Programme	Area Name	Quantity	Area m²
	Therapy		
	Art Therapy Room	1	100
	Occupational Therapy Room	1	50
	Speech Therapy Room	2	36
	Physiotherapy Room with pool	1	145
	Group Therapy Room	2	36
	Individual Therapy Room	4	25
	Art		
	Art Workshop	1	100
	Artist Studio	5	36
	Gallery	1	200
	Curator's Office	3	20
	Workshops		
	Protective Workshop Room	1	50
	Contract Workshop Room	1	50
	Halfway House		
	Subsidised Apartments (no Kitchen)	30	25
	Floor Parent/nurse	2	32
	Laundry	1	25
	Common Room	1	100
	Sun Rooms/balconies		40
	Active Rehabilitation		
	NGO Offices-Open plan	5	40
	Administration		
	Reception and waiting area	1	20
	Directors offices	2	20
	Open plan offices	2	40
	Female Toilet	1	10
	Male Toilet	1	10
	Broadroom and training	1	36
	Storage	1	12

	Medical Care		
	Pharmacy	1	100
	Storage	1	20
	GP Consultation room	1	15
	Reception and waiting area	1	20
	Female Toilet	1	10
	Male Toilet	1	10
	Multi purpose room	1	20
	Public/Community		
	Library	1	200
	Knowledge Centre	1	50
	Coffee Shop	1	100
	Dining/Kitchen		
	Dining area/ Multipurpose space	1	450
	Kitchen	1	140
	Meals on wheels dispensary/mini Kitcher	1	25
	Cold Storage	1	8
	Dry Storage	1	12
	Wash room	1	15
	Ancilary Room		
	Linen Storage	1	8
	Cleaners strore room	1	8
	Boiler Plant room	1	26
	Store room	1	10
	Service Access	1	12
	Sercurity office	1	20

Chapter 6

DESIGN/

- Design Brief
- Concept Rationale
- Design Development
- Programmatic Massing
- Site Responses
- Third Review Design
- Design Development



DESIGN BRIEF

In light of the current the current situation of psychiatric treatment in Johannesburg a therapy centre that would function as a support system for people who are mentally ill and their family networks, the over flow psychiatric wards and hospitals and help de-stigmatise mental illness in a society is a feasible model to help to combat the current predicament that psychiatric health care is facing. Moreover mental illness is an ailment that anyone of us in our lives may suffer from, with most people ashamed to admit that they have mental illness, this at the height of human acknowledgement of mental and physical wellbeing it is without a doubt that we need to start looking at improving on spaces and facilities of the mentally ill.

Description

The therapy centre should be designed to facilitate human interest and take into account the daily requirements and tasks performed by who are in a therapy setting for the treatment and rehabilitation of people who have mental illness. Programmatic requirements should take into consideration the moral handling of people who have mental illness in full understanding never to dehumanize occupants and isolate daily tasks due to a person being in the therapy treatment programme. The design should be considered from a therapeutic approach rather than a place of confinement.

The treatment programme should facilitate for alternative therapies such as art therapy, speech therapy, physiotherapy and occupational therapy that are essential and beneficial and an integral part to rehabilitating mentally ill patients. Daily tasks such as walking, cooking and gardening are also therapeutic and should be encouraged in the programmatic treatment and in the design of the centre.

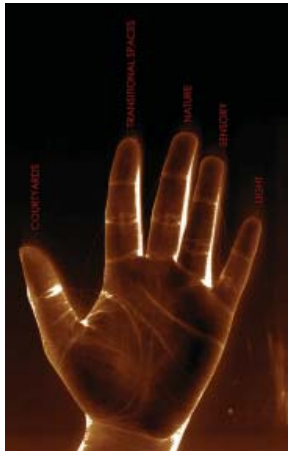
The sleeping facilities of the halfway house component should be have variation of a single bed room for patients staying a short term duration of less than 6month and two bed room for patients staying for 6 months. Men and women will be have separate sleeping quarters and a floor parent/nurse will have her sleeping quarters in close proximity to monitor the patients (1 nurse to every 10 patients).

Patients usually have a problem of readjusting in society after being ‘institutionalized’ so it would be ideal if the patient could have interaction with society or the immediate community. So the design should allow for the integration of the therapy facility with the community. Abandoning the concept of purely isolated treatment program. Buildings which adjust to the psycho-social needs of the user/ patient can prevent social stigma that surrounds mental illness, reduce discolouration of mental illness and encourage re-socialization.

If mental health facilities where with the concept of space then many mistakes of the past could be avoided, creating spaces for interaction with people and nature and activity, a place and space for mental wellbeing is possible to achieve.

CONCEPT RATIONALE

The design is based upon five key design drivers that stem from a SWOT analysis from my precedent studies in chapter 3. The these design drivers are the strengths I picked up from the precedent analysis: courtyards, transitional spaces (indoor outdoor relationship) , connection to nature, sensory architecture and natural light. Using these drivers I began my design development…





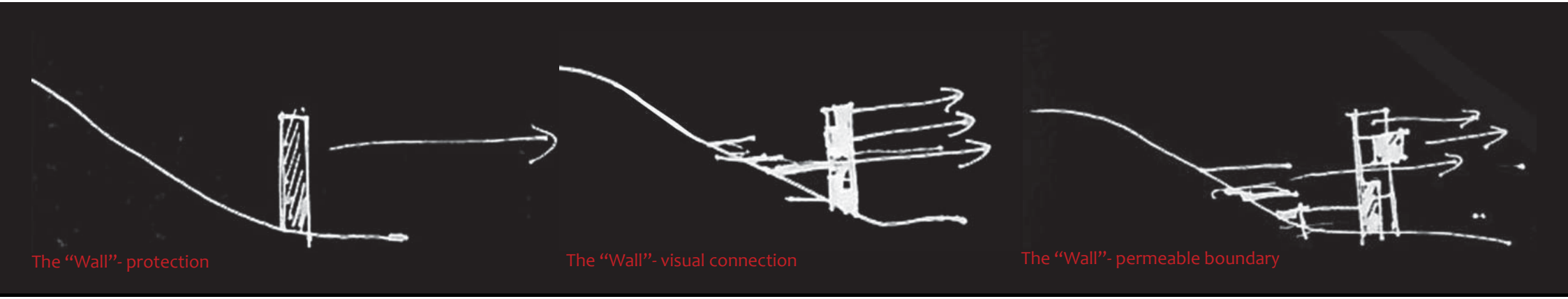
CON-TEXT-URAL

Nature meets the street

Nature meets the city

> The site was the key design driver as the site is on a hillside. The theory I used when designing this is the an idea I call "Con-text-ural" which I derived from the idea of how the site and the building should relate. The site is takes on a metaphoric concept as being a finger print which is unique and has a heighten sense of touch. Therefore how the building touches the site is an important aspect to the design concept. The two, site and building, need to establish a symbiotic relationship of how the building carves or moulds itself into/ from the landscape and how the landscape embraces. Moreover the building should not impose itself harshly on the site. The consciousness of the two entities induces a poetic relationship between nature and architecture.

> The site presents a collision of two worlds, one that is man made (the city) and another that is natural. The juxtaposition of these two world forms a transition "where nature meets the city" and/or "where nature meets the street". I have deduced that life begins were nature and man meet. Healing and a therapeutic state of mind also occurs in that merger. The desired creation is to establish a therapeutic and healing environment when nature and architecture meet. I have interpreted this conversation between nature and architecture to read as the language of the my architecture. The architecture that is in the natural domain will depict a vernacular, moulded from the earth type of architecture. Whereas the architecture in the city domain will relate to the street and the city and read as a modern and robust form of archi-



The "Wall"- protection

The "Wall"- visual connection

The "Wall"- permeable boundary

tecture.

> The edge of the site is acts a public filter and as a transition zone between nature and the city. The building situated there should also act as a "wall" that is protective barrier from the stigma of mental illness in society and secure its inhabitants. However, this "wall" building must be a permeable boundary allowing the broader public and local residents of Bertrams to filter through it. It will be a bridge between people who have mental disability and the public allowing for social reintegration for people who have mental disability into society.

> This "wall" building should also allow for a visual link to the city so that there may be a connection to the city from within the facility. This visual link also forms the connection of both societies, that of the mentally ill and the general public. Moreover that the facility, its inhabitants and users are a part of the same world united by their city connection.

DESIGN DEVELOPMENT

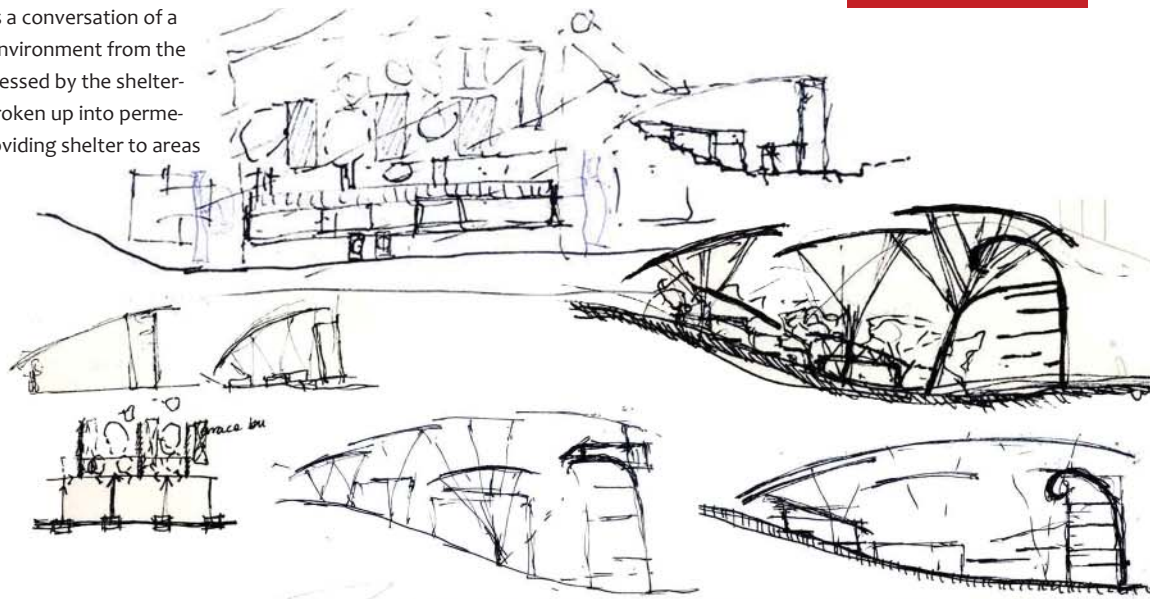
Architecture made by the hand...

The journey of discovering the building was one of sculpting and moulding the building by the hand. The opportunities of the site being on a hillside presented exciting opportunities of capturing views and creating outdoor relationships. The challenge was to have a building or buildings that have adequate sunlight as the site is south facing. This gave rise to an early decision of having the tallest building on the edge of the site relating to the city and the street.

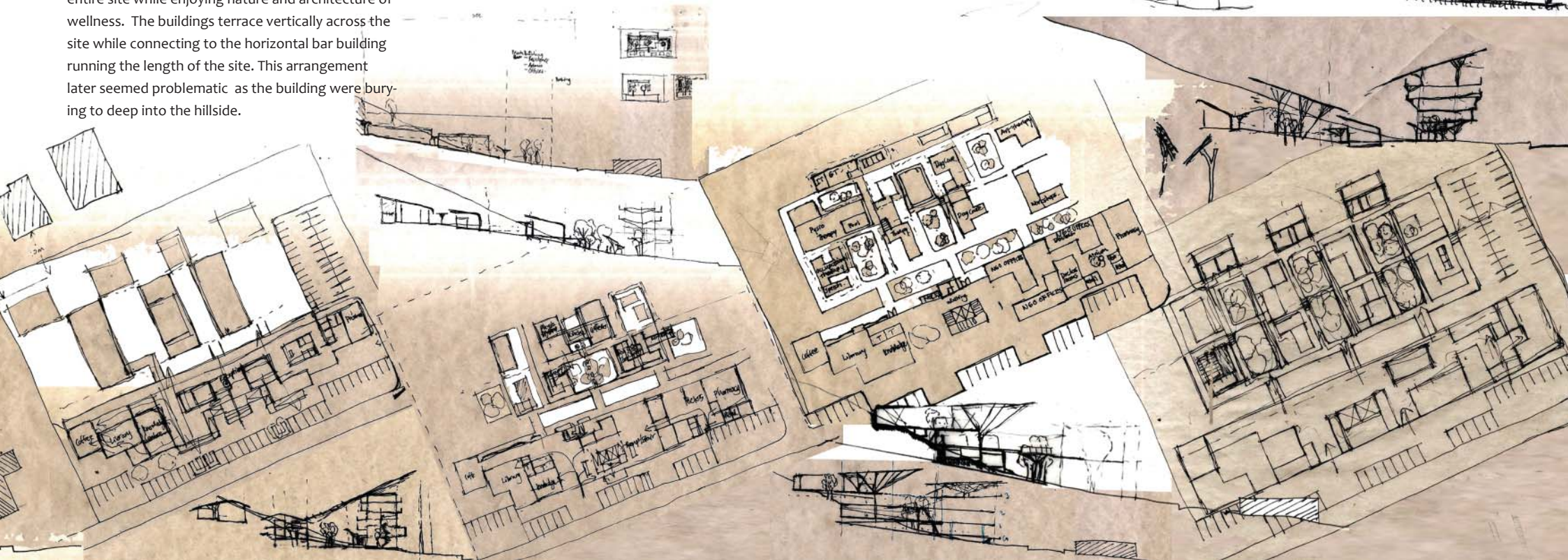
The relationship with nature and the outdoors is expressed with courtyards in between the buildings. The buildings create extensions to the outdoors with the use of large verandas, creating transitions spaces between the inside and outside.



The exploration in section was a conversation of a secure internal 'therapeutic' environment from the outside city environment expressed by the sheltering roof. This roof would be broken up into permeable and clear opens while providing shelter to areas that need to be covered.

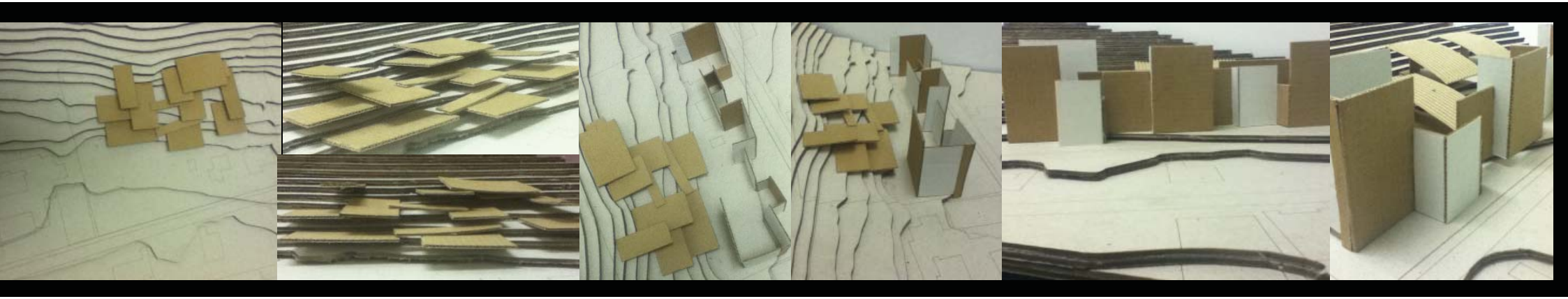


Smaller buildings that house various therapies are spread across the site creating a campus type of environment allowing the users to experience the entire site while enjoying nature and architecture of wellness. The buildings terrace vertically across the site while connecting to the horizontal bar building running the length of the site. This arrangement later seemed problematic as the building were burying to deep into the hillside.



DESIGN DEVELOPMENT

I made a series of models that observed different configurations on the site to determine suitable placement and positioning of buildings on the site. These models also provided answer of suitable heights and distances from buildings in order for the buildings to receive optimum sunlight in the buildings. Another observation that was made is that the buildings had to work with the site, terracing up the slope and opening their roves to the north. These models tested ideas I had shown in the previous sketches.



This idea tested the idea of the building being an extension of the strata into built form.

Demonstrated here is the idea of the "wall" building. Playing with ideas from it being a straight wall, then stager across its length providing different functions that would lead into the rest of the building/s.



Different arrangements and of the buildings were tested to get ideas on how one could get desired north light into the buildings. Furthermore, how the buildings could terrace on the site while linking to the main building that welcomes its users in for the street.

The roves of the buildings were important because they didn't only provide the sole function of shelter from the elements but they a tool to allow light in and conceptually provide security from the stigmatised world of those who are mentally ill. Thus the idea of a single roof was also tested.

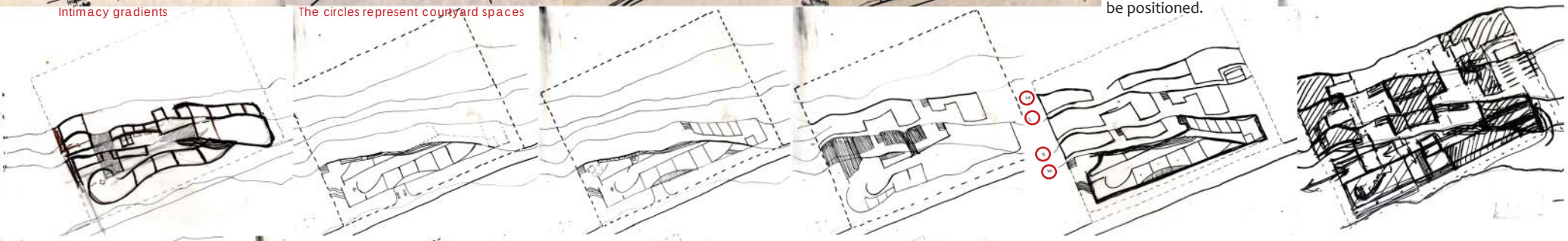
DESIGN DEVELOPMENT

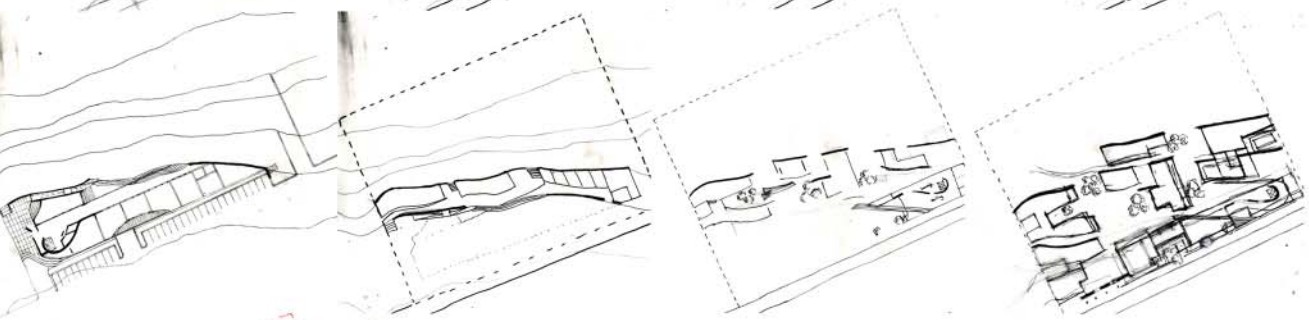
After observing that the terracing of the buildings wasn't working very well I started looking at the contours of the site for the answer. This is when the concept of con-text-ural was born. That the land form would help sculpt the buildings and their terrace levels so that the relationship between the two would be of a symbiotic nature. The buildings would touch the site sightly and the contours would mould and shape them. I decided to create terrace levels at every 1.2m contour so that the terraces occurred at a gently gradient and the terrace walls could created plinths for window positioning and the separation of courtyards and buildings. Circulation would happen along the edge of the contours alongside the retaining walls that would follow the line of the contours. Privacy gradients would also be established on the ascending contour levels moving from public amenities to private spaces where different therapies would be positioned.

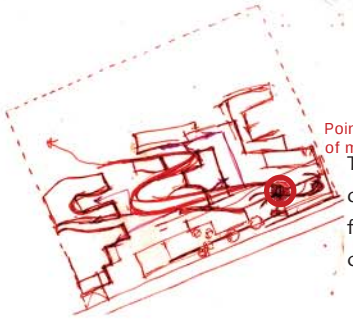


Intimacy gradients

The circles represent courtyard spaces

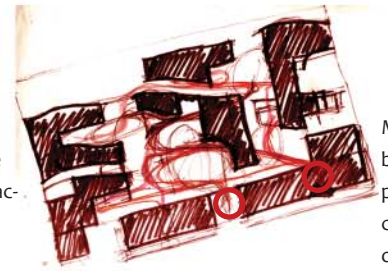






Point of entrance - direction of movement paths.

These diagrams show the free flow of movement across the campus type facility from entering the building to accessing other buildings.



Multiple entrances seem to work better for the public to filter to public amenities and another as at controlled access point to the NGO offices and the halfway house.

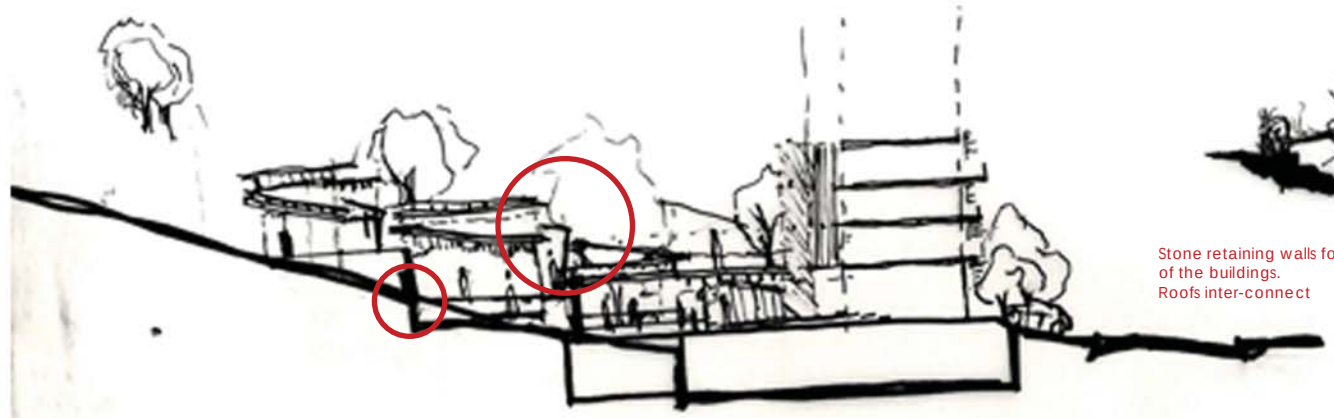


This diagram shows the points of entry and courtyards where people going to different events in the precinct interacting between courtyard spaces.

The sections across the site start speak of the gentle progression of terracing retained by retaining walls that are a part of the buildings. The buildings don't nestle in the earth too deeply.
The roves of the buildings inter-related and shift across buildings and in some cases are walked upon.

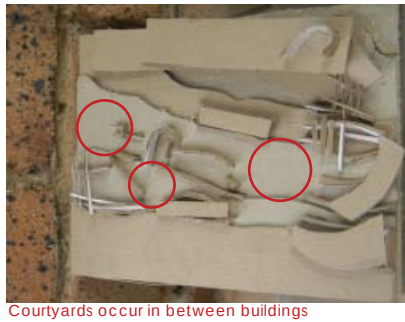









The contours moulding the building


Courtyards occur in between buildings


Roofs inter-connecting

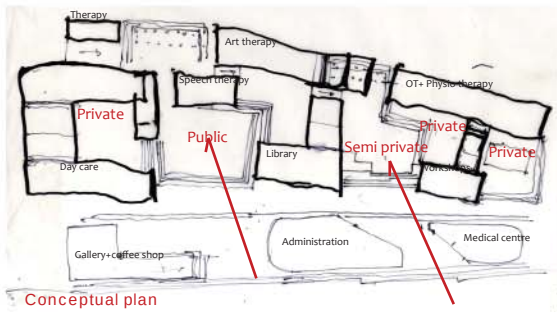


DESIGN DEVELOPMENT

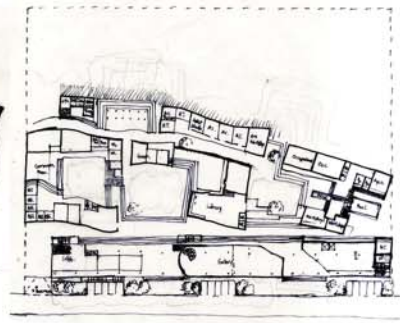
FIRST DESIGN SCHEME PRESENTED

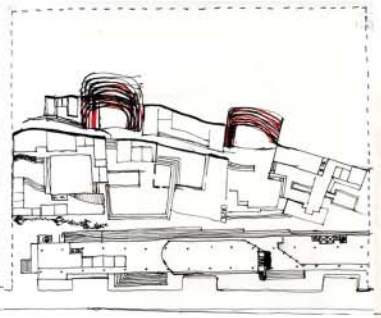


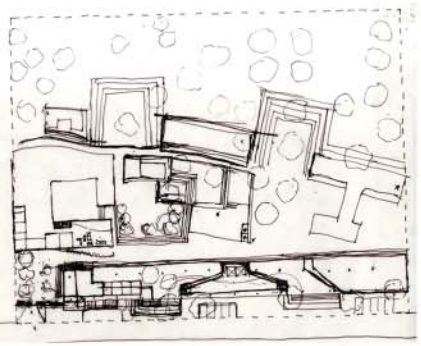
DESIGN DEVELOPMENT....

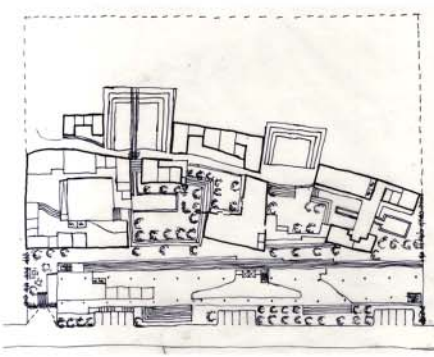


Conceptual plan



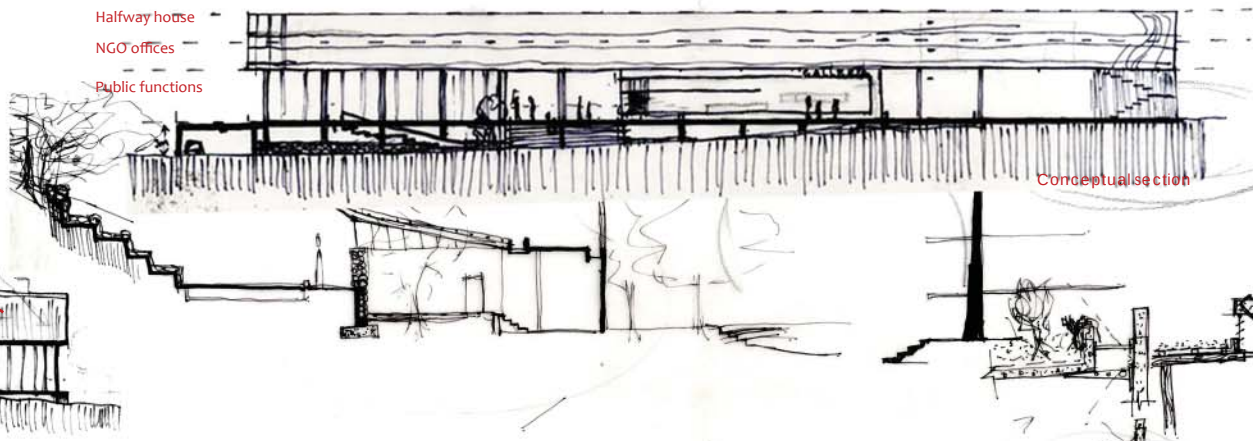


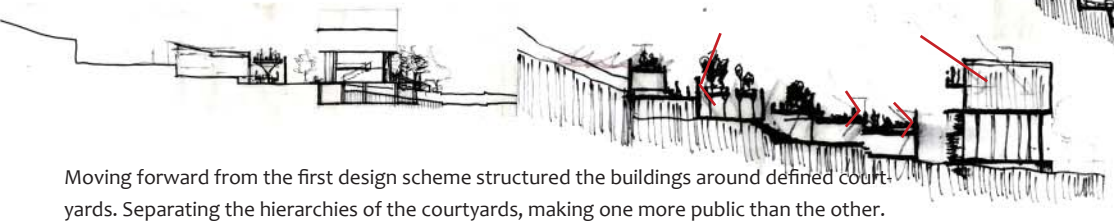




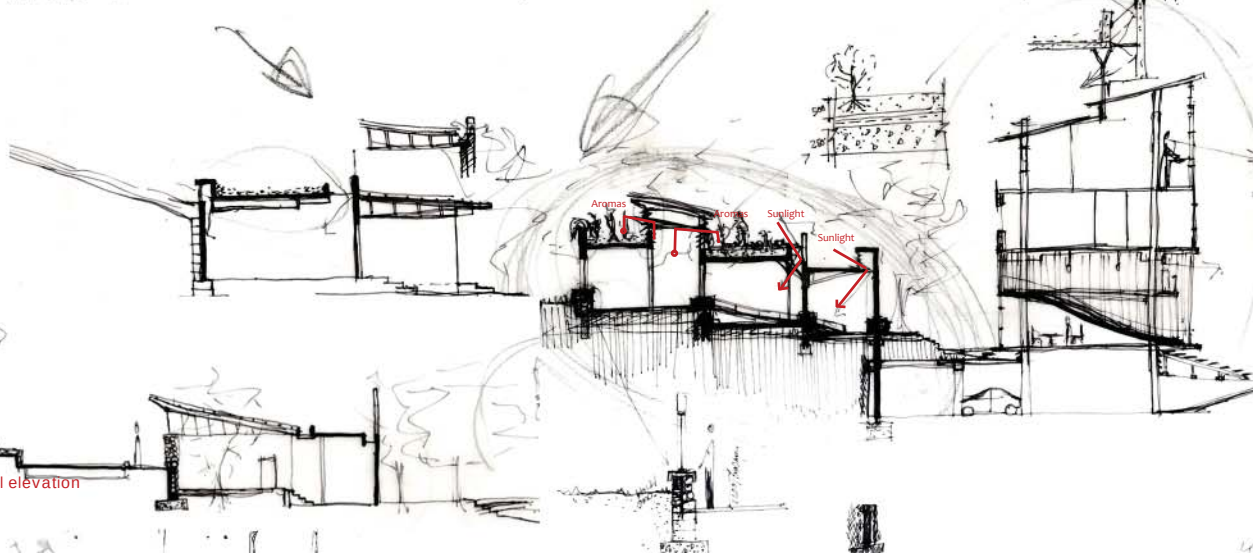


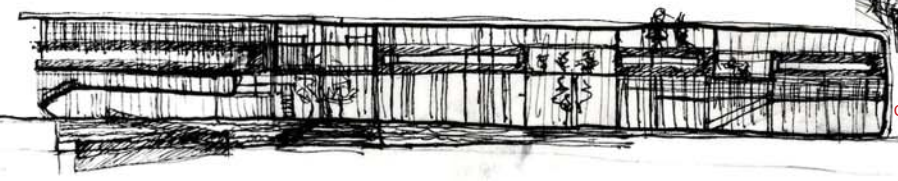
Halfway house
NGO offices
Public functions

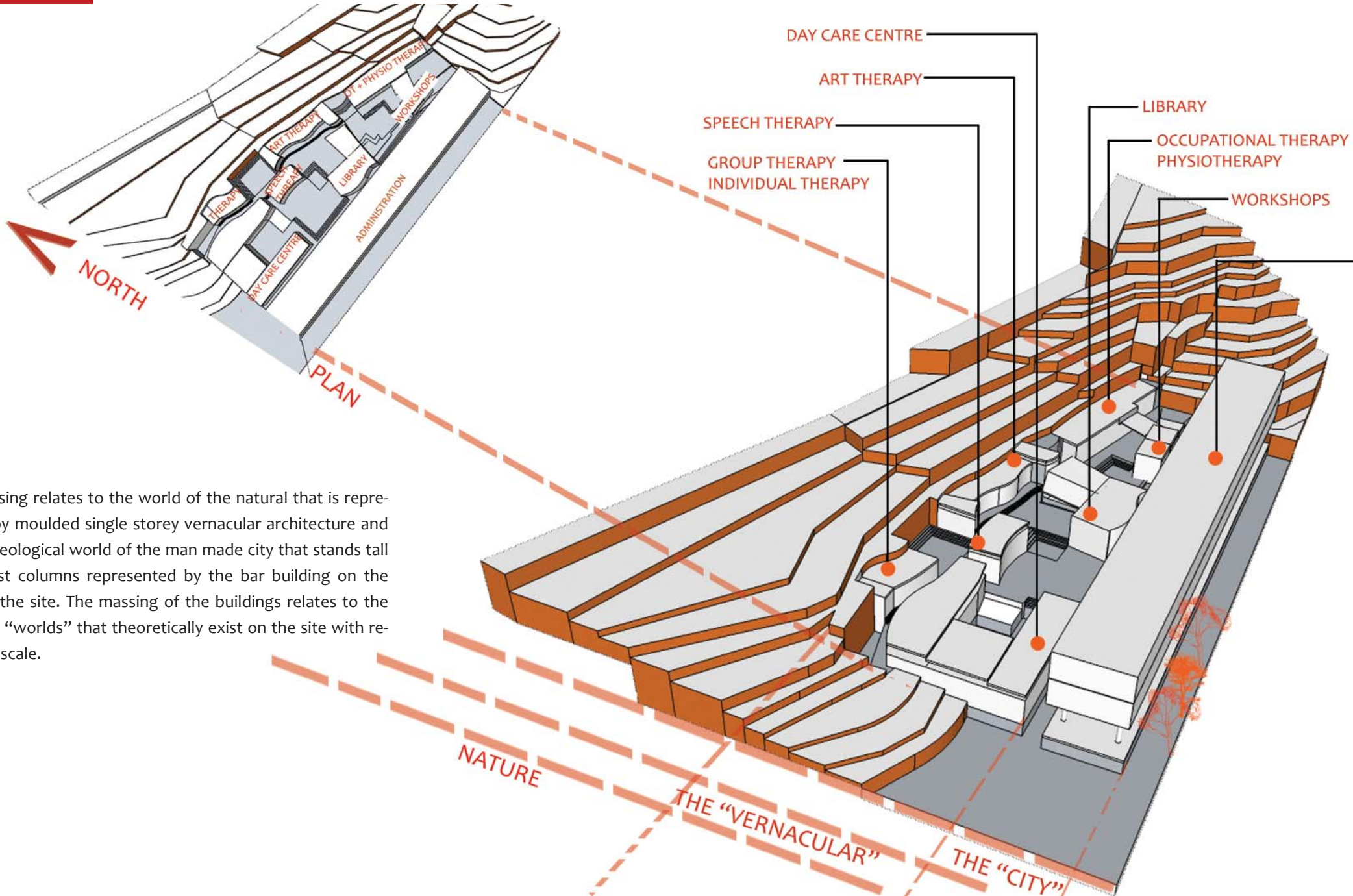

Conceptual section



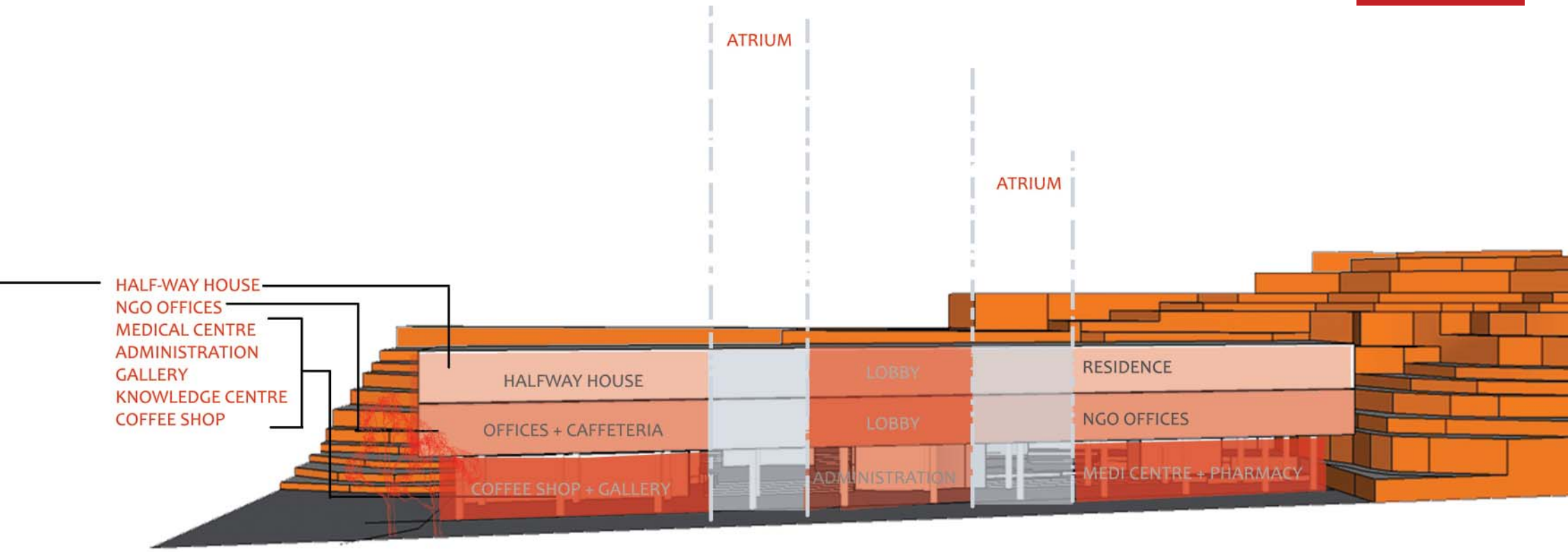
Moving forward from the first design scheme structured the buildings around defined courtyards. Separating the hierarchies of the courtyards, making one more public than the other.
I provided for two entrances making the building on the edge of the precinct a filter, filtering people into the facility to different functions and events in the precinct. While allowing clear access for people the buildings then became lockable within their private courtyards.
I re-looked at how the roofs worked making them roof gardens so that they can be tended by the patients which is proven to be therapeutic. Medicinal herbs and fragrant plants will be planted on these roves adding a sensory quality to the buildings internal environment and external environment. The roofs would provide thermal massing to buildings together with rammed earth walls that sit on stone bases.
Light will come from the “roofscape” so that filtered, scared light can enter the small buildings that are south facing




Conceptual elevation



The massing relates to the world of the natural that is represented by moulded single storey vernacular architecture and to the ideological world of the man made city that stands tall on robust columns represented by the bar building on the edge of the site. The massing of the buildings relates to the different "worlds" that theoretically exist on the site with regards to scale.

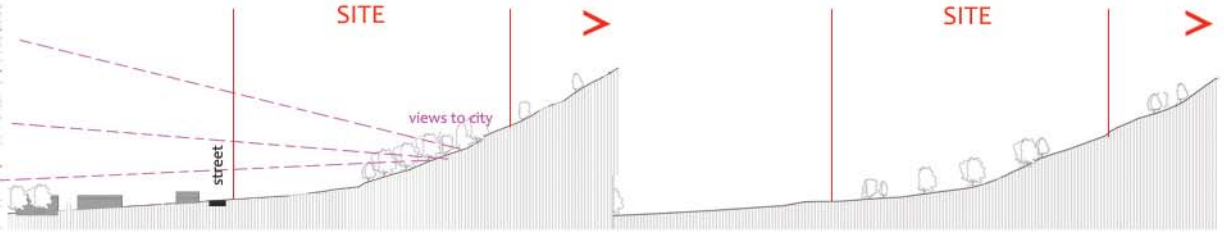


PROGRAMMATIC MASS-

Site responses

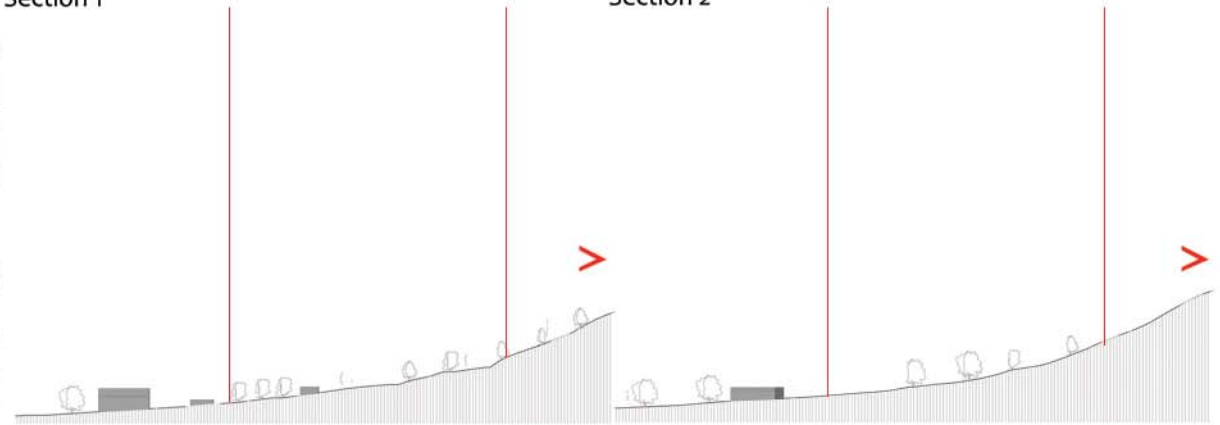


Plan



Section 1

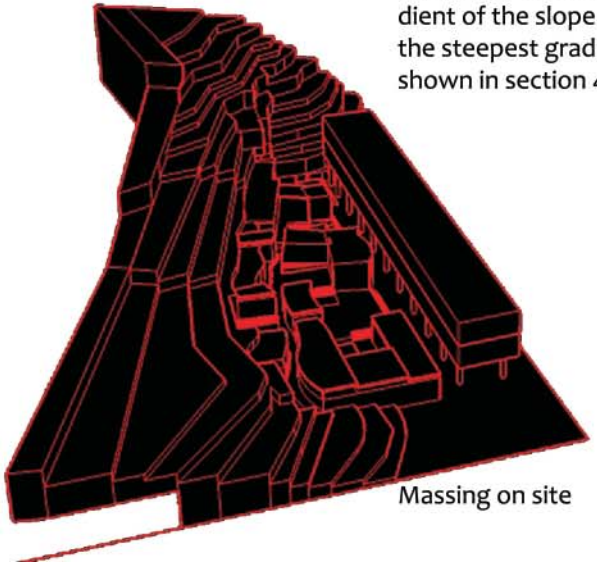
Section 2



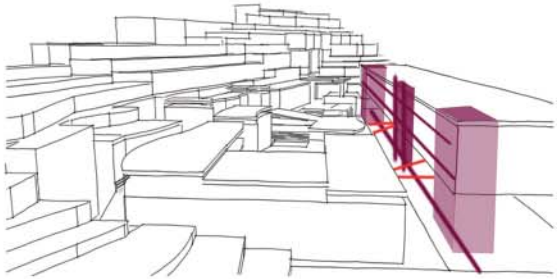
Section 3

Section 4

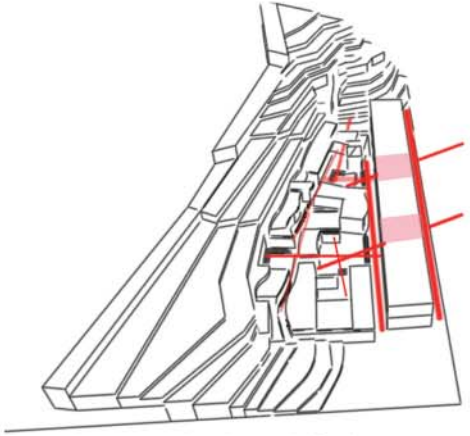
The site is south facing with views to the city. The gradient of the slope chandges, section 1 depicting being the steepest gradient on the site as it descends, shown in section 4. Therefor the site slopes in two di-



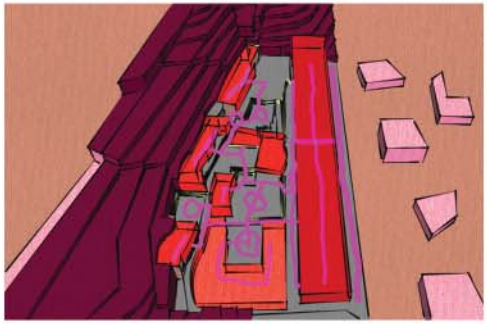
Massing on site



Circulation through lift and stairs

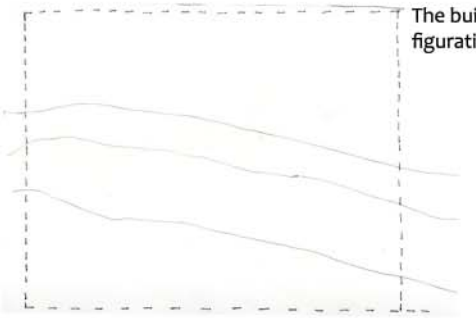


Circulation paths through facility extend from atrium entrances



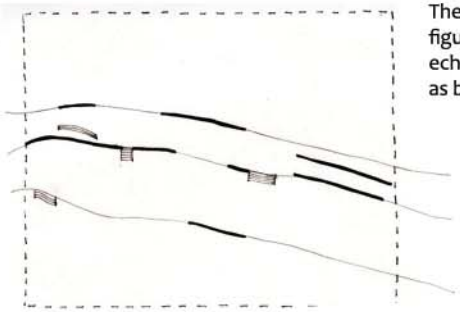
Organic movement paths

Site responses



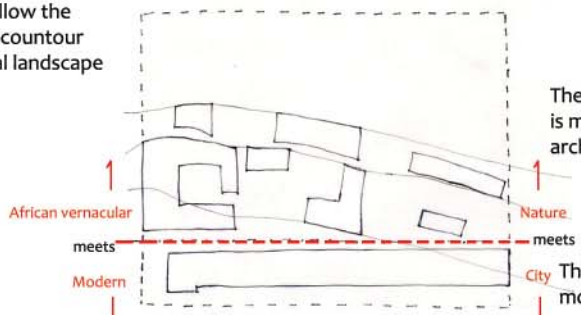
The buildings echo/ mimic the figurative landscape of the hill.

The contours



The retaing walls follow the figuative line of the countour echoeing the natural landscape as built form.

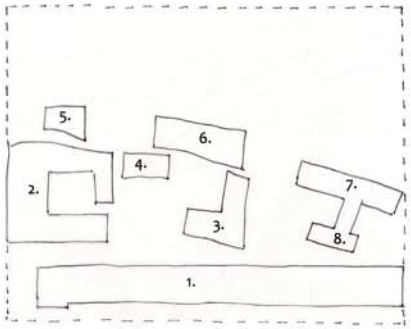
Retaing walls and stairs



The archtecture is organic and is moulded from the earth. This architecture speaks to nature.

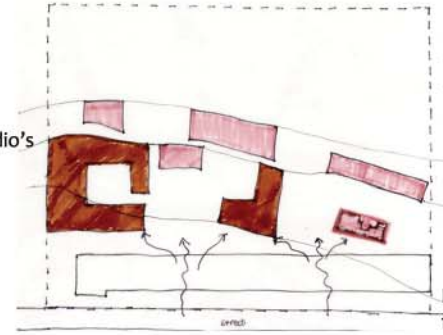
The bar building is robust and modern. It relates to the city and the street.

The buildings



1. Administative building
2. Day care centre
3. Library
4. Speech therapy
5. Therapy rooms
6. Art therapy + artists studio's
7. OT + physio therapy
8. Workshops

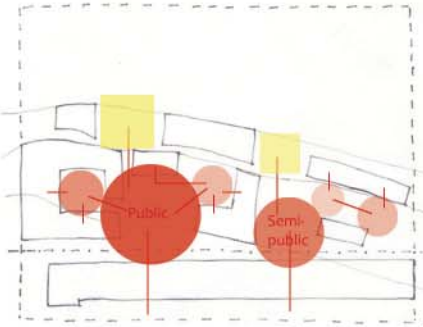
Building programme



Privacy gradients separate and integrate users. Buildings with therapeutic functions are further away from public buildings.

Bar building is a permeable filter.

Privacy gradients = function



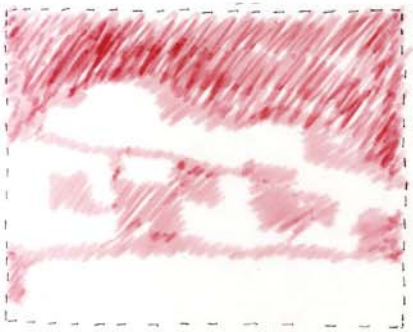
Courtyards vary accordign to privacy gradients. The courtyards have different functions ranging from public, zen gardens, ponds and pool. The amphitheatres merge with the hill creating social, therapy spaces on the ascending hill.

Amphitheatre

Courtyards

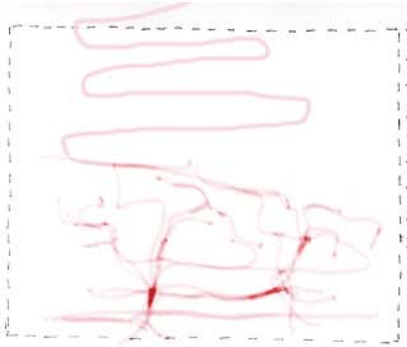
colour variations display privacy gradients

The courtyards



The series of courtyard spaces create positive spaces around the buildings. The "outdoors"seep into the buildings.

Positive space



The organic route of moving through the facility is seen as a therapeutic journey of healing as occupational therapist have proven walking to be therapeutic. The "journey" extents onto the hillside to the sacred space at the top of the hill created by zionists.

The "journey"



Medicinal herbs and fragrant plants are planted on the rooves of the buildings adding thermal mass and as a therapeutic activity for the inhabitants.

Green walls soften edges with neighbours.

greenwalls

Planted rooves

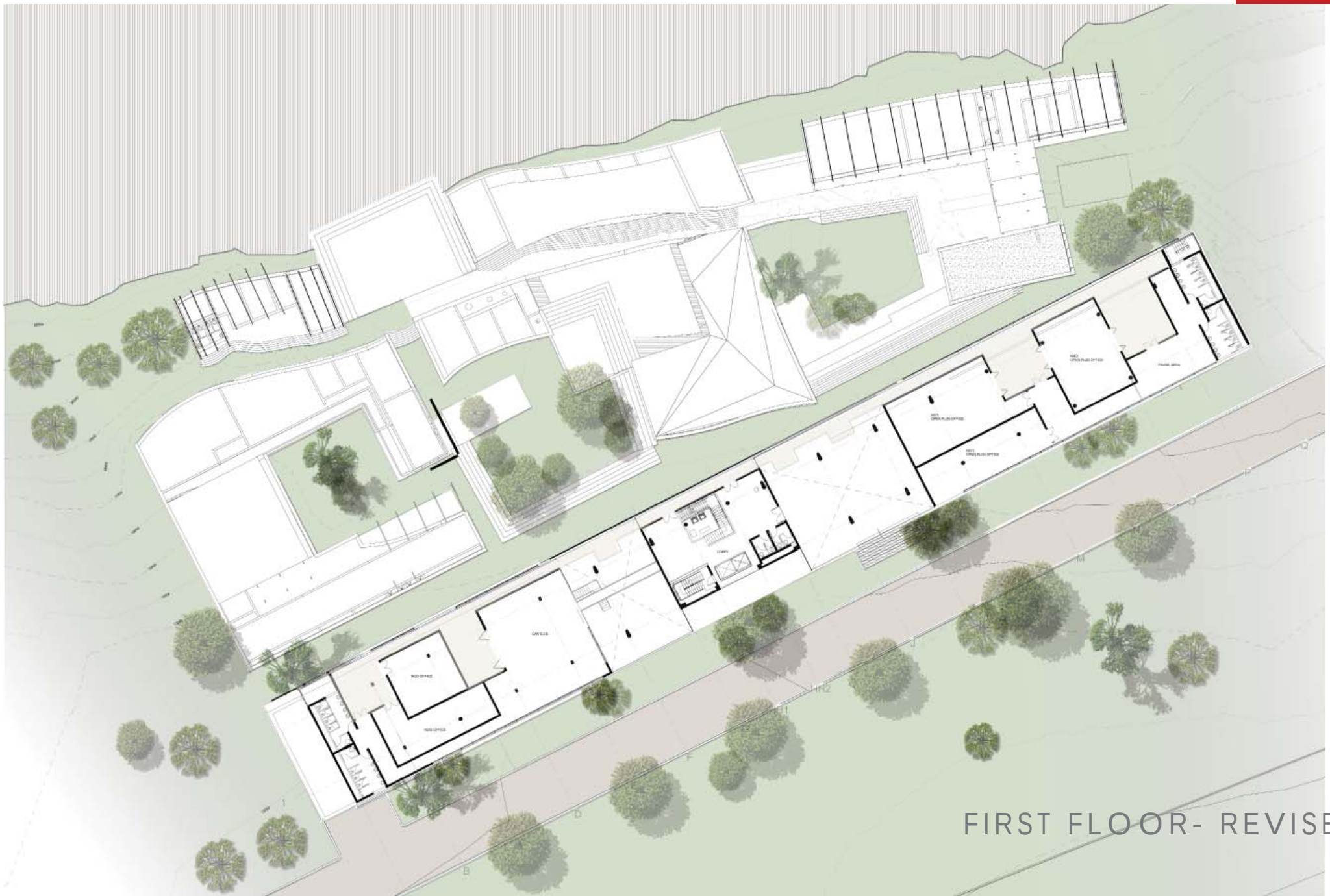
DESIGN REVIEW 3



GROUND FLOOR



FIRST FLOOR



FIRST FLOOR- REVISED



SECOND FLOOR



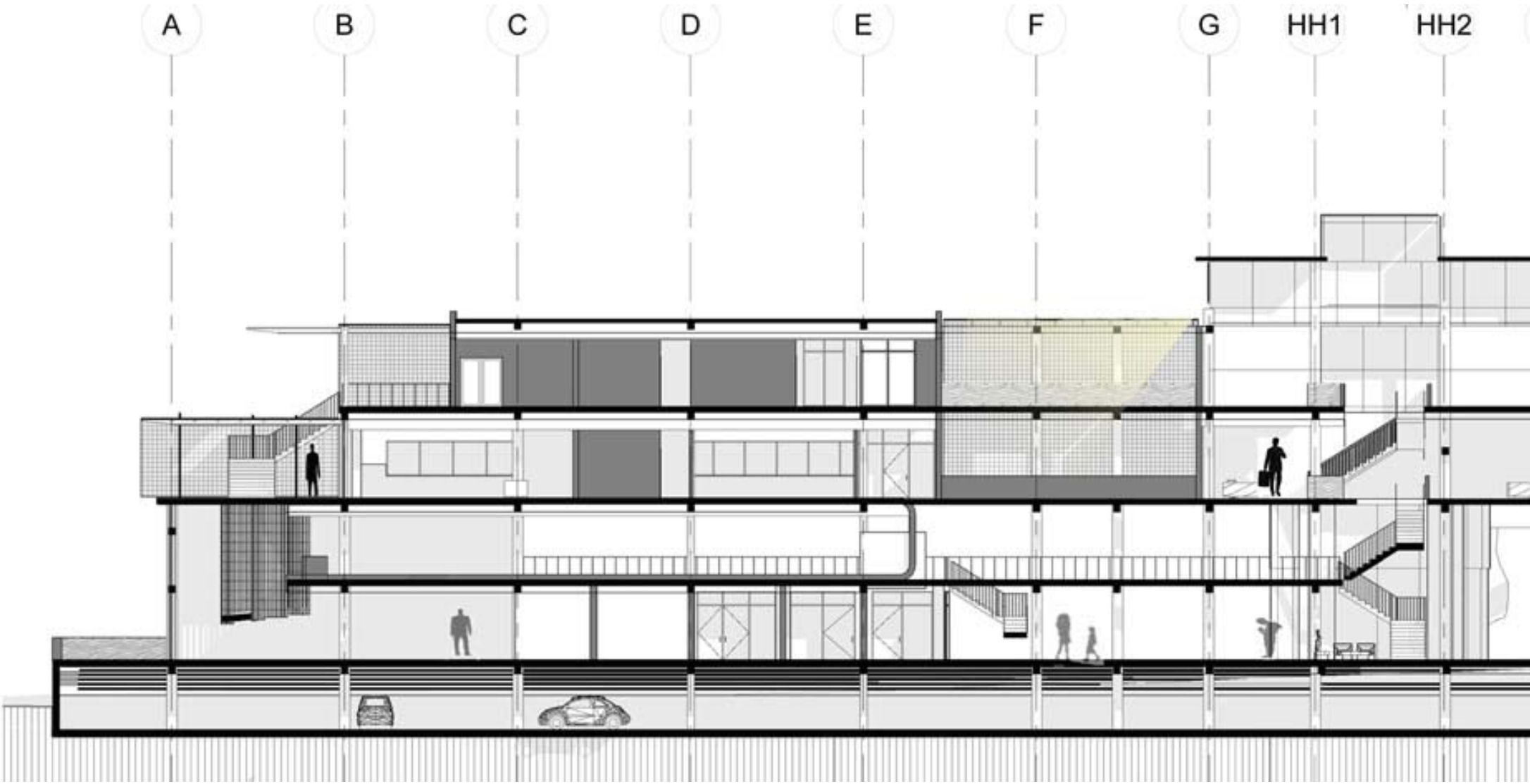
SECOND FLOOR- REVISED

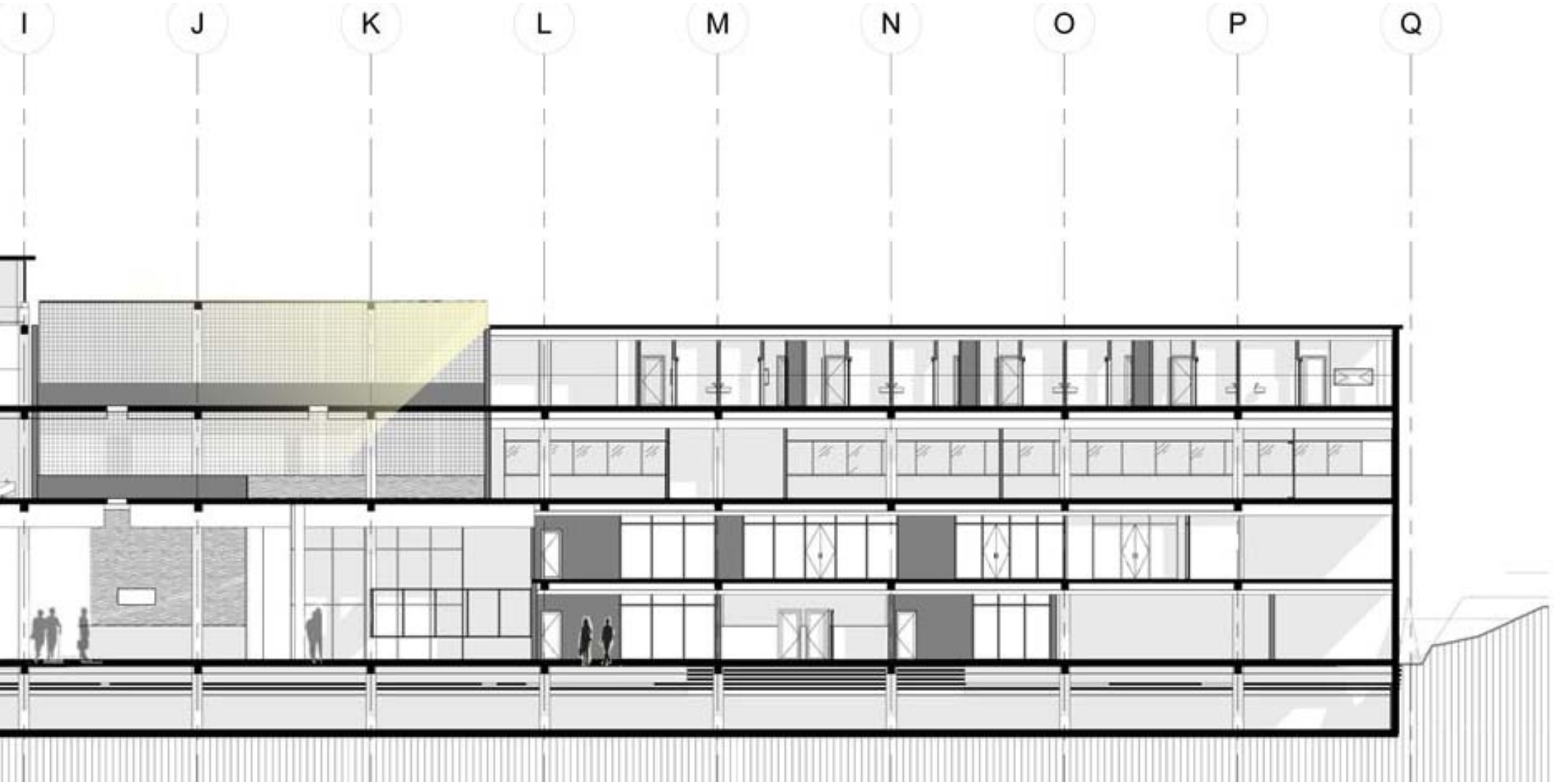


TERRACE LEVEL B AND C

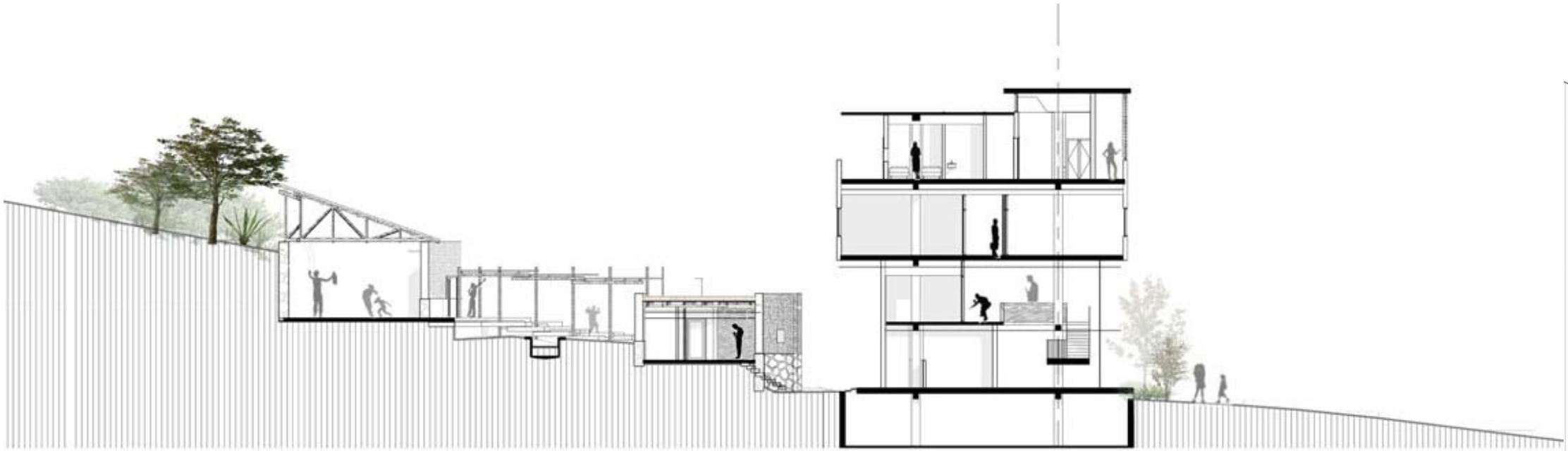


TERRACE LEVEL C AND D

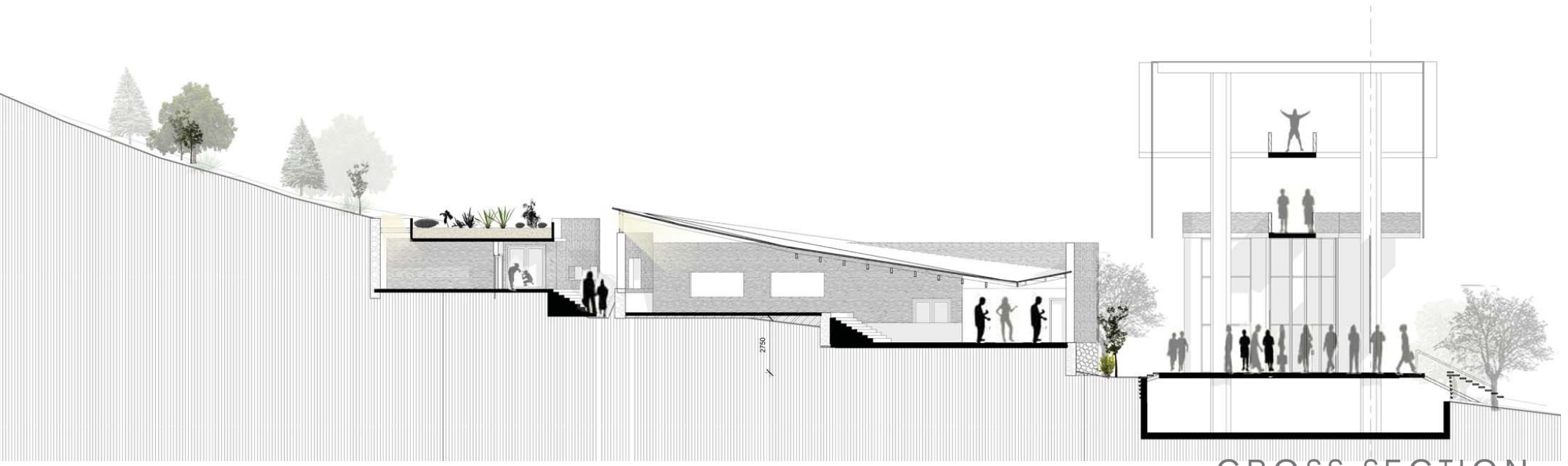

A
B
C
D
E
F
G
HH1
HH2



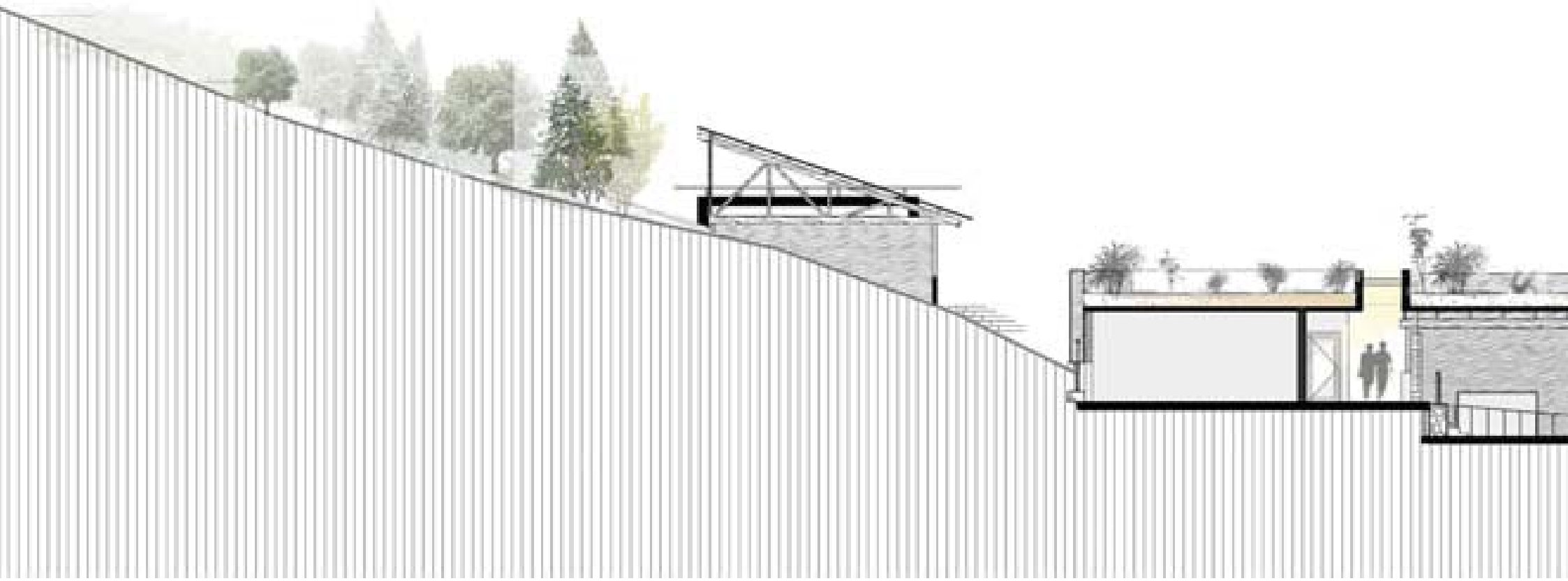
LONGITUDINAL SECTION

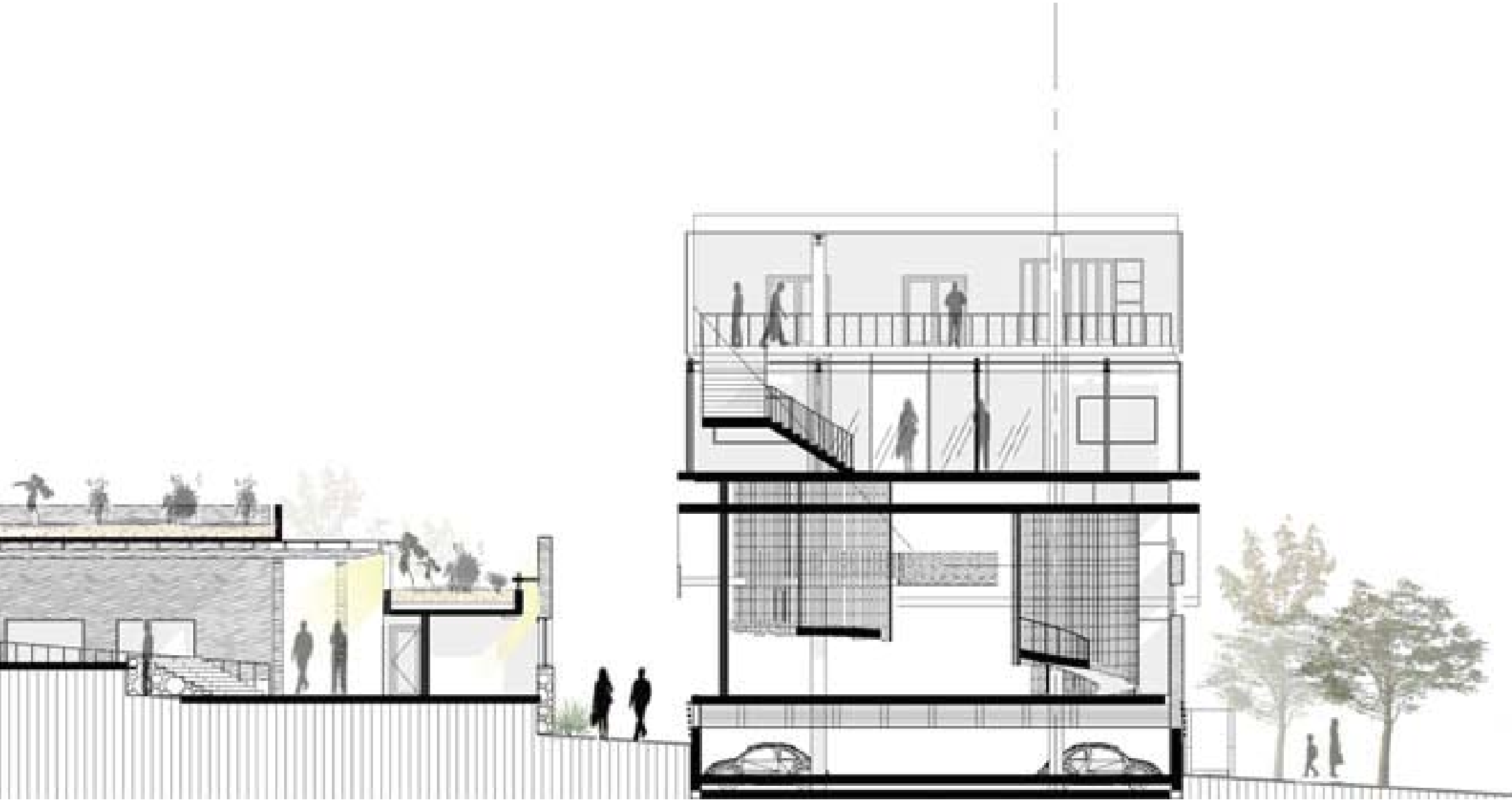


CROSS SECTION

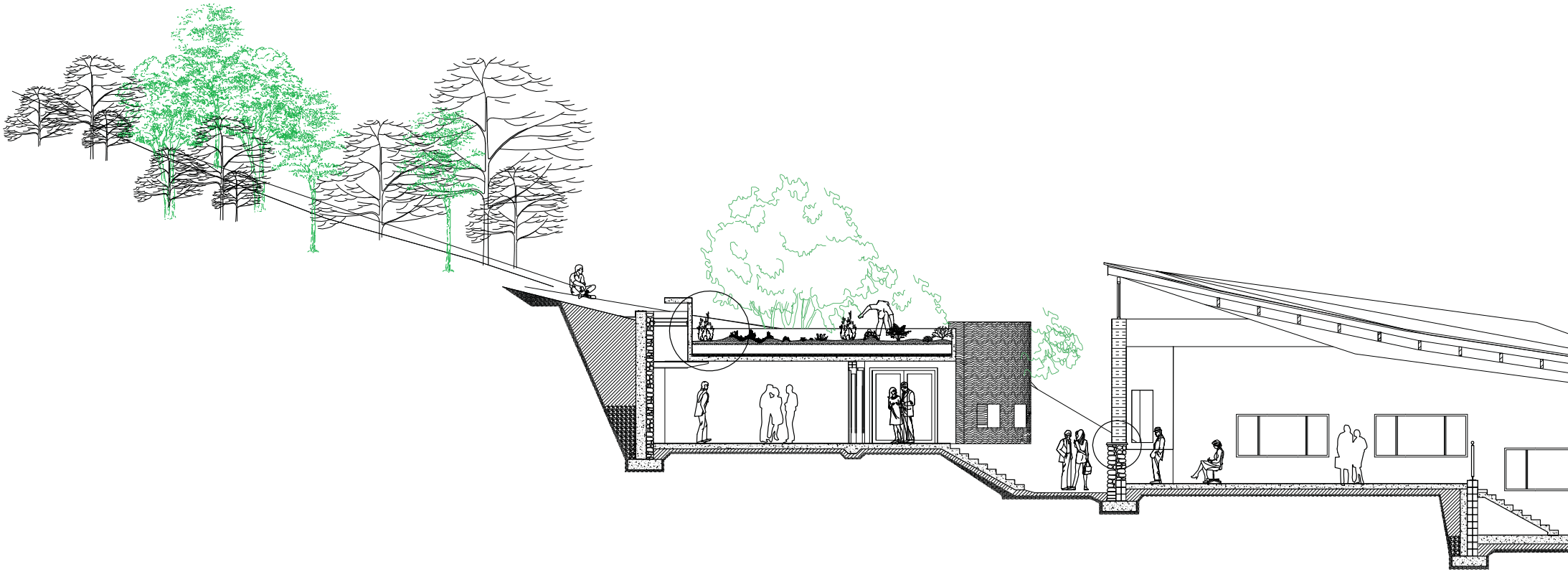


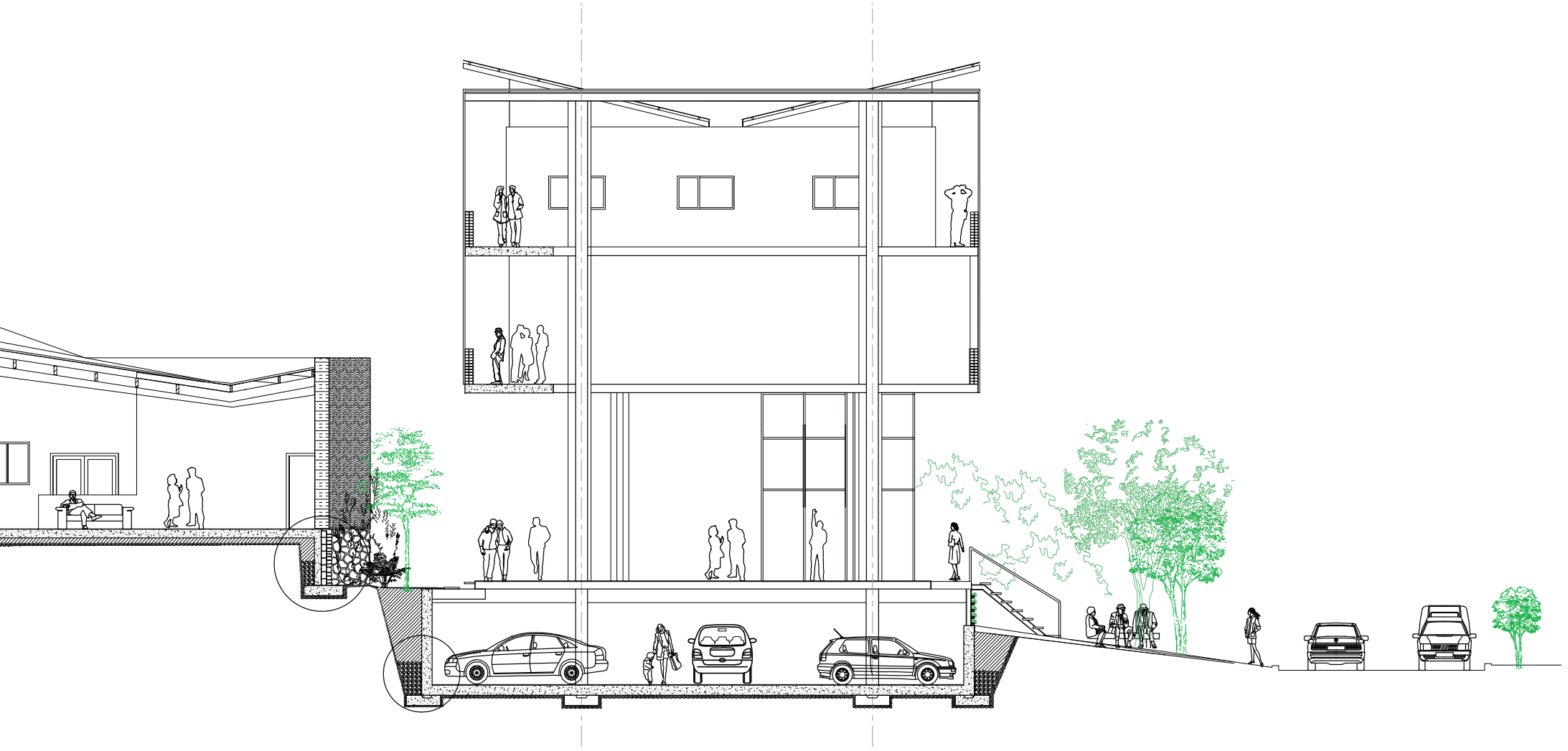
CROSS SECTION





CROSS SECTION







VIEW FROM HUNTER STREET



VIEW OF ENTRANCE



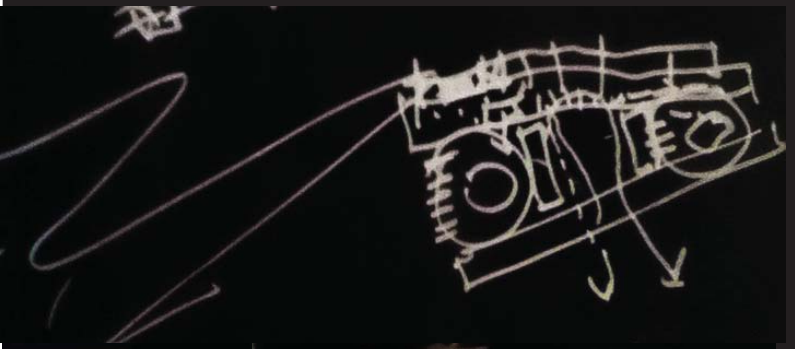
VIEW FROM ATRIUM TOWARDS RETAIL AND LIBRARY



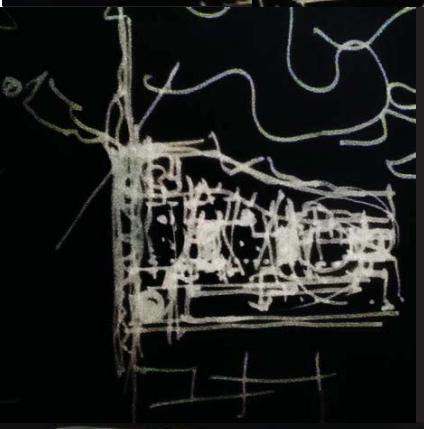
VIEW FROM DAY-CARE CENTER TO SPEECH THERAPY

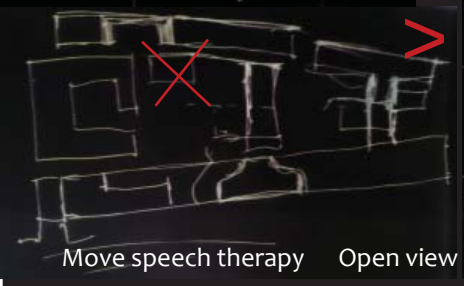
Please note drawings and renderings are subject to change for the final review.

Design development

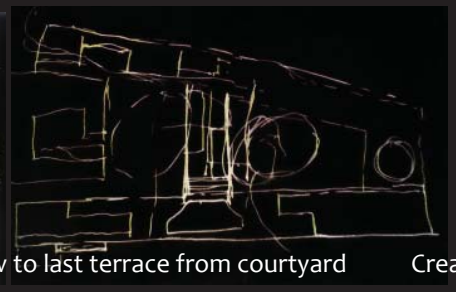








Move speech therapy



Open view to last terrace from courtyard



Create a bar therapy building

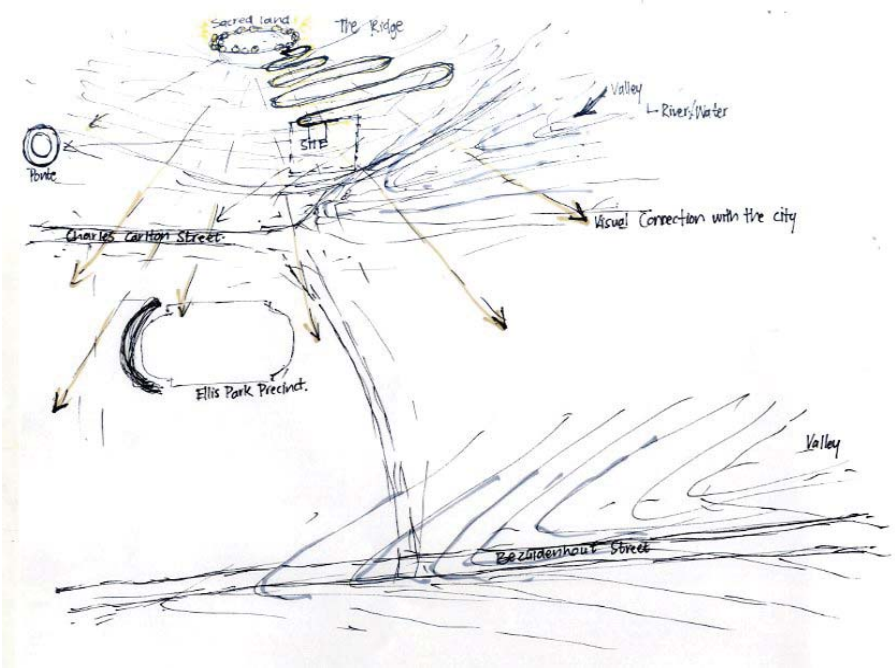
Open buildings to mountain



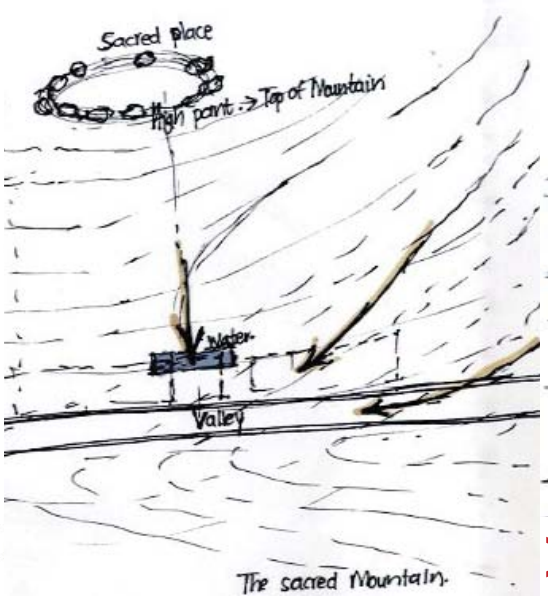
Connection with mountain+journey on sacred hill top

The design will move on to having a connection with the hill with the buildings opening up into courtyard spaces that create breathing spaces between building and mountain.
A therapeutic journey to the top of the hill will be introduced that ends at the Zionist place of worship which is a sacred space with phenomenal views to the city.
All therapies take place on the last terrace D strengthening privacy gradients the move from public , to semi private and private.

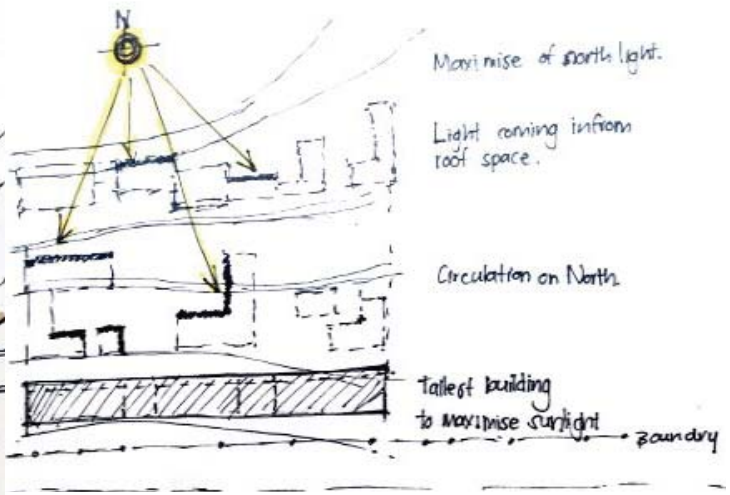
Site responses



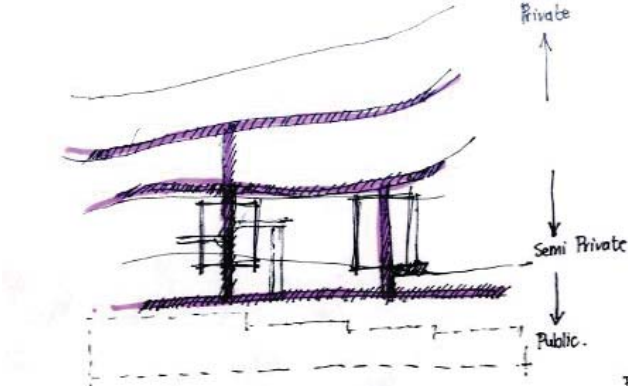
Contextual influences on the building.
- the site slopes in two directions, evidence that Hunter street was a valley with a river possibly running through it. Therefore element of water needs to be introduced into the scheme.
- The site sits on a what I have come to call the sacred mountain with it being in the context of churches which are either on the same street or at the top of the hill.
- The intervention also has visual connection with the city as iconic buildings can be seen from the site.



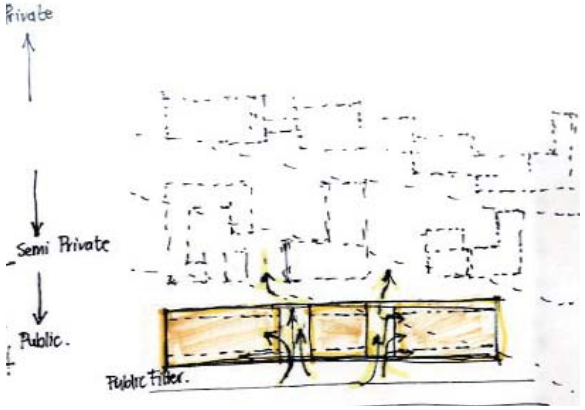
The Zionists worship at the top of the hill in nature. Their sacred space is comprised of circular rock formation demarcating a place for men from the women. This place has a phenomenal view of the city further emphasizing the connection and visual connection to the city. Demonstrating how one is part of a whole.



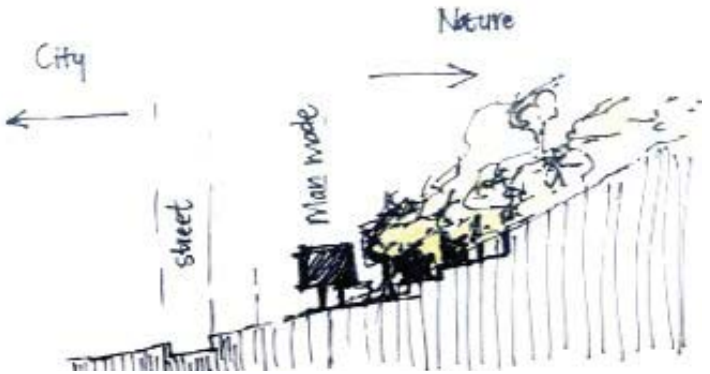
The site is south facing this lead to a decisions being made such as:
- Light must come from the roofscape
- Circulation must happen on the north to have more favour able circulation as the journey of walking is therapeutic.
- The terrace buildings should not be taller that 6m according to sun study performed previously so that all the buildings may receive optimum light.
- The tallest building on the site is on the street edge.



Circulation occurs on the north along the contours.



Building becomes a public filter.



Architectural conversation on the site

PROCESS MODELS>>>


>

>

>

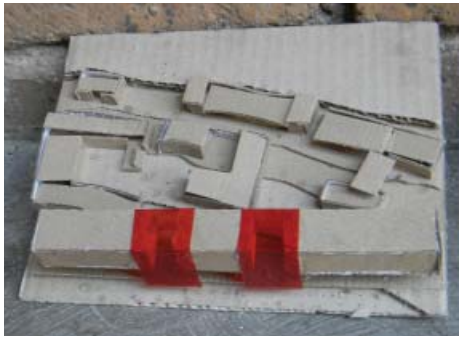
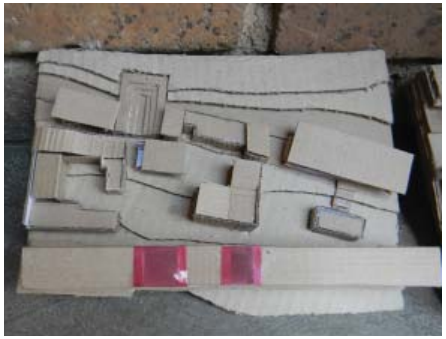
>

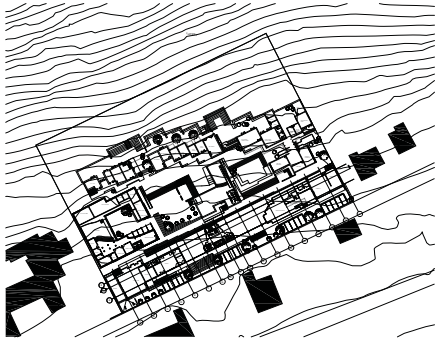

>

>

>

>






The design process was one of testing ideas made by the hand either through sketches and models. My art of architecture was crafted and moulded by the hand. The scheme evolved from being organic and literally following the contours to only following the contours due to terracing and building level changes to opening up to the mountain by creating amphitheaters extending from courtyards. To finally being a scheme where built form and courtyards respond positively with each other. The courtyards extend into the mountain where a journey up the mountain can be taken and courtyard spaces are extensions of internal spaces.

FINAL DESIGN





- Courtyards are extensions of internal spaces. They are outdoor rooms.
- The corners of buildings are opportunities to frame views through window apertures that also frame the architecture.
- Door openings are large to allow flow between inside and outside. Doors fold away, slide away opening up to
- Hard surfaces are juxtaposed with soft surfaces.
- Timber screens break away from the rammed earth walls playing on the idea of privacy barriers and gradients.
- Courtyards have different functions. Extending internal programme to the outside.

LEFIKA LA PHODISO MASTER PLAN



GROUND FLOOR PLAN



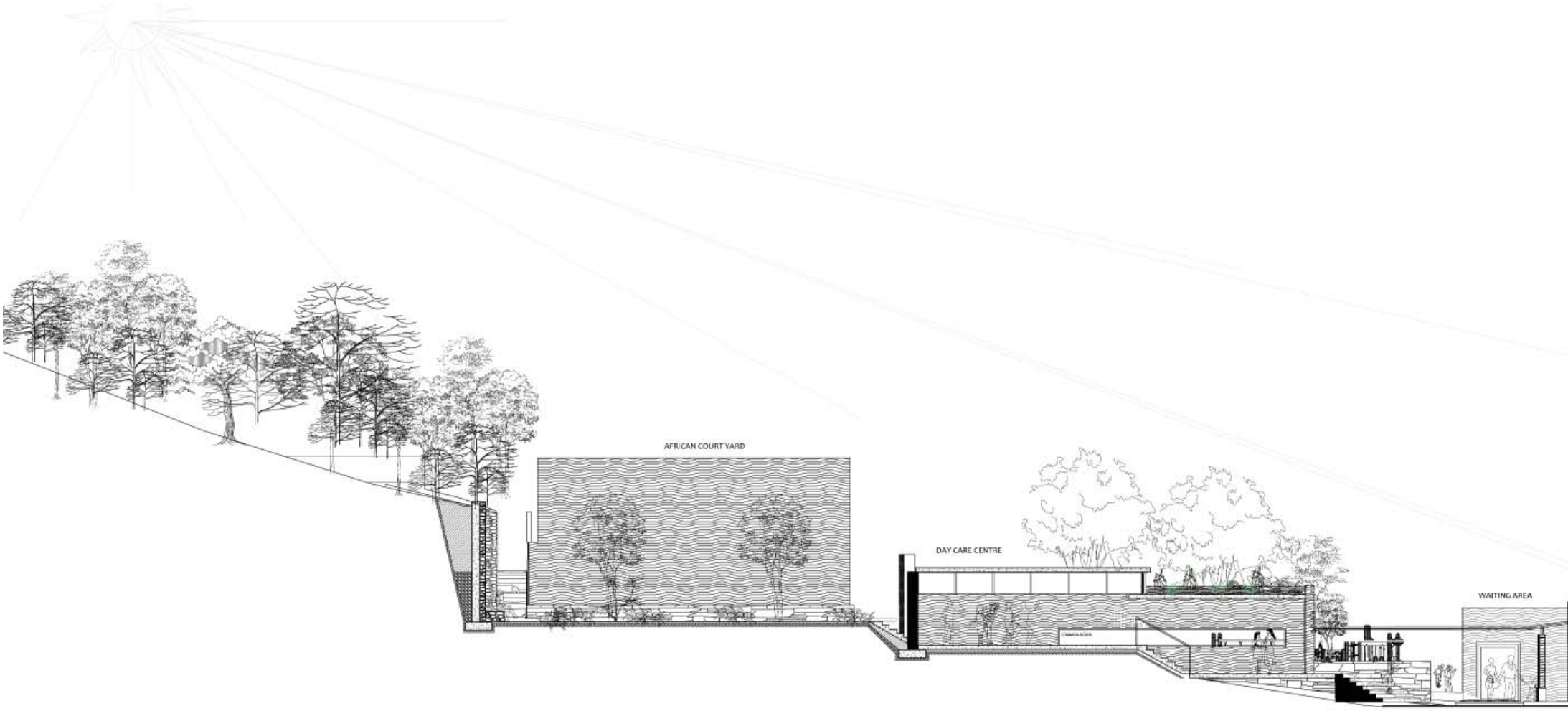
TERRACE A

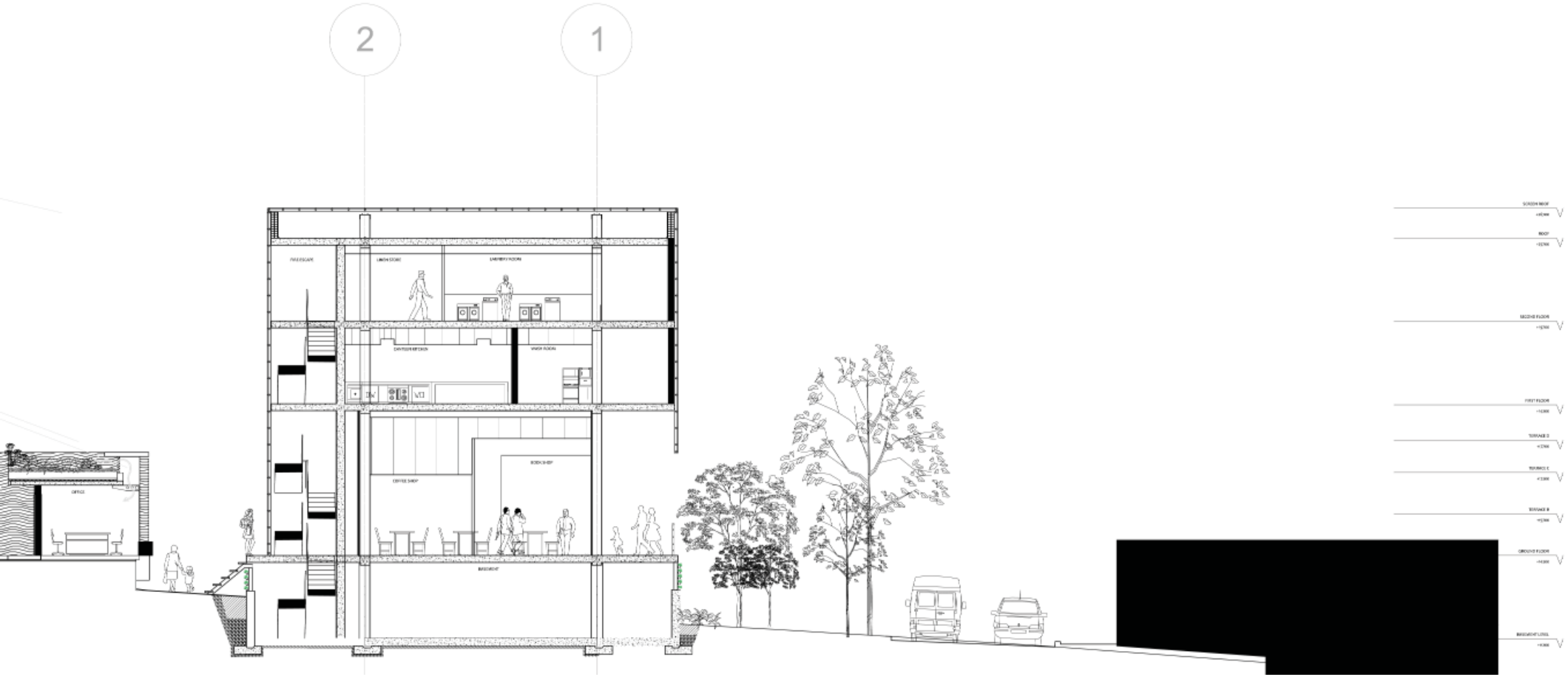


TERRACE B AND C

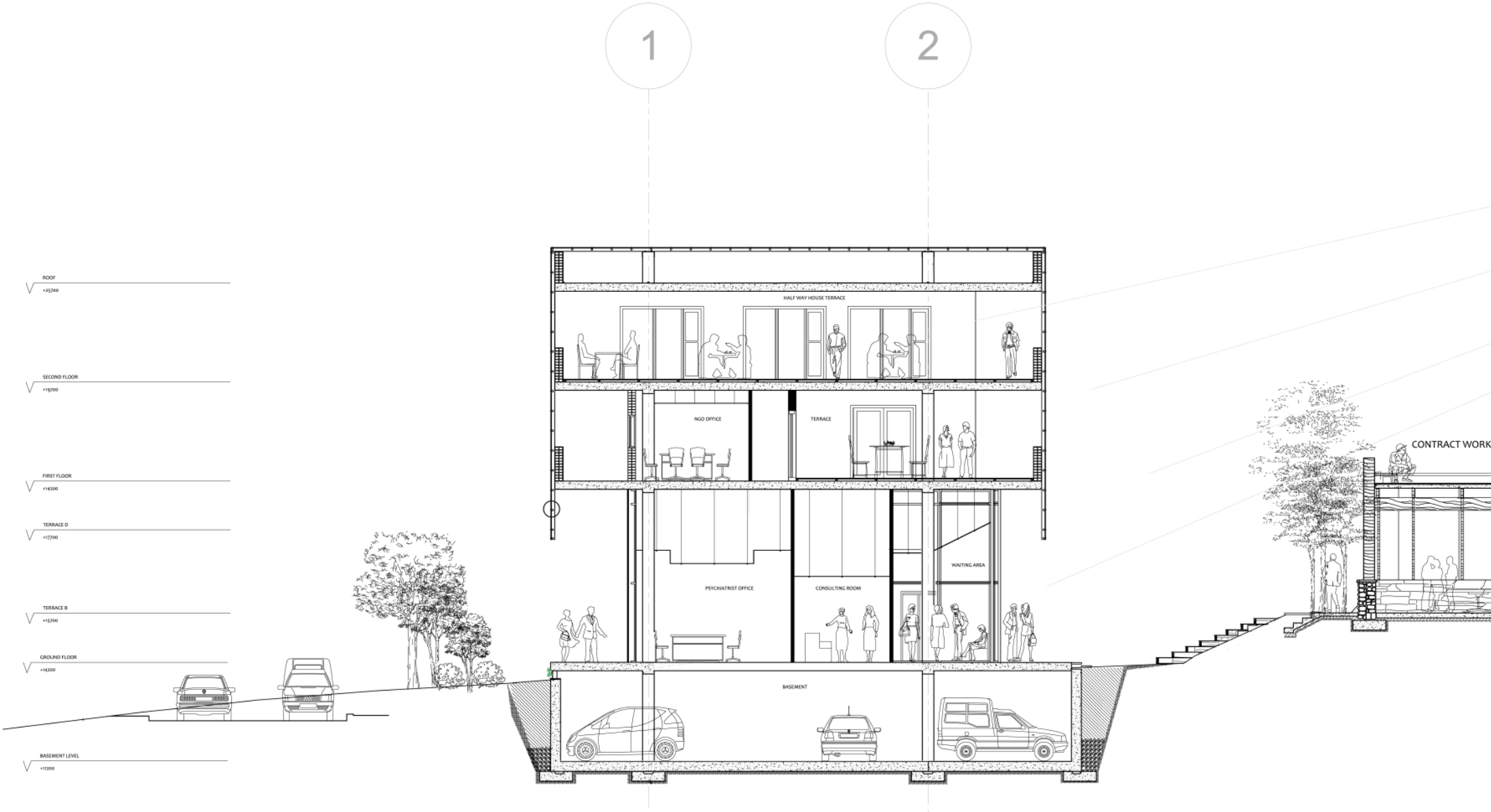


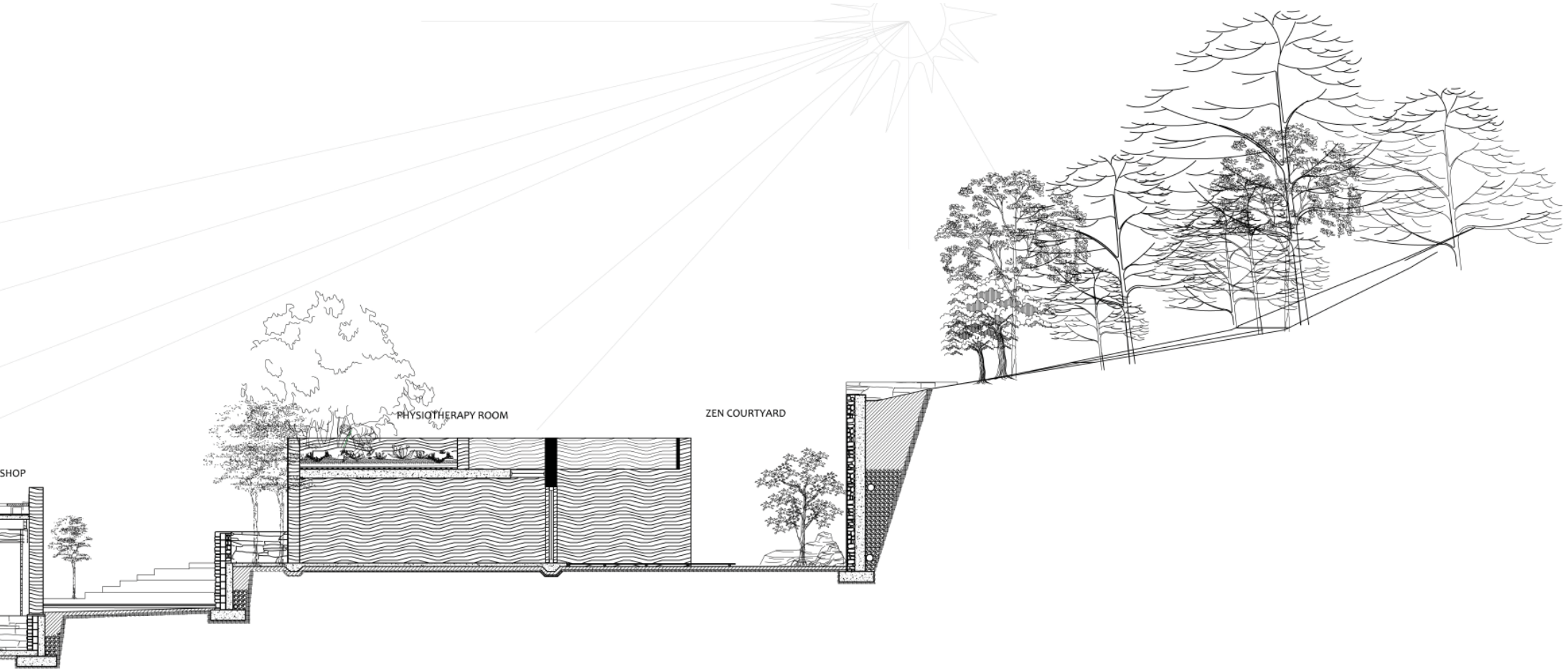
TERRACE D


AFRICAN COURT YARD
DAY CARE CENTRE
WAITING AREA

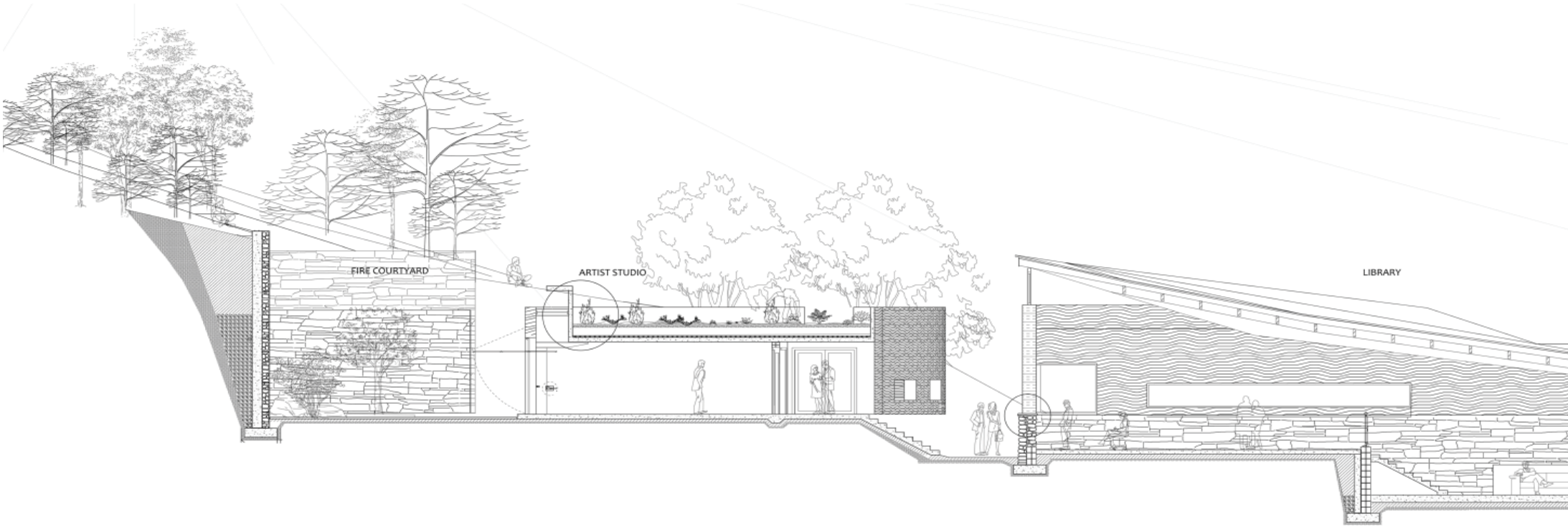


SECTION A- THROUGH DAY CARE CENTRE


1
2
ROOF
+25700
SECOND FLOOR
+19700
FIRST FLOOR
+14200
TERRACE D
+17700
TERRACE B
+15700
GROUND FLOOR
+14200
BASEMENT LEVEL
+11200
HALF WAY HOUSE TERRACE
NGO OFFICE
TERRACE
PSYCHIATRIST OFFICE
CONSULTING ROOM
WAITING AREA
BASEMENT
CONTRACT WORK



SECTION B- THROUGH WORKSHOP


FIRE COURTYARD
ARTIST STUDIO
LIBRARY



SECTION C- THROUGH LIBRARY



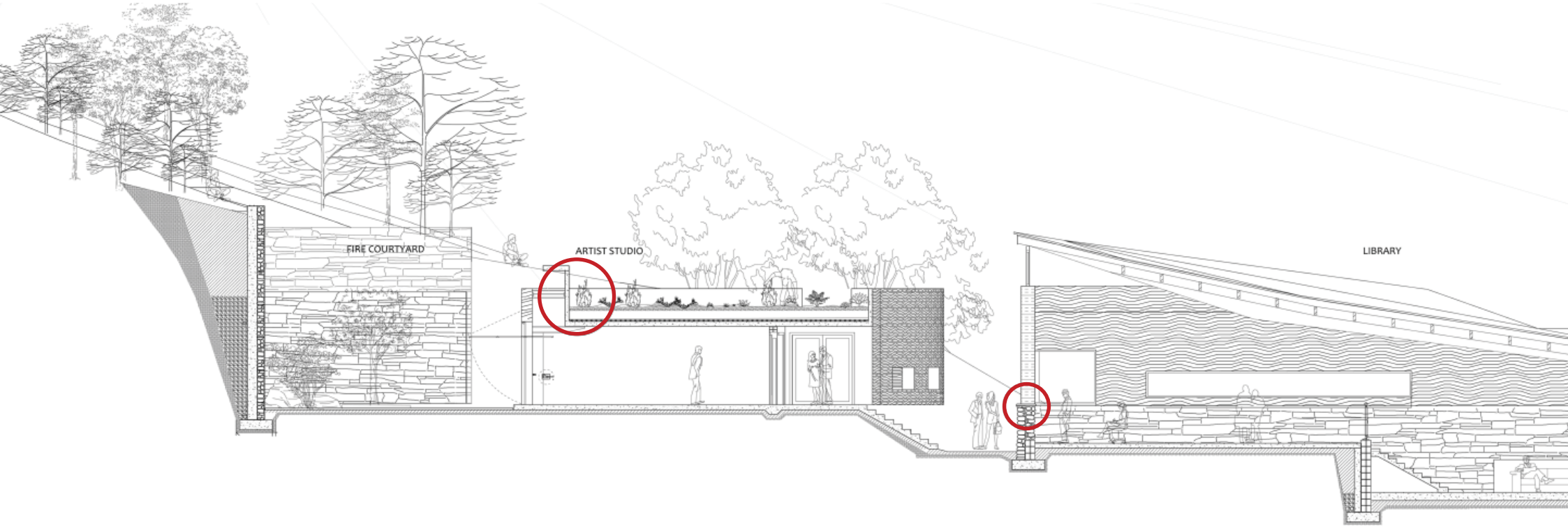


Chapter 7

BUILDING TECHNOLOGY/

- Con-text-ural section
- Technology

“Architecture means to visualize the genius loci, the task of the architect is to create meaningful places, whereby he helps man to dwell. “
Christian Norberg-Schulz (1980:5)


FIRE COURTYARD
ARTIST STUDIO
LIBRARY


2
1
LIBRARY
WALK WAY
SUN BALCONY
WALK WAY
SUN BALCONY
ATRIUM
BASEMENT
SCREEN ROOF
ROOF
SECOND FLOOR
FIRST FLOOR
TERRACE D
TERRACE C
TERRACE B
GROUND FLOOR
BASEMENT LEVEL

THE Con-text-ural SECTION

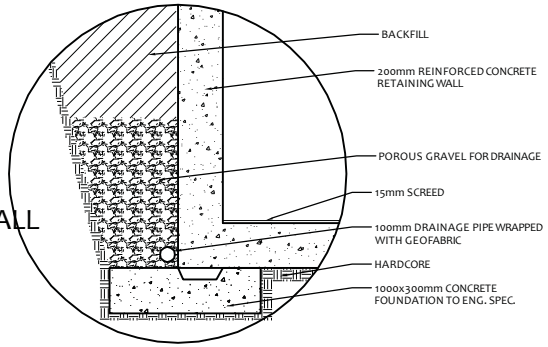
The recurring idea of responding to the natural landscape of the site is a prevalent theme in my design from the initial conceptual stages right through to the final design stage. The concept which I have coined "con-text-ural", derived from of context and texture, has assisted in decision making of how the building sits on the site. The concept of con-text-ural is about perceiving the site as a fingerprint that is sensitive to touch. Therefore the interaction between the site and buildings is crucial. It influences how the building sits on the site determining how it terraces, positioning itself on the site and how the earth moulds the buildings. This concept also responds to he textures of the site which is a natural landscape comprised of trees and rock outcrop on the descending hill of which the buildings have to respond to. The buildings will thus, have a relationship with its natural surroundings. The buildings in the domain of nature therefore relate an architectural language of organic, moulded from the earth type of architecture, that belongs to nature.

This building section demonstrates how I have used the concept of con-text-ural both in how the buildings sit on the earth and the choice of materiality. How it all comes together is the technological component of my design.

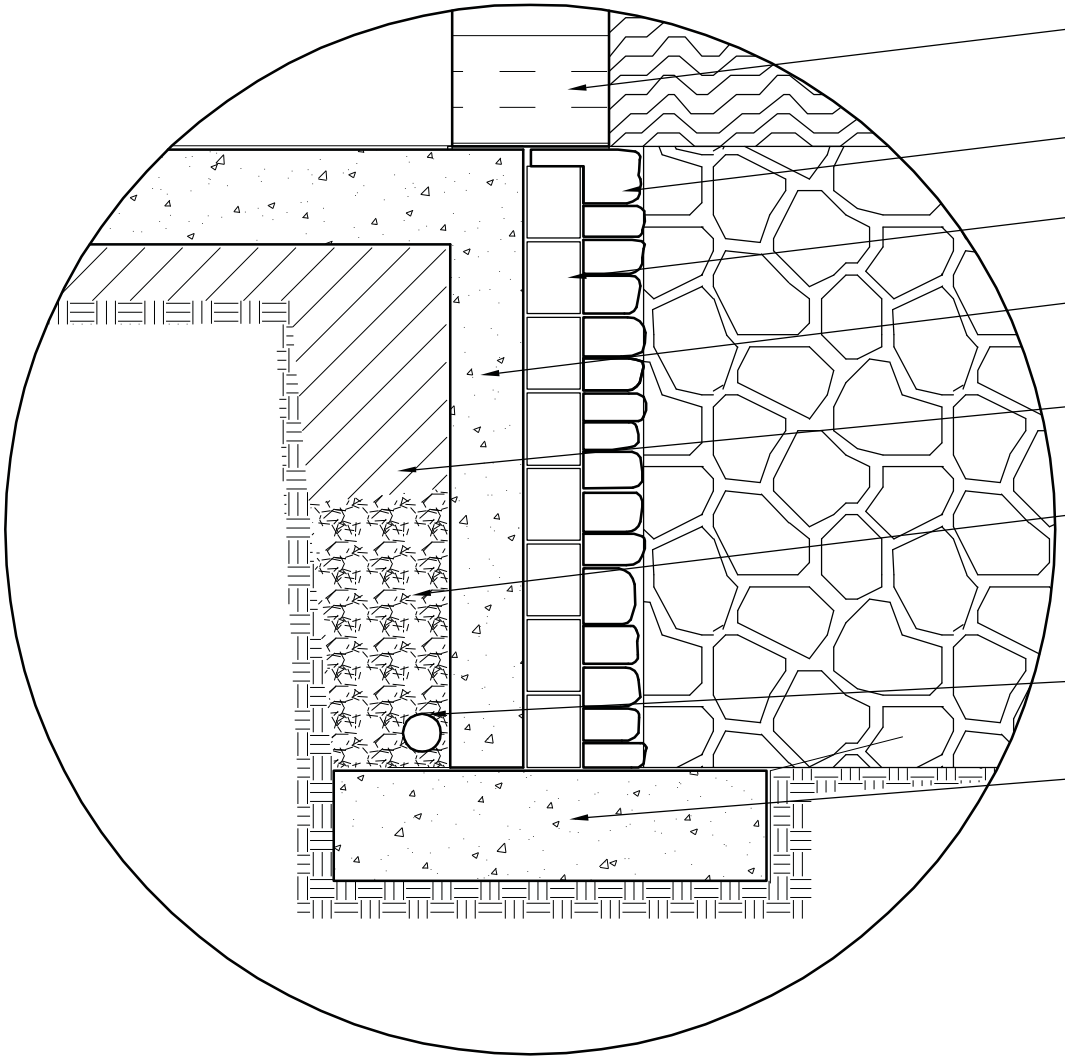
The buildings are moulded from the strata of the hill made from the blasted rock on which the buildings are rooted. This "koppie" stone forms the bases of the buildings. The buildings gradually terrace up the hill aided by a series of retaining walls that follow the contours that are in some cases cladded with the "koppie" stone from the site. Rammed earth walls follow the language of the naturally textured rock base from which the walls are moulded. The rammed earth walls provide thermal mass and aesthetically blend with the natural landscape. The roofs of the buildings further echo the natural landscape with bio-diverse roofscapes. The roofs not only become gardens to nurture medicinal and fragrant plants but also becomes a light source for interior spaces with skylights that filter daylight internal spaces.

The harmony of how building meets the earth and how all the materials come together further emphasizes the conceptual idea of an architecture that is con-text-ural . The detailing and the choice of materiality of the architecture is the building technology.

Retaining walls



Scale 1:10



400mm RAMMED EARTH WALL

"KOPPIE" STONE CLADING

140mm CONCRETE BLOCK

200mm REINFORCED CONCRETE RETAINING WALL

HARDCORE

POROUS GRAVEL FOR DRAINAGE

100mm DRAINAGE PIPE WRAPPED WITH GEOFABRIC

1000x300mm CONCRETE FOUNDATION TO ENG. SPEC.

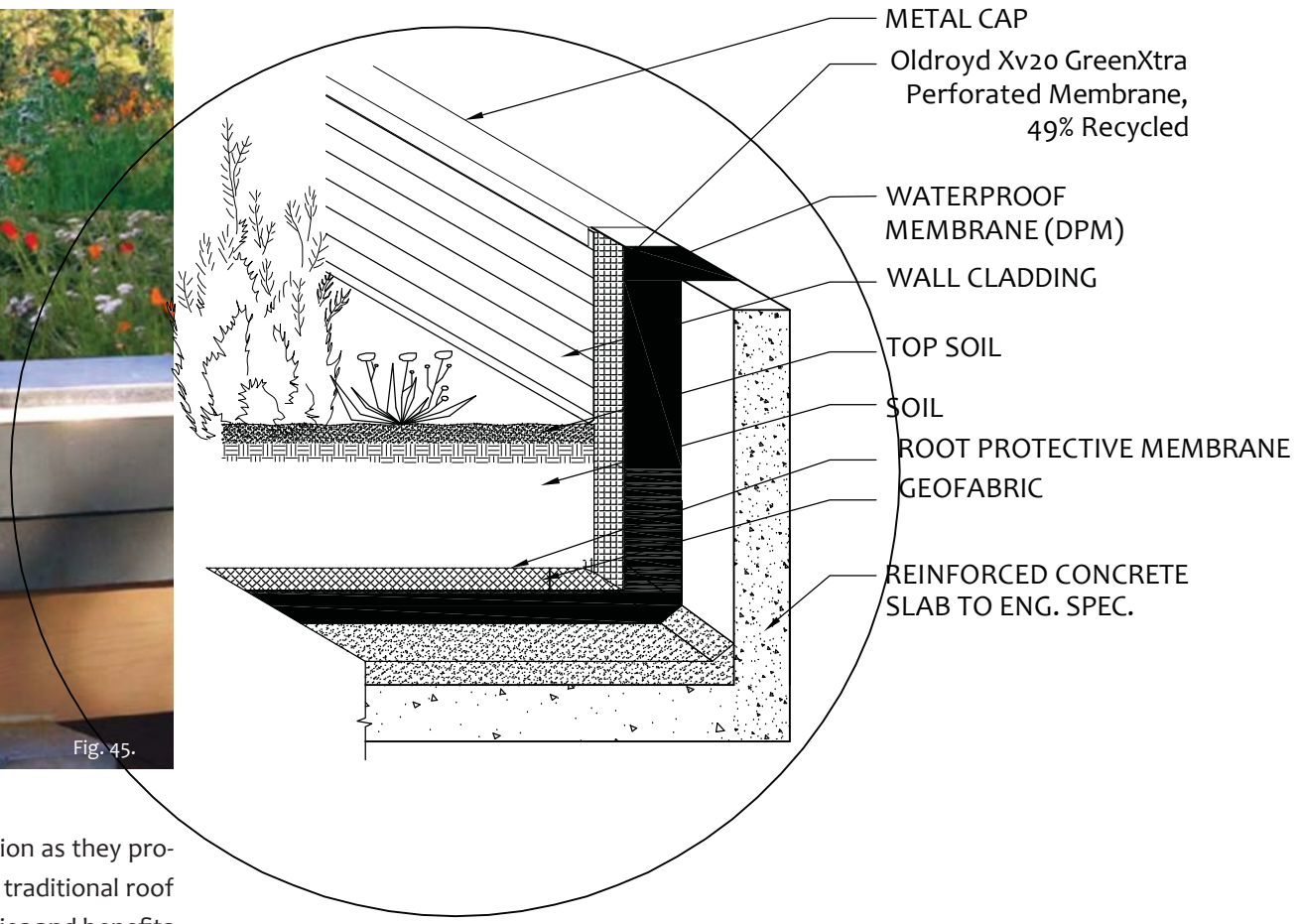
Scale 1:10

Retaining walls are used across the length of the site allowing for successive terracing of the buildings on the site. The retaining walls are the interface between the site and building. They determine how the buildings sit on the site. Different applications of the retaining walls and wall cladding is used shown in the details.

Bio-diverse roofs



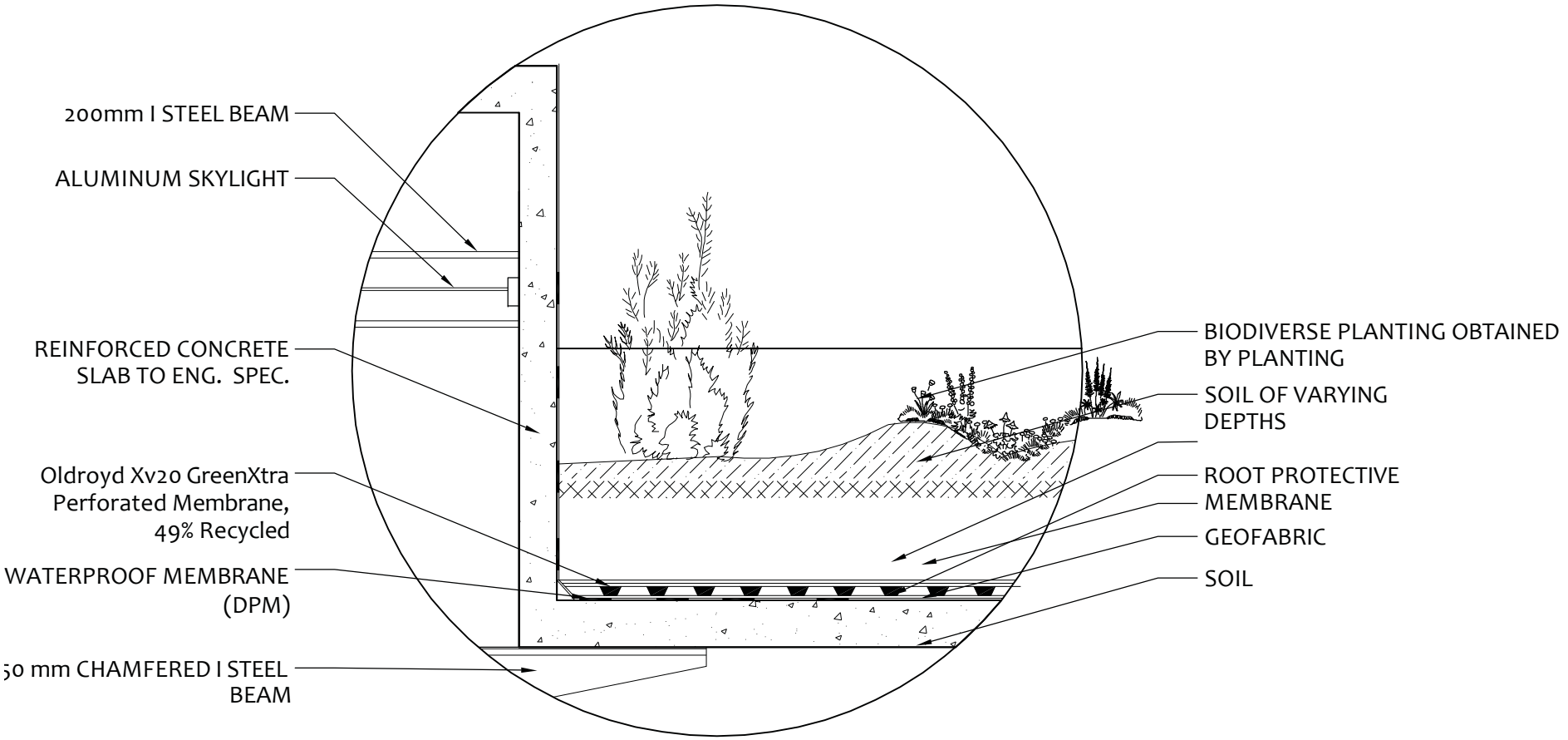
Fig. 45.



Scale 1:10

It can be said that most, if not all, green roofs encourage bio-diverse vegetation as they provide a habitat that can support life forms that would be unable to survive on traditional roof structures such as tiled or metal roofs. Bio-diverse roofs share the same qualities and benefits of green roofs, however bio-diverse roofs are designed differently to meet specific objectives which are:

- To provide a habitat for rare or threatened plant species indigenous to the region
- Enrich local habitat
- Allow for a space to plant a variety of different sized plants that have little or no impact on the local environment.



Scale 1:10

The benefits of bio-diverse roofs:

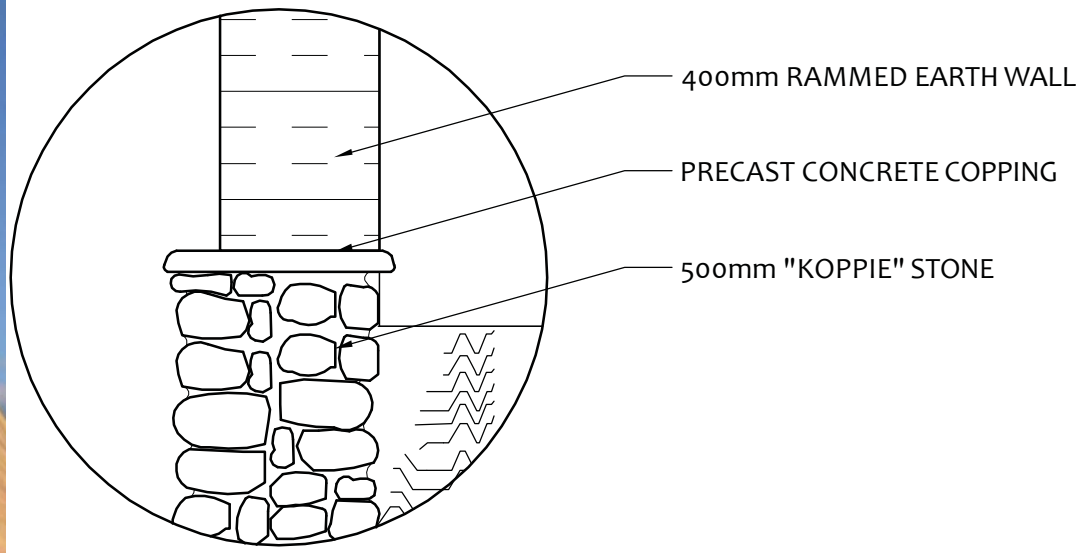
- Controlling storm water run off
- Improving water quality that can be stored
- Prolonging the service of roofing materials
- Mitigating urban heat-island effect
- Reducing sound reflection and transmission
- Good thermal properties

To maximise biodiversity germination of windblown seeds, collected from the local area are scattered on the roof area. It is advisable to plant evergreen plants in order to keep the aesthetic appeal of the roofs. Over time all an ecosystem of plants will develop on the roofs. Varying depths of soil provide the potential for a wide range of plant species.

Rammed earth walls



Fig. 46.



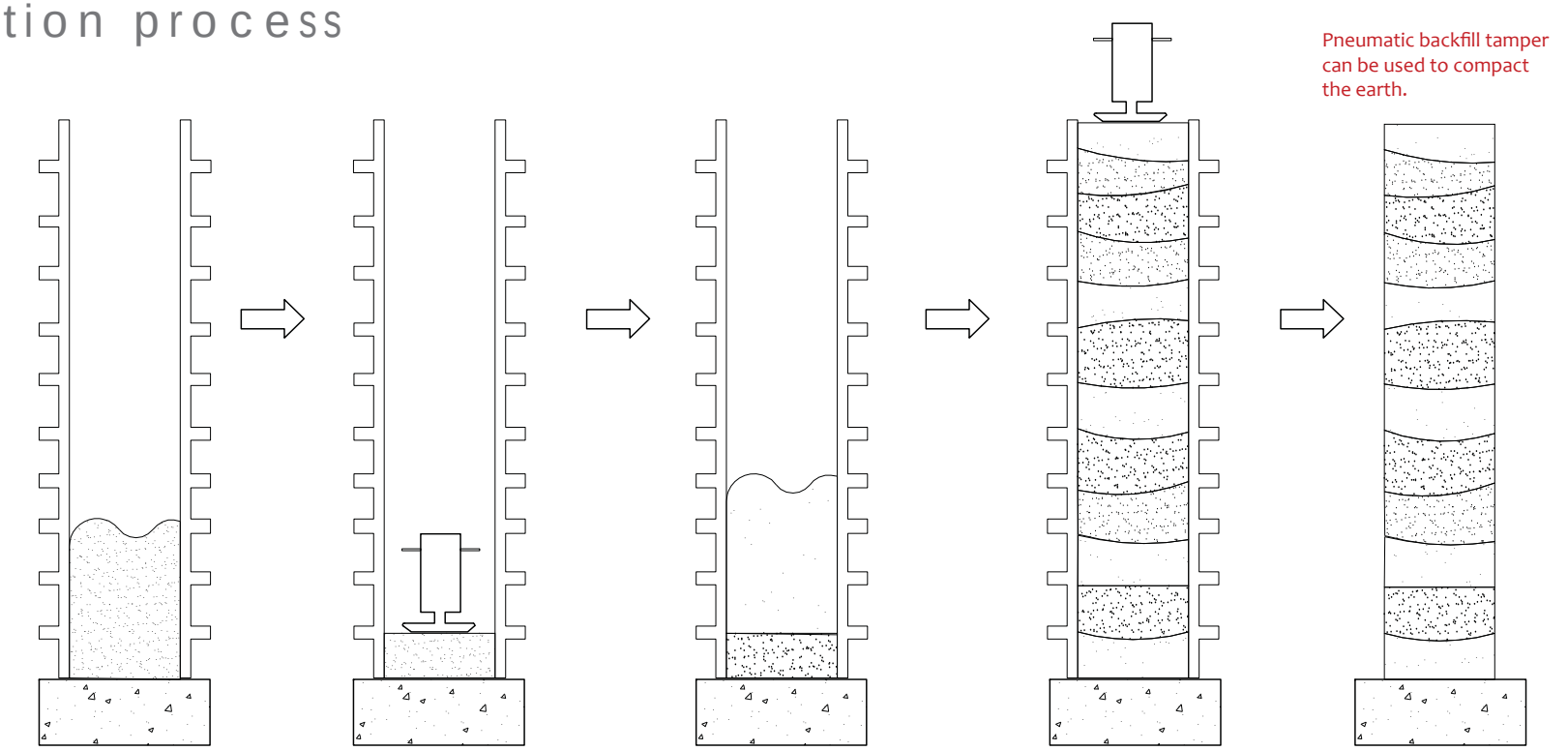
Scale 1:10

Earth wall construction is the oldest form of building technology. Ronald Rael in his book *Earth Architecture* states that It is estimated that about 3 billion of the world's population on six continents still live in buildings made from earth extending beyond buildings for living, including structures for working , learning and worship (2009:9). It is a social perception that earth building are only building materials for rural environments and architecture of the poor. However, due to technological advancement of this ancient construction that earth architecture can now be found in today's urban environments. Rammed earth walls as a building technology has lots of benefits as a building material.

The benefits of rammed earth walls

- Reduced CO_2 emissions
- Thermal mass
- Noise reduction- and excellent sound barrier. CSIRO sound rating tests deduced a rating of 50 decibels for rammed earth of 250mm.
- Durability
- Low maintenance
- Fire resistant- earth doesn't burn
- Pest resistant- termites and other vermin cant eat rammed earth ant there are no cavities for them to live in undetected due to compaction
- Rapid construction
- Environmentally friendly

Construction process



Using rammed earth as a construction material reduces the amount of CO_2 emissions during construction and it has a low carbon footprint compared to cement based materials. Moreover, in using soil from the site no transportation of material is needed, directly reducing CO_2 emissions from motor vehicles. The thermal properties of rammed earth is excellent as the high thermal mass of rammed earth naturally regulates the internal temperature of a building. Furthermore, it naturally regulated the internal relative humidity of a building producing improved air quality eliminating the need for air conditioning. The recycle-ability, low carbon emission and high thermal mass during the life time of the building means that a material consideration it has low embodied energy than other comparable building materials. However, not all soil types can be used as rammed earth as the soil has to be compactible at particular water content to ensure optimum compaction.

REFERENCES

Books

Bright, K. and Cook, G. (2010). The Colour, Light and Contrast Manual. Designing and Managing Inclusive Environments. London: Wiley- Blackwell Publication.

Boudier, J. P. (1985). African Spaces, Designs for Living Upper Volta. New York/London: African Publishing Company .

Boudier, J. P. and Minh-ha, F. T. (1996). Drawn from African Dwellings. Bloomington : Indiana University Press

Dalley,T. (Ed) (1984). Art as Therapy An Introduction to the use of art as a therapeutic technique. London: Tavistock Publications.

Day, C. (1990). Places of the Soul, Architecture and Environmental Design as a Healing Art. London: Aquarian Press.

Foucault, M. (1954). Mental Illness and Psychology. France: Presses Universitaires de France.

Freud,S. (1962). Part II: Dreams. In New Introductory Lectures in Psychoanalysis, vol. 15. London: Hogarth Press.

Freud,S. (1973). Introductory Lectures on Psychoanalysis. Harmondsworth: Penguin.

Goshen, C. E. ed. Keenan, E. A. (1959). Psychiatric Architecture, A Review of Contemporary Developments in the Architecture of Mental Hospitals, Schools for the Mentally Retarded and Related Facilities. Washington, D.C. : The American Psychiatric Association.

Jung, C. G. (1981). Symbols of Transformation, Collected Works, vol. 5. London: Routledge and Kedan Paul.

Kalff, D. M. (1980). Sandplay. A Psychotherapeutic Approach to the Psyche. Santa Monica: Sigo Press

Lenclos, J. P. and Lenclos, D. (1999). Colours of the World. The Geography of Colour. New York and London: W. W. Norton and Company

Naumberg, M. (1958). Art Therapy: Its Scope and Function. In E. F. Hammer (ed.) Clinical Applications of Projective Drawings. Springfield lll.: C. C. Thomas.

Pallasmaa, J. (1986). The Geometry of Felling: A look at the Phenomenology of Architecture. Theorising a new Agenda for Architecture/ book auth. Nesbit,K. New York: Princeton Architectural Press.

Pallasmaa, J. (1996). Polemics. Great Britain: Academy Editions.

Pallasmaa, J. (2005). The Eyes of the Skin. Great Britain: John Wiley and Sons.

Pallasmaa, J. (2009). The Thinking Hand, Existential and embodied Wisdom in Architecture. United Kingdom: John Wiley and Sons Ltd.

Pieter, J. (2010). Ditema: Some decorated Sotho buildings. Cape Town: Vernacularch.

Rael, R. (2009). Earth Architecture. Pg 9.New York: Princeton Architectural Press

Weston, R. (1995) Aalvar Aalto. London:Phaidon.

Sommer, R. (1974). Tight Spaces, Hard Architecture and how to Humanize it. New Jersey: Prentice-Hall, Inc.

Sternberg, E. M. (2010). Healing Spaces The Science of Place and Well Being. Cambridge, Massachusetts: Harvard University Press.

Van Wyk, G. (1998). African Painted Houses: Basotho Dwellings of South Africa. New York: Harry N Abrams.

Zumthor, P. (2006). Atmospheres Architectural environments and surrounding objects. Baden: Birkhauser.

Journal

Van Rensberg, A. and Van Rensberg, A. B. R. J. (2011). Acute Mental Health Care According to recent Mental Health Legislation. Part 3. Structuring Space for Acute Mental Health Care. African Journal of South Africa vol. 14:112-119.

Internet

Http://www.libraryindex.com/pages/3008/Mental-Health-Illness.html”>Mental Health and Illness - How Many People Are Mentally Ill?, Types Of Disorders, Pervasive Developmental Disorders, Depression, Bipolar Disorder. Cited 2011/06/28

Http://adsoftheworld.com/blog/creative_people_are_just_high_functioning_schizophrenics. Cited 2011/10/23

Http://arch.usc.edu/content/pages/cm/uploadedmedia/rammed_earth_construction_part21210466806514.pdf. Cited 2011/10/01

Http://www.safeguardeurope.com/pdf_datasheets/oldroyd_turf_roofs.pdf. Cited 2011/10/01

Http://www.joburg.org.za/index.php?option=com_content&task=view&id=2248&Itemid=168. Cited 2011/10/23

IMAGE REFERENCE

All images that are not referenced are by the author.

Figure1.http://www.wits.ac.za/academic/science/geography/rockart/rockartsites/5558/rockartsouthernafrica.html Cited 20011/10/01.

Figure 2. Http://www.google.co.za/imgres?q=SOTHO+ART+HISTORY&um=1&hl=en&tbm=isch&tbnid=P2Eh9fxm3UI-sM:&imgrefurl=http://trio.caamuseum.org/itemdetail.asp%3Fsearchdesc%3DRecords%2Bwhere%2Bthe%2BCulture%2Bis%2BSotho%26whereclause%3Dwhere%2Bculture%253D%27Sotho%27%2BOR%2Bcleanculture%253D%27Sotho%27%2BOR%2Bculture1%253D%27Sotho%27%2BOR%2Bculture2%253D%27Sotho%27%2BOR%2Bculture3%253D%27Sotho%27%2BOR%2Bculture4%253D%27Sotho%27%2BOR%2Bculture5%253D%27Sotho%27%26current_record%3D2&docid=d9GtSWpdgUcwgM&w=600&h=402&ei=UYWHTuqTHrGXmQXiv-kE&zoom=1&biw=1600&bih=640&iact=rc&dur=414&page=1&tbnh=137&tbnw=183&start=0&ndsp=24&ved=1t:429,r:9,s:0&tx=87&ty=78. Cited 20011/10/01.

Figure 3. Pg 200. Van Wyk, G. (1998). African Painted Houses: Basotho Dwellings of South Africa. New York: Harry N Abrams.

Figure 4. Boudier, J. P. (1985). African Spaces, Designs for Living Upper Volta. New York/London: African Publishing Company.

Figure 5. Boudier, J. P. (1985). African Spaces, Designs for Living Upper Volta. New York/London: African Publishing Company.

Figure 6. Boudier, J. P. (1985). African Spaces, Designs for Living Upper Volta. New York/London: African Publishing Company.

Figure 7. Pg. Boudier, J. P. (1985). African Spaces, Designs for Living Upper Volta. New York/London: African Publishing Company.

Figure 8. Lenclos, J. P. and Lenclos, D. (1999). Colours of the World. The Geography of Colour. New York and London: W.W. Norton and Company.

Figure 9. After Lenclos, J. P. and Lenclos, D. (1999). Colours of the World. The Geography of Colour. New York and London: W. Norton and Company.

Figure 10. Weston, R. (1995) Aalvar Alto. London:Phaidon.

Figure 11. Http://www.checkonsite.com/wp-content/gallery/paimio-sanatorium/paimio-balcony.gif. Cited 2011/10/02

Figure 12. Weston, R. (1995) Aalvar Alto. London:Phaidon.

Figure 13. Http://www.flickr.com/photos/obiettivoeb/2655595034/. Cited 2011/10/02

Figure 14. Http://www.google.co.za/imgres?q=aalvar+aalto+paimio+sanatorium&um=1&hl=en&biw=1600&bih=778&tbm=isch&tbnid=cdL_7pdvPd0ljM:&imgrefurl=http://www.mimoa.eu/projects/Finland/Paimio/Paimio%2520Sanatorium&docid=0Jm1LZFS9rQDUM&w=768&h=1024&ei=_1OMTqe0HenTmAXc_ZWQBA&zoom=1&iact=rc&dur=138&page=1&tbnh=127&tbnw=95&start=0&ndsp=35&ved=1t:429,r:29,s:0&tx=72&ty=86. Cited 2011/10/02

Figure 15. Http://arch1101-2010kjb.blogspot.com/2010/04/engaging-with-landform.html. Cited 2011/10/02.

Figure 16. Http://arch1101-2010kjb.blogspot.com/2010/04/engaging-with-landform.html. Cited 2011/10/02.

Figure 17. Http://arch1101-2010kjb.blogspot.com/2010/04/engaging-with-landform.html. Cited 2011/10/02.

Figure 18. Http://www.google.co.za/imgres?q=peter+zumthor+thermal+baths&hl=en&gbv=2&biw=1600&bih=778&tbm=isch&tbnid=_9nRPwQVXvl1CM:&imgrefurl=http://www2.arnes.si/~ljdessa1/zumthor/&docid=_jNClMQLdVgM9M&w=554&h=373&ei=SV6MTs20COX6m

AX78tyPBA&zoom=1&iact=rc&dur=388&page=1&tbnh=127&tbnw=189&start=0&ndsp=35&ved=1t:429,r:19,s:0&tx=73&ty=42. Cited 2011/10/02

Figure 19. Http://www.flickr.com/photos/25261787@N03/2440565667/. Cited 2011/10/02.

Figure 20 .http://www.google.co.za/imgres?q=peter+zumthor+thermal+baths&hl=en&gbv=2&biw=1600&bih=778&tbm=isch&tbnid=gKguG2soqz1vpM:&imgrefurl=http://www.bustler.net/index.php/article/peter_zumthor_honored_with_japans_praemium_imperiale_prize&docid=Ts4D-f3BSB_56M&w=530&h=393&ei=SV6MTs20COX6mAX78tyPBA&zoom=1&iact=hc&vpx=1001&vpy=290&dur=1788&hovh=193&hovw=261&tx=156&ty=100&page=1&tbnh=126&tbnw=146&start=0&ndsp=35&ved=1t:429,r:14,s:0. Cited 2011/10/02

Figure 21. Http://1.bp.blogspot.com/_tdD605Vj5lY/S8xKFocMj5I/AAAAAAAAAMs/JjKg3l-ZFZX8/s1600/vals_sect1.jpg. Cited 2011/10/02.

Figure 22. Http://1.bp.blogspot.com/_tdD605Vj5lY/S8xKFocMj5I/AAAAAAAAAMs/JjKg3lZFZX8/s1600/vals_sect1.jpg. Cited 2011/10/02.

Figure 23. Http://www.google.co.za/imgres?q=basotho+people&hl=en&gbv=2&biw=1600&bih=778&tbm=isch&tbnid=mVdb7MWXgAOGLM:&imgrefurl=http://www.south-africa-tours-and-travel.com/black-people-in-south-africa.html&docid=GJGOoS6MByu-lM&w=550&h=397&ei=ktCMToCON4f6mAXL-cGPBA&zoom=1&iact=rc&dur=473&page=1&tbnh=132&tbnw=172&start=0&ndsp=32&ved=1t:429,r:1,s:0&tx=57&ty=68. Cited 2010/10/02.

Figure 24, 31, ,33 34, 35, 36, 38, 39. Lenclos, J. P. and Lenclos, D. (1999). Colours of the World. The Geography of Colour. New York and London: W. W. Norton and Company.

Figure, 25,26,27,28,29,32, 37. Van Wyk, G. (1998). African Painted Houses: Basotho Dwellings of South Africa. New York: Harry N Abrams.

Figure 40-42. Boudier, J. P. (1985). African Spaces, Designs for Living Upper Volta. New York/London: African Publishing Company .

Figure 43. Http://adsoftheworld.com/blog/creative_people_are_just_high_functioning_schizophrenics. Cited 2011/10/23.

Figure 44. Http://www.google.co.za/imgres?q=The+architecture+of+madness&um=1&hl=en&tbm=isch&tbnid=svEOeq7VkXuCJM:&imgrefurl=http://www.dennisalbert.com/TheArchitectureofMadness.htm&docid=COpjZLpBgwdTyM&imgurl=http://www.dennisalbert.com/Images/Cover.jpg&w=604&h=765&ei=6v6jTreXGobR8gOtptm9BQ&zoom=1&iact=hc&vpx=354&vpy=277&dur=1019&hovh=253&hovw=199&tx=103&ty=127&sig=106698020744503696762&page=1&tbnh=129&tbnw=102&start=0&ndsp=40&ved=1t:429,r:21,s:0&biw=1600&bih=748. Cited 2011/10/23

Figure 45. Http://www.picable.com/slicedshow/Architecture/index.225/785. Cited 2011/10/29.

Figure 46. Http://arch.usc.edu/content/pages/cm/uploadedmedia/rammed_earth_construction_part21210466806514.pdf. Cited 2011/10/01.

Figure47. Http://www.self-help-healing-arts-journal.com/art-benefits-brain.html. Cited 2011/10/30.